Cottage hospitals general, fever, and convalescent : their progress, management, and work with an alphabetical list of every cottage hospital at present opened; and chapters on mortuaries, the relative mortality of large and small hospitals, and cottage hospitals in America / by Henry C. Burdett.

Contributors

Burdett, Henry C., Sir, 1847-1920.
London School of Hygiene and Tropical Medicine

Publication/Creation

Xxii, [2], 550, [6] p., [9] plates : Ill., 19 cm.

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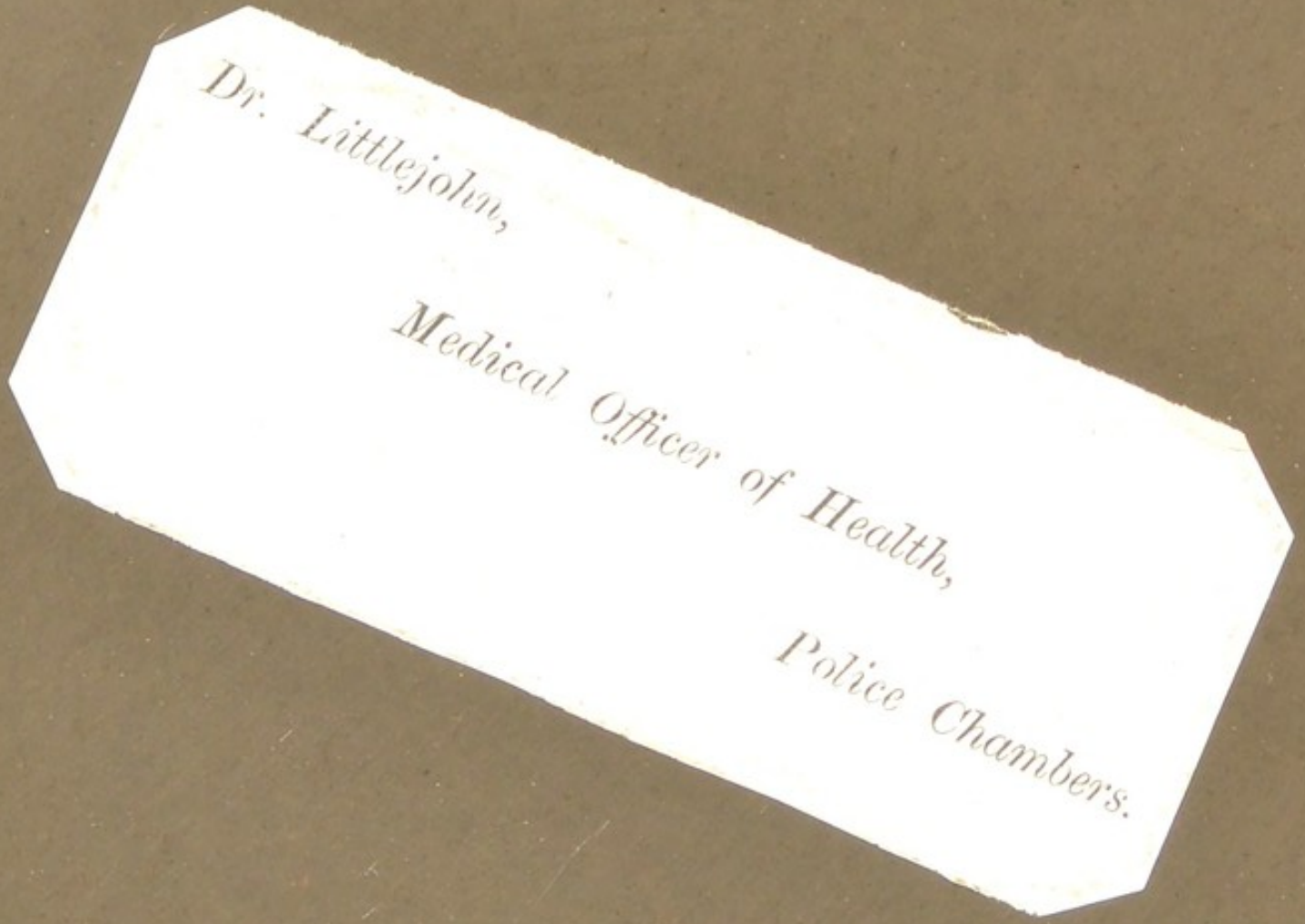
COTTAGE HOSPITALS.

GENERAL, FEVER, AND CONVALESCENT.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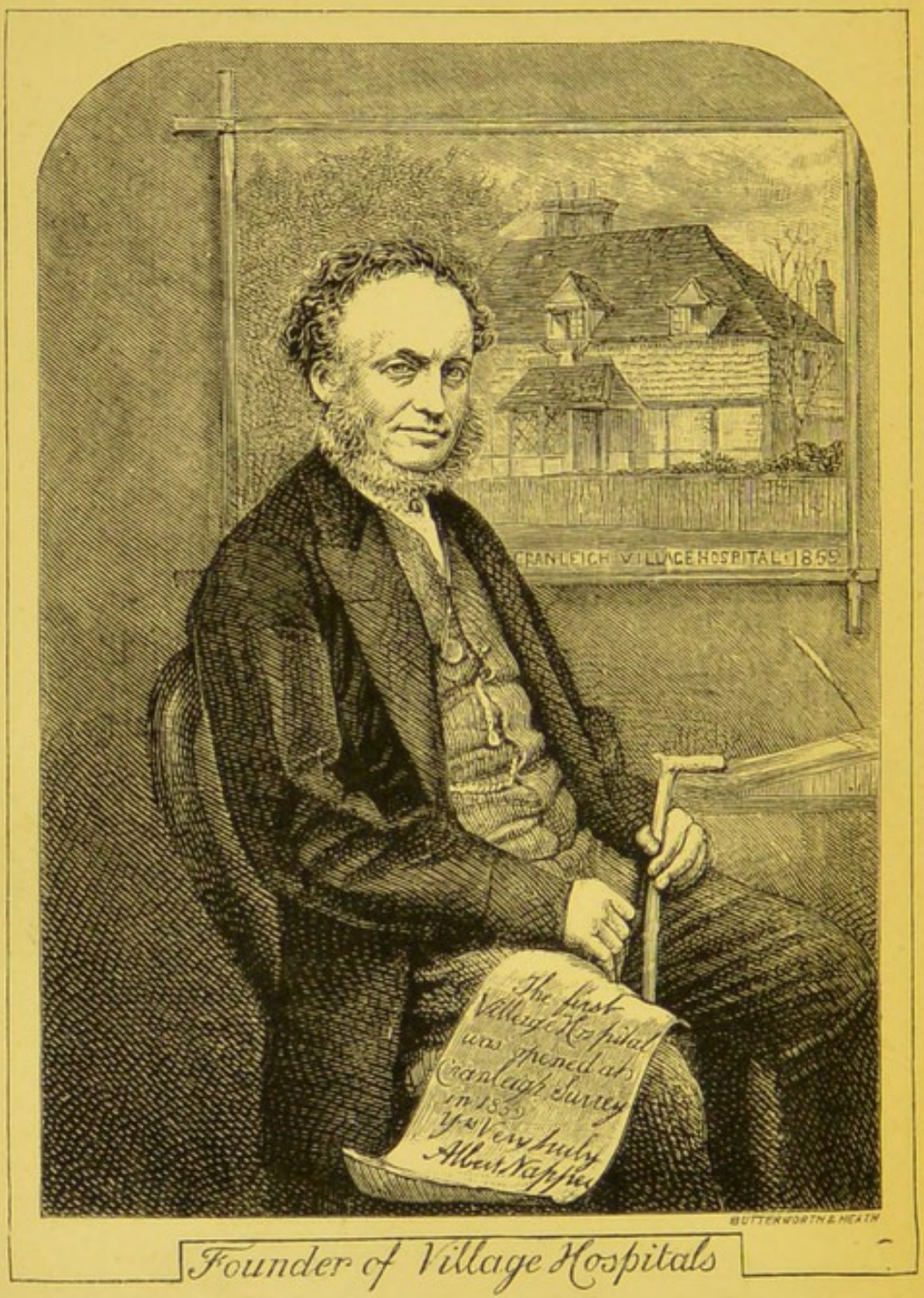
COTTAGE HOSPITALS



Founder of Village Hospitals

COTTAGE HOSPITALS

General, Fever, and Convalescent

THEIR PROGRESS, MANAGEMENT, AND WORK

WITH AN ALPHABETICAL LIST OF EVERY COTTAGE HOSPITAL AT PRESENT OPENED; AND CHAPTERS ON MORTUARIES, THE RELATIVE MORTALITY OF LARGE AND SMALL HOSPITALS, AND COTTAGE HOSPITALS IN AMERICA

MANY PLANS AND ILLUSTRATIONS

INCLUDING A

PORTRAIT OF ALBERT NAPPER, ESQ.

The Founder of Cottage Hospitals

BY HENRY C. BURDETT

MEMBER OF COUNCIL AND FELLOW OF THE SANITARY INSTITUTE OF GREAT BRITAIN
SECRETARY TO THE SEAMEN'S HOSPITAL SOCIETY (LATE DREADNOUGHT), GREENWICH
LATE GENERAL SUPERINTENDENT, THE QUEEN'S HOSPITAL, BIRMINGHAM
AND REGISTRAR TO THE MEDICAL BOARD

Second Edition, Re-written and much Enlarged

LONDON

J. & A. CHURCHILL, NEW BURLINGTON STREET

1880

6750

TO

JOSEPH MOORE, ESQ.,

THIS VOLUME IS DEDICATED,

AS A

TOKEN OF ESTEEM, AND IN APPRECIATION OF HIS DEEP

INTEREST IN ALL PHILANTHROPIC MOVEMENTS,

BY

THE AUTHOR.

PREFACE TO THE SECOND EDITION.

"In character, in manner, in style, in all things, the supreme excellence is simplicity."—*Longfellow.*

THE satisfaction with which the author naturally presents a Second Edition of this book for the assistance and counsel of those who are interested in the smaller medical charities of all descriptions,—fever and acute hospitals, free and provident dispensaries, and convalescent institutions,—is tempered by a feeling of regret that so few cottage hospital managers seem to have tried to secure that uniformity of management and book-keeping which are so desirable. Apart from this everything is satisfactory. Numerous new cottage hospitals have been opened, many more have been built, and nearly all have increased in efficiency. Every day the public and the profession are placing a higher value on the work done at the cottage hospital. It secures to the former the immediate service of a skilled and practised medical attendant, who was formerly rarely obtainable, except in the larger centres of population, and it enables the latter to have a wider field for practice under conditions

which reward care and skill, whilst they increase both reputation and income. To recognise these facts, is to admit that the cottage hospital has now established itself firmly in public estimation, to the great good of all concerned.

In these circumstances the author has felt it necessary to re-arrange, and to almost entirely re-write the present edition. Many engravings and illustrations have, moreover, been added. He has endeavoured to embrace everything of importance to the successful management of hospitals and medical institutions having not more than 50 beds. Chapters have been added giving an ample account of fever hospitals, convalescent institutions, remunerative paying patients, and a detailed description of many of the best managed hospitals with a considerable number of selected and model plans. In addition to this information a very careful analysis and examination of the relative mortality and healthiness of large and small hospitals has been included, and also a chapter upon cottage hospitals in America. The author has reason to think there are good grounds for believing that the cottage hospital will soon prove as popular in America as it has become in Great Britain.

It has always been the aim of the author to include in his books everything that could be thought to tend to promote the happiness and welfare of the classes whose wants they are intended to relieve. When he found that no book on hygiene contained

any account of the construction and regulation of mortuaries, he felt it his duty, therefore, to include in this edition an exhaustive chapter on this subject. Mortuaries are, probably, of as much or more importance to the inhabitants of country villages as they are to the dwellers in large towns. It is believed that these new chapters will be found specially interesting and useful to local health authorities, and to guardians of the poor throughout the country. If the author has succeeded, as he hopes, in thoroughly meeting the wants of those interested in these and kindred subjects, this edition may claim to rank as the text-book of the smaller hospitals and other medical charities.

The alphabetical tables at the end of the book will give full information of the origin, management, and progress of every cottage hospital in the country, and they thus form a complete and reliable directory. Complete, because it is hoped every existing institution is included. Reliable, because every statement contained in the tables has been certified by the managers. Neither time nor personal trouble has been spared in endeavouring to obtain an accurate list of all the cottage hospitals actually in existence at the present time, or which have been started, and have afterwards been discontinued; but it has been quite impossible to be absolutely certain that the whole number has been included. Only about 100 of the 250 institutions given in the tables at the end of the book appear in any directory, local or general,

that has been discoverable. It is important for the best interests of the movement that the necessary steps should be taken by the secretaries and managers to make their respective institutions generally known. Messrs Churchill have already published the names of several cottage hospitals in their "Medical Directory," and if the managers will in future send a copy of their annual reports, or if the founder of any new hospital will forward particulars of its institution to the author, he will take care that they are made publicly known without unnecessary delay. Should there be any general feeling amongst the managers as to the desirability of an annual directory of the progress and prosperity of cottage hospitals generally, the author will be very glad to receive communications on the subject, and to do what he can to supply any want that may be felt in this respect. There is certainly good cause to believe, now that the cottage hospital has taken its place as one of the permanent charitable agencies of this country, that such a directory will become increasingly useful.*

An excellent engraving, representing Mr Albert Napper, the founder of cottage hospitals, with a sketch of the first Village Hospital, opened at Cranleigh in 1859, forms the frontispiece of this edition. The engraving is a fairly faithful likeness, and all who know Mr Napper will value and appreciate this addition to the book, for his sake. A skilled surgeon, an enthusiastic sportsman, and a good man, he is a worthy

* An exhaustive Index will be found at the end of the present edition.

example of the fine old English gentleman, of whose merits so much has been said and sung in the past.

It is again a pleasing duty of the author to recognise the hearty co-operation and assistance given to him by the medical officers and honorary secretaries of the various institutions. In some instances the managers have helped to make the book known by publishing the title page in their annual reports.

The author gladly avails himself of the present opportunity to cordially thank all who have so promptly aided him in his work. Mr W. Eassie, C.E., and Mr Sampson Gamgee, F.R.S. Edin., have rendered the author material aid in the preparation of Chapters IV. and VI. respectively. To the many reviewers, English and Foreign, who have so generously criticised a somewhat difficult book to produce, his thanks are clearly due. So fully and fairly have they done their work, that the present volume has been undertaken with pleasure and satisfaction, and their various suggestions have been cordially adopted. An attempt has been made to make the book in some sense worthy of the cause it advocates and strives to advance, and in this spirit the present edition is presented to the public. That it may tend to improve the management, to increase the popularity, and to extend the usefulness of cottage hospitals in all parts of the world, is the author's greatest hope and highest aim.

The Hospital, Greenwich,
September 1880.

HOME HOSPITALS.

THE HOME HOSPITALS ASSOCIATION FOR PAYING PATIENTS has now opened the first English Home Hospital at Fitzroy House, Fitzroy Square, London, W. There is nothing of an eleemosynary character about the Home Hospital. It is in reality a kind of medical club-house, which has been made hygienically complete and home-like, where those who can afford to pay for the skilled nursing and comforts they require will be able to be tended by their private medical attendants. It will, it is hoped, be found useful by country practitioners who may have cause to send a patient to London for special treatment or operation. To persons residing in the country who come to London when sick, Fitzroy House will, it is believed, prove of great service. Full particulars and a copy of the rules and regulations can be obtained on application to the Secretary, Fitzroy House, Fitzroy Square, London.

The *Lancet* writes :—

"Fitzroy House is well adapted for a trial of the objects which the Association have in view. Everything which could be done with the material at command seems to have been done by the Committee. The adaptation of a private house, however spacious and well built, to hospital purposes is always a work of difficulty, and the success attained reflects credit on all concerned. The sanitary arrangements are very good, the drainage being especially well managed, and so constructed as entirely to obviate the danger of sewage poisoning. The possibility of ventilation of each room is very thorough. In all other details the comfort as well as the health of the patients, and the cheerfulness of their surroundings, have been carefully studied."

EXTRACT

FROM

PREFACE TO THE FIRST EDITION.

IT came to my knowledge some months ago, that there have been many and an increasing number of inquiries for a book on Cottage Hospital management. I communicated the fact to Dr Swete, and asked him to issue a second edition of his work on the subject, but he informed me he was unable to undertake such a labour. Under these circumstances, and at the request of many friends, I venture to offer this little book for the guidance of those interested in the subject, under the belief that the present is a peculiarly suitable opportunity for the publication of such a work.

I have endeavoured to make myself familiar with the working and present management of the majority, at any rate, of the cottage hospitals which are open at the present time, and with this object I have visited many of them. For nearly ten years I have been a resident superintendent in a general hospital, either in the provinces or in London, and I have availed myself of

the experience thus gained in hospital administration, in guiding me to a correct conclusion as to the possibilities and requirements of a model Cottage Hospital. I am highly indebted to the medical officers and honorary secretaries of the cottage hospitals throughout the country, and it is to their cordial co-operation and assistance that I owe the mass of information which is contained in the tables at the end of the book. My especial thanks are due to the following for their invariable courtesy, and for the trouble they have taken to place at my disposal the fullest information on all occasions :—

Mr ALBERT NAPPER, Cranleigh.
Mr THOS. MOORE, Petersfield.
Dr GAILY, Leek.
Mr CRIPPS, Cirencester.
Mrs WRIGHT, Scarborough.
Rev. J. M. BURN-MURDOCH, Holmesdale.
Rev. R. C. EDWARDS, Speen.
Rev. W. P. TREVELYAN, Stony Stratford.
The SISTERS of North Ormesby.
Dr ASTLEY, Dover.
Dr MERCER ADAMS, Boston.
Rev. W. GRAY, Copland Sudbury.
Rev. J. W. CLARKE, Moreton in the Marsh.
Dr GEO. H. PERCIVAL.
Mr ERNEST TURNER, F.R.I.B.A.

* * * *

It has been most difficult to obtain exact and accurate information of the existence or otherwise of several cottage hospitals. It would materially

add to the value of any future edition of this book —it is feared many cottage hospitals have been omitted in the present work—if the medical officers or honorary secretaries would kindly send me full particulars, and also a copy of each annual report of the cottage hospital under their management. A list of the points on which information is specially desired is for this purpose added to the Appendix.

In conclusion, if this little book is found of service to any one who is interested in the advancement of the cottage hospital movement, if it tends in any way to promote better management, or a wider extension of the original ends which Mr Napper had in view when he started Cranleigh Cottage Hospital nearly twenty years ago, the author feels that his labours will not have been in vain.

SEAMEN'S HOSPITAL (LATE DREADNOUGHT),
GREENWICH, *March* 1877.

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COTTAGE HOSPITALS.

CHAPTER I.

ORIGIN AND GROWTH OF THE COTTAGE HOSPITAL SYSTEM.

Introduction—Previous writers on subject—Counties without Cottage Hospitals—Number of Cottage Hospitals now in existence—Growth from Cottage to General Hospitals—Failures and their causes—How to found a Cottage Hospital—Progress of movement—Causes of fluctuations in different years.

THE time has long since gone by for an elaborate exposition of what the Cottage Hospital proper was intended to do for the poor, the country practitioners, and the county magnates. It is not now necessary to defend the system, to enlarge upon its merits, or to disarm opposition by showing what it will probably do for the three great interests more nearly concerned in its working. Mr Napper* of Cranleigh, the author of the first work on the subject, and the founder of the first village hospital, a hospital which, after a personal inspection of many of the principal cottage hospitals, we still feel justified in placing at the head of the list for good management, simplicity, and work; Dr

* On the Advantages Derivable to the Medical Profession and the Public from Village Hospitals. 3d ed., 1866.

Waring,* in his excellent pamphlet; Dr Swete,† in that popular little work of his which is still prized by many cottage hospital managers; Dr Wynter,‡ in his paper in *Good Words;* Mr F. H. Harris§ of Mildenhall; and lastly, the Editor of the *Builder*, have all entered fully into the reasons for the establishment of these hospitals, and have justly estimated the success which was likely to attend the spread of the movement in rural districts. We feel, therefore, the time has now arrived to submit to the public a statement of the work thus far accomplished, and to leave them to judge the system on its merits, and on these alone. Of the early promoters and authors let it suffice us to say here, what will become more and more evident as we proceed, that the wisdom and foresight they displayed in selecting a system for general adoption are beyond all praise. Its simplicity, its ready adaptability to the requirements of country districts, and its successful working everywhere, have raised this system high in public esteem. This result is but common justice; for, without exception, the cottage hospitals which have proved the most successful are those where the managers have had the wisdom to profit by the experience of the fathers of the movement, and to adopt the system elaborated at Cranleigh and elsewhere.

* Cottage Hospitals: their Objects, Advantages, and Management. By Edward J. Waring, M.D., 1867.

† Handy Book of Cottage Hospitals. By Horace Swete, M.D., 1870.

‡ Dr Wynter *Good Words*, May 1, 1866.

§ Remarks on the Establishment of Cottage Hospitals. By F. H. Harris, M.R.C.S., 1866.

Cottage hospitals have now become so general, that there are only five counties in England which do not possess at least one of these useful institutions. These counties are Cumberland, Huntingdon, Leicester,* Monmouth, and Rutland; and, if we look a little below the surface, it is not difficult to account for the isolated position in which they stand with respect to cottage hospitals. In all these counties, which collectively have a population of some 800,000, the hospital accommodation is very limited (on the average only 1 bed to every 2000 inhabitants). Thus, including general, fever, and convalescent institutions, Cumberland, with a population of 220,000, has 222 beds; Leicester, with a population of 270,000, has 226 beds; Monmouth, with 196,000 inhabitants, has but 20 beds; whilst Westmoreland, with a population of 65,000, Huntingdon, with 64,000, and Rutland, with 22,000, have but 54 beds amongst them, the county of Rutland having no hospital accommodation whatever. It is evident, therefore, that where the inhabitants are so little sensible of the benefits to be derived from general hospitals, it would be quite unreasonable to hope that they should display any interest in the progress of these humbler institutions.

Doubtless this quite explains the absence of any cottage hospitals in the three smaller counties. But in Leicestershire and Cumberland, both in the main

* One was opened, in 1879, at Mountsorrel by the Granite Company for their men, but this does not affect the argument.

agricultural, it is somewhat surprising to find that no single member of the medical profession has been able to establish one in any part of the county. Surely the need of such an institution must have been felt in these counties equally with other places. The probable explanation is to be found in the fact, that the county infirmary has such a widespread and overshadowing influence here, that it would be thought treason indeed to encourage, much less to foster, a movement which might at first sight appear hostile to the interests of the older hospital. That this is the case seems to be proved by the fact, that in the whole county of Leicester there is only one small dispensary (Loughborough), with 16 beds, in addition to the county infirmary at Leicester, with 210; whilst in Cumberland, if we except the Convalescent Institution at Silloth (40 beds), and the fever hospitals at Carlisle (26 beds), and Whitehaven (56 beds), there is no hospital accommodation left, except that provided by the Cumberland Infirmary with its 100 beds. It is time that the medical profession bestirred themselves in these five counties, for their death-rate is not so exceptionally low as to warrant any longer delay in the thorough ventilation of a subject which has already been too long retarded.

On the other hand, in some counties where the movement took root at once, cottage hospitals are spreading with a rapidity which bids fair to soon bring the hospital accommodation up to the standard laid down by the best authorities, viz., 1 bed for every

1000 inhabitants in rural districts. There is, indeed, good reason to declare, in spite of the lukewarmness above referred to, that the cottage hospital movement has taken its place as one of the permanent charitable agencies of this country.

The actual position and proportions of the existing cottage hospitals must now be considered. It is probable that there are at the present time something like 250 cottage hospitals in the United Kingdom, but our utmost endeavours have only brought to light something like 200. This number will be reduced to about 180, when we have deducted those institutions which were originally started on the Cranleigh model, but which have been so far enlarged as to place them far above the scope of Mr Napper's scheme, and to render them in fact small general hospitals for accidents. To these must be added the few hospitals which for various reasons have been discontinued as failures. No better example of the first class—some ten in number—can be selected than the Middlesborough hospital, Yorkshire. Originally started in 1859 with some 28 beds, it has been gradually increased until it has now accommodation for 60 patients,—the in-patients amounting to 358 in 1878. The majority of the patients are admitted upon the recommendation of subscribers and governors; but one ward is set apart for special cases, for whom the patients' friends defray the cost of medical attendance while in the hospital. It is gratifying to find the requirements of the district in which a cottage hospital is com-

menced have only to become known, to ensure that the requisite hospital accommodation will be forthcoming. We find many cottage hospitals have been enlarged more than once. Walsall may be taken as a striking instance of this instructive fact.

Let us now turn to the list of failures, and examine into the causes of such a result. They are not numerous, viz., East Rudham, Stapleford, Southam, East Grinstead, King's Sutton, Wrington, Great Bookham, Dinorvic, and, we believe, Yate, Newington, and Newmarket, or eleven in all.

East Rudham was closed "not from want of funds, but really because the poor thought that the medical man, whose services were gratuitous, derived some unknown benefit from the hospital."

Stapleford.—This hospital is still open, and is occasionally used, but the resident surgeon reports that it is "now discontinued," owing to the fact of Mr G. Bosquet, the founder, being disappointed in not securing the assistance of his nephew as surgeon to the hospital, and of his own advanced years.

Southam has been closed for some years. It seems that the patients were not numerous enough to warrant its continuance. It has been, or is about to be, we believe, converted into a convalescent hospital. It is situated in a beautiful neighbourhood, and ought, when thus altered, to be a success. It has undergone many changes,—was first established in 1818 as an eye and ear infirmary, and has some endowment.

East Grinstead.—This is a sad exception, and it will be well to allow the medical officer to speak from his own experience. We quote from his letter: "In the completion of its eleventh year, after having had over 300 cases under my care, I closed the hospital in October 1874. I did so for the following reasons:—In this district there are many very wealthy resident and landed proprietors, but scarcely any volunteered to help me. I got what money I required for furnishing it by writing direct appeals to individuals, and afterwards to meet the current expenditure. I dare say I could have done so up to the present year, but after a time I became weary of making these appeals to people who seemed to consider that, by contributing to the support of the hospital, they were conferring a favour upon me. This was especially annoying, as I was not only giving my daily professional services, but was also the greatest pecuniary contributor. In addition to this, there were frequent attempts on the part of wealthy people to get their servants or dependants into the hospital, so as to avoid paying towards their support. At length, after having experienced for some years the meanness of the wealthy, and too often the ingratitude of the poor, I closed the hospital, and by the sale of the furniture raised a sufficient sum to pay off the outstanding debts without any further appeal to the charitable feelings of my wealthy neighbours. I allowed the furniture and fittings to remain in my cottage for upwards of two months

after I closed it as a hospital, and then, as no one offered to do anything to resuscitate it, I sent for an auctioneer. Some time after, a few persons, who had occasionally contributed to the hospital, met together, and passed a vote of censure on me—the founder and chief supporter of the hospital—for having closed it without obtaining their consent." While hoping with Dr Rogers that in few places we shall find wealthy people so mean, we cannot but express our regret that he did not at the commencement obtain the services of a layman as manager and honorary secretary, and also appoint a committee of management. Had this been done, Dr Rogers would have been left to perform the duties of medical officer—duties which in themselves are quite arduous enough for a busy country doctor. It is probable that any misunderstanding would have been thus avoided, and success secured. Is it too late for an attempt to resuscitate the hospital upon some such basis?

King's Sutton.—This hospital was opened in 1866 with 6 beds. It had 46 patients in its first year, and seemed to flourish at first. A letter addressed to the manager has been returned, marked "No Cottage Hospital now at King's Sutton." After every effort on our part, it has been found impossible to obtain further particulars.

Wrington.—This hospital was opened in July 1864. It had a very prosperous career for about five years, when it was closed for the following reasons:—It adjoined the grounds of the secretary—

a dissenter. A discussion arose as to the patients attending his chapel. The surgeon in attendance maintained they should be allowed to go to church. To gain his point, the secretary bought the cottage hospital, and it was soon after closed, on the ground that there was no medical officer to attend to the patients. This is the only case of anything approaching a religious difficulty.

Great Bookham, opened in 1866, closed in 1868 as a hospital, and used for other purposes, such as providing nurses, monthly nurse, wine, brandy, &c., for the sick poor, at the discretion of the medical officer. Dr Swete says—"For fear this should again enlarge to a cottage hospital, it is expressly laid down by the rules, that it shall be previously shown by the said medical man that the patient cannot, from the nature of the case, receive the necessary medical attendance at his or her own house, or that the patient's restoration to health is imperilled or impeded by the circumstances with which he or she is surrounded." He adds—and we heartily agree with him in this,—"Although numerous intended cottage hospitals have been strangled at birth, by opposition, this is the only case I have found in which a hospital once started has been put down. The animus against it must indeed be strong when the rules are framed so as to prevent the institution, which has risen from the ashes of the defunct hospital, ever again reverting to its original use."

Yate hospital has, unfortunately, been closed for

three years, "though from no cause suggestive of failure of similar schemes."

It will be seen from the above instances that misunderstanding has in the main been the cause of failure everywhere. When it is considered that the failures do not amount to 4 per cent. of the whole number of institutions founded and opened, it will surely be admitted that the movement has been a great success. Wherever there has been a cottage hospital founded upon a broad unsectarian basis, with the requisite number of properly appointed officers, both lay and medical, to carry out the work thoroughly, there a success has been recorded. It will perhaps be well to give here a few hints for the guidance of those who may wish to found a cottage hospital. These suggestions will prove of service to the charitably disposed, who, having experienced the want of such an institution, may be anxious to open one in their immediate neighbourhood.

We are convinced that the first step to take is to call a public meeting, and to invite the attendance of every one in the district who is likely to take an interest in the movement, whether they may be favourable to the scheme or not. In a word, let the meeting be *public*, not only in name, but in fact. A little opposition at first is a positive advantage in the end, as it causes a wide-spread interest to be excited, and the cottage hospital will thus become generally known. If possible, the squire, or the rector of the parish in which the hospital will be situated, should

be induced to take the chair. Two resolutions will be quite sufficient for all practical purposes. These should in effect be—(*a*) "That it is desirable that a cottage hospital should be started in this district," and (*b*) "That some five gentlemen, with the rector and the medical officer of the parish, be appointed to carry out the necessary details." If this step be taken at the outset, it will disarm all suspicion of interested or personal motives on the part of any one, and, with ordinary tact in the conduct of the meeting by its promoters, its happy conclusion may be hailed with certainty as the commencement of a successful cottage hospital. Much responsibility will devolve upon the medical officer, to whose tact and good judgment the professional details must be left. Upon the exercise of these qualities the co-operation or hostility of the neighbouring practitioners will mainly depend. We shall treat of the medical administration of these hospitals elsewhere, and we merely refer to it here as one point of importance not to be overlooked at the outset. In another chapter will be found a list of the rules we recommend to the managers for adoption. They are drawn up after a consideration not only of what is requisite to good management, but what it is necessary to avoid. They are submitted with confidence in their success, because they are the outcome of much experience in the working of these institutions.

We now come to consider the gradual increase of the movement, to mark its progress, and to ascertain

if any and what circumstances have caused an increased interest in its prosperity.

It appears that of the whole number of cottage hospitals extant, so far as we have been yet able to ascertain, only seventeen were opened during the ten years immediately following that (1855) in which Mr Napper commenced the movement at Cranleigh. So that, if we say the average number of new hospitals opened from 1855 to 1865 did not exceed two per annum, we shall be well within the facts. In the year 1866, however, no less than fifteen were opened, and the interest shown went on increasing steadily until 1870, when it reached its climax, and twenty-three new hospitals were started. The average annual number opened during the thirteen years 1866–1878, both inclusive, is from thirteen to fourteen, the actual numbers being, we believe,—

1866	15
1867	16
1868	16
1869	13
1870	23
1871	18
1872	10
1873	20
1874	6
1875	11
1876	5
1877	4
1878	2
1879, part only, . . .	7
Total,	166

Yearly average for thirteen years, twelve.

What was it that acted as a stimulus, and caused

so great a difference in the number opened in one year as compared with another? Take, for instance, two opened in 1865, and fifteen in 1866; or thirteen opened in 1869, and twenty-three in 1870; or the gradual decrease from twenty-three in 1870 to six in 1874. We think the explanation is simple. In 1866 no less than three works were published on the subject of cottage hospital management, viz., one by Mr Harris, a third edition of Mr Napper's pamphlet, and finally Dr Waring's excellent little brochure, than which we have seen nothing more practical, or better suited to the requirements of the movement. In the same year Dr Swete brought the subject before the British Medical Association at Bristol, and a paper read by him was afterwards printed in the *British Medical Journal.* From this date the movement came increasingly into notice, and Dr Wynter's paper in *Good Words* soon followed.* In 1869, when the interest again seems to have flagged, for only thirteen hospitals were opened in that year, it was again excited by the announcement of Dr Swete's book, which enjoyed a large circulation, and in a few years was out of print. Since that date little public notice had been excited, and hence it is not surprising that the movement so flagged, that only six hospitals were opened in 1874. Some may suppose that the requirements of the country in respect to hospital accommodation are

* During the whole of this period the Editor of the *Builder*, and other influential papers, rendered good service by the support they extended to the movement.

nearly met at the present time, but, if the views of the best authorities are to be trusted, many more beds are still needed in rural districts. We feel, therefore, that if any justification or excuse was necessary for the publication of this little work, both may be found in the eloquent testimony of the above figures. If the attention which was drawn to this subject by the gentlemen who first advocated its cause in the press, was so greatly blessed, surely it was not presumptuous on our part to express a hope, in the first edition of this book, that, as we were able to write by the light of an experience of nearly twenty years, this work might be the means, under Providence, of extending the usefulness of these institutions, and of thereby hastening the complete accomplishment of the objects laid down by Mr Napper and Dr Waring in the earliest works on the subject. These objects were to endeavour to unite all the individual members of the medical profession throughout the United Kingdom into one great brotherhood, and to bring the advantages of hospital treatment within the reach of the poorer classes of the community, without exception, in rural districts and in small county and seaport towns. The first edition was published in April 1877, and up to October in 1879, seven new cottage hospitals were started in different parts of the country, although only two hospitals were opened in the previous year. The knowledge of this fact emboldens us to add that if these objects are yet further advanced by the second edition of this work, the author will have more than gained his reward.

CHAPTER II.

COMPARATIVE SUCCESS OF TREATMENT IN LARGE AND SMALL HOSPITALS.

Controversy as to comparatively successful treatment of cases in General and Cottage Hospitals—Mortality in Cottage Hospitals—Statistical tables of diseases treated therein—Advantages of Cottage Hospital treatment—Relative success of graver surgical operations in Town and Cottage Hospitals—Mortality after amputations in latter—Examination of criticisms on the author's figures and deductions — Tabular statements of results of amputations for injury and disease in Cottage Hospitals—Occurrence of septic disease — Surgical boldness in Cottage Hospitals—Tables as to sanitary condition and prevalence of Pyæmia and Erysipelas in Cottage Hospitals—Importance of giving an accurate account of cases treated.

MUCH controversy has hitherto existed as to the comparatively successful treatment of cases in large general hospitals, notably in the metropolis, and in cottage hospitals. Through the courtesy of Dr J. C. Steele* of Guy's Hospital, we are enabled to give the following table, showing the mortality at all the London hospitals of importance, general and special, during the years 1872, 1873, and 1874. The absolute accuracy of this table is guaranteed:—

* Dr Steele was presented, in 1876, with the "Howard Medal," for his Paper on Hospital Mortality, from which these figures are taken.

Rate of Mortality at the following London Hospitals for the years 1872, 1873, *and* 1874.

General.	Per Cent.	Special.	Per Cent.
St Bartholomew's .	9·3	Lock Hospital, Male	·46
St Thomas' . .	11·73	,, ,, Female	·97
Guy's . . .	10·26	British Lying-in .	1·11
Westminster . .	8·59	City of London Lying-in . .	·86
St George's . .	8·82		
London . .	11·34	Queen Charlotte's .	2·85
Middlesex . .	12·32	Consumption Hospital, Brompton .	9·99
Charing Cross .	10·93		
Royal Free . .	7·20	Victoria Park .	9·49
University College .	11·46	Cancer Hospital .	13·60
King's College .	12·72	Fever Hospital .	11·89
St Mary's . .	10·92	Royal Ophthalmic	·05
German Hospital .	7·24	Sick Children, Ormond Street .	5·46
Seamen's Hospital	4·68		
		General Lying-in .	·70
		Homœopathic Hospital . . .	1·28
Death-rate in 40 Cottage Hospitals in 1874 and 1875			5·4

In order that a fair relative estimate may be formed of the respective value of large and small hospitals for the treatment of various diseases, we have with considerable difficulty compiled the following table, showing the death-rate at 40 cottage hospitals, having collectively 350 beds, or an average of 8·75 beds each, where 1813 in-patients were under treatment in one year. We have thought it best to print this table at length, as anybody can then easily test its accuracy for himself. It will be seen that the average death-rate in the general hospitals in the metropolis was 10·21, if we exclude the Seamen's Hospital (which for purposes of comparison ought not to be included, because so many cases are admitted which are not, in the

Hospital.	Year.	Cured.	Relieved.	Died.	Total.	Beds.
Boston . .	1875	32	24	6	62	12
Bovey Tracey .	,,	14	10	2	26	6
Bromley . .	1874	21	17	3	41	8
Capel . .	,,	25	7	3	35	10
Chalfont St Peter's	1875	14	20	...	34	6
Epsom and Ewell	,,	35	10	3	48	8
Ealing . .	,,	53	25	1	79	8
Enfield . .	,,	1	5	...	6	7
Guisboro' . .	,,	32	6	2	40	20
Harrow . .	1874	29	8	...	37	8
Hatfield Broad Oak	,,	24	16	1	41	8
Hayes . .	1875	13	1	1	15	5
Iver . . .	1874	10	7	1	18	7
Luton . .	1875	27	20	4	51	8
Ledbury . .	1874	12	7	2	21	4
Market Rasen .	,,	13	3	1	17	6
Mansfield Wood-house . .	,,	2	57	2	61	6
Malvern . .	,,	31	13	2	46	12
Mildenhall .	1875	34	19	2	55	8
Newick . .	1874	6	14	1	21	6
Oswestry . .	1875	38	5	3	46	12 and a cot
Reigate and Redhill	,,	59	39	4	102	12 to 14
Scarboro' . .	,,	10	...	...	10	4
Trowbridge .	,,	12	11	1	24	12
Tewkesbury .	1874	51	19	4	74	7 (?)
Tetbury . .	,,	29	9	1	39	8
Walsall . .	,,	151	35	11	197	30 (?)
Wallasey . .	1875	16	17	5	38	10
Warminster .	1874	27	17	3	47	7
Wirksworth .	1875	16	25	6	47	7
Burford . .	,,	24	12	...	36	7
Wadington .	,,	24	15	2	41	8
Erith, Crayford, &c.	,,	83	15	7	105	7
Ulverston . .	,,	17	6	...	23	12
Holmesdale .	,,	33	17	3	53	8 to 10
Leek . . .	,,	16	14	3	33	9 and 2 cots
Speen . .	,,	23	25	...	48	6
Ross . . .	,,	29	5	6	40	8
Stony Stratford .	,,	11	14	1	26	6
Dunster . .	,,	13	16	1	30	7

Total Cured . . .	1110	Death-rate . . .	5·4
,, Relieved . . .	605		
,, Died . . .	98		
	1813	Total No. of Beds . .	350

ordinary hospital sense of the word, "severe" in character, owing to the special purpose for which it has been established), whereas the death-rate in the cottage hospitals was only 5·4. This is a very great difference, and worthy of a strict comparison of the results of the treatment and the class of cases. We regret that it has been impossible to group together a greater number of cottage hospitals; but owing to the incomplete returns in the reports, it would have been unfair to classify the cases at any other cottage hospitals except the 40 given in the foregoing table. With the view of affording all possible information on which to found a correct judgment in this matter, we have analysed and placed under their proper sections and sub-sections, the diseases for which the 1813 patients included in the foregoing table were admitted to hospital treatment. The tables of diseases are prepared in accordance with the nomenclature recommended by the Royal College of Physicians, London, in the year 1869, and officially recognised by the medical officer of the Privy Council. In commending these tables to the careful attention of the individual members of the honorary medical staff throughout the country, it is hoped no offence will be given to any one, if we point out the difficulties with which we have had to contend in the course of their preparation. These have been owing, more often than not, to the want of exactness in stating the particular diseases for which the patients were treated. It may be mentioned, in the first place, that it has been found impossible to give the ages of

the patients, as these are usually omitted from the table of cases given. In many instances the sex of the patient is not stated, and the cause of death is omitted.

On this latter point it is fair to state, that probably the difficulty of getting a *post-mortem* may in some measure account for the omission. Still we cannot too strongly impress upon each medical man that the immediate cause of death should always be clearly ascertained and recorded. The following tables are prepared from data found in the Cottage Hospital Reports for the years 1874 and 1875. It was the author's original intention to have brought up to the present date the table on page 17 and those on the following pages. When, however, the more recent reports were examined, it was found that, although the best managed cottage hospitals had already published the returns of the diseases treated upon the plan recommended in this book, the majority had not made any attempt to do so. The author could not, therefore, rearrange the figures as he desired, but he ventures to hope this will be practicable in his next edition. It seems to be the exception to state the number of beds, either in the report or in the tables. This should always be given, and might be printed upon the cover of the annual report. Thus—

——— Cottage Hospital,
No. of beds, 8. Average number occupied, 6.

Tabular Statement of the cases under treatment at Forty Cottage Hospitals, having* 350 *beds, or an average of* 8·75 *each, during one of the years* 1874 *or* 1875, *and comprising* 1813 *cases, with an average mortality of* 5·4 *per cent.*

The Nomenclature of Disease in these Statistical Tables is that prepared by the Royal College of Physicians in 1869, *and officially recognised by the Medical Officer of the Privy Council.*

I. GENERAL DISEASES.

	M.	F.	Sex not stated.	Cured or Relieved.	Died.	Total.
SECTION A.						
Scarlet Fever . .	...	1	...	1	...	1
Enteric Fever . .	2	2	...	...	4	4
Erysipelas . .	5	2	...	6	1	7
Febricula . .	3	...	2	5	...	5
SECTION B.						
Acute Rheumatism .	54	37	9	99	1	100
Sub-acute do. .	1	...	...	1	. .	1
Chronic do. .	6	3	1	10	...	10
Acute Gout . .	8	...	...	8	...	8
Syphilis—Primary .	1	...	...	1	...	1
,, Congenital	1	...	...	1	...	1
Cancer—Scirrhus .	1	4	...	4	1	5
,, Medullary .	1	...	...	1	...	1
,, Epithelial .	2	1	3	6	...	6
Tumours . . .	5	4	1	10	...	10
Scrofula . . .	6	8	1	15	...	15
Phthisis . . .	28	36	25	78	11	89
Rickets . . .	2	...	...	2	...	2
Anæmia . . .	16	54	28	98	...	98

* For Names of Hospitals see page 17.

II. LOCAL DISEASES.

	M.	F.	Sex not stated.	Cured or Relieved.	Died.	Total.
Of Nervous System.						
Apoplexy . .	1	...	1	1	1	2
Hemiplegia . .	1	1	1	3	...	3
Paraplegia . .	2	...	1	3	...	3
Epilepsy . . .	...	3	1	4	...	4
Hysteria . . .	...	16	...	16	...	16
Neuralgia . .	2	2	...	4	...	4
Paralysis . . .	5	6	...	10	1	11
Tetanus . . .	2	...	...	1	1	2
Chorea . . .	3	11	...	14	...	14
Dementia . .	2	1	...	3	...	3
Of the Eye.						
Amaurosis . .	3	1	...	4	...	4
Iritis . . .	6	8	3	17	...	17
Scrofulous Ophthalmia	8	9	4	21	...	21
Cataract . . .	2	...	3	5	...	5
Of the Nose.						
Epistaxis . . .	...	1	...	1	...	1
Of the Ear.						
Otorrhœa . . .	...	1	...	1	...	1
Absorbent System.						
Inflamed Glands .	2	...	...	1	1	2
Of the Nails.						
Onychia . . .	7	1	...	8	...	8
Of the Urinary System.						
Bright's Disease .	5	2	2	9	...	9
Cystitis . . .	...	1	1	2	...	2
Calculus in Bladder .	4	3	2	9	..	9
Retention of Urine .	1	1	3	4	1	5
Stricture of Urethra .	4	...	4	8	...	8
Hæmaturia . .	2	3	1	6	...	6

LOCAL DISEASES—*Continued.*

	M.	F.	Sex not stated.	Cured or Relieved.	Died.	Total
Generative System.						
Hydrocele	8	...	...	8	...	8
Varicocele	1	...	...	1	..	1
Orchitis	1	...	...	1	...	1
Encysted Dropsy of Ovary	...	10	...	6	4	10
Menorrhagia	...	6	...	6	...	6
Ovaritis	...	3	...	3	...	3
Congestion of Uterus	...	2	...	2	...	2
Retroflexion of ,,	...	5	...	5	...	5
Prolapsus Uteri	...	3	...	3	...	3
Polypus Uteri	...	2	...	2	...	2
Amenorrhœa	...	15	...	15	...	15
Dysmenorrhœa	...	2	...	2	...	2
Endometritis	...	2	...	2	...	2
Paraphymosis	1	...	...	1	...	1
Diseased Testicles	5	...	...	5	...	5
Sloughing of Scrotum	1	...	...	...	1	1
Of the Organs of Locomotion.						
Ostitis	37	16	21	71	3	74
Periostitis	1	2	1	4	...	4
Necrosis	3	2	...	5	...	5
Synovitis	3	1	...	4	...	4
Caries	7	6	1	13	1	14
Talipes	...	1	...	1	...	1
Bursal Tumours	...	5	2	7	...	7
Diseased Spine	1	7	1	8	1	9
Gangrene	2	...	...	2	...	2
Of the Cutaneous System.						
Psoriasis	...	1	1	2	...	2
Eczema	10	7	3	20	...	20
Carbuncle	1	1	1	3	...	3
Abscess	17	27	11	53	2	55
Ulcers	26	33	20	79	...	79
Lupus	...	1	...	1	...	1
Purpura	...	1	...	1	...	1
Epithelioma	1	1	...	2	...	2

LOCAL DISEASES—*Continued.*

	M.	F.	Sex not stated.	Cured or Relieved.	Died.	Total.
Of the Circulatory System.						
Mitral Regurgitation	...	1	...	1	...	1
Aneurism	15	6	6	21	6	27
Phlebitis	...	1	1	2	...	2
Pericarditis	1	1	...	2	...	2
Varicose Veins	1	...	...	1	...	1
Digestive System.						
Tonsillitis	2	3	2	7	...	7
Enlarged Tonsils	...	1	...	1	...	1
Dyspepsia	4	6	1	11	...	11
Dysentery	1	2	...	3	...	3
Diarrhœa	5	2	...	5	2	7
Fistula in Ano	4	2	2	8	...	8
Hæmorrhoids	3	1	...	4	...	4
Cirrhosis of Liver	6	2	...	6	2	8
Lardaceous Liver	3	1	1	4	1	5
Jaundice	3	7	3	12	1	13
Peritonitis	2	1	1	4	...	4
Gastritis	7	6	3	15	1	16
Cancer of Stomach	2	...	1	2	1	3
Stricture of Rectum	1	...	...	1	...	1
Respiratory System.						
Asthma	7	1	...	8	...	8
Diphtheria	...	2	...	2	...	2
Bronchitis, Acute	16	5	2	22	1	23
,, Chronic	2	1	...	2	1	3
Pneumonia	12	10	5	26	1	27
Emphysema	3	1	...	4	...	4
Pleurisy	4	9	3	16	...	16
Pneumothorax	...	3	...	3	...	3
III. ACCIDENTS.						
Poisoning by Lead	3	...	2	4	1	5
Submersion	1	...	...	1	...	1
Burns and Scalds	42	14	23	70	9	79

ACCIDENTS—*Continued.*

	M.	F.	Sex not stated.	Cured or Relieved.	Died.	Total.
Concussion of Brain .	6	...	2	4	4	8
Contusions . .	32	23	45	97	3	100
Minor Casualties .	30	7	34	71	...	71
Scalp Wounds . .	12	1	16	28	1	29
Wounds . . .	45	11	27	81	2	83
Fracture of Thigh .	23	2	17	40	2	42
,, Leg . .	54	4	30	85	3	88
,, ,, Compound	9	1	6	13	3	16
,, Arm . .	15	2	6	22	1	23
,, Forearm .	8	...	1	9	...	9
,, Ribs . .	13	1	5	18	1	19
,, Skull .	6	...	4	7	3	10
,, Clavicle .	2	...	3	5	...	5
,, Patella .	4	1	1	6	...	6
,, Spine .	1	...	2	...	3	3
,, Pelvis .	1	...	3	3	1	4
,, Scapula .	...	1	...	1	...	1
,, Elbow .	1	...	...	1	...	1
Dislocation of Shoulder	10	...	2	12	...	12
,, Elbow .	2	...	2	4	...	4
,, Hip . .	3	...	1	4	...	4
,, Ankle .	...	1	4	5	...	5
,, Knee .	1	...	...	1	...	1
,, Wrist .	...	...	3	3	...	3
,, Neck .	...	...	1	...	1	1

IV. OPERATIONS.

Amputation of Thigh	1	...	...	1	...	1
,, Leg . .	3	...	4	5	2	7
,, Foot . .	2	1	...	3	...	3
,, Toes . .	1	...	2	3	...	3
,, Shoulder Joint	1	...	...	1	...	1
,, Arm . .	2	...	2	4	...	4
,, Fingers .	5	1	5	11	...	11
,, Hand . .	1	...	...	1	...	1
Excision of Elbow .	1	...	...	1	...	1
,, Knee .	1	...	...	1	...	1
,, Breast .	...	1	...	1	...	1
,, Tonsil .	...	1	..	1	...	1

OPERATIONS—*Continued.*

	M.	F.	Sex not stated.	Cured or Relieved.	Died.	Total.
Herniotomy . .	8	1	1	6	4	10
Lithotomy . .	3	...	...	3	...	3
Removal of Necrosed bone . . .	4	2	6	12	...	12
Talipes . . .	2	...	...	2	...	2
Excision of Tumours.	7	12	9	26	2	28
Vesico-vaginal Fistula	...	2	...	2	...	2
Hæmorrhoids . .	2	2	...	4	...	4
Tapping Ovarian Cyst.	...	1	...	1	...	1
Removal of Nævus .	...	2	...	2	...	2
Hare Lip . .	5	1	...	6	...	6
Fistula in Ano . .	1	...	...	1	...	1

But the great difficulty has been the want of precision in diagnosis. As instances of this, it may be mentioned that over and over again a patient is put down as suffering from "an accident," or from "rheumatism," &c. Several instances of "internal diseases" and "spinal complaints" occur, whilst "run over," "railway accident," "injured," "bad cough," and the like, are terms frequently used, without further explanation or details. Apart from their value for statistical purposes, if the nomenclature and classification of diseases here given be found of use by the various medical men concerned, the tables in question will have a special value of their own. We would venture to suggest that each cottage hospital should publish, on the basis of these tables, a statistical return of all the cases which have been under treatment during each decade. If those cottage hospitals,

which have been established ten years and upwards, will adopt this suggestion in their report for the next year, they will give much valuable information to the profession at large.*

To return to the tables themselves, we think it will be admitted on the whole that the cases which have been treated are legitimate, and may be regarded as a just basis on which to found a fair conclusion concerning the respective death-rates and their causes in the different classes of hospitals. The number of severe accidents is a specially noteworthy feature, and the great number of cases of rheumatic fever is remarkable. The proportion of severe accidents is above the average in general hospitals. We think the tables show conclusively the great advantages offered to the profession and the public by cottage hospital treatment. If these tables themselves are found of value by the managers of cottage hospitals, the author will be more than repaid for the great trouble and care he has lavished on their accurate preparation.

The accuracy of Sir James Simpson's statistics of the results of amputations in country and private practice has been seriously impugned by Callender, Holmes, and other authorities, owing to the impossibility of proving the reliability of the sources from which they were derived, and because no details of the cases were given.†

Feeling deeply the importance of the subject, it seemed to us of interest to collect actual figures,

* *Vide* remarks on pages 19, 27, and 74.

† *Vide* remarks on pages 34 *et seq.*

which could be definitely verified from the books kept by the medical staff of the different hospitals, and with this view a circular was despatched to 160 cottage hospitals, in the following terms :—

"The relative success of the graver operations in surgery as performed, first, in large town hospitals, and, secondly, in country cottage hospitals, has for years attracted much attention, and there is reason to believe that the mortality in cottage hospitals in the major operations is much less than in the London hospitals. With a view of setting this question at rest, and of proving the truth or fallacy of Sir James Simpson's theory, I shall feel deeply obliged if you will fill up the enclosed form with the results of all the amputations which you may have had in connection with your cottage hospital since it was first opened.

"However few may be the amputations of the limbs, an exact return from every cottage hospital will be regarded as a very valuable contribution to surgical statistics."

Will every medical reader of this page consider that he has received this circular; and should he be in a position to do so, will he be kind enough to send to the author, on a form similar to that printed on page 28, an account of all the cases of graver operations which have been performed at any cottage hospital with which he has been or may be connected? If he will do this, much additional information of great value will be placed at the disposal of the profession at large.

The following is a copy of the form we refer to :—

Result of Amputation of the Limbs in Cottage Hospital Practice.

Return from.....Cottage Hospital, having.....Beds.

Seat of Amputations.	Primary, or for Injury.		Secondary, or for Disease.	
	Number of Cases.	Number of Deaths.	Number of Cases.	Number of Deaths.
Amputation of Thigh . . .				
Amputation of Leg . . .				
Amputation of Arm . . .				
Amputation of Forearm . .				
Total				

Signature.....

Residence.....

Date.....

REMARKS.

Note.—The Cause of each Death should be noted if possible, viz., whether Secondary Hæmorrhage, Shock, Pyæmia, or other cause. A short history of each case should also be given.

Answers were received in reply from 92 cottage hospitals, into 31 of which no cases requiring amputations had been received, although severe fractures, cases of herniotomy, lithotomy, extirpation of eyeball, removal of bone for necrosis, ovariotomy, excisions of knee, ankle, shoulder and breast, had been treated.

It may be desirable to state here, in answer to some criticisms which were made in reviews of the first edition, that our sole object in collecting these statistics has been to endeavour to procure reliable data on which to form an impartial conclusion as to the relative hygienic advantages of large and small hospitals. It seems to have been inferred that our wish was solely to attempt to show that the cottage hospitals are more successful in the treatment of the cases they undertake than the larger hospitals are. On the contrary, ours is an honest attempt to place such definite and reliable information before the profession that the truth may be ascertained. We hope, therefore, that all cottage hospital managers will combine to help us to successfully carry out so desirable an undertaking.

The cases of amputation in the 61 hospitals, which are given in alphabetical order in the following table, amount to 326, or nineteen more than the number given by Mr Erichsen in his book, as "all the amputations which have been performed in his wards at University College Hospital from the foundation of the hospital,—a period of thirty-eight years." The average mortality in Mr Erichsen's cases was 25 per cent., while it amounted to a little over 17 at these cottage hospitals.

TABLE of AMPUTATIONS and their RESULTS—Primary or for Injury, and Secondary or for Disease—of the Thigh, Leg, Arm, and Forearm, performed in Cottage Hospital Practice by Country and Provincial Practitioners.

Nominal List of Cottage Hospitals.	No. of Beds.	Primary.								Secondary.								Total.	
		Thighs.		Legs.		Arms.		Fore-arms.		Thighs.		Legs.		Arms.		Fore-arms.		C.	D.
		C.*	D.†	C.	D.	C.	D.	C.	D	C.	D.	C.	D.	C.	D	C.	D.		
Ashford	6	1	1	5	1	.	.	2	.	2	.	.	.	.	.	.	.	10	2
Beccles	7	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0
Bournemouth	6	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	.	3	0
Bourton-on-the-Water	8	1	1	.	.	2	.	1	.	.	.	.	.	.	.	1	.	5	1
Burford	6	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	2	0
Bromley	10	.	.	.	.	1	.	.	.	1	1	.	.	.	.	1	.	3	1
Boston	5	1	.	1	.	2	1	1	1	.	.	.	.	.	.	.	.	5	2
Buckhurst Hill	7	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	1	1
Bromyard	5	.	.	.	.	.	.	1	.	.	.	2	.	.	.	.	.	3	0
Crewkerne	12	1	1	1	1	3	.	2	.	.	.	.	.	.	.	.	.	7	2
Cromer	6	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0
Chesham	7	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0
Cranleigh	6	1	.	.	.	.	.	1	1	3	.	.	.	2	.	.	.	7	1
Cirencester	6	.	.	.	.	.	.	1	.	4	.	.	.	1	.	.	.	6	1
Charlwood	4	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	1	2
Dorking	12	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	2	1
Enfield	6	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0
Erith	7	.	.	.	.	.	.	.	.	1	.	2	.	.	.	.	.	3	0
Fairford	8	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0
Fowey	8	1	.	1	.	.	.	.	.	.	.	3	.	.	.	.	.	5	0
Frome	10	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	0
Hayes	5	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0
Hillingdon	4	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	0
Hatfield Broad, Oak	8	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	2	1
Jarrow-on-Tyne	11	3	2	6	1	2	.	.	.	.	.	.	.	.	.	.	.	11	3
Iver	7	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	.	2	0
Kendal	16	.	.	.	.	1	1	1	.	3	1	3	.	1	.	.	.	9	2

Ledbury	5	.	.	1	.	2	.	.	.	1	.	.	.	.	.	1	.	5	0
Lloyd, Bridlington	13	.	.	2	.	.	.	.	.	3	1	.	.	.	.	.	.	5	1
Litcham	7	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
Marlborough (Savernake)	20	3	.	4	.	2	.	1	.	1	.	.	.	1	.	1	.	13	0
Mildenhall	8	3	2	2	.	1	.	.	.	2	.	.	.	1	.	.	.	9	2
Malvern	12	.	.	2	.	.	.	.	.	5	.	3	.	.	.	.	.	10	0
Market Rasen	4	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0
Milton Abbas	6	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0
Melksham	6	1	1	.	.	.	.	1	.	.	.	.	.	.	.	.	.	2	1
North Lonsdale	50	5	4	10	.	8	1	.	.	.	.	1	.	.	.	.	.	24	5
North Cambridgeshire	23	.	.	.	.	1	0	.	.	2	1	.	.	.	.	.	.	3	1
Newton Abbot	8	.	.	.	.	2	1	.	.	.	.	.	.	.	.	.	.	2	1
Ottery, St Mary	7	.	.	1	.	.	.	3	.	2	.	1	1	1	.	.	.	8	1
Oswestry	8	2	.	2	.	3	1	2	.	.	.	.	.	.	.	.	.	9	1
Petworth	8	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	1	1
Petersfield	6	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0
Penrhyn	13	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	0
Ross	6	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	2	0
Royston	7	1	1	.	.	1	.	.	.	3	.	3	1	.	.	3	.	11	2
Reigate and Redhill	12	.	.	1	1	2	.	1	.	1	1	2	.	.	.	.	.	7	2
Rugely	10	1	1	2	1	.	.	1	.	2	1	.	.	.	.	.	.	6	3
Ross Memorial (Dingwall)	4	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0
Ruabon	6	1	1	4	.	.	.	.	.	.	.	.	.	1	.	.	.	6	1
Stockton-on-Tees	9	1	.	23	7	7	1	5	.	2	1	2	1	.	.	.	.	40	10
St Albans	7	1	1	2	.	.	.	3	.	1	.	.	.	.	.	.	.	7	1
Seacombe	8	1	1	1	1	.	.	.	.	.	.	.	.	2	.	.	.	4	2
Stratton (Cornwall)	5	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	0
St Leonard's (Sudbury)	20	2	1	.	.	2	.	2	.	2	.	1	.	.	.	1	.	10	1
St Mary's (Burford Tenbury)	8	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0
Tewkesbury	9	1	1	5	.	4	.	5	.	6	.	5	.	.	.	.	.	26	1
Trowbridge	8	.	.	.	.	.	.	3	1	.	.	1	.	.	.	.	.	4	1
Ulverston	12	2	1	2	1	.	.	2	.	1	.	.	.	.	.	.	.	7	2
Warminster	7	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0
Wickham	6	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0
	551	36	21	82	15	55	7	47	3	54	9	32	3	11	.	9	.	326	58

* C., Cases. † D., Deaths.

To facilitate comparison, the following summary of the above table, has been prepared on the plan adopted by Sir James Simpson :—

1. *Total mortality of all amputations in* 61 *cottage hospitals, having a total of* 551 *beds.*

Total number of cases 326.
Total number of deaths 58.
Or 1 in every 5·6 died ; or 17 in every 100.

2. *Mortality of the individual amputations.*

When we include all the amputations of the thigh, leg, arm, and forearm, the results are :—

Thigh	cases 90 ;	deaths 30 ;	or 1 in 3	; or 33·3	per cent.
Leg	,, 114 ;	,, 18 ;	or 1 in 6·3 ;	or 15·7	,,
Arm	,, 66 ;	,, 7 ;	or 1 in 9·4 ;	or 10·6	,,
Forearm	56 ;	,, 3 ;	or 1 in 18·6;	or 5·4	,,

3. *Mortality from the amputations that were primary or for injury.*

Thigh	cases 36 ;	deaths 21 ;	or 1 in 1·7 ;	or 58·3	per cent.
Leg	,, 82 ;	,, 15 ;	or 1 in 5·5 ;	or 18·3	,,
Arm	,, 55 ;	,, 7 ;	or 1 in 7·8 ;	or 12·7	,,
Forearm	47 ;	,, 3 ;	or 1 in 15·6 ;	or 6·4	,,

4. *Mortality from the amputations that were secondary or for disease.*

Thigh	cases 54 ;	deaths 9 ;	or 1 in 6	; or 16·6	per cent.
Leg	,, 32 ;	,, 3 ;	or 1 in 10·7 ;	or 9·4	,,
Arm	,, 11 ;	,, nil.			
Forearm	9 ;	,, nil.			

These tables will be incomplete unless the cause of death in each case is recorded. Thus, in the primary amputations for injury—

Of the thigh cases—16 died from shock.
1 ,, pyæmia.
1 ,, enteritis.
1 ,, inflammation of lungs.
1 ,, delirium tremens.

In the remaining case, a compound fracture just

above the knee, with destruction of the femoral artery not detected at the time of reduction, mortification of the limb set in, and amputation was performed as the last resource.

Of the leg cases—	6	died from	shock.
	3	,,	pyæmia.
	1	,,	tetanus.
	1	,,	delirium tremens.
	1	,,	pneumonia.
	3	,,	not stated.
Of the arm cases—	4	died from	shock.
	1	,,	pneumonia.
	1	,,	tetanus.
	1	,,	not stated.
Of the fore-arm cases—	2	died from	shock.
	1	,,	tetanus.

In the secondary amputations for disease,—

Of the thigh cases—	3	died from	exhaustion.
	2	,,	secondary hæmorrhage.
	1	,,	shock.
	1	,,	pyæmia.
	2	,,	not stated.
Of the leg cases—	2	died from	exhaustion.
	1	,,	not stated.

The cases in which the cause of death is not stated were treated at the Stockton Hospital, the books of which give no information on that point. Of the five cases of pyæmia, two occurred at Stockton, one at Crewkerne, one at Ashford, and one at Lloyd Cottage Hospitals.

It will be observed that the great mortality in the primary amputation of the thigh is due to the fact that four-fifths (16) of the deaths were caused by shock, consequent upon the severe injuries which the patients had sustained.

We purposely refrain from giving any other statistics than those obtained from the cottage hospitals, as those prepared by the late Sir James Simpson, Mr J. Erichsen, and other authorities, are well known to the profession, and can easily be referred to. It will suffice for our present purpose to point out, that, according to the most recent authorities, the mortality in general hospital practice after the major operations averages—In England, 41·6 per cent.; in Paris, 58·8 per cent.; in Glasgow, 39·1 * per cent.; in Edinburgh, 43·3 per cent.; giving an average mortality of 45·7.

The preceding remarks and tables were published in the first edition of this work. No material alterations have been made in the letterpress, but some additional cases have been added to the tables. They are retained in this edition in this form because the classification adopted allows an easy and exact comparison of the results with those shown in the late Sir James Simpson's works. With this explanation we proceed to deal with the objections raised by certain reviewers to the value of the above tables on the ground that they are figures and figures only. These critics declare that the question at

* Since this appeared in print, I have received from Dr Moses Thomas, Medical Superintendent of the Glasgow Royal Infirmary, a copy of an interesting paper read by him in 1875 before the Glasgow Medico-Chirurgical Society, from which it appears that since the opening of the Infirmary in 1794 the average rate of mortality after all amputations has been 34·1 per cent.; and for twenty-five years ended the 31st December 1873, 32·1 per cent. H. C. B., 1880.

issue is misstated by the author. They object to his figures as they object to Simpson's, because they are unaccompanied by "any facts, any particulars of the cases, and are, therefore, susceptible of any number of different interpretations besides the one which Simpson chose to select, viz., that there is an inherent unhealthiness in large hospitals, which he described by the term 'Hospitalism.'" The author having followed the lines laid down by Simpson is soundly rated, and the reviewer declares that the difference in favour of cottage hospitals of seven per cent. in the number of deaths after amputations of the limbs, "may as easily have depended upon difference in the surgical practice, in the vitality (from age, state of health, &c.) of the patients, or on the previous conditions of disease or injury; or in fact, on any conceivable combination of these, and very possibly of other causes, as on a difference in the healthiness of the hospitals." The author's figures are therefore "useless;" and finally, the chapter is altogether a mistake, and is quite out of place in the book. Not content with this scathing criticism, one reviewer congratulated the large hospitals on the fact that a difference in mortality of seven per cent. "proves that the intrinsic danger of operations in cottage or in large hospitals cannot be great." As to this, it is only to be observed that a death rate of 70 per 1000 in any community would hardly be regarded as a trifle even by the most indifferent of sanitarians. After regretting "the absence of any attempt to

estimate the real sanitary condition of cottage hospitals as tested by the prevalence and spread of erysipelas in these institutions," the reviewer proceeds :—

"Every one knows by this time how inferior the arrangements for nursing, cleanliness, and ventilation in cottage hospitals are to those of our great city hospitals." This last statement is made by a gentleman who holds a deservedly high place amongst metropolitan surgeons. It is so entirely imaginary and contrary to the fact, that we ask him to unreservedly withdraw it. Before doing so we should wish him to visit such hospitals as Cranleigh, Boston, Grantham, Petersfield, Reigate, Savernake, situated as they are in different parts of the country, and ministering as they do to the wants of agricultural and urban populations. He will then feel compelled to admit he has inadvertently been led to make a charge of bad management against these crisply conducted little hospitals which has no foundation in fact. Whatever sins may be laid to the charge of cottage hospitals they are certainly not filthy, badly nursed, or ill ventilated. Taking the average, in all these respects the arrangements are, if anything, more perfect than in the majority of the larger hospitals throughout the country.

We are not disposed to quarrel with the reviewers for taking us to task because we gave figures and not a history of all the cases contained in the tables. But any experienced reader will readily realise that in this, as in other things, it is easier to

criticise than to remedy the omissions complained of. The labour of abstracting some 400 cases from the hospital books, of condensing and codifying the facts, and of classifying the information so as to reduce it to reasonable but intelligible limits is not inconsiderable. Add to the foregoing the knowledge that the facts have to be collected from at least 60 different places scattered all over the kingdom, and even the most exacting of reviewers will see cause to be lenient in his judgment. However, the aim of this book has always been to supply reliable and exact information upon all points of interest in connection with the cottage hospital movement. Hence, the above task has been performed so far as it is at present possible, and the following facts and figures supply all the information demanded by the statisticians we have quoted. Every case given in these tables has been accurately recorded, the author has the full notes of these cases in his possession, and the detailed information there given is at the disposal of any one who may care to study it. It will be seen that the results are more favourable to the cottage hospitals than those given in the original tables, and that the charge of "want of surgical boldness" (*i.e.*, refraining from amputation in cases which would not be allowed to die in metropolitan hospitals without amputation) is not borne out by the facts. This is creditable to all concerned and adds weight to the conviction,—a conviction which is spreading amongst the well-to-do classes in country districts,—that if they have to undergo an

operation it is safe and on the whole more desirable to have it performed at their own houses by the cottage hospital surgeon, than to submit to the discomforts and risks of a London lodging-house where the case can be placed in charge of one of the more notable surgeons of a large hospital. In this connection the writer has made it his business to visit many of the newly erected cottage hospitals before issuing this edition of his work. It is nearly a quarter of a century since the first cottage hospital was opened, and the older hospitals are beginning to desire to "dabble in bricks and mortar." The observations of the writer lead him to fear that at present these new hospitals are worse for the patients than the old cottages. The former had no system of direct drainage; the latter have a system of their own. So far as his observations have gone, the author has found *the sanitary arrangements of every new cottage hospital faulty*, with one solitary exception. The exception is the Grantham District Hospital, a description and plan of which will be found further on. As a matter of fact, the change from the old to the new buildings constitutes a danger to the health of the patients, for sewer gas is directly laid on to the latter, whereas earth closets or the old fashioned outside privy were generally used at the former. Architects, almost without exception, display a fatal ignorance of the most rudimentary principles of sanitary construction. Only recently a new cottage hospital has been built and the patients have been transferred from the old cottage, which

has done good service for nearly twenty years. In this case, as usual, the closets are placed inside and in the centre of the hospital, the soil pipes are unventilated, and are directly connected with the cesspool, and many of the drains run beneath instead of outside the hospital. No care in dressings, and no amount of watchfulness on the part of the medical attendant or the nurse, will prevent an outbreak of erysipelas or of something worse if the sanitary arrangements remain as they are. The history of the new St Thomas's Hospital and of the Leeds Infirmary proves how soon structural defects will produce septic mischief. The new clinic of Professor Volkman of Halle, in Germany, though built with the utmost care, had cases of cellulitis within six months of the day on which it was opened. Structurally perfect, it was hygienically incomplete and unsatisfactory. Unless the cottage hospital managers set themselves steadily to work to stop this grave danger, they had best rest content with the old cottage as it is. If many fresh hospitals are built on the present bad system of construction, the mortality of cottage hospitals will, in the writer's opinion, very soon exceed that of the larger general hospitals. Before any more new cottage hospitals are built, the staff should insist upon the plans being submitted to some competent sanitarian for his advice and counsel.

The following tables are compiled from information supplied by 44 cottage hospitals. At very many (some 60) others no cases of amputation had occurred.

TABLE I.—PRIMARY AMPUTATIONS

Name of Hospital.	Cases.	Sex and Age.	Previous state of Health.	Nature of Injury.
St Leonard's, Sudbury	2	M. 30	Good.	Compound fracture of thigh.
	1	M. 26	Good.	Railway accident. Compound fracture of leg just below knee.
Crewkerne		...	.....	.....
Malvern	1	M. 39	.....	Railway accident. Right leg torn off above knee; fracture of left leg; severe scalp wound.
Fowey	1	No particulars.		.....
Jarrow Memorial	3	...	.....	.....
		...	.....	Double amputation, leg and thigh.
		...	.....	.....
Melksham	1	No particulars.		.....
Grantham	3	M. 65	.....	Compound comminuted fracture of leg.
		M. 19	.....	Triple fracture, both bones of leg, crushing of soft parts.
		...	.....	.....
Stockton-on-Tees	1	No particulars.		.....
Oswestry	1	No particulars.		.....
South Lincolnshire	3	M. —	.....	Railway accident. Compound commin. fracture of leg; amputation of knee.
		F. —	.....	Thrashing machine accident. Compound commin. fracture of leg, implicating knee.
		No particulars.		.....
St Alban's	1	No particulars.		.....
Kendal	1	M. 35	.....	.....
Bourton-on-the-Water	1	M. 19	Healthy and of temperate habits.	Leg caught and retained in a water-wheel for 20 minutes. Unchecked hæmorrhage for 2 or 3 hours.
Ulverston	1	No particulars.		.....
Mildenhall	1	M. 70	.....	Compound fracture of leg, much hæmorrhage.
Ashford	1	M. 22	Healthy.	Crush, compound fracture.
Cranleigh	1	M. 33	.....	Crush of leg by steam thrashing machine.

Remarks.—24 cases. 14 deaths = 58·3 per cent. Shock, 9; septic 9 resulted from shock, the most common cause of death in these cases. In all, excessive hæmorrhage. Two deaths resulted from septic diseases. One patient accident, and in two cases the cause of death is unreturned.

OF THIGH FOR INJURY.

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
Thigh.	.....	D.	Shock.
,,	.....	R.	.....
,,	.....	D.	Pyæmia.
,,	Died immediately after operation.	D.	Shock.
,,	.....	R.	.....
,,	.....	R.	.....
,,	.....	D.	Shock.
,,	.....	D.	Shock.
,,	.....	D.	Shock.
,,	Collapse; much hæmorrhage; lived some days.	D.	Shock.
,,	.....	D.	Septicæmia.
,,	.....	R.	.....
,,	.....	R.	.....
,,	.....	R.	.....
,,	.....	D.	Shock.
,,	.....	D.	Shock.
,,	.....	R.	.....
,,	.....	D.	No particulars.
,,	.....	R.	.....
Knee crushed to a pulp.	Patient was collapsed, and stimulants were administered for 30 hours previous to amputation.	D.	On 5th day, from shock and exhaustion.
,,	.....	R.	.....
,,	Patient died soon after operation.	D.	Shock.
,,	.....	D.	.....
,,	.....	R.	.....

sease, 2; shock and exhaustion, 1; no particulars, 2. Of these 14 deaths, e accidents requiring the operation were very severe, and in two there was ed on the 5th day, of exhaustion, never having recovered the shock of the

TABLE II.—PRIMARY AMPUTATIONS

Name of Hospital.	Cases.	Age and Sex.	Previous state of Health.	Nature of Injury.
Charlwood	1	...	.....	Railway accident. Compound fracture of both legs.
Crewkerne	1	...	.....	.....
Malvern	2	M. 1½	Good.	Compound fracture of leg.
		M. 46	.....	Thrashing machine. Crush of leg.
Bromley	1	M. 50	.....	Fall of truck on leg.
Dorking	3	No particulars.		.....
Fowey	1	No particulars.		.....
Burford, Oxon. . . .	1	M. 12	Good.	Traction engine. Crushed foot.
Burford, Tenbury . .	1	F. ...	.....	Machine. Crush of leg.
Jarrow Memorial . .	7	M. ...	.....	.....
		M. 34	Good.	5 others without particulars.
Ottery St Mary . . .	2	M. 80	.....	Railway. Crush of leg.
		No particulars.		.....
Stockton , ...	23	All railway and iron work accidents.		
		The two amputations fatal from shock were double.		
Oswestry	4	...	.....	Compound fracture.
Beccles	1	...	.....	Double amputation.
Erith	1	...	.....	Amputation of foot.
Bournemouth . . .	1	M. 30	Navvy.	Railway truck passed over both legs; commin. fracture of front row of tarsus on left side; compound commin. fracture of left leg; stripping of skin.
St Albans	2	...	.....	.....
Reigate	1	M. 50	Prematurelyaged	Railway smash of leg.
Ledbury	1	M. 12	.....	Crushed foot and ankle.
Ulverstone	1	...	.....	Railway crush of foot and leg.
Mildenhall . . .	1	M. 20	.....	Thrashing machine accident. Lacerated wound of leg and foot.
Kendal	1	M. 26	.....	Railway injury to leg.
Ashford	5	M. 18	.....	Crush—Compound fracture.
		M. 26	.....	Do.
		M. 66	Healthy.	Run over—crushed leg.
		M. 40	Healthy.	Compound fracture. Tibia and fibula.
		M. 33	Healthy.	Crushed leg. Machinery.

Remarks.—62 cases. 13 deaths = 20·9 per cent. Shock, 4; exhaustion, to the cases of death from shock the accidents were very severe. In one, there were performed. In the case in which acute bronchitis is given as the cause of of a similar nature. Of the three cases of pyæmia, two occurred in one hospital

)F LEG FOR INJURY.

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
.....	Collapse; died in 6 hours.	D.	Shock.
.....	.....	D.	Tetanus.
.....	.....	R.	.....
.....	.....	R.	.....
Upper ⅓.	Some sloughing, but stump good.	R.	.....
.....	.....	3 R.	.....
.....	.....	R.	.....
Lower ⅓.	Perfect.	R.	.. ...
.....	Shock, anæmia, bronchitis, stump healed.	D.	Acute attack of bronchitis.
.....	Delirium tremens.	D.	In 17 days, exhaustion.
.....	.....	6 R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	16 R.	.....
.....	.....	7 D.	2 Pyæmia. 2 Shock. 3 Unreturned.
.....	.....	4 R.	.....
.....	.....	R.	.....
Foot.	.....	R.	.....
ight chopart, left middle, ⅓ leg.	Favourable.	R.	.....
.....	.....	2 R.	.....
.....	Shock, no reaction, death next day.	D	Shock.
.....	.....	R.	.....
.....	Did well.	R.	.....
Upper ⅓.			
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	D.	Pyæmia.
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....

.T. 1; tetanus, 1; acute bronchitis, 1; pyæmia, 3; cause unreturned, 3. As
is a compound fracture of both legs, and in two others, double amputations
ath the stump was healed, and the patient had been accustomed to have attacks
tockton), and the other at Ashford.

TABLE III.—PRIMARY AMPUTATIONS

Name of Hospital.	Cases.	Sex and Age.	Previous State of Health.	Nature of Injury.
St Leonard's, Sudbury	2	M. 9	Good.	Hand and forearm crushed.
		M. 50	Good.	Both arms crushed by machinery, required amputation.
Crewkerne	3	No particulars.		.....
Malvern	1	M. 14	.....	Machinery accident. Compound luxation and commin; fracture of humerus; fracture of femur; severe scalp wound.
Bromley	2	...	.....	.....
		M. 28	.....	Thrashing-machine crush.
Dorking	1	M. 14	.....	Thrashing-machine crush.
Burford, Oxon,	1	No particulars.		.....
Jarrow Memorial	2	No particulars.		.....
Hatfield, Broad Oak	1	M. 44	Good.	Avulsion of arm by rope of steam plough.
Ottery St Mary	1	M. 20	.....	Avulsion of arm by thrashing-machine.
Stockton	7	No particulars.		.....
		...	.....	.....
Oswestry	4	...	.....	Compound fractures.
				.....
Hillingdon	1	M. 40	.....	Machinery crush of forearm; elbow-joint implicated.
Beccles	1	No particulars.		.....
Newton Abbot	1	M. 25	.....	Chaff-cutter accident. Crush of forearm and elbow-joint.
Bournemouth	1	F.	Old and cachetic.	.....
Reigate	2	M. 57	Healthy.	Chaff-cutter injuries to forearm and elbow.
		M. 55	Healthy.	Do.
Bourton-on-the-Water	1	M. 16	Healthy, temperate.	Do.
Ledbury	2	M. 40	.....	Crushed arm and elbow.
		M 42	.....	Do.
Buckhurst Mill	1	...	.....	Arm severed by railway accident.
Kendal	2	M. 14	.....	Railway injury to arm.
		M. 40	.....	Do.

Remarks.—37 cases. 5 deaths = 13·5 per cent. Shock, 2; doubtful, 1
tation, was at the shoulder-joint, and in the other there was a concomitan
the cause of death being doubtful; in the case in which the cause of death
also a fracture of femur and a scalp wound due to the same accident.

OF ARM FOR INJURY.

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
.....	.....	R.	.....
Near shoulder.	.....	R.	.....
.....	.....	3 R.	.....
Shoulder-joint.	Death on 10th day.	D.	Exhaustion.
.....	.....	R.	.....
Middle.	Satisfactory.	R.	.....
High.	Recovery uninterrupted.	R.	.....
.....	.....	R.	.....
.....	.....	2 R.	.....
Shoulder-joint.	.....	R.	.....
Close to shoulder.	.....	R.	.....
.....	.....	6 R.	.....
.....	.....	1 D.	No particulars.
.....	.....	3 R.	.....
Shoulder-joint.	Death occurred 40 minutes after operation, suddenly, while patient was conversing.	1 D.	Entry of air in large veins. (?)
.....	Well in 20 days.	R.	.....
.....	.....	R.	.....
Lower ⅓	.....	R.	.....
.....	Plugged femoral vein after leaving hospital.	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	Injury to chest.	D.	Shock, &c.
Surgical neck.	.....	R.	.....
Shoulder-joint.	.....	D.	Shock.

exhaustion, 1; no particulars, 1. In the two deaths from shock, one, amputinjury to the chest. In one case the patient died suddenly after the operation, given as exhaustion, the amputation was at the shoulder-joint, and there was

TABLE IV.—AMPUTATIONS

Name of Hospital.	Cases.	Sex and Age.	Previous state of Health	Nature of Injury.
St Leonard's, Sudbury	2	M. 53	Good.	Hand torn off by machinery.
		M. 12	Good.	Hand crushed by machinery.
Crewkerne	2	No particulars.		.....
Bromley	1	M. —	.....	Avulsion of hand by rollers of chaff-cutter.
Dorking	1	No particulars.		.....
Burford, Tenbury	2	M. —	.....	Steam saw accident.
		No particulars.		.....
Jarrow	1	M. 28	Good.	.....
Melksham	1	No particulars.		.....
Hatfield, Broadoak	1	M. 28	Good.	Shattering of bones of wrist, &c., by chaff-cutter.
Ottery St Mary	2	M. 7	.....	Machine crush of hand.
		F. 17	.....	Machine crush of hand.
Grantham	5	No particulars.		.....
Stockton	5	No particulars.		.....
Oswestry	2	No particulars.		.....
Louth	1	No particulars.		.....
Beccles	1	No particulars.		.....
St Alban's	3	No particulars.		.....
Reigate	1	M. 25	Good.	Chaff-cutter smash of hand.
Bourton	1	M. 16	Good health; temperate.	Compound fracture.
Ulverstone	2	M. 22	.....	Crushed hand.
		M. 38	.....	Do.
Ashford	2	M. 13	Good health.	Machine crush.
		M. 18	Good, but much exhausted by hæmorrhage.	Gunshot injury to bones and arteries.
Cranleigh	1	M. 25	Navvy.	Compound commin; fracture, with dislocation of left wrist; compound commin; fracture of left ankle; laceration of lung.
Kendal	1	...	.....	.....

Remarks.—38 cases. 1 death = 2·6 per cent. The only death in this table of the lung in the same accident. At the time of death the amputation was

OF FORE-ARM FOR INJURY.

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	2 R.	.....
Just above wrist.	Satisfactory.	R.	.....
.....	.....	R.	.....
Lower ⅓.	Small Abscess.	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
Lower ½.	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	5 R.	.....
.....	.....	5 R.	.....
.....	.....	2 R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	3 R.	.....
.....	Satisfactory.	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	Effusion of blood beneath sternum: died from effect of injuries on 11th day. Amputation progressing favourably.	D.	Concomitant wound of lung, &c., &c.
.....	.....	R.	.....

...as in a patient who had sustained a compound fracture of ankle and a wound ...rogressing favourably.

TABLE V.—SECONDARY

Name of Hospital.	Cases.	Sex and Age.	Previous state of Health.	Nature of Injury.
Bromley	1	...	Stout, pale, flabby, a notorious drinker.	.....
Oswestry	1	M. 40	Delicate constitution.	Fracture of leg.
Burford, Tenbury . .	1	M. —	Unhealthy.	Simple fracture lower half of tibia, upper one-third fibula.
Ulverstone	1	M. 23	Phthisical subject.	Compound fracture of thigh.
LEG.				
Ottery St Mary . . .	1	M. 50	.....	Compound fracture of tibia and fibula from upsetting of waggon, uncontrollable hæmorrhage for many days.
ARM.				
Bourton	1	M. 17	Irregular habits	Compound fracture of humerus, caused by bursting of steam engine.
FORE-ARM.				
Newton Abbot . . .	1	M. 30	Good health.	Gunshot wound of hand, thumb, forefinger, and metacarpal bones of two middle fingers removed same day.
St Leonard's, Sudbury .	1	M. 46	Always good.	Part of hand crushed by machinery, one finger amputated.
LEG.				
Erith	1	M. 50	.....	Compound fracture of tibia and fibula, implicated ankle and much laceration of soft parts.

Remarks. — 9 cases. 3 deaths = 33·3 per cent. Of the two deaths subject, and the other from exhaustion, in a stout, pale, feeble man—a notorious secondary amputation of leg, the cause of death was gangrene, following un-

Amputations for Injury.

Nature of Disease.	Seat of Amputation.	Course of Case.	Result.	Cause of Death.
Traumatic gangrene.	Thigh.	.....	D.	Shock.
Gangrene of leg.	Thigh.	Healed rapidly, about in 14 days.	R.	.....
Phlegmonous erysipelas, sloughing of intermuscular septa, as high as knee.	Thigh, Lower ⅓.	Slow repeated attacks of second hæmorrhage, discharged in five months.	R.	.....
Amputated many weeks after.	Thigh.	Attack of pneumonia.	D.	Pneumonia.
	Leg.	Gangrene of the stump occurred.	D.	Gangrene.
Gangrene of whole arm appeared on fourth day.	Shoulder.	Some sloughing, but patient made a good recovery.	R.	.....
Acute cellulitis extending two inches above wrist joint, amputated on 14th day.	Middle ⅓.	.....	R.	.....
Abscesses and inflammation.	Lower ⅓ forearm.	.....	R.	.....
Surgical fever inflammation.	Upper ⅓ of leg.	Satisfactory.	R.	.....

n secondary amputation of thigh, one was from pneumonia in a phthisical drinker, the subject of traumatic gangrene. In the one fatal case following controllable hæmorrhage, lasting many days.

TABLE VI.—AMPUTATIONS

Name of Hospital.	Cases.	Sex and Age.	Previous state of Health.	Nature of Disease.
St Leonard's, Sudbury .	2	M. 12	For years a succession of strumous abscesses.	Necrosis of tibia extending to knee.
		M. 74	Good.	Ununited fracture of tibia and fibula.
Malvern	8	F. 36	Good.	Strumous disease of knee-joint.
		F. 24	Fair.	Strumous disease of knee-joint.
		M. 5	Debilitated health.	Strumous disease of knee-joint.
		M. 31	Health much broken.	Strumous disease of knee, old.
		F. 23	Good.	Strumous disease of knee.
		F. 53	Fair.	Gelatinous degree of synovitis membrane of knee.
		M. 19	Very reduced and emaciated.	Strumous disease of knee, old.
		M. 14	Good.	Strumous disease of knee.
Enfield	1	M. 7	Delicate, badly nourished.	Abscess, necrosis of internal condyle of femur, disorganisation of knee-joint.
Dorking	1	M. 10	Chronic eczema.	Necrosis of tibia, implication of knee-joint.
Hatfield Broad Oak . .	1	M. 37	Very emaciated, bad health.	Osteo sarcoma of femur 2 years, refused earlier operation.
Ottery, St Mary . . .	2	Ch. 11	Debilitated.	Necrosis of tibia, profuse discharge.
		F. 59	.....	Anchylosis of knee, and constantly recurring abscesses in calf.

OF THIGH FOR DISEASE.

(*Continued over leaf.*)

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	Patient died on 5th day.	D.	Exhaustion and diarrhœa.
.....	.....	R.	.....
Amputation of middle and lower ⅓ disartic hip.	Continuation of necrosis until disarticulation, erysipelas of head.	R.	.....
.....	.....	R.	.....
.....	Secondary hæmorrhage 14 days after operation, ligature of common femoral, recurrence of hæmorrhage in 16 days, ligature of external iliac, died of hæmorrhage in 14 days more.	D.	Secondary hæmorrhage.
.....	.....	R.	.....
.....	.....	R.	.....

[*P.T O.*

TABLE VI.—AMPUTATIONS

Name of Hospital.	Cases.	Sex and Age.	Previous State of Health.	Nature of Disease.
Grantham	1	No particulars.	.....	.....
Stockton	2	No particulars.	.....	.....
	...	...	.....	.....
South Lincolnshire	3	No particulars.	.....	.....
Hillingdon	1	F. 17	Bad, since excision twelve months previous.	Sinuses, no bony union, unpromising excision of knee.
Erith	1	M. 9	Scrofulous, delicate.	Acute periostitis, knee-joint implicated.
Reigate	1	M. 23	Strumous.	Strumous disease of knee, previous excision.
St Albans	1	...	.....	.....
Ledbury	1	F. 38	.....	Medullary cancer of knee.
Ulverstone	2	F. 4	.....	Medullary cancer of lower end of femur.
		F. 44	.....	Chronic disease of knee-joint.
Mildenhall	1	M. 50	Great emaciation.	Synovial disease of knee-joint.
Chesham	1	M. 21	Good previous to development of cancer.	Cancerous tumour of internal condyle of femur.
Ashford	2	F. 39	Very cachectic.	Fungus nœdematodes.
		M. 36	Very unhealthy, strumous.	Disease of knee-joint.
Cranleigh	4	M. 10	.....	Scrofulous disease of knee.
		M. 15	Very reduced and feeble.	Scrofulous disease of knee and femur.
		M. 26	External strumous, anæmia.	Scrofulous disease of knee, 6 months.
		M. 9	.....	Carcinoma of femur.
Kendal	4	M. 36	.....	Disease of knee.
		M. 10	.....	Ill 15 months, disease of knee.
		M. 2	.....	Disease of knee.
		M. 14	Ill two years.	Disease of knee.

Remarks.—40 cases. 6 deaths = 15 per cent. 3, exhaustion; 2, second- 6 amputations for malignant disease, 5 of which recovered. "Many of the where resection is more common." Of the deaths, the one following amputation after successive ligature of the common femoral and external iliac arteries; this

OF THIGH FOR DISEASE—*Continued.*

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	D.	.....
.....	.....	3 R.	.....
.....	Good.	R.	.....
.....	Amputation of other leg, good.	R.	.....
.....	Secondary hæmorrhage on 3d day.	D.	Exhaustion, secondary hæmorrhage.
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	.....	R.	.....
.....	Died in 6 weeks.	D.	Exhaustion.
Below trochanter.	.....	R.	Living many years after.
.....	.....	R.	.....
Lower ⅓, afterwards higher.	.....	D.	Exhaustion, suppuration.
.....	.....	R.	.....
.....	.....	R.	.....

ary hæmorrhage and exhaustion; 1, no particulars. This table contains amputations for knee disease would probably not have been done in London, for malignant disease was from exhaustion following secondary hæmorrhage, patient refused an earlier operation.

TABLE VII.—AMPUTATIONS

Name of Hospital.	Cases.	Sex or Age.	Previous state of Health.	Nature of Disease.
St Leonard's, Sudbury .	1	F. 57	Always in bad health.	Extensive caries of tarsus.
Market Rasen . . .	1	M. 40	Thin, anæmic.	Periostitis, followed by necrosis of tibia. Spontaneous fracture.
Malvern	3	M. 65	.....	Recurrent necrosis of tarsal and metatarsal bones.
	...	M. 22	Good health.	Painful pirogoff, stump.
	...	...	.....	.....
Fowey	3	No particulars.		.....
Ottery, St Mary . . .	1	M. 78	.....	Senile gangrene.
Stockton	2	No particulars.		.....
Erith	1	M. 9	Scrofulous, delicate.	Acute periostitis of tibia. One knee and one ankle implicated.
Reigate	2	M. 12	Strumous.	Necrosis of tibia, and suppuration of ankle following, wound of joint.
	...	M. 55	.....	Compound fracture into ankle. Necrosis of tibia.
Cranleigh	1	M. —	.....	Periostitis, resulting in disorganisation of right foot.
Kendal	3	F. 9	.....	Disease of ankle-joint.
	...	M. 6	.....	Disease of ankle-joint.
	...	F. 60	.....	Disease of ankle and ulcer of leg.
Erith	1	M. 76	Declining strength.	Senile gangrene of great toe.

Remarks.—19 cases. 3 deaths = 15·7. In one case no particulars of successful, since the patient recovered from it and lived five weeks, then dying

OF LEG FOR DISEASE.

Seat of Amputation.	Course of Case.	Results.	Cause of Death.
.....	Died four years after of cancer of liver.	R.	.....
.....	Up and poaching in one month.	R.	.....
Since amputation of great toe, foot, and lower ⅓ leg.	.....	R.	.....
Lower ⅓.	.....	R.	.....
.....	.....	R.	.....
.....	.....	3 R.	.....
.....	Operation recovered from. No further gangrene.	D.	Died suddenly five weeks after operation.
.....	.....	{ R. } { D. }	No particulars.
Upper ⅓.	Other thigh amputated. Good recovery.	R.	.....
.....	Good.	R.	.....
.....	Sharp attack of idiopathic erysipelas.	R.	.....
Upper ⅓.	Good.	R.	.....
Lower ⅓ scale.	.....	R.	.....
Lower ⅓ scale.	.....	R.	.....
Upper ⅓.	.....	R.	.....
Chopart.	.....	D.	Exhaustion.

the cause of death are given. In the first case the operation might claim to be suddenly.

TABLE VIII.—AMPUTATIONS

Name of Hospital.	Cases.	Sex and Age.	Previous state of Health.	Nature of Disease.
Milton Abbas . . .	1	F. 40	Always delicate. Health much undermined.	Aneurismal varix following wound over wrist, gangrene of two fingers. Veins much enlarged up to shoulder.
Jarrow	2	No particulars.		..
Ottery, St Mary . . .	1	No particulars.		...
Grantham	1	No particulars.		...
Hillingdon	1	M. 10	Hectic, emaciated.	Elbow disease. Excision two months previously.
Mildenhall	1	M. 17	...	Synovial disease of elbow.
Cranleigh	1	F. 23	Feeble. Seven months pregnant.	Scrofulous disease of elbow.

Remarks.—8 cases.

TABLE IX.—AMPUTATIONS

Name of Hospital.	Cases.	Age and Sex.	Previous state of Health.	Nature of Disease.
Bromley	1	F. 70	...	Necrosis of carpus. Suppuration, numerous fistulæ.
Bourton	1	F. 17	...	Malignant disease of hand and wrist.
Ledbury	1	M. 65	...	Strumous disease of hand and wrist.
Cranleigh	1	M. 77	...	Epithelioma of back of hand.

Remarks.—4 cases.

F ARM FOR DISEASE.

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
...	Good.	R.	..
...	...	2 R.	...
...	...	R.	...
...	...	R.	...
...	Good.	R.	...
...	...	R.	...
...	Good. Child born alive at full time.	R.	...

) Deaths.

F FORE-ARM FOR DISEASE.

Seat of Amputation.	Course of Case.	Result.	Cause of Death.
Upper ⅓.	Satisfactory.	R.	...
...	...	R.	...
...	...	R.	...
...	...	R.	..

) Deaths.

General Summary of all the Cases.

Results of Amputation.—Cottage Hospitals.

	Seat.	Cases.	Recoveries.	Deaths.	Percentage of Deaths.
Amputation for Injury.	Thigh . .	24	10	14	58·3
	Leg and foot .	62	49	13	20·9
	Arm . .	37	32	5	13·5
	Fore-arm .	38	37	1	2·6
	Totals . .	161	128	33	20·4
Amputation for Disease.	Thigh . .	40	34	6	15·0
	Leg and foot .	19	16	3	15·7
	Arm . .	8	8	...	...
	Fore-arm .	4	4	...	...
	Totals . .	71	62	9	12·6

Secondary Amputations for Injury in Cottage Hospitals.

Thigh . .	4	2	2	9 cases, mortality 33·3 per cent.
Leg . . .	2	1	1	
Arm . .	1	1	...	
Fore-arm .	2	2	...	
Totals . .	9	6	3	33·3 per c.

Results of Amputation.—University College Hospital.

	Seat.	Cases.	Recoveries.	Deaths.	Percentage of Deaths.
Amputation for Injury.	Thigh . .	39	16	23	59·
	Leg and foot .	44	30	14	31·8
	Arm . .	12	7	5	41·6
	Fore-arm .	8	8	0	0·
	Totals . .	103	61	42	40·7
Amputation for Disease.	Thigh . .	86	68	18	20·9
	Leg and foot .	74	64	10	13·5
	Arm . .	24	16	8	33·3
	Fore-arm .	20	19	1	5·0
	Totals . .	204	167	37	18·1

Total Numbers in Town and Cottage.

	Cases.	Deaths.	Per centage of mortality.
Cottage Hospitals.	241	45	18·6
University College	307	79	25·7

With regard to the occurrence of septic disease, the statistics given in the above tables are very favourable to cottage hospitals. Mr Bryant states that in Guy's Hospital 10 per cent. of all amputations die from pyæmia, and that 42 per cent. of the fatal cases may be traced to this cause. Now, on examining these 241 cases, we find 5 cases of septic disease, 4 of pyæmia (2 of these occurring in one hospital), and 1 case of septicæmia, against a total of 45 deaths; so that the percentage of deaths from septic disease to the total number of cases reaches only 2·1, and the percentage of deaths from this cause to the fatal cases is only 11·1. These cases of septic disease all occurred after amputations of the lower extremity. The cases of inflammation of the lungs, referred to by a reviewer of the first edition, were one of pneumonia in a man the subject of phthisis, and another of acute bronchitis in a woman subject to the affection. In neither case was there any septic element. In no case of amputation for disease did pyæmia or septicæmia occur. Of the 2 deaths in the 8 cases of secondary amputation for injury, neither was due to septic poisoning. (In Mr Erichsen's cases, as many cases of pyæmia occurred after amputation for disease as in primary amputations for injury.) May not this fact be taken as conclusive evidence in favour of the healthiness of small as compared with large hospitals?

The facts contained in the foregoing tables reflect upon the justice of the assertion that there is greater

surgical boldness displayed by the London surgeons, as some of the operations point to a surgical skill and boldness which leave nothing to be desired. For instance, a case of amputation of thigh was performed in the Hatfield Hospital for malignant disease of femur, in which both the common femoral and the external iliac arteries were successively ligatured for secondary hæmorrhage; and an amputation of thigh followed by exarticulation of hip was successfully carried out at Enfield.

Again, as to the undertaking of operations, the amputations of thigh for ununited fracture of leg in a patient of 74 successfully performed at St Leonard's, Sudbury, and that for senile gangrene planned and successfully carried out at Ottery St Mary, are favourable specimens of surgical boldness combined with judgment.

The case of amputation of arm at Milton Abbas, performed after the case had been rejected at the County Hospital, also speaks well for the surgical staff there.

On this subject the following letters from three cottage hospital surgeons will prove of interest:—

Mr Thomas Moore, F.R.C.S., San. Sc. Certf., Cantab., writes:—

"As regards the comparative influence of the air of large and small hospitals on the healing of wounds, about which you ask my opinion, I do not hesitate to say that I believe they do better as a rule in the smaller institutions.

"I have unfortunately not had the immense experience of

operations which falls to the lot of some surgeons in large towns, but I have had considerable opportunities of studying the vexed question on both sides. First, for five years (during eighteen months of which time I was surgeon's dresser) at St Bartholomew's Hospital, and for one year at the Queen's Hospital at Birmingham; then as surgeon for six years to two of the largest iron works in Staffordshire; and lastly, for between eight and nine years as surgeon and Hon. Secretary to the Petersfield Cottage Hospital, and in a large private practice.

"*Cæteris paribus*, I found that the very numerous cases of compound fracture and severe wounds I was called upon to treat in the iron works, and their attached collieries, did better, as a rule, when treated isolated in the patients' own cottages than when removed to a hospital, in spite of inferior nursing and poor feeding. That was, however, I am bound to say, when I looked after them daily or more frequently, *myself;* for the old saying, 'cleanliness is next to godliness,' is more than true when applied to surgical dressings.

"The way in which wounds heal in the pure air of this cottage hospital (Petersfield), where there are good nursing, and every available creature comfort, and where no ward contains more than 2 beds, is beautiful. And I think I could persuade even Mr Lister himself that antiseptic precautions are not necessary under all circumstances, if I could get him to spend twelve months in the unexciting but germless atmosphere of our cottage hospital. Out of 272 surgical cases, many of them of a serious nature, only one has been attacked by erysipelas, and that occurred when there were several cases of puerpural fever in the neighbourhood, and could thus probably be accounted for. It is only right to mention that some of the healthiness of this hospital may be attributed to the fact that we have no sewer gas laid on, as is too frequently the case, I fear, even in the best drained towns. The closets are on the earth principle, and the drain from the kitchen sink is made to open well into the outer air.

"It has been urged against the statistics which have been brought forward to prove the superior suitability of cottage hospitals for the treatment of severe surgical cases, that the more severe ones are rejected in them, and are sent to the

larger hospitals. This has certainly not been the case here. Two or three cases of a chronic nature, where the advisability of an operation was doubtful, have been sent away, but every case of accident has been taken in without inquiry, and some were of a most severe and unpromising nature. On the other hand, it is well known to the initiated that some of the great London operators are very careful to select their cases, and this they can easily do without its being known; whereas if a country surgeon declines to operate, all the neighbourhood likes to know the 'why and wherefore,' and is apt to make invidious comparisons.

"It has been urged against the establishment of cottage hospitals that the same amount of surgical skill cannot be brought to bear upon the cases as in larger ones. That may be, and it would savour of egotism on my part to deny it. Still if statistics prove that cases (of amputation for example) get on better in the former than in the latter, is it not better for the patients to have pure air and less skill brought to bear upon their ailments?

"Moreover, this state of things will tend to mend itself year by year, as severe cases are more and more treated by the local surgeon, and are not sent off to the County Infirmary, as was formerly the rule. I lose no opportunity of urging on the numerous rich residents of this neighbourhood the fact, that in supporting the cottage hospital, they are but 'casting their bread upon the waters.' For the more practice the local medical men get in bad accidents and operations among the poor people, the better will they be able to treat emergencies among the rich, and the less necessity will there be for the 'eminent consultant' and his 50 guineas' fee,—and they are I believe beginning to see the truth of the remark.

"A well known gentleman, and an enthusiastic supporter of medical institutions, argued with me a short time ago against the institution of cottage hospitals, and, as a kind of 'clencher,' averred, that they are damaging the county infirmaries. I fear that may be so, but in this matter the 'greatest good of the greatest number' must be considered. The latter have had their day, and *have* done much good, but if the former are calculated to do more still, surely no sentimental idea of that kind should be allowed to stand in their way. The larger institutions will still

be very useful to receive the chronic and incurable cases, even if they do not attract the accidents and operations so much."

Mr Thomas H. Cheatle of Burford writes:—

"As to the necessity for an operation, the case and the common sense of the surgeon determine the question. Of course in any difficult case further advice and assistance would be obtained. In a purely agricultural district like this, with little machinery, and the people becoming more used to what there is, there is little surgery in the way of operations to be had, and it is quite possible that the country surgeon, while he is careful to avoid temerity, may seem to lack the 'boldness' which is assumed to be the characteristic of the urban operator."

Mr W. Berkeley Murray of Tenbury writes:—

"My general rule has always been to ask the advice of my colleagues, and upon a conviction that an attempt to save the limb would be attended by danger to life of the patient, I have operated without unnecessary delay. I think there can be no doubt that there is greater surgical boldness shown by surgeons of large hospitals, and reasons for this are not far to seek. The authority of the man with a name, and the authority of the large and old established institution cover all ill success, and it is responsibility which produces caution, not to mention the boldness given by constant practice. Nevertheless, we undoubtedly possess *great* advantages in the pure country air and quiet, and in the concentrated care we are able to bestow on any bad case."

The above remarks are forcible and convincing. They will certainly carry weight, and will popularise cottage hospitals greatly.

Two points may be referred to in this connection. It must not be overlooked in considering the question of surgical boldness, that a surgeon to a large clinical hospital is under the necessity of remembering that he has as far as possible to cure the greatest number of patients in the shortest possible time. Hence a

surgeon so situated is under the necessity of operating frequently because of the crowded state of the hospital and the great demands upon its available space. Such circumstances render speedy results an absolute necessity.

Again, the long distance which patients have to be carried to reach the cottage hospital, as compared with that traversed by accident cases in large towns, may reasonably be considered to increase the deaths from shock, and to add to the severity of the conditions which render recovery improbable. In large towns not only is the distance shorter, but the patients are more accustomed to think at once of the hospital, and there conveyances are always to be had. These are, therefore, not unimportant considerations. Indeed, on a consideration of the facts and figures here adduced, the charge of less surgical boldness cannot be maintained.

Finally, the real sanitary condition of cottage hospitals, and the average prevalence and spread of erysipelas, may be gathered from the following tabular statement. It shows that erysipelas is rarely to be met with, and that the general sanitary condition of these hospitals is exemplary. The constant personal care and direct supervision of the cottage hospital surgeons do much to bring about these results. The interest and enthusiasm we have found expressed amongst the members of the medical staff is most noteworthy. We therefore leave the tables for the frank consideration of all thoughtful observers.

SANITARY CONDITION OF COTTAGE HOSPITALS.

Reports from the Medical Staff of 45 *Cottage Hospitals.*

Name.	Pyæmia.	Erysipelas.	General Sanitary Condition.	Surgical Boldness.	Remarks.
Enfield, . .	Nil.	Nil.	Excellent.		
Lewick, . .	Nil.	Nil.	Excellent, well ventilated.		
Bromley (Kent) .	Nil.	Nil.	Excellent.		
Rugeley, . .	Nil.	Rarely. Never spread.	Very good.	The ordinary rules, principles, and maxims of surgery, to be found in Erichsen, Bryant, and Holmes.	Impossible to give details of cases.
Dorking, .	Nil.	Nil.	Excellent.	...	Many interesting and excellent operations, in which recovery has been, in the opinion of the Medical Officers, mainly attributable to the situation and sanitary excellence of the Hospital.

Name.	Pyæmia.	Erysipelas.	General Sanitary Condition.	Surgical Boldness.	Remarks.
Burford, Tenbury, .	Nil.	Nil.	Good.	Before an operation a consultation of the whole staff takes place, and upon a conviction that an attempt to save a limb will be attended by danger to the life of the patient, an operation is invariably performed without unnecessary delay.	
Fowey, . .	Nil.	Nil.	Excellent.		
Warminster, . .	Singularly free from any form of blood poisoning. All operations do well.		Very good.		
Milton Abbas, . .	Nil.	Nil.	Excellent.		
Malvern, . .	Two cases of pyæmia, not attributable to Hospital.	Rarely. Never spread.	...		

Jarrow Memorial, .	Nil.	Nil.	Good.		
Melksham, . .	Nil.	Nil.	Excellent.		
Fairford, . .	Nil.	Nil.	Excellent.		
Hatfield Broad Oak, .	Nil.	Nil.	Excellent.		
Ottery St Mary, .	Nil.	Nil.	Excellent.	Cases of operation have all been those in which the staff think there was not a shadow of a doubt as to their necessity. They would not hesitate in any case to operate if there was the remotest chance of any good to the patient. In a case of senile gangrene they think some men would have hesitated to operate.	
Grantham, . .	Nil.	Nil.	Good.	Consultation of staff before operations.	

Name.	Pyæmia.	Erysipelas.	General Sanitary Condition.	Surgical Boldness.	Remarks.
Stockton, . .	Two cases.	Nil.	Fair.		New Cottage Hospital, recently opened.
Oswestry, . .	Nil.	Nil.	Uniformly excellent.		
Kendal, . .	Nil.	Nil.	Excellent always.	No amputations take place except where consultation has shown them to be necessary.	
Louth, . . .	Nil.	Nil.	Good.	...	
Cranleigh, . .	No outbreaks of.		Uniformly good.	Mr Napper's rule of action in every instance has been to deal with the case on its merits at the time, never shirking responsibility, but erring, if at all, on the side of temerity, prompted by a natural desire to establish and maintain the credit of Cottage Hospitals.	
Hillingdon, Uxbridge,	Nil.	Nil.	Good.		
Beccles, . .	Nil.	Nil.	Excellent.		

Erith, . . .	Nil.	Nil.	Good.	
Bournemouth, . .	Nil.	Nil.	Good.	Amputations not sufficiently frequent to draw any conclusions as to greater or less surgical boldness.
Newton Abbot, .	Nil.	Nil.	Very good.	The staff endeavour to be as conservative as possible; they are confident that many limbs are now saved in Cottage Hospitals that would be sacrificed if so treated in the Hospitals of large towns. They apprehend, therefore, that greater surgical boldness is thus shown by surgeons of the smaller Hospitals.
Boston .	Nil.	Nil.	Very serious operations have recovered without any bad symptoms.	..

Name.	Pyæmia.	Erysipelas.	General Sanitary Condition.	Surgical Boldness.	Remarks.
Petersfield, . .	Nil.	Nil.	Excellent.	...	
Market Rasen, .	Nil.	Nil.	Very good.	Surgical staff amputate when they cannot otherwise secure an useful limb.	
Charlwood, . .	Nil.	Nil.	Excellent.		
Buckhurst Hill, .	Nil.	Nil.	Excellent.		
St Albans, . .	...	...	...	...	No information.
Reigate, . .	No outbreaks of any kind.		Most excellent.	...	
Bourton-on-the-Water,	Nil.	Nil.	Excellent.	Staff have always looked upon operations as a "dernier ressort." They have shirked nothing incurable by other means, and have operated successfully in cases of ovariotomy and stone in the bladder.	

Ulverstone, . .	Nil.	One case of erysipelas, not fatal.	Most excellent.	Unusual success in the treatment of surgical cases, only one case of erysipelas having occurred in 6 years, and that in an old man after compound comminuted fracture of leg, which ultimately did well. Cases of amputation have been successfully performed after serious injury (mining or iron works' accidents). Many severe crushes have been treated successfully without amputation. Operations generally heal by first intention, proving the excellent sanitary condition of the Hospital.

Name.	Pyæmia.	Erysipelas.	General Sanitary Condition.	Surgical Boldness.	Remarks.
Burford (Oxon), .	Nil.	Nil.	Not so perfect as it might be, but improving.	The case and the common sense of the surgeon determine the question. The staff think it is quite possible that the country surgeon, while he is careful to avoid temerity, may seem to lack the boldness which is assumed to be the characteristic of the urban operator.	
Mildenhall, . .	Nil.	Nil.	Good.		
Ledbury, . .	Nil.	Nil.	Very good.	...	
St Leonard's, Sudbury,	Nil.	Outbreak 6 years ago, and no return since.	Good.	The only guide for operations is the necessity of doing the best for the patient. The staff prefer to save a limb if possible, and often succeed.	

Ashford, . .	Nil.	One case.	Most salubrious.	The staff believe that by the boldness of their conservative surgery many limbs have been saved, which the greater surgical boldness of London operators or the less pure air of the hospital would have sacrificed.	
Crewkerne, . .	Nil.	Nil.	Always very good.	The staff can conscientiously say that surgery here is highly conservative. There have been some extraordinary cases of recovery after machinery smashes.	
Dawlish, . .	...	...	.	...	No information.
Chesham, . .	Nil.	No outbreak.	Very good.		
Yarwood, . .	Nil.	Nil.	Good.		

While on the subject of tables and statistics, it may be well to impress upon the staff of cottage hospitals the advisability of keeping an accurate account of each case treated, and of carefully recording in a medical casebook specially kept for that purpose the condition of the patient when admitted, the progress made, the treatment adopted, and the result. In addition to this, it will be necessary to publish annually a list of cases, with full particulars of the patients' age, sex, dates of admission and discharge, the injury or disease, and result, giving in the case of a death the immediate cause, and the number of days in hospital. For the sake of simplicity, and as a guide to those who may desire to follow this plan, we append a form which we recommend for general adoption. It would be an additional advantage to give a short summary of all the cases under treatment, thus :—

During the year *in-patients have been admitted, of which* *remained under treatment on* 31*st December* 188 , *with the following results, viz. :*

Cured, ...
Relieved, ...
Incurable, ...
Died, ...
Remaining in Hospital, ...

Total

The average cost of each bed has been £ ; *the average cost of each patient was* £ ; *and the average number of days each patient remained under treatment was* . *The total available beds have been* ; *and the average number occupied throughout the year was* .

List of In-Patients treated in the *Cottage Hospital,*

from 188 *to* 188 .

Number of Beds . Average Number occupied through the year .

No.	Initials.	Age.	Sex.	Occupation.	Days in Hospital	Diagnosis. State when admitted.	Treatment.	Result.	Remarks. — Short History of Cases.
									(Plenty of space should be allowed for this column.)

In cases of death after an operation, state whether the patient died from secondary hæmorrhage, shock, pyæmia, or other cause, and give a short history of all such cases.

Number of Out-Patients treated from 188 to 188 .

In giving a list of the patients, it is very desirable that a short account of each case should be given in the column headed "Remarks." This course has been carried out with excellent method by Dr Beeby, the medical officer of the Bromley Cottage Hospital. We extract three of his cases as examples of the kind of history we think it most desirable to give :—

M. Aged 6. Son of mill-hand, St Mary's, Cray. Admitted July 5th, suffering from injuries caused by carriage accident. Discharged on 24th August in a very improved condition. Was sent to the Royal Sea Bathing Infirmary, Eastbourne.

R. C. L. Aged 45. Trowbridge. Admitted on 16th Sept., suffering from injuries received in fall from dog-cart. Concussion of brain—probable fracture of base of skull. Died on Sept. 17. Inquest,—verdict, accidental death.

J. W. D. Aged 23. Labourer, Farnborough. Admitted on 26th Sept. with severe compound fracture of humerus. Amputation. Discharged cured on Nov. 7.

A short history of each case, thus given in the annual report, causes much interest to be excited in the work of the cottage hospital, and proves alike interesting to the subscribers and beneficial to the institution. We hope to see the example set by Dr Beeby widely followed.

CHAPTER III.

FINANCE.

Examination of present financial condition of Cottage Hospitals—Expenditure—Comparison with expenditure in general hospitals—Income—Fallacy of arguments against Cottage Hospitals—Provident nature of such hospitals — Sources of income—Annual subscriptions—Advantages over donations—Large proportion of income derived from subscriptions—Funded interest—Limitation of reserve fund—Donations—Collections in churches and chapels—Patients' payments and their importance—Payments for medical attendance—Evils of indiscriminate free medical relief—Payments for pauper patients—Objections to ticket system—Good results of the free system—Form of recommendation—Desirability of extension of system of patients' patients to general hospitals.

IN judging the influence and position of a country, it is usual to obtain, if possible, an account of its revenues, together with its liabilities and financial prosperity, and these may fairly be taken as an index of its right to rank as a first or second rate power. This is equally true of systems and of institutions. We therefore propose to examine the present financial condition of all those cottage hospitals which have been established a sufficient time to enable them to publish a statement of income and expenditure for at least twelve months. By this (the details can be seen on reference to the tables at the

end of the book) it will be an easy matter to judge from actual results how far the cottage hospital proper is entitled to be considered as one of the established institutions of this country.

First, then, to consider the expenditure. It has been found impossible to analyse this in detail, as nearly every hospital keeps a different kind of account; and unless the heads of expenditure, and indeed the sub-heads also, have the same general details in every case, and bear some resemblance to each other, it is quite impossible to obtain any really reliable and comparative statistics. We consider it most important that the accounts of all cottage hospitals should be kept upon the same general principles as to heads and sub-heads of income and expenditure, in order that a fair working average of the maximum and minimum cost per bed may be obtained. We have thought it best, with this view, to propose a simple outline for an account of the income and expenditure of a cottage hospital for twelve months,* which we hope will be generally adopted, not only because it contains all the detailed information which ought to be given, but because the managers, by its adoption, will secure an element which is much wanted at present,—uniformity of account. We may add further, that uniformity of account alone will not suffice; but, in addition, the accounts of all the hospitals must be made up to the same date, viz.,

* See Appendix.

31st December in each year, or, for comparative and statistical purposes, they will be useless.

The average annual expenditure in 174 cottage hospitals, having an average number of from 9 to 10 beds, and in 93 of which the average number of beds occupied was 7, was £464, 10s. This gives the cost per bed as £46, 9s. on the whole number, or £66, 7s. per bed occupied. When it is considered that the average cost per bed at a hospital like the London was £52 in 1879, being £69 per bed actually occupied, while at Charing Cross the cost was respectively £68 and £77, and at the Middlesex Hospital £71, 12s. in the one case and £92, 9s. in the other, it will be seen that, on the score of economy alone, the cottage hospital has much in its favour. Nor must it be thought that it is only the London hospitals which cost so much more per bed; for we find that at the General Hospital, Birmingham, each bed occupied cost, in 1879, £61, and at the Royal Hospital, Belfast, £64 per bed occupied—the cost per bed being £53 and £48 respectively. We have selected the Birmingham Hospital, because Dr Steele,* in his report on Hospital Dietaries, says that it is the most cheaply conducted and the most economically managed hospital in the United Kingdom. The Belfast Hospital is taken as an example of the Irish hospitals, and is, we have reason to believe, well managed on the whole, although the dietary scale is

* *Vide* Guy's Hospital Reports, 3d series, vol. xviii. pp. 339, 356.

somewhat scanty, according to English ideas, and the stimulants administered are reduced to an absolute minimum. The five hospitals selected may be fairly considered as types of the different kinds of management now in force at the general hospitals in the country, and if we compare the average cost per bed in each case, we find that the cottage hospitals cost, in the same year, £8 per bed and £4 per bed occupied, *less* than the general hospitals in the United Kingdom.

Table showing the relative cost per bed in 174 Cottage Hospitals and in certain Metropolitan and Provincial Hospitals, compared—

Hospital.	Number of Beds in the Hospital.	Cost per Bed.			Actual No. of Beds occupied.	Cost per Bed occupied.		
		£	s.	d.		£	s.	d.
174 Cottage Hospitals	1682	46	9	0	641*	66	7	0
London Hospital .	780	52	0	0	590	69	0	0
Middlesex . .	310	71	12	0	233	92	9	0
General Hospital, Birmingham . .	256	53	0	0	223	61	0	0
Belfast Royal Hospital	160	48	0	0	120	64	0	0
	726	172	12	0	576	217	9	0
Average .		57	11	0		72	9	3

Mr G. S. Dowson of Goldeston, Beccles, who takes much interest in the progress and welfare of cottage hospitals, has prepared some elaborate and detailed comparative tables, showing the expenditure in 45 cottage hospitals which admit in-patients only. A two years' average gives the following cost per head per patient :—

* Only 93 hospitals give the number of beds occupied.

Provisions,			£2 7 6
Milk,			0 6 6
Ale and stout,	£0 6 5		
Wine and spirits,	0 4 8		
			0 11 1
Ale, or wine and spirits, where the items are not separated in the accounts,	£0 11 8		
Provisions, including stimulants,			3 5 1
Salaries and wages,			1 1 8
Drugs and appliances,			0 7 11
Sundries—Printing, rent, domestic expenses, and repairs,			1 4 11
Total cost per in-patient,			£5 19 7

The average number of patients treated at each of these hospitals each year was 47; the average residence of each patient in the hospital was 36 days, and the average amount contributed by each patient was 17s. 7d.

At 29 hospitals having out-patient departments, the cost of each in-patient for provisions, including ale, milk, wine, and spirits, was £2, 3s. 6d. only, the average number of days each patient was resident being 34. Each in-patient paid on an average 10s. 3d., and each out-patient 2s. 1d. The average number of in-patients was 68, and that of out-patients 605, annually. At the metropolitan hospitals the average cost of each in-patient is £6, and the average residence 28 days.

When the difficulties which surround the cottage hospitals are considered,—the necessity of buying in small quantities, and the consequent loss of trade discount, the cost of carriage, the difficulties with

respect to water, drainage, and many other matters, the result, as shown by the figures, must be gratifying to the original promoters of these institutions, and will cause some surprise to hospital managers generally.

Let us now turn to the income of these hospitals, and we shall find the result still more satisfactory. The average income of each of the 212 cottage hospitals above alluded to is annually £500, in round numbers, or £36 per annum more than the average expenditure. This seems to point to thrift and good business management. Thus whereas the average annual expenditure at 212 cottage hospitals was £98,474, the average income was not less than £107,896, leaving an ample margin in each case for emergencies. Considering the cottage hospital proper has only had an active existence of some twenty-five years, it becomes evident that the movement has already secured the interest and support of very many people throughout the country, or individual efforts in country districts would never have been able to raise a collective annual income of more than £107,000. Here, then, is unmistakable proof that in spite of hostile criticisms and innumerable difficulties, the cottage hospital has quietly but surely pushed its way onwards, until it is fairly entitled to hearty recognition at the hands of the profession and the public everywhere. The time has evidently gone by when it could be said:—Is it wise to encourage the growth of these little hospitals? Will they not interfere with the work

of the great hospitals in our county and manufacturing towns? By doing the work at greater expense, but with less efficiency, will they not leave us eventually with little reliable or efficient hospital accommodation anywhere? There were many people who did not scruple to say this and much more fifteen years ago, and we shall like to see what they will urge now that their prophecies have ended in nothing. Was there ever a time when more anxious consideration was being given to the subject of hospital accommodation and hospital efficiency than the present? We have been surprised to find how many thousands of pounds have been spent throughout England in the last ten or twelve years on hospital extension. Has any single county infirmary or large general hospital suffered any loss of income by the cottage hospital movement? Few will maintain such to be the case. Yet some £100,000 a year has been raised, in addition to the sums spent on the large hospitals, by a new agency, but for somewhat similar purposes. This simple statement of facts is unassailable, except from one point of view,—the provident. We have no doubt many people will feel inclined to argue somewhat thus:—Surely, if the poor of this country got on fairly well in sickness before the origin of this movement, and if there was always room and to spare in the large general hospitals, you have tended by this additional relief to pauperise, rather than to benefit the masses.

We propose to meet this view with further facts in reference to the income of cottage hospitals, and

Table showing the sources of Income at the London Hospital (largely endowed) and at 154 *Cottage Hospitals, compared—*

Hospitals.	Subscriptions.		Donations.		Collections.		Funded Interest.		Patients' Payments.		Total.	Legacies.
	£	%	£	%	£	%	£	%	£	%	£	£
London Hospital . .	1,957	8	2,865	12	3,892	16	14,996	63	240	1	23,950	3,715
154 Cottage Hospitals . .	43,401	54	9,438	11	13,653	17	4,947	6	8,876	12	80,315	*Nil.*

Table showing the sources of Income of three General Hospitals and 154 *Cottage Hospitals, compared—*

Hospitals.	Subscriptions.		Donations.		Collections.		Funded Interest.		Patients' Payments.		Total.	Legacies.
	£	%	£	%	£	%	£	%	£	%	£	£
Middlesex . . .	2,342	19	2,245	19	1,753	15	5,709	47	...	...	12,049	3,294
General Hospital, Birmingham	5,267	34	976	6½	6,185	41	2,641	18½	...	...	15,069	745
Belfast	1,279	23	1,901	34	1,248	22	426	8	747	11	5,601	1,108
	8,888	25½	5,122	20	9,186	26	8,776	24½	747	4	32,719	5,147
154 Cottage Hospitals . .	43,401	54	9,438	11	13,653	17	4,947	6	8,876	12	80,315	*Nil.*

to show from them, that, as a system, this movement has done more good in a provident sense than the general hospitals have ever thought of attempting. What are the sources from which the cottage hospitals derive their income? They are chiefly five, viz., annual subscriptions, donations, Hospital Sunday, patients' payments, and interest on funded property. The proportion per cent. of each source of income in the foregoing order is 54, 11, 17, 12, and 6. We think this fact shows clearly that from the first this movement has been guided and advanced with a regard for sound management which is truly remarkable. Every one versed in hospital management knows that the secret of financial soundness in things charitable is summed up in the successful attainment of a large proportion of the income from annual subscriptions. If a man gives a donation, he gives it in a comparatively thoughtless way, with the feeling that he has done a good act, and, in doing his duty thus, has done all that is necessary, so far as the particular institution is concerned. He does not, as a rule, care to see a report, or to hear anything more about it. He has given a good round sum—the actual amount, whether small or great, does not make a material difference in this feeling—and he does not wish to be bothered further in the matter. If you ask such an one, some five years later, if he will attend a meeting of governors, and vote for some particular person or thing in which you happen to be interested, he will probably

express surprise that he is a governor, and will candidly confess that he had forgotten alike his donation and the institution, until your request put him in mind of both. On the other hand, if a person becomes an annual subscriber, he hears of the charity at least once a year, and probably, before paying his subscription, he will turn to the annual report, which had doubtless been thrown aside with many other similar documents, and will mentally decide, from what he reads, whether he is satisfied with the management of the charity or not. If not, he will in most cases, whilst giving his subscription, either express his views to the person who calls for it, with a request that they may be brought to the notice of the managers, or he will bear it in mind, until he has an opportunity of calling at the institution itself. Experience has shown, that as a rule, legacies are given to charities by the annual subscribers rather than by the life governors or donors. This is a striking fact, and one well worthy the attention of all who have the management of these institutions. It is much better policy to try and obtain an annual subscription of *one* guinea, than to accept a proffered donation of *ten*. The donor, as a rule, patronises all charities alike, and you find the same names occurring over and over again for the same sum in very many reports. The annual subscriber, on the other hand, gives a smaller sum to some three or four charities, but he gives it after a due consideration of the respective merits of each individual claim, and, having once given

his adhesion to the management of a charity, he not only pays his subscription with the regularity of the dividends, but he reads the annual report, and *misses it* if he does not receive it at the usual time. He attends meetings of the governors at least once in the year; he recommends the charity to his friends; and, when he dies, the names of all the institutions he has thus loyally supported during his lifetime will be remembered without fail in his will. There is nothing the class from which donors are drawn dread so much as the thought of being "bothered," as they call it. That is to say, they decline to carefully weigh the respective merits of particular charities. Hence it is no uncommon occurrence, in London at any rate, for small charities to be started by venturesome persons who have a knowledge of this fact. It is well known to many people behind the scenes, that not only are such charities maintained by these thoughtless donors, but that their originators not infrequently reap large benefits personally from the contributions of the same misguided, but charitable (?) persons.

Bearing these facts in mind,—facts which we hope may be brought home to the charitably disposed as well as to hospital managers,—it is very gratifying to find that more than half the annual income of the cottage hospitals is derived from annual subscriptions, so that at least £60,000 every year is raised by this means. It is probably not known that this sum exceeds the amount of the subscription lists of all the

London hospitals put together. In fact, it represents a sum equal to at least twice the total income from annual subscriptions of the whole of the important general hospitals in the metropolis which are supported by voluntary contributions, although they have collectively upwards of 2000 beds to maintain, or one-third more than those at the disposal of all the cottage hospital managers put together. The importance of this item in the income has been recognised by the authorities at St George's Hospital; and if we deduct the £10,000 raised there in annual subscriptions, it will not leave a sum for the remaining charities of much more than one fifth of the income of the cottage hospitals from the same source. It is argued, no doubt, that it is impossible to get annual subscriptions for London charities, because people now-a-days positively refuse to pledge themselves to give a fixed sum annually to any object. Besides, the cottage hospital supporters are all familiar with its object, its management, and its work. They live close to it, or frequently pass it in their daily rambles, and so it is easy to pursuade them to show a permanent interest in its welfare by becoming annual subscribers. The answer to these objections is simple. The experience of some of the London hospitals, where special attention has been given to this subject, proves unanswerably that it is quite possible to get annual subscriptions if sufficient labour be expended. This must be conceded, because one charity has tripled its subscription-list in five years, and the managers of St George's

have increased the income thus derived from £5200 in 1864, to nearly £10,000 in 1879. How much longer will all the other hospitals consent to remain at a standstill in this respect? No doubt the cottage hospital is a centre of interest to those who live near it. But without continuous and well-directed efforts it would not have been possible to raise such an unusual sum as the managers have done, and are still doing. Besides, do not these facts confirm our previous remarks, as to the importance of getting annual subscribers to attach themselves to the various charities, on account of the active interest they would then take in their welfare? Surely it is worth while to use every legitimate means for securing annual subscriptions, and let all honour be paid to the promoters of cottage hospitals for the wisdom and business acumen they display in raising the necessary income for their work.

Let us next take the funded interest as a source of income, and we shall find that this item, with legacies —which, of course, do not yet figure largely in cottage hospital accounts—make up more than half the whole income at such hospitals as the London and the Middlesex; whereas something like 6 per cent. only of the income of 121 cottage hospitals from which returns have been sent is derived from these sources. We shall reserve our remarks on the proper disposal of surplus income where the system of patients' payments is in force, in preference to investing it as an endowment fund, until we treat of the relation of the medical profession to these little hospitals. Meanwhile we may

express our regret that so much gratuitous work is done by the medical staff, when 121 cottage hospitals have a total average income from invested savings of £4947. It is surprising to us that any person should ever give anything to a charity, without first ascertaining its exact financial position, and still more surprising that ladies and gentlemen, when they find a charity has a large endowment fund, should consent nevertheless to give considerable donations towards its maintenance, not nominally indeed, but virtually, to enable the managers to accumulate a large surplus property, which will probably one day be diverted to some other object by the "charity commissioners" of another generation. Is it, or is it not the fact, that where there are large invested funds at the disposal of a charity, far in excess of the necessities of the case, there, sooner or later, bad management and reckless expenditure will probably find a home? Long experience has taught us that the best managed charities are those that are not overburdened with invested capital. Of course there are exceptional reasons, in isolated cases, where it is necessary for the managers to secure a considerable reserve fund, to meet the possible exigencies of their particular case. It may, however, be calculated roughly, if a charity has a reserve in the way of capital to the amount of two years' expenditure, it has quite as much as it is wise for the charitably disposed to allow it to possess. There is something almost grotesque about a request for a donation, which follows the statement

"that by careful management we have been able to invest £100,000," and yet this is said of many of our noblest charities over and over again. We earnestly hope that the managers of cottage hospitals will not attempt to accumulate any capital. Let them purchase the freehold of their land and buildings, and having done this, and having provided every necessary appliance and comfort for the patients, let them consider the suggestions made elsewhere as to the remuneration of the medical staff, and let them act upon them. We look upon the fact that in eighteen years less than 121 cottage hospitals have secured a capital amongst them of something like £125,000 with great apprehension for the future economical management of these charities. This item has doubled in five years, a conclusive proof of the necessity of cautioning the managers against so baneful a practice. If the cottage hospitals are to maintain their character for inculcating provident habits amongst the labouring classes by means of small payments, the system of endowments must find no permanent home amongst them.

Donations are, of course, a very useful source of income, and are not by any means to be discouraged or despised. They must be regarded, however, as the means by which a certain elasticity of income can be secured, and not as a reliable basis for judging of prosperity or soundness. Under these circumstances, it is pleasing to find that cottage hospitals derive about 10½ per cent. only, or a tenth of their income,

from this source, whereas general hospitals depend upon donations for about 21 per cent. of their total expenditure.

The next important item of income is that derived from collections in churches and chapels. It is greatly to the credit of all classes of the community, that a movement which had its origin some twenty years ago in the pressing necessities of the largest general hospital in Birmingham, should have gained so strong a hold upon the religious communities throughout the country. Not only in the large towns, from London downwards, but in almost every village and hamlet, wherever there is a place of worship, there "Hospital Sunday" has grown to be recognised as a great annual festival for the relief of the sick. This system has been introduced into America, and the first Hospital Sunday in that country will be instituted in New York city in a few months' time. Rather more than one-sixth of the income, or 17 per cent., has been procured by this means for 169 cottage hospitals from which returns have been received. The actual annual sum thus raised is about £14,000. At the five general hospitals (London and provincial) to which we have referred before, 21 per cent., or more than one-fifth of their income, comes from this source—on an average £14,000 being annually divided amongst them. The early leaders of the movement urged upon the promoters of cottage hospitals the importance of securing the co-operation of the clergy in the management of these institutions, but, we will venture to say, they

never thought of the large sums of money these gentlemen would be the means of bringing into the hospital coffers. Indeed, when Cranleigh Hospital was opened in 1855, "Hospital Sunday" had never been thought of anywhere, the first collection being made at Birmingham in the latter part of 1859.

We may perhaps be allowed to point out here that "Hospital Sunday" is a great power for good, apart from actual monetary considerations. The secret of its increasing success in Birmingham has been the simultaneousness of the collections on a given day in all places of worship throughout the district. When this is secured, a concentrated and unanimous interest is evoked in hospitals and their work, and if advantage be taken of the occasion, both by the ministers and the hospital managers, a widespread feeling of sympathy is sure to be excited. The ministers can specially draw the attention of their congregations to the work of the particular institution of which they are advocating the claims. The managers can make them still more widely known, by placing a short statement setting forth the scope and objects of the hospital in all the pews of every place of worship which has a collection. If these two objects are assured, the amount of benefit which will thus be secured is practically inestimable.

We have only one other source of income to refer to, and our list is exhausted. We allude to patients' payments.* The actual sum derived from this source

* See also Chapter on "Remunerative Paying Patients."

by the 186 cottage hospitals on our list is no less than £9000, or about twelve per cent. of the total income. Patients' payments are a special feature of the cottage hospital system, as they are practically unknown to the managers of general hospitals in this country. It is true that there are one or two exceptions to the rule of gratuitous relief, which prevails at most hospitals, but their number is so limited as to be unappreciable. Cottage hospital managers from the first have recognised the importance of encouraging feelings of self-help and independence amongst their patients. Hence, without exception, the system of patients' payments is to be found in force at all true cottage hospitals. We use the word "true" because in a few instances some have tried to abolish the system. In future no hospital so managed should be regarded as a cottage hospital, and for this reason. The original promoters of this system of relief desired to help the poor and not to pauperize them. Any institution therefore which fails to carry out the plan of patients' payments forfeits its right to be considered a cottage hospital. It may be a private charity of a few wealthy personages, or an almshouse, or a sort of private poorhouse, but as its principles of management are diametrically opposed to those which have made these small hospitals thrifty and popular, it certainly cannot claim the proud title of "Cottage Hospital." If ever these small hospitals become free to any large extent, from the trouble which is caused by receiving or collecting the patients' payments, or be-

cause the committee have a considerable endowment, from that day they will prove a curse rather than a blessing to the labouring poor. This is one of the rocks ahead. Those then who really have the welfare of the cottage hospital at heart, will take care that the love of patronage which has so strong a hold upon some otherwise worthy people, shall not be allowed to ruin so beneficent a system of medical relief as that of patients' payments, which originated with the cottage hospital, and which forms the brightest jewel in its crown. The sums paid are very varied in amount, and they range from 2s. 6d. to 21s. per week for ordinary patients; domestic servants, when admitted on the recommendation of their masters, being charged a higher sum, varying from 5s. upwards. It is clear that at a cottage hospital, where the patients come from the immediate neighbourhood, no difficulty can exist in assessing the ability of the applicant to pay for hospital relief. Where each person is known to the medical officer, or the vicar of the parish in which he or she may reside, a tolerably correct estimate of their means is easily arrived at. Under these circumstances, imposition, if attempted, is soon detected, and the would-be improvident are made to pay according to their means. We believe that the introduction of this system will eventually lead to important results. Experience, backed by the above figures, will sooner or later compel the managers of the large general hospitals to consider seriously, whether they are justified in continuing to administer so great an amount of

eleemosynary charity as they do at present. Amongst the artizans and the working classes generally, at the present day, admission to the hospitals for their wives, families, and themselves is looked upon as a right. Free medical relief is not regarded by these classes as in any sense a degradation. On the contrary, although they would feel insulted if it were suggested that they ought by right to be regarded as belonging to the poorer classes, free medical relief has of late years been so rashly dispensed, irrespective of the ability of the patients to pay at any rate something towards their maintenance when in a hospital, that many of the lower middle class and well-to-do shopkeepers avail themselves of it, without a blush or any sense of shame. The classes relieved are not alone to blame for this demoralising state of affairs, for surely the competition between rival institutions to relieve the greatest number, and indeed an increasing number of patients every year, has had much to do with it.

Payments for medical attendance, on the provident dispensary principle, may be fairly regarded as likely to grow out of the system of patients' payments. For if the balance of income over expenditure continues steadily to increase, or at any rate to remain considerable, year by year, at a cottage hospital, we must express our strong opposition to the system of investing such balance as an "endowment fund." We venture to believe that the managers will see the desirability of still further fostering the feeling of self-help

and independence amongst the patients, by giving a portion of their payments when in hospital to the medical staff. At Northampton nearly all the payments made to the Victoria Dispensary are divided amongst the medical men, with the best results, the expenses of managing the charity being defrayed by voluntary subscriptions.

At Manchester, where theoretically the most perfect system of provident medical relief ever tried in this country has been attempted, about one-half of the patients' payments are divided amongst the medical staff. As a consequence of the provident system of medical relief, the patients are much more independent and self-reliant, pauperism is greatly diminished, and great public good is accomplished. Every man is taught under these systems, from childhood upwards, that it is his duty to lay by something weekly against the day of sickness, in order that he may choose his own medical attendant, and pay him, like the best of his neighbours, a fair fee for his attendance. We should not be doing justice to the liberal spirit in which the members of the medical profession have from the earliest times given their services to the sick and necessitous poor, who find their way into our hospitals, if we did not state here that we are not advocating a system of small medical payments, at the expense of the cottage hospital or its patients, for the advantage of the doctor. Far from it. Before any payment is made to the doctor, let every requisite be obtained for making the hospital as complete and

efficient as possible; but, when once this desirable end is accomplished, let not its managers set themselves to accumulate invested property. Rather let them remember that "the labourer is worthy of his hire," and that it is a plain duty they owe to the public to take care that the institutions under their management are not only made available for curing the sick, but that they are in addition fields of responsibility, which should be cultivated assiduously in the interests of the public weal. If the cottage hospital is made a place to which the sick but thrifty poor can resort in the hour of sickness, ought not every means to be taken to ensure during their residence there, that the feeling of self-respect which has led them to lay by something to pay for their treatment in hospital, shall be encouraged rather than effaced? The answer must necessarily be in the affirmative. Let the managers of many medical charities ask themselves whether the indiscriminate free relief which they often give at the large hospitals of this country does not prove them to be "unfaithful stewards"? We do not try to palliate, we desire to call attention to a plain truth. Let not cottage hospital managers follow so baneful an example, or the improvidence, dissipation, and disease, which are the disgrace of the poor in our large towns, will surely be extended eventually to country districts also. Let them rather endeavour, whenever the time arrives in the career of the institution under their management in which a continuous yearly surplus exists, that the provident

principle may be further extended from patients' payments to the hospital, to patients' payments to the medical attendant. This can easily be done by setting aside a portion of those payments for distribution amongst the members of the medical staff. As a layman, we argue from sad experience in the past that this subject must not be allowed to be passed over in silence, but must be boldly faced whenever an opportunity is afforded in the history of a cottage hospital. The medical profession has given its services gratuitously to the cottage hospital managers without hesitation, and in not a few instances members of the profession have been the originators and are still the chief supporters of many a cottage hospital. Let the managers show, by their adoption of the plan we so strongly urge upon them in preference to that of hoarding up surplus funds, that they are not unmindful of the principle on which we advocate this great change. As forerunners in the march of hospital reform, by the institution of the system of patients' payments as a special feature of their management, they have earned and will obtain the gratitude of all the more discriminating amongst the charitably disposed. Now, if they gradually introduce the payment of a fee, however small, to the medical attendant, in the interest of the public and not of the profession, they will still further increase this feeling of gratitude and admiration. The funds available will never be very considerable, nor in one sense adequate, for the average of patients' payments yearly at 186 hospitals was less

than £50. Still the principle is important; and as the medical staff is usually limited to two or three members, if half the patients' payments were given in fees, it would exceed the usual rate of payments made to the parish doctor under the poor-law. At any rate the system of provident cottage hospitals here suggested is worthy of a trial. It will lead to the universal adoption of some such system, not only at cottage hospitals, but elsewhere. The cottage hospital managers have been the pioneers in the movement of payments by patients for their attendance. Let them push their ambition further, and aspire to the proud position of proving to the managers of general hospitals, that eleemosynary charity is dangerous to the poor, the public weal, and the public health. Apropos to the foregoing remarks is a case quoted by "a local practitioner" in the *British Medical Journal* of March 4th, 1876. He states his case as follows:—

"For three years the town of B—— has had a cottage hospital; for each patient admitted 3s. a week had to be paid, either by the patient himself, by some kind friend, or by the parish. The grievance is this: that poor people with broken and smashed limbs, who would under ordinary circumstances come under the care of the parish medical officer, are now taken to the cottage hospital, to which the parish pays 3s. a week for their maintenance; and the result is (the medical attendance being obtained for nothing) the parish medical officer is 'done' (*sic*) out of the fees connected with such cases, which we know range from

£1 to £5, and which are the proper perquisites of the medical officer,—and indeed these cases are the only ones for which he receives anything like a sufficient payment."

We are sure that cottage hospital managers will bear us out in stating that this was happily an isolated case of hardship to the poor-law medical officer. The system complained of is now abolished, but we retain the paragraph for the guidance of others elsewhere.

In the number of the same journal of March 11, 1876, Mr Richard Gravely, medical superintendent of the Lerwick Cottage Hospital, gives conclusive proof of this, and quotes the following extract from Mr Napper's original pamphlet on the subject:—"Of the seventy-seven paupers, ten were cases of accidents and operation, for which the board of guardians paid the usual extra fees, amounting to £36. It is made a condition of admission, fully acquiesced in by the board of guardians, that the extra fee due for any such case of a pauper admitted, *shall be paid to the surgeon who would otherwise have attended it.*" This is the usual rule at all the best managed cottage hospitals, and it has worked well and been almost universally acquiesced in by the boards of guardians throughout the country. It was clearly an oversight that a similar rule had not been enforced at B——. This was conclusively proved by the fact, that the otherwise excellent rules and regulations of this particular hospital contained no allusion to pauper cases. We only allude to this case here to show how

necessary it is at the outset to study the rules of other institutions, and to profit by their experience. It is clearly wrong, and quite foreign to the object for which cottage hospitals have been established, that pauper cases should be admitted, unless this excellent and necessary rule is strictly enforced.

It is customary, although the system of patients' payments has nearly everywhere been adopted, that each patient, except in cases of serious accident requiring instant admission, should produce a letter of recommendation or a ticket from one of the subscribers. We would here say that we are opposed to the system of tickets, on the grounds that they act as no practical check to abuse. They often necessitate much suffering to a patient, who, having no friends, is obliged to canvass amongst his wealthy neighbours until he can obtain a ticket; they add to the expenses of management by increasing the outlay for printing; and they tend rather to destroy than to foster that feeling of independence and self-help which, we take it, the cottage hospital, with its patients' payments, was specially fitted to promote. Surely the actual bodily condition of the applicant ought to be the sole passport for his admission to treatment. In considering this, the so-called "Free system," it should be remembered that nearly half the funds are derived from voluntary sources, which do not carry tickets or any privileges with them. Of this class are "Hospital Sunday," donations, and patients' payments, making altogether 40 per cent. of the whole income available

for cottage hospital purposes. There can be no fear of imposition, if the patients' payments are enforced. The more this question is examined, the more popular does it become. The governors, who now have the privilege of recommending a patient for treatment will lose nothing by its adoption, for they will still have the assurance that any patient sent to the hospital will, as under the existing rules, be instantly admitted to treatment, should his case require it. In all hospitals it must not be forgotten, that the managers have to rely entirely upon the free gifts of "Hospital Sunday" and other casual sources to meet the cost of treating accidents and urgent cases, now admitted without ticket. The ordinary subscriber gets his equivalent in tickets for any subscription he may give, and if he avails himself of this *quid pro quo* to the fullest extent possible, there is of course no balance left for the extraordinary cases. There is something almost humiliating to the charitable mind in this reflection :—Although I nominally give a free-will offering to the hospital when I subscribe a guinea or so a year to its funds, yet when I take tickets for my contribution, and thus purchase privileges for myself or my dependants, I to that extent lose the pleasure and moral personal benefit attending the contribution of him "that giveth and asketh not again." Then, if a subscriber gives away a ticket to an unworthy object, without inquiry, he takes upon himself a grievous moral responsibility, which cannot be too highly estimated. On the other hand, if he

subscribes to the hospital, and leaves the responsibility of rejection in the hands of the managers, whose duty it is to prevent abuse, he will relieve himself from the trouble of personal inquiry into the circumstances of the applicants, and will have at the same time the satisfaction of knowing that the necessary relief is administered to the really deserving without exception, and to the really deserving only. We can well understand that before adopting any such radical change in their system of management as is here advocated, the managers of hospitals will ask themselves —How will this affect our income? We find from experience that if a few subscribers have withdrawn from a charity when this system has been adopted, their loss has not been materially felt. The fact is, the change attracts a large number of small subscriptions, which were withheld under the ticket system, because the amounts were not large enough to entitle the donors to receive tickets for their money, and so they felt their support to be incompatible with the old system. When we consider the advantage the cottage hospitals have over the large general hospitals, where the free system has been adopted with success, the ease with which inquiry can be made into the real circumstances of the case, and abuse at once detected, and the large proportion of the annual income which is derived from contributors who give freely and without any condition whatever, we arrive at this conclusion. An earnest consideration of this subject in all its bearings must lead to the almost universal adoption of

the free system, in conjunction with a graduated scale of payments for all who are able and who desire to pay something for the relief they receive. So far experience proves that such a system has not led in a single instance to any but good results, and we fail, therefore, to see why all hospital managers should not adopt it. At Alton, no case can be admitted unless, in the opinion of the medical officer, speedy benefit is likely to be derived from treatment in a hospital. This is undoubtedly a good rule, and although it throws additional responsibilities on the medical staff, chronic and incurable cases being thus rejected, we hope it may be more generally adopted.

It may be well to give here the form of recommendation most commonly adopted by cottage hospital managers. The following is the one issued by the committee of the Alton Cottage Hospital. Of course it would require slight modification, if the free system were to be universally enforced, although for all practical purposes, it would stand whether the patient is introduced by a subscriber, or brought to the hospital by his friends. We have made a few suggested alterations to meet the altered circumstances, which are placed in a parenthesis in italics :—

LETTER OF RECOMMENDATION [*Introduction*], with which all Applicants must be provided, except in cases of severe accidents or sudden emergencies.

hereby recommend , *aged* , *by occupation a*
, *residing* , *as a proper person to be*

admitted into the Hospital, and I consider h capable of contributing per week towards h maintenance.

(Signed)

Dated *Subscriber.*

The recommender is particularly requested to state the sum which he considers the patient or friends are capable of paying. The amount will vary, according to their circumstances, from 2s. 6d. to 8s. per week.

I hereby undertake to ensure the payment of the above-named sum of per week during the time is under medical treatment in the hospital; and I further undertake to remove h when required to do so by the Directors, and, in the event of death, to defray all funeral charges.

(Signed)

Dated

The above must be signed by some responsible person.

Subscribers [*persons wishing a patient to be admitted*] are requested to communicate with one of the Directors, *before sending a patient to the hospital*, and, when practicable, to forward a statement of the case from the previous Medical Attendant.

No case can be admitted unless, in the opinion of the Medical Officer, speedy benefit is likely to be derived from treatment. Patients afflicted with mania, epilepsy, infectious or incurable diseases, are inadmissible.

It is requested that subscribers [*the persons sending the case*] will direct the patients to be sent as clean as possible, and with a sufficient change of linen.

The time has now arrived when it will be well for the general hospitals to take a leaf out of the book of their humbler brethren, and to begin at once to set

their house in order with regard to the subject of patients' payments. There can surely be no objection raised by any one to the man who is unable to pay a heavy doctor's bill, with the necessary additional expenses of sickness, or to engage the services of a competent nurse, being admitted into the wards of a general hospital, the sole condition of his admission being that he contributes towards the expenses of his treatment according to his means. It is scarcely reasonable to condemn the philanthropist, who, moved by the pleading of an itinerant mendicant, puts his hand into his pocket, and gives him a trifle, when the great charities, with all the means at their disposal for easily checking imposition, calmly allow their funds to be annually spent upon the undeserving. Of course, the direct result is that hundreds, nay thousands, of people are annually pauperised by such a system of free medical relief, which any person can obtain by applying for it. Such, however, is the practical result of the present system of in- and out-patient relief in our large towns. Many years' experience of its working compels us to boldly state our belief that it is far too serious an evil to be allowed to exist longer without a strong protest on the part of the press and the public. The cottage hospital managers, under great disadvantages, have shown clearly enough how all abuse can be avoided with a little judicious care. When the cottage hospital system is more fully understood, we hope to see some means adopted by which the general

and cottage hospitals may work together hand in hand, with the twofold object of checking abuse, and affording the best relief to the really deserving. It would surely not be difficult for the county hospitals to make arrangements with the managers of the cottage hospitals in their district, from whom all necessary information as to the circumstances of the patients sent to them from the country, could easily be obtained, and a system of patients' payments thus established. We unhesitatingly assert from actual experience, and we appeal to cottage hospital authorities in general to confirm the statement, that the really deserving are only too glad to show their gratitude, by contributing something to the funds of the charity to which they owe so much. Where the patients themselves are not able to pay, their friends would, more often than not, be willing to pay for them. Under the present system, patients do actually pay almost, if not quite, as much for their treatment as they would do under this new system. The black mail levied by the nurses and other officials from patients and their friends, in spite of all possible precautions to the contrary, amounts to no inconsiderable sum per head, per week. If the patients paid for their treatment, they would refuse to give these "tips" to the petty officials, as the poor are keenly alive to the value of money. If once they paid for their treatment, they would soon refuse to pay indirectly twice for the same article. We can go no further here into this question of payments by

patients in general hospitals.* It may, however, be added that the system of payment by the guardians for paupers when admitted to cottage hospitals is an excellent one, and ought to ensure the universal adoption of a similar rule by all the general hospitals in the country. At any rate we are convinced that the evidence we have adduced will suffice for the purpose of proving to the satisfaction of all impartial observers, that the thanks of the whole country are due to the originators and founders of the cottage hospital movement, for having initiated a basis, upon which it will be possible to erect a system of universal provident medical relief to the exclusion of eleemosynary charity.

* In "Pay Hospitals and Paying Wards throughout the World," just published by Messrs J. & A. Churchill, the subject has been treated at length by the author.

CHAPTER IV.

COTTAGE HOSPITAL CONSTRUCTION AND SANITARY ARRANGEMENTS.

Size—Considerations to be had in view—Site—Construction—Number of wards—Height—Plan—Preparation of walls, &c.—Day-room for convalescents—Operating-room—Mortuary—Laundry—Ventilation and warming—Water supply—Disposal of excreta—Earth- and water-closets—Drainage—Disposal of sewage—Admission of enteric fever cases into wards—Urinals—Disposal of slops and kitchen refuse.

IT is not intended in this chapter to enter fully into all the apparatus necessary for the proper sanitary arrangements of a cottage hospital. Such an undertaking would require a volume of itself. We shall only aim at placing before the reader the different plans that may be useful in different cases, pointing out the ideal towards which he should work, and the faults to be avoided, while the details themselves must be left in the hands of the architect and builder.

Every case also must be treated on its own merits. The circumstances under which it may be advisable to erect a cottage hospital are so various, that no special rules can be laid down for universal adoption. We must be content, therefore, with a review of the different questions that may present themselves, and with

pointing out means by which any obstacles may be surmounted.

The first question that arises is as to the size of the hospital. Hitherto it seems to us that this question has been treated on much too limited a scale. In most works on the subject it is stated that this class of hospital, to act essentially up to its character, must not accommodate more than six patients. Practically, the question assumes a different aspect, for we find cottage hospitals now in existence with beds for 15, 20, and even 40 patients. It must be admitted, that a hospital to accommodate 40 patients can scarcely be called a cottage hospital in the true acceptation of that term, and it will perhaps be convenient to limit the term to a hospital of from 3 to 20 or 25 beds, according to the requirements of the district. The smaller sized hospitals, of from 3 to 6 or 8 beds, will be found, as a rule, more suitable for agricultural districts, where the villages are small or scattered, and amongst the population of which accidents are comparatively rare. But when we come to the large mining districts, the state of affairs will be very different, and such a hospital would be of scarcely any assistance. There, village has grown upon village in quick succession, to keep pace with the growth of works, and in almost all such cases there is dense overcrowding of the population. The villages are often at a great distance from the county hospital, severe accidents are of frequent occurrence, and a considerable proportion of the inhabitants is composed

of young men from a distance, who occupy the position simply of lodgers, and who, when prostrated by severe illness, are dependent on the variable charity of those with whom they reside. To this latter class especially, the establishment of a cottage hospital is an inestimable boon.

What considerations must guide us as to the size of hospital required for a given district? Most authors on the subject try to lay down a definite rule, based on the ratio of beds to population, but the conclusions at which they arrive are so various as to be practically worthless. Thus one author advises 5 beds for each 1000 inhabitants in an agricultural district, whilst others estimate the ratio as low as 1 bed for each 1000 population. But it is a mistake to look only at the number of inhabitants. We ought also to take into consideration the vicinity of large works, mines, or factories, the nature of the works, the ventilation and quality of the air in mines (often very varying), the usual number (or perhaps rather the greatest number) of accidents under treatment at any one time, and the liability of those employed to acute diseases from the nature of their work. Moreover, should it be decided to take in cases of enteric fever (as for reasons to be presently stated it might be advisable), we ought also to consider some of the sanitary aspects of the neighbourhood, especially the water-supply and the means for the disposal of excreta, both of which in most villages will be found to be simply abominable, while cases of enteric fever always prevail.

From experience gained in a large mining district the proportion of 3 to 4 beds for each 1000 *workmen or miners*, and then a calculation for their wives and persons employed in other ways, at the rate of 1 bed for each 1000 persons, does not seem at all too high. In an agricultural district the calculation of 1 bed to each 1000 persons will probably be sufficient.*

As regards nursing arrangements also, we shall find a hospital of 20 or 25 beds to be a very convenient size. Each ward of 10 beds would thus require the services of one day-nurse, who would also have charge of the single bedded ward on the same side, while the night duty could easily be undertaken by one night-nurse. This would be much more convenient and satisfactory than several small wards of 2 to 3 beds, as in the smaller hospitals of perhaps 8 beds, with, as is often the case, no person on duty at night, and only a sort of combined nurse and cook in charge during the day. Yet such is the arrangement that admirers of the cottage system pure and simple have advocated. To our mind this would be nothing but a hopeless conglomeration of nursing and cooking, the nursing

* A surgeon to some extensive iron works in the North writes :—"I have mines here in which about 1500 men are employed ; there are numerous other mines round about. Four bad accidents at a time are not at all a rarity, and they often come in runs, besides which there must be an allowance of 1 bed per 1000 at least for medical cases. At one mine, during the last month, employing only 200 men, there have been a case of depressed fracture of skull—one of fractured thigh—also a badly comminuted fracture of humerus—all which would have been more advantageously treated in a cottage hospital."

being probably in charge of a convalescent while the cooking proceeds, or the cook, in the midst of her work, being liable to be suddenly called upon to attend to an open wound. Evils enough, to say nothing of the disagreeable idea to an invalid of having the constant smell of cooking before him, which would certainly destroy the little appetite he may possess. In our opinion this attempt to establish at all hazards the homeliness of the cottage, as a substitute for the order and regularity of a hospital, would be a very dear purchase. Besides, this homeliness may be attained by other means. The numberless essential details connected with the proper working of a hospital cannot be carried out with due benefit to the patients without the observance of the strictest order and method. Let us inquire what is the peculiar charm of home life to these people? Every one having any acquaintance with the cottage life of the miner class, will understand that its charm consists in its independence,—that is, in each member of the household doing what seems right in his own eyes, and acting separately from the others. It is certain that the most extreme advocate of the cottage system would not advise the introduction of these customs into a hospital. Nor do we find the labouring classes themselves object to the appearance and order of a hospital, though they certainly do object to removal to the county infirmary, where they would get the best medical advice. We must therefore look further for the charms to them of a cottage hospital, and

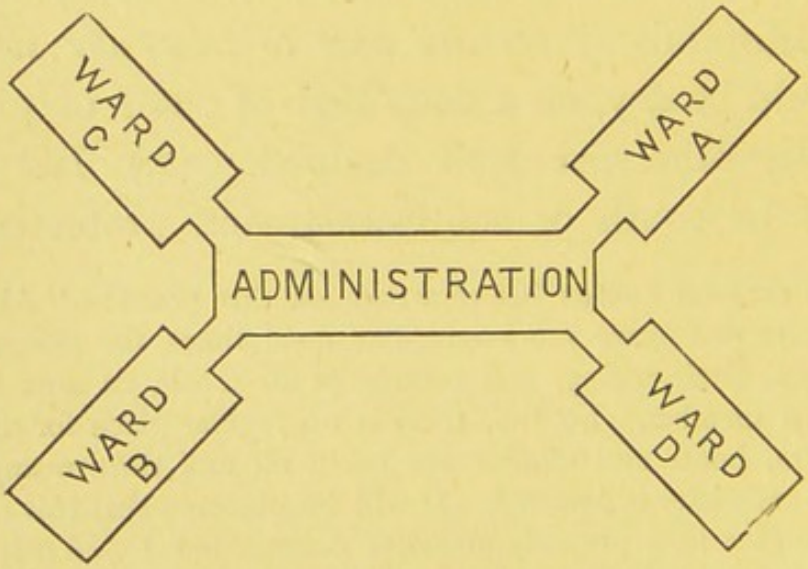
shall always find these to consist in the hospital being placed near at hand in the midst of their friends and relatives, without such restrictions as to the visits of their friends as may be necessary in a larger hospital; in the nurses being better known to them, at any rate by repute, than would be the case in a large hospital; and in their being allowed to have the attendance of their own medical man, who has probably attended them for years. These are home advantages which would counterbalance the appearance of the wards, and we may dismiss this strange bugbear of many minds, whilst at the same time we apply all the principles of hospital construction and good order (that have been worked out so much of late years) to the erection of our building. By these means we shall ensure much better hygienic arrangements than would be possible if we listened to the advocates of the so-called simple system.*

Site.—The rules which follow will apply to most other hospitals, *if we are able to select our site.* (1.) It should be dry, on a deep bed of sand or gravel if possible, otherwise well drained. (2.) The aspect should be south or south-west, and protected from

* The surgeon quoted before writes on this point :—"About here I generally find there are no regular meal times, the different members of the family rising, and coming in for meals, as suits best each individual member. So, too, there is no regular place for things—on coming in, boots and clothes are taken off and thrown anywhere—method and order is detested. It will be objected that this ought not to be the case in a properly-managed cottage, but I find it is the case in 90 out of 100, and these are just the people who would object to hospitals."

the north and east.* (3.) It should not be too near large buildings, nor so surrounded by trees as to interfere with the free movement of the air. (4.) It should not be on low marshy ground, but, if possible, on sloping ground. (5.) The ground underneath should not be made up with filth and rubbish. These rules apply to all hospitals ; but in erecting a cottage hospital, other considerations must also have their weight with us. (1.) We should try to get an easy means of excrement disposal. (2.) We should try to ensure a good supply of water. This will often be a very difficult matter, and no light consideration in any locality. (3.) The hospital should be placed in the centre of the district from which its patients will

* It is of course the aspect of the wards that claims the greatest attention. The best is north-west and south-east, the maximum of sunlight without excess of heat being thus obtained, the windows on one side getting the morning sun, the mid-day or hottest sun striking the ward obliquely, and the windows on the opposite side getting the afternoon sun. We have seen plans thus :—



In this plan, if A and B wards are best as regards aspect, C and D must evidently be worst.

be drawn. (4.) It should be near the residence of some medical man who could take chief medical charge, and who could easily be called in cases of emergency. (5.) We must also try to place it in its own grounds, which should be cheerfully laid out for the exercise of convalescents.

Construction.—It will be convenient to divide this branch of the subject into two heads. (1.) Construction of the smaller hospitals of less than 10 beds. (2.) Construction of the larger hospitals of 20 to 25 beds.*

The first class of hospital will probably be situated in an agricultural district, with pure, good, and wholesome air, where few serious accidents occur. Thus such great attention to the necessities of ventilation will not be altogether so essential as in the case of the larger hospitals. Here the cottage character may be strictly carried out in building a new hospital, as is always advisable, if funds will permit. Or, if a suitable farmhouse or cottage can be obtained, it may be made available for the purpose, provided it be entirely refitted, according to the plans hereafter to be discussed under their different headings. From a consideration of the arrangements existing at cottage hospitals of this class, we propose the following plan, which, modified according to circumstances, will generally be found a suitable one:—

* (1.) Petersfield (see plan) may be taken as an example of the first class of hospital. (2.) Reigate (as shown on the plan) for the second.

Ground Floor.—Kitchen, scullery, general sitting-room, store-room, small dispensary, operation room, closets and urinals for staff.

Upstairs.—Male ward (3 *to* 4 *beds*), *female ward* (2 *to* 3 *beds*), *single-bedded ward, nurse's sleeping rooms, bath-room, closet, &c.*

In the basement, there must be a cellar for wood and coal, beer, wines, &c., and there should also be a small detached mortuary, with conveniences for making post-mortem examinations.

In a new building the closets, urinals, and bath-room must be placed within easy access of the wards, but they should be carefully isolated from them by a cross-ventilated lobby or some other arrangement. If we decide to transform an old farmhouse, we shall in almost all cases find that the only closet consists of a cesspit situated at the bottom of the garden. This must be thoroughly and carefully emptied, disinfected, and filled up, and fresh arrangements substituted. The best and cheapest plan will usually be to build out a tower from the wards, with which it may communicate by a short cross-ventilated passage. Upstairs in the tower may be placed the bath-room and closets, while on the ground floor will be the scullery and nurses' closets.

We would also urge the propriety of isolating the kitchen, if possible, from the wards. This will not perhaps be practicable in cases where a farmhouse or other building is altered for the purpose, but the point should be borne in mind if a new hospital is to be

erected, for nothing is so nauseous to a sick person as the constant smell of cooking.

In any case, more attention than is usual should be paid to the ventilation of the kitchen and kitchener. It will be observed that in our model plan there are no rooms over the kitchen, so that it may be ventilated in the roof. Mr Lanyon of Belfast has patented an excellent apparatus for ventilating ranges and kitcheners, which by means of a canopy, rarefying chambers, and gratings, carries off the steam and smell of cooking.

In an old building also we shall be almost sure to find some of the walls damp and mouldy, due either to the attraction of water from the ground upwards, or to the use of soft, porous bricks. In the first case, we ought to construct a well-drained dry area round the bottom of the house, and put in a proper course of damp-proof bricks or slate. In the latter case, we might use some of the patent compositions prepared for the purpose.

Next, as to the construction of the larger sized hospital, taking as an example one with about 20 beds.

The first question that arises is the size of the wards. Shall there be two wards, each containing about 10 beds, or shall there be several smaller wards of 4 to 5 beds each? Let us first insist that, in every hospital of this size, there must be at least one (perhaps two) single-bedded wards for isolating doubtful cases, or for treating serious cases of operation. Small wards for 3 to 5 patients each are to be found at

Lytham and Bromley, but the only argument in their favour is that they carry out the idea of the home cottage hospital system, as we think, to excess. They are certainly not so conveniently arranged for nursing, ventilation, supervision, and other hospital and administrative purposes. We have assumed that a hospital of this size will only be required in a place where bad accidents are of frequent occurrence. Moreover, in the cottage hospital there will mainly be cases of acute disease, while in the county hospitals many chronic cases are mixed with the acute ones. Here, then, all the arguments for the proper ventilation of a hospital press with double force, and all the latest improvements for carrying them into effect should be utilised. Now, what are these improvements? Applied to this class of hospital, we may probably say that there are two essential objects to be kept in view. (1.) The nursing. (2.) The ventilation. The nursing should be so arranged that one nurse may easily and constantly overlook all the beds under her charge. If we allot a ward of 10 beds, and a single-bedded ward, to a nurse on each side, we shall provide sufficient nursing for one person to thoroughly carry out. As regards ventilation, all authorities agree now that the most useful plan is the pavilion system, and some modification of this, according to circumstances, must be advised.

Another consideration that arises is the height of the hospital,—shall it be of one or two stories? Where practicable, a central building for administra-

tion of two stories, with wards of only a single story, must be advised: (1.) For conveniently separating the sexes and nurses, so that one does not interfere with the other. (2.) For purposes of ventilation. (3.) For increased roof space, thus ensuring a larger supply of rain water. It must be admitted, however, that two wards, one above the other, will be much cheaper, and as a rule will be preferred, especially as the single story may entail the cost of an extra nurse. Nor do we think the arguments for a single story are so forcible as to make us insist on this plan being absolutely essential to perfect sanitary requirements. We shall probably be told that the erection of a hospital of this class on the pavilion plan is quite impracticable on account of the expense. If, however, the advantages of such a plan are so great, let us consider whether this objection will not disappear. This class of hospital will be required mostly in those districts where there are large works or mines, the owners of which are, as a rule, wealthy, and only require to be shown the necessity of the undertaking to contribute generously to its success. We must bear in mind, also, that all fatal mining accidents are carefully investigated by the Government inspectors, and every mining proprietor is exceedingly anxious to contribute in any way to the successful issue of these accidents. Many of them also will give in kind as well as money. Thus one, perhaps, will give the land, another, the bricks, and a third will find the labour. By these means a hospital may often be erected at compara-

tively little cost, and we venture to think that the cases are few indeed where this plan will not be found practicable, if only it is sufficiently urged.

Let us now map out a plan of the rooms that will be required in our miniature pavilion hospital.*

Central Administrative Block (Two Stories).

Cellars for wood and coal, beer, wine, &c.

Ground Floor.—Kitchen, scullery, matron's or nurses' sitting-room, mess-room, store-room, dispensary, operation room, closets, urinals, &c.

First Floor.—Bedrooms for matron, cook, night-nurse, under nurse—(staff).

Cross-ventilated lobby leading from central block on each side if wards are of a single story, or from one side or centre, with staircase, if of two stories.

Wards.

Male ward (10 *to* 12 *beds*). *Female ward* (8 *to* 10 *beds*). *Two single-bedded wards.*

It will be useful now to take the rooms separately as far as necessary, and note the chief requirements for each. The wards will have a nurse's room at one side of the entrance, and a scullery on the other side, while at the opposite end will be the bath-room and

* The Ross Memorial Hospital, though only for 8 beds, is a creditable example of the pavilion system. The wards contain only 2 beds each, otherwise with larger wards it would strictly answer this description. A plan of it will be found on another page. It cost £2500 to erect, and no expense was spared in any way. The furniture and fittings entailed an extra expenditure of £300, and at the present time it may be regarded as a very complete little hospital.

closets. The walls must be of some non-absorbent material. The best Portland cement should be used, Parian being expensive, absorbent, and unsuitable. It is a very good plan to paint the walls as soon as dry (four coats), and afterwards to give them two coats of varnish (best copal). This will be more expensive at first; but the primary outlay will be repaid over and over again, for when this plan is thoroughly carried out, a perfectly smooth, hard, impervious and non-absorbent surface is presented, which can easily be washed down, and the wards are thus capable of being readily and completely disinfected. Where this plan has been tried pyæmia has disappeared, and the most satisfactory results have been obtained. Walls thus prepared will remain perfectly clean in appearance, being at the same time very generally safe for from 10 to 20 years. The ceiling should be lime-washed, a process which must be renewed at least once a year. In transforming an old farmhouse or other building, the ceiling and walls must be first well scraped, and then one of these methods applied.* In a new building great attention should be paid to the floors, which are best made of oak with perfectly tongued joints. In our opinion they ought to be neither waxed nor dry

* In the out-patients' department of the Central London Throat and Ear Hospital, one of the most recent of the special hospitals, a process has been adopted by the architect of mixing Portland and Parian cements with a dull red colouring matter. This is well trowelled to a smooth face, and thus a hard permanently coloured surface is obtained, which can be washed down without detriment to the material. The effect of this, divided as it is by a narrow black fillet from a dado of blue tiles, is not unpleasing.

rubbed. Scrubbing is far preferable, and must not be despised or discarded, on the ground that polished floors present a more pleasing and satisfactory appearance.

If of a single story, the flooring must be raised above the ground and the space below well ventilated.* If the soil be clay, a layer of concrete or asphalte should extend over the whole area of the building. The finishing of the interior should be as plain as possible—cornices and other embellishments only afford lodgment for dust and dirt,—and all the corners should be rounded.

A day-room for convalescents will be a most useful adjunct, and this should be finished off and fitted more in the cottage style, thus realising the object which most writers think so important: for here both sexes might take their meals, work, read, and amuse themselves. The walls should be hung with cheerful pictures, and books and book-shelves provided. Outside the day-room could be erected an open verandah, in which patients might take exercise during bad weather. Surely this plan of thus separating the convalescents from the sick, and giving them recreation and routine as in their own homes, is more to be commended, on the score both of hygiene and comfort, than the cottage system indiscriminately applied to the wards. The beer and wine must be kept in a

* Dr Swete advises that it should be raised on arches with a platform covered in like a railway platform, to form a terrace walk for convalescents. This seems a good idea.

separate cellar from the wood and coal. There should also be close at hand a light place from which it may be given out, while the key should always be in charge of some responsible person. The kitchen should be fitted with a window or wooden frame to open at will, whence the diets may be distributed and inquiries answered without persons continually intruding into the kitchen itself. Some source of hot water supply in connection with the grate will also be needed, and, if necessary, an earth drying arrangement for the earth closet. Convenient cupboards, shelves, hooks, &c., for kitchen furniture and utensils are also requisite.

The scullery should be furnished with a supply of hot and cold water, sink, plate-drainer, arrangements for cleaning knives, boots, &c. It should also be within easy access of the kitchen. The matron's sitting-room should adjoin the store-room, or be situate in its immediate vicinity.

The ground-floor is the best for the operating room, but it may be placed on the first floor, if the staircase is of sufficient width to admit of the easy carriage of patients. If placed upstairs it can be lighted from the roof by a sky-light, and there should be lamps, conveniently arranged, in case of an operation at night being necessary. There must also be an operating table, either one of those sold for such a purpose, or, as we strongly recommend, a narrow table with movable head-rest and slides for the feet, which could easily be made by the village carpenter. The instruments can be kept ready at hand in a proper cupboard.

Should this arrangement of placing the operation room upstairs not be deemed convenient, a room leading out from the corridor, with a glass roof, might be erected. In practice it is found that an operating theatre should always be placed on the ground floor. This can easily be arranged with a little trouble, and it will often prevent accidents to patients in their transit to and from the rooms. The operating theatre at Petersfield is an excellent model to follow.

The mortuary should be detached from the main building, out of sight from windows of rooms occupied by patients, and should be provided with a table, good supply of water, skylight, drawers, &c. In one cottage hospital the mortuary is public, *i.e.*, for the use of the village. This is a very good plan, and is highly to be commended for general adoption (*vide* Chapter on Mortuaries).

Laundry.—A separate out-building should be used as a wash-house, great care being taken to place all infected linen in the disinfecting tank, tub, or trough, which will, of course, be provided for this purpose. Where practicable, a constant flow of water should be directed on to all the linen in this receptacle.*

Ventilation and Warming.—Our wards must be of such a size as to allow 100 square feet of floor space and 1500 cubic feet of air to each bed. These conditions in a ward of 10 beds will be fulfilled by the following dimensions:—length 40 feet, width 25 feet,

* The best cottage hospital laundry we have seen is that at the Grantham Cottage Hospital (*vide* plan on another page).

and height 15 feet. The same scale should be used for smaller wards, and also in allotting the number of beds, for rooms transformed into wards. Since these wards will be used only for cases of acute disease, accident, or operation, we must hold it to be extremely important that this, the usual scale for hospitals, should not be lowered.*

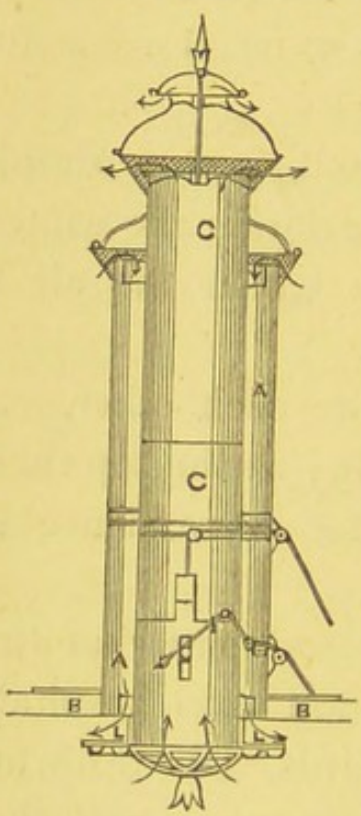
For ventilation purposes we shall want a simple system for use in the summer, but, during the winter, arrangements must be made by which the air is warmed before entering the wards.

The windows should be opposite each other, and should open at the top and bottom; at the top there should be a rope and pulley for convenience in opening.

Slanting valves, over the windows, somewhat like Sheringham valves, as in the London fever hospitals, are very useful. They open inwards, thus throwing the air towards the ceiling before it mixes with that in the ward; they should be protected externally with a hood, and internally there should be a hinged flap to let down on them from above at will. Sheringham valves in the walls will often be of service. In a one-storied building, Mr McKennell's system by two hollow cylinders could very easily and cheaply be applied, and the openings are not so easily closed by the nurses as in the former systems.

* Dr Swete considers that on account of the pure state of the air in country districts, 800 to 1000 cubic feet to each bed will be sufficient. Probably 1000 would be enough to allow.

Mr W. Eassie, C.E., gives the following description of this system:—Mr McKennell's system of ventilation, upon the principle of the double current, was invented by him in 1855, and consisted of an automatic apparatus, to be fixed in the ceiling and roof, which not only provided a steady influx of fresh air, but discharged the air vitiated by respiration or combustion. The apparatus consists essentially of two tubes, concentrically arranged, and opening at their lower ends into the apartment to be ventilated. These tubes communicate with the outer air at different levels, the respired air rising up the central tube, and passing off at the higher level, and the fresh air entering the annular passages between the inner and outer tube at a lower level, and descending into the room below. The inner tube projects a short distance above the outer tube, and is capped by an ornamental cover, from beneath the edges of which the foul air escapes.



McKennell's Double Tube Ventilator. A, outer tube; C, inner tube; B, ceiling; L, valve-plate; I, throttle-valve for inner tube.

A screen of perforated material covers the escape opening, and prevents the inroad of foreign matters into the tube. Both of the tubes are so proportioned, that the sectional area of the centre tube is about equal to the sectional area of the annular passage comprehended between the two tubes.

Mr McKennell, in this invention, arranged for a partial or total closing of the inner tube by means of a kind of throttle-valve, set upon a transverse spindle inside the tube, and weighted on one side, so as to have a tendency to maintain a vertical position, and leave the passage full open. The valve was, however, under control by means of a cord and pulleys. When the valve appertaining to the outer air passage was drawn up as high as possible, it completely closed the down draught passage; whilst, by letting it down more or less, the passage was correspondingly opened, and the current of air impinging upon the

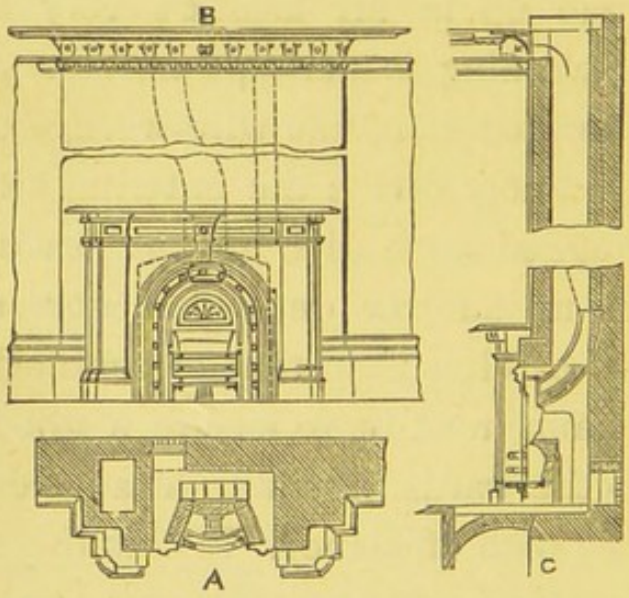
valve plate became deflected, and spread out horizontally, and so became more uniformly dispersed over the room.

The McKennell system of ventilation has been largely patronised, with the best results, and it is applicable to almost every kind of work. Several examples of its adaptation to rooms can be noticed in the *Practical Hygiene* of Drs Parkes and De Chaumont. (See *Sanitary Record* for September 15, 1879.)

In transforming a farmhouse, the vertical system of ventilation would be found useful. This has been tried with satisfactory results at the Central Throat and Ear Hospital before alluded to, where the system of carrying off the products of combustion from the gas burners by bell glasses with tubes in the flues also struck us as simple and inexpensive. These are the most simple ways of ventilating without warm air, and it is needless to enter fully into the subject of cowls, Arnott's valves, &c., as they can easily be read up in Mr Eassie's very useful little work. One warning is perhaps necessary,—never to use any perforated zinc, fine wire-work, &c., materials often used to finely divide the entering air, but which soon get clogged with dirt, and so become useless; for there is no subject on which nurses are more ignorant and careless than that of ventilation.

The next aim must be to ensure a good supply of warm air to the wards in winter, at as cheap a rate as is compatible with efficiency. In this there is no need to consider other arrangements for ventilation that can possibly be blocked up, for we may be sure that such will be the supreme object with the nurse, as soon as there is the least sign of cold weather, or the

arrangements will only be in use during the short visit of the surgeon. Heating by hot-water pipes will be too cumbersome an arrangement for hospitals of this size, and in reality the question is narrowed down to the kind of stove or fire-place most efficient for the purpose. No English labouring man's mind will be content without seeing a cheerful stove or fire-place in the ward. It is not that it gives off more heat than could be obtained by other arrangements, but in England its use is so common as to be indispensable, without totally obliterating all idea of homely arrangements. Luckily there are several very efficient stoves now in common use, by which the entering air can be warmed; and we may instance the mode of operation in three of them as examples of their class.



Captain Galton's Vertical Stove. A, plan; B, elevation; C, section.

(1.) In Captain Galton's stove* the air is warmed in chambers behind the grate. The point of dis-

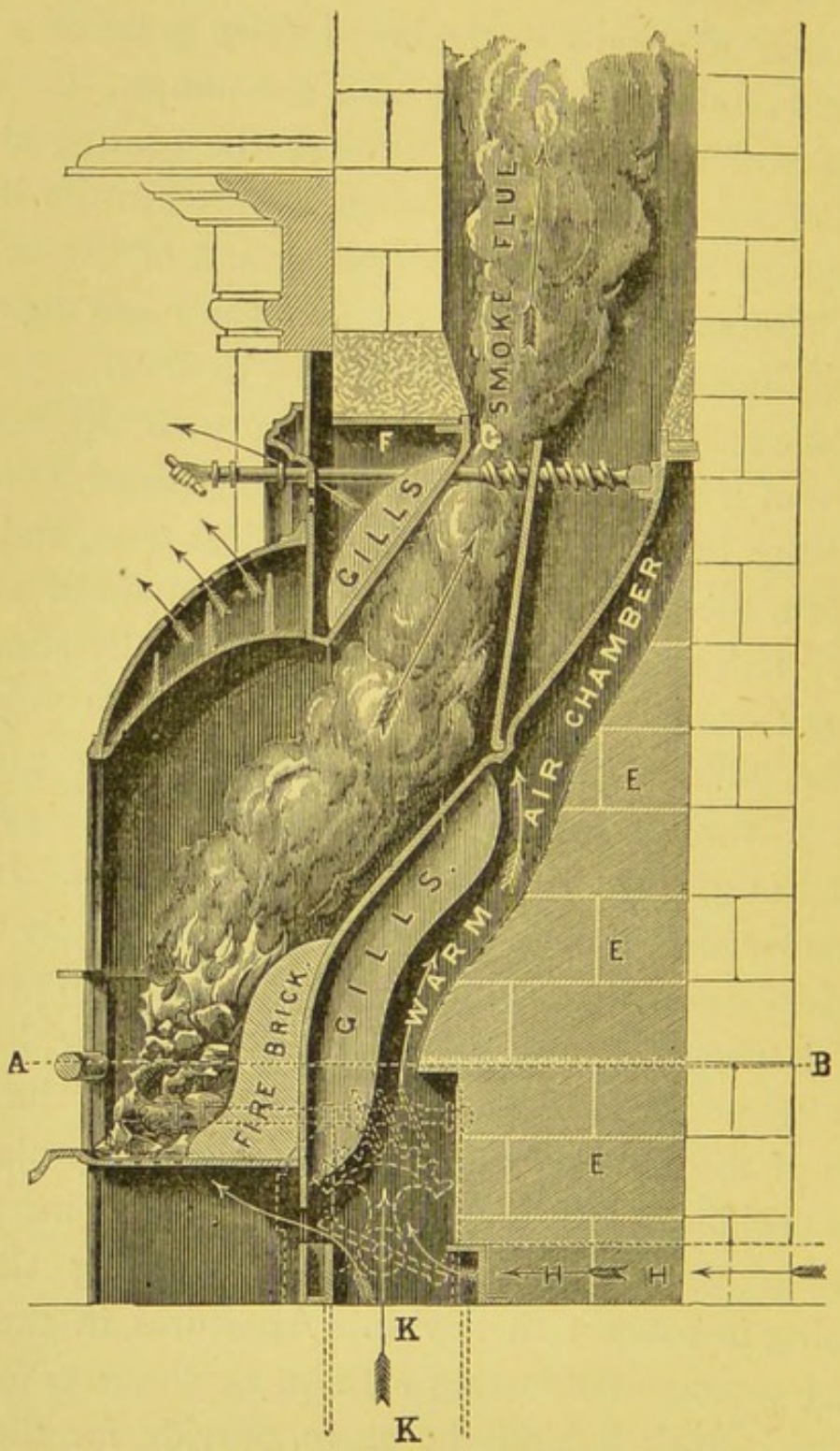
* This stove seems to be in use in several cottage hospitals.

charge for the warmed air is below at various orifices, while the outlets are usually provided above by foul air shafts (with Arnott's valves) round the chimney. Galton's is the best-known grate of a description uniting both iron and fire-lumps. Copious supplies of fresh air pass through the grating at the back of the chamber, and when warmed in the latter it rises up the hot-air flue leading out of the top of the chamber, and is delivered into the room near the ceiling-line, or elsewhere as may be desired.

The smoke flue has no connection with the hot-air flue, and if the grate has been properly fixed, nothing can work better. It has stood endless tests, and will perform the hardest work with a minimum of attention. Its performances have been carefully summed up by General Morin.

The bulk of the ventilating grates of the present day deliver the warmed air either under the mantel or in the space formed around the grate itself. In the Thermoson grate, which Mr Eassie has largely used, the fire-basket, lined with fire-brick, is made to project, and is provided with a movable iron canopy, having gills upon it. The back of the fire-basket has the arch of the stove cast upon it, and has also projecting gills behind. By this arrangement an increased heating surface is secured, thus warming the air coming in contact therewith. Apertures in the arch and front, communicating with an air-chamber formed of brick-work behind the stove, provide for the free circulation of heat, and for the necessary supply of

cold air. A valve is provided, by which the draft can be regulated at pleasure, either to the air-chamber or to the fire.

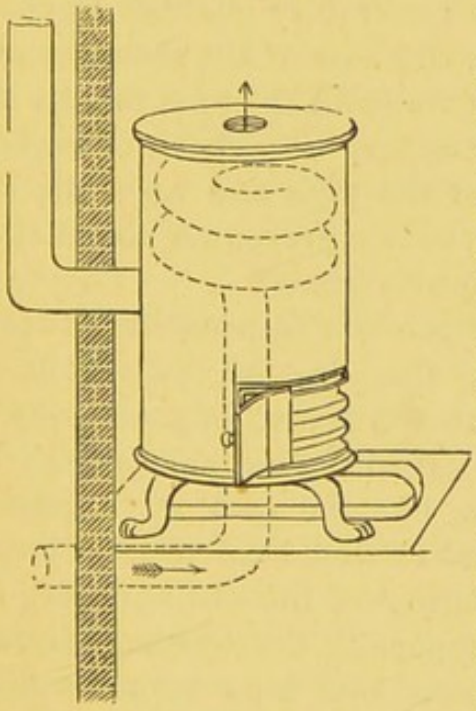


E, E, E, air chamber formed of brickwork; F, covering-in plate, resting on bar G to render the joint air-tight.

There are several peculiarities in the Thermoson which can be sufficiently understood by a study of the large-sized section on the previous page.

(2.) In the Calorigen the air is warmed by passing through a spiral tube placed within the stove, and communicating with the outer air; there is a constant stream of warm air into the room, and the other openings are probably all converted into outlets. The Calorigen burns very little fuel, and its price is about six guineas. We take the following from Mr Eassie's admirably exhaustive Dictionary of Sanitary Appliances :*—

WARMED AIR FROM WITHOUT.—To stoves of a description, which effect all the purposes of the Galton and other succeeding grates, it has been common of late to apply the name calorigen, or calorifère, the former word being of English and the latter of French origin.



George's Coal-burning Calorigen.

The best examples, and indeed the only ones much in use, are the calorigens invented by Mr Richard George, whose earliest experiments I witnessed with great interest. In 1867 Mr George introduced the calorigen in which coal was used, and which I will now proceed to describe.

The coal calorigen consists of a chamber of thin sheet iron, the proportions of such chamber being large relatively to the dimensions of the fireplace or grate in which the fuel is burnt, in order that the products of combustion may circulate within such chamber some

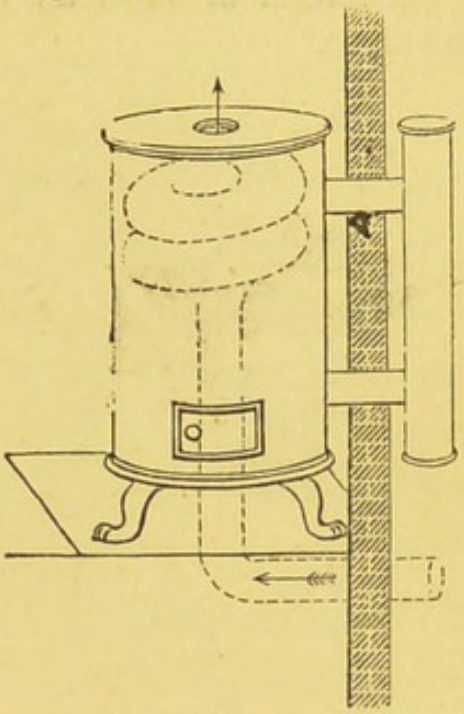
* *Vide* Sanitary Record from July 1879.

time before passing into the chimney or flue. The grate or fireplace is arranged near the bottom of the chamber, which is supported upon legs, and the stove or fireplace is so arranged that fuel can be readily supplied to the grate, under which a pan is placed to receive the ashes. The products of combustion from the fire-box or grate, after circulating within the chamber, together with the impure air drawn from the apartment, pass away through a pipe or flue at the back of the chamber of the stove, such outlet pipe being provided with a damper. A coil of pipe is arranged within the interior of the chamber above the grate or fire-box—the lower end of this pipe passing out through the lower part of the case—and it is so arranged as to be in communication with the atmosphere exterior to the room or building to be heated. The upper end of this coil of pipe passes out at the top or upper part of the outer case of the stove, where it is in open communication with the interior of the room or building. The heat from the fire-grate portion of the stove is transmitted through the surface of the coil of pipe, and causes a current of air to circulate through the pipe from the exterior of the room into the interior, and this current of air has sufficient heat imparted to it without injury to its respiratory qualities by contact with the surface of the pipe, the thinness of the metal of which the pipe is formed causing it to transmit the heat rapidly without itself attaining a high temperature. A deposit of carbon is also formed upon the exterior of the pipe and upon the inner surface of the chamber, which assists in preventing the inlet pipe and the chamber from becoming overheated.

The success of the coal calorigen was so pronounced for use in rooms adapted for them, that in the year following, Mr George gave his attention to the matter of gas stoves, and succeeded in producing what is called the gas calorigen.

In this contrivance, which is, like the coal stove, perfectly portable, the outer case is formed of thin sheet iron or copper, supported on legs ; and a gasburner of the ordinary ring form is fitted inside. The air for supporting combustion enters the chamber of the stove by the lower inlet pipe from the flue in communication with the chimney, and the products of combustion pass out of the chamber into the flue by the upper or outlet pipe—an upward and downward current being thus established in the flue. There is also a door furnished with a panel

of glass or mica, which is closed when the gas is burning, so as to exclude the passage of air through the opening of the door. There is also a diaphragm, for distributing the air for supporting combustion, and another diaphragm for causing the heated products to circulate within the chamber of the stove. It will thus be seen that the heat from the heated products of combustion of gas burning within a chamber of metal is transmitted through and radiated from the sides of the chamber—a current of air passing at the same time from the exterior to the interior of the apartment—through a pipe of thin iron, arranged in such a manner within the chamber of the stove as to warm the air passing through it.



George's Gas-burning Calorigen.

In 1879, Messrs Farwig of London, who manufacture these calorigens, introduced a slow combustion calorigen, which is much approved in fever wards of hospitals, and for use at board schools. It is also well adapted for use in halls and vestibules where there is a changing atmosphere.

This stove, like others, is lighted in the usual manner upon a foundation of paper, small pieces of wood, and small coke, the ash door being removed to create a draught. When the coke is well alight, the stove is filled up with small coke and the ash door replaced. There is also a sliding or dropping valve introduced above the ash door so as to regulate the draught necessary for combustion.

As in the case of the coal and gas calorigens, these slow combustion calorigens are fitted up with a pipe, one end of which is in communication with the external atmosphere, and the other extremity terminating in the crescent-shaped warmed fresh-air chamber, the outlets of which are pierced in the surmounting of the stove. There is no escape of fumes when feeding, and at a cost of less than fourpence, the stove will burn, if properly alight and charged, without attention, for about

twelve hours. It is therefore admirably adapted for keeping up a circulation of warm air in an inner hall or staircase during the night.

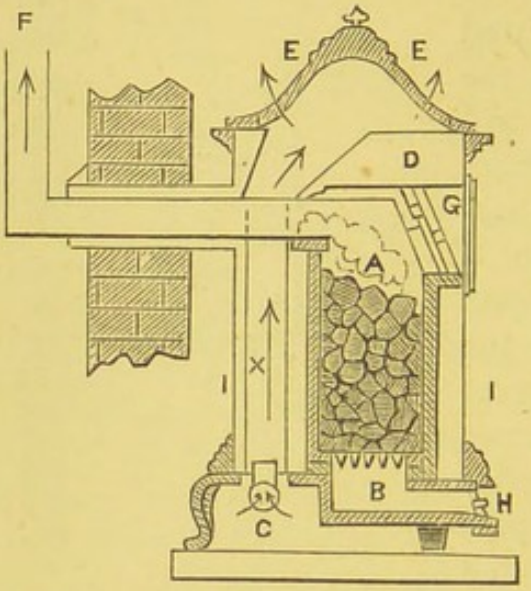


Fig. 1

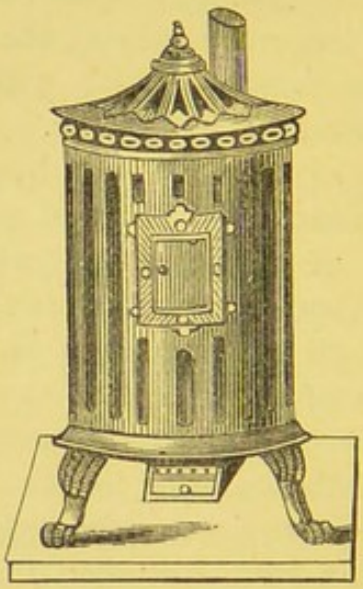


Fig. 2

Fig. 3

Slow Combustion Calorigen.
Fig. 1. Vertical Section. 2. Elevation. 3. Plan through I. I

A, fire chamber; B, ash-pit; C, fresh-air inlet; D, air space; X, fresh-air chamber; E, warm fresh-air outlets; F, smoke outlet; G, feeding door; H, regulator.

There are numerous other stoves on much the same principle. In using these stoves care must be taken that the air to be warmed is drawn from a pure source, and any openings should be guarded from the entrance of vermin, &c., by double air bricks or other means.

Water Supply.—In a village this will often be found a subject of no mean consideration. Should the hospital be near a small town which has a good water supply, and be so placed as to be easily connected

with its mains, our difficulties will at once vanish, but in many villages the supply is *nil* or very bad.

The Rivers Pollution Commissioners class the waters most fit for drinking and cooking purposes in the following order—(1) spring water, (2) deep well water, (3) upland surface water; while they condemn the use of shallow well water, water from cultivated ground, and rain water for the same purposes. It must always, therefore, be our aim to get one of the three classes first mentioned, treating, of course, each case on its own merits. If the hospital can be placed in such a position as to be able to utilise a good spring, such a course must be adopted. Otherwise we must take into consideration the geological features of the district, and the supply of water to places near at hand, and then consider the propriety of sinking a well. Dr George Wilson, in his book on "Sanitary Depôts in Villages," says on the subject of water supply:—"Specially suited for use in rural districts are the wells known as Norton's Abyssinian tube wells. They consist of narrow iron tubes driven or screwed into the ground in lengths, and with the lowest length pointed and perforated at the end. The dangers arising from the entrance of surface impurities are entirely obviated, and they further possess the advantages of being driven into any good water-bearing seam which may be selected, of securing a sufficient yield in dry seasons, and of entailing comparatively little outlay, either for their first cost, or in sinking them. Wherever pump wells are in use, these tube wells can be sunk.

In two days a well sixty feet deep can be sunk, which in most cases will yield an abundant supply of pure clear water within a few hours after completion." We recommend these wells strongly, but for the information of our readers we shall refer in addition to the ordinary well. In no case, however, should recourse be had to it until the water from different wells in the neighbourhood has been submitted to a competent analyst, or before his opinion has been taken as to the advisability of the proceeding. The points to be attended to in the construction of a well are—(1) that it is not near any of the house drains, (2) that its mouth is well protected from the entrance of surface water, (3) that proper materials are used in its construction. If this last point is left to a local builder, we shall probably find the water much hardened by the use of common mortar. In most cases the water will have to be pumped up, when a filter box placed at the top of the suction pipe leading to the well will help to secure its greater purity. It will thus be seen how a supply of drinking and cooking water may in most cases be laid on for kitchen use. But what is to supply the bath-rooms and closets, should our hospital be built as we have suggested on the miniature pavilion plan? It will entail a great amount of labour to pump a large supply to a cistern at the top of the house, and then to distribute it over the building by pipes. We may at any rate for the time leave out the question of closet supply and perhaps that of urinals, and consider

how best to get a good stock of water for the bath-rooms and other washing purposes, which shall be easy of access to the wards. Here the rain-water will be invaluable, not only because it can be readily utilised, but also because, though not fit for drinking, it is really the most valuable water for domestic purposes, and occupies in the report before mentioned the foremost place amongst household waters. It can be easily stored in a galvanised iron or slate cistern under the roof over the bath-room, whence pipes may lead down to the baths and scullery. The cistern must be constructed in such a manner that it can be easily cleaned at certain intervals, and the overflow pipe must end outside over a trapped grating. Means of ventilation must be provided; the entrance of leaves and other rubbish must be guarded against by fitting the pipes with perforated cups or roses, and it is also advisable that there should be a second smaller cistern into which the water may run through a charcoal filter before distribution. Taking the amount of rainfall in the year at 30 inches, and the roof space for each ward as before given, the amount of rain-water will equal rather more than 10 gallons per head per day, if the building is of a single story, but if of two stories it will only equal about half this quantity. By allowing the rain-water from the central administrative part (which will not be required in the kitchen) and from the corridors to flow into the ward cistern, we shall probably more than double the above figures, giving 20 gallons or 10

gallons per head per day respectively.* We have throughout taken the most difficult case of supply to a large, somewhat scattered building. In a small purely cottage hospital the matter will be much simplified.

We must consider one other case. Hygienic improvement in many villages has not yet been even proposed; and we may instance many large mining districts, where the mine workings extend in almost every direction, draining away most of the sources of water supply, so that there may be no springs, and it will be quite useless to think of sinking a well. Such a case is by no means hypothetical, though it may seem so to many residents in towns. The inhabitants of these parts are chiefly dependent upon rain-water, and in a dry summer, when this fails, are driven to make use of the water from the nearest brook, often only a running stream, contaminated in its course by sewage from each village or farm on its route, and by pumpings from the different mines. Or perhaps the villagers are able to utilise the water from the drain-

* As a matter of fact, it may be noted that during the winter there will almost always be an ample supply of rain-water for all these purposes. The great drawback to the utilisation of rain-water is that it generally fails in summer time; but even then a good thunderstorm will often immediately fill the cistern to an extent equal to nearly a week's slow rainfall in winter.

With a 35 in. rainfall 12 galls., and in the driest year 7·7 galls. per day.
,, 40 ,, 14·5 ,, ,, ,, 10·8 ,, ,,
,, 45 ,, 16·4 ,, ,, ,, 13·1 ,, ,,
will be obtained, according to Mr H. Sowerby Wallis, F.M.S. See his paper on the subject, published in the Transactions of the Sanitary Institute of Great Britain for 1879, page 210.

age of the neighbouring land—anything but a good supply—while the better class, who can afford to do so, will often cart their water for drinking purposes from a considerable distance. In such cases the use of water for the closets is quite out of the question. The rain-water must be used as much as possible, always filtering it before it is used for drinking and cooking. The hospital must be built with as large a roof space as is compatible with the funds available; and a supply of "upland surface water," should be sought, and care taken that it does not come from cultivated ground. Perhaps the hospital may be fortunate enough to enlist the sympathies of a rich neighbour, who will allow his water-cart to bring it a supply of a better class of water two or three times a week, which should then be carefully stored in some properly prepared receptacle. In such cases the water must be kept solely for drinking and cooking purposes, and it should always be filtered before use.

Should the water supply be very hard, Clark's softening process may be borne in mind as a useful auxiliary. To lay on a supply of hot water throughout the building will not often be practicable, except it be small and compact, when probably the hot water supply cylinder made by Messrs Braby & Co. might be found useful. It is fixed close to the kitchen fire, and the price is only three or four guineas.

Disposal of Excreta.—Under this head we must consider the best means of disposal for the excreta proper (fæces and urine), the slop and waste water,

ashes, and the kitchen refuse. In most cases the rain-water, which otherwise would also have to be disposed of, will be utilised, and may thus be left out of the account.

Let us first consider the best means for getting rid of the fæces. The methods in common use in England are cesspits, water-closets, earth-closets, or ash-closets. The cesspit in all its varieties must be condemned unconditionally. It would be impossible to place one within easy access of the wards without creating a great nuisance, and it would require frequent disinfection and cleaning, so that in the end it would give as much trouble as earth-closets, with none of the advantages of the latter system. Ash-closets are not to be compared in efficiency with earth-closets, but they give the same amount of trouble. A combination of the two is, however, often admissible. The question, therefore, becomes narrowed down to one of earth- and water-closets. It is an old controversy which has gone on for years, and is likely to continue. Indeed it is only practicable to point out here where the one or the other, according to circumstances, may be preferable. If there is a system of sewerage in force, with which the hospital sewers can be connected, and if there is also a good supply of water, the water-closet system must naturally be commended, and the question is, therefore, a very simple one. But in most cases there will be no such system in operation, and all the arguments in favour of earth-closets will press themselves strongly upon us. Thus there will be a large isolated building,

with but limited water supply, and requiring the purest possible air; the earth-closet system can be laid down at less cost than that for water-closets, and is less liable to get out of order; and it will also enable us to utilise the rain-water for purposes of ablution, and to narrow down the amount of drainage required. There is, lastly, the further advantage of being able to use movable earth-closets in the wards for those patients that are unable to leave their beds, so that the whole system may be on one uniform plan. Next, as to the working details of the earth-closet system. The only drawback is the amount of labour required, and, in overcoming this difficulty, we must enter a little into household arrangements. Connected with the hospital should be grounds cheerfully laid out for the exercise of patients, and perhaps a kitchen garden. In a country district this will be one of the least difficulties. Land is cheap, and there is almost always a good strip connected with such a building as we should choose to transform into a hospital. If building a new hospital, the site and a good piece of ground will probably be given by the local magnate. To keep the grounds in order will require the partial or entire services of a man. It is needless to say that we urge the employment of such a person about the place, and we think there will be abundant employment for him in innumerable ways. The want of a man about the premises seems to have been much felt in several of the larger class of hospitals, and the managers have been obliged to make provision for the services of

such a person. At Boston and Walsall, for example, the need of one has been acknowledged to be indispensable, and provision has been made for him by building a lodge in the grounds. The man would have charge of the garden and grounds, also of the whole working of the earth-closet system, such as the drying, renewing, and emptying of the earth: he would be required to assist in carrying bad accidents into the wards, and in removing corpses to the mortuary: he would help at operations, and act as messenger or gate porter—in fact, such a person would find abundant employment if care be taken that a man is chosen for the post who is willing to make himself generally useful. He and his wife might perhaps occupy a cottage at the entrance to the grounds. In that case they would act as gate porters, while a wash-house might be built close to the cottage, where the wife could manage the washing of the establishment. The kind of earth used for closets is of importance. It should be of a loamy, porous nature, as a sandy soil is of little use. It must also be well sifted, otherwise it soon blocks up the orifices. In the summer time it may be dried in the sun, and in winter the kitchen fire may be utilised for the purpose, by employing one of the cheap drying stoves made by the Moule Closet Company. To wander again from the subject we may point out how serviceable a gift a small greenhouse would be from a generous donor. Here the earth could be dried for the purposes of the earth-closet, and

the man would thus have the entire charge of this branch under his own control, without intruding on kitchen territory, where he would be sure to trample on the toes of the cook (or nurse). At an extremely small cost, too, the wards could with this adjunct be supplied with plants, and the grounds made bright and cheerful in the summer. Hundreds of cuttings are thrown away yearly by rich neighbours, who would be only too pleased to give them for such a purpose; and the cuttings once obtained, a profusion of plants would, with a little care, be forthcoming in a few years. Whether the earth should be dried and used again is a matter for consideration. Should it be important to make a good manure for purposes of sale, such a course could be adopted; otherwise it is not very advisable, though no cases of injury from such a practice are recorded. We consider the use of disinfectants with the earth as needless, but, should they be deemed necessary, we would advise the use of chloralum rather than of carbolic acid, or other strong smelling powder. There are many good forms of earth-closet now in use; the most common is that known as Moule's. The points to be attended to are,—that the apparatus be self-acting, that it be made to empty from the outside of the building, and that a pipe be led up from the receptacle to the outer air for purposes of ventilation. The quantity of earth required is about 1½ lb. per head daily. If a man is employed regularly about the hospital, the closets should be refilled and emptied early every morning, and the earth should then be stored in

a shed for use or for removal. Mr Moule, in a letter to the *Lancet*, October 1867, cites the case of a school of 80 boys, in which the earth-closet system is in force, and the product, though only removed once in three months, never gives rise to any nuisance,—a farmer supplying and removing the earth. We simply give this as an instance of the little trouble occasioned by earth-closets, when it is difficult to procure labour, but cannot advise keeping the product near the wards in large receptacles for an equal length of time. Probably in most cases its removal once a week would be quite sufficient. The product could be sold to a farmer, or exchanged for fresh earth, or it might be used in the kitchen garden, should the hospital possess such a luxury. We have treated the subject of earth-closets simply as a system of convenience, without alluding to the monetary side of the question. We may be able to sell the product in rare cases, but at the present time the intelligent farmer is scarcely alive to its manurial value, and we shall generally have to be satisfied with an exchange of earth for manure, or its employment in the garden. *It is necessary to take care that the slops are not thrown down these closets.*

It is needless to enter into details as to the management of the water-closet system; the rules are too well known. It will be sufficient to indicate the chief points concerning it. The water waste preventer must not be of less capacity than two gallons. The soil-pipe must be carried above the roof and be left open at the top, and a ventilated

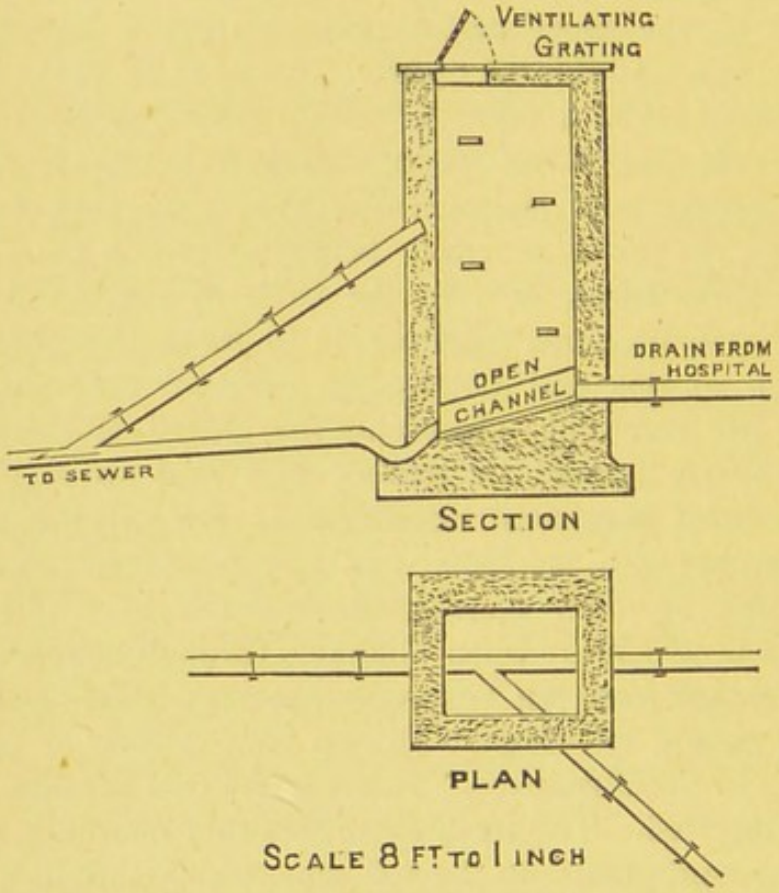
manhole should be placed between the building and the sewer.

The following is slightly modified from a description, written by a sanitarian of eminence, of a new system of drainage in Dickens's "Dictionary of London":—

Dr. Buchanan, the present Medical Officer of the Local Government Board, says :—The air of the sewers is, as it were, "laid on" to the houses. The larger the house the greater the danger, as unless the drainage and plumbers' work have been executed in the most perfect manner, every lavatory, bath, sink, &c., is an additional danger. Authors of books on drainage generally make a point of telling their readers that in no case should drains run under the house. In the majority of town hospitals it is impossible that they should run any other way, the sewer generally being under the road in front, and the sink, baths, &c., in the back of the building. The only thing to be done, therefore, is to make the hospital gas-tight, and to this end both good material and good workmanship are essential. Assuming the glazed stoneware pipes to be properly jointed in cement and laid to regular falls, the next most important operation is the introduction of a water trap between the house and sewer, and the construction in the area or other convenient situation of a chamber or chambers in which are open channels through which the whole of the drainage from the hospital must pass. This chamber or manhole should be covered with an iron grating or closed lid according to circumstances. In the latter case air flues or inlets must be inserted. The fresh air enters this chamber, traverses the drains, and passes up the soil pipe, which should be carried well above the roof of the house and left open at the top. The ventilating pipe should not be less than 4 inches in diameter, and care should be taken that it does not terminate near a window. This system of disconnection and ventilation is considered by the leading authorities to be the best means of preventing sewer gas from entering a building, and no expensive patent cowls or traps are necessary. A good example of this

simple system has recently been carried out under the skilled supervision of Mr Ernest Turner, Architect, of Regent Street, for the Home Hospital Association at their establishment for the reception of paying patients, Fitzroy Square, London, and may there be inspected by permission of the Superintendent. No waste or overflow pipes should be directly connected with the drain or soil pipe, but all should discharge in the open air over trapped gullies.

The following drawing shows the ventilated manhole referred to, and by its aid a proper disconnection of the drains can be made by any builder under the supervision of the medical officer. As the author



has pointed out in a previous chapter, this point has not yet been grasped by architects generally. In consequence, the newly erected cottage hospitals as at present planned are calculated to encourage outbreaks of erysipelas and pyæmia. At one hospital

the architect had some idea of this system, but he failed to effectually carry it out, because his manhole was only 18 inches square. It was moreover surrounded by evergreens, and in consequence was full of leaves and filth. Unless a manhole of the size here given be adopted, the system will sooner or later break down. With an exact fulfilment of the detached system we recommend, all such dangers will be avoided.

The supply-pipe must be large, and quite separate from the drinking and cooking cistern. The closet must be self-acting; the best plan is that which acts by the opening of the door. Means of flushing should also be provided by drawing a plug, or pulling a handle, and the automatic apparatus should be so arranged that the full flush of two gallons will be discharged without holding the door open. The soldering of the pipes must be inspected, to see that there is no leakage, and the pipes should be placed in such a position that they can always be inspected with ease. The pipe casings should have hinged fronts, and not be screwed up. The pan must be of such a pattern as to be thoroughly flushed after each occasion of use. We must again urge that the water-closet system is only admissible if there is an abundant supply of water, and providing the hospital sewers can be connected with those of the neighbouring village or town. If this is impossible, another question will arise, viz., what is to become of the sewage? The precipitation, irrigation, and filtration-through-earth systems

cannot well be applied to a single small hospital, from the cost and complicated management that would be required. The only process applicable to a single house is that of storage of the solid matter in a tank, with provision for the overflow of the fluid part into the nearest stream, and to this system there are many obvious disadvantages. Nor is it legal or right to pollute the neighbouring brooks, by discharging the sewage into them at once, which would be the most simple plan of cutting the Gordian knot. We may mention, however, two other modes, which have been recommended as applicable on a small scale. The first is Mr Taylor's plan of collecting the fæces separately from the urine,—the fæces, mixed with earth, and disinfected, to form guano, and the urine to be discharged, as he considers it of little use for manure. Similar plans, having much the same object, have been advised by others, but they differ much in detail, for while some consider the urine to be of little value as a fertilising agent, others consider that it is the more important of the two. Until some uniform plan, therefore, has been agreed upon, it is impossible to recommend this system. In the *Lancet* for June 1875 is described a siphon tank, designed by Mr Bailey Denton and Mr Rogers Field, specially for the use of villages and isolated buildings. This is strongly recommended also by Mr Netten Radcliffe and Dr George Wilson, and would seem to answer every purpose, and to be a most complete contrivance. It requires, however, land for the reception of

the sewage, either in the form of a kitchen garden, or of some farm close at hand, with a farmer, who could thus make it a source of profit, to undertake its management.*

Before leaving the subject of closets, one obvious consideration will force itself upon us. Are enteric fever cases to be admitted into the hospital, and if so, what precautions are to be taken with regard to their stools? Without entering into a long and doubtful controversy, let us state at once that we regard enteric fever as a specific disease, the germs of which are only disseminated by means of enteric fever stools, and the majority of the profession will probably assent to this. Moreover, enteric fever cases are admitted into general wards, and, in fever hospitals, other acute cases, which find their way thither by mistake, are treated in the enteric fever wards. In fact it is always treated as a non-contagious disease, where the stools are properly disinfected, and it is very rarely communicated from one patient to another or to the nurses. But on the other hand, no cases require more care as regards diet and nursing than these. In many villages also, where the sanitary arrangements are very defective, we shall find enteric fever of a bad type constantly breaking out, and as the country medical practitioners often teach that it is a most infectious

* Dr Wilson says, when these tanks are used, "$\frac{1}{2}$ an acre to $\frac{3}{4}$ of an acre of ground properly drained and laid out would be quite sufficient to purify the slops and refuse water of a village of 800 to 1000 inhabitants, provided the subsoil is porous."

disease, all the friends and neighbours desert the patient in his or her sorest need, and no one can be prevailed upon to come and nurse the sufferer. This is no hypothetical case. We therefore urge that, at any rate, enteric fever cases should be received into the cottage hospital,* but that their stools should be kept quite separate from those of the others, that the motions should be passed into a vessel containing some strong disinfectant, that they should be immediately covered with another layer of the powder, and that they should be removed daily or twice a day, and buried deeply in the ground at a distance from any drain, well, &c. With these precautions no harm will be at all likely to ensue.

Urinals.—Many good forms are now in use, so that there need be no difficulty in choosing a suitable pattern. They are usually made of earthenware or enamelled iron. Those formed of large slabs of slate, which give off a most offensive smell from the large area of surface exposed, must certainly be condemned. We should always be careful to choose a pattern with a proper receiver. In case of a good supply of water, it may be used for flushing the urinals, and the best plan is to have it so arranged that a strong stream may be turned on twice or thrice daily, if the nurse can be trusted to do so efficiently. Otherwise the urinals must be made self-acting, though this would entail a larger use of water with less efficiency. If water cannot be spared for the purpose, the dry-

* See also Chapter VIII.

earth system may be adopted; and the apparatus may either be made self-acting (several forms of this kind are now made), or the earth may be supplied by hand daily. But in many cases there may be a prejudice against applying the dry-earth system to the urinals. Such a prejudice certainly does exist, probably because it is not a common thing to treat the urinary excretion in that manner. Under these circumstances, it will be best to collect the urine and slop-water together, utilising them in some manner if possible; and should there be a garden attached, improvements in this direction have lately been so great that it can be done easily, cheaply, and effectively. An excellent plan has been invented by Mr Bailey Denton and Mr Rogers Field, to which allusion has previously been made. The water, urine, &c., are here led off into a tank, from which they are allowed to escape automatically, either over land already prepared to receive them, or into sub-irrigation drains, laid below the surface of the garden, while any deposit is removed from the bottom of the tank once a month. The following description of this system is given by Mr Netten Radcliffe, in the Second Report of the Medical Officer of the Local Government Board for 1874 (pages 232–235):—

The apparatus shown in section in the figure (page 156) consists of a cylindrical water-tight iron tank (A), having a trapped inlet (B), which also forms a movable cover to give access to the inside of the tank, and a socket (C) for a ventilating pipe. The outlet consists of a siphon (DEF), so arranged that no discharge takes place till the tank is completely filled with sewage, when the siphon is brought into action and the contents are immedi-

ately discharged. The outer end (F) of the siphon dips into a discharging trough (G), attached to the flange of the siphon by a moveable button (H), so as to be turned round in the right direction, to connect the tank with the line of outlet pipes (I). This trough has a barrier (J) across it, with a notch so contrived as to assist small quantities of liquid in bringing the siphon into action instead of merely dribbling over the siphon without charging it, as they otherwise would do. The cover of this trough can be removed to give access for cleaning.

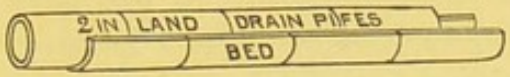
There is also a brass-wire strainer (K), which is clipped on to the inner end (D) of the siphon, so as to be taken off at will; and a screwed brass plug (L) is fitted to the bend (E) of the siphon in case it should at any time be necessary to examine or clear it. The pipe (M) represents a waste water pipe (usually from a sink) through which the supply of sewage is conveyed to the tank.

When used for *flushing drains*, all that is required is to fix the tank outside the house or building and in some convenient position between the supply and the drain to be flushed, and to connect the supply with the inlet and the drain with the outlet of the tank. There is no house in which there is not sufficient waste water for flushing by means of this apparatus. The sink or scullery slops are generally available as a supply, and the tank is specially adapted for them, as it forms the most perfect kind of trap, breaking the connection between the drains and the house and intercepting the fat. Where the drains have only slight fall, advantage can be taken of the height of the sink by placing the top of the tank above the ground. The drippings from a water-tap, or the rain-water from a roof, may also be used as a supply. A very small accession of water will start the siphon when the tank is once full, but, should it occasionally remain full for any time in consequence of insufficient supply, a jug of water thrown on the grating of the inlet will immediately set the siphon in action.

The tank holds about 40 gallons and delivers about 33 gallons at each discharge.

When used for the *disposal of house slops, where no regular system of sewerage exists*, the flush tank enables all house refuse to be removed inoffensively—the bedroom slops being thrown down the basin at the top of the tank outside the house—and thus where earth or other dry closests are used for the excreta,

this apparatus supplies a complete sanitary system of drainage. For this purpose the outlet from the tank must be connected with subirrigation drains laid in a garden or other small plot of available ground. These drains may consist of common 2-inch agricultural drain pipes, laid some 10 or 12 inches below the surface, on a continuous bed formed by dividing larger pipes, longitudinally, into two equal parts, as shown in the adjoining figure. This bed is not disturbed when the pipes are taken up to be cleaned, and thus ensures their always being relaid in true position. The sewage flows out of the joints into the soil, and feeds the vegetation, and the concentration of the flow effected by the sudden discharge of the tank forces the liquid rapidly along the pipes and prevents their being choked. The sewage can thus be distributed over a sufficient area of ground to give full opportunity for the soil to purify it on the principle of "intermittent downward filtration."



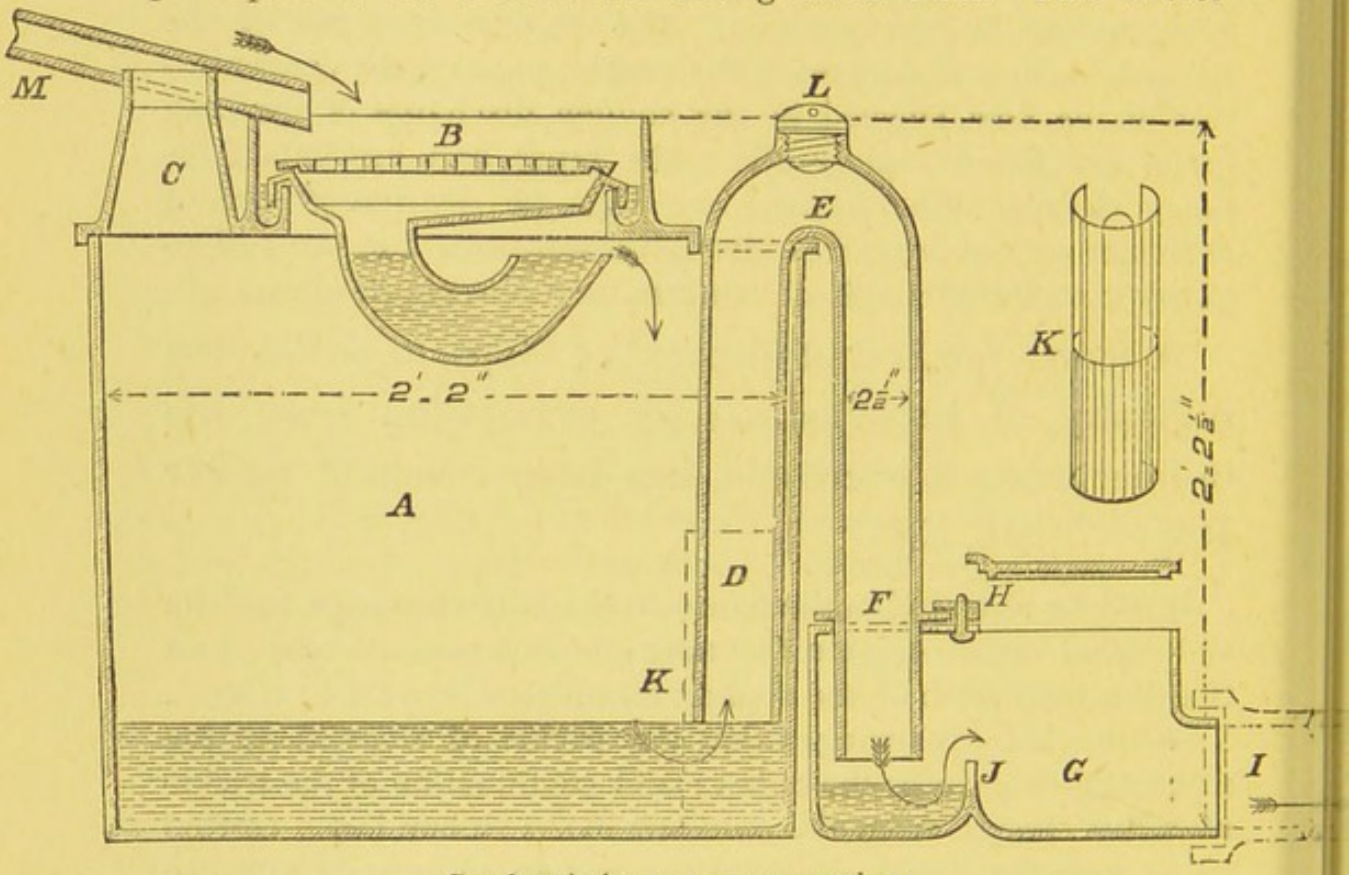
Method of Laying the Sub-Irrigation Drains.

A fourth method of disposal of slops, in which the difficulty of subirrigation by gravitation from the ordinary flow is overcome, has been invented by Mr Rogers Field, C.E.

It will be observed in the figure on the following page that the sink drain opens outside the tank above a trapped inlet; and that the long limb of the syphon terminates in a small trough. This trough is so arranged that any trickle of slops along the siphon quickly closes the outlet; and continuation of the trickle after this closure, from air contained in the siphon being carried along with the liquid, exhausts the siphon sufficiently to cause it to be brought into action by the preponderating atmospheric pressure upon the surface of the liquid in the tank. By this ingenious arrangement a much less quantity of liquid thrown down the sink will start this siphon in action, than in the tank first designed, and abortive flow from the tank is obviated.

The flush tank is made of different sizes, varying in capacity from 16 to 30 gallons exclusive of space for deposit. When in continuous use the interior should be cleansed and the deposit (a useful manure) removed every month.

The foregoing invention for separate houses has been further developed so as to meet the general wants of a community, by Mr Bailey Denton, C.E., in conjunction with Mr Field. The same difficulties have been experienced in dealing with and utilising readily, economically, and inoffensively the liquid house refuse of villages and towns, as with that of separate houses, and from the same causes, the ordinary insignificance and occasional irregularities of flow. To meet these difficulties Messrs Bailey Denton & Field have designed a tank termed by them "The Automatic Sewage Meter," which is constructed on the same principles as Mr Field's self-acting flush tank. This meter



See description on pages 153 and 154.

provides for the accumulation of the liquid refuse and for its automatic discharge, at definite intervals, in quantities admitting of distribution over land by gravitation, for purposes of irrigation. A meter of this kind has been in use about three years in the hamlet of Eastwick, near Leatherhead in Surrey, and its operation, particularly as part of the sanitary arrangements of the village, may there be studied very usefully.

Eastwick is a hamlet of thirteen houses, including the mansion of the proprietor and the farm homestead; and it has a population

of about 145. In devising a system of excrement and slop disposal for the place, any general plan of water sewerage had to be set aside, the water supply derived from wells being variable in quantity and at no time too abundant for ordinary domestic use, irrespective of water-closets. The common privy was retained for the cottages, but the privy pit was converted into a water-tight receptacle beneath the floor of the closet, and the cottagers were instructed to throw into it above the excrement the refuse ashes, and to remove the contents of the pit monthly for use in their gardens. Four water-closets exist, and five earth-closets, for the use of the mansion and its precincts ; and one water-closet and three earth-closets for the use of the farm homestead. To provide for the liquid house refuse of the hamlet and for the drainage of the farm buildings, a scheme of sewerage was carried out by Mr Bailey Denton, which has an outlet in a meter tank. This tank is in two compartments, to admit of cleansing without entire disuse. It has a capacity of 500 gallons, and it fills and discharges in ordinary dry weather three times in two days. The several discharges are directed successively on different portions of a plot of ground prepared for the purpose, and which, measuring 3 roods 3 perches, serves ordinarily for the effective and profitable utilisation of the whole liquid refuse of the several cottages, the mansion, and the farmstead. The drainage of the latter includes the flow from cattle sheds and stables, in which from 15 to 20 animals are always present, and about 30 head of horned cattle and 30 horses at intervals. The drainage of a large piggery also passes to the tanks.

Luxuriant crops have been grown upon the irrigated land, last year's crop consisting of the thousand-headed cabbage. Of this crop Mr Hutchinson, the steward of the estate, says :— "Besides thriving so well upon the sewage, it is an excellent food for milk cows, being less strong in taste than the drumhead, and not having any but a good effect upon the milk. The thousand-head can also be used as human food. I estimate the value of the crops obtained at £25 per annum, or at the rate of £32 10s. per acre, and the outlay in attendance upon the land and the regulator ('meter') I put down at £7 16s."

Mr Bailey Denton has furnished the following statement of the cost of the works above described, including the "meter" and the preparation of the land, and he remarks upon this statement

that:—"The yearly return, after deducting the cost of attendance upon the sewaged land and regulator, cannot be less than £17 per annum, so that already a return of about 5 per cent. on the outlay is gained, while there is every prospect of increasing that return, as the quantity of sewage dealt with becomes greater, and its treatment becomes better understood."

EASTWICK SEWERAGE.	£	s.	d.
To payment for labour, ...	179	4	0
„ „ pipes, ...	103	7	2
„ „ stone, lime, cement and sand,	12	14	0
„ „ iron and lead work, . .	20	5	1
, „ carriage of materials, . .	1	9	1
Travelling and incidental expenses, . .	3	12	0
	320	11	4

In regard to abatement of slop nuisance, and it may be added also largely of farm nuisance, among a rural community, the arrangements at Eastwick are the most complete and satisfactory that Mr Radcliffe had seen. Notwithstanding the contiguity of the irrigated land to the mansion, no nuisance is experienced from it, whereas previous to the present arrangements, when the slops of the mansion and cottages found their way into the neighbouring ditches and decomposed there, considerable nuisance had existed.

As the treatment of the slop water and urine may so far be treated together, we will finish this branch of the subject by mentioning two other plans in use at different places, as there may be cases in which one or the other may be found more feasible than the foregoing. Thus, in one convalescent hospital, where the dry-earth system is in force, the refuse sink-water is drained into a carefully-made cesspool, easily accessible for a cart. The contents of this cesspool are pumped out and removed daily, being used by a

market gardener as manure. Another plan is to run the sewage into proper earth-tanks, when all smell is avoided, and the soil is enriched in a slight degree. Dr George Wilson writes on this point, and recommends the following simple plan for adoption, having himself tried it with success :—

"I recommend that the sewage, if it be possible, should be purified by irrigation or sub-irrigation, and, failing these, that it should be filtered through a sand and gravel filter of sufficient size, and on the intermittent downward filtration principle. In some localities, where the soil is porous, the outfall drain may be carried alongside a field ditch of lower depth, and the soil between will act as a ready filter. Indeed, in purely agricultural districts the various expedients which might easily be adopted, are so accessible, so to speak, that in the great majority of instances there not only need be no difficulty in treating them efficiently, but, if properly utilised, they (the village slops) will pay a fair return to any farmer who is public-spirited enough to take them."

As regards the kitchen refuse (potato-peelings, cabbage-leaves, &c., &c.), many people in the country will be only too glad to buy and remove it for their pigs. One condition should be made with them that they remove it daily at a stated time. It may be shot from the kitchen into a properly made receptacle, so ventilated as to prevent the return of bad air into the kitchen, and having an opening outside by means of which it can be emptied from the exterior.

A properly contrived bin for ashes will also be needed. These will be found very useful for repairing the walks in the kitchen garden; or, mixed with earth and sifted, they may be used for the earth-closets. The cinder-sifters invented by Mr Fox of Cockermouth and Dr Bond of Gloucester are recommended for adoption. The drain-pipes, waste-pipes, &c., will want careful attention, especially if it is determined to make use of an old building. We must carefully inspect each to see that it is properly trapped; that it runs outside the building, in such a position that it can be easily inspected; that the joints are perfect; that it is disconnected from the sewers by ending over a trapped grating; and that it is properly ventilated by a pipe carried above the roof. The overflow pipe from the cistern will require special attention.

We may almost consider after all, that a country cottage or farmhouse, with a small piece of kitchen garden, ought to be more easily and economically managed, as regards the utilisation of its sanitary products, than in the case of the complex machinery required in dealing with large towns. Thus we first utilise the rain-water; next the fæces and urine, by mixing them with earth, and employing them as manure in the garden, or by selling the produce to the neighbouring farmers; the kitchen refuse again makes a valuable food for pigs, and the ashes are used up in repairing the garden walks or for the earth-closets. What then remains? Nothing but the bath and slop-water, which can easily and scientifically be

got rid of by the means described, if it is allowed to flow with the other liquid sewage into Denton and Field's tank.

We will conclude with some remarks on the subject of slops quoted from Dr Wilson's little book, which ought to find its way into the hands of every country medical practitioner :—

"Coming now to the question of the disposal of liquid refuse, I would premise at the outset that whether slops are or are not sewage in the legal sense of the term, they often give rise to serious nuisance, and by polluting wells or other source of water supply, they are frequently the cause of serious illness. They must, therefore, be disposed of in some satisfactory way. It has been assumed that, if you prevent any admixture of excremental filth, slop-water is comparatively harmless, and may be allowed to flow into a canal or water-course without detriment. But there is one instance in my own district (Mid Warwickshire) in which, apart altogether from nuisance, a canal company has obtained an injunction against a rural sanitary authority, for silting up a part of the canal with the deposit of slop-water from a village which discharges into it; and there are several instances in which I have considered it imperative that village slops should be purified before they enter streams which are used as sources of water supply below the villages."

We quote the above paragraph in proof of our assertion, that the old notion with regard to the harmless character of slops, and the trifling importance,

from a sanitary point of view, of any special care being taken as to their disposal, is disproved by experience. And since of all people the cottage hospital managers ought to be as perfect as possible, so far as the sanitary arrangements of their institutions are concerned, they ought to be very careful not to fail in this respect by a too easy disregard of trifles, wrongly so called. Should the cottage hospital be isolated, and means of drainage of a complete character be consequently deficient, the slops should be kept in one of Field's siphon flush tanks, from which they can easily be transferred for use in the garden. Dr Bond's precipitating slop-tub can also be recommended with confidence, as by its means the slops are sure to be properly filtered.*

* For fuller details on many points connected with this chapter we can confidently recommend Mr Eassie's admirable little work on "Healthy Houses," or Dr G. Wilson on "Sanitary Depôts in Villages."

CHAPTER V.

THE MEDICAL AND NURSING DEPARTMENTS.

Medical Department.—Advantages of Cottage Hospitals to country practitioners and their patients—Mutual advantages to consultants and general practitioners—Economy of time and labour of country doctors—Appointment of a medical director—Its advantages—Duties of medical director—Professional intercourse brought about by Cottage Hospitals—Cottage Hospitals as feeders to general hospitals—Rules applicable to medical staff. *Nursing Department.*—Systems of nursing in force—Maintenance of regular supply of competent nurses—Cottage Hospitals must train their own nurses—Ample field for the establishment and working of such a system—Working matrons—Ladies' Committee—Nursing institutions attached to Cottage Hospitals—Different kinds of nurses—Trained nurse—Married couple—Woman from village—Nurse from county hospital—Advice and suggestions to nurses.

The Medical Department.

THERE cannot be, and, we believe, there is not at the present time in the minds of the medical profession generally, any doubt that the establishment of the cottage hospital has been in every way a decided advantage to the country practitioner, and to that portion of the public who reside in country districts. To the one, it has given increased experience and a greater reputation amongst his patients. To the other, it has secured the constant residence in the vicinity of a class of professional men, who, thanks to the cottage hospital, are able

to bring in the hour of sickness a skill and a ripe experience, which must tend to strengthen the tie which necessarily exists between practitioner and patient. Nor do we consider that the country practitioner and the country resident have alone benefited by the cottage hospital movement; for we find that it is not an uncommon practice amongst the staff of these small hospitals to invite the surgeons of the county hospital to meet them in consultation, before deciding upon an operation in difficult cases. Thus the name of the town surgeon becomes familiar throughout the county in which he resides, his reputation is proportionally increased, and his practice is thereby extended, at a much more rapid rate than formerly. As a natural result of this state of things, country people are beginning to have more faith in their own surgeon, and are gradually being persuaded that, after all, if one has to undergo an operation, it is much better to have it performed at home, by one of the country surgeons, with all the advantages of pure country air and complete quiet, than to secure the services of the most eminent surgeon, if, in order to do so, it is necessary to take up one's residence in London, with all its attendant disadvantages. Although, at first sight, this may seem to be likely to reduce the income, and to lessen the reputation and fame of the urban surgeons, we doubt if it will not rather prove the means of building up a greater reputation amongst those very members of the profession. The country surgeon will not feel justified, even under

the most favourable conditions, in taking the entire responsibility of the difficult cases which occur amongst the wealthiest of his private patients, without first obtaining the opinion of some eminent specialist. If mutual confidence and esteem are shown on all occasions by the consultant to the country practitioner, and *vice versâ*, we do not hesitate to say that in the end the profession and the public will alike benefit. We hope, however, that the consultants in London and in the large provincial towns will be very careful to guard and uphold the reputation of the country surgeon. We regret to find that there is a growing feeling amongst the profession in the county towns and country districts, that it is scarcely safe to send a really good patient to a London physician or surgeon, because it so frequently happens, that, instead of being examined, and the result of the interview communicated to the medical man who sends the patient in the first instance, patients often leave their former attendant, and remain as the permanent patients of the consultant. We have felt it our duty to state this impression of the country practitioner very clearly here, because we have been surprised and pained to find this feeling so widespread and deeply rooted. We believe, however, that it has its origin in a misunderstanding on one side or the other; and we think that the mutual desire to benefit the patient, which we are sure always exists on both sides, ought to prevent the growth of such a feeling, and to create one of mutual confidence and respect.

On another ground, the country practitioner is a distinct gainer by the cottage hospital. It economises his time and labour. The great difficulty with which a country doctor has to contend, is the wide area he must cover in the course of one day's round. In bad cases, when more than one visit is necessary in the course of the day, the same ground has to be traversed twice, however carefully the visits may be managed. Now, however, it has become the rule at the majority of cottage hospitals, to appoint one member of the staff, either permanently, or (where more than one practitioner resides in the village in which a cottage hospital is established) two or more in rotation for a certain number of weeks or months, whose duty it is to look after all the cases in the institution that require special care, and to give him the title of medical director or medical officer. By this means, when a severe case, requiring constant attention and frequent visits, occurs in the practice of a country doctor, it is as a rule removed to the hospital, and thus all difficulty and anxiety of the specially harassing kind before alluded to is obviated.

It will be seen from the foregoing remarks, that the cottage hospital must be situated in close proximity to the residence of the medical director having immediate charge of the patients, or many of the advantages which it ought to afford to practitioner and patient, will be lost. In this way much time and labour will be economised, and from the constant supervision of the chief official, the utmost

order, method, and regularity will be guaranteed. It might at first sight be thought that the selection of one out of several members of the medical staff for this specially honourable and responsible post, would cause a feeling of jealousy or discontent amongst his colleagues. This is not found to be the case in practice, and a moment's thought will show the reason. If some such arrangement for constant medical attendance were not provided, each medical man who had a case under his care in one of the wards, would be compelled to visit his patient, when seriously ill, two or three times a day, no matter how distant his residence might be from the hospital, and thus half the advantages offered to the profession by a well-managed institution would be lost. Where a medical director is appointed, he really is the house-surgeon for the time being, and discharges precisely the same offices for the patients under the care of the other members of the staff that the house-surgeon does for those of the honorary physicians and surgeons at the largest general hospitals. The duty of the medical director is not to initiate new systems of treatment for any but his own patients, but to carry out the wishes and views of his colleague, who would visit his own patients daily, and order any alterations which he may deem necessary or advisable. It will be seen that the duties of a medical director require considerable sacrifice of time, and the exercise of much tact on the part of the gentleman who holds this office. We

think it would be advisable, where practicable, that the junior member of the staff should fill this appointment, because he would have more time on his hands, and, being fresh from the schools, in all probability he might be able to suggest valuable alterations in the regulations and arrangements of the cottage hospitals. A precedent for this is afforded by the long-standing practice of the general hospitals in large towns, where it is the invariable custom for the junior member of the staff, whether physician or surgeon, to be appointed to the post of honorary secretary to the medical board, in which capacity he has to discharge all the routine work connected with the keeping of the minutes, the conduct of the correspondence, and so forth. In the cottage hospital he would, of course, be responsible for the proper keeping of the case-books, the ordering of drugs and other medical appliances, and, in the intervals between the visits of his colleagues, would act for them as their deputy, would carry out the details of treatment, and at the same time attend to the immediate requirements of all the patients. In this way, and under this system, much mutual confidence and good feeling have been engendered amongst the members of the profession, and an unanimous accord, on all important points, is thus secured.

Another advantage which the cottage hospital has secured to the profession in country districts is, that it has brought about a better feeling amongst *all* the medical men, as well as amongst the actual staff of

the hospital, by affording neutral ground upon which all can meet for consultation and mutual intercourse, without loss of dignity, or any other disadvantage. In addition, an opportunity is offered to every practitioner, whether he be an honorary medical officer of the institution or not, to follow up his treatment with the aid of good nursing and a liberal diet,—for all members of the profession are at liberty, in most cottage hospitals, to treat the patients they may send to it, should they express a desire to do so. On these points Mr Edward Crossman, of the Hambrook Hospital, in his address to the governors, after some years' experience, says—"This professional intercourse is not the least valuable point of the cottage hospital system to the medical profession in the country. For the most part practising each in his own district, without much time for social intercourse, and accustomed to act upon his own judgment and responsibility, a feeling of distrust and jealousy too often springs up, which in most cases only requires for its removal more frequent professional communication. The neutral territory to be found in the village hospital, is the starting-point for that neighbourly feeling and action which promotes the interest of the profession as much as that of the public, and the consultation held over the hospital patient is often the commencement of cordial co-operation in private practice." This is valuable testimony from a practical man of considerable experience. When it is remembered how often jealousy and mutual distrust prevail amongst members of the profession in small country

places, its value will be fully appreciated. Indeed, this testimony of their value to the profession at large ought to lead to the establishment of many other cottage hospitals throughout the country, for wherever an institution of this kind has been successfully started, there do we find the best possible feeling amongst all the members of the profession. The reason, of course, is that each member soon finds the value, nay, the necessity to himself, of his neighbour's co-operation in the more difficult cases, and this professional intercourse soon leads to more cordial relations in all respects. If the cottage hospital has only accomplished this, it will have earned its way to a place amongst the most valued of our public institutions.

Another point strikes us as being worthy of note here. It cannot be doubted that the cottage hospital not only saves many lives, and relieves the patient from much suffering, by placing a hospital within easy reach in severe cases of accident, but it further serves as a feeder for the general hospitals in large towns. We have met with many instances in which the patients have been sent by the staff of a cottage hospital to the larger county infirmary, because they desired a further opinion in a difficult case. Of course, here the town surgeon has the benefit of receiving a correct and detailed account of the patient's previous history, and the treatment which has been adopted, and he is thus enabled to form a more accurate opinion concerning the actual condition of the patient.

This is no slight gain, and it should commend cottage hospitals to the support of the staff of the larger institutions. The rules which are applicable to the medical staff are usually very brief, and the following may be accepted as embodying all that is included in the bye-laws of the majority of cottage hospitals established to the present date :—

"No gentlemen shall be eligible for the office of medical officer, unless he be legally qualified, and duly registered, to practise under the Medical Act." "The medical officers shall be elected by the governors and shall have entire control over the medical management of the hospital." "They shall report to the committee, and shall act in concert with them for the good of the institution." "Any legally qualified medical practitioner residing in the district, shall be allowed to attend cases sent by him to the hospital." "Each of the medical officers shall act as house-surgeon for a week (in rotation), and during such time shall take the general medical control, and in the absence of the other surgeons, shall, at their request, or, in cases of emergency, without it, attend to their patients." "The house-surgeon shall have power to admit any case at his discretion, and shall continue his attendance on all cases admitted during his week of office, unless such are sent to the hospital by another surgeon; but each medical officer shall attend cases sent to the hospital on his own recommendation." "The surgeons are not expected to find drugs nor any surgical appliances, and they shall

make application to the house committee for any articles they may require, which are not in stock."

The rules in force at Crewkerne are really excellent, and are well worthy of the attention of cottage hospital managers. Much may be learnt by reference to them, and many valuable hints obtained from their perusal. On the other hand, the rules at Enfield require revision, as we can hardly believe that any medical officer, who gives his services gratuitously, will consent to be "removable by the committee *at their pleasure*." We feel sure the rules at this hospital have been hastily drawn up, and that they will be modified without further remark, so we refrain from criticism here. On the whole, the rules in force at cottage hospitals, so far as we have been able to examine them, deserve commendation for the moderation and good sense evinced, and may be taken as evidence of the excellent understanding which exists between the lay committees and the medical officers.

The Nursing Department.

As regards nursing we have endeavoured to make our remarks as practical as possible, and with this object have divided the different nursing systems in force at the various cottage hospitals into two principal divisions, and have classified each hospital under its own proper heading. Thus we have as a first division those hospitals where there is one sole head over the nursing department answerable to the Committee.

This system is worked in three different ways in the cottage hospitals now open, viz:—

1. Where there is a lady superintendent or matron, with one or more nurses to assist under her.

2. A lady superintendent or matron, with a nursing institution attached to the hospital.

3. A head nurse in charge who has the entire control of the nursing and household arrangements, comprising the ordering of goods, provisions, &c., and the general control of the ordinary expenditure for hospital purposes.

In the second division we have the nursing arrangements and domestic management under the control of a Ladies' Committee, who visit the hospital regularly, and have complete control over the nursing staff, as well as over the general arrangements. Of this system we have three varieties, the two first of which are favourably spoken of, but the third is now considered obsolete.

1. A working matron in charge of the nursing and household generally.

2. A trained nurse in sole charge.

3. A nurse who has to attend to the hospital when there are cases in it requiring attention, but when not employed in this capacity, she is allowed, and indeed expected, to visit and to nurse patients at their own homes. We may say of this last variety at once that experience has proved it to be impracticable, and Mr Napper, who was a warm advocate of it when he first started his hospital, has now been convinced that it is a system which cannot be made to work satisfac-

torily, and ought to be discouraged, in the interests of the cottage hospital patients and of all concerned.

At several cottage hospitals special systems of nursing and domestic management have been tried, which may broadly be comprised and explained under the following two headings:—

A. When the nursing and general management is undertaken by a sisterhood or church guild without any remuneration. This is the case at Middlesborough (30 beds), Walsall (30), Surbiton (8), Warminster (7), and Ditchingham (21).

B. When the management in all respects is undertaken by a resident lady superintendent, who supervises all departments, and more often than not, supports the hospital entirely, or partially at her own expense.—Scarboro' (10 beds), &c.

It will thus be seen that almost every known system of nursing has been tried in cottage hospital management, and that several original schemes have been instituted also. We have drawn up a tabulated statement showing at a glance the different systems in force, and classing each hospital under its proper heading. Before going into detailed explanation of this table we wish to say something on the most difficult feature of this question, viz., how to maintain a regular and never failing supply of thoroughly competent and efficiently-trained nurses for cottage hospital purposes? In considering this question we cannot do better than to glance for a moment at the systems in force at general hospitals, and see if the experience thus gained from the

larger hospitals may not be turned to advantage in the case before us. We find by inquiry that the universal opinion in respect to trained and efficient nurses is this.—First, that at the present time the number of training institutions is so few that they are not only unable to provide trained nurses for the general hospitals, but are also quite inadequate in their number and scope to supply the demands made of late years, by the general public, for trained nurses for private cases. In this dilemma, what have the best managed general hospitals done? They have established a special training department of their own in each institution, for the purpose of supplying their own necessities in this respect. They have found by experience that the mere offer of high wages and great or even special privileges, does not command an adequate supply of genuine and efficient nurses. The reason is obvious,—competent nurses are found to be very valuable to the institutions where their merits are known, and where probably they first obtained an efficient training. Consequently, when once the services of an intelligent, reliable, and efficient nurse are secured by the managers of a hospital, they will increase her wages to any reasonable extent rather than lose her. Hence it is proved by experience that when a thoroughly trained nurse leaves her *alma mater* and applies for another situation, as a rule, she has proved a failure on one or more points of temper, sobriety, reliability, or the like, or she would never have been allowed to leave the service of the institution

in which she was first trained. Here let us say that the mere consideration of £1 or £2 more or less in wages must not be weighed where valuable services are at stake, as it is better to pay good wages for good service than illiberal ones for inefficiency or indifferent service. What is to be learnt from the experience of the larger hospitals? Clearly, that if cottage hospitals are to be supplied with a never-failing staff of efficient nurses, they must train their own. Of course this statement will at once be met with the objection that the field being so limited, no scope is allowed to cottage hospital managers in this respect, and therefore such a system must be regarded as an impossibility. Is this really so? Let us see for ourselves. A trained nurse, as such a term surely implies, must for cottage hospital purposes be something more than a good nurse. She must be able to look after the housekeeping and domestic arrangements in the absence of the lady visitor, and must, in addition, be able to take charge of the hospital during the absence of this officer and the medical attendant. Here, then, separate and extra service is required, which will entail the exercise of much tact and patience, combined with good educational advantages. How are the services of such a person to be invariably secured? By self-denial and patience on the part of the medical man, and by a slight alteration in the existing arrangements of the cottage hospital as at present constituted. Thus, at each cottage hospital there is invariably a nurse, with more or less training, who is more frequently than

not called the matron, and an assistant nurse, or servant, or assistant, whose duty it is to carry out the instructions of the nurse, and to help her, as she may direct, in the daily management of the hospital, and in the nursing arrangements. Why should not this system be modified so as to ensure that each cottage hospital matron might have under her direction, in the position of assistant nurse, a young woman of good abilities and education, who, with the assistance of the medical officer, could easily be made competent in a year or two to take entire charge of the cottage hospital, should anything happen to the matron or trained nurse?

Cottage hospitals, it is true, do not afford sufficient scope for training a large number of young women as nurses at the same time, but they afford an ample field for the establishment and successful working of a system like this. There never was a better time for making this experiment than at present. Recent experience in our own case, where an advertisement in the county papers, addressed to farmers' and tradesmen's daughters for probationer nurses, has produced a large number of competent young women, who have been eager to embrace such an opportunity of learning an useful art, and of earning a good living, has proved beyond doubt that in nearly every village, certainly in every country district, this class of person, able and willing to come forward in such a cause, is to be found. Why, therefore, do not cottage hospital managers embrace such an oppor-

tunity, and train their own nurses? By such a system the homeliness of the cottage would be secured, for the nurse would be well known, and respected for her parents' sake by the patients. The difficulty of finding the right person, when suddenly required, would soon disappear, and a cottage hospital manager could recommend a nurse so trained to fill the vacancy which might occur in the neighbouring hospital. Of course there will be difficulties to overcome in this, as in all things worthy of accomplishment, but a little tact and patience on the part of the medical officer will ensure the speedy and successful adoption of such a system. Surely if the vicar's wife and daughter take sufficient interest in the working of the cottage hospital to render it a pleasure to them to give up a portion of their time each day to its service, the farmers' daughters will with equal willingness embrace the opportunity here afforded of learning nursing and general management in the same cause, especially as the latter have in large numbers recently embraced the profession of skilled nursing as a pleasant means of gaining a livelihood. Here, we are convinced by actual experience, is a practical solution to a difficult problem. A few years' trial will prove how excellently it will work. If it has been found practicable to secure the services of farmers' and tradesmen's daughters to fill the vacancies on the staff of county or metropolitan hospitals, how much more easy will it be to obtain such assistance on the spot! Many parents, who would object to let their daughters leave home to

take service in a large town, would gladly let them learn nursing at the village hospital,—certainly quite as gladly as they now permit them to be trained as pupil teachers in the village school. To the medical officer such a system as this must at once enlist his favour, for having trained the working matron of the future himself, he will have the advantage of knowing that in his absence the patients are in perfectly competent and skilful hands. To the young women themselves, whom we here propose to secure as cottage hospital matrons, we would wish to point out that if they avail themselves of this opportunity of earning a competency, they will not only benefit themselves, but will in addition have the gratification of realising that they are doing the Master's work. There need be no false pride about the matter. Were Miss Florence Nightingale and Miss Jones of Liverpool, both ladies of birth, education, and position, ashamed to devote the best part of their lives to such a work as this? Certainly not. Is there a more honoured name amongst the women of England, or one that carries greater weight in all philanthropic enterprises, than that of Florence Nightingale? With such examples, such opportunities, and in such a cause, will not every young woman who has nothing specially to keep her at home, gladly come forward and aid in the good work we have shown her she can well and suitably undertake?

Before passing on to consider the various forms of

nursing, we would draw attention to the very meagre details given in most of the reports concerning this branch of our subject.* In the following analysis the facts are given as nearly as possible, but in many cases the subject is barely mentioned, and we are driven to act by inference on the few words dropped here and there throughout the report. It was our intention also to draw a distinction between those hospitals in which trained nurses were employed and those in which some local person was taken and partially trained for the work, as advised by Mr Napper. This design, however, is found to be quite impracticable. Why? Becauset he reports are silent upon this and nearly every other administrative subject Let honorary secretaries remember that each can learn from the other by a frank recountal of difficulties overcome. The nursing of cottage hospitals is a subject surrounded with interest. Its success means the removal of an amount of unnecessary suffering from amongst the poor too serious to think of with patience. By all means let there be an annual statement of the progress and condition of the nursing department of each cottage hospital. Without this the reports are of comparatively little value. With it each cottage hospital report will contain much valuable information upon a subject of great public interest.

* We strongly urge the managers in future reports to give a short explanatory statement of the way in which their arrangements are carried out.

Nursing Table, showing systems in force at all the Cottage Hospitals.

The number after the name of each hospital signifies the number of beds.

Section.	Sub-Sections.	Names of Hospitals.
A. One sole head over the nursing answerable to the Committee.	I. Where there is a Lady Superintendent or Matron with one or more nurses under her.	Southampton, Charlton (10), Yeovil (20), Ashford (10), Warminster (7), Cirencester (9), Driffield (6), Wisbeach (16), Speen (6), Charlwood (4), Tetbury (8), Bovey Tracey (6), Melksham (5), Mansfield Woodhouse (12), Coleford (6), Tenbury (7), Bourton-on-the-Water (8), Reigate (14), Moreton (unpaid matron) (7), Bromyard (5), Bromley (8), Frome (11), North Lonsdale (30–40), Shaftesbury (7), Warwick (5), Clevedon (11), Guisboro' (20), Sudbury (10), Savernake (22), Redruth (30), Jarrow-on-Tyne (11), Rugeley (12), Congleton (8), Boston (12), Sherborne (21).
	II. Having a Lady superintendent or Matron, with a nursing institution attached to the hospital.	Oswestry (12), Ellesmere (12), Middlesborough (30), Longton (30).
	III. Where a head nurse is in charge who has the entire control of the nursing and household arrangements.	Fairford (8), Petersfield (6), Royston (8), St Albans' (8), Tewkesbury (10), Ilfracombe (16), Malvern (12)-Hambrook (6), Crewkern, (13), Lytham (10), Hatfiele (8), Bournemouth (8), Lynton (5), Luton (11), Capel (10), Ruabon (6), Seacombe (10), Chalfont St Peter (6), Shepton Mallet (12), Ledbury (4), Seaforth (2), Dorking (15), Ealing (12), Milton Abbas (7), Wallasey (10), Devizes (6), Purton (5), Stony Stratford (6), Iver, (7), Llangollen (6), Mildenhall, (8).

NURSING TABLE—*Continued.*

Section.	Sub-Sections.	Names of Hospitals.
B. The ladies' Committee take charge of the nursing Staff and Hospital arrangements, together with the control of the necessary expenditure.	I. Having working matron in charge under their supervision.	Dingwall (8), Wells (6), Buckhurst Hill (5), Dawlish (8), Petworth (8), Ulverstone (12), Hayes (5), Lloyd (11), Dunster (7), Trowbridge (6), High Wycombe (8), Tenby (7), Shedfield (8), Harrogate (6), Walker (16), Wimbledon (9).
	II. Having a trained nurse in charge under their supervision.	Bridport (8), Margate (9), Rugby (12), Newton (8), Beccles (9), Chesham (7), Market Rasen (6), Woodford (6), Hillingdon (4), Epsom and Ewell (10), Alton (7), Leek (10), Newick (6), Stratton (6), Litcham (7-8), Enfield (7, and 2 trained nurses), Ashburton and Buckfastleigh (8), Holmesdale (10).
	III. Having a nurse who attends to the hospital, and who when not required is sent out to nurse the sick in the village.	Wirksworth (7), Cranleigh (6), Fowey (8), Worksop (5), Cromer (8), Dinorben (4), Stratton (2d nurse), Charmouth (3), Bangor (4).

Let us now study our table. It will be seen at once that the nursing department may be broadly divided into two chief classes on the basis of its superintendence; (A) into those having a lady superintendent or matron at their head; (B) into those presided over by a committee of ladies. Let us leave

minor considerations for a time, and discuss which of these is the better arrangement.

If we take the cottage hospital proper, and limit it to one having less than 20 beds, we may certainly conclude that a matron for this class of building is unnecessary,—that is to say, if we use the word matron in its strict sense. Thus, we would define a matron as a person answerable only to the committee, who has the ordering under the medical officer of the proper food and stores, and who has entire superintendence over the nurses, &c. Such a person at the most can only be of use in the larger sized cottage hospitals of 20 to 25 beds, and in no respect would her duties differ from those of the ladies' committee, while by assimilating the nursing arrangements to those of the county hospitals, it would do much to destroy the home-like character of the place. Such a person would probably require her own room, meals, &c., and would hold herself more aloof from the patients than would be desirable. It is only fair, however, to say that the word "matron" throughout most of the reports, rules, &c., is often used as synonymous with nurse, and it may be urged, that our class of matron, as defined above, is not at all like the class employed in cottage hospital work, which belongs to the order of working matron or head nurse. Our reply to this must be that such a matron ought to be placed under our third heading of class A. This arrangement we consider even more mischievous than the former, for we hold strongly

that no nurse ought to have almost unlimited control over the expenditure of money, ordering of stores, &c., with only the supervision of the ordinary committee of management, who obviously cannot in most cases attend regularly enough to check her doings, if occasion should arise for such a course. We must advise that in all cases some responsible person or persons accustomed to domestic arrangements should be at the head of this department of the institution, as a link between the nurses proper and the committee; and in our opinion for the cottage hospital the ladies' committee will be found the best medium, especially as it is one which has been adopted and found to work well in many cases. The system of having an unpaid matron as at Moreton, forms a sort of connecting link between this and the fourth class, and may perhaps be made an exception; but simply having a matron with a salary of £25 to £35 a year, as is the case at many of these hospitals, is a serious drain on the resources, whilst all the advantages can be obtained by means of a ladies' committee, with probably a less number of disadvantages. Though, then, we find that the larger number of cottage hospitals belong to the first class, we cannot think it is so advisable an arrangement as placing the nursing department under the supervision of a ladies' committee. For a hospital of 20 to 25 beds, the best idea, in our judgment, would be to have a ladies' committee of superintendence, with two nurses, one on the male side, the other on the female side, and

with such assistance for household and kitchen work as may seem advisable; whilst for the smaller hospitals, one nurse under such committee, with assistance, would be the only change required.

One other sub-class, that marked (II.) requires a little consideration. Is it advisable to have a nursing institution attached to these hospitals? We think not, for several reasons. (1) It is unwise to mix up several separate affairs with those of the cottage hospital; (2) it requires a proper superintendent, and much complicates the other arrangements; (3) there is not sufficient scope in cottage hospitals to train a number of nurses efficiently; (4) there are a number of training institutions throughout the kingdom, from which efficient nurses are sent to private cases; and since payment is required they will only be for the advantage of the comparatively rich, who will probably prefer to apply at once to a proper institution. At Stratton it has been determined to appoint a second nurse, whose chief duty will be to attend patients at their own homes. This is somewhat different from a nursing institution, and will probably be found to work well, that is if, as we presume, she attends poor people as a charity, not receiving extra payment from them. Not only will this be a great boon to such people, but in case of incapacity of the first nurse from illness or other cause at any time, another nurse will be at hand to supply her place, so that the work can continue without interruption. Such a plan forms a connecting link between

this class of nursing and that in vogue at Cranleigh and Fowey, possessing, however, in our opinion, all its advantages without any attendant drawbacks, as in those places.

We now come to the second division of our subject, and must consider the constitution of the ladies' committee. In every parish there will, we think, be not the least difficulty in getting a sufficient number of ladies to act. It must be an understood thing, however, that they are to attend regularly, and to supervise and advise the nurse in all domestic arrangements, limiting themselves entirely to this branch, or at the same time reading and giving instruction to such of the patients as may require it. A list should first be made out of ladies willing to act in this capacity, and they should then be requested to meet together and make such arrangements as may be convenient to them, by which one of their number may be enabled to visit the hospital daily in rotation, provision being made for occasional absences from illness or other cause. Perhaps the best arrangement in most cases will be that each lady takes it in turn to attend daily for a week at a time, the proper week being assigned to each, whilst one of their number acts as a supernumerary, to give extra visiting and assistance, or take the place of any other who may be prevented for a time from acting. Some ladies may be disposed to interfere in the medical arrangements, but this action must be immediately checked by the medical officer

before it assumes any shape, and such ladies must be given to understand that they are to limit themselves strictly to domestic arrangements. If any such tendency be quickly nipped in the bud, there will probably be no difficulty in the matter. In all cases the lady of the week must be accountable to the committee of management for the goods, &c., ordered by her during her term of office.

The rules of Harrow Cottage Hospital with regard to the ladies' committee are very fully drawn out, and are almost identical with the plan here recommended. They will be found on a subsequent page.

Let us next endeavour to decide which kind of nurse to choose. We must consider the working matron and nurse as synonymous terms, in speaking of this section B, since we find them so used throughout the reports. We may, then, probably divide the nurses at present employed at cottage hospitals into four divisions:—(1) The trained nurse from some institution; (2) the married couple with or without children; (3) a woman of the village who has had some experience in nursing, or who has been sent to a hospital for a time to acquire it; (4) a good nurse or assistant nurse chosen from the county hospital. No rules can be laid down for all cases,—in some, one kind, in some another, may be more useful, a great deal depending on circumstances, or upon a likely person being ready at hand. We will take each case shortly in detail and remark upon it.

(1.) *Trained Nurse.*—There can be no doubt that for nursing purposes this is the most efficient kind of nurse. In many cottage hospitals it has been tried; some of them have abandoned the other classes for this, and most of those who have tried it speak highly of its success. It will be almost essential to have one of these nurses, or one of the fourth class, in a hospital placed in a vicinity of large works, where bad accidents are likely to be of frequent occurrence, and operations may be required at any time; in fact, we do not see how in these cases such a nurse can be dispensed with. The only thing will be to choose a suitable person, and above all things, one who is likely to take an interest in her patients and in the institution. As a rule, such a nurse takes much pride in the quick recovery of her patients. The objection that she would probably give herself airs, and think herself much above the patient, must be regarded as theoretical. No nurse who takes an interest in her work is likely to act thus; it is an objection much more likely to apply to the class of "matrons," and we should always advise that it be one of the bye-laws (as is the case in some of these hospitals) that the nurse take her meals with the convalescents. The chief thing will be to get the nurse to take a pride and interest in her patients and their welfare, —a healthy state of feeling not at all difficult to cultivate by a little proper management. Moreover, the nurse, thrown on her own resources, will usually be only too glad to mix freely with the

patients, for the sake of some little society and recreation.

(2.) *Married Couple.*—There are only two instances mentioned to us in which this system is in vogue (viz., at Melksham and Ilfracombe), and here, too, under such circumstances as to prove that it can only be useful in exceptional cases. At Melksham is required a married couple without a family, and the secretary writes that they find it very difficult to get a suitable couple, as we should *a priori* have anticipated. We cannot, therefore, advise this plan; though, if a likely couple lived in the neighbourhood, and were willing to take charge, it might in rare cases be a matter for consideration; the man could help in the house and garden, and doubtless would in many ways be of great assistance. At Ilfracombe a trained nurse from St John's house was employed, but as she suited very well, and intended to leave for the purpose of getting married, the managers, rather than lose her services, allowed her to marry, and her husband to live in the hospital. The pair have since had two children, and the secretary states that the husband is "useful rather than otherwise." This, then, we may also regard as an exceptional case. There is one other condition under which we think a married couple might prove useful, viz., in the larger hospitals of 20 to 25 beds. Here there might be two nurses to attend to the patients while the wife looked after the cooking, washing, and other domestic affairs, and her husband could be employed in the house and grounds.

In several hospitals of this size, the want of a man about the premises has been much felt, and in some cases it has become necessary to make provision for such a person. Such a couple might live in the hospital or in a lodge at the entrance to the grounds.*

(3.) *A woman of the village with some experience in nursing, or who has been sent to a hospital for a time to acquire it.*—This class of nurse was at first highly extolled for the cottage hospital. Here the very idea of homeliness and cottage life was embodied. A good tempered, cheerful, homely body was to be immediately forthcoming in every village, ready to act as a kind of mother to the cottage hospital and its inmates. But in reality what are these country women? We will relate our experience of them. A common sort of monthly nurse (all monthly nurses are common), who has spent her life in learning, by the art of "simples," what is "good for" every disease under the sun. A person who has in her mind's eye a number of bottles filled with herbs, each distinctly labelled, not in the hieroglyphic style of the poor doctors, with their dog Latin, but in good old English characters, viz.: "This is good for the wind."—"This is good for the water."—"This is good for a burn," and so on, *ad inf.;* while at the same time she would not stop even at phthisis and epilepsy, having probably a diet good for the former, or a certain charm for the latter. Such a person, as a

* This system works well at Boston, where the married couple live in the lodge at the entrance to the hospital grounds.

rule, has not the least idea of method and regularity, and as to the regular administration of medicines, she probably pooh-poohs the very idea of the doctor doing the patient any good, and the moment his back is turned has recourse to her infallible herbs. If this class of nursing answers at all, it can only be in a very small country hospital, where operations and bad accidents are rare, and the cases are chiefly chronic. We have before said that these chronic cases, in our opinion, are not fit cases for a cottage hospital, but from the reports sent to us, we find that many hospitals are in the main supplied with such cases, and that debility, phthisis, and ulcers, figure largely in their return. This class of hospitals may be able to manage with such a person, but we shudder at the idea of a nurse of this kind being employed at a hospital like Chipping Norton, for example, where the secretary informs us that the cases are chiefly bad accidents from the pits, and that a recovery from double amputation of both legs is not the greatest of their successes. Fancy the arrival at the hospital of a man bleeding profusely, with his legs torn off, and the nurse declaring that cobwebs are a "good thing" to stop bleeding! Exceptions to the above may, of course, exist, but we do not think the monthly nurse can be trained, as a rule, for hospital duties, the notions of villagers on medical matters being crude and ineradicable. We should have been glad of information from hospitals employing this class as to their experience of them, but, as before

said, the details on this branch of our subject are of the most scanty kind.

(4.) *A good nurse or assistant-nurse from the county hospital.*—This class of nurse does not seem to have had any advocates before, but in our opinion she is a likely sort of person for the post. She would be trained in all practical details quite as efficiently as a nurse from some training institution; she would perhaps not be so likely to give herself airs,—a great drawback in some people's minds to the trained nurse; she would have acquired habits of order and regularity from the routine work of a well-managed hospital; she would, at the request of the medical officer, be in most cases chosen from the others by the matron as one specially fitted for the work; and last, though not least, she would probably be from the same district, belong to the same rank of life as the patients themselves, and be, therefore, able to sympathise and converse with them in their own peculiar county dialect. If the farmers' and tradesmen's daughters are to be utilised, they could be sent to the county infirmary, if thought desirable, as a sort of finishing school before completing their training.

The last class that demands our attention is that marked III. (section 2). It is one that can only be applicable to the very small hospitals; and though advocated by some strong supporters of the cottage hospital system, we cannot recommend it. Firstly, there will be enough work to employ the nurse in her hospital if it is kept in a neat and efficient state, even

should there be only an average of three beds, for there will be sewing, cleaning, mending, &c., to look after at odd moments. And, secondly, there is always the chance of a bad accident being brought in at any moment. Fancy the country doctor away on his rounds, the nurse gone off visiting, and a bad accident brought to the hospital. What a state of things would be presented, not only for the poor unfortunate patient, who is probably in a state of collapse, but also from the alarm and excitement that would arise among the convalescents! Experience has proved this class a failure, and so we need not further allude to it here.

Having thus given our views on nursing in general, suitable for cottage hospital purposes, and having explained in detail the different systems now in force, we shall conclude this chapter by giving a few practical rules and suggestions for the guidance of the nurse. Should any one desire to pursue the subject further, let them purchase a copy of "A Hand Book of Nursing for Family and General Use," published under the direction of the Connecticut Training School for Nurses, State Hospital, Newhaven, Connecticut. London: J. B. Lippencott & Co., 1880.

First of all let us impress upon the nurse, whether she be matron, trained nurse, or probationer, the absolute necessity for great self-control, self-respect, and self-reliance. Without these three qualities a trained nurse in charge of a cottage hospital would be almost as much out of her element as a bull in a

china shop; for with the great responsibilities which must perforce devolve upon the nurse in these small institutions, unless she be ready to meet all emergencies, to successfully grapple with difficulties, and to have perfect confidence in her own powers, she ought never to have taken office in a cottage hospital. Our advice to her would be as follows:— Acquire regular and punctual habits, avoid bustle or noise in the quick and methodical discharge of your daily duties, and above all things be sure to be neat and orderly in matters relating to your own dress and appearance. Always strive to anticipate the wants of the surgeon, learn his peculiarities in the way of treatment, and endeavour by a careful study of each case to acquire a habit of proper observation. By this means only will you be able to properly place before the surgeon on his rounds an accurate report of the progress of the case. Be firm but tender and considerate to your patients, and courteous to your superiors in all things, and on all occasions. When a visitor calls at the hospital, be he poor or rich, known to you or a stranger, always receive him with frankness, and be careful to answer any questions concerning the hospital with prompt and cheerful civility. Apropos of this advice, we may give a case in point. A gentleman recently visited a cottage hospital, and on entering the convalescent room he found that the nurse, arrayed in a crumpled apron, was peeling potatoes in a bowl placed upon the table in the centre of the room, whither she had

carried them from the kitchen, in order to converse the more easily with her assistant, who was engaged in dusting the furniture. She received the visitor with a surprised stare, and when asked if she would show him over the hospital, without addressing him, she said to her assistant, "Here, Sal, show the gent. over the building." Asked as to the patients, she gave vague and unsatisfactory answers, appealing from time to time to the probationer, who was evidently in mortal terror of this specially *trained* nurse, who still continued to peel the potatoes without restraint or apology. The hospital presented the appearance one might have expected; for though at first sight the wards appeared tolerably clean, if not over orderly, a glance under the beds showed an accumulation of dust, which clearly proved this woman to be a vulgar, idle creature. Yet she said she had been in charge for *nine* years. Finding it impossible to obtain any definite answers from the nurse, the visitor asked for a report, which, after much bustle and hunting, was found and presented. When the visitor asked for the committee book to inscribe his name, another difficulty was raised as to where it was just then, followed by a delay in each case before the ink, pens, and blotting-paper could be produced. When the nurse saw the name inscribed in the book, she was full of apologies. She became servile in her homage, and altogether so disgusted the gentleman in question that, having entered the hospital with a favourable impression of its work and the

mode in which it was conducted, he left it thoroughly dissatisfied by what he saw. Thus a valuable and influential supporter was lost through the neglect and incivility of the nurse. This is a true story, and it occurred not so very long ago. We only mention it to show how absolutely essential it is to these institutions that the head nurse or matron should be able to act up to the responsibilities of her position at all times with tact and good temper.

CHAPTER VI.

DOMESTIC SUPERVISION AND GENERAL MANAGEMENT.

Ventilation—Necessity of constant interchange of air—Daily inspection by head nurse—Flowers—Regularity in administration of medicines and of food—Diet—Family prayers—Bathing patients—Bed-making—Draw sheets—Patients' clothes—Uneaten food—Bed sores and their treatment—Administration of cod-liver or castor oil—Preservation of ice—Administration of alcohol—Treatment of accidents on admission—Treatment for a sprained ankle—Enemas—Poultices—Hot fomentations—Administration of food or medicine to semi-conscious patients—Fainting—Fits of different kinds—Frostbite—Foreign bodies in ear, &c.—Dressing burns—Hæmorrhage—Injuries to head—Operation room—Sponges.

IN the pages which compose this chapter no attempt has been made to exhaust the subject of domestic supervision or management of a hospital, since that would require almost a volume to itself. It is hoped, however, that the following notes, disjointed though they may be, will be of some service and profit to the reader.

Ventilation.—In the majority of the cottage hospitals, especially where a building has been adapted for the purpose, the chief means of regulating the ventilation of the rooms will be by the windows. It is by means of the windows that the greatest amount of ventilation will be obtained, if judicious

care be exercised. The nurse should always bear this in mind, and remembering the great importance attaching to the free circulation of pure air throughout the wards, she should, in spite of the remonstrances of her patients, who are sure to object strongly to the admission of fresh air, take care while keeping the temperature of the ward at from 60° to 65°, and never allowing it to exceed 70° (unless specially instructed on this point by the medical man in charge of the cases), that a constant interchange of air is, without fail, at all times kept up in every room. We were much struck with the pure atmosphere and airy freshness of the wards at Cranleigh Cottage Hospital, where, under great natural disadvantages, Mr Napper has, by impressing upon the nurse the necessity of keeping the windows *always* open about an inch or two inches at the top, secured almost perfect ventilation in small wards, in which the cubic space is far from ample, and where the structure of the building would, at first sight, seem to prohibit so great a desideratum as the constant supply of fresh air. Nurses must remember that in their vocation, above all others, it is of no use working by fits and starts, but with regularity and method. Let them apply this to the ventilation of their wards, and by avoiding the popular error of opening the windows top and bottom for an hour or so each day and then closing them till the next morning, and by insisting upon a constant supply of air being admitted to the wards through the space left at the tops of all

the windows, profit by the hints we have here given on this important point.

Daily Inspection.—It is very desirable that the head nurse should make a complete inspection of the whole of the hospital buildings at least once a day, and that she should more frequently inspect the lavatories and water-closets, to see that strict cleanliness is observed everywhere, and that the proper amount of disinfectants are being used. Care should be taken not to allow slops or other matters to be thrown down the closets, and if, as we advise, earth-closets are more universally adopted, this practice will, of course, be practically impossible. Still it is necessary to caution the nurse against the practice, which is far too prevalent, of allowing things of any description to be thrown down the closets. We have seen scrubbing brushes, tow, lint, poultices, flannel, wearing apparel, linen, knives and forks, and indeed almost everything, possible and impossible, discovered as the cause of an overflow into the ward owing to stoppage in the pipes connected with the water-closet. Have a proper place for everything, and a proper receptacle for all waste material, for by this means the wards will present an appearance of neatness and comfort which nothing else will ever give them.

Flowers.—In the summer, when possible, be sure to secure a constant supply of fresh flowers, which will add much to the cheerfulness of the wards, and to the comfort of everybody. In the winter a carefully-

selected bouquet of everlasting flowers presents a pleasing and effective appearance.*

Regularity in the administration of the medicines, and of the food ordered for the patients, should always be observed. A good nurse is known by the exact and faithful way in which she carries out the instructions given her by the medical officer. On the strict observance of these apparently trifling, though really very important details, the life of the patient and his ultimate recovery not infrequently depend. The nurse should avoid familiarity with her patients, and be scrupulously modest in all her dealings and intercourse with the male patients. *On her* the happiness and in no small degree the success and popularity of the hospital will depend; she should take care, therefore, that she is in all respects worthy of her honourable calling.

Diet.—It is a fact worthy of record, that in very few instances is any diet table or scale of diets given in the printed reports of cottage hospitals. We believe it has not heretofore been customary for cottage hospital authorities to have any fixed scale of diet. We think this is an omission which ought to be remedied; for proper diet, and good wholesome food in right quantities, and of the most suitable kind, is one of the great features of successful hospital treatment. In the hope that they may prove useful,

* Very tastefully-arranged bouquets of this description can be procured for a nominal sum at Messrs S. Dixon & Co., 34 Moorgate Street, London, E.C.

the following three diets are offered, not necessarily for adoption, but as a guide to the profession in this matter:—

Fever or Low Diet.

Bread	6 oz.
Milk	2 pints
Beef tea or Mutton Broth (1 lb. to oj.)	1 pint
Arrowroot	2 oz.
Tea	¼ oz.) for a pint
Sugar	1 oz.) of tea.

Middle or Half Diet.

Bread	8 oz.
Butter	1 oz.
Fish	6 oz.
or Hashed Mutton	3 oz.
Potatoes, mashed	8 oz.
Milk	1½ pint
Rice, Sago, or Arrowroot	2 oz.
Tea	¼ oz.) for 1 pint
Sugar	1 oz.) of tea.

Full or Ordinary Diet.

Bread	16 to 20 oz.	Cheese, or Gruel	2 oz.
Meat (cooked without bone)	7 oz.	Milk	¼ pint
Potatoes	12 oz.	Tea	¼ oz.
Butter	1 oz.	Sugar	1 oz.

Breakfast (7 *a.m.*)	*Dinner* (*noon*).	*Tea* (4 *p.m.*)	*Supper* (8 *p.m.*)
Bread 4 to 6 oz.	Meat cooked 7 oz.	Bread 4 to 6 oz.	Cheese 1 oz.
Butter ½ oz.	Potatoes 12 oz.	Tea ½ pint	Bread 3 oz.
Tea ½ pint (with Milk and Sugar).	Cheese 1 oz.	Butter ½ oz.	or Gruel or Oatmeal.
	Bread 4 oz.		

½ oz. of cocoa might be given for breakfast instead of tea. Rice pudding might be given for dinner alternately with bread and cheese. Eggs, poultry, beer, wine, and spirits, to be ordered by the medical officers. Condiments at discretion. Should Liebig's Extract be used for making beef tea, that made from the meat itself must be also made use of in turns with it. Gifts of vegetables, poultry, game, &c., will help to vary the diet.

Family Prayers.—With the consent of the chaplain and committee, we would suggest that each head nurse should every morning read prayers to all the convalescent patients and the assistants under her in the convalescents' sitting-room. This is an excellent plan, as it infuses a good moral tone into the whole establishment, and there is a great comfort and benefit to be gained by commencing the day

well. Besides, the cottage hospital presents great opportunities for doing good to many a wandering soul, and what can be more beneficial to nurse and patients, surrounded as they frequently are with the dying or the seriously wounded, than the daily assembling together before the labour and trials of the day begin, to offer up praises and prayer to Almighty God for all His benefits and loving-kindness? Depend upon it that such a line of conduct as is here suggested will only lead to good results, and will, if carried through with tact, be found a great comfort and benefit to all concerned.

Bathing Patients.—It is very necessary that patients should be kept perfectly clean, from the day they enter to the day they leave the hospital; and it should be the invariable rule to insist upon every patient taking a bath before he is put to bed on his first arrival at the hospital, unless there is some special circumstance which prevents such a course being pursued. In the case of a patient whom the doctor has ordered the nurse not to bathe, she should take the earliest opportunity, before he is allowed to be put to bed, to wash him as thoroughly as possible with warm water and soap. Unless this rule is strictly enforced it will be found impossible to keep the wards clean and free from many objectionable features, while the beds will soon become more lively than habitable. This, of course, will be found a difficult duty to efficiently discharge; but with firmness and tact it will eventually be got over. So deeply

rooted is the prejudice to soap and water inherent in certain of the poor classes of our population, that we have known patients more than once (in each case a woman) leave the hospital and reject all treatment rather than submit to be placed in a hot bath. This strong prejudice must be overcome at all hazards, and when once a patient is admitted to the ward, care must be taken that he frequently (two or three times in each day) washes his hands, and that he has a bath at least once a week. With such rules as these the patients will be happier, and the wards will be a credit instead of a disgrace.

Bed-making plays an important part in the daily routine of a nurse, as upon the careful arrangement of the pillows, sheets, and bed, depends in no small degree the comfort of a patient who is really ill, and his freedom from bed sores and like evils. When a nurse has a bad surgical case, with intermittent hæmorrhage or profuse discharge, she must be careful to keep a clean mackintosh constantly under the wound, and to place a draw sheet over it. By this means it will be easy to keep the patient clean and sweet, nor will it be difficult to frequently change the draw sheet as occasion may require. When it is necessary to change the bed-clothes of a bed-ridden or nearly helpless patient, the following will be found an easy course to pursue.—Having the clean sheet ready, roll up the dirty under sheet as close to the patient as possible, then half roll up the clean sheet, and place the unrolled half over that portion of the

bed from which the dirty linen has been removed. Then lift your patient on to this, and having removed the remainder of the dirty sheet and replaced it by unrolling the clean one, the patient will be made comfortable very rapidly, and with the least possible inconvenience. If the patient be too weak to be moved bodily, as we have suggested, it is not difficult to change the under sheet without lifting the patient much, providing the aid of an assistant is secured. With this method it is necessary to begin at the head of the bed, to gradually withdraw the dirty sheet and at the same time to replace it with the clean one, which must be rolled up and put in readiness at the head of the bed before the dirty linen is removed. With a little practice it is not difficult to do this quickly and without any discomfort to the patient In surgical cases, fractures, and the like, the patient will be able to grasp the bed-pull, and thus raise himself sufficiently to allow the sheets to be changed without any trouble or delay. It is unquestionably an advantage to be able to change the bed linen without bodily lifting the patient as the first plan necessitates, and we therefore recommend, for general adoption, the latter one in preference. The *draw sheet* is one of the most serviceable agents in the nurse's hands, to secure the double purpose of keeping her patient dry and protecting the bed. Her great object should be to keep her patient on a clean, dry sheet. Sometimes, as after lithotomy and other operations, the discharge is so constant that the sheet requires changing very fre-

quently, and it is of the utmost importance that this be done with the least possible disturbance. A soft old sheet having been folded to the required width (2 feet will generally be found sufficient), let the sheet be rolled up at one end, leaving just sufficient of it to pass under the patient's buttocks. When the sheet is wet draw it through from the side opposite to the one from which it was first passed under. To do this unroll just enough of the clean end to secure a dry piece under the buttocks. The soiled end may then be rolled up tight and pinned. In this way one draw sheet will be sufficient for several changes, and by pinning to it a clean one, a succession of draw sheets may be passed under a patient with a minimum of disturbance.

Patients' Clothes, and Uneaten Food.—No patient should be allowed to have his clothes anywhere near or about his bed. A proper locker should be provided for them, in which, when neatly folded, they ought to be kept. Unless the nurse is careful to insist upon the observance of this rule, her wards will always have an untidy appearance. At many hospitals it is an invariable rule to give the patient a suit of ward clothes, made out of old blankets or flannel, in which he is sent to the ward after having his bath on admission. All his clothes are then removed to the disinfecting closet, and are thoroughly fumigated and cleansed before they are allowed to be taken to his locker in the ward. When possible, this course should always be taken, and in exceptionally bad cases, the clothes should be destroyed and a new suit supplied to the

patient. In the evening, before turning out the lights, the nurse should carefully remove from the patients' cupboards all unconsumed food which she may find there, as it is not an uncommon case for patients to hide up their food, or a portion of it, for their friends. The writer has known instances of patients suddenly manifesting symptoms of *delirium tremens*, although they have been in the hospital for some weeks, when on inquiry it has proved that the man had saved up each day's allowance of brandy until he had secured a good supply, when he availed himself of the earliest opportunity of taking the whole quantity at one time. But apart from this, it must be remembered that food kept in the wards soon becomes contaminated with impurities to a greater or less extent, and hence the necessity of giving the patients their meals or diet at a fixed time, and the advisability on this ground also of allowing no food to remain in the ward throughout the night. It is impossible to hope for the recovery of a patient unless the orders of the medical attendant, in respect to both diet and medicine, are exactly obeyed.

Bed Sores.—Every experienced nurse is familiar with that most troublesome of pests, the bed sore. It will therefore be well to give a hint or two as to the steps which it is advisable to take to avoid them breaking out, where the patient has to submit to a long treatment in bed. It should always be borne in mind that they are caused by allowing the patient to lie for a long time in one position, and thus pro-

ducing continued pressure in one or two parts of the body. Very slight changes of position will do much to relieve the patient. It is not always possible to prevent the sores, but as a rule, they do not occur to patients who have the good fortune to be nursed by an experienced and careful woman. The first point to observe is perfect cleanliness, smoothness, and dryness, the sheets being always changed *at once* if the least damp or wetness is discovered. By the skilful arrangement of pillows, and the timely use of air cushions or water pillows, much can be done. It is not a bad plan to apply to the exposed parts, which should be lightly and carefully rubbed, an application of collodion, or a wash composed of two grains of perchloride of mercury to an ounce of spirits of wine, or some spirit (whisky or brandy for preference) and water.* *Emplastrum elemi* (Southall's) spread on white leather is an excellent application. If these precautions are taken, and the earliest symptoms of the appearance of a sore treated with care, the nurse may more often than not save the life of her patient, and thereby do greater justice to the treatment of the medical officer.

To give Cod-liver or Castor Oil.—Much trouble is

* The following is a very good lotion for painting over a *reddened* patch of skin before it has broken, with the object of preventing a bed sore. The tannin in the catechu acts like the perchloride of mercury, but the lotion possesses the advantage of not being so poisonous. Forming also a thin paste, it coats the skin with a slight film, thus still further protecting it.

℞ Liq. Plumbi Subacet. Dil.
Tinct. Catechu āā partes æquales M. ft. lotio

caused to the nurse at times by the obstinate refusal of patients to take the medicines ordered. Especially do they object to swallow oil of any kind. The best way we know of taking oil is to rinse out a wine glass with a little brandy, whisky, or other spirit, leaving one drop of the spirit at the bottom of the glass. Having done this, pour the dose of oil into the wine glass, and the spirit will roll the oil, so to speak, into a ball, like the yelk of an egg, which can be easily swallowed *en masse*, without any unpleasant taste. A little milk taken immediately afterwards will be found useful. Another good plan is to divide a lemon, squeezing the juice from each half in a separate tumbler. To the one add about a wineglassful of water and sufficient sugar to make it palatable. In the other tumbler beat up the dose of oil with the lemon juice, then add some sugar and a little less than a wineglassful of water; stir this well up to the moment of swallowing, then give the patient the previously-prepared lemonade. When this has been taken, it is pleasant to wipe the teeth with the inside of one of the lemon halves previously used. Other writers have recommended that the oil should be mixed with milk or coffee, or it can be carefully mingled with a small basin of soup, and this latter plan is often found useful. For our own part, having been compelled to take large quantities of cod-liver oil from time to time, we can confidently recommend the adoption of the first plan, because it will ensure perfect freedom from any unpleasantness of taste or after effects.

Preservation of Ice.—The preservation of ice is often a very difficult though important matter in dangerous cases, and we make no apologies for quoting the following excellent paper by Mr Sampson Gamgee, F.R.S.E.*

"The luxurious comfort and practical benefit which many patients derive from the frequent ingestion of ice are well known. To those who can command a constant attendant, and to whom cost is no consideration, it is comparatively easy to secure a constant supply of little lumps of ice at the bedside; but even under these favourable circumstances, it not unfrequently happens that in the warm bedroom, towards the small hours of the morning, when the bit of ice is most wanted to suck, or to be put into milk, water, or other beverage, it is found to have melted, and time is lost, and perhaps the household disturbed, before a fresh supply can be obtained. This is frequently the case when the lumps of ice broken for use are kept in a glass or saucer in the room. My practice for some years has been to cut a piece of flannel, about nine inches square, and secure it by ligature round the mouth of an ordinary tumbler, so as to leave a cup-shaped depression of flannel within the tumbler to about half its depth. In the flannel cup so constructed pieces of ice may be preserved many hours, all the longer if a piece of flannel from four to five inches square be used as a loose cover to the ice cup. Cheap flannel, with comparatively open meshes, is

* See *Lancet*, vol. i. 1876, p. 846.

preferable, as the water easily drains through it, and the ice is thus kept quite dry. When good flannel with close texture is employed, a small hole must be made in the bottom of the flannel cup, otherwise it holds the water, and facilitates the melting of the ice, which is, nevertheless, preserved much longer than in the naked cup or tumbler. In a room 60° Fahr. I made the following experiment with four tumblers, placing in each two ounces of ice broken into pieces of the average size for sucking. In tumbler No. 1 the ice was loose. It had all melted in two hours and fifty-five minutes. In tumbler No. 2 the ice was suspended in the tumbler in a cup, made as above described, of good Welsh flannel. In five hours and a quarter the flannel cup was more than half filled with water, with some pieces of ice floating in it; in another hour and a quarter (six hours and a half from the commencement of the experiment) the flannel cup was nearly filled with water, and no ice remained. In tumbler No. 3 the ice was suspended in a flannel cup made in the same manner and of the same material as in No. 2, but in No. 3 a hole capable of admitting a quill pen had been made in the bottom of the flannel cup, with the effect of protracting the total liquefaction of the two ounces of ice to a period of eight hours and three quarters. In tumbler No. 4, two ounces of ice were placed in a flannel cup, made, as above described, of cheap open flannel (10d. per yard), which allowed the water to drain through very readily. Ten hours and ten minutes had elapsed before all this ice had melted.

"A reserve supply outside the bedroom door can be secured by making a flannel cup, on the plan above described, in a jug, and filling it with little lumps of ice, care being taken that there is space enough below the bag to allow the water to collect, and leave the ice dry. This provision will allow the ice to be used during the hottest night, without the supply failing, or the patient being disturbed—two very important considerations. The real therapeutic benefit of ice is only produced in some cases by its free use, and its soothing and stilling effect must be aided by the most perfect surrounding quiet."

A long and very agreeable association with Mr Gamgee at the Queen's Hospital, Birmingham, has taught us to value highly his ripe experience and ready ability in cases of emergency. Mr Gamgee fully recognises the importance of trifles, and through his courtesy we have been enabled to publish many similar hints on apparently trivial though really important matters of detail.

Administration of Alcohol.—We do not feel called upon to make any extended comments on this subject; but we append a table showing the amount annually expended at ten of the chief London and twenty-one cottage hospitals, from which it will be seen that the cost of stimulants per head, per patient, in the metropolitan hospitals is 6s. 6¼d., and in cottage hospitals 6s. 4½d. We must confess surprise at finding that so much is expended in stimulants in cottage hospital practice, and especially that it should cost as much

as 15s. per head at Oswestry, or nearly 10s. at Stony Stratford. Mr Dowson of Beccles has ascertained that the average consumption of alcohol in 29 cottage hospitals, having out patient departments, is 8s. 5d. In 45 other cottage hospitals, which only treat in-patients, the average consumption of stimulants per patient is 8s. 8d. Mr Dowson's figures refer to the two years immediately following those we had taken, so it seems fair to presume that the tendency in cottage hospitals at the present time, is to increase rather than to diminish the quantity of alcohol ordered. This can scarcely be a wise or necessary proceeding, and we hope it will receive the serious attention of all cottage hospital managers. The highest consumption on Mr Dowson's list in the year 1877 was Cranleigh, 19s. 3d. per head, and Capel, Surrey, 18s., the lowest being Wallasey, Cheshire, 1s. 4d., and Walker, Northumberland, 1s. 6d. per head per patient. We think the table will be found useful as an illustration of the different opinions held by the members of the medical profession regarding the therapeutic effects of alcohol in disease. It will astonish many people, we believe, to find that £10,655 was spent by ten London hospitals in one year on stimulants alone. For obvious reasons we prefer not to go more into detail as to the comparative expenditure on this head at the various hospitals quoted. At the same time it must be admitted that the facts here brought to light are worthy of the attention of every hospital physician and surgeon. It may be mentioned that the report of the

Temperance Hospital, London, for the twelve months ended April 3, 1875, states that out of 125 in-

THE ADMINISTRATION OF ALCOHOL.

Table showing the consumption of Wines, Spirits, and Malt Liquors, at the Chief Metropolitan and twenty-one Cottage Hospitals, with the number of In-Patients to whom they were administered, for the year 1874–75.

Year 1875. Metropolitan Hospitals.	In-Patients.	Cost of Stimulants.			Year 1874 or 1875. Cottage Hospitals.	In-Patients.	Cost of Stimulants		
		£	s.	d.			£	s.	d.
Charing Cross	1302	783	8	9	Capel .	35	24	4	1
Guy's . .	5854	1486	16	4	Chalfont St Peter's	34	21	0	5
St George's .	4066	1178	5	6	Guisboro' .	40	19	15	10
University .	1859	571	18	1	Hayes . .	15	3	11	0
St Thomas's .	3446	1403	15	2	Iver . .	18	9	10	1
Westminster .	1699	427	1	5	Luton . .	51	17	8	6
London .	5804	1819	0	4	Malvern .	46	21	14	6
Royal Free .	1410	864	13	10	Mildenhall .	55	15	1	6
St Mary's .	1170	435	7	2	Newick .	21	5	5	6
St Bartholomew's .	6057	1684	16	4	Oswestry .	46	35	11	0
					Trowbridge .	24	4	18	11
					Tetbury .	39	6	3	8
					Walsall .	197	35	11	10
					Wallasey .	38	11	18	6
					Warminster .	47	12	2	6
					Wirksworth .	47	10	10	0
					Watlington .	41	7	2	11
					Erith . .	105	19	18	10
					Ross . .	40	11	4	8
					Stony Stratford .	26	14	15	6
					Dunster .	30	11	1	4
	32667	10,655	2	11		995	318	11	1

Summary.

		s.	d.
Average cost per head per patient at	10 Metropolitan Hospitals,	6	$6\frac{1}{4}$
Do. do.	21 Cottage Hospitals, .	6	$4\frac{3}{4}$

patients, of whom 101 were total abstainers, admitted to treatment in the year, "it has not been deemed

necessary in one single instance to administer alcohol in any shape or form." It must be concluded, however, that no severe surgical cases were received, for although six pages of the report are devoted to statistics, &c., only one amputation (Syme's operation) is recorded.

The Treatment of Accidents on Admission.—It will often happen, especially in the experience of cottage hospital life, that no one but the nurse will be immediately available when a case of severe accident first arrives at the hospital. It may, therefore, be well to give a few plain directions as to the course to be pursued in such an emergency. Every cottage hospital should be provided with a stretcher made of canvas, with strong loops on either side, through which the poles may be placed and withdrawn at pleasure. When a patient is brought to the hospital, he should be carefully carried in on the stretcher, and placed on the couch in the accident room, when the poles can be removed. Great care should be exercised in the case of a broken or fractured limb, to prevent, by careless carrying, the serious additional accident which has often happened, of converting a simple into a compound fracture by forcing the fragments of bone through the skin. To prevent this, the nurse should take charge of the broken limb, and superintend its movement. Before the doctor arrives, in cases of great exhaustion, a little brandy and water should be given to the patient, but it is only too often the case, that the sufferer is brought in, reeking with brandy,

given him most recklessly by his comrades. Care should be taken to loosen all the clothes about the neck, the necktie and collar being carefully removed. The boots should be pulled off, or, in the case of an injury to the foot, the boot may be cautiously cut away, and thus all unnecessary suffering avoided. The next step is to wash the patient as thoroughly as practicable, after removing most of his clothing. In the case of an injury to the leg or thigh, the trousers and stockings should be slit up the seams, and thus freed from the wounded limb. Now prepare whatever is requisite in the way of appliances for the treatment of the case. In fractures : splints, pads, bandages, cotton wool, and the like; in wounds : lint, bandages, picked oakum, sticking-plaster, &c., and have ready for use the necessary instruments, with plenty of hot water and sponges. In this way much time will be saved, and the man will, with the least possible delay, be ready for removal to the ward, the poles being replaced for this purpose, and the bed being previously prepared for his reception, with the necessary waterproof sheetings, draw sheets, pillows, and other requisites.

Treatment for a Sprained Ankle.—On this point the following observations of Mr Erasmus Wilson may be of value :—"We all know that there is nothing more painful than a sprain of an ankle; it will lay a man up longer than the fracture of a bone, and he may recover with a very weakened joint. Accompanying a country medical man in his rounds, he told me he had made a great discovery in the treatment of sprains.

'The way I cure a sprain,' he said, 'is this: I take some warm lard; I warm it, and rub it into the sprain half or three-quarters of an hour. I then take some cotton-wool and wrap around the joint, and put on a light bandage. The sprain, which would have taken many months to get well, gets well in a few days—certainly in a few weeks—without any ill effects or after-consequences.'" Mr Wilson adds: "I tried this treatment and found that it succeeded admirably."

Practical Points.—This chapter may appropriately be concluded by giving a few plain practical hints for nurses, regarding the proper carrying out of some of their duties, and the immediate treatment to be adopted in a few cases of emergency, likely at any time to arise. There are, firstly, three duties, concerning which little can be said, but every nurse should endeavour to make herself thoroughly acquainted with them. These are:—(1.) The application of leeches and blisters. (2.) The passage of the female catheter. (3.) The mode of using the clinical thermometer.

To give an enema.—In the administration of enemata, the nurse must take care first to well oil the tube, before introducing it, and also to pass through it a few syringefuls of the liquid, not only for the purpose of ascertaining that the instrument is in good working order, but also that the whole may be well warmed before introduction, and that any air may be expelled. Enemata are given with two objects:—(1.) To remove fæces from the lower part of the intestinal canal, when soap and water, gruel, &c., are used, and the injection

must be a large one (1½ to 2 pints or more). (2.) As a means of supplying nourishment to the patient, when, as the object is to retain the nourishment, very small injections must be given (not more than 2 oz.), and a small elastic bottle of that size may be used.

Poultices.—The use and comfort of poultices depend greatly on the manner in which they are made and applied. For a *bread poultice* use stale bread. Place the required quantity in a basin, pour over it sufficient boiling water to soak it, and let it remain for about five minutes with a plate covering the basin, then drain off superfluous water, and place the bread between layers of muslin or soft old linen for use. *Linseed poultices* are too often made with powdered linseed from which the oil has been so thoroughly extracted as to make it as dry as sawdust. Crushed linseed is the right material, and one good test of its nature is its greasing the paper in which it is wrapped. First scald the basin in which the poultice is to be made, then put into it a quantity of meal suited to the particular case. Any knots or clusters of meal are to be crushed with the hand. Some well powdered charcoal may be added to the meal when the poultice is to be applied to a part discharging offensive matter. A wooden spoon or spatula is the best instrument for mixing and spreading with the least loss of heat. Boiling water should be slowly added whilst the meal is constantly stirred, till it is of proper consistence. One great fault is that of adding too much water. When sufficiently mixed turn out the poultice on a piece of lint or clean rag, over which

it is to be evenly spread, the sides of the rag being neatly folded into the margin of the poultice, and a piece of thin muslin placed over it so as to come next the skin and admit of easy and clean removal in due time. Tow finely teased out answers as a cheap material on which to spread poultices in hospital. When a large linseed meal poultice has to be applied to the abdomen or to the front and back of the chest it may be made in a wash-hand basin and spread on a chamber-towel. A soft old handkerchief in the absence of muslin may be laid on the poultice. A poultice thus made may be rolled up and carried from a down-stairs kitchen to a top bedroom with so little loss of heat as to require caution in its application for fear of scalding.

For *mustard poultices*, the essential is mustard of first rate quality. Mustard leaves are a very good substitute.

Hot fomentations to be comfortable and useful must be hot, and the cloths well wrung out, otherwise the superfluous water soaks the patient's clothes and the bed, and causes much annoyance. New flannel is the best material for fomentation cloths. Put a towel over an empty basin, the dry flannel in the towel, and pour over it boiling water, for good soaking. Quickly wrap the towel round the flannel, and twist the two ends of the towel in opposite directions, so as to squeeze out all the water. A perfect wringing machine may be quickly made by loosely stitching in the two ends of the towel round pieces of wood,—a

walking-stick cut in half answers the purpose perfectly. When the steaming flannel has been quickly applied, cover it and the adjoining parts with a piece of water-proof sheeting, which has been previously warmed enough for comfort. This is also a very useful covering for large linseed-meal poultices.

The administration of food or medicine to a patient in a semi-conscious condition is often a matter of some difficulty. The points to remember are—(1) to give only a small quantity at once; (2) to pass it well back to the root of the tongue. This may often seem a bold plan, but, in reality, it is much safer than the more timid practice of only just passing it between the lips. In the former case, it immediately calls into reflex action the muscles of the pharynx, and is at once swallowed; in the latter, it remains gurgling and accumulating in the mouth, until it is perhaps suddenly drawn into the larynx by a deep inspiration, giving rise at once to alarming symptoms. Sometimes it is possible, if the patient keeps his teeth firmly closed, to pass one finger between the teeth and cheek, and draw the cheek outwards, thus forming a pouch, into which the nourishment may be poured; then, by withdrawing the finger, and keeping the patient's head low, the liquid may often be pressed into the centre and back part of the mouth, when it is immediately swallowed. This plan sometimes answers admirably, but at other times, for some unknown reason, it entirely fails. It is more likely to succeed if some of the back teeth are deficient.

Fainting.—In the case of a patient fainting, the nurse must immediately remove all pillows, and be careful to keep the head low, even for some time after revival. In severe cases it may even be necessary to support the head over the side of the bed.

Eau de Cologne, or dilute spirit, applied to the forehead, at the back of the ears, and along the hair-parting is useful in reviving a fainting patient; the effect is attained by gently blowing on the moistened part. When a patient is faint do not forget to provide fresh air by opening doors and windows. The medical attendant should always be informed in these cases; in his absence, if the fainting appear serious, apply friction to the limbs, from below upwards, to send the blood to the heart and brain. A piece of ice introduced in the lower bowel is a safe and often very efficient means of revival.

Fits of different kinds must often be brought under the nurse's notice. Here she must be careful not to do too much; the common practice is to forcibly hold down the patient, giving rise to an unseemly wrestling between him and several other persons. If the patient fall on the floor, the nurse should immediately place a pillow under his head, loosen his clothes, especially about the neck, and then stand by, only taking precautions to prevent him from injuring himself. It must be remembered also that some patients are subject to an outbreak of maniacal violence after a fit, and the nurse should always have assistance ready at hand in case of emergency. It is needless to say, such

patients should never be employed in any work in which they are likely to injure themselves on the sudden advent of a fit. Of course we refer here to epileptic fits; the treatment in cases of apoplexy or hysteria needs no comment in this work.

Frost-bite.—If a patient is admitted suffering from the effects of frost-bite, the nurse must not too hastily proceed to apply warmth. Friction with snow in a cold room is at first only admissible, and any further change must be very gradual.

Foreign Bodies in Ear, &c.—The nurse should never interfere in any case of a foreign body in the nose or ear, however easy it may seem to remove it, but should at once send word to the surgeon, or she is sure on some occasion to succeed only in rendering its removal more difficult.

Dressing Burns.—The first dressing of burns, on admission, will necessarily devolve upon the nurse, as, if left uncovered, the pain is intense. The object is to protect them from the air, and there are numberless dressings for this purpose. We select three from the list. The most common plan is to cover them with rags dipped in "carron oil," a compound of olive oil and lime water, but this is a dirty and uncomfortable method. A better one is to cover them with flour, and then apply a layer of cotton wool and a bandage. But the best, cleanest, and most comfortable, though at the same time the most expensive plan is as follows:—Spread pretty thickly some zinc ointment on strips of lint, apply these evenly to the part, next

place a layer of cotton wool, and then a bandage over the whole.

Hæmorrhage.—The most serious thing a nurse must at any moment be prepared to combat is hæmorrhage. It may be venous (dark red), in which case it will nearly invariably be connected with an ulcer and varicose veins of the leg. The patient in such a case must be placed in the recumbent posture, the leg should be well raised by means of pillows, and a pad of lint and bandage adjusted, so as to make some pressure more especially *below* the wound. In the case of arterial (bright red) hæmorrhage (by far the more common), any pressure must be applied *at* or *above* the wound. Should it be only slight, the application of cold water or ice may suffice to stop it. Where there is a firm substance as bone beneath, pressure by means of a thick pad of dry lint and a bandage firmly applied over the wound will invariably arrest it,—bleeding from the scalp, for example, can always be thus arrested. But, above all things, the nurse must remember, that if she can see the bleeding point, she may always temporarily stop the hæmorrhage, by firmly applying her finger to the spot, till the surgeon arrives. She should never lose her presence of mind, but always remember this cardinal point. It will often prove more serviceable than the knowledge of a proper application of the tourniquet, though the nurse must always endeavour to learn the position of such arteries as the femoral and brachial, and how to apply the tourniquet to them. It is feared that this

instrument is somewhat beyond a nurse's application. In hæmorrhage from the nose, prop up the patient well in bed, do not let him hang his head over a basin, and apply cold to the forehead and nape of the neck. In cases of spitting or vomiting of blood, raise the patient, enjoin perfect quiet, sooth and reassure him, and let him suck some ice, or give him only things perfectly cold.

Injuries to Head.—If a patient is brought in suffering from some injury to his head, and in an unconscious state, get him to bed at once, place blankets and a hot water bottle to his feet, raise his head somewhat, and apply cold rags to it. Beware of rashly giving stimulants.

The operation-room must always be kept in such a condition as to be quickly rendered ready for use in case of emergency. It must be kept scrupulously clean, with needles threaded, ligatures cut to proper lengths, sponges of various sizes in bowls, &c. When required it will then only be necessary to light the fire, get a supply of hot and cold water and ice, lay out the instruments likely to be required, and have at hand a little wine and brandy. During the operation, the nurse must be constantly ready to hand anything that may be required,—instruments, ligatures, towels, a basin in case of sickness, &c.;—she must give a helping hand wherever it may be wanted, and never be without a supply of sponges. After the operation, she will take the instructions of the surgeon as to the further treatment of each case, but will always

sit by the bedside till the effects of the chloroform have passed off, as the patient may be seized with sickness, or may become restless and disturb his dressings. A sharp look-out must also be kept for any hæmorrhage.

Sponges must on no account be used for washing wounds, nor for wiping away discharges: pieces of tow, lint, or rag must be substituted, and afterwards immediately burnt.

CHAPTER VII.

COTTAGE HOSPITAL APPLIANCES AND FITTINGS.

Surgical instruments—Dispensary requisites—Hair mattresses—Iron bedsteads—Linen and blankets—Counterpanes—Pictures in wards—Walls of wards—Lint and medical sundries—Patients' necessaries—Lockers—Brackets—Headings for beds—Ward furniture—Movable closets and baths—Hot-water plates—Screens—Bed rests—Arm slings—Surgical hammocks—Easy chairs—Foot rests—Filters—Book shelves—Ambulances—Miscellaneous articles—Bags and pads—Hot-water tins—Feeding cups—Bed-pans.

OUR description of cottage hospitals and their management would scarcely be complete unless some hints were given as to the kind of appliances and fittings most suitable for cottage hospital purposes, and the best means of obtaining them. It is, of course, necessary to go much into detail in referring to this branch of our subject. The following list of requisites for the wards may be found useful.

Instruments.—A good collection of surgical instruments is one of the chief requisites for a cottage hospital. The instruments should be kept for the use of the medical men in the neighbourhood, with certain restrictions to ensure their safety and cleanliness. As regards the expense of starting such a collection, we would advise that, at first, only the necessary instruments be purchased, either by means of a separate

subscription, or, if possible, by funds raised from a generous donor. A fairly complete set of instruments being once obtained, the best plan of increasing it, and keeping it in good repair, will be by levying a certain annual subscription on each medical man who participates in its benefits. We cannot advise that water-beds, bed-rests, &c., be included in the list of instruments, and that persons be allowed the use of them on paying a certain subscription. Such a plan will entail a great deal of extra trouble and annoyance to the working staff, and is quite foreign to the objects for which a cottage hospital is established.

Appended is a catalogue of instruments that may prove useful, with their average cost :—

	£	s	d
Amputating Instruments in case, . .	7	0	0
1 Amputation saw—3 amputating knives—1 catlin—1 pair of bone forceps—1 sequestrum forceps—1 lion forceps—operating forceps—tourniquet.			
Esmarch's Elastic Bandage and Tube, .	1	1	0
Minor Operating Case, ...	5	5	0
4 Scalpels—sharp and probe-pointed curved bistoury—aneurism needle—tenaculum—nœvus needles—2 tenotomy knives.			
Post-mortem Instruments in Case, . .	3	3	0
1 Saw—1 brain knife—2 post-mortem knives—1 cartilage knife—3 scalpels—1 chisel—1 pair scissors—bowel scissors—forceps—needles.			
Case of Trephining Instruments, . .	3	3	0
Hey's saw—gouge—pair of trephines—elevator—skull forceps.			

	£	s.	d.
Needles—Harelip Pins—Silk and Hempen Ligature, &c.—silver and iron wire, &c. .	0	10	0
Polypus Forceps—Vulsellum Forceps, .	0	10	6
Pocket Case, ...	4	4	0

Scissors — forceps — caustic case — 2 double carved bistouries– scalpel and finger knife—artery or torsion forceps—2 probes—director—gum lancet—needles, &c.

Lithotomy and Lithotrity.

To be added as required.

Uterine Instruments, ...	2	10	0

Ferguson's glass specula, 3 sizes—sound—speculum forceps—Tant's long caustic case.

Large Enema Syringe, with long tube, .	1	10	0
1 doz. Glass Syringes (male and female), .	0	6	0
Artery, torsion, or other extra forceps, .	1	1	0
½ doz. Lancets 10/—2 Clinical Thermometers with charts, 25/6, . . .	1	15	6
Set of tooth instruments, ...	5	5	0
1 Brass ear syringe in case, 30/, set of ear specula, 20/, ...	2	10	0
3 Tracheotomy tubes, double, with director, in case, ...	3	3	0
Set of eye instruments (very variable), .	3	3	0
Set of 6 silver catheters in case, with 1 prostatic, ...	3	10	0
1 doz. gum elastic catheters, 25/; ½ doz. rectum bougies, 21/, ...	2	6	0
Set of Cline's leg splints, 21/, set of Liston's long splints 10/6, ...	1	11	6

3 long back splints, 21/, 6 pistol splints, 6/,	£1	7	0
2 Sets of common lined splints, 7/, throat probang, 5/,	0	12	0
Set of trocars and canulas,	1	10	0
Aspirator and needles, in case,	3	3	0
Hypodermic syringe in case, 21/, 2 Stethoscopes, 10/,	1	11	0
2 Sets of urine testing apparatus,	2	2	0
Supply of Lint—tow—cotton wool—gutta-percha tissue—sponges—strapping—bandages — camel-hair pencils, &c., about	4	4	0
To these may be added, if thought necessary—			
Instrument cabinet,	4	4	0
Operating table,	10	10	0

Giving a total in round numbers of about £85.

Dispensary Requisites.—These are—shelves, drawers, bottles, ointment pots, desk and writing conveniences, label tray, scales, cupboards for splints, &c. It is advisable that a separate kind of bottle should always be used for lotions, liniments, and other outward applications. For this purpose, the blue fluted bottles are extremely useful, as they can be felt in the dark, and with such bottles a mistake is almost impossible. All poisonous drugs must be kept in a separate locked cupboard, and any medicines containing poison should be dispensed in a ground glass

bottle, as when touched it will ensure caution. There should also be conveniences for testing urine—test-tubes, spirit-lamp, urinometer, reagents, test-papers, &c., and a white earthenware sink should be provided.

Hair Mattresses.—These are much more economical in the long run than those made of any other material, and for practical purposes, they are to be strongly recommended above all others. They should be at least 4½ inches thick. We strongly recommend that they should be made by the nurse, and that the hair should be purchased separately; as in this way, when a bad case is admitted, we may be more sure that the mattress is taken to pieces, and the hair properly washed, disinfected, and re-picked before it is again filled. Hair of good quality may be obtained at a considerable reduction from H.M. Dockyard, Woolwich, through any broker. Mr Alfred Keell of Stockwell Street, Greenwich, deals largely in this hair, and, being a highly respectable tradesman, may be relied on to do the very best for his customers. The hair may be purchased in this way at from eleven to thirteen pence per lb., of the best quality, and of absolute purity. The Government sell all the materials which have been in use during a cruise whenever a ship is paid off, and thus it is that good hair, nearly new, thoroughly disinfected and purified, may be obtained for a nominal outlay. Should it be thought too much for the nurse to manage the making of the mattresses without assistance, either Mr

Keell or any local maker will undertake the work for a small additional cost per mattress.

Iron Bedsteads.—These should be 6 feet 4 inches by 3 feet. They should be without curtains or valiances, and should have a bed-pull, by which the patient can raise or move himself in bed. The bedstead which appears to be most popular amongst cottage hospital managers is manufactured by Mr Allan of Clifton, Bristol, who sells it at £3 each. Messrs Peyton & Peyton, Bordesley Works, Birmingham, have for years made an excellent and very durable bedstead for the General Hospital, Birmingham, which is well adapted for hospital purposes, where the space is ample. This firm is also famous for its children's cots, and as each cottage hospital ought to have at least one of these in case of necessity, we think it well to mention this fact.

Linen and Blankets.—It is essentially necessary that these should be of good quality and finish. Unbleached sheeting and pillow linen are decidedly the most durable and economical, besides being better adapted for hospital purposes than cotton. Twilled cotton may be used with advantage for children's sheets, but for no other purpose are they recommended. It is often useful to know where to purchase the best and most suitable articles at a reasonable cost, and we have therefore decided to recommend wholesale manufacturers with whose entire reliability we are acquainted. For sheets, pillowing-cases, flannel, and all kinds of linen, Messrs

Wilkinson & Riddell, of Temple Row, Birmingham, will be found one of the best houses in the country.

An abundant supply of linen is very essential, and separate towels should be provided for each case. It may be of service to mention that the following is the average supply of linen allowed to each bed at the chief general hospitals :—

Allowance of Linen per Bed.

PATIENTS.

MEDICAL.		SURGICAL.	
Sheets	4	Sheets	5
Blankets	3	Blankets	3
Counterpane	1	Counterpane ...	1—2 over in each Ward.
Pillowcases	3	Pillowcases	3
Draw Sheet	1	Draw Sheets	4 Children's Ward, 6
Doctor's Towels (per Ward)	12	Doctor's Towels ...	12 per Ward.
Round ,, (per Ward)	6	Round ,, ...	6 ,,
Table Cloths ,,	4	Table Cloths	4 ,,
Tea ,, ,,	6	Tea ,, ...	2
Dusters ,,	6	Dusters	2
Shirts (per Ward) ...	6	Shirts (per Ward) ...	6
Finger Napkins (per Ward)	12	Finger Napkins (per Ward)	12
Nightingale Cloak ...	1	Nightingale Cloak ...	1
Mattress or Bed (Flock or Horsehair) ...	1	Mattress or Bed (Flock or Horsehair) ...	1—1 extra in each Ward.
Bolster	1	Bolster	1—1 extra for every 3 beds.
Feather Pillow ...	1	Feather Pillow ...	1—1 ,, ,, 2 ,,
Straw Palliasse	1	Straw Palliasse ...	1

NURSES.		SERVANTS.	
Quilt	1 each and 2 over.	Quilt	1 each and 2 over
Blankets	3 ,,	Blankets	3 ,,
Sheets	3 ,,	Sheets	3 ,,
Pillowcases	2 ,,	Pillowcases	2 ,,
Towels	4 ,,	Towels	4 ,,
Table Cloths ...	6 ,,	Rollers	3
Toilets	6 Oil Baize.	Tea Cloths	12
Mattress, Horsehair	1 each.	Dusters	12
Bolster (hair) ...	1 ,,	Table Cloths ...	6
Pillow (feather) ...	1 ,,	Toilets	4 Oil Baize.
		Mattress, Horsehair	1 each.
		Bolster (hair) ...	1 ,,
		Pillow (feather) ...	1 ,,

NOTE.—Size of Sheets, 3 yards × 2 yards 8 inches. Size of Pillowcases, 30 inches × 1 yard 4 inches. Size of Children's Sheets, 2 yards × 1 yard.

EXCEPTIONS.—1. Two Feather Pillows are allowed to each bed in the Male Accident Ward.

2. Extra Flock Beds are allowed in the Male Surgical Wards.

3. In the Children's Wards no extra Pillows or Bolsters are allowed.

Counterpanes.—It is a difficult matter to select a counterpane in all respects suitable for the purposes of a hospital. Durable, easily washable, of a bright and cheerful colour, which will not fade in cleaning,—these are characteristics so difficult to meet in combination, that for many years, after extensive experience, it seemed to us impossible to obtain them anywhere. Of late years, however, some advance has been made in this respect, and Messrs Boyd and Sons, of Jedburgh, N.B., now manufacture a counterpane specially for the use of hospitals. This counterpane is made of a beautiful material, soft as wool, yet easily washed and most durable. It is of an iron grey or drab colour, with magenta and scarlet stripes at each side and end, about six inches wide. When placed upon the beds, it presents a very pleasing appearance, and some eight years' experience has led us to the conclusion that this is the best kind of quilt extant. It may be obtained from the manufacturers in any size at an average cost of 15s. each.

Pictures in the Wards.—Much has been said for and against the propriety of ornamenting the walls with pictures, illuminated texts, and so forth. Our own view is, that in this, as in other things, the middle course is the best. We do not believe that, with proper care and management, pictures do, or can, in any way harbour infection. The chief thing to remember is, that the patients do not care for elaborate water-colours or magnificent landscapes. They like what

they have been accustomed to at home — simple, homely sketches, of the cheapest character, with bright colouring and plenty of figures. The chromo-lithographs published by the *Illustrated London News* and *Graphic* are the most suitable. The present writer once introduced a number of these pictures into the wards of a hospital under his management, as they were the best he could then obtain for the purpose. Some fifteen months afterwards, Messrs Graves, the well-known engravers, and a firm of chromo-lithographers, sent him some sixty of their most beautiful pictures. These were hung in the wards in place of the commoner productions. The patients were in a sad way at once, and one old man begged him to replace the original prints, for he declared "he could not sleep at nights until Dick"—alluding to a drawing of Dick Whittington and his cat—"had come back again." This story shows two things clearly. First, that these pictures do real good, by giving the patients something to look at and to think about when confined to their beds; and, secondly, that the simplest and best known prints are much to be preferred to the most expensive pictures possible. If cleanliness is next to godliness, we are fully persuaded, from long observation, that it is equally true that cheerfulness in the sick is the highway to recovery.

The Walls of the Wards.—Care must be taken, as we have insisted upon elsewhere,* that every piece

* *Vide*, page 123.

of paper is taken off the walls, and that the whole cottage, if about to be adapted for the purpose of a village hospital, is well cleaned from top to bottom. It will be found an excellent plan, when the walls are old, to have them repapered, and then to varnish the surface of the paper with two coats of the best copal varnish. This will give a very pleasant appearance to the room, and it will enable the nurse to thoroughly cleanse the walls, as often as may be thought necessary, since she will be able to sponge, scour, or mop the whole of the surface without injury to the paper, or damage to the wall, and thus the utmost cleanliness will be ensured. A far more important end will also be gained. The paper, thus varnished, will present a hard, dry, non-absorbent, and practically impervious surface, thus ensuring the utmost security against an outbreak of pyæmia or erysipelas. This plan has been tried in several hospitals with excellent results; and in proof of the durability of such a proceeding, it may be mentioned that, at the Cromer Cottage Hospital, one coat of varnish has been sufficient to preserve the wall and paper intact for nearly ten years. There is no doubt, as the present writer can prove from actual experience, that where varnish has been used in hospital wards, which have previously been painted with four coats of good oil paint, a surface is presented as smooth as the finest parian, as impervious as adamant, and as durable as it is possible to make it. Where this plan has been tried, pyæmia is successfully grappled with, and the

general sanitary and hygienic conditions of a hospital ward are rendered almost perfectly secure.

Lint, and Medical Sundries.—These can all be obtained, of excellent quality, and at a greatly reduced cost, from Messrs Robinson & Sons, Chesterfield. Lint of excellent quality can be purchased from this firm at 1s. 4d. to 1s. 8d. per lb. Gutta-percha tissue, of all kinds, at from 3s. 9d. to 5s. 6s. per lb., can be procured from Mr C. Belier, 44 Aldermanbury, London, E.C., who is the only dealer in the trade who sells a useful article at anything like the price.

Patients' Necessaries.—Below we give a list of articles of which the patient stands in daily need, and for the supply of which some arrangement must be made. As some of these are liable to breakage, and all of them to be mislaid or lost, an arrangement must be devised by which the cost of any such loss shall fall on the patient. Two plans are in use at different general hospitals. One is, to draw up a list of these articles, and make it a rule that every patient shall come ready provided with them. Another, and, we think, the better plan, is to provide the said articles for the patient, and to make him or his friends pay a certain deposit on them, which is returned when he leaves the hospital, after a deduction for any losses that may have occurred, according to the prices on the list; for example:—

	s.	*d.*
Small Earthenware Teapot, . .	0	6
Cup and Saucer, ...	0	3
Two or three Plates, . . .	0	4
Basin, ...	0	2
Knife and Fork, ...	1	0
Tablespoon, ...	0	3
Teaspoon, ...	0	2
Total,	2	8

A cruet-stand and salt-cellar should be provided for the use of each ward by the hospital. Very pretty cruet-stands can be made in fret-work. Should there be a lady or gentleman in the parish who does such work, two stands might be given to the hospital at almost a nominal cost. They are easily fitted up with bottles at any glass shop.

Each patient will, of course, be expected to bring with him such things as he may require for his personal use and comfort, as razor, brush and comb, &c.

Lockers.—Lockers to stand by each bedside, and to stow away the above-named articles, together with the allowance of bread, butter, cheese, &c., for the day, will also be requisite. Should there be no such provision, these things will probably be found heaped together in an untidy mess beneath the pillows. The different kinds in use are so numerous, that it is impossible to specify any one as particularly good. In fact, a particularly good locker is much needed, and would be a very useful invention. As a rule, they are made to stand on the floor, and are placed too much out of the reach of the patient, who has to lean over considerably to get things out of them,—not always an

easy matter in cases of fractured limbs. As lockers may be made by the village carpenter, we give the chief points in their construction, so that it will be easy for each hospital to select its own plan. They should be raised nearly to the level of the bed, that they may be of easy access to the patient. For the same reason, they should open neither at the top, nor in front, but on the side nearest to the patient, by a sliding door, provided with a simple catch. The interior must be of sufficient size to hold the things comfortably, and be fitted up with one or more shelves. It ought also, if thus made, to be more deep than wide. If thought preferable, it would be easy to devise double lockers after this pattern with a partition down the centre, one thus serving for two beds. This locker has the advantage of a larger top, which might be used as a table, on which the patients could place anything, play games, &c. If made to open at the top, as is frequently the case, it is necessary to continually disarrange the things placed there, and one of the most important uses of the locker is thus lost. A roller should also be provided behind, for the patient to hang his towel upon.

Another useful arrangement in vogue at some hospitals is to have a small *bracket* fixed to the wall above each patient's bed, and out of his reach, on which the medicine bottles may be placed. It is thus more easy for the nurse to go round and administer the medicine, and there is less risk of a

mistake being made. In the case of a delirious or troublesome patient, the bottles must, of course, be removed.

Headings for Beds, &c.—We give an example on a small scale of a useful prescription paper to be used for each case, together with a second sheet, which is useful in long standing cases, when the first has been filled. The use of these in every instance, and the desirability of their being accurately filled in, must be particularly urged. By this means, if they are afterwards arranged in order in a portfolio, a case-book of every patient admitted is easily kept, and reference can readily be made to the cases for future guidance. These papers should be placed by the bed to which they refer. One plan is to hang them in a frame, on a nail fixed in the wall. The frames are sometimes made of tin, with a narrow bar fixed to the top through which the paper slips, the bottom being turned up and soldered down at the sides, to form a ledge for it to rest upon. Others are made of pasteboard, with a piece of leather fixed to each corner, through which the tips of the paper may be slipped. Another pattern, and a more simple one, is in use at the Homerton Fever Hospital. It consists simply of a board about $\frac{1}{4}$ inch in thickness, and rather larger than the paper, which is fixed to it by means of two drawing pins at the upper corners. The lockers in this hospital are surrounded, except in front, by a ledge (also a useful improvement), and the top of the locker projects behind about half an inch. On this

Cottage Hospital. No.

Name, Age, Occupation, Address, Disease, Date of Admission, ,, Discharge, Result,	History, Medical Attendant,

Date.	Prescriptions.	Diet.	Remarks.

Cottage Hospital.

Name, Case No. (*continued*).

Date.	Prescriptions.	Diet.	Remarks.

projection the board rests, whilst on a level with the top of the ledge runs a bar or strip of wood, fixed about ¼ inch from the ledge by means of two projections at the sides. The board is easily slipped through this, on to the projecting top, where it is kept firmly in its place.

Ward Furniture.—Drawers or cupboards to contain the patients' clothes, when not in use, must be provided. It will be best to place these outside the ward, and in charge of the nurse. By this means, a patient will not be able to get up, and dress without her knowledge. There should be a rule, too, that at night every patient, after undressing, must deliver his clothes to the nurse, who will place them each in their own separate drawer. The filthy practice of placing the clothes under the mattress for the night cannot be sufficiently condemned.

A good sized table in the middle of the ward looks homely, and will prove useful, even if such patients as are able dine together in the kitchen or convalescent room, so that it is not required for purpose of meals.

Movable Closet and Bath.—A movable earth-closet in each ward will be the most efficacious means for the use of such patients as are not able to walk to the closet. A movable bath, which can be wheeled to each bedside, will, if funds are ample, prove a great boon in many cases.

Hot-water Plates.—Hot-water plates, or dishes with covers, to contain the diets on their transit from the kitchen to such patients as are confined to bed,

will be of service. The use of these can be limited to such cases, but they will prove generally serviceable, as patients do not always feel inclined to take their diet at the moment it is brought to them.

Screens.—Two folding screens would conduce to decency in many cases, *e.g.*, to put round the bed whilst a patient is being examined by the surgeon, or to spare the feelings of the others, when one is *in extremis*. These can easily be made an ornament to the ward, and a source of interest to the patients in the following manner. Get a carpenter to put together a light framework of a suitable size, and to nail canvas round it, afterwards hinging three or four frames together. On these frames may then be pasted a number of pictures, cut out of the *Illustrated London News*, *Graphic*, or other papers, so as completely to cover it. One of these screens, made with coloured scraps, is really a very great ornament to any house, but the scraps need not of necessity be coloured. It will in most cases be easy to get one of the ladies of the parish, who takes an interest in the hospital, to undertake this task. If approved, it may afterwards receive two coats of a solution of isinglass, and be then varnished. The isinglass is to prevent the action of the varnish on the colours.

Bed Rests.—The bed rests of the present day are often of a most complicated description. We suggest a simple one, that can be made by any carpenter. The hinder part is fastened to the front by two hinges at the top. At the bottom are two pieces of window-blind cord, passing from the large transverse piece

in front to the piece behind, to prevent them from slipping too far asunder. Messrs Hooper & Co., Pall Mall East, have made a useful and inexpensive bed rest modelled in accordance with our suggestion. It is made of galvanized iron or cane, and is strong, light, and portable. The following sketch will give a good idea of it.

To use this rest the bolster and pillows must be removed, and the rest firmly placed on the mattress. A pillow is then placed over the framework, against which the patient leans. This rest will be found to answer its purpose quite as well as the more complicated ones.

A chair makes a very efficient bed rest in an emergency. The legs of the chair are to be turned upwards and the seat backwards, so that the upper part of the back of the chair slopes gradually under the back of the patient, who rests against it on pillows.

Arm Slings.—In all fractures of the upper limb, with the single exception of that of the olecranon (the point of the elbow), great assistance is derived from supporting the limb in a sling, with the elbow bent at a right angle. The common practice of merely passing the sling under the hand or forearm, or both, is

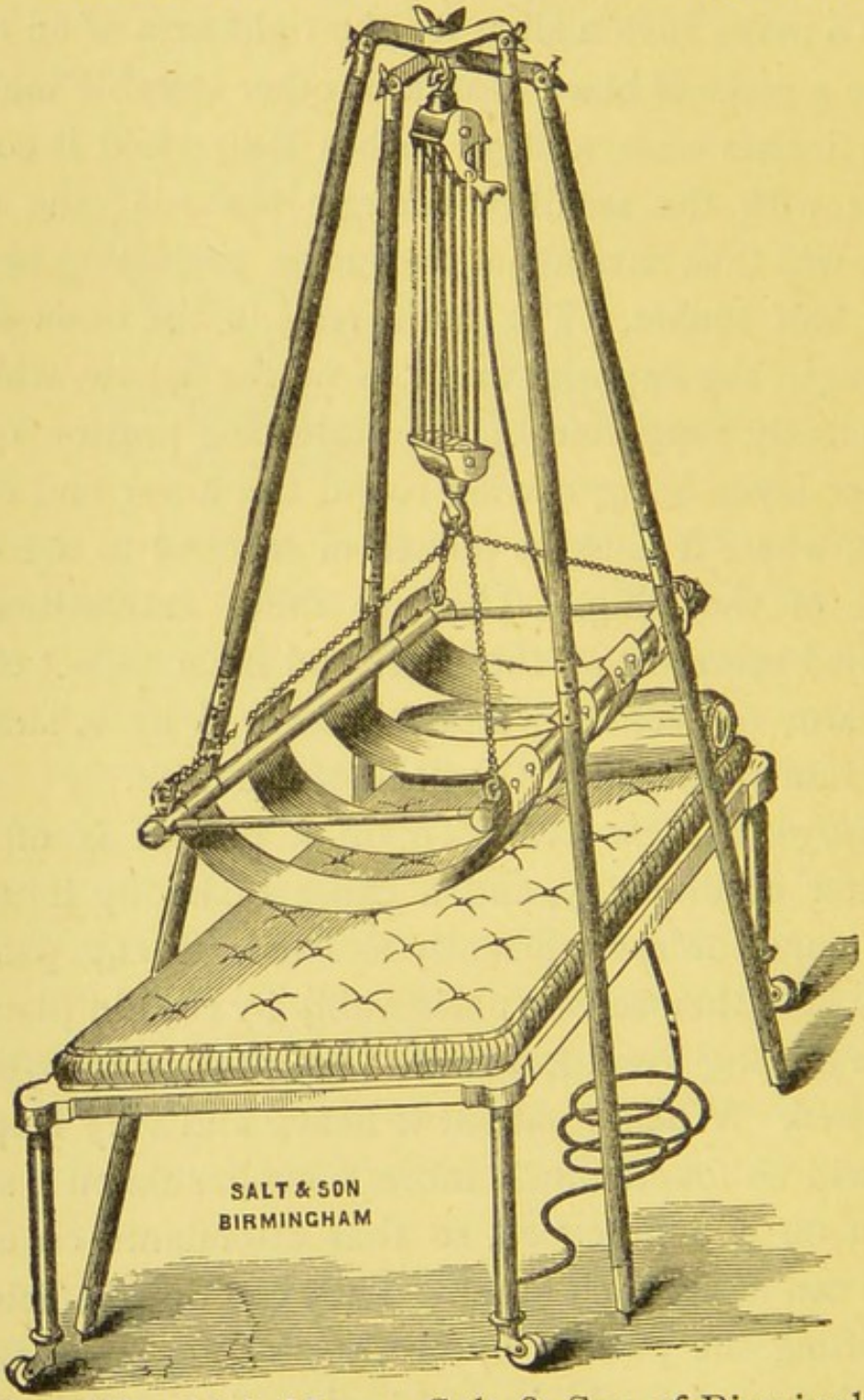
very inefficient. It is the elbow which above all requires supporting to carry the weight of the arm; and this will be found to be quite as true if the injury be one of the soft parts or of the bones, of the thumb, or of the humerus.

To make such a sling for the right arm of an adult, take a piece of black alpaca or other suitable material 29½ inches wide, and 35 inches long; fold it corner-wise with the smallest triangle inwards; the outer one will thus have about five inches projecting beyond the half square. The hand rests in the basis of the triangle, the opposite angle is at the elbow, which is efficiently supported by the projecting portion of the outer layer being carried round the lower end of the arm, where it must be pinned or stitched to the inner part of the sling. The two other extremities are carried upwards, on the outer and inner aspect of the forearm respectively, and are secured by a strap of the same material at the back of the neck.

Surgical Hammock.—To lift a patient is often a matter of difficulty, and a cause of bodily injury to the nurse unless efficiently assisted. Many patients may help themselves considerably by the old plan of a rope or long towel fastened to the post or cross-bar of the bed. When a patient is heavy and very helpless, he will be found much more manageable on a single than on a double bed, so that attendants on either side can assist each other. They can do so efficiently in lifting the patient by firmly grasping each other's hands under the thighs and in the middle of the back.

A roller towel passed under a patient's buttocks and grasped by an assistant on each side, is useful in lifting. Much greater power may be exerted by slinging each end of the roller towel over the attendant's neck.

The annexed woodcut illustrates a surgical ham-



mock or lift which Messrs Salt & Son of Birmingham

have constructed at Mr Sampson Gamgee's suggestion. This apparatus can be put together over the bed, so that one person can raise the heaviest patient, retain him in an easy swing for any length of time, and lower him on to the bed whenever required without jerk or effort.

Under the patient, and next the night-dress, are to be placed some soft wide pieces of webbing, of sufficient length to allow scope for the movements of the body within the rods lying on each side of it. These rods are connected with the ends of the pieces of webbing so as to secure strength, and to be easily removable. When it is necessary to lift the patient, a stout four-legged derrick is adjusted with two of its legs on each side of the bed, having a powerful self-stopping pulley, suspended by a hook to the point where the four legs converge and unite. The inferior block of the pulley is armed with a hook, which grasps the chains connected with the rods lying on each side of the patient. To prevent these rods approximating too closely and from squeezing the body uncomfortably, transverse bars are fitted into sockets at their extremities.

The body is thus hung in a hammock, which can be raised or lowered by one attendant very gradually, and with the certainty that when the cord is drawn to one side the pulley will catch instantly and immovably; and run smoothly again, as soon as the cord is drawn straight in the middle line. Thus suspended, a patient can rest comfortably for any

length of time, the bed can be made, or any surgical dressing can be applied with ease and comfort.

When the patient is lowered, the derrick, frame, pulleys and subsidiary adjuncts are removed, while the webbing, straps, and longitudinal rods may be left in readiness for future use. Thus in hospitals the elevating apparatus may be made available for many patients, the separate webbing straps alone being required for each bed. For greater convenience the poles unscrew in their centres, and can be separated by means of thumb screws from the cruciform connexion which sustains the pulleys.*

Easy Chairs.—The most comfortable kind of easy chair, especially for cases of fractured legs, is a low one, made long in the seat, and sloping somewhat at the back. Foot rests, of about the same height as the seat of the chair, should also be provided for these cases, so that the leg may not hang down, but be supported at the same level as the hips. This is a great point, as it prevents the leg from swelling, but it is too often overlooked. One of the best patterns of chairs for hospital use is made by Messrs Henry Williams & Son, 45 Shrubbery Road, Gravesend, Kent. These chairs possess all the above advantages, and may be purchased complete for about £4 each.

Filter.—A filter for water will in almost every case be an absolute necessity. There are so many good

* On Surgical Swings and Pulleys as Aids to Rest and Motion, by Sampson Gamgee, F.R.S.E., surgeon to the Queen's Hospital, Birmingham.

patterns that it is not easy to name the best; but Mr Lipscombe's (Temple Bar, London) charcoal filter, and the silicated carbon spongy iron filters may be mentioned.

A *wash-hand basin and jug* with a towel should be placed in each ward for the use of the surgeon in his rounds.

Book Shelves.—The homely and cheap bookshelves, made of three different sized pieces of wood, the largest piece being placed at the bottom, and all held together by pieces of window-blind cord, passing through the four corners of each, and holding them there by means of a knot, the ends of the cord being tied together at the top, will prove as serviceable as any. If preferred, pieces of red cloth, cut out in any pattern, may afterwards be nailed round the edges of the shelves, and will much improve their appearance.

Ambulances.—Many cottage hospitals are now supplied with an ambulance for the removal of patients to the hospital. Dr Swete has invented a very useful one, and it has been variously modified for different cases by others. It is best made to order from the local coachbuilder.

Dr Swete gives the following account of his ambulance, which he states can be made for twenty guineas, and leave a fair profit at the same time for the local coachbuilder:—

"The body is like a skeleton hearse, without bottom or sides, the panels at the side being filled with glass shutters or curtains of vulcanised india-rubber cloth,

capable of being drawn back opposite a wound, &c. The back of the carriage opens as a door. In the bottom are three rollers, on which runs a wooden tray, having placed in it a mattress covered with vulcanised cloth (or in infectious cases, straw, which may at once be burnt). This tray has two strong iron handles at each end, and one at each side, so that it can be conveniently carried up a narrow staircase. The vehicle is hung by four elliptic springs on four wheels, and is capable of being turned in its own length. It has a driving box, and shafts for a pony or donkey, which can be obtained in nearly every village, are strapped on the roof, with a handle to draw it by hand. On each side is a rail, so that any friend or attendant, whilst watching the patient, and walking with the hand resting on the rail, will give considerable assistance in propelling the carriage. A lamp is fitted outside and inside the carriage. No ornamental work exists. The wood is ash, with deal panels; the wheels are ash, with turned spokes. There is neither paint nor putty used, the whole being varnished inside and out, and the iron work bronzed. A spanner is attached to the driving box, ready for use to change the handle for the shafts. The name of the hospital or union to which the ambulance is attached, is painted on an ornamental ribbon or scroll, on the door. Its dimensions are 7 feet 6 inches, by 3 feet 9 inches, the height 4 feet 9 inches. The tray in which the mattress is placed is 6 feet by 2 feet. The total weight is under 3 cwt. The appearance is not in-

elegant, and the carriage would not look *outré* in the entrance hall of an hospital or union-house."

The mode of use is as follows:—"The carriage being brought near the place of accident, or where the sufferer lies, the tray is taken out and carried to him. This may be taken down a railway embankment, over a wall or locked gate, or up a narrow staircase. The patient being placed on the bed, is carried to the ambulance, and in the same way from the ambulance to the hospital bed."

With reference to this ambulance, Dr H. Franklin Parsons of Goole writes to the *Sanitary Record* of June 17, 1876, as follows:—"The Goole Local Board have recently had an ambulance built, which answers well. The idea of the vehicle was taken from that figured in Dr Swete's *Handbook of Cottage Hospitals*, but closed sides with windows were, for infectious cases, considered preferable to the open body with curtains recommended by Dr Swete. The body is something like that of an omnibus, seven feet long, three feet nine inches broad, and four feet high, opening with a door at the back. The sides are boarded for the lower two-thirds, with sash windows above, two of which will let down. In the bottom is a wooden tray for the patient to lie upon, six feet by two feet, sliding on rollers, and with handles at the ends and sides, so that it can be lifted out and carried upstairs. The tray lies along one side of the van; and being narrower than the body, the remainder of the breadth forms a gangway for the person who accompanies the patient, and who sits on

a stool. The under-carriage was that of a second-hand phaeton; the wheels are respectively two feet six inches and three feet six inches in diameter, with patent axles. There is a driving-box in front on the top of the van. The whole machine is very light, so that one horse can easily draw it. It was made by a local coachbuilder, and cost £22."*

Miscellaneous Articles.—Below will be found a list of articles required for use in the hospital. They admit of no particular description. In looking through the report of the different cottage hospitals we find that in most cases these, or many of them, have been given as presents to the institution, and probably this will be the rule. Many of these things are obtained by persons for cases of illness occurring in their families, and, when they have no further use for them, they are very pleased to get rid of them for such a useful purpose.

Foot Warmers.
Water-bed.
Air Cushions.
Cradles.
Crutches.
Slings.
Cushions.
Sand Bags.
Feeders.
Nightingales or Garibaldis.
Commodes and Bed Pans.
Dressing Gowns.
Slippers.
Foot Stools.
Books.
Scrap Books.
Old Linen Rag.
Inhalers.

Bags and pads of great variety may be made by the nurse as means of applying pressure, steadying limbs, or absorbing discharges.

Sand bags are best made with bed-ticking and fine sand or earth well dried by putting in the oven or by

*As to ambulances for cases of infectious disease, see Chapter VIII.

exposure to the fire. These bags are usually round and long, but their shape and weight must vary according to the requirements of particular cases.

Shot bags are made with bed-ticking or wash-leather and small shot, which may be prevented from rolling about by rough quilting. The square is a most useful shape for shot bags to allow of their lying comfortably on parts requiring gentle steady pressure.

Oakum and tenax (Southall's) *pads* should be made by well teasing out the material, and enclosing it in tarlatan or thin book muslin bags, roughly stitched.

Sawdust pads may be made with the same muslin and roughly quilted. All sawdust is absorbent, and very useful for surgical purposes. As Surgeon Major Porter first suggested, pitch pine sawdust is preferable. It possesses undoubted antiseptic properties, and its odour is very agreeable. Indeed Terebene is now proved to be a useful and pleasant disinfectant.

Tow pads, made like the preceding, are also very convenient and comfortable, as absorbing and smoothly compressing agents.

The patent safety or nursery pins should always be preferred to common pins; they hold faster, and cannot wound.

Hot water tins can be purchased from most instrument makers and furnishing ironmongers. When the special article is not at hand, ordinary bottles may be used; stone ones are preferable to glass. They should be wrapped in flannel, to regulate their temperature and to prevent the scalding of the patients.

A feeding cup with a nicely curved spout, all the better if at right angles with the handle, is an article that no nurse should be without.

Bed pans should be of the slipper shape; a loose flannel covering for the pan gives great comfort. In winter the nurse should always keep the bed pan near the fire. Before giving it to the patient, and immediately after use, some of the disinfecting powders sold in dredging boxes should be sprinkled in the pan.

In closing this chapter, it is necessary to remark that these things are not all absolutely necessary, at any rate on first starting. It is, however, urged, that it will be wiser not to put by surplus money as an endowment, till most of them have been provided, but to expend any surplus in making the hospital more complete as regards its fittings. The list may also prove serviceable as a reference for such persons as are minded to make a present to a hospital, since they can thus easily note in what articles the institution may be deficient.

CHAPTER VIII.

COTTAGE FEVER HOSPITALS.

Cottage Fever Hospitals—Their advantages—Their economy from a public health point of view—Necessity of such provision being in readiness beforehand—Amount of accommodation required for villages and for towns—Conditions necessary for practical success of Fever Hospitals—Temporary extensions by huts and tents—Sewerage and scavenging arrangements—Ambulances for infectious cases—Fever Hospitals now existing—Experience as to their usefulness in stamping out epidemics—Charges for maintenance in hospital—the Solihull Fever Hospital—Large Temporary Fever Hospital at Berlin—Cottage Fever Hospitals at Ross, Dover, Chesham, and Grantham—Rules of the Grantham and Solihull Hospitals—Management of small infectious hospitals—Typhoid Fever as an "infectious" disease in villages—Outbreak at Tollesbury—Necessity for isolation of typhoid cases.

THIS book is not the place for argument as to the advantages which accrue to the community from the possession of a properly organised hospital for the reception and isolation of cases of infectious disease. It will be sufficient to say, that in the reports of the medical officers of health in almost every place where such hospitals are provided, the most convincing testimony is given of their usefulness in stamping out epidemics, which would otherwise not only cause much suffering and mortality, but impose heavy burdens upon the rates. We are not without hope that in the course of a decade or two, the present

permissive powers conferred upon sanitary authorities with regard to the provision of such hospitals will be made *compulsory*. Otherwise it will be impossible to check in any satisfactory way the ravages of infectious disease. We believe it is very generally conceded by those who have studied the subject, that of all forms of hospitals of this nature, the cottage form is the best. The great point to be secured is that the patient shall at once be removed, without danger to himself or others, to a place where he can be isolated from the rest of the community, and where he can be treated for his disease with all proper precautions. Now, it is precisely in this way that the cottage hospital will be found most useful. It may sometimes be a matter of extreme danger to move the patient several miles to a large infectious hospital at a neighbouring town; whereas, on the other hand, it is equally dangerous to keep him at home sowing broadcast the seeds of infection. But if there exists in the parish or near it a cottage hospital to which he can be taken, the requirements of the patient and of the public health are both complied with in the manner most satisfactory to each. It is greatly to be hoped that sanitary authorities will come to see much more generally than they do at present, not only the desirability, but also the real economy, of providing infectious hospitals. As Dr E. T. Wilson of Cheltenham has well said—"It is not easy to understand why a hospital for suppressing preventable disease should not be regarded as equally

necessary with a fire-engine for putting out fire, or the police for suppressing riot." In the present age of rapid and constant communication, no place, however remote, can claim exemption from the attacks of epidemic disease. Retired hamlets and isolated cottages are often the starting-points of the most formidable outbreaks. Therefore, if infection is to be kept in check, there must be means everywhere for isolating it, and no cottage in the country should be beyond the reach of such accommodation, should the demand for it arise. In this connection it is necessary to remember that it is a first condition of the usefulness of an infectious hospital that it should be provided beforehand in readiness for the first cases of infectious disease that may break out in the neighbourhood. Otherwise, the infection may spread before the hospital can be prepared, and the value of the latter will be considerably reduced, if not altogether destroyed.

With these few preliminary remarks we pass on to consider the points that especially need to be considered in connection with cottage fever hospitals. On this subject we cannot do better than reproduce what is said by that distinguished sanitarian, Mr John Simon, F.R.S., in a memorandum which has been issued by the Local Government Board. As we have already said, a condition of the highest degree of importance for the usefulness of any such accommodation is, that it *shall be ready beforehand.* The quantity of accommodation wanted will, of course, be widely different in

different cases; but it must always be remembered that when two infectious diseases are prevalent in one place at one time, patients having the one cannot properly be in the same ward with patients having the other infectious disease. In kind, the accommodation ought, in all cases, to be as good as the sanitary authority can reasonably supply.

"As regards *Villages*.—Each village ought to have the means of accommodating instantly, or at a few hours' notice, say, four cases of infectious disease in at least two separate rooms, without requiring their removal to a distance. A decent four-room or six-room cottage, at the disposal of the local authority, would answer this purpose; and small adjacent villages (if under the same sanitary authority) might often have such arrangements in common. If, in villages where such provision as this has been made, cases of disease in excess of the accommodation occur, the sick must not be crowded together, but temporary further provision should be made for them. The most rapid and the cheapest way of obtaining this further accommodation, may often be to hire other neighbouring cottages; or, in default of this, tents or huts may be erected upon adjacent ground.

"In *Towns*, hospital accommodation for infectious diseases is wanted more constantly, as well as in larger amount, than in villages; and in towns there is greater probability that room will be wanted at the same time for two or more infectious diseases which ought not to be treated in the same ward. The

permanent provision to be made in a town, in order to obtain reasonable security against the spread of infectious diseases, should consist of not less than four rooms, in two separate pairs; each pair to receive the sufferers from one infectious disease, the men and women, of course, separately. The number of cases for which permanent provision should be made must depend upon various circumstances, chiefly upon the size of the town; and, as no closely limited amount of permanent accommodation can be trusted always to suffice for the requirements of considerable epidemics, foresight must from the first be used how, in emergency, additional accommodation can be temporarily given to meet requirements in excess of the permanent provision. Accordingly, for a town of any importance, the hospital provision ought to consist of a permanent building, having around it space enough for the erection of temporary structures, as occasion may require. Considerations of ultimate economy make it wise to have the permenent building equal to somewhat more than the average necessities of the place, so that recourse to temporary extensions may less often be wanted. In small towns, for instance, if a hospital, consisting of four wards and the necessary administrative offices, is to be provided, the original expense of making each ward serve for (say) eight persons, will be far less than double that of making the wards for four. And in any case it is well to make the administrative offices somewhat in excess of the wants of the per-

manent wards: because thus, at little additional first cost, they will be ready to serve, when occasion comes, for the wants of the temporary extensions."

In another part of the volume we have discussed the principles on which cottage hospitals should be built. The same points need to be borne in mind in the erection or adaptation of cottage fever hospitals; but it may be noted that, in order to secure the practical success of any such hospital, the following conditions have particularly to be studied :—

"1. *Accessibility of situation,* so that the sick may not be exhausted by long journeys; *wholesomeness of situation;* and, as far as consists with these conditions, *an open, uncrowded neighbourhood.*

"2. *Adequate ward-space for each patient,* approaching as nearly as circumstances allow to 2000 cubic feet, with a floor space of not less than 144 square feet.

"3. *Thoroughly good provision for ward ventilation* (*i.e.*, for sufficient *unceasing* entrance of pure air and of exit of ward air), with arrangements also for immediate change of air in the whole ward, when necessary.

"4. Perfect security *against the possibility of any foul air* (as from privies or sinks) entering any ward.

"5. Means of *warming* each ward in winter to a temperature of 60° Fahrenheit, and of keeping it cool in summer.

"6. Safe means (safe both for the hospital and for the neighbourhood) for disposing of *excremental matters and of slops,* and for cleansing and disinfecting *infected linen and bedding.*

"7. Facilities for obtaining, in the use of the hospital, the *very strictest cleanliness* of every part.

When the pressure of a particular epidemic requires temporary extension of the accommodation, *huts*, or, in summer, *tents*, will sufficiently answer the purpose, and with this view it is desirable to get as much land as possible round the hospital so as to provide for such temporary extensions.

"The *tents* may be either such as the army bell tent or hospital marquee, or one of the various forms of tent and marquee used in civil life. *Huts* may be of wood or iron; and, if the administrative part of the original building have been thoughtfully devised, these temporary erections may be of very simple construction. Both tents and huts need to be carefully arranged and regulated, especially in the following respects.

"As to *Tents*.—It is essential to secure the dryness of the ground upon which they are pitched, by trenching around and between them, so as to carry off any rainfall and to prevent the lodgment of moisture. The tents should everywhere be distant at least a diameter and a half from each other. The approaches should be paved or otherwise prepared, to prevent their being trodden into mud in wet weather, and it is especially requisite that abundant proper means be provided for the reception of refuse matters, and that no casting of slops or other refuse upon the ground in the vicinity of the tents be allowed. In the distribution of patients in active stages of disease, not more than one patient

should be assigned to a bell tent of the ordinary regulation size, nor more than three such patients to the regulation hospital marquee;* and in other forms of tents the number of patients should be regulated in similar proportions. Tents should always be provided with special ventilating openings. They should have boarded floors, raised sufficiently above the ground to allow the air to pass freely beneath. From the ready inflammability of the ordinary canvas of which tents are constructed, much care is required in the use of lights in tents; and tents should not be used in states of weather which render artificial warming necessary, if sufficiently rapid provision for the isolation of the sick can otherwise be had." There is no difficulty in properly warming these tent hospitals, but the secret consists in placing the heating apparatus, not in the room to be warmed, but below it. This has been proved by experience gained recently at St. Petersburg, where two barrack wards have been in use winter and summer for some years past. This is an important point, because experience has proved that in the coldest seasons, when it may be necessary to warm a tent hospital, the air within it may be maintained even more constantly pure than at other seasons. The obvious reason for this is that whenever the temperature of the air within a tent is raised

* *Regulation Bell Tent.*—Diameter, 14 ft.; height, 10 ft.; area of base, 154 square ft.; cubic space, 513 feet.

Regulation Hospital Marquee.—Length, 29 ft.; width, 14 ft.; side walls, 5 ft. 4 in.; height to ridge, 11 ft. 8 in.; area of base, 396 square ft.; cubic capacity, 3366 feet.

a degree or more above that of the air without, the warmer air begins to escape, or rather it is forced into the surrounding atmosphere, from which in turn it is necessarily received.

"As to *Huts*.—Dryness of site is, as in the case of tents, of the first importance. Each hut should be trenched round. Its floors should be raised a foot or a foot and a half from the earth, so as to permit the free under passage of air; but care must be taken to prevent the lodgment of moisture or impurities beneath the floor. In some cases a layer of concrete under the hut may be necessary to prevent dampness. A distance not less than three times the wall-height of a hut should intervene between any two huts, and each hut should be so placed as not unnecessarily to interfere with free circulation of air round other huts. In huts, as in permanent buildings for the treatment of infectious diseases, 2000 cubic feet, with 144 square feet of floor, is the standard of space that should be allowed to each patient. The ventilation of huts, also, is of equal importance with that of permanent hospital buildings. It is best secured by the combination of side-windows with roof-opening, the latter protected from rain, and running the whole length of the ridge of the roof. The side-windows should not be of less size than ordinary house windows; they must freely open top and bottom, and for this purpose had best be sash-windows; they should be placed in similar series on opposite sides of the wards, one window between each pair of beds. The ventilating opening

beneath the ridge may have flaps, movable from within the hut by ropes and pulleys, so that the opening to windward can be closed, if necessary, in high winds. Doubled-walled wood huts may have additional ventilation by the admission of air between the outer and inner walls, and its passage into the interior of the hut through openings with movable covers at the top of the inner lining. The roof should be covered with waterproof felt; the edges of the felt fastened down by strips of wood, not directly by nails. The hut should be warmed by open fire-places, fixed in brick stove-stacks, or by open stoves placed in the centre of the floor, the flue being carried through the roof, with all the needful precautions to guard against ignition of the wood-work.

"The *Sewerage* and *Scavenging* arrangements both of tents and huts demand very careful consideration. When the tents or huts are placed within the area of a public system of sewerage and water supply, no difficulty will arise; for drains may be laid into the public sewer, and water-closets may easily be adopted. But where no system of sewerage exists, the disposal of excremental matters and other refuse will require special provisions. In regard to excremental-disposal under such circumstances, the best method to adopt is the dry-earth system, or, failing this, a pail system, with careful arrangements for the disinfection and subsequent disposal of the excrementitious matter. All slops and other refuse should be deposited in metal pails, to be removed from the tents and huts at

frequent intervals, and should be disposed of as not to become a nuisance. Too much attention cannot be given to the careful scavenging of tents and huts, and to the proper disposal of the refuse from them; and the servant or servants to whom the duty is assigned (as indeed all service which concerns the cleanliness and wholesomeness of the hospital) should be under very vigilant supervision."

A necessary appendage to every hospital for infectious diseases is a properly constructed ambulance.* Such carriages may be provided by sanitary authorities under section 123 of the Public Health Act, 1875. The following points have to be attended to in the provision and use of such carriages :—

"1. If the ambulance be intended only for journeys of not more than a mile, it may be made so as to be carried between two people, or it may be on wheels and to be drawn by hand. If the distance be above a mile, the ambulance should be drawn by a horse. Every ambulance on wheels should have easy carriage-springs.

"2. In the construction of an ambulance, special regard should be had to the fact that after each use it has to be cleansed and disinfected. The entire interior, and the bed-frame and bed, should be of materials that can be washed.

"3. The ambulance should be such that the patient can lie full length in it; and the bed-frame and bed should be moveable, so that the patient can be

* See also page 249.

arranged upon the bed before being taken out of his house.

"4. With an ambulance there should always be a person specially in charge of the patient; and a horse-ambulance should have a seat for such person inside the carriage.

"5. After every use of an ambulance for infectious disease, it should be cleansed and disinfected to the satisfaction of a medical officer.

"6. Both in very populous districts, and in districts which are of very wide area, it may often happen that more than one ambulance will be wanted at one time; and, in any district, if more than one infectious disease is prevailing, there will be an evident sanitary advantage in having more than one ambulance for use."

It will be manifest from the foregoing observations, that it is essential that cottage hospital provision for infectious diseases must be given quite separately from that for accidents or injuries. We do not imagine that any inconvenience will arise from this, since the one is provided by the sanitary authority as a part of its administrative machinery, and the other by local enterprise or benevolence.

It is greatly to be deplored that so little is known at present as to the amount and character of the hospital provision made by sanitary authorities in different parts of the kingdom. An endeavour has recently been made by the Local Government Board to collect information on this subject, by the issue of a circular;

but the results are not likely to be given to the world for some considerable time.

It may be well, therefore, to give here for the information of local sanitary authorities generally, the particulars relating to all the fever hospitals at present known to exist. We are indebted to Dr Wilson of Cheltenham, and to Dr Bland of Macclesfield, for much of this information. There are in England and Wales, 940 urban, 585 rural, 46 port, and 43 metropolitan sanitary authorities, making a grand total of 1614. Of this number only 183 appear to have provided fever hospitals for the protection of the inhabitants. Of these 183 hospitals, Dr Wilson could only obtain particulars from 128. He found that 97 are provided by sanitary authorities for non-paupers, 14 are under the management of the committees of general hospitals, 9 were built by public subscription,—4 of which are described further on,—3 are situated in Scotland and are for the accommodation of non-paupers, and the remaining 5 are pauper hospitals on a large scale, situate either in London or the provinces, to which paying patients are freely admitted. Of course, this list is very incomplete, but it is the best that can be obtained by private effort. It is lamentable to think how much preventable disease has raged in the majority of the sanitary districts which have not taken the precaution to provide hospitals for the prompt and efficient isolation of infectious cases.

No sane person doubts that the provision of adequate hospital accommodation for such cases is, in

the end, by far the cheapest and most effectual course for local authorities to adopt. Experience abundantly proves this. Dr Buchanan has shown the value of this ready-made provision for infectious cases, by recording the results of establishing a small-pox hospital at Cheltenham, with 14 beds. During six months of the year 1875, small-pox was brought into Cheltenham, no less than six times, from Gloucester, Birmingham, Liverpool, and elsewhere. Seven persons ill of the imported disease were taken without delay to the Delancey Fever Hospital, and except one individual, who was also removed to the hospital, nobody in the town caught the disease from these centres of contagion. There was literally no other small-pox in the town. Dr Wilson says:—at Hastings, small-pox epidemics have twice been stamped out. At Bristol, on many occasions, epidemics from various infectious diseases have been arrested, and notably one of typhus in 1877. At Newcastle-on-Tyne, typhus fever—once endemic—has several times been completely stopped. At Leek, in Staffordshire, no case of small-pox occurred after removing the first to the hospital. The fever hospital at Leek, Dr Ritchie writes, "has been largely instrumental in reducing mortality from zymotic disease." At Coventry, small-pox has been stopped twice, and scarlet fever on many occasions. In Glasgow, where isolation is most admirably provided for, there were during the five years 1861–65 inclusive, before the fever hospital was built, 3394 deaths from typhus

alone. In the five years preceding 1877, during which the hospital had been at work, there were 553 deaths only from the same disease, in spite of the large increase of the population. A saving has thus been effected by the erection of a fever hospital, in five years of 4450 lives, and of, probably, some 37,400 cases of illness from a single disease. At Derby, an outbreak distinctly due to the closing of the fever hospital and the consequent admission of a small-pox case to the Infirmary, was speedily arrested when the fever hospital was reopened. At Ipswich, in 1877, small-pox was imported into the borough no less than twenty separate times without once getting a foothold. These are remarkable instances of the value of isolation, and the list might be materially lengthened. We give these instances here to strengthen the hands of the local authorities when the ratepayers grumble at the expense of establishing a fever hospital. We realise their difficulties in many cases, and we desire to aid in their removal.

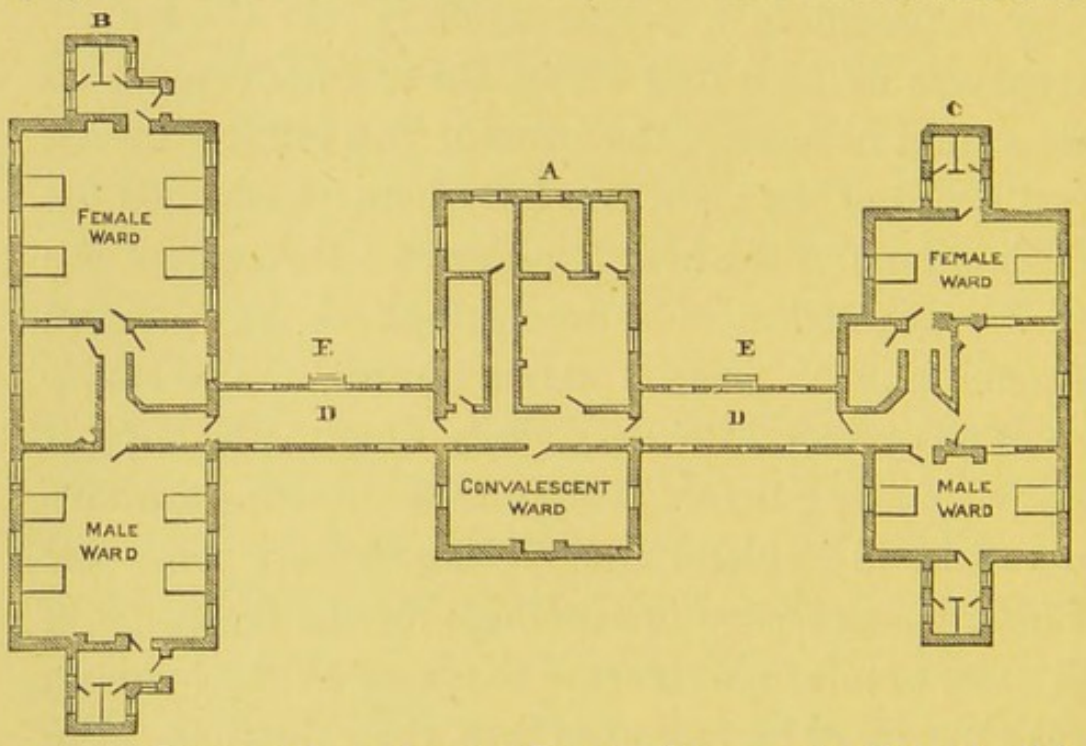
A striking example of the expense of delaying some ready-made provision for infectious cases is afforded by the experience of Rugby. The local health authority neglected for years to provide a fever hospital. In consequence, when an epidemic of small-pox broke out there in 1874, a panic ensued. Much too large a hospital was at once erected. Excessive expense was caused by the fact that other works had to be stopped to obtain a full complement of men to hurry on the erection of the building, and the men had to labour

night and day to complete the work. A hospital with 32 beds, equal to one in 300 of the inhabitants, was thus built in a fortnight at a needlessly ruinous outlay.

It must be evident to any practical reader, that the objection to the erection of a fever hospital on the score of expense, is entirely groundless, when the extravagant wastefulness which an outbreak of infectious disease may necessitate is considered. Full power is given to local authorities to provide for the use of the inhabitants' hospitals, or temporary places for the reception of the sick, by the 131st clause of the Public Health Act, 1875. There need, therefore, be no diffidence on that point. As regards the patients themselves, experience shows that the public will gladly avail themselves of the facilities for isolation which a fever hospital offers. Of course, the utmost kindness and consideration must be shown to the people who are required to occupy the hospitals. Every effort should be made to make the patients comfortable and contented, and it must not be forgotten that the isolation of a patient in a fever hospital probably confers more benefit upon the public than it does upon the patient. Remembering this, no charge should be made for the maintenance of a patient in any such hospital, unless it is clearly proved that he is well able to pay for his treatment. Indeed, we heartily support those authorities who pay the wages of persons who are compelled to stay away from work on account of the infection in their houses. All local boards have the power to do this, and they

will find it true economy to exercise this power with judicious liberality. Of course, all who can pay ought to be made to pay, but the first duty of a local authority is not to recoup themselves for the outlay they incur, but to stop the spread of disease. Dr Wilson of Leamington has shown that although the delay in providing a proper building cost the Rugby ratepayers at least four times the expenditure which was at first necessary, the prompt recognition by the local board of the points we have here urged upon the consideration of the health authorities throughout the country, enabled them to promptly check the epidemic of small-pox, to keep it under control, and to stamp it out altogether in a very short time. We hope it will not be long before every one of the 1614 sanitary authorities in England and Wales will have some sort of isolation-provision in readiness for the reception of the cases of infectious disease that may at any moment break out in, or be imported into, their districts. We have already given detailed advice as to the construction, &c., of fever hospitals. It may be useful, however, to give a description of a small hospital with 12 beds, built at Solihull, in the Mid Warwickshire district, in 1876. The sketch on the following page is a ground plan of this hospital. The general principles of the plan are those laid down in the memorandum of the Local Government Board, although the details were modified to suit local circumstances. The central block (A) contains a convalescent room, kitchen, larder, small surgery, &c. There is a doorway (E) in each corridor

(D), so that the patients in the blocks B and C can be kept completely apart if required. In addition to these blocks there are outbuildings containing a porter's lodge, a disinfecting chamber, a dead-house, a wash-house and laundry, and a shed for an ambulance. The population of the union is 20,000. The site covers two



acres of ground, and cost £400. The cost of the building was a little over £2000.* The plan is well adapted to the wants of a hospital for the isolation of disease, as two different kinds can be treated simultaneously in the pavilions, or the whole may be used during severe outbreaks for one disease. Those patients who can afford it, pay two pounds a week. It is found in practice that the inmates, as a rule, have a much better chance of recovery than in their own homes.

Another plan for a fever hospital, on a larger scale, will be found on a subsequent page. This plan has

* Wilson's Handbook of Hygiene.

been carried out at Weston Favell, in Northamptonshire, where a convalescent home has been built. It answers admirably, and has given great satisfaction to the authorities.

A detailed description and plan of the new fever wards at the Stamford infirmary, where 30 patients are provided for in three separate blocks or cottages, will be found further on. A word may, perhaps, be here added with advantage on a detail of construction. Ought fever hospitals to be erected for lengthened occupation, or should they be cheaply built with the view of demolition and reconstruction, say every ten years? In Germany, the latter plan is most in favour. The most notable example of a cheaply constructed hospital for fever cases to be found in Europe, has been recently erected at Berlin. This hospital, the Baracken Lazareth, Städt Moabit, is built on the pavilion system. The structure is of brick and wood, the walls being practically merely strong lath and brick partitions, having their inner sides lined with wood pannelling. Each pavilion is of one storey, and the roof is of wood covered with tarred paper. There is accommodation for 30 patients in each hut, to which is attached a bath-room, w.-c., urinal, and a ward kitchen. The general plan for the arrangement of the pavilions, administrative offices, laundry, mortuary, &c., is very similar to that recommended by Mr Simon. The whole building, which will take 1000 patients, cost but £10,000, and it is well worthy the attention of architects and others interested in hos-

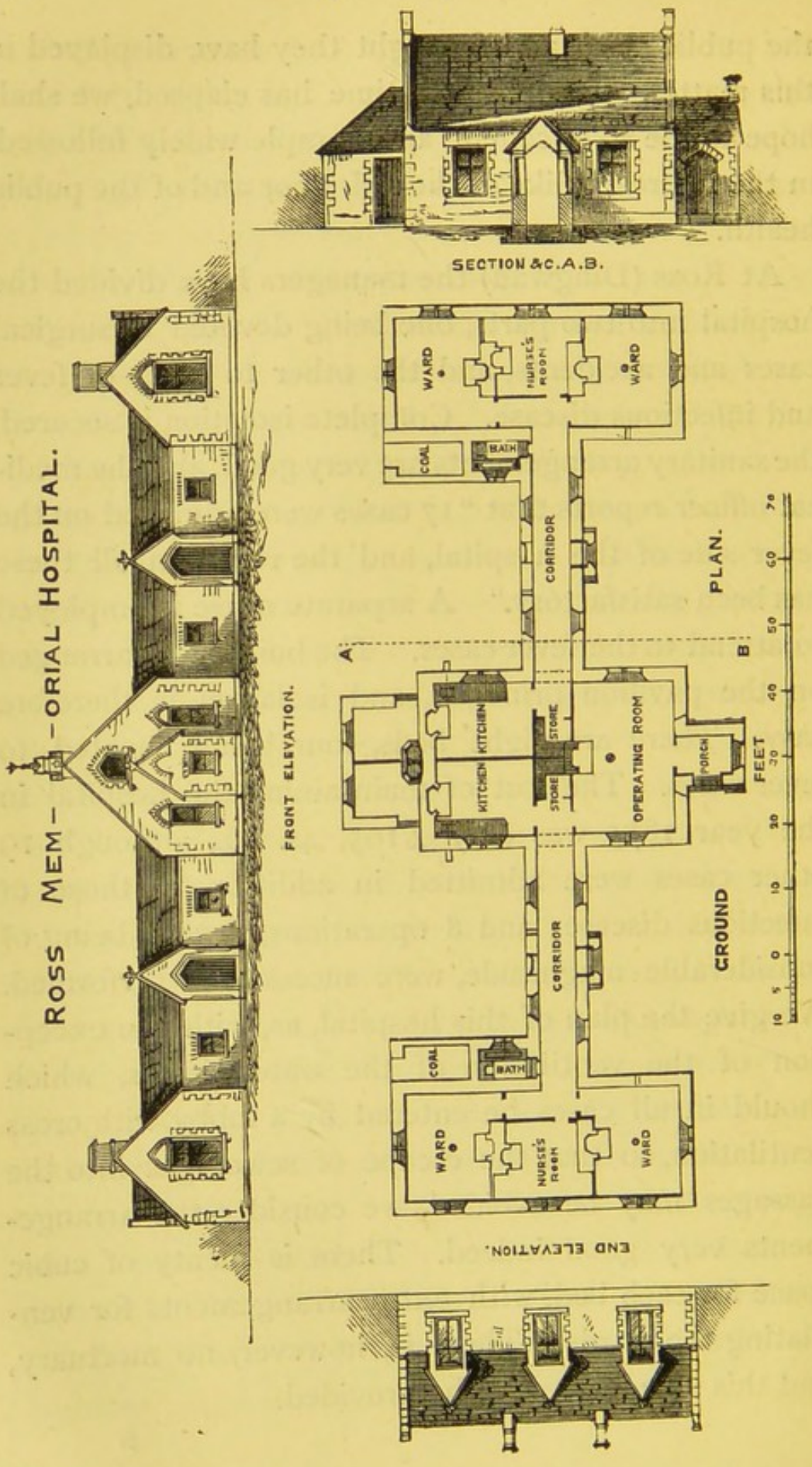
pital construction. It is heated by steam in the winter, at a cost of 5d. per head per diem, and this forms the only expensive item in the working. The method of ventilation is commendable. On a hot day in the early summer the wards were refreshingly cool to the visitor, yet the plan adopted is most simple. Air bricks, which communicate with the outer air, are placed about 3 inches above the level of the ward floor. At the highest point of the roof circular ventilating shafts are fixed at frequent intervals. The result is almost, if not quite, perfect. The writer adopted the same simple system in some temporary small-pox wards a few years ago with equally good results. The vertical system of ventilation is, no doubt, the best, remembering always—this is a point too often overlooked—that adequate *outlets* are provided at the ceiling level, as well as numerous inlets at proper levels.

So far as we are aware, there are four cottage fever hospitals unconnected with the sanitary authorities now in existence, viz., at Ross, Dover, Chesham, and Grantham.* In the hope that the description may be found useful, and that it may lead to an increase of these much-needed little hospitals for isolating cases of infectious disease, we have decided to give as full particulars of each of these hospitals as possible. Private effort has supplied a great public want at those places where cottage fever hospitals have been established, and too much praise cannot be awarded to their promoters for

* A fifth cottage fever hospital, at Northallerton, must now be added to the list. To this hospital the Northallerton Local Board pays a subscription of £10 per annum.

the public spirit and foresight they have displayed in this matter. Before much time has elapsed, we shall hope to see so excellent an example widely followed, in the interests alike of the sick poor and of the public health.

At Ross (Dingwall) the managers have divided the hospital into two parts, one being devoted to surgical cases and accidents, and the other to cases of fever and infectious disease. Complete isolation is secured, the sanitary arrangements are very good, and the medical officer reports that "17 cases were admitted on the fever side of the hospital, and the result in all these has been satisfactory." A separate nurse is employed to attend to the fever cases. The building is arranged on the pavilion principle, and isolation is therefore easy. There are eight beds, four being devoted to fever cases. The cost of maintaining the hospital in the year 1875 was only £105, 4s. 1d., although 19 other cases were admitted in addition to those of infectious disease; and 8 operations, several being of considerable magnitude, were successfully performed. We give the plan of this hospital, as, with the exception of the ventilation of the water-closets, which should in all cases be entered by a lobby with cross ventilation, so that the escape of sewer gas into the passages may be avoided, we consider the arrangements very good indeed. There is plenty of cubic space for each bed, with extra arrangements for ventilating the wards. There is, however, no mortuary, and this should at once be provided.


ROSS MEM- -ORIAL HOSPITAL.
FRONT ELEVATION.
SECTION &C.A.B.
WARD
NURSE'S ROOM
WARD
COAL
BATH
CORRIDOR
A
B
KITCHEN
KITCHEN
STORE
STORE
OPERATING ROOM
PORCH
PLAN.
GROUND
FEET
0 10 20 30 40 50 60 70
5 10
COAL
BATH
CORRIDOR
WARD
NURSE'S Room
WARD
END ELEVATION.

The Dover fever hospital has recently been considerably enlarged. It was commenced in 1869, was finished and ready for use in the autumn of 1870, and was shortly afterwards occupied. It was erected by Dr E. F. Astley, on his own responsibility, with the assistance of personal friends and the clergy. In the first building the beds amounted to from 8 to 10, but there is now accommodation for upwards of 20 patients. We are indebted to Dr Astley for the following account of the objects, origin, and scope of this useful little hospital, and we commend his simple narrative to the earnest consideration of all thoughtful members of the profession in the smaller country towns and districts. He says,—"As the cottage hospital here is peculiar, I send you a short account of its origin. It is designed for the treatment of infectious diseases, fevers, small-pox (not syphilis), and for convalescents from such complaints. Having practised my profession in this town for some years, and having often felt the necessity of having some detached house to which cases of infectious diseases could be removed, especially from the close confined districts occupied by the poorer class, I determined to make the experiment, and in 1869 purchased some land near the town, but quite away from other houses, elevated and of good aspect, and had built a good-sized ten-roomed house of brick, with hollow walls, but since cemented, and tiled roof [at a cost of £800]. Six rooms were furnished with only the essentials. The walls were slightly coloured, and, though small, each room was

constructed with a fire-place, window, ventilator in roof and door. Experience showed me in a short time that, for purposes such as I aimed at, I wanted more room. An epidemic of small-pox visited us in 1871 and 1872, and I added a large detached sitting-room and lavatory; but then could have received double or treble the number, had I accommodation. I therefore determined to build a second house, well detached from the first, which was completed in 1873; and in order to make the establishment as complete as possible, in another portion of the ground I had a large laundry, with steam for boiling clothes, &c., drying closet, and for working a pump which lifts the water from a deep well on my own premises to a tank on the top of the building for general supply, in addition to the supply of rain-water caught from the several buildings, and kept in tanks. In the rear, I have a large disinfecting closet for beds, mattresses, and such like. I may observe that the laundry and this department were undertaken by me on the understanding that the urban sanitary authority would give me an annual sum towards their maintenance. The disinfecting department has been constantly in use for the town. The cost of the second building, including laundry, &c., was £2300.

"The borough have by agreement the use of 12 beds, when needed, for which they pay towards the maintenance of the buildings and the staff £150 per year. The guardians have, by a similar agreement, 6 beds, and pay £50 per year. For the maintenance of

the patients, the charge varies from 10s. to 15s. per week, some being able to pay for themselves. If unable the borough, or, if paupers, the guardians pay it. There is no payment for medical attendance.

"When the hospital was opened, I invited each practitioner in the town to continue their treatment to their patients in the hospital, should any of them be sent there, reserving the right, in the event of their declining, to treat them myself. The majority of cases have been treated by me.

"The income is about £240 per annum, of which £200 is from the borough and union, and about £40 donations.

"Expenditure for wages, board, &c., of staff, about £220; repairs, wear and tear, £50. The sums paid for the board of the patients barely cover the expense.

"As these buildings are intended for infectious cases and convalescents from the same, the number varies, and it would be difficult to give an average. Sometimes we have had no cases for weeks, then we may have an accession of 10 or 12. Being a sea-port, and in constant communication with the Continent, we are liable to have cases landed of fever or small-pox. *Two of our severest cases of the latter were landed from passing ships.*"

At Chesham an iron building for fever and other infectious cases was put up by the authorities of the cottage hospital during an outbreak of fever in 1871, at a cost of £297. The farmers materially assisted, by giving all the carting and other help they could.

Most of the beds were sold when no longer wanted. The iron hospital is now let at a peppercorn rent to the sanitary authority, and is under their management.

Preventive medicine has made much progress in the town of Grantham during the last few years, thanks to the energy and ability of the medical officer of health, Dr Alfred Ashby. Chiefly by his means, and with the support and assistance of Mr George Shipman, and other members of the medical profession in Grantham, a small fever hospital has been built in the grounds of the cottage hospital.* The Grantham Fever Hospital may be used by persons who have been subscribers of one guinea for at least six months previous to their application for admission. Such subscribers, on the production of a certificate from their own medical attendants, are at liberty to use the hospital for any member of their families, or for any servant, suffering from any of the following diseases: small-pox, scarlet fever, typhus, erysipelas, or measles. Each subscriber is required to contribute, in advance for each patient, a weekly payment of one guinea. For this sum he is entitled to the use of gas, water, bedsteads, wire mattresses, and the ordinary furniture at present in the wards. The following rules may be usefully reproduced here:—

Not more than one kind of infectious disease may be admitted into, or treated in, the fever hospital at one and the same time.

* *Vide* plan on a subsequent page.

After one or more cases of infectious disease shall have been treated in the hospital, no case of any other disease may be admitted until the hospital, bedding, clothes, mattresses, and other articles of furniture have been thoroughly and effectually disinfected and cleansed. In the event of no efficient disinfecting apparatus being available, the mattresses, pillows, and bolsters which have been used shall be burnt.

On no account shall more than five patients be allowed to remain in the fever hospital at any one time, children to count the same as adults, but a woman with an infant in arms shall count as one person only.

There shall be no communication whatever, either directly or indirectly, between any of the patients or attendants of the fever hospital and any of the inmates of the General (Cottage) Hospital or laundry.

All secretions, excretions, expectorations, and discharges from patients must be received into vessels containing a sufficient quantity of an effectual disinfectant solution decided upon by the committee on the advice of the medical staff, and be removed from the wards as soon as practicable after being passed.

The scales and scabs shed from the patients' skin are to be destroyed by burning as far as practicable.

It is expected that in the event of a death taking place, the funeral shall proceed direct from the fever hospital to the place of burial, and that, if there should be more than one patient in the fever hospital, the body shall be removed as soon as possible to the mortuary, and the friends be desired to proceed to interment at as early a period as is consistent with propriety.

All articles of clothing or bedding requiring to be washed shall be steeped for twenty-four hours in an effective disinfectant solution, decided upon by the committee on the advice of their medical staff, and afterwards be thoroughly rinsed out with clear water and washed previous to being removed from the building.

No clothes or other articles from the fever hospital shall be hung out to dry in the garden or premises of the general hospital.

The committee will provide a sufficient number of suitable

vessels, to be kept in constant readiness, for the disinfection of articles immediately they are removed from the patients.

No cooking or washing required for the fever hospital shall be performed in the general hospital or its offices.

Any stores required for the fever hospital shall be kept therein, and not be taken from the general hospital for use in the fever hospital.

In all cases it is particularly requested that the intercourse between patients and their friends be as limited as possible, and in no case shall the patient leave the building without the permission of the medical attendant.

A record of the particulars of each case, and of the date of admission and discharge, shall be kept by the secretary in a book to be provided for that purpose.

A copy of the bye-laws shall be given to each subscriber making application for the use of the fever hospital.

It will be noticed that no fuel, food, sheeting, blankets, utensils, service, or nursing are provided for the subscribers. In all these respects they are left to their own devices. The hospital has only been opened about a year, and doubtless the committee of the cottage hospital will eventually provide these necessaries for a reasonable additional charge. In spite, however, of the disadvantages incident to the absence of these necessaries, many subscribers have used the hospital, and it has been occupied on seven separate occasions. In other words, it has been almost constantly occupied. Every one is pleased with the idea, and it has been the means of stopping the spread of infectious disease in many households. Indeed, the medical profession are of opinion, judging from the results already attained, that by extending the system now under trial, they will eventually be able to free the neighbourhood from outbreaks of

epidemic disease. Be this as it may, the public and the profession in and around Grantham deserve the grateful acknowledgments of all people who are striving to protect their countrymen, their wives, and families from attacks of preventable disease. The fever hospital itself is well arranged, and admirably situated. It was specially built for the purpose to which it is devoted, and is in all respects adequate to meet the present requirements of the work. So signal a success as this justifies the expression of an earnest hope that before long every community of sufficient size will follow the example of Grantham. If this is ever done, England may look forward to a time when her people will be freed from many diseases which at present commit sad ravages amongst all classes. We can only pray for the consummation of a reform so devoutly to be wished for.

The rules of the Solihull Hospital for infectious diseases, already referred to, may be usefully reproduced here. They have been prepared by an experienced sanitarian, Dr George Wilson, M.A., F.C.S., and have worked admirably. They are signed by the Clerk to the Local Health Authority, and have been widely distributed for the information of the inhabitants of the Mid Warwickshire district. They are as follows :—

Rules for Medical Officer, Master, and Matron.

1. The medical officer shall be the responsible head of the establishment, and shall visit occasionally, even when there are

no patients, to assure himself that the master and matron are attending to their duties.

2. It shall be the duty of the master and matron to keep the wards scrupulously clean, and to have the bedding well aired and in readiness at all times for the reception of patients. They shall keep an inventory of everything belonging to the hospital, and a careful record of the articles of food and drink supplied to patients by the order of the medical officer or other medical attendant. One of them shall always be at the hospital unless when special leave is granted by the Sanitary Authority or by their clerk. They shall obey the instructions of the medical officer, and be responsible for the good conduct of nurses and patients.

3. The master shall attend the Board meetings at Solihull at least once a month, to submit his books and take orders for necessaries.

Rules for Patients and Friends.

1. No person shall be admitted to the hospital without the production of a certificate signed by a duly qualified medical practitioner.

2. Any patient admitted to the hospital may be attended by any qualified medical practitioner, provided that a request to this effect is submitted to the medical officer or sanitary inspector at the time of admission, and that the cost of such attendance is defrayed by the patient or friends.

3. No visitor shall be allowed inside the building or grounds without written permission from the medical officer.

4. No patient shall leave the wards or take exercise in the grounds without permission from the medical officer or medical attendant.

5. Any patient leaving the hospital without the written permission of the medical officer or medical attendant will be liable to heavy penalties, which will be enforced by the Sanitary Authority.

6. No patient shall leave the hospital without a change of clothes, unless the clothing used during convalesence has been carefully disinfected.

7. No person in attendance upon patients shall leave the hospital without permission from the medical officer nor without a change of clothes.

The management of a small infectious hospital will much resemble that already recommended for a cottage hospital. A medical officer should be appointed to look after all the patients, but each patient should possess the privilege of being attended by his own doctor. The great difficulty, of course, will be the prompt provision of competent nurses. This will be best accomplished by telegraphing to the nearest Home for trained nurses, and if one is not procured in this way, a reference to the advertisements in the *Times* or the medical papers will furnish a list of the Metropolitan Nursing Institutions, from which competent women can always be obtained. The Local Authorities should always thoroughly cleanse and disinfect a hospital when unoccupied, and at such times the bedding, as well as the building itself, should be kept well-aired and ready for immediate use.

The remarks made on pages 151 and 152, with respect to the treatment of typhoid fever in the ordinary wards of a general hospital, must not be taken as applying to an epidemic of typhoid in a village or small town. In such a case the discipline, the trained caution, the intelligent supervision, and the certainty that proper means of disinfection will invariably be adopted, are all absent, with the not infrequent result that typhoid fever will soon spread from house to house until a large

proportion of the inhabitants or their children are attacked. This happened at the village of Tollesbury, in Essex. Here, bad drainage, impure water, and other insanitary evils had existed for years, but the returns of the Registrar-General show few cases of typhoid fever prior to the outbreak to which we refer. In the autumn of 1877 a case of typhoid fever was brought from a neighbouring town. What followed? Several other cases soon appeared in the same block of houses where the first case had occurred. It was noticeable that the children were the chief sufferers, and a careful investigation which we made on the spot convinced us that the new cases were caused by the absence of disinfectants, and by the careless casting of the stools into an open ashpit at the back of the cottages. Although a country village, the garden space was very limited, and the children were in the habit of playing round the ashpit and well at the back of the cottages. Stools imperfectly disinfected, and for the most part not disinfected at all, by being cast into an open ashpit practically converted typhoid fever in this instance into an infectious disease. It is the stools which are highly dangerous to healthy persons. No one, we believe, disputes this fact in the present day, and hence the presence of strong disinfectants in the bed-pan reduces the risk of infection to a minimum. In case any reader should desire proof of the above assertion, we cannot do better than give an instance which came under the notice of the present writer a few months since. A student at a large London hos-

pital, when clinical clerk to one of the physicians, became deeply interested in the progress of several cases of typhoid fever placed under his immediate care. There were several other cases in the wards under other clerks at the same period, but only the student in question contracted typhoid fever. So strong was the belief in the security afforded by the disinfection of the stools that this new case of fever was believed to have been contracted at the lodgings of the student, or at a dairy where he had been known to drink daily large quantities of milk. Both water and milk were found to be pure, a fact further proved by the knowledge that many others were residing in the same lodgings, and that they had drunk large quantities of the milk without injury of any kind. Driven back to the wards in search of the real origin of the disease, it was ascertained that the student who had contracted it had taken some stools from a pan, from which he had purposely excluded the disinfecting fluid in order to examine them with his microscope. He spent an hour at least in his investigations, constantly shaking the bottle and obtaining fresh specimens, and it is reasonable to conclude that he thus took the poison into his system. We say reasonable to conclude, because, in spite of the presence of many other cases of typhoid in the same ward, but under the care of other students, and notwithstanding that many cases were of a bad type, the stools in all other cases were disinfected in the pan, and no one else

contracted the disease. So at Tollesbury, typhoid was in our opinion undoubtedly spread by the exposure of infected stools in an open ashpit round and about which the children, who were afterwards attacked, spent most of the day. Further confirmation of the fact was obtained by the discovery that as the disease spread to different parts of the village, it was almost invariably a child who was first attacked. It was also noticed that every such child had been in the habit of going to play with the children at the back of the cottages where cases of typhoid fever were under treatment. From first to last, in a village of from 700 to 1000 inhabitants, 100 cases of typhoid fever occurred, 10 of which were fatal. Had there been a cottage fever hospital available when the first case appeared, and had this case been removed to it at the outset, there can, humanly speaking, be little doubt that no epidemic would have occurred. Country people are often both ignorant and superstitious, and at Tollesbury the inhabitants considered all attempts at precaution as well-nigh blasphemous. They argued, as they expressed it, that the fever was sent to "please God," and only in His good time would the disease be stayed. For the above reasons we are constrained to urge all sanitary authorities to treat cases of typhoid fever which occur in private houses as cases of infectious disease, and to isolate them at once, and effectually, by procuring their removal to the cottage fever hospital.

CHAPTER IX.

MIDWIFERY IN COTTAGE HOSPITALS.

Midwifery cases in Cottage Hospitals—Agitation against large Lying-in Hospitals—Dr. Matthews Duncan on Mortality in Childbed and Maternity Hospitals—Midwifery cases to be treated in separate wards or buildings from other patients—Miserable conditions of deliverance of poor women in country districts—Ignorance and prejudices of midwives—Advantages of Cottage Hospitals for lying-in patients—Essentials and cost of such hospitals—Fallacy of assumption of excessive mortality in midwifery-hospital practice—Lying-in patients at Fowey and Milton Abbas Cottage Hospitals.

THE experiment of conducting midwifery cases in cottage hospitals has, we believe, never yet been made, nor even suggested; but as at a future time it will probably be considerably mooted and discussed, this volume would not be complete without some notice of the subject. On account of the numerous articles, &c., on hospitalism, which have recently appeared in the papers, there has been a loud outcry against large hospitals in general, and lying-in hospitals, such as the Rotunda of Dublin and the Queen Charlotte's Lying-in Hospital in Gray's Inn Road in particular. The opponents of large hospitals assert that the mortality in them is vastly increased by the herding together of a large number of cases, and they would have us build a large number of

smaller hospitals in place of the larger ones. Not content with this, they even go a step farther, and affirm that, after a certain number of years, any hospital has in it such an accumulation of unhealthy germs, that it ought to be pulled down, and a fresh one built in its stead. Confining ourselves, then, to this view, as applied to the case of lying-in hospitals, two questions will naturally arise:—(1.) Should the large lying-in hospitals be done away with, and small cottage hospitals built in their place? (2.) Is it advisable to treat midwifery cases in cottage hospitals rather than at the patient's own home? In answer to the first question, we must distinctly state that we consider the views enunciated above as very far fetched, and not resting on facts. Dr Matthews Duncan, in his book on *Mortality in Child-bed and Maternity Hospitals*, has laboured hard to combat these arguments, and in our opinion has most conclusively done so. The following are some of the chief conclusions at which he arrives, after a critical review of the case, viz.:—That the large hospitals are not necessarily more unhealthy than the small ones; that there is always a certain proportion of deaths to labours even in private practice; that, taking the mortality of the Rotunda as the largest, and the one with the most complete set of statistics, its mortality will challenge comparison with that of any small hospital, or with that of any private practitioner whose statistics can be confidently relied upon. Dr Duncan also shows that the great mortality given by some

authors as arising in large hospitals, is only reached by including those hospitals which are notoriously bad as regards their sanitary arrangements, while the returns of private practice are almost always incomplete and untrustworthy, the bad cases being partly withheld for obvious reasons. On the whole, Dr Duncan's book may be taken as proving that large hospitals, if well built and properly managed are quite as successful as small ones; but the controversy cannot yet be considered settled, and it wil probably be waged with varying success for many years to come. We must therefore leave the first question as still and as likely to remain undecided, and consider whether it is advisable to take midwifery cases into cottage hospitals, or whether they are better treated, as at present, in their own homes.

Let us premise, that if these cases are admitted into cottage hospitals, they must be either into one built especially and kept entirely for that purpose, or into a part of the building set apart for such cases, with a separate nurse or attendant. It will never do to take such cases into wards in which bad accidents or cases for operation are admitted, for wherever such a scheme has been attempted, the result has been so disastrous, that the practice has been obliged to be discontinued. We may quote King's College Hospital as an instance of this. Regarding separate wards, then, as absolutely essential, we must come to the conclusion, that it constitutes at once a great objection to this plan in its application to any existing cottage hospital. In fact,

we must consider it to be hardly feasible, and we think it would be extremely injudicious to try the experiment.

On the other hand, there are many great advantages to be gained by taking midwifery cases into cottage hospitals built for that special purpose. Every one who has had any acquaintance with midwifery in country districts, knows the miserable conditions under which poor women are ordinarily delivered. They are often attended by a midwife, with no idea as to the proper performance of the task which she has undertaken, for, strange to say, these women never seem to gain any advance in knowledge from experience, but are ruled only by the traditions (often most filthy and dangerous), which have been handed down to them for ages. Again, such an occurrence is usually made an excuse for a convivial meeting, and several of the worst female characters in the village meet together, and drink, and smoke during the progress of the labour, whilst the arrangements as to cleanliness are of the most shocking description; and as there is frequently only one single bedroom, it is quite impossible that any decency can be observed. Add to all this, that, if the case turn out to be a bad one, the doctor is generally not sent for until long after instruments should have been used, or even not until it is too late, and we get a picture of some of the most trying scenes in a doctor's life, demanding almost more than human care and skill. The after treatment, adopted by these ignorant midwives, is also

most shocking and repulsive. All the prejudices of the past century, with their filthy accompaniments, are still frequently met with in country places; and, speaking from personal experience, we can safely affirm, that the idea still exists in many parts, that the linen, &c., of the patient must not be changed for many days. Consequently the poor woman is left soaking in all her discharges, with the notion that it encourages the secretion of milk; while as to diet, it is invariably the rule to allow gruel alone for a week, however ill the patient may be, and often in spite of the doctor's strict injunctions to the contrary.

The establishment of cottage hospitals for lying-in cases would be a priceless boon in doing away with these absurd prejudices, which, though the result cannot be always traced to them, must be the cause of death to many women. In fact, so deeply rooted are these ideas, that it is only by taking patients entirely away from their friends and gossips that we can hope to eradicate these absurd notions. Again, as we shall never do away with midwives, who attend the poorer classes for fees at which it would not be possible for the hard-worked country doctor to give up his time, we might by means of this form of cottage hospital train up a better class of midwives, who, after spending a certain time at the hospital under the superintendence and tuition of the doctor, would be able to go out, and themselves take charge of cases, with a much better idea of the principles of their vocation than they at present possess. Other obvious advan-

tages would be the better observance of comfort, cleanliness, and decency, than exists under the present system, with a removal of the patient from home troubles and worries, and a more strict regard to rest after such a trying time. Nor need it necessarily add very much to the doctor's labours, for these hospitals might be under the management of a woman with sufficient skill to conduct ordinary cases of labour, whilst, in severe cases, there would be the advantage of having a doctor near at hand, and ready to be called upon in case of emergency. With regard to fees, again, the cottage hospital system is based on the principle that patients ought to pay a certain sum, instead of being entirely dependent on charity. It would be easy to arrange a scale of fees, by which patients might have the advantages and comforts named above, without unnecessarily crippling them, while at the same time making the institution partly self-supporting.

Such are some of the advantages of this system, but it must not be thought that there are no drawbacks, and it is necessary to look also on the other side of the question. The great objection that will be taken to the proposal will probably be, that such a change is unnecessary, that things have gone on well under the present system for centuries, and that it is ridiculous to disturb them. This objection answers itself. It is one that applied a short time ago to the whole cottage hospital system; but the system has become established, and has proved a great boon, so

that probably the idea of its applicability to lying-in cases, has only to be started, and the advantage to be shown, for it too to be soon put in working order.

A more serious objection is the great cost that would have to be incurred in the erection and maintenance of such buildings. The idea of a woman in good health being suddenly struck down by death, whilst fulfilling one of the missions for which woman was formed, and during the carrying out of what must be considered one of her natural functions, is so sad and solemn to most people, that extraordinary precautions are always considered absolutely essential in the erection and planning of lying-in hospitals. One of the fundamental principles in building such a hospital is, that there shall be a double set of beds,—that is, that one room or ward shall always be unoccupied, and thoroughly cleansed after each patient or set of patients, before being again used. This, of course, will necessitate the erection of a building nearly twice the size of what would otherwise be required, so that half the beds only may be in use at the same time. Add to this, that there should be a lying-in chamber, in which the woman is confined,* and a separate ward, in which any puerperal case may immediately be removed, and isolated from the others, and we run up the expense of building to a very serious amount. The question is, whether the advantages to be gained will not counterbalance the extreme

* At the Rotunda Hospital, Dublin, a special couch for this purpose is placed in each ward.

expenditure; this we must leave the charitable to decide.

The fear that the mortality in hospital practice will exceed that of private practice, must be held to be groundless. Dr M. Duncan, in his work before referred to, shows, if we read him aright, that the mortality in private practice is much larger than it is usually considered; and at the same time he argues, that it is absurd to consider that cases treated by ignorant midwives and others, can do better than those under skilled and careful management, with all the advantages of the cleanliness and comfort of a hospital. Should a puerperal epidemic seem imminent, it will of course spread, unless carefully guarded against by the immediate and total isolation of the patients; but means for effecting this should always be the first thought of the managers of such an institution.

In looking over the rules, &c., of the different cottage hospitals, we find mention of midwifery in two only, viz., Fowey and Milton Abbas. At Fowey, the nurse is allowed, if not engaged in the hospital, to attend cases of midwifery at the patients' own homes. This we must condemn, as it must be considered very dangerous to allow a nurse to go direct from the dressing of surgical cases to attend midwifery patients. On this point the medical officer of the hospital writes to us:—"It is only when the nurse is not engaged at the hospital that she is allowed to attend midwifery cases at patients' homes. You must be aware that a

cottage hospital in a small place is often empty. At such times the nurse receives no wages. She is not allowed to attend to such cases if there is a surgical case in the hospital, or if her attendance is required there." At Milton Abbas, "midwifery cases are admitted by permission of the committee," but we have no details as to the number of cases thus treated, nor whether this system has proved a success.

CHAPTER X.

REMUNERATIVE PAYING PATIENTS.

Payments by patients according to their means—Arguments for and against admission to Cottage Hospitals of remunerative paying patients—Mr Simon on pay wards at St Thomas's Hospital—Experience of Cottage Hospitals as to mixing of free and pay patients—Special facilities afforded by Cottage Hospitals for admission of remunerative paying patients—Opinions of managers and medical officers of Cottage Hospitals on the subject.

AS the Cottage Hospital managers have been from the outset reformers of several abuses in the English system of medical relief, it is not surprising that they should be the first to ask, whether a hospital can be utilised occasionally, or at all, for the benefit and assistance of those who desire hospital treatment, but who can pay a remunerative sum for it.

Cottage hospitals have always encouraged payments from patients according to their means. The result has been wholly satisfactory, and this system is likely to be adopted ultimately by the larger medical charities. What are the reasons for and against the admission to cottage hospitals of remunerative as opposed to poor paying patients? Let us consider the objections first.

It is urged that the difficulty of arranging the fees

which the medical attendant shall receive, constitutes a grave, if not an insurmountable, obstacle. The answer is simple. Let the hospital managers decline to interfere between the doctor and the patient, and let the fees be a matter for their mutual arrangement. The managers will then have to provide suitable accommodation for the care of this class of patients, and to fix a sum per week which will in their opinion compensate the hospital for food, nursing, houseroom, wear and tear, and every other reasonable requirement. The arrangements of cottage hospitals seem to favour such a system. As a rule, there is no constant or great pressure upon the beds. There are usually one or more small wards specially adapted to the reception of such cases. The ordinary staff of the institution could, as a rule, easily attend to their requirements, and their presence will exclude no one else.

But here another objection arises, whether these cases will not exclude other and poorer patients by taking up space which is properly their inheritance. Is this so? The objectors urge that if remunerative paying patients are admitted, they will gradually elbow out the poor altogether. This view cannot be sustained, because, in the first place, reflection makes it evident that the well-to-do are not likely to avail themselves to any great extent of the privilege thus proposed to be extended to them. In the second place, only a very limited number of beds, probably one, and at the outside two, will

be placed at the disposal of the medical staff for these cases. It must be distinctly enacted that preference will invariably be given to the poor as opposed to the remunerative paying patients, and that the prior claims of the former to all the beds in the hospital will be considered paramount. In this way the hospital will always be open to the fullest extent for the poor of the district in which it is situated. In the larger general hospitals, and especially at St Thomas's Hospital, London, it was objected with great force that the admission to those institutions of remunerative paying patients, because the funds were inadequate, was little better than a speculation.

Mr Simon, F.R.S., says on this point:—"It may be taken for granted that the project would not have been entertained, except with a view of making substantial pecuniary profits, which might considerably relieve the funds of the hospital in their present depressed state; and the main point for consideration has therefore been to see what would be the value of the proposed undertaking, considered as a commercial enterprise." Mr Simon, after examining the data furnished by the Treasurer of St Thomas's Hospital to enable the governors to form a right conclusion on this point, very justly declares:—"In view of these considerations, I should myself greatly hesitate as to the expediency of the undertaking. The matter presents itself to my mind as one of a purely commercial sort, well adapted for private enterprise, but utterly uncongenial with the present functions of

the governors of the hospital."* Most people will sympathise with Mr Simon's views. However, this question of financial difficulty does not complicate the question at the cottage hospitals, all of which are adequately supported, and so we need not further discuss it here.

It is felt by some that the admission of paying patients would tend to make an invidious distinction between high class and low class patients, and that such a system might but too easily derange that perfect impartiality of administration which is among the hospital's first duties to all who become its inmates. On this point the managers of the cottage hospitals have had some experience already. In no case, so far as we have been able to ascertain, has the mixing of pay and free patients in the wards given rise to any difficulty of the kind. At the Women's Hospital in London, and throughout America, where the pay system has long been in force, no single obstacle of the kind has arisen. Experience therefore decides against this objection.

On the other hand, the cottage hospitals offer special facilities for the admission of remunerative paying patients. At every well-managed institution, any medical man, whether he is a member of the hospital staff or not, is at liberty to attend any patient who desires his services. No medical or professional difficulty will therefore arise from the introduction

* *Vide* "Pay Hospitals and Paying Wards of the World," J. & A. Churchhill, London, pages 143–145.

of the system into cottage hospitals. In the large general hospitals this last is a great difficulty, which is everywhere recognised. There can be no doubt, as we have urged on a previous page, that in adopting a system of patients' payments, the managers of cottage hospitals ought to make provision as soon as possible for the remuneration of the medical men. Up to the present time this has not been possible, but the large savings of some cottage hospitals make the subject a pressing one. By allowing one or two beds to be given up to remunerative paying patients, this difficulty will cease to exist. The medical staff will then possess the privilege of using in the hospital a few beds for their patients' cases, and this may then be fairly reckoned as a set off for the attention they gratuitously devote to the poorer patients. On the whole, we believe that there is much to be urged in favour of a limited trial of this system, and we should, therefore, hope to see it introduced where there is any likelihood of its proving a success. No allusion would have been made to the subject in this place had not several applications been made to the author for information and advice. It may be interesting and profitable, therefore, to conclude this chapter by giving a few of the letters we have received from medical men and also from laymen engaged in the management of cottage hospitals.

A layman, J. W. C., writes :—" Our president is very averse to our taking in patients of a paying class, in-

asmuch as he thinks we shall thereby depart from the objects of the institution. At all events, he says, and the committee fell in with the idea, should they come in, then make them pay both the doctor and the hospital as much as possible. This, to my mind, amounts to the exclusion of the kind of patients contemplated. There is this to be said, we have not yet opened the additional beds, so that the question is still an open one. At present we can accommodate nine cases; and I wonder, should the committee agree to take in more non-paying patients, what the medical men will say? I have hinted as much to the president. His answer is, 'Then shut up the hospital!'" J. W. C.'s letter shows how necessary it is to find a wise solution to this question before it causes disagreement and difficulty. At the hospital to which he refers, a large sum of money was recently left to the committee, and they decided to enlarge the building, having barely sufficient accommodation in the existing building for the requirements of the poor of the district. Some of the committee agreed with the medical staff that it would be desirable to admit remunerative paying patients to the new wards. There can be no doubt that this conclusion under such circumstances is sound, and for the public advantage. Without saying with the president of the hospital that all such patients shall be required to pay doctor and hospital as much as possible, it cannot be doubted that they should pay to both an adequate and fully remunerative rate.

F.R.C.S., a cottage hospital surgeon of eminence writes:—"It must be remembered that, besides the good to the hospital patients, the local surgeon is enabled 'to keep his hand in' at bad accidents and operations, and the rich resident often gets the benefit of this on an emergency. I tell my wealthy patients that, charitable considerations aside, it is worth their while to keep up the cottage hospital for this reason alone. Personally I simply would not continue to practise here without the cottage hospital; and I can imagine nothing more miserable for a man who is fond of his profession, than to see all the bad cases taken away from under his care to be treated at a distance. I should very much like to see a ward established in connection with the hospital for remunerative paying patients. The committee have more than once discussed the advisability of doing so, but have not yet been able to see their way. It has been proposed to do this at St Thomas's Hospital, but if the medical staff only were allowed to attend such patients, that would be a great injustice to the profession at large. But here, when, as I have said before, all qualified medical men in the district may attend their own patients in the cottage hospital, that objection does not apply. The admission of remunerative paying patients would be a good way of giving the medical officers some return for their gratuitous services. For example, recently a gentleman would have given me forty guineas for performing a serious operation upon him if he could have been admitted into the cottage

hospital, but, as our rules did not allow of that, he went elsewhere, and I lost my fee."

He adds, on the professional aspects of this question :—"I believe our success is mainly to be attributed to the fact that the medical officers have always pulled well together. All qualified medical men resident in the town are on the staff, and those living in the villages near may follow their own cases into the hospital, provided they associate themselves with one of the former, so that he may be called in in their absence, should any emergency arise. Great harm has, I know, often been done to a cottage hospital, by the somewhat natural complaints of some jealous medical man who has been excluded from office. The exclusiveness of the general hospitals in this respect is, in my humble opinion, a blot which calls loudly for remedy. Here the wishes of the medical officers are, moreover, consulted in every respect. Each one can admit a patient into the hospital at any time when there is room, and they may always have one free patient, if they wish to do so."

The testimony of F.R.C.S. is valuable and convincing. He is an eminent surgeon of considerable capacity, and he has a very extensive practice. His hospital takes high rank amongst its fellows, and his evidence will no doubt have great weight. The opinions of the managers and medical officers of many other cottage hospitals might be quoted, but as the foregoing fully represent the views of other correspondents, we think they will suffice. After

conferring with many of those who are competent to give sound advice on this question, and, after a thoughtful consideration of the arguments for and against the introduction of a limited number of paying patients into cottage hospitals, we have arrived at the conclusion that the time has arrived when a trial may with advantage be given to such a system. It will probably be found in practice that its adoption will confer real benefit upon patients and practitioners. If this should prove to be the case, its universal adoption will not long be delayed. The whole question is fully discussed, and an account of the working of the system in foreign countries is given in "Pay Hospitals and Pay Wards throughout the World," to which work we must refer the reader who desires fuller information on the subject.

CHAPTER XI.

CONVALESCENT COTTAGES.

Wards at Cottage Hospitals for convalescent patients—Necessity for convalescent institutions being under a separate roof from hospitals—Convalescent homes much needed by general hospitals—Convalescent cottages for the poor of large towns—The institution at Epping—Country holidays for poor London children—Description of the efforts of Madame Batthyany and Miss Synnot in this direction—Want of more accommodation for convalescents.

A SCHEME, which seems to have found some favour with the managers of cottage hospitals is to have a ward or a few beds set apart for the treatment of convalescent patients, and to call the hospital a convalescent home and cottage hospital. This idea appears to us to be positively ludicrous for surely no one would advise their friends to leave home, and to enter a general hospital for change of air, when in a state of convalescence from a long and painful illness. Yet this seems quite as reasonable an idea as to suppose that to transfer a poor man from his cottage, where he has been treated, we will say for fever, to the cottage hospital, just as he is beginning to regain his strength, will be attended with satisfactory results. It reminds us of the story of an ardent surgeon of the old school, who started a hospital in his native town with the view of cutting out the old infirmary.

Whenever an idea of sanitary improvement was mooted in the town, this old enthusiast would go to the meeting, and declare that there was no need for any excitement, as his hospital was prepared to provide the necessary accommodation. Thus, in course of time, he arranged, in a hospital of 100 beds, a maternity ward, a children's ward, a Jews' ward, and a fever ward, under one and the same roof. When it was proposed to obtain contributions to establish a sanatorium for the town, some miles distant, where the sick poor could have the benefit of country air, he again expressed his surprise that the promoters had not communicated with him in the first instance, as he was prepared to erect a sanatorium in the ground at the back of his hospital—literally the back yard—which would fully answer every useful purpose, and would entail only a third of the outlay! We can quite understand—no one, in fact, can be more fully alive to, the advantages of having a convalescent institution apart from, though in connection with, a hospital; but to have the two schemes at work under the same roof is, to our mind, a needless confusion of two useful objects, to their mutual loss. Yet at Tenby, a cottage hospital, which was established "for the accommodation of persons suffering from severe diseases or accidents," is now thrown open, "if *vacant beds exist*," for convalescents requiring sea air, not suffering from infectious or incurable disease. At Hambrook, which is established "for the accommodation of poor persons suffering from

accidents and diseases which cannot be healed at their own homes," and which must necessarily, therefore, be severe in character, "it has been determined, when the hospital is not full, to admit convalescent patients from the neighbourhood or elsewhere," in the hope that "the good attention and *fresh air* which they would receive in the hospital might prove the means of entire restoration of health." We admit the good treatment and its advantages, but the fresh air is, in our opinion, at least "doubtful."

At Redruth (West Cornwall Cottage Hospital), similar rules are in force. We cannot regard this movement with any favour, as it must at the best be a question, even in the most favourable cases, whether the effect of having in the same house, possibly in the same room, a person suffering from a loathsome or painful illness, is likely to expedite recovery in the case of his associate and companion, the convalescent. We are quite of Mr Erichsen's opinion, that from a sanitary point of view, it is a decided advantage to mix surgical and medical cases together in the same wards in general hospitals. There, however, both classes of patients are really ill; and it seems to us to be a Quixotic line of treatment to send the comparatively healthy convalescent, at the risk of a relapse, to share the vitiated air of a hospital ward. And yet this is what the promoters of the joint scheme of convalescent home and hospital under one roof are striving to establish throughout the country.

Convalescent homes are much needed by the general

hospitals; and it would be a great boon if every hospital, especially in large towns, could have its own convalescent institution. That it is possible to combine the cottage hospital and the convalescent home in separate buildings, but under one management, is proved by the experience of the sisters of the Holy Rood, who not only attend to the domestic management and nursing of the North Ormesby Cottage Hospital, Middlesboro', but have at the same time established a sea-side home for sick children. The home receives the sick and delicate children of the poor, giving them the benefit of sea-air, bathing, good food and nursing, and is, in every sense of the word, an admirably conducted convalescent home.

There is, however, one side of this question which is being gradually forced upon the attention of all thoughtful philanthropists. Dr Andrew Wynter, in an admirable paper on village hospitals, which was published in *Good Words* in May 1866, showed clearly that the then prevailing plan of sending the robust countryman suffering from accident or severe illness to the large town hospital, was hygienically indefensible, because the atmospheric conditions of large cities are always adverse to the recovery of unacclimatised country patients. We fully endorse the truth of Dr Wynter's argument, and it cannot be doubted that such a system was needlessly risky. The widespread support extended to the cottage hospital movement has now remedied this evil. But if the removal of country patients to large

hospitals in towns was calculated to interfere with the recovery of the patients, a system which provided a means of giving the sickly, ill-developed inhabitants of a large city the great benefits of an occasional visit to the country for a fortnight or three weeks should command universal sympathy and support. We gladly welcome, therefore, a recent movement which has led to the opening of several convalescent cottages with this object.

This movement originated with the managers of the Bedford Institute, who opened a convalescent cottage at Epping in September 1875, to meet a need long felt by the committees of various branches of mission work carried on by the Institute, which is conducted by the Society of Friends. These mission agencies are situated in the densely populated districts of Spitalfields, Bunhill Fields, Clerkenwell, Ratcliff, and Bethnal Green, places which have only to be mentioned to claim for their inhabitants the sympathy of all who know the blessing of fresh air and healthy homes, or who have seen the pale and sickly people who are compelled, by circumstances over which they have no control, to live in so close and crowded courts and alleys. It was the desire of the Society of Friends to provide for these poor people and their families fresh air, good food, quiet rest, and the influences of a pure Christian home "whenever they were recovering from serious illness or were likely to break down under the daily pressure of a harassing life." The convalescent cottage had at first

six beds, but other rooms have since been added, and there is now accommodation for 12 patients. It is the wise determination of the promoters not to increase the present number of beds, because they desire to ensure home influence and care. They have determined to extend the movement by opening similar cottages elsewhere. Men, women, and children are received, and in five years 353 persons had been admitted. Of this number 91 were men, 215 women, and 47 children. The cottage is conducted on temperance or coffee tavern principles, and hitherto this has resulted in a marked success. A weekly payment of 3s. 6d. is charged to persons sent by the Institute, and every other inmate pays 7s. per week. The last year's receipts from patients' payments were £83, from donations and subscriptions £175, and £124 was received from a bazaar fund. The annual expenditure amounted to £377, so there was a small balance in hand at the end of the year 1879. Some of the patients remain from three to four weeks at the cottage, but the average stay is about a fortnight. This convalescent cottage was founded for all ages and for both sexes, and it is satisfactory to learn from the last published report, that so excellent are the arrangements that relief has been afforded to all, from "the feeble widow of 76 years to the little baby only six weeks old." Much good work has been done in a quiet unobtrusive way by the convalescent cottage at Epping, and it is satisfactory to be able to report that the results attained are so encouraging that the

Bedford Institute hope to be able to open several similar institutions. The original outlay was small (under £200), the rent paid is £41 per annum, and 144 patients are annually relieved. The average cost of each patient is only 50s. We commend this scheme to the attention of the charitable, who will be able to obtain any further information from the honorary secretary, Miss Mary J. Cattlin, 21 Arthur Road, Stoke Newington, N.

Since the writer published the first edition of this book he has visited very many parts of the United Kingdom, and has been struck everywhere with the fact that the amount of hospital accommodation was evidently on the increase. Is this vast increase necessary or politic or provident? The answer must be decidedly in the negative. All things have a proper limit, and this proper limit is being passed so far as hospital accommodation is concerned. The impulse which prompts the provision is as noble as the results are likely to prove disastrous. What is wanted is more accommodation for convalescents, not more hospitals. The writer has personally inspected the dwellings of the poor in all parts of London, in many of the provincial, Irish, and Scotch towns, and in some of the country districts. In the latter cleanliness is the strong point amongst the poor. In the former, the inhabitants of the over-crowded districts of large towns are, in spite of the better side of their nature, degenerating more and more into habits of uncleanliness with all its attendant ills. If Sir W.

Lawson would go with the writer to some of the poorer districts of our large towns, and if he could be made to realise the awful condition of the dwellings of the working classes in these regions, he must, however reluctantly, admit that Local Option, the Permissive Bill, or any legislation of like nature will not suffice to make the people sober. Drunkenness is but the effects of the conditions under which our modern civilisation compels the poorer classes to live. The writer has often been forced to admit that the attempt "to drown their sorrows in the flowing bowl" is a very natural and probably a rational sequence of the surroundings of the poor inhabitants of our large cities. The writer's note-book reveals a state of affairs very real, and almost too terrible to reflect upon with calmness. Any system which tends to raise the inhabitants of the crowded alley above the squalor, the misery, and the discomfort of their surroundings deserves the support and sympathy of every practical philanthropist. It is with a feeling of joyful thankfulness, therefore, that we shall now proceed to explain an inexpensive but excellent plan which is being adopted by the vicars of several of the larger east end parishes of London, with the view of giving the children of their poorer parishioners a country holiday every year.

The system of convalescent cottages to which we refer originated in America, where it has flourished to a large extent. The method adopted is very simple. Communications are opened with the squires and

clergy of country villages, and by their means the labourers and small farmers are induced to take a certain number of town children for a limited period to reside in their cottages or homesteads. Mme. Batthyany, of Eaglehurst, was the first lady to try the system in England. Her scheme is to get a certain number of children from the poor overcrowded parts of London, say six, with one grown up woman, either a sister or a poor over-worked drudge or seamstress, or a mother, to come to the country for a week. By changing the visitors every week during the summer months, 100 poor people and children can easily be placed within reach of the pleasures and advantages of a week in the country. The object is to arrange that every child shall have one week's holiday every year, that it shall thus be placed under conditions of happiness and health which will give it "a memory and a hope." The idea is to give these poor children a run in the fields or by the sea-shore, to let them live only a little better than they do at home, to make them feel themselves free of school, and to place them in communion with nature and the rest of humanity. Every village should have a few rooms devoted to this object—all the villagers can aid the scheme. The farmer's wife can give a little food,—milk, eggs, butter, and the like; the rich can help by giving money to pay for the hire of rooms or a cottage, specially devoted to the purpose, and to defray the cost of railway and other travelling expenses; the young ladies can turn their needles to account by

repairing, mending, or making clothes for the little strangers; all can give these poor little waifs and strays a hearty welcome and a cheery word. The children themselves will return home better in health, with renewed strength and spirits, taking with them little stocks of news, little treasures which youngsters love,—shells, pebbles, a flower-pot with a real plant in it, and a hundred odds and ends of things that will amuse them throughout the winter, and which big houses at present throw away as too insignificant to be given to their own poor. Each child will have new subjects of interest, and it will give its playmates the history of its week of happiness to their mutual advantage. These little ones will look forward to their next holiday, will make plans not all sordid, and have ideas not wholly selfish. All will learn how to work themselves, and will see how others labour. Being brought into contact with a new world and with new people, they will also see that woods and water and sky and sunshine are pleasant realities. Returning home, they will carry with them a current of fresh outer air back to their pent-up city life, to the great gain of all their little circle. Such is Mme. Batthyany's scheme, and the following is her account of the results of her first experiments:—

Fifty girls, from seven to fourteen, and ten women, have had each a week's holiday and enjoyed it very much. It was managed in this way: I took a small cottage close to our garden gate, belonging to a small inn on the road to Calshot Castle, close to the seaside. This cottage contained two bedrooms and one living room, and I engaged the landlady of the

little inn to do all that was wanted for the children. She furnished bed and table linen, cooked for them, and looked after their comforts. The housekeeping was managed as in my own house—I ordered the dinner and every other meal, and I had the tradespeople's books every week, the landlady being as it were my housekeeper, and taking my orders. The children had tea and bread and butter for breakfast, a few biscuits between that and dinner if hungry; a joint of meat or a stew (on Friday, fish), with potatoes and greens, and a plain pudding or fruit tart for dinner. Tea at five, with bread and butter or jam—they preferred butter—and at night a biscuit. No wine or beer, excepting a glass of beer for the attendant woman. As long as the school holidays lasted, two of the Sisters who kept the school in Whitechapel came with them. They, poor things, wanted the change almost more than the children, so I had only six girls with them. Afterwards, when their work began again, one woman came with seven girls. I could not manage more, and I think it was a very good number; quite large enough to make a merry party—not so large as to split up and require more supervision. The women were either charwomen, washerwomen, seamstresses—all known to the children and to the children's parents, consequently there was mutual confidence. I am told that it was very pretty to see in London every child brought by its father and mother to the place of rendezvous, every child carefully scrubbed and brushed the night before, "all over," as they told me with great pride, and each dressed cleanly, and as well as they could, some little girls having their week deferred to the next as their mothers could not get them properly fitted out before. This suited me, as I particularly wished to avoid any semblance of this being a charity business, and I carefully impressed on their minds that they were all on a visit to a friend, like other people. I did not even wish kind friends and neighbours to give them money, but when they returned home they were loaded with little gift-books, toys, little shawls, flowers, cakes, fruit. On the day appointed, the new batch left London by as early a train as possible with return tickets, arrived early at Calshot, and were received by the old batch as they landed, and all fourteen walked up the hill together. Then the combined forces had one cheerful dinner together, then the old ones showed the new ones their happy playing grounds,

their limits or bounds, and after tea the new ones accompanied the home-going party to the steamer, they travelling home with the morning's return tickets, happy and joyous, the pleasant day they enjoyed together and the looking forward to their homes, be they never so homely, and all they had to tell and to show, making the departure as pleasant as the arrival. Next week the same was repeated, all the new comers knowing every item of the programme beforehand. The expense of all this was very small, the chief item being the railway tickets. The hire of the cottage, sufficiently furnished, the use of the inn kitchen fire, and the attendance of the landlady was £1 a week; butcher, grocer, baker, milk, and vegetables, £30; travelling expenses (railway, flys, steamers from London to Southampton and Calshot), £34. But I count the journey as also an enjoyable part of the expedition. Calculating all together, every individual cost £1, 4s. 6d. for a full week's enjoyment and change of air.

Encouraged by Mme. Batthyany's success, other ladies have tried the experiment. Miss Caroline E. Stephen explained the plan in some able letters in the *Spectator*, and Miss Synnot, in concert with the Rev. S. Barnett of St Jude's, Whitechapel, tried the plan of boarding out children from the east end of London for some weeks, in the cottages and farmhouses of Miss Synnot's own neighbourhood in the country, with most encouraging results. This was, of course, a cheaper plan than Mme. Batthyany's, and might be extensively organised could the idea be once made widely known. With the hope of helping so excellent a project, fraught as it is with untold benefits for a class of poor invalids, who at present sadly need the fresh air and country restoratives thus so easily available, the writer has gladly called attention to the subject. By a little arrangement every village might

have its convalescent cottage, and the writer will gladly co-operate with any one whose sympathy is aroused by the details here given. Mr Barnett's curate, the Rev. Miles Atkinson, who has had much to do with the holidays provided for the poor children of St Jude's, Whitechapel, declares as the result of two years' experiment, that the scheme is capable of easy development. He says that the average number of children sent annually to each village varies from six to a dozen. Each relay of children remained in the country for four weeks in 1878, and for three in 1879. The usual payment for each child was 5s. per week, in two or three villages 4s., and in some 6s., or even 8s.; but the vicar declined to pay more than an average of 5s. per week, except for the elder children. The plan worked admirably, and was the means of doing all kinds of good to both parents and children. As it had never been attempted previously, it was free from the pauperising atmosphere which often surrounds older institutions. In many cases, when the plan was explained to the parents, they gladly defrayed the railway fares of their children, whilst they thankfully accepted the holiday as a gift and not as a charity.

There were only two casualties out of 170 children. One poor boy died in the country of typhoid fever, which he seems to have taken down with him; and one girl took the itch and gave it to a companion. There were special reasons why this case escaped detection before leaving London, and

whilst, of course, a risk must necessarily be incurred in sending children anywhere, with proper vigilance it can be reduced to a minimum. An experienced person should be employed to inspect the children before their departure to the country, to ensure cleanliness and the provision of sufficient clothing. In the case of delicate children, a lady in the village should undertake to look after their food in case they dislike that provided. One child, for instance, refused to eat what she called "white meat" (pork), on the grounds that she had not seen it before, and because town meat was always brown. Strict discipline is neither necessary or desirable, as for delicate children who are not really ill, change of air and the free life of a cottage are far preferable to the rules of an institution. The Whitechapel children were sent in some cases long distances by rail without mishaps of any kind. A ticket was placed round the neck of each child, who was given over to the charge of the guard. In this way changes *en route* were invariably effected without delay or difficulty. Some of the children went to Wimbledon, others to Hungerford, Pangbourne, and Brentwood. In all, 170 were benefited in 1879, at a cost of rather less than £1 per head.

Simple as is the system, it has worked admirably, and has done more good than can well be imagined. Not only have the children returned home wonderfully improved in health and appearance, but their mental faculties have also been quickened, whilst their horizon has been enlarged by an acquaintance with new scenes

and people. In proof of this it may be mentioned that one little girl was so changed that her mother did not know her, and the guard of the train refused to give her up to a *stranger!* Moreover, the cottagers who took charge of these poor children were brought nearer in a very real way to town life and town poverty. We commend the system of convalescent cottages for adults and children, to the favourable support and sympathy of all who have it in their power to further so admirable an undertaking. The author will gladly attend to any letters which may be addressed to him on the subject, and he sincerely hopes that before long every village in the kingdom that is capable of making some provision for their reception, will annually receive its fair quota of visitors from the crowded and oppressive courts and alleys of the large towns. For the information of those who may desire to have an idea of the forms at present in use, the following certificates and regulations are here given.

(*To be returned.*)

COUNTRY HOME FOR LONDON CHILDREN.

HALSTEAD, SEVENOAKS.

No.....

Name of Child.....

Age.....

Address..... .....

Occupation of parents.....

Certificate to be signed by a clergyman, school-teacher, surgeon, or other responsible person.

I recommend .....

as being the child of parents too poor to pay for.....going into the country.

Certificate to be signed by a surgeon or physician.

I have examined .....

and certify that.....is free from any contagious or infectious disease, and may be admitted without danger to the other children.

.....

Date .....

(*To be kept by parents.*)

COUNTRY HOME FOR LONDON CHILDREN.

A fortnight of country life, in the village of Halstead, near Sevenoaks, will be given, free of cost, to any *poor* London children, on the recommendation of any clergyman, surgeon, school-teacher, or other responsible person. But it is hoped that no one will be sent whose parents are themselves able to provide such holidays for their children.

Preference will be given to girls rather than to boys, and to delicate rather than to robust children, one object being to prevent illness; but a doctor's certificate of freedom from infectious complaints will be required at the time of going to Halstead. Children are taken in rotation, as soon as there is room, from March 1st to October 30th.

The railway fare from Charing Cross, Cannon Street, or London Bridge, to Halstead Station is 9½d. each way for a child under twelve years of age. This has to be paid by the parents.

The address for letters is

WILLIAM ROSSITER,
HALSTEAD,
SEVENOAKS.

This chapter would be incomplete were it not stated that there are some 150 convalescent institutions in the United Kingdom at the present time. Of this number, 130 are situated in different parts of England, 9 in Scotland, 2 in Ireland, and 8 in Wales. Of the whole number, 37 may be classed as cottage convalescent institutions, having 30 beds and under. The class of cottage convalescent institutions to which we have referred, is devoted almost exclusively to the relief of cases which do not require continued medical and surgical treatment and nursing in the earlier stages of convalescence. Indeed, there exists at the present time an increasing demand for convalescent institutions which will admit cases in the earlier stages of convalescence, when they require medical treatment and skilled nursing. Convalescent cottages for this class of patients are sadly needed, and their extensive development would meet a want largely felt by the hospitals and the public. Under existing circumstances the convalescent institution is at best a doubtful advantage to the community, as it admits a class of people at small payment who can often afford to pay adequately for the accommodation they require. The writer has known many instances where tradesmen and other thrifty members of the middle classes have availed themselves of the facilities offered by the convalescent institutions, to take a cheap holiday at the seaside, because the present system favours the admission of people who are not really sick in any right sense of the term. Those who

are interested in the subject should obtain a copy of the exhaustive report issued by the Charity Organisation Society in London. Dr B. J. Massiah, the able superintendent of Barnes' Convalescent Institution, Cheadle, has written an excellent paper on the subject which should be widely read. A careful study of the question compels us to declare that the whole conduct and administration of convalescent institutions throughout the country require careful revision and rearrangement.

CHAPTER XII.

COTTAGE HOSPITALS IN AMERICA.

Introduction of Cottage Hospitals into America—Dr J. F. A. Adams on hospitals in the State of Massachusetts—Desirability of further provision of Cottage Hospitals—Description of the House of Mercy at Pittsfield—First started in a hired house—Corporation consists entirely of ladies—New method of disposing of chamber slops—Chronic and incurable cases received—Rule as to these cases—Patients' payments—Diet—Arrangements for dispensing prescriptions—Sources of income—New building erected in 1877—Detailed description of the latter.

OBVIOUSLY so useful and successful an institution as the cottage hospital could not long exist in England without being adopted on the other side of the Atlantic, and, accordingly, here and there it is obtaining a foothold in America. Hitherto it has been found in the United States, as in England, that, while the great cities have been well-provided with hospitals, the country towns and villages have had none, and the smaller cities have been but indifferently supplied. Thus, according to Dr J. F. A. Adams of Pittsfield, Mass., to whom the author is indebted for the particulars which follow, whilst, in Massachusetts, Boston possesses fifteen hospitals with accommodation for over a thousand patients, there are

in the rest of the State, exclusive of those for the insane and those belonging to the naval and marine services, but ten hospitals, with an aggregate of about 240 beds. Of this number all but two have been established during the past twelve years, several of them no doubt owing their origin to an interest excited in the minds of their projectors by the English cottage hospital movement. All of these are in cities or large towns of from 12,000 to 50,000 inhabitants, scarcely any of them having that decidedly rural character which belongs to the English cottage hospitals, many of which are situated in very small villages.

From the list on the next page it is clear that many of the towns in the State are still without hospital provision. Circulars of inquiry were recently sent by the State Board of Health of Massachusetts to their correspondents in every town of 10,000 inhabitants and upwards; and, in every case where no hospital existed, the correspondent stated that, in his opinion, such an institution was needed. No doubt they are now, or will eventually prove to be, needed in even smaller places. In the minds of the majority of American people, the idea of an hospital produces a certain feeling of dread which can only be overcome by education. This feeling can in great measure be counteracted by making these institutions smaller and more widely distributed, and especially by giving them the shape of simply managed, home-like cottages, which, while possessing all the essential elements of a hospital, are divested of the formidable proportions of those in the cities.

Hospitals in the State of Massachusetts.

The following table includes the several hospitals in the State of Massachusetts, exclusive of Boston :—

Place.	Population 1875.	Name.	Opened	No. of Beds.	Character of Building.
Lowell . .	49,677	St John's Hospital . .	1868	60	Brick, specially erected.
		Lowell Hospital . . .	1840	25	Wood, specially erected.
Worcester .	49,265	City Hospital	1871	24	Originally a dwelling, remodelled. Two new buildings erected in 1876.
Lawrence .	34,907	Invalid's Home . . .	1877	6	Small dwelling, not remodelled.
		Catholic Orphan Asylum	...	18	Brick, specially erected.
Lynn . . .	32,600	Lynn Hospital . . .	1875	10	Old dwelling, not remodelled.
Springfield .	31,053	City Hospital . . .	1870	12	Wooden dwelling, remodelled, with large additions.
Salem . .	25,955	Salem Hospital . . .	1874	20	Brick dwelling, remodelled.
New Bedford	25,876	St Joseph's Hospital .	1873	30	Dwelling remodelled.
Holyoke .	16,260	House of Providence .	1874	10	Brick dwelling, remodelled.
Pittsfield .	12,267	House of Mercy . . .	1875	8	Wooden dwelling. New wooden building recently erected with 13 beds.

Of the hospitals included in the list given on the preceding page, the House of Mercy at Pittsfield is selected for a detailed description, because it has been specifically called a "Cottage Hospital," all of its essential characteristics having been suggested by the institutions of that name in England, several of which had been visited and inspected by certain of the projectors of that at Pittsfield.

The "House of Mercy" at Pittsfield was opened on January 1, 1875, and was the result of the united exertions of the charitable ladies of the town. These ladies held, in the previous September, a "Hospital Bazaar," from which, together with sundry donations, was realised a sum of money sufficient to enable them to furnish a building, and to invest £1000, the interest of which was reserved for rent. They then effected an organization, obtained a charter, rented a pleasantly situated two-storey dwelling house, furnished it appropriately, obtained the services of an experienced nurse who was made the matron, and invited the physicians of the town to give their services to the institution.

The corporation consists entirely of ladies; and its officers are a president, four vice-presidents, clerk, treasurer, corresponding secretary, recording secretary, and twenty-one directors, three from each of the seven churches working for the hospital. These officers constitute a Board of Control, in which Board are vested the property and affairs of the corporation.

The building rented for the hospital was a two-

storey frame dwelling house which had recently been enlarged, so that the front part was quite new. It was a pleasantly situated, sunshiny house, of ten rooms, which were used as follows:—On the ground floor, a reception or committee room, matron's room, kitchen, and two rooms for patients, each containing two beds; on the second floor, two rooms for private patients, each with one bed, one room with two beds, and two rooms for assistants or servants. The hospital had, therefore, a capacity of eight beds. It was neatly and attractively furnished throughout, and its whole aspect was cheerful and home like.

As no sewer had been laid in the street in which the hospital was situated, it was necessary to remedy certain sanitary imperfections which the house had in common with the majority of village dwellings; and this was accomplished at small expense. One of these alterations consisted in the ventilation of the waste-pipe running from the kitchen sink to a cesspool in the garden, by connecting it, by means of a tin pipe, with the kitchen chimney. The other was the complete revolutionising of the usual primitive privy. This was done by placing at one side an earth closet, and at the other an arrangement for disposing of chamber slops by an entirely new method, which has proved so successful and convenient that Dr Adams considers it to merit description. A strong cask, or elongated tub, was constructed, open at one end, and largest at the open end, hooped with iron, and hung upon iron pivots, which were placed so near the centre of gravity of the

cask that it could easily be capsized by a push from the hand. The cask was hung over an opening in the floor of the privy, boxed around, and with a moveable cover. Into it were thrown the contents of all slop-pails, bed-pans, and close-stools; and immediately after, a sufficient quantity of dry earth or coal ashes was thrown in to absorb the whole. The earth was obtained from a bin, built upon the outside of the privy, so as to be filled from a cart outside, and with an opening at the level of the floor inside, from which the earth could be taken with a light shovel and thrown into the cask close by. The quantity of earth required to absorb a pailful of urine was found to be surprisingly small; and the disinfection was so complete that no odour whatever could be detected, except occasionally in the hottest days of summer, when, unless care were taken to dust the earth thoroughly over the sides of the cask, a faint ammoniacal odour was given off. This was easily prevented by care, and the additional precaution was taken, in midsummer, of also throwing in disinfectants. To fill the cask required from two to four weeks, according to the number of patients. When full, it was easily capsized into a brick vault below, which also received the excrement and earth from the earth-closet. It was found that the contents of this vault never gave off a particle of odour, but, as a safeguard, a pipe was carried from it to the kitchen chimney for ventilation. Whenever the vault became full, its perfectly cleanly contents were removed and used as

a fertiliser. It was thought best not to discharge the chamber slops into the cesspool, as the impervious character of the soil would require it to be frequently emptied. Dr Adams regards the swinging cask as a valuable addition to any dwelling house or institution similarly situated, and it could very easily be applied. If necessary, its form could be simplified, and the cost thus reduced.

For three years this building was used for hospital purposes. Its working force consisted of the matron, and a woman in the kitchen, such help as was requisite having been obtained from convalescents, and additional nurses having been provided by the ladies' committee when necessary. The benefits of the institution, unlike most of the English cottage hospitals, have not been limited to acute cases and accidents; but chronic and incurable cases have also been received, several patients having literally been carried there to die. Persons able to pay are expected to do so in proportion to their means, and those unable to pay have been taken free. Naturally it has proved that nearly all have been charity patients.

To obtain admission to the House of Mercy, it is necessary to obtain a certificate signed by a member of the ladies' "Committee on Admission," and by one of the two medical men designated as "Admitting Physicians," accidents being admitted without any certificate.

The physicians of the town have acted as attending physicians in rotation, but pay patients are at liberty to select their own physicians.

The patients admitted during the three years were sixty in number. Out of these there were nine deaths. This apparently large proportion is explained by the fact that of these nine cases, eight were hopelessly sick on their admission, one of them being moribund from a railway accident; whilst the ninth was a case of consumption in a young man who remained in the house nearly two years, acting as a man-of-all-work as far as his health would permit, and finally dying from the natural progress of his disease. The causes of death were:—consumption, 3; cancer of stomach, 1; heart disease, 1; inflammation of brain, 1; pneumonia, 1; leucocythæmia, 1; railway accident, 1. To prevent the house becoming too much of a home for chronic invalids, the ladies made a rule that no patient shall remain more than three months, unless by a vote of the Board of Control.

No specified dietary has been used, "full diet" being understood to mean an abundance of good food, in such variety as is found on the table of any well-fed family. Extra diet is prescribed as required. The house has no dispensary, but an arrangement has been made with the druggists, by which medicines are provided at a reduction from their usual charges, and prescriptions are sent to each, in rotation, for two months at a time. The ladies have proved the most liberal of providers, furnishing everything which the physicians think needful for the sick.

The income of the institution has been derived, in

part, from the interest on the fund, which has been just enough to pay the rent of the house, while the remainder has been raised by the persistent efforts of the ladies. The sources of income, apart from the fund, are life memberships, annual subscriptions, donations, "Hospital Sunday," various entertainments, and patients' payments.* Besides donations of money, much is contributed in the way of provisions, clothing, &c., and several families agree each to send a "basket" once a year, this to contain such provisions as are most needed. The word "basket" is used in a very general sense, as it may assume any form, even to a barrel of flour. The total expenses of the house, including rent, have averaged somewhat less than £24 a month.

Early in 1877 the ladies became convinced that the house they rented was unsuitable for their purpose, being on clay soil, which rendered the cellar damp in spite of attempted drainage, having imperfect ventilation, and being without many essential conveniences. They therefore decided to build a suitable structure, and took the first step by purchasing a triangular piece of land, at the intersection of three streets at the northern limit of the town. The area was three quarters of an acre, and the soil a coarse dry gravel. Upon this they have erected a hospital for 13 beds, capable of holding more if necessary.

* The American system of patients' payments is fully described in "Pay Hospitals and Paying Wards of the World." London: J. & A. Churchill.

It is a two-storey frame building, or, more correctly, two separate buildings connected by a short corridor.

On account of the triangular shape of the site, these two buildings are placed obliquely to each other, so as to make them parallel with the two streets upon which they respectively front. The principal building contains the reception or committee room, matron's room, and twelve rooms for patients. There are no general wards, it having been decided to have single-bedded rooms only. This building also contains the bathrooms and water-closets, which are so concentrated in the two stories as to be surrounded with a brick wall, forming a square tower within the building, lighted by windows to the east. Every room in this building has an open fireplace, connected with a large flue in one of the four massive chimneys. This building fronts to the north-west; the other, or smaller one, is connected with it by a covered corridor, which, running east and west, has its south side composed entirely of windows looking out upon a south piazza, sheltered by the two buildings from both east and west winds. The lesser building contains, on the lower floor, kitchen and dining-room; on the upper floor, servants' rooms, and an isolated ward for contagious or infectious cases. The dining-room, which will also be a convalescents' room, is at the south-east corner of the building, and has glass doors opening upon a pleasant piazza, which occupies the length of the east side of the building. The main entrance is placed at the middle of the front of the

main building, and is sheltered by a large porch. There is a second entrance from the south piazza, and a back door to the north. On entering the front door the matron's room is on the right hand, and the reception room on the left. A passage way runs across the building, continuous with the corridor beyond, this passage way being intersected with another running through the centre of the building, from north to south, terminating in a bay window at the southern end. Outside of the bay window is an enclosed balcony. The stairs are placed at the longitudinal passage in the centre of the building. The length of the building is 66 feet 6 inches; its width is 37 feet 9 inches at the centre and 26 feet at the ends. The reception and matron's rooms measure each 14 by 16 feet. There are five rooms for patients on the lower floor, of which four measure 9 by 12 feet, and one 9 feet by 13 feet 9 inches. On the second floor there are two rooms measuring 14 by 16 feet, one 14 feet by 13 feet 9 inches, and four 9 feet by 14 feet 6 inches. The height of the lower storey is 9 feet 6 inches, and of the upper storey 9 feet. The floor of the upper storey is deadened with brick and mortar. The walls of the whole building are back plastered to add to their warmth, and are further protected by builder's paper placed beneath the clapboards; the most exposed parts having, in place of the paper, large sheets of heavy pasteboard, similar to binder's board. All the windows are large and high, and hung with weights. The fireplaces are handsomely made with pressed

brick, surmounted with wooden mantles, and are provided with flat iron grates for burning wood. There are two bathrooms on the lower floor, each containing a water-closet, one for men and one for women. Each is reached from the passage way through a lavatory containing set washing basins, thus placing two doors between each water-closet and the passage way. A slop sink is placed in one of the lavatories. One of the bath tubs is placed on india-rubber rollers, so as to be wheeled into the patients' room if desired. On the upper floor there is but one bathroom, though space is provided for another should it be required.

All the soil-pipes are ventilated by means of a vertical six-inch iron pipe, which enters one of the chimneys just below the roof. The bath-rooms have ventilators. The walls are plastered throughout the building, the plaster being treated with three coats of oil paint, which allows them to be thoroughly cleansed. A pleasing variety of tints is employed, which adds to the attractiveness of the interior. The building is thoroughly heated throughout by steam. The high roof affords a large, light, and well-ventilated attic, which, having a good floor, could easily be utilized as a ward if necessary. The smaller building has also a roomy, well-lighted attic, likewise capable of being used as a ward. The cellar is high, light, and dry, and extends under the whole of both buildings and the connecting corridor. The building is supplied with the public water supply, and is lighted with gas.

One of the rooms opening from the reception room

is intended as an operating room, and is provided with hot and cold water. As no sewer passes sufficiently near the hospital to be connected with it, "two large stoned cesspools are placed about 80 feet north of the building, one connecting with the main building, the other with the kitchen. The soil, being a coarse bibulous gravel, is well-adapted for cesspools."

Externally the building is tastefully painted, the walls being grey with buff trimmings, and the shingled roof and window caps slate colour.

The corner stone was laid with appropriate ceremonies on the 1st day of September 1877, and the building was first occupied on the 15th January 1878, just three years from the opening of the temporary house. The cost of the building, including steam apparatus and all other extras, was about £1,700, and the cost of the site £200. The ladies have raised the money through donations and entertainments, so that the hospital is free from debt.

Some of the arrangements in this the first American Cottage Hospital, and some of the hygienic precautions, are open to criticism. For instance, it is certainly not judicious to ventilate the soil-pipes into the chimney stacks, as such things as down draughts are not unheard of, and on these occasions the rooms would be scarcely pleasant to occupy, if the sewer gas did not attack the patients in other ways. We welcome our American cousins, however, and cordially wish the movement in America all the success we believe it will attain.

CHAPTER XIII.

MORTUARIES.

Advantages of mortuaries—The Rev. Septimus Hansard on the subject—Paucity of mortuaries now in existence—Need for large increase in their number—Mortuaries at Cottage Hospitals—Practice at Cromer—Cottage hospital mortuaries to be thrown open for public use—Subscription to be paid by sanitary authority—Economy and efficiency of such an arrangement—Powers of compulsory removal to mortuary—Position of mortuary with reference to hospital—Cost—Size—Fittings—*Post-mortem* room—Appliances for *post-mortem* examinations — Provision for holding inquests—Regulation of mortuaries—Duties of keeper—Rules at Islington for mortuary chambers and *post-mortem* room—No charge to be made to relatives—Reception of bodies—Provision of shells or coffins—Visits of friends—Infectious corpses—Freedom of access to mortuaries by public—Exposure of clothes of unrecognised dead persons—Experience of Paris Morgue—Time of burial—Burial arrangements—Mortuaries at Cemeteries—Need for encouraging use of mortuaries.

CONSIDERING the importance and convenience to the community at large of the provision of a mortuary in which dead bodies can be kept pending interment, it is not a little curious to find so little said on the question in standard works on the subject of hygiene, both home and foreign. If touched at all, the matter is disposed of in a few lines, and nothing whatever is given to help inquirers on the subject in learning what are the principles on which mortuaries should be erected, and when erected, what regula-

tions should be made for their proper conduct. With regard to mortuaries attached to hospitals, a mere shed with a couple of trestles and a shell or two seem to have been regarded as sufficient; indeed, there are practically no mortuaries whatever, in any right sense of the word, attached to hospitals.

It must surely be unnecessary for us here to expatiate on the advantages, social, sanitary, and sentimental, derivable from the existence of a place to which dead bodies can be removed whilst they are awaiting burial. Those who mix amongst the poor know but too well the horrors that a death causes in a crowded cottage, where perhaps the whole family, six or eight in number, are compelled to find sleeping accommodation somehow in two small rooms, badly lighted, and often worse ventilated. What must be the condition of a family like this when a death occurs? They have to choose between two evils, for, being engaged in hard out-door labour during the day, they must perforce sleep during the night. Either some of them must occupy the room which common decency, to say nothing of a regard for health, demands should be given up exclusively to the dead, or the whole family must shift as best they can in the other room, small and unsuited though it be at the best.

In a speech made at the opening of a mortuary for the crowded parish of Bethnal Green, on the 8th June 1880, the Rev. Septimus Hansard, who has devoted all his life to work amongst the London poor, and has

thus an intimate knowledge of their wants and requirements, summed up the advantages of such a building in a very striking and impressive way. He said :—

The use of the building was two-fold—(1) As a mortuary or morgue for the reception of dead bodies, suicides, found drowned, nameless corpses, &c. (2) As a mortuary chapel. It was impossible to have been as he had been—for the last 33 years a clergyman among the poor of London, without seeing the necessity for some such building as this, whither the inhabitants of the crowded dwellings of the metropolis might remove their dead, especially in times of epidemics such as cholera, scarlet or typhus fever. He gave three instances of such necessity out of many in his experience. In the time of the cholera, there was one night when nine lay dead of cholera in the houses of the church-close or square near the parish church. The people all sat about in the streets, too frightened to go to bed ; and in one place they were burning pots of tar from the windows of the room where a corpse lay. Again, it had in the course of his ministry been his duty to attend two medical men on their death-bed who, in the fearless discharge of their profession, had fallen victims to confluent small-pox. On both occasions the relatives had immediately after death to remove the bodies to outhouses. On another occasion he saw, in a room not larger than an ordinary closet, three victims of typhoid lying dead, with five people eating, drinking, sleeping, and living in the same room. Things like this, in a professedly religious and Christian country, were disgraceful. Here, surely, were proofs of the need of such a mortuary chapel as had just been opened. But not only in case of epidemics would this building be used, but at ordinary times. There were two rooms in the chapel, each capable of containing thirty coffins. One might be set apart for those which required an inquest, or for infectious bodies, the other for those brought thither by sorrowing friends, who could cover the coffin with a pall, and come and take their last look at their beloved ones, surrounded by the emblems of Christian hope. That was why he had desired the building to be called a chapel ; not that

masses for the dead should be said there, but to throw the sanctity of religion over the building.

No words of ours could emphasize the need for mortuaries thus forcibly pointed out by Mr Hansard; but we may be permitted to add, that an intimate acquaintance with the dwellings and surroundings of the poor in many districts of the country, teaches us that such buildings are not only desirable and useful from a sentimental point of view, but that their absence constitutes a real source of danger to the public health.

Yet, notwithstanding that the many advantages given by a mortuary are amply recognised, but very few places have availed themselves of the powers conferred by section 141 of the Public Health Act, 1875, for providing such a building. By this section any local authority (rural or urban) "may, and if required by the Local Government Board, shall, provide and fit up a proper place for the reception of dead bodies before interment, and may make by-laws with respect to the management and charges for the use of the same; they may also provide for the decent and economical interment, at charges to be fixed by such by-laws, of any dead bodies which may be received into a mortuary." We do not find that an attempt has been made in any other work to afford information on the matters referred to in this Section; and we think, therefore, that some information on the subject (however imperfect it may be) will not be unacceptable to our readers.

A mortuary seems to have been looked upon as a necessity for large towns only; but we fail to see any valid reason why it should not be universally established in villages and small towns as well as in large. Can anything be imagined more likely to bring about an unhealthy state of things than the thought that, if an epidemic of any infectious disease breaks out in a place where a mortuary is unknown, the living and healthy have to occupy the same small cottage with the infectious dead? What a comfort it would be to many a poor family could they remove their dead to a suitable resting place, adapted to the purpose, until the day of the funeral! Very few cottage hospitals have a mortuary, but we hope still fewer adopt the rule in force at Cromer Cottage Hospital, where we are told by the consulting surgeon, that in the event of a death, the practice is to have the corpse laid out in the usual way, to acquaint the friends of the death, to have a coffin made, the body put in, and then removed as soon as possible back to his home again! Anything more degrading to all the best feelings of our nature can hardly be imagined. To take a patient when dangerously ill into a cottage or other hospital, and then, should he die, to send the dead body home to his friends, is so dangerous and cruel a proceeding, that we should not have believed a rule of this kind could have existed anywhere had we not been told so by a responsible officer of a cottage hospital. It is true that the practice at this hospital is not so shocking as the nurse made it out to be; but we cannot

regard as satisfactory any rule which permits, without protest, the removal of a body from the hospital before burial, except to a mortuary. Surely here is a field to invest any surplus income. Let those cottage hospitals which possess a balance of income over expenditure, save up such a balance, not to form an endowment fund, but to provide a mortuary, which would be a great gain to public health and public morality.

It will have been observed that in the chapter on construction we have referred to a mortuary as an indispensable adjunct to an efficient and properly equipped cottage hospital. We have now to suggest a plan which appears to us to open up a prospect to cottage hospitals of rendering great public service, whilst at the same time making no (or very trifling) demands upon the hospital's resources. If the mortuary attached to a cottage hospital were thrown open for the reception of the dead bodies from the town or village generally, instead of from the hospital only, this would be a great step in advance. The cottage hospitals where mortuaries exist at present are very few, and their number will be reduced when Holmesdale is deducted from the list, as there is no proper mortuary there, but only the operation room, which is made available for the purpose. At Grantham, Sutton, Savernake, Leek, Ulverston, Petersfield, and Walker, the mortuary has been built specially for the purpose, but at Ulverston alone is the mortuary, with the sanction of the hospital authorities, used by the

public. It would undoubtedly be a great improvement if all the cottage hospitals, which possess mortuaries at the present time, would throw them open to public use, under proper restrictions. At Ulverston the committee state in their first report, that their attention has been drawn to the great inconvenience which occurs in cases of suicide or fatal accident: the bodies in cases of this kind have, under existing circumstances, to be removed to the nearest public-house to await the inquest. In large towns, during the last few years, whenever a death occurs or a sudden accident happens, and the body or bodies are removed to the general hospital of the district, the inquest, instead of being held as heretofore at the nearest public-house, now takes place in the hospital itself, a room being set apart by the authorities of the institution for this purpose. If mortuaries were built on the plan we have given, the bodies could be kept in the smaller room, where they might be viewed by the jury, and the inquest held in the adjoining room, which could easily be fitted up for the purpose. Whether the larger question is considered worthy of attention or not, it cannot be doubted that it is the duty of every cottage hospital committee, so soon as funds are forthcoming, to at once build a mortuary distinct from the main building, which the public may have the right to use.

Inasmuch as the law gives sanitary authorities power to provide mortuaries, and, indeed, makes such provision compulsory upon them if the Local Govern-

ment Board require, it would probably not be difficult for cottage hospital managers to induce local authorities to make an annual subscription to the hospital funds in consideration of the use made of the mortuary by the inhabitants of the district. Such an arrangement is very common in the case of infectious hospitals established by private effort; and there would seem no legal objection to the same power of subscription being exercised in the case of mortuaries. Indeed, the members of sanitary authorities, however slow to perceive the advantages of hospital accommodation for infectious cases, will probably be found much more disposed towards assisting in the provision of a place which will obviate the shocking and revolting scenes too often inevitable when a death occurs in a poor family.

The economy of the arrangement will, moreover, be an important additional factor in securing a subscription; and we would strongly recommend cottage hospital managers to make such provision at their institutions as will enable them to accommodate dead bodies brought from any part of the district to await interment.

It may be observed in this connection, that where a mortuary has not been provided in a district, a very important and valuable section of the Public Health Act is left inoperative. Section 142 of the Act provides that "when the body of one who has died of any infectious disease is detained in a room in which persons live or sleep, or any dead body which is in

such a state as to endanger the health of the inmates of the same house or room, is retained in such house or room, any justice may, on a certificate signed by a legally qualified medical practitioner, order the body to be removed, at the cost of the local authority, to any mortuary provided by such authority, and direct the same to be buried within a time to be limited in such order." This section, it will be observed, is of very wide application; for it cannot be doubted that many dead bodies, not necessarily those of persons dying of an infectious disease, are in such a state as to endanger the health of the living inmates of the house or room in which the bodies are retained. Yet, unless a mortuary is provided, there is no legal power to deal with the body, and it may remain a source of the gravest injury to the public health of the neighbourhood. The establishment of a mortuary is then an imperative duty for local authorities; and we cannot but think that the plan we have suggested would be found at once economical and efficient.

Certainly no new cottage hospital should be built without a proper mortuary being included in the plans. Such mortuary should be built in the hospital grounds, but out of sight of the wards and the patients. It is not difficult to make arrangements for the erection of one of these useful buildings, without in any way exposing the patients of the hospital with which it may be connected to any annoyance or disagreeableness. It should have a separate entrance, which, together with the road lead-

ing to it, may be hidden by trees and shrubs, or built out of view from any part of the grounds.

When fitted up with every requisite and made fully capable of meeting all ordinary requirements, we estimate the cost of a building, according to the plan recommended, at £200 or £300, varying with the extra outlay which a good distance from the main buildings will entail, if it be walled off with a separate approach, as is important if it be intended for the benefit of the inhabitants generally. Dr Hardwicke, the able and energetic coroner for central Middlesex, thinks that a small brick building with two compartments, suitable for a village, need not exceed the sum we have named, including mortuary, two waiting-rooms, and a disinfecting chamber. This was the cost of the one in the large London parish of St Luke's, and we know of no reason why, with proper economy, it needs to be exceeded.

It will be observed from our design for the model pavilion cottage hospital that the separate building designed for the mortuary contains provision for a *post-mortem* room, and for holding coroners' inquests. We now proceed to give certain particulars, for which we are mainly indebted to Dr Hardwicke, with regard to the requirements of these several rooms. The mortuary room proper should have a space for a number of bodies proportioned to the size and character of the town. Ten or twelve is held to be quite sufficient for a large town. The bodies may be placed in shells or coffins resting upon trestles, or

upon movable iron brackets fixed around the sides of the building, or in catacombs the size of the coffin, constructed in slate or brickwork, as at some of the London hospitals.

The *post-mortem* room, or dead-house proper, should be adjoining, but quite distinct from, the mortuary. This separation is needful in order to comply with the terms of Section 143 of the Public Health Act. This section allows local authorities "to provide and maintain a proper place for the reception of dead bodies during the time required to conduct any *post-mortem* examination ordered by a coroner or other authority:" but it must be provided "other than at a workhouse or at a mortuary." This exception, according to Mr Lumley, "deserves special attention. It is desired that places should be provided for the removal of dead bodies from the rooms of poor people where they die, and it would create a repugnance on the part of the relatives to such removal in many cases, if a suspicion arose that such bodies might be subject to anatomical examination." There may be two opinions as to the necessity of making so very positive a prohibition; but in any case, the section will be sufficiently complied with in the case of those mortuaries connected with sanitary authorities if the *post-mortem* room adjoins the mortuary, but is kept quite distinct from it. The *post-mortem* room should be used only for the uncoffined or unclaimed bodies awaiting identification, and ought to be kept cool in summer by a supply of cold water; the corpse

having sometimes to be preserved as long a time as possible from decomposition. This room should be furnished with special appliances necessary for *post-mortem* examinations: a marble or slate slab, with sides sloping towards the centre, converging into a drain below, so that fluids may not run over the edges; a sink with a plentiful supply of cold water; an iron bowl; a coarse sponge; a jack towel; a wooden yard measure; and, for the weighing of organs and structures, a set of weights and scales; a slated footboard around the slate table, on which medical men making *post-mortem* examinations may stand free from the damp or cold floor. Gas should be laid on, so as to procure warm water, and because it may be found necessary to make the examination at night, or on winter days when the darkness may obscure the view of the subject.

The attendant should be well versed in the knowledge of Stenhouse's method of using dry charcoal for deodorisation, or any other means for making the rooms and coffins fit to be seen by those who have to inspect them; thus avoiding the annoyance and disgust now felt by jurymen and others in visiting a mismanaged parish dead-house, in discharge of their public duty. A stock of charcoal and disinfectants, as well as a few spare shells and coffins, should be at hand for any sudden emergency.

Inasmuch as a certain proportion of the bodies brought into the mortuary will be for identification and inquiry, suitable provision should be made for

the coroner and jury to hold inquests. In most of the large hospitals, lunatic asylums, and prisons, and in some of the parochial infirmaries of the metropolis, the coroner and jury are now provided with a suitable room by the authorities, and this has to a certain extent rendered unnecessary the objectionable and undignified practice of conducting a public inquiry at an adjoining tavern—frequently amidst the din and bustle of a multitude drinking at a low public-house bar. At Islington and at Clerkenwell, where an efficient suite of rooms adjoining the mortuary have been erected, and in the City, where a more splendid building has been erected by the Corporation, no inquest has been held at public-houses for several years.

The next subject for consideration is the regulation of such a mortuary as we describe. It will, in the first place, be needful that some one should be responsible for the proper condition and orderly management of the building. This is exactly one of the duties which would properly devolve upon the male servant of the hospital whose appointment we have advocated in a previous chapter (p. 143). His duties as regards the mortuary would be to receive under his charge not only bodies brought in by relatives and friends of the deceased, but those found dead by the police, or from accidents, or cases sent to the mortuary by the coroner's officer to await an inquest, or by the medical officer or sanitary inspector of the district, in order to relieve an overcrowded dwelling

of a corpse dying from an infectious disease, or in a state of dangerous decomposition. He must act under fixed rules, and become responsible for the safe custody of these bodies and such articles of clothing as may accompany them. He must attend to the proper cleansing, disinfecting, and ventilation of the rooms generally, but especially of that used for *post-mortem* examinations and the room used for the reception of a corpse dead from an infectious disease. He must render some assistance to medical men who are called to make *post-mortem* examinations, in the placing of the corpse in and out of the shell; and his attendance is required upon persons visiting either for the purpose of identification, or seeking information relative thereto. It is of the utmost importance that a mortuary keeper should live very near the mortuary, so that he may always be ready at any time to receive bodies. He shall also keep a register of the mortuary, containing the date, name, and other circumstances appertaining to the bodies admitted and removed; such as by whom, where to, or to what cemetery, or by what undertaker.

In the year 1871, the late Dr Letheby, when Medical Officer of health for the City of London, drew up a scheme of duties to be performed by the keeper of the admirably-arranged mortuary constructed by the Commissioners of Sewers in Golden Lane, City. These rules have been substantially adopted at Islington, and seem well adapted for the purpose. We give below such of them as are gener-

ally applicable; and would add in passing, that all regulations should be avoided that are likely in any way to discourage immediate application in case of necessity. The filling up of forms by friends or relatives, for example, should be reduced to the smallest possible limits, even if it be needful at all.

1. The keeper of the mortuary shall take charge of all dead bodies, and keep them in proper and decent custody until they are removed from the mortuary.

2. He shall enter in a book kept for the purpose, all particulars concerning each of the dead bodies sent to the mortuary and received therein, stating especially when it was received, the name and address of the person from whom it was received; in what manner it was brought to the mortuary; the name, sex, and age of the deceased and the cause of death; the number of the house and the name of the street from which the dead body was removed; by whose order it was removed, and the date of the order; the time specified in the order for the burial of the body; the date of its removal from the mortuary; the manner of its removal; and the name and address of the person removing it.

3. He shall keep the mortuary chambers, the coroner's court, waiting and *post-mortem* rooms in a cleanly state, and in good working order.

4. He shall not receive gratuities of any kind from the friends or relatives of deceased persons.

5. He shall see that the rules and directions for depositing bodies in the mortuary chamber attached hereto are carried out, and shall report from time to time any circumstances in connection therewith which may require attention.

6. He shall take charge of the keys, open and shut the gates, and undertake the entire oversight of the buildings for the purpose of safety during the night and the maintenance of good order and prevention of damage during the day, and shall perform all such or other duties as may be required of him.

As to the regulation of mortuaries, it seems to be accepted that the less rules there are the better. Dr

Letheby drew up for the Golden Lane Mortuary an elaborate set of rules and restrictions, but these have all got into abeyance, and the rules now in force are very simple. The following regulations are those of the Islington Vestry for the mortuary chamber established in the Chapel of Ease Grounds, Holloway Road, and may readily be adapted to local requirements :—

1. Application for permission to deposit a dead body in the mortuary chamber must be made to the sanitary superintendent at the vestry hall, Upper Street, or to the keeper of the mortuary at the chapel house, Chapel of Ease grounds, by the undertaker employed in the case, or by the friends of the deceased.

2. The dead body shall be enclosed in a proper shell or coffin, such being the shell or coffin in which the body is to be buried, and shall be conveyed to the mortuary chamber, and also removed therefrom in a hearse, or otherwise in a decent and proper manner, and the undertaker or friend shall remove the dead body for interment within an ordinary specified time.

3. In case the undertaker or friend fail to remove the dead body within the time specified, notice shall be given to the relieving officer of the parish to bury such body at the expense of the poor rate, such expense being subsequently recoverable from the parties legally responsible.

4. A body having been brought or sent by any person whatsoever to the mortuary in a shell or coffin, such shell or coffin shall, under no circumstances, be removed other than for the burial of the body contained therein, unless such shell or coffin with the lid be properly lined with tinned copper.

5. Should any shell or coffin sent with a body prove to be in a defective condition, a thoroughly sound and larger shell must upon notice be supplied, in which the defective shell can be enclosed, or in default the sanitary superintendent shall order a proper shell to be provided, and the expense will be recovered from the party sending such defective coffin.

6. It is the duty of the keeper of the mortuary to see that these rules are carried out, and he is not allowed to receive gratuities of any kind from the friends or relatives of deceased persons.

The Islington regulations for the management of the *post-mortem* room may also be usefully reproduced here.

1. Except in cases where such a course would be obviously impossible, as when persons are found dead in the streets, all bodies removed for *post-mortem* examination or for inquest shall be conveyed to the chamber in shells or coffins to be used for interment, or in shells which, with the lids, are properly lined or covered on the inner surface with tinned copper, as ordinary shells or coffins will not be allowed to be taken away unless to be used in burial in accordance with Rule 4 of the mortuary regulations, and the whole of such regulations shall be deemed to be regulations made for the management of the *post-mortem* room so far as they may be applicable thereto.

2. The keeper of the mortuary shall not be allowed to use either knife or needle, or to interfere or take part in any way in *post-mortem* examinations, beyond giving the ordinary attendance necessary in waiting upon the medical practitioners who may have to perform the *post-mortems.*

3. No person shall be admitted to the *post-mortem* room to prepare for, or to commence, a *post-mortem* examination unless the medical practitioner, authorised by the coroner to make such *post-mortem*, shall be actually present himself at the same time.

4. Unless under circumstances of urgency, *post-mortem* examinations shall not be carried out on Sundays.

It is important to state that no charge on the relatives ought to be levied, as it is desired to encourage the use of the mortuary to the utmost extent. At none of the mortuaries with which we are acquainted is such a charge made. It is proper, however, that the expenses of inquests held at the mortuary should be defrayed by the coroner. As to the reception of cases, there is a useful rule at the mortuary at Dean Street, Soho (which is under the control of the Burial Board of St Anne, Westminster), empowering the attendant to receive a body without an order (otherwise neces-

sary from a member of the Burial Board), if it be accompanied by a policeman or known inhabitant. At the mortuary in Drury Lane, which was established some years ago by Lady Burdett Coutts, Lord Vernon, and other benevolent persons, on the disused burial ground of the parish of St Martin-in-the-Fields, there is a rule forbidding the admission of any public procession or large assemblage of persons into the grounds on the occasion of the admission or removal of the body. Only the immediate relatives, the undertakers, and bearers are allowed on the premises: a commendable rule, which deserves imitation.

At this last mortuary bodies are received from 8 A.M. to 8 P.M. from the 1st September to the 30th April, and from 8 A.M. to 10 P.M. from the 1st May to the 31st August. We think that practically it will be found best to impose no limitation on the hours when bodies are to be received, as it may often happen, especially during epidemic periods, that it is essential that the body of a person dead of infectious disease, should be removed instantly. It might be well, however, to have a general understanding on the subject, as at the City Mortuary, where all bodies are systematically removed by 11 P.M., though there are no specified hours named.

A point of some importance is the provision of shells or coffins for the holding of corpses whilst a proper coffin is being prepared. It has been proposed to require the person wishing to utilise the mortuary to provide such; but we think a far better plan is for

the managers of the mortuary themselves to have on hand a few such shells, which can be sent from the mortuary to the place from which the body has to be removed. The Islington Vestry, having experienced difficulties in the use of their admirable mortuary with regard to this question of shells, have ordered some of different sizes, made of wood and lined with tinned copper, to be kept at the mortuary for use when required. These are cleansed by the mortuary keeper after each occasion of use. A good rule at this mortuary is that no wooden shell may be removed therefrom except when used to bury in. If a body be transferred from it to a coffin for burial, the shell is sprinkled with disinfectants, split up, and burned. At Clerkenwell, the City, and Drury Lane mortuaries, there are also shells belonging to the authorities in readiness for similar emergencies. At every mortuary, there ought to be at least one or two air-tight coffins with glass lids for convenience of viewing the bodies on which inquests are held—an ofttimes very distressing and disgusting ceremony for the jurors.

As to the visits of friends and relatives, a word or two may be said. The only limitations of the unrestricted visits of friends within reasonable hours are that at Drury Lane the number of persons is restricted to three, between the hours of 9 A.M. and sunset; and that at Hackney, where two mortuary chambers (one for accidents and non-infectious diseases, and the other for infectious diseases) have been provided,* no

* This separation of infectious and non-infectious corpses is also

one is allowed in the infectious disease chamber. It may be added, as a matter of interest, that at Hackney infectious corpses are placed in a shell when they arrive at the mortuary, if they are not brought in one, and are then wrapped up in a sheet soaked with carbolic acid and water. They are then transferred, as soon as possible, to a coffin in which sawdust and carbolic acid powder have been put, and the coffin is screwed down. The floor of the chamber, which is of stone, is kept watered with carbolic acid and water, and other disinfecting precautions are taken.

Every reasonable facility should be given for the access of the public to such mortuaries, under proper regulations, and in those cases in which the body is that of a person found drowned, or unknown, or in other ways undistinguishable, provision should be made so that all the clothes of the deceased may be exposed to view. This is a point which we think is worthy of more attention than has hitherto been devoted to it. At present it is by no means easy for people who desire to view the body of unknown persons to accomplish their desire; and the natural consequence is that they come not to care to do so.

observed at the Islington and Clerkenwell mortuaries, but at the City mortuary (which is the most elaborate and expensive of all, comprising mortuary chapel, with twelve slate tables, keeper's house and offices, coroner's court, laboratory, weighing-room, consulting-room, dead-house fitted for *post-mortem* examinations, disinfecting apparatus, ambulance shed, and shed for disinfecting clothing, and which was erected at a cost of £12,000 from the designs of Col. Haywood, C.E.) no such separation is observed. Probably in small places the provision of a separate chamber for infectious cases will not be needful.

The number of persons annually consigned to mother earth whose names and station in life are utterly unknown is very large; and it cannot be doubted that if more easy means of identification were provided, as by the exhibition of their clothes, we might reduce the number to an appreciable extent. Moreover, in this manner foul play might more readily be detected, and mysterious disappearances cleared up. When it is borne in mind that of the three or four hundred persons annually exposed at the Morgue in Paris, half the identifications are due to chance, and that since greater facilities for the public entry to the institution have been made, the identifications have increased from barely three in every four bodies to nearly eight in nine, and the police have been greatly assisted in the detection of crime, the importance of reasonably free access to a public mortuary will be recognised.

It must be understood that we are by no means advocating the setting up of an institution like the Morgue in England, nor do we think that the sensational sights exposed to public view in that building are at all desirable to open to promiscuous gaze. But we would at least insist upon the importance of allowing such free access as may help to assist in clearing up a mystery or lead to the detection of crime. Of course, the gratification of mere morbid curiosity must be strongly discouraged; but we do not think that it would be at all difficult to do this with proper regulations. Many of the

identifications at the Morgue, which is the most complete institution of its kind extant, are made through the clothes of the deceased being conspicuously exposed; and the importance of preserving all articles of dress worn by an unrecognised corpse must therefore be strongly urged. At the Morgue a special room is provided for the retention of clothes of the unrecognised dead for from six to eight months after burial; but the number of deaths of persons unknown is likely to be so small at such mortuaries as we are at present contemplating that a box or press would be quite sufficient for the purpose.

The length of time that should elapse between the reception of the body and the burial is of moment. One of the regulations of the New York Board of Health is that "no person shall retain, or allow to be retained unburied, the dead body of any human being for a longer time than four days after the death of such person, without a permit from the department, which permit shall specify the length of time during which such body may be retained unburied." It would seem, therefore, wise to take this standard, and make regulations to the effect that a body must be removed from the mortuary within four days of the death. At Drury Lane every corpse must be removed for interment within six days from the date on which the death occurred. Corpses of persons dead of cholera must, however, be removed within two days, and those dead of other dangerous infectious diseases within three days, power being reserved

to the Medical Officer of Health to order the interment of a rapidly decomposing corpse at any time.

The burial arrangements will hardly in any case need to be considered by the cottage hospital managers, but as Section 141 of the Public Health Act confers upon local authorities powers to "provide for the decent and economical interment" of dead bodies received into mortuaries, it may be well to say something in conclusion upon this point. The terms of the Act are not particularly clear, but the late Mr Lumley, in his comments upon it, seems to think that the interment of bodies from a mortuary should, when necessary, be performed by the sanitary authority. Into this legal question we need not go, but we may point out that in practice burials from a mortuary that are not paid for by the relatives are performed by the parish (*i.e.*, the poor law) authority. A good rule at a mortuary established by the Hampstead Burial Board at the mortuary established within their cemetery* at Fortune Green (which, according to the report of the Medical Officer of Health for the district, might, with advantage, be "more used and better valued,") is, that in the case of corpses deposited in the mortuary of persons dead of infectious disease, the friends must meet the corpse

* The provision of mortuaries at cemeteries has been carried out in many places, notably on the Continent, where it seems to be a very favourite plan. At Bristol there is such a mortuary; and we have information of mortuaries at cemeteries in Berlin, Breslau, Cologne, Gratz, Lemberg, Milan, and St Petersburg. Amongst other foreign cities, mortuaries exist also at Amsterdam, Hamburg, Naples, Prague, Rome, and Venice.

at the cemetery and not at the mortuary, from whence the body is carried direct to the grave. At the Dean Street, Soho, mortuary, a separate room is provided for the mourners to assemble in on the day of burial. At Drury Lane, the guarantee of a responsible householder must be given for the removal of the body at the proper time ; but if the body be not removed, the interment is carried out by the parochial authorities at the expense of the guarantor. This system of guarantees may be of advantage in some cases, but we cannot advise its general adoption.

The use of mortuaries should in every detail be made as free and as easy as possible, for it is most necessary and important to encourage the poor (who are of all classes the most prejudiced and stubborn about their dead) to utilise so desirable an institution to the utmost practicable extent.

CHAPTER XIV.

A MORE DETAILED ACCOUNT OF CERTAIN COTTAGE HOSPITALS, WITH PLANS AND ELEVATIONS.

Description of the Cottage Hospitals at Cranleigh, Fowey, Bourton-on-the-Water, Speen, Harrow, Milton Abbas, Petersfield, Harrogate, Lynton, Ditchingham, Scarborough, Leek, Walker, Ashburton and Buckfastleigh, Holmesdale, Redruth, Tenbury, Petworth, Wirksworth, Reigate, Boston, Sherborne, Braintree and Bocking—Chronic Hospitals—Minor Notes—Rules at Saffron Walden.

THE cottage hospital movement has undergone such a vast development since the issue of Dr Swete's work that it is now impossible to treat each hospital in detail. We have therefore picked out a few from the general list which have certain peculiar points about them worthy of note. We treat them in detail in certain particulars, which do not appear so fully in the tables and elsewhere.

Cranleigh Cottage Hospital (vide *Frontispiece*).—This was the first cottage hospital, and was commenced by Mr Napper, who has been appropriately called the father of the movement, in the year 1859. It still remains, save a few slight alterations, in the same state in which it was first started,—not, however,

from any want of funds. On the contrary, Mr Napper has been offered an entirely new hospital, but it is his wish to let the hospital stand as a memorial of the first of its kind,—as an instance of what can be done with very slight means. With these sentiments every one must agree, and it would be a sad pity to do away with what is now so distinguished a landmark in the history of this movement. The building is a very old cottage of the ordinary Surrey type, given by the rector free of rent, and adapted by alterations and fittings for its present use at a cost of about £50. The simple but effective manner in which the alterations have been carried out is worthy of all praise, and displays much ingenuity. The alterations ought to be seen by every one interested in the erection of a cottage hospital, as they show by what simple means almost every obstacle can be surmounted. We must particularly mention the ingenuity displayed in the construction of a bath-room, with a supply of hot and cold water. The nursing is at present placed in charge of a trained nurse under the supervision of a ladies' committee. Much has been said (and the rule has been extensively copied into those of other cottage hospitals) about the visiting of patients at their own homes by the nurse. Now we have the authority of Mr Napper for saying that this rule has never been carried out here, for the simple reason that the nurse never has time for such extra duties. In making such a rule, Mr Napper explains

that it was his idea, that at some future time a second nurse might be found requisite, and should such be the case, the latter might in her spare time help to nurse the sick in their own home. This system has been found to work well in practice. But if with a yearly average of only 24 patients, one nurse is fully employed, surely, with over 40 patients, a hospital like Fowey must require the sole and continual services of one nurse. We must point out also Mr Napper's foresight in having a second nurse, specially for visiting patients at their own homes. Such a nurse has been lately appointed at another cottage hospital (Stratton). Mr Napper assures us that the additional nurse promises to become as useful to the villagers as the cottage hospital itself, for by her means efficient aid can be rendered to the exceptionally severe cases of illness amongst the very poor, whose circumstances render it necessary for them to be treated at their own homes. This is an important additional feature in the cottage hospital movement, and any surplus funds might well be utilised in defraying the expense of an additional nurse for home cases.

Fowey Cottage Hospital.—This (founded in 1860) appears to have been the second cottage hospital established. Some of its rules and customs are very peculiar. We have had occasion to remark upon them in various parts of this work, but we here reproduce them in detail, to show the authority on which our statements rest:—

Rule II.—"The establishment shall consist of a regular nurse, who shall reside in the cottage rent free, but shall provide the furniture for her own apartments, and shall be paid, when her services are required to attend on any sick person or persons in the hospital, her wages to be settled by the superintendent as circumstances may require."

Rule III.—"The nurse may, at such time as her services are not required in the hospital, attend poor women at their own homes during their confinements."

Rule IV.—"Every requisite except personal clothing shall be provided in the hospital, and patients may not receive food or drink from any other source, without the sanction of the medical officer."

The medical officer, however, writes:—"I am sorry that I cannot give you a correct statement of average receipts and expenditure, because many of the patients are fed from the nurse's table, or provide themselves in some other way. Again, others are placed in the institution, and are daily supplied with dinner, and perhaps with breakfast by the person who gets the patient admitted." No yearly report is issued. The medical officer gives medicine and appliances as well as attendance. There are 8 beds in the hospital, and an average of about 40 patients yearly. Apart from the comments we have felt justified in making with reference to the management of this hospital elsewhere, we cannot refrain from expressing a sincere hope, that the system will be remodelled without delay, and that its ample resources will henceforth be made available to the utmost for the purpose for which the institution was originally established.

Bourton-on-the-Water.—This, the third cottage hospital opened, was established in 1861, chiefly by the exertions of Mr John Moore, M.R.C.S. From an interesting little pamphlet which has been sent to us by Dr W. C. Coles,* we learn that the house in which the hospital was first located is a substantial, but not a modern building, of three storeys, and hence necessarily the rooms are low. It was doubtless erected on the plan adopted generally in the village about a century ago, of utilising all available space, at the least possible expenditure of money. The lower rooms on the basement floor are a little below the surface level on the outside, so that you descend a step to enter the house. It has been added to, and adapted, as circumstances called for, to meet particular requirements, by special funds raised and set apart for this purpose. It is the home of a pensioned soldier and his wife, the latter acting as nurse. It is situated on the outskirts of Bourton, but is easily accessible, has a southern aspect, and from its upper windows commands pleasant views over the surrounding country. There is a garden, in which convalescents take exercise, whilst its products are found useful in the hospital dietary. The want of a good carriage approach was greatly felt, insomuch that a vehicle conveying an injured person could not draw up close to its principal entrance-door.

This building was in use from 1861 up to the

* A Rural Village Hospital, by W. B. Coles. London: Taylor and Co. 1877.

middle of the year 1879, and has been of incalculable service, 665 in-patients having been treated under its roof during the eighteen years of its existence, and upwards of 4000 out-patients having resorted to it.

Having regard, however, to its inconvenient situation and faulty arrangement, and to its low and confined rooms and yearly increasing dilapidations, it was felt necessary last year to find some more suitable premises, instead of expending any further money in trying to improve the existing building. A site was generously given by a resident, other contributions came in, and the result of the agitation was so successful, that in the autumn of 1879 an entirely new and compact hospital, erected of brick and tiles, at a cost of £887, was opened with appropriate ceremonies, and was duly placed at the service of the village. The property has been fenced in with a light iron railing, and some trees and shrubs have been planted. The plan on page 424 gives a good idea of the new building.

The committee, in the last published report, state that they have every reason to believe, if the necessary funds are forthcoming, the future progress of the work will be satisfactory. In planning the hospital, the first consideration, after its probable cost, was to provide sufficient cubical space for its inmates; the next to secure increased facilities for efficient treatment and nursing. In the old hospital, the want of adequate cubic space, and of other proper sanitary arrangements, had, by retarding convalescence, neces-

sitated a protracted stay and consequently increased expenditure. It is anticipated that, under the proposed improved conditions and arrangements, the patients in the new cottage hospital will be placed in as favourable circumstances as possible, and that satisfactory results will follow. But, with all the acknowledged defects of the old hospital, it should never be forgotten that 665 in-patients had been treated under its roof during the eighteen years of its existence, and that, during the same period, it had been resorted to by nearly 4000 out-patients, who came from long distances, as well as from near at hand, to obtain gratuitous medical and surgical aid. The advantages of the old and the serious sanitary failings of the new building are clearly brought out in the description of the plan given in the next chapter (p. 424).

Speen Cottage Hospital.—Opened in October 1869. It was built at the sole cost of the late vicar, and furnished by subscriptions and gifts from friends. Average cost per bed is £30, or per bed constantly occupied £45. The nurse is made responsible to a lady superintendent, who seems to hold the same position as the ladies' committee in other cottage hospitals. The vicar of the parish, at whose gate the hospital stands, acts as manager and also as chaplain. The nurse is "required to visit the sick of the parish at their own homes under the direction of the manager when time permits." One plan of raising money for this hospital is worthy of notice—the ladies of the

district send fancy work and other useful articles, which are exhibited in a cupboard in the nurse's room, and are on sale for the benefit of the hospital. Rather more than £10 is thus obtained annually. The vicar also makes use of the hospital kitchen for supplying dinners in cases of sickness in the village, and pays for them at cost price from the offertory funds.

An engraving of this hospital will be found with the other plans.

Harrow Cottage Hospital.—In-patients in 1874, 37; out-patients seen at their own homes, 54; and out-patients seen at the hospital, 99. From the several different classes of patients, and from the rules being most complete and elaborate, we are induced to quote them much in detail, as they may be of great service in drawing up a set of rules for a newly started cottage hospital.

Subscribers and Donors.

Rules as to the number of in or out-patient letters to which they are entitled according to their subscriptions or donations.

Ladies' Committee.

[We reproduce these in full, and strongly recommend them to the study of every one interested in the subject.]

(1.) This will consist of seven ladies, including one to be specially elected by the board of managers to be lady superintendent.

(2.) Their duties will be :—

(*a.*) To superintend the domestic arrangements of the hospital.

(*b.*) To give out the stores, and make recommendations as to the purchase of the same.

(*c.*) To examine the household accounts, and present them to the treasurer from time to time for payment.

(*d.*) To advise the board of managers on all points relating to the comfort of the patients.

(3.) The lady manager will act as the representative of the ladies' committee in the ordinary routine of the above duties, and shall in addition :—

(*a.*) Act as secretary of the ladies' committee.

(*b.*) Fix in conjunction with the secretary of the board of managers (but subject to the appeal of the board), the sum to be paid by each patient.

(*c.*) Collect the weekly payment from patients, and pay the same periodically to the treasurer.

(4.) The committee shall meet not less than once a fortnight, shall keep minutes of all their proceedings, and report to each meeting of the board of managers.

(5.) In case of the temporary absence of the lady manager, the committee may appoint from amongst themselves a deputy to perform her duties.

We might suggest that to rule (2) should be added—

(*e.*) To read to and instruct such patients as may be in a fit state of health.

In-Patients.

Letter of recommendation required (except in cases of accident or emergency), which must be countersigned by a medical man, that the case is likely to be benefited by such admission.

In cases of accident the nurse may give provisional admission, but must report it at once to the medical officer.

Payments—labourers, 9d. ; under 12 years of age, 6d. ; small shopkeepers or mechanics, 1s. ; domestic servants in service, 1s. 3d. ; out of service, 1s. ; for each night they remain in the hospital. Each patient must bring a paper signed by some one guaranteeing this payment.

Rules as to the proper conduct of the patients, and as to the assistance required to be given to the nurse by such as are able.

Each patient will be held responsible for the washing of his own clothes.

Out-Patients.

If these attend at the hospital, they pay 1s. 6d. for four weeks. If attended at their own homes they pay 2s. 6d. for two weeks, subject to deduction if they are only seen once at home, and afterwards ordered to attend at the hospital. Pauper patients are not to be treated as out-patients.

Medical Officer

Will visit in-patients daily—dispensary out-patients on Mondays, Wednesdays, and Fridays at 12, and dispensary home patients on Tuesdays, Thursdays, and Saturdays. He will recommend to the board the medicines it is necessary to purchase. He will keep a journal accessible at all times to the board of managers, in which will be entered the name, occupation, residence, date of admission and discharge of patients, name of persons recommending, as also the result of their treatment.

Considering that this all done gratuitously, it is a great deal too much work to expect from one medical man.

Nurse.

Rules as to (1) proper nursing of patients ; (2) proper washing of clothes, disinfection and ventilation ; (3) administration of diets ; (4) superintendence of cooking, &c. ; (5) administration of medicines ; (6) reading of prayers ; (7) care of books, and visits of ministers of all denominations when desired by the patient ; (8) proper weighing and measuring of all provisions brought to the hospital, and superintendence of accounts.

These rules are too long to quote in their entirety, but it will be seen from the above headings and entries, that the system of management in force is

most exhaustive as to detail, and we recommend any one interested in this movement to write for a copy of the rules in their complete form.

Milton Abbas Cottage Hospital.—"A large roomy expansive building, built and endowed by Baron Hambro', who also generally pays most of the weekly charge for the patients, viz., 2s. 6d. out of 3s. 6d. It is often full, but many of the cases are chronic, and are placed there for comfort and food by Baroness Hambro'. Nurse has £25 a year and board wages (10s. a week); servant has wages and board wages (8s. a week; nurse is allowed 7s. a week per head for patients, and 6s. for children, to find their food. Stimulants are provided by the committee, and vegetables and milk are sent from Baron Hambro's free of charge." "Midwifery cases may be attended." Out of a total income in 1874–75 of £200, no less than £136, 10s. was derived from the endowment given by Baron Hambro', and £33 from patients' payments, most of which, we must conclude from the medical officer's report, was also derived from the Baron. The parish medical officer takes charge of the hospital; other medical men may attend their own cases if they please, but they rarely do so, as they mostly live at some distance.

Petersfield Cottage Hospital.—Extracts from the letter of T. Moore, Esq., one of the medical officers, and the honorary secretary:—"We have four wards, two with 2 beds, two with 1 bed on the ground floor, with kitchen, scullery, matron's, and operating room,

Upstairs, a convalescent room and a nurse's room. The operating room was originally upstairs, but so much difficulty was experienced in getting patients down to the wards after operations, that one has been built on the ground floor. It is, I believe, a great point to have all the wards, kitchen, &c., on one floor, as much labour is saved thereby. A skylight in the operating room is a *sine quâ non.* The walls are lined with Parian cement, which is easily cleaned. We have Galton's ventilating stoves; they are ugly, but good, I think. Our windows open on hinges—a great mistake, for they let in the wind and wet. If I built again, I would insist on sash windows and plate glass; we have the present windows because our committee thought they looked more 'cottagy,' and crown glass because it is cheap. We talk of altering them, when we can get money to do it. We have earth-closets, which act very well when they are well supplied with dry earth, but it is difficult to get that done. We have found it almost impossible to do without a mortuary, and have just erected a small detached building for that purpose. We have a head nurse or matron at £20 a year and £4 for beer, and a girl at £11 and £2 for beer. All the medical men (3) in the town are medical officers, but none of those in the villages round; the medicines are dispensed by a druggist in town at so much per bottle.

"The wards for men and for women are at opposite ends of the building, and are separated from one another by the kitchen and other offices, and shut off

by doors. Upstairs is a convalescent room, and a nurse's bed room.

"We make it a rule that the matron shall take her meals with the convalescent patients, and help all the others; and this we find certainly saves waste. Whilst insisting on economical management, we never spare expense for anything considered necessary in the way of diet, surgical appliances, &c., for we believe that liberality in this respect is in the long run the best policy."

The above is a most interesting experience in many little practical points.

Mr Moore is a surgeon of no mean ability. He is always on the outlook for improvements, and every new system or appliance or remedy is carefully tested at Petersfield. A visit to the hospital has more than confirmed the favourable opinion we formed of its completeness. Its management is a model in many ways, the regularity of the attendance of the house visitors is beyond praise, and the systematic and accurate book-keeping is worthy of imitation. The hospital case-book, as designed by Mr Moore, is the most complete we have seen, and every cottage hospital should possess a similar one. A sample leaf will be found at the end of this book (Appendix C).

Many useful gifts have been made to the hospital, including an operating table, water bed, air cushions, and several small articles of furniture, books, pictures, &c. Instruments to the amount of £40 have recently been purchased.

Harrogate Cottage Hospital.—First established in two cottages, thrown together and rented at £26 per annum. In 1873 two nearly new cottage houses were purchased by the committee for £550, and adapted to the requirements of a hospital at a cost of about £294, which was raised by subscription.

"Patients are now relieved without charge, as the fees which they used to pay were found to press heavily, particularly in cases where the bread-winner of the family was the sufferer." Formerly the patients were expected to pay 3s. to 7s. 6d. per week. There is an out-patient department, the average number of patients yearly being 257. A large part of the income is derived from donations collected in boxes at the different hotels of the town. There is one medical officer, and the domestic arrangements are under the supervision of ladies. The funds are in a very flourishing state: in 1875 £200 out of the balance was ordered to be invested, and all the debts incurred in buying and altering the cottages have been paid off.

Lynton Cottage Hospital.—The site of the hospital was given for 99 years by J. Lean, Esq.; the building was commenced in April 1873, and opened in May 1874. Its cost was about £680, besides which there were gifts of stone and some timber. Much carting was required, owing to the nature of the ground, and it was done gratuitously by the farmers of the district. This was reduced to a money value; and taking a cart with one horse at 5s., with two horses at

8s. per day, the total amount was found to come to £77, 10s. 6d., which sum is included in the above £680. The building is capable, without enlargement, of receiving more beds when required. The institution has been wonderfully successful and popular, owing perhaps in part to its distance from the county hospital, but much to the good management. The rules are almost too meagre, and the formation of a ladies' committee would be an improvement. We commend the two following rules :—

> Admission of patients to the hospital shall be granted by the medical officer, such admissions, and the retention of the patient in the hospital, being subject to the approval of the committee.
>
> Patients shall be received without forms of recommendation, and shall contribute towards their maintenance a weekly sum, the amount of which shall be fixed by the medical officer, subject to the approval of the committee.

As a rule, pauper cases pay per week, 1s.; servants and labourers, 2s.; and artisans, 4s.

Ditchingham Cottage Hospital.—This is a comparatively new hospital, opened in July 1873, at a cost of about £3000, the whole of which sum has now been paid off. It is a large, rather rambling, one-storeyed building on the pavilion principle. Besides the ordinary wards, it contains special wards, an operating room, bath room, chapel, &c. There are two surgeons, and a consulting surgeon residing in Norwich. Patients of the poorest class pay 5s. weekly, domestic servants, 7s. 6d., persons in better circum-

stances, 10s., as also incurable or permanent patients. Last year nearly two-thirds of the income was derived from donations—a very uncertain source. "There is a chaplain who attends once a week, and another clergyman who lives nearer says evensong in the chapel almost daily, and would come at any moment if sent for." The nursing is under the care of the All Saints Sisters of Mercy, by whom the hospital was built, and the head sister is called "sister in charge."

This hospital was designed by Mr C. Wethers, architect, Adam Street, W.C., who kindly sent us a plan. It is a big, rambling, over-sized building, and not well adapted for hospital purposes. A personal inspection leads to the conclusion that the discipline is lax, that there is too much religion and too little nursing, and that many of the evils of the French sisterhoods are to be met with at Ditchingham. A local committee, a little fresh blood in the management, and some crisp but kindly criticism, would soon put matters straight. We hope some such course may be speedily adopted.

Scarboro' Cottage Hospital.—Concerning the origin of this hospital Mrs Wright writes:—"It was begun on my own responsibility in 1867 in a small cottage, rented at £10, with 4 beds, and in the second year with 6 beds. Here the work went on for three years, when the applications became so numerous as to arouse me to see the great need of a large hospital. In 1869 I bought land, and had the present hospital built, with

the view of admitting 12 patients; however, I can now admit 22 patients, having given up some of my own rooms. The cottage hospital was partly paid by contributions, and is now sustained partly by voluntary contributions; the patients pay a weekly charge. In 1878 a new wing was erected, with accommodation for 20 additional patients," the cost of which is not stated. "The whole of the 40 beds were constantly occupied throughout the summer months. The present house was opened January 1, 1870, and is open all the year round: it cost £1340. Land in front of the hospital, bought to prevent buildings being raised, cost £172, chiefly paid by myself; and the piece of land on each side I have since bought to enlarge the space around the hospital. At the present time I manage it entirely myself—no committee, no chaplain, no house surgeon. I fulfil the duty of chaplain myself every morning and evening; also, having had great experience in visiting many hospitals both at home and abroad, and studied the science of medicine, I feel I am capable to undertake the charge of most cases, unless something specially serious occurs; then any of the medical gentlemen are ready to attend, and one of them generally attends daily, when necessary."

From a photograph sent, the building seems to be an ordinary good-sized detached villa; the entrance is in the centre of the building, there is a room with a good bow window on either side, and above are two stories; on one side is also a small greenhouse. The

number of patients in 1873 was 146; in 1874, 155; in 1875, 140. "Stimulants are extras." Patients are admitted through a subscriber's nomination, and on payment of a weekly charge of 5s., non-subscribers, 10s. Patients' payments, £140 to £150 per annum, seem to steadily increase. The above letter speaks for itself; the hospital seems to be doing a good work, and though we cannot quite agree with all the arrangements, it would be wrong in such a case to be hypercritical. We must note that in 1875 Mrs Wright not only made up the deficiency in income, but gave over £100 to free the hospital from the balance due on the "land fund," and that she gave £300 for other purposes in 1878. To quote her own words, Mrs Wright "found the sick here very badly nursed, there was no ventilation in their homes, and so I was stirred up to do something to remove the evils, and God has greatly blessed the feeble effort."

At the present time this appears to be chiefly a villa convalescent cottage. Its popularity proves that the management is in favour with the public, even if the system pursued be singular and unique. Mrs Wright's success shows once more the power of energy rightly directed.

Leek Memorial Hospital.—This hospital was built and furnished by Mrs Alsop in 1870, in memory of her late husband, and was managed and maintained entirely by her until May 1874, when a meeting was called to consider a plan for its future management and support. This first meeting met with

but a faint response, and the affair seemed inclined to collapse; but the trustees, in another conference with the medical men of the town, determined to open it as a public charitable institution, and to look to the public for support. Mrs Alsop agreed to this, and gave up the hospital to a committee for three years, keeping the building in repair for that time, and promising to give £100 for the first year, £50 for the second year, and £25 for the third year, and if at the expiration of that time it was a success, to hand the building over to the committee altogether. The hospital thus constituted was opened again May 4, 1874, and bids fair to be a success. A lady has also given £600 stock as an endowment; the interest on this will revert to the hospital at her death. Letters of recommendation are required except where patients pay, when the medical officers may admit.

The hospital is pleasantly situated on the borders of the town in small grounds of its own. On the ground floor are nurses' rooms, kitchen, scullery, pantry, male ward (4 beds), single-bedded male ward, and male bath rooms and closets. On first floor, female ward (3 beds and 2 cots), single-bedded female ward, female bath rooms and closets, operation room, nurse's bedroom, and above this the servants' room. The outhouses include mortuary, dust bin, coal hole, &c. The wards are spacious and airy, warmed by fire-places, &c., and in the winter by hot-air flues, the fire of which is lighted from the outside; the inlets are arranged along the floor, and the outlets near the

ceiling into the passage. The bath rooms are convenient, and well-fitted with hot and cold water. The closets are somewhat small and crowded, but do not communicate with the wards. The commodes used when necessary in the wards are not supplied with disinfectants, as ought to be the case; but no cases of typhoid fever are admitted, since there is also a fever hospital in the town. The walls look somewhat bare, and would be much improved by pictures or illuminated texts in greater abundance. They would not harbour dust and germs to any appreciable extent, and would greatly improve the appearance of the wards, and add to the comfort of the patients. The operation room is convenient, but requires rather more light. The mortuary is too small, and there are no conveniences for making *post mortem* examinations. The heating of the flues during the winter months is attended to by the night watchman at an adjoining mill.

All the medical men in the town constitute the medical staff, and the duty is taken in rotation, one of them acting weekly as house surgeon. There is one nurse, with two servants under her, and the domestic arrangements are also under the management of a committee of three ladies. Very few patients seem to pay anything towards their maintenance. Thus in 1875, out of a total of 69 patients admitted, only 14 paid 5s. per week, or upwards, from the time of their admission, and a Hospital Sunday movement has been started. Some useful statistics will bear

reproduction; they speak volumes for the prosperity of the hospital at the present time :—

Year.	Number of patients.	Average stay in hospital of each case.	Beds constantly occupied.	Cost per day in each case.	Visits of medical officers during year.
1874	33	25¼ days	3½	3/7¾	456
1875	69	24½ „	4½	3/8¾	486
1876	54	24¼ „	3½	4/5½	409
1877	58	31 „	5	3/10	463
1878	73	37½ „	7½	2/8	517

Part of Rule V. says—"Any proper patient, desirous of having the comforts and nursing of the hospital, though not in need of charity, if recommended by any of the hospital surgeons, may have the privilege of being admitted on payment in advance of not less than 25s. per week in the ordinary wards, or 30s. per week in a private ward. "We have no return as to whether this rule is ever taken advantage of, but there is much to be said both for and against it.

Walker Hospital.—This is a miners' hospital for "the reception of cases requiring surgical treatment, occurring in any of the large factories, ship yards, or other works in Walker, where the workmen contribute 6d. each per quarter towards the funds for the maintenance of the hospital." If sufficient accommodation exists, other cases are also admitted on payment of 10s. per week, and some may be admitted by letter, which, however, is only available for three weeks. There is a house committee appointed annually, which meets at the hospital every week, and also a committee of lady visitors. The medical staff consists of medical

men residing in the township, and holding appointments at works of at least 100 workmen. One of these acts as house surgeon, who may also appoint an assistant house surgeon; they attend in monthly rotation. "The surgeon supplying medicines is paid such uniform rate per patient as may be agreed on between him and the house committee."

Year.	No. of patients.	Daily average.	Average stay of each.
1873	130	9·65	29·34 days
1874	103	6·62	25·66 „
1875	87	5·95	29· „

The falling off in the number of patients is accounted for by the depressed state of trade, many of the works in 1875 not being in operation. The question of treating out-patients seems to have been negatived. The want of a night nurse having been much felt, one has been appointed. In 1874 there was an outbreak of diphtheria, traced to defective drainage, and the sewers have since been thoroughly trapped and ventilated. The working staff consists of matron, night nurse, cook, and ward maid. There is a large reserve fund.

The building consists of:—*Ground Floor*—Sitting and bedroom for matron—lobby—kitchen with hot-water boiler and pantry—operating room with bath-room—accident ward—porter's room. *First Floor*—East ward—west ward—convalescent room with verandah—bedrooms for nurse, and for servant—store room—two sculleries—W.C. for patients—

W.C. for matron. *Outer Premises*—Laundry in two rooms—mortuary—coal house and ash pit—privy—wash-house—meat pantry—stick house—large yard—flower garden in front—kitchen garden at back.

Ashburton and Buckfastleigh Cottage Hospital.—Extracts from letter of one of the medical officers :—"Ashburton, 3000 inhabitants, and Buckfastleigh (3 miles distant), 2500. Open to all medical men; 7 beds, and a cot. One nurse at salary of £22, with a servant under her at a salary of £12 a year. Extra help in nursing is occasionally required when there are very bad cases in the hospital. W.C. on ground floor, adjoining male ward, but not opening to it. Rule XXII. is peculiar, as far as I know (see page 383). It establishes the provident system. Practically I do not think any large number of the labouring classes will avail themselves of it, as very few have taken advantage of the rule; but in those cottage hospitals which have an out-patient department, I have no doubt a much larger number would be induced to subscribe their penny a week. Collecting boxes at railway stations and hotels—also Hospital Sunday.

"The premises are commodious, near the station, and with a large garden attached. For the most part they are newly built, the rooms large, well lighted and airy, the entrance hall and landings capacious, and the staircase easy and convenient. The male ward is on the ground floor on the left of the entrance hall. It is a bright cheerful room with a bow window at the end, and pleasant outlook on

the green hills across the valley. There are 2 beds, with room for 3 if necessary. All the beds are Allen's patent. The washstands are enclosed, stained, and varnished. The walls are coloured with a warm French grey, and adorned with gifts of pictures. On the opposite side of the passage is the kitchen, spacious and well provided, and adjoining this a large scullery with a boiler fitted for the supply of warm water, so indispensable an article in hospital economy. Carrying out the cottage idea, it is intended that the convalescents shall take their meals, and sit in the kitchen. Over the male ward and exactly like it, is the female ward (2 beds). Adjoining this, and over the general sanitary accessories, which are on the ground floor, is the surgery. Over the kitchen is the nurse's room. A wardrobe or linen room opens out of this, and beyond, over the scullery, is a large room in an older part of the building, which has been converted into a ward with 2 beds. The landing on this floor opens into a conservatory above the porch. Then, on the second floor, are a committee room, a single bedded ward, and a store room." A general committee, house committee, and a ladies' committee exist. Recommendations are required except in cases of accident or emergency. Visits of friends are allowed three times a week.

Rule XXII.—Any person paying a penny per week shall be eligible for admission into the hospital without being compelled to obtain a recommendation, and while in the hospital shall be exempt from any weekly payment.

DIET TABLE.

Ordinary Diet per Day.

Meat (cooked)	½ lb.
Potatoes	1 „
Bread	1 „
Rice and Arrowroot	2 oz.
Vegetables	„

Ordinary Diet per Week.

Butter	½ lb.
Tea	2 oz.
Sugar	½ lb.

Low Diet.

Beef Tea, Broths, Gruel, Arrowroot, Sago and Milk, as ordered.

Holmesdale Cottage Hospital, Sevenoaks (8 beds).—This has been in work since 1873: 1 bed to every 1200 population is found to be quite sufficient, from the comparative nearness of London and other general hospitals. Six medical men take duty in monthly rotation, the medical man on duty taking charge of each case admitted, unless the patient's own duly qualified medical man likes to follow the case into the hospital. The honorary secretary, the vicar of the adjoining parish, acts as chaplain, visits frequently, and usually gives an afternoon service on Sunday. Other clergymen and ministers of religion can visit their own people. Building and grounds are held on a 99 years' lease, with a £14 ground rent. Letters required except in cases of urgency. Consulting surgeon, F. Le Gros Clark, Esq., F.R.S., consulting surgeon of St Thomas's Hospital. A lady residing near assists the secretary

in superintending the domestic arrangements, visiting the hospital nearly daily. The reserve fund now amounts to £340, although in 1877 a commodious mortuary, fitted with conveniences for holding *post mortem* examinations, was erected on the north side of the building, at a cost of £67, 4s. 5d. The staff consists of a trained nurse (wages £30 and two dresses, &c.), and a servant under her (wages £15 and two dresses).

Description of Holmesdale Hospital.—The long room in the north wing is used as a men's ward, and holds 3, or, if necessary, 4 beds; it extends the whole depth of the building. There are 2 windows at each end (east and west), and 2 windows looking north; but it is, notwithstanding, a very warm room, more so than the women's ward, its counterpart on the south side. There is a bath room on this floor with a glazed earthenware bath, hot and cold water being laid on. There is also a matron's sitting room, long, narrow, but well lighted, and separated from her bedroom by a heavy curtain running on an iron rod. Downstairs, in the large cheerful day or convalescent room, is a cupboard for drugs and instruments. On the ground floor are 2 rooms, each containing a single bed intended for patients. At present one has to be devoted to the servant's use. A wide staircase in the middle of the building is so constructed that a lift may be made to work within the space enclosed by the balustrade. Behind the staircase is an operating room, well lighted from the ceiling; it is adjacent to the main building, and is fitted with gas lights like

those of a billiard room. Attached to the kitchen range is a high-pressure boiler, fitted with a dead-weight safety-valve, which supplies the bath-room with water. Water is laid on and supplied by the Sevenoaks Water Works Company.

The services of the architect, Mr Hooker, were given free of charge.

It will be seen that the cost of the original building and furnishing was very moderate. The work on the whole was well done. The kitchen range, however, was a failure, and a new close range, with a high pressure boiler and circulating system, had to be put in in 1875, at a cost of £35, a good many pounds having been previously spent in a vain attempt to tinker up the original range. The furniture originally purchased was found to be incomplete, and in some cases of inferior quality. A good deal has been added since 1874.

West Cornwall Miners' Hospital, Redruth.—First established as a home for convalescent miners, with 6 beds, at the sole cost of Lord Robartes, and supported wholly by him. A few years since an allied society was started, having central and local committees, with the object of supporting additional patients. An arrangement was made, by which a certain number of beds (at the same time increased in number) was placed at the disposal of the society, on payment of an agreed sum per week per bed, when occupied,—Lord Robartes appointing, and paying the staff, and providing in every way for the maintenance

of the patients and of the institution. On this basis it has ever since been worked. Up to 1871 it continued to be a convalescent hospital only, but in that year Lord Robartes built the accident wing. Half of the beds in the convalescent ward Lord Robartes reserves for patients admitted by himself. The other half the subscribers' committee may fill on payment of 10s. per week per bed. None of the beds in the accident wing are reserved, and they may be filled on payment of 12s. 6d. per week. All the expenses beyond these bed payments are borne by Lord Robartes, and his annual outlay has at times exceeded £1000. Subscribers' patients are admitted on recommendation papers. The medical staff consists of the surgeons of the various mines, paid in the usual way, each looking after his own patients personally, or by substitute, and providing the medical necessaries required. Accidents are admitted without letters, and a hospital litter is kept. Females have only been admitted for the performance of serious operations.

The hospital stands on the high ground overlooking Redruth, and is surrounded by large and well-kept gardens, while the building, if plain, is of an attractive character. There are separate entrances and staircases for the convalescent and accident wings, which, however, communicate on each floor. Instead of large wards, the beds are grouped in rooms, four or five in each, and there are rooms which can be occupied by a single patient, if the nature of the case makes it desirable. On the convalescent side are spacious

dining and sitting rooms; the kitchen also is in this part of the building. Leading from the accident ward is an operating room, fitted with every requisite of the most approved kind; also a bedroom for the occupation of the medical man in charge of a case, should it be so serious as to require his attendance during the night. The matron's room is on the convalescent side, that of the nurse on the accident side, and everything is so arranged that immediate help is always at hand. In serious accidents night watchers are engaged in addition to the ordinary staff. The bedding is kept in cupboards near the kitchen fire. All the rooms are well ventilated, and that over the kitchen, being naturally somewhat the warmest, is generally appropriated to patients suffering from bronchitis. Pictures and illuminated texts ornament the walls of the rooms and staircases.

Subscriptions, donations, bazaars, &c., in	1874,...	£337 0
Lord Robartes' expenditure .....for	1874,...	£1095 10
" " ..... "	1873,...	£1125 0

St Mary's Cottage Hospital, Burford, Tenbury.—Founded in 1870. No endowment. It was a small villa, purchased by a lady, and maintained by her entirely for one year. Then she let it to a committee rent free for another year, and finally it was purchased *en bloc* by a neighbouring landowner, and let to the committee at 10s. per annum for ten years, a regular lease being given. Very little alteration was required, only a small room being added for a surgery, at the expense of the first founder; but when it

changed hands, there was a sum of about £159 required, which was raised by subscription, almost entirely amongst the upper classes of the neighbourhood.

The district from which patients are sent has a radius of about eight miles from the hospital. Worcester and Hereford, which have general hospitals, are about equidistant, twenty-five miles or thereabouts. There is a cottage hospital at Bromyard, about twelve miles distant. Patients pay 3s. 6d. per week. Pauper cases are as a rule excluded, and when admitted are not regarded as paupers, and there is no arrangement with the board of guardians. The services of the medical staff are gratuitous. The rector of the parish of Burford is *ex officio* chaplain to the institution, but any other clergyman may visit members of his flock, who may be inmates, and dissenting ministers may have free admission to those who signify their desire for such attendance. Average income and expenditure, about £200 per annum, annual number of patients about thirty. The sum for which the whole was bought was £1500: it stands on about half an acre of ground—lawn, flower garden, kitchen garden, with mortuary, coal house, &c., at the back. The front gates open on the high road. Two benefit societies subscribe, and send in members.

Petworth Cottage Hospital was built by the late Lord Leconfield for the use of the town and neighbourhood in the year 1868. It is endowed to the amount of £33, 8s. 6d. a year, yielded by a fund styled "watch-

ing fund," originally devoted to a different purpose, as its name implies. It is supported by annual subscriptions, donations, payments by patients, and collections made in the church and chapel of Petworth, as well as in the neighbouring parish churches, in the form of "Harvest Thanksgiving." It is situated in its own grounds, about half a mile out of the town, and is about thirteen miles from the nearest general hospital. "The principal lessons to be learnt from the reports of the various committees of management, which latter are elected annually, and are composed of the trustees—Right Hon. Lord Leconfield and Rev. Charles Holland—the churchwardens for the year, and three others, appear to be the following:—(1) The advisability of excluding infectious cases; (2) of having a thoroughly good nurse or matron; (3) of appointing one honorary medical officer for the year, allowing, at the same time, a patient to have any doctor he pleases other than the honorary surgeon, but leaving the patient to make his own arrangements for such attendance."

Description.—On the *Ground Floor* are—(1) Matron's room. (2) Convalescent ward. (3) Single-bedded ward. (4) Kitchen. (5) Scullery. (*a*) Wash and bake house. (*b*) Underground larder. (*c*) Pantry. (*d*) Wood-house, etc., with staircase to No. 10 ward for the conveyance of the dead.

On the *First Storey* are—(6) Single-bedded ward. (7) Single-bedded ward. (8) Matron's bed-room. (9) Bath-room and water-closet. (10) Double-bedded ward.

And on the *Second Storey* are—Double-bedded large attic. Single-bedded small attic.

Faults.—(1) There is no ward into which a patient can be carried on a stretcher. (2) There is no dead-house. (3) The convalescent ward should be at least three times larger. (4) The water supply is not good in dry seasons.

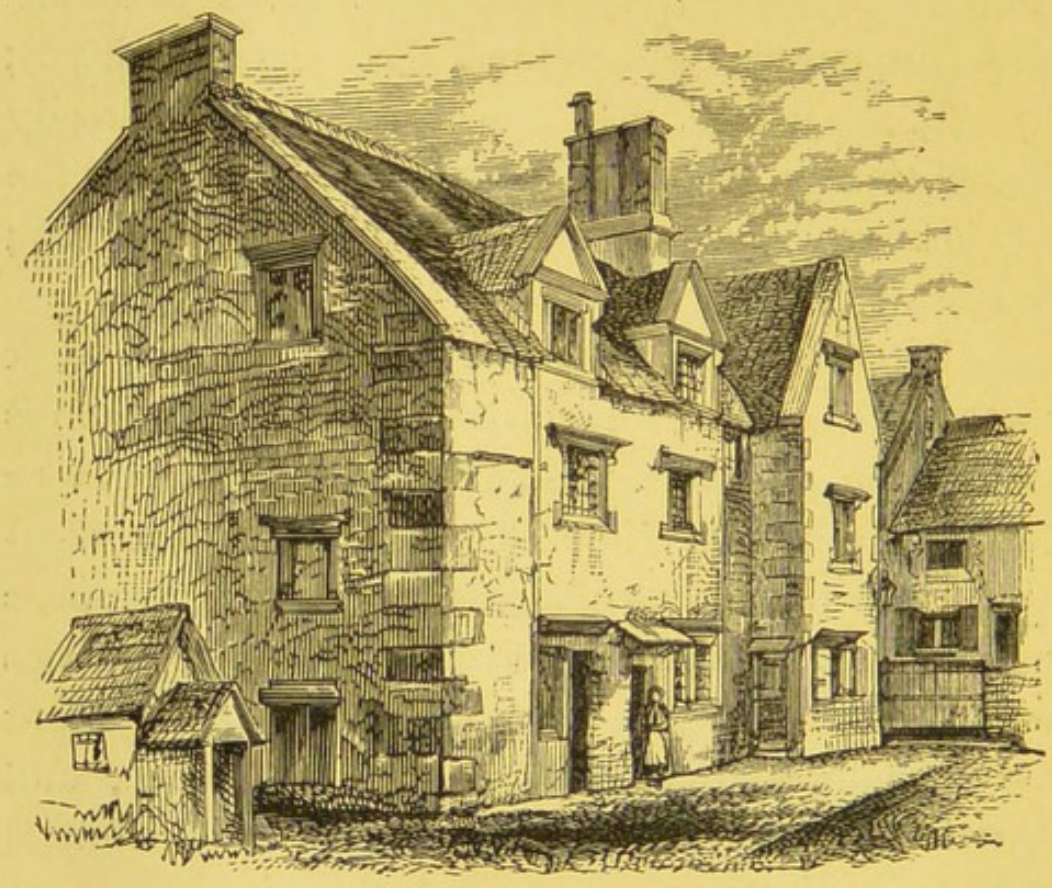
The number of patients admitted has been as follows :—

1868–69, 27 ; 1869–70, 24 (in this year a panic was caused by the report that a small-pox case was to be admitted) ; 1870–71, 17 (small-pox cases were admitted); 1871–72, 12 (small-pox cases were admitted); 1872–73, 2 (in this year the three reforms already alluded to were made) ; 1873–74, 30 (in this year the late honorary medical officer died) ; 1874–75, 23 ; 1877–78, 28.

Each patient pays from 1s. 6d. to 12s. per week towards the expenses incurred. Usually this sum is paid for the patient by some charitable person, who stands at the same time as guarantor to the committee. In the case of paupers it sometimes happens that they are sent in by private charity ; sometimes that the guardians pay some sum, as 5s. per week, at the recommendation of their medical officer ; and sometimes that all the expenses incurred are defrayed by the guardians.

Wirksworth.—A Sustentation (!) Fund of £145 has been formed. Much of the furniture was given. There is a nurse, who has occasional assistance when

required. When her services are not necessary at the hospital, she has to attend patients at their own homes during sickness on payment of the usual fees. Domestic arrangements are under a ladies' committee. There are three medical officers, but all medical men who have attended cases previous to their admission may continue the treatment if they desire. Recommendations from subscribers are required. "Any out-patient, on recommendation of a subscriber and authorised by a medical certificate, will be provided with a dinner at the hospital at a small cost."



WIRKSWORTH COTTAGE HOSPITAL.

Three cottages were bought by a lady, who lets them to the committee at £8 per annum, and these were altered at a cost of about £120. The district

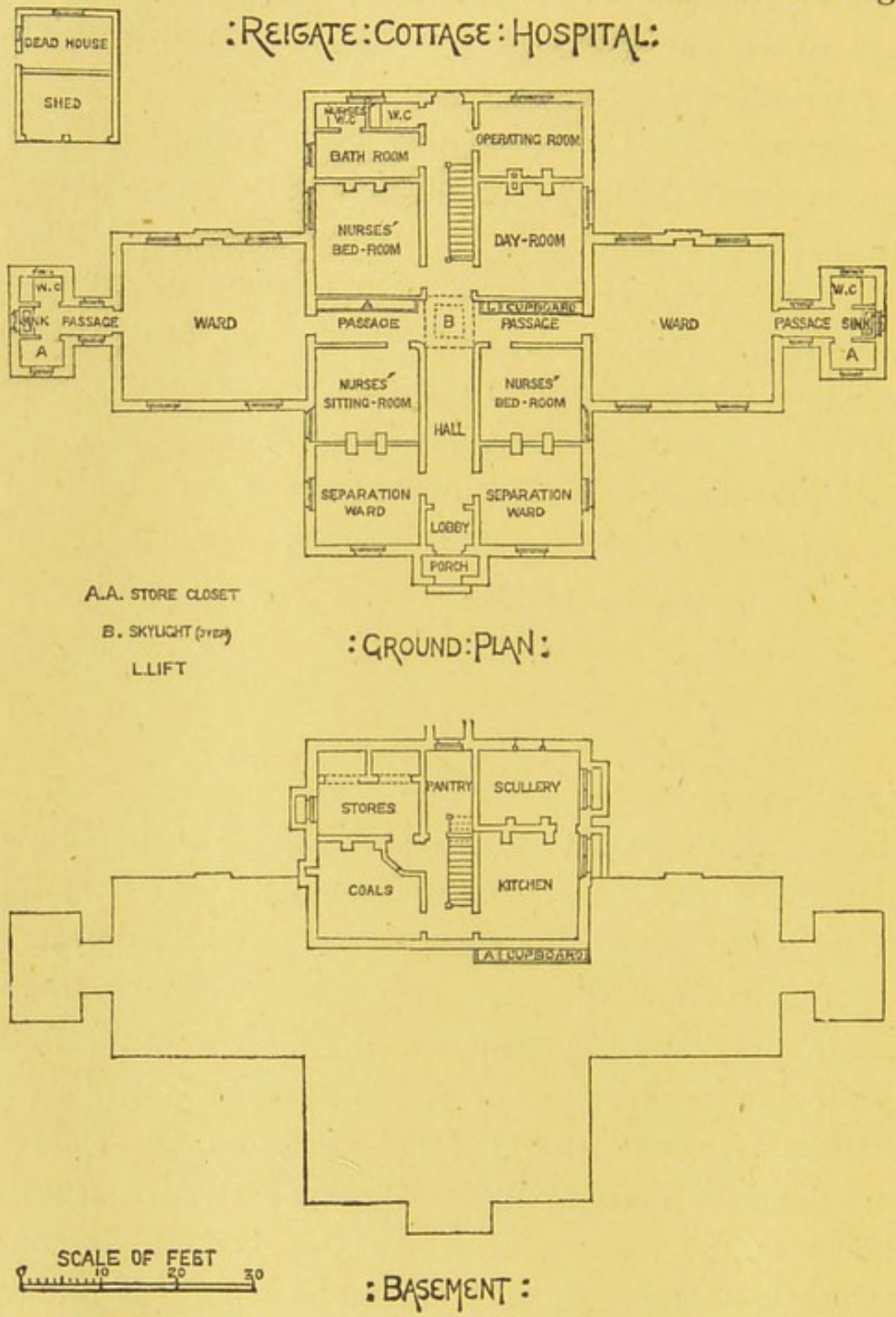
extends to a radius of about 5 miles, with a population of 18,000, and the nearest infirmary is 13 miles distant, viz., at Derby. There are 7 beds—4 for men, 3 for women.

Reigate.—This hospital has been enlarged by a gentleman in the neighbourhood so as to accommodate 16 patients. Limited to district of Reigate Union. Managed by a committee, with medical officer and treasurer. "Any legally qualified medical practitioner residing in the district shall be allowed to attend to his own cases in the hospital in conjunction with the medical officers." Subscribers of 10s. 6d. or donors of 10 guineas may recommend patients.

Patients' payments	1873	. .	£148	8 9
"	"	1874	. .	104	0 6
"	"	1875	. .	86	19 6
"	"	1876	. .	145	8 2
"	"	1877	. .	151	17 6
"	"	1878	. .	153	19 0

These amounts paid by patients each year show how well this system is worked at Reigate. The hospital is well planned on the whole. We might suggest—1st, that the hall and passages are badly lighted, there being only one sky-light for the whole; 2nd, that while the closets, &c., for the wards are well placed, with cross ventilation, the nurses' and other closets are deficient in both these respects. On the whole, however, the plan upon which this hospital is constructed deserves warm commendation. It is one of the best plans we have seen, and, with an eligible and extensive site at the disposal of the committee, they

will be enabled to extend the institution on the pavilion plan as the requirements of the increasing



population of the town and neighbourhood may demand. The whole of the arrangements reflect

great credit upon the medical staff, managers, and architect, and are in most respects excellent.

After a careful study of the plan of the hospital we must award it very high praise; indeed, the arrangements as to ventilation and closets seem nearly perfect. The larger wards are ventilated by opposite windows, and the closets are entered by a cross ventilated lobby, which lobby is itself entirely shut off from the wards. The cost of erecting and furnishing the new wing, was £600.

The above plan gives a good idea of the arrangements of this hospital. The wards are lofty, well lighted, exceptionally ventilated, thoroughly warmed, and simply but adequately furnished. The water-closets are quite separate from the main building, being entered by a cross ventilated lobby, which lobby is completely shut off from the wards. The building consists of one storey, but two nurses' rooms have been placed in the roof. Should more hospital accommodation be wanted at any time, we would counsel the managers to build a second pavilion, and not to place wards above the present ones. The latter course would, for hygienic reasons, be best avoided. The one defect is, in our opinion, the situation and construction of the bath-room. Here two water-closets and a direct communication with the sewer have been brought into the interior of the hospital, and the precautions taken in reference to the ward water-closets are therefore partly neutralised. Why the nurses' water-closet should not be placed outside the

building we fail to see, and the bath might with advantage be removed to the buildings where the ward water-closets are placed. Rufford's porcelain baths, not painted tin baths, should always be used for hospital purposes. The latter soon look dirty and become unsightly, whereas the former remain bright and clean for an indefinite period. The operation-room is exceptionally well lighted, and on the darkest days all available light will enter this room. We are informed that the hospital drains enter the town sewers; but all connection between the latter and the hospital buildings is cut by an open manhole, which is protected by a syphon placed between it and the main sewer, on the plan explained at page 148. Dr Walters has evidently taken great pains to make his hospital structurally complete, and we congratulate him upon a genuine success. It is true that a verandah cannot easily be connected with the hospital; but the open porch is not a bad substitute, and if the accommodation it provides proves to be insufficient for the increased number of patients, why not utilize the roof as an outdoor convalescent room? The view would be really charming, and the expense of the alterations could not entail a material outlay.

The methodical way in which the in-patient register is kept is highly commendable. Its pages reveal an amount of good surgical work performed in an expeditious and thorough manner, which has naturally produced its reward—an exceptional success.

Patients are admitted with spinal curvature, a Sayre's splint is applied, and the patient is made an out-patient on the same day, not once, but several times. An old woman of 80, with a fracture of the left tibia and fibula, walked out of the hospital without assistance in less than two months. A case of epithelioma of the cervix was diagnosed, pronounced incurable, and the patient discharged in five days. Such are cases taken at random from the register, and they prove satisfactorily how crisply the Reigate Hospital is managed. It is far better administered medically than nine-tenths of the county infirmaries.

The situation of the hospital is all that can be desired ; it has an ample garden, a temporary mortuary, and a sedan chair for convalescents. The mortuary is not a satisfactory feature as at present constructed. (See on this subject the preceding chapter.)

Mrs Walters has had the entire control of the nursing and domestic management from the outset. The cleanliness, order, and comfort everywhere present prove her devotion to her duties, and her competence as an administrator. The condition of the hospital under her management is another proof that the best managed cottage hospitals are conducted by an honorary non-resident lady manager on the Harrow system. On the principle that it is best to bear the ills we have than fly to others which we know not of, the committees of cottage hospitals will be wise to select a local lady, whose gifts and whose failings they are familiar with, than to import a

lady superintendent of whom personally they know nothing. Besides, it is one of the uses of the cottage hospital that it provides suitable, improving, and instructive occupation for many ladies and gentlemen, who without it would lack a valuable link which connects them more closely with the poor of the district in which they live. Mrs Walters' great success should embolden others to go and do likewise.

Boston Cottage Hospital.—An excellently planned and well arranged cottage hospital was opened at Boston, in Lincolnshire in the year 1874. Great credit is due to Dr Mercer Adam, Mr Pilcher, and the other members of the medical staff, who with the assistance of the committee and architect (Mr Wheeler, to whom we are indebted for the facts contained in the following sketch), have managed to achieve a marked success in cottage hospital construction. It will be seen that special care has been taken to give the wards an air of comfort and brightness, and we recommend any one who contemplates building a new cottage hospital to pay a visit of inspection to Grantham and to Boston, before they finally fix upon a plan. No pains have been spared to make the Boston Hospital complete in every respect, but a fatal mistake has been made in placing the water-closets and lavatories *inside* instead of *outside* the building. No time should be lost in erecting two turrets, separated from the main building by a passage or lobby, with cross

ventilation. Until this step is taken, one of the most thoughtfully arranged and tastefully planned of cottage hospitals will remain, from a sanitary point of view, anything but a desirable residence for surgical cases. If this work is delayed too long, the evils of the Manchester Infirmary will be repeated on a smaller scale at Boston. When proper hygienic arrangements have been made we shall hope to find the Boston Cottage Hospital quite a model of efficiency and comfort. We give the following detailed description, because there is much that is admirable in the fittings of the hospital :—

Description of the Boston Cottage Hospital (a Plan and Elevation are given in the next Chapter).—In designing this building, two considerations were kept in view. First, that it should be a *cottage hospital*, and therefore as nearly like a comfortable home as the circumstances of the case would permit, and unlike the large dreary-looking places formerly known as infirmaries ; and, secondly, that it should have a cheerful appearance throughout,—a great aid to the cure of sickness being gained by diverting the mind from the pain of the body with cheerful and pleasant surroundings. A pleasant aspect, a beautiful look-out from the windows, large airy rooms with plenty of light, pictures with coloured texts and sentences on the walls of the wards, have all been brought to aid the medical staff in their task of healing the sick. The hospital is built with white bricks, relieved by bands of moulded red bricks, having a handsome

moulded red brick cornice. The roof is covered with blue Staffordshire tiles. Over the porch is a label, made of encaustic tiles, with an effective border, encircling the words "COTTAGE HOSPITAL, 1874." The front of the building faces due north, and on this side are arranged the entrance porch, kitchen, and other offices,—the convalescent room and the principal wards occupying the south side. The building is entered by a porch and lobby, with a double set of glass doors, seats being placed between the two doors, so as to provide a waiting place for visitors, or for the convalescent patients to sit in on fine days. On one side of the entrance, the motto "Rest and be Thankful," is inserted in the brick wall, in encaustic tiles, and, to remove any encouragement to a spirit of laziness that this might engender, on the opposite side are the words "Work is Worship." The lobby leads into a hall, out of which open the convalescent room, and the downstairs wards, with the matron's room in the centre. The hall is paved with red, buff, and black tiles, and the walls to a height of about four feet, with glazed bricks of a warm buff colour, above which runs a string cornice of encaustic tiles, with a pattern in black and buff, and above this again are white bricks, finished under the ceiling with an ornamental moulded red brick cornice. Under the cornice is a band of black encaustic tiles, with buff letters containing the words "Peace be to this house and all that dwell therein," and on the opposite side, "In God is our hope and our strength." In the

centre is a fire-place, the sides formed with chocolate and buff picture tiles set into the brick work. The hearth is also formed with tiles. The name of each room is placed over the door on tiles let into the wall. Facing the porch is an alms-box, with the words "And He saw a poor woman casting two mites into the Treasury," and over it is inscribed the sentence from Proverbs, "Say not unto thy neighbour go and come again, and to-morrow I will give, when thou hast it by thee." The convalescent room has a large bay window, opening out on to a verandah, which looks over the public recreation ground. All the windows throughout the building are made in three parts,—the two lower consisting of the ordinary sashes, made to lift up and down, and over these is placed a sash a foot deep, hung on hinges, so as to fall forward into the room. The air being thus directed upwards towards the ceiling, does not fall directly on the persons occupying the room. A similar arrangement is provided over the doors, so that an uninterupted current of air may pass through the room without creating a draught. Provision is also made for the escape of the foul air from the rooms by means of ventilating flues, which pass up by the side of the smoke flue openings, covered with fine perforated zinc, which is let into them immediately under the ceiling. The air in these shafts is rarefied by the heat derived from the smoke-flues which adjoin them, and consequently there is always an upward current drawing the vitiated air from the wards. Escape is provided just above,

the ridge of the roof; the air-flues terminating by projections from the chimneys, which have the appearance of small buttresses supporting the chimney stack, and while fulfilling this useful purpose, add greatly to the ornamental character of the chimneys. The walls of all the wards are distempered a light blue tint, those in the convalescent room having the lower part painted for a height of three feet six inches, the separation between the paint and distemper being made by a moulded rail, the two smaller members of the moulding being coloured respectively black and red. These coloured lines afford an agreeable contrast to the blue colour of the walls, and give a cheerful appearance to the room. Immediately under the ceiling, and running all round the wards, are letters in Old English character, coloured vermilion, the capitals of which are blue. The following are the stated sentences:—"Despise not thou the chastening of the Lord, nor faint when thou art rebuked of Him: for whom the Lord loveth He chasteneth, and scourgeth every son whom He receiveth." "Keep innocency, and take heed unto the thing that is right, for that shall bring a man peace at the last." "As thy day is, so shall thy strength be." "Contentment with Godliness is great gain." The fireplace is formed by a neat cast iron curb, to which are attached the bars of the grate, and round this is a double row of blue picture tiles, representing scenes from the Old and New Testament. The whole is finished with a wooden moulding, stained and varnished. The cross

mouldings are double, leaving a space between in which are cut the following letters, picked out with vermilion, so that they have a very bright effect :— "In God is my health and my glory." The hearth is also composed of similar tiles to the front of the grate, and finished with a neat iron curb, which acts as a fender. The cost of the whole grate, with tiles and fender complete, is not more than that of an ordinary grate and plain mantle shelf suitable for such a ward. The grates in all the wards are similar, the subjects of the tiles being varied by descriptive designs of fables, flowers, &c. On the walls are hung coloured pictures in simple frames, obtained from those issued with the *The Illustrated London News*, *The Graphic*, &c., and those supplied by the Tract Society. The wards are finished in the same style as the convalescent room. The surgery is fitted with cupboards and shelves, a sink and water taps. Near to the surgery are the lavatory and water-closets, and beyond them the bath room. On the opposite side is the kitchen and scullery, laundry, wash-house, and out-buildings. At some little distance from the hospital, with a separate entrance, a mortuary has been erected. The staircase, leading to the floor above, is of pitch pine varnished, the chamfers, &c., being picked out with black. The treads are broad and easy, and the width sufficient to allow a stretcher, containing a patient, to be carried up and down. Communicating with the landing are lavatories and separate water closets, for the use of male and female

patients. From this landing the stairs divide into two separate flights, each leading to a gallery on either side of the building, by which access is obtained to the upper wards,—a separation being thus effected between the male and female wards. On this floor are four wards, with accommodation for 8 beds, and also bedrooms for the lady superintendent, nurse, and servants. The windows are so arranged that the patients lying in bed can see over the recreation ground, and enjoy a beautiful and cheerful view. The staircase is open to the roof, and covered in by a lantern, glazed at the sides with coloured cathedral glass, with small perforated zinc openings, allowing a current of air to circulate throughout the building and into the wards by means of the fanlights over the doors. The building stands upon about half an acre of ground, leased from the corporation of Boston for 99 years at a nominal rent. The space not occupied by the building is laid out as a garden for the use of the patients. In the grounds near the entrance gate a lodge, where a man and his wife reside, has been erected, at the expense of a gentleman in the neighbourhood, as a memorial to his brother. The man, in consideration of the house-room, coals, and gas, acts as porter, keeps the garden in order, and assists when required in the hospital. There are also two bedrooms in the lodge for the use of nurses, it being the intention of the managers to make arrangements for retaining a thoroughly trained nurse, whose services will be available for attendance in the town

and neighbourhood, on the same plan as nurses are supplied by the various nursing institutions, and also a probationary nurse, in training to assist in the hospital, and to attend to surgical cases amongst the poor, when operated on at their own homes.

The hospital was built from the plans and under the superintendence of Mr W. H. Wheeler of Boston, the honorary architect. The total cost of the building, including the fencing and arrangements for the garden, laying on the water, providing a portion of the furniture, and every other expense, has been £2165. This is exclusive of the cost of the porter's lodge and the furniture for four of the wards, which were furnished by four families.

Sherborne.—At the death of the Rev. H. F. Yeatman, of Stock House, Sherborne, the magistrates of the county decided on establishing a permanent testimonial to his memory, and subscribed £500 for that purpose, which was supplemented by £500 from the inhabitants of Sherborne and the neighbourhood. A joint committee was appointed to carry out the wishes of the subscribers, and at a meeting held in Sherborne it was unanimously agreed that a hospital in the town was a fit memorial. Plans by the late Mr Slater were adopted, the centre and west wing being first erected, and opened for the reception of patients on the 19th of March 1866. In presenting their first annual report the committee appealed to the public for funds to enable them to complete the building; in answer to which the ladies of Sherborne and the

neighbourhood held a bazaar in the Town Hall, which realized the handsome sum of £557, 13s. 6d. This, with other donations, enabled the building to be completed at a cost of upwards of £4000, the accommodation consisting of 21 beds. The institution needs and deserves to be liberally supported, the number of patients already admitted being—out-patients, 3218; in-patients, 1103; total, 4321.

The Braintree and Bocking Cottage Hospital.—This little hospital, which is pleasantly situated in the neighbourhood of Halstead, Essex, was founded, and for a long time maintained, by the late Mrs George Courtauld. No one who had the privilege of knowing Mrs Courtauld will need to be reminded of her worth. Charitable to a high degree, she yet tempered her gifts with wise discretion. No mere distributor of doles, she was, in fact, most justly known as the friend of the poor. The universal regret caused by her sudden death is shared by the writer of this book, as he knew no one whose judgment and counsel he more thoroughly trusted. The Braintree Hospital is a proof of her worth. Unaided she drew up the rules and regulations for its management; and those rules are the embodiment of the best principles of cottage hospital management. The letter of recommendation is the best the author has seen, and he reproduces the footnote for general adoption. It could not be better, and it testifies to the sound principles upon which Mrs George Courtauld conducted her little hospital:—

"To avoid disappointment and needless trouble, it is desirable to state that the hospital is not intended to be used as a sick home for the reception of indigent sick people, but as a hospital for the treatment of cases where cure or permanent benefit can be reasonably anticipated.

"The nurse is strictly forbidden to receive money from the patients."

The writer is glad to hear that the Braintree Hospital will be kept open under new management, and that the work so wisely begun will be continued by a competent committee.

Chronic Hospitals.—It has of late been often urged by the medical press, and in other quarters, that infirmaries or hospitals for the sole treatment of chronic and incurable cases would meet a felt want. For our own part we must state our belief that whilst the establishment of such institutions may be desirable, still it can never be defensible except each person is made to pay fairly for the advantages and treatment he receives. Miss Black of South Kensington has humanely founded a chronic hospital for the poor of Hampshire, to which she devotes the whole of her energies. Miss Black is exercising great self-denial, and the following description of the beneficent work she so successfully carries out may prove interesting to many readers. Writing from 14 Longridge Road, she says :—"I found your paper on arrival at my little hospital yesterday, and hasten to answer your questions. I began, continued, and carried it on

all by myself. At first I had 2 beds; but finding it absorbed too much money I gradually admitted only those who could come daily, and year by year the numbers rapidly increased, and now they come from all parts of Hampshire. My hospital is solely for the treatment of ulcered legs and eczemas. I have got the money entirely by working hard at raffles, entertainments, &c. I have a matron and now 4 nurses, the former resident, all of my own training. Such patients as are at first too ill to attend, I send my head nurse to, and she daily reports progress. Now that we live in London I go down every week and sleep there, and on Wednesday I see and dress from 40 to 80 cases. I have had 90 and 105 in one morning."

This letter shows how much one person with determination and energy can do to relieve suffering humanity. Would that each town and county had a little institution to minister to the necessities of the suffering poor!

Minor Notes.—The following points in the management of the cottage hospitals named are worthy of commendation:—At the Walker Hospital the income from subscriptions was less by £21 in 1878 than in the previous year. So large a falling off would have seriously crippled many similar institutions. The Walker Hospital, however, is mainly occupied by accident cases. Thus, of 68 cases admitted in 1878, 47 were the result of accidents. It is very proper that the workmen for whose use the hospital was

opened should contribute to its support, but it must not be forgotten that accidents and urgent cases are admitted at the majority of English hospitals without note or recommendation of any kind. This means, in practice, that accident cases almost invariably get free relief as a matter of course. Not so at the Walker Hospital. There the working men contribute annually between £200 and £300 to its support, or something like 3-5ths of the whole income. When the annual subscriptions fell off by £21 the workmen increased their subscription by £47, and so declared their gratitude for the benefits they had received. What one community has done all might do if they would. We commend these facts to the careful attention of every one interested in the subject of English medical relief.

Saffron Walden.—Two rules deserve reproduction and imitation:—

1. No person shall be admitted unless able to maintain himself or to pay for his cure, unless he be suffering from severe accident, and not then if he can be efficiently treated at his own home. In case any such person is accidentally admitted he shall be held accountable to the committee for all expenses incurred on his behalf.

2. All unmarried patients who are members of a club shall pay to the hospital towards their maintenance two-thirds of the weekly allowance they receive therefrom.

At this hospital trusses are supplied to persons known to subscribers for a nominal payment. This is a good rule, and would occasionally be an immense boon to the poor.

CHAPTER XV.

SELECTED AND MODEL PLANS CRITICISED AND COMPARED, WITH A DETAILED DESCRIPTION OF VARIOUS HOSPITALS.

Description and criticism of plans of Cottage Hospitals at Grantham, Maidenhead, Petersfield, Ashford, Stamford (Fever), Bourton-on-the-Water, Beccles, Boston, High Wycombe, and Speen—Plans for Model Hospitals of various kinds—Small Hospital with nine or twelve beds—General Hospital with thirty or forty-eight beds—Temporary and Permanent Fever Hospitals—Convalescent Institutions.

IN Chapter IV. we have gone into much general detail when dealing with the questions of cottage hospital construction and sanitary arrangements, and it will not be necessary for us to repeat our views on these questions here. At the same time, it was pointed out in reviews of the last edition that very few plans were given, and that a brief descriptive chapter devoted to this subject alone would be of real service to many. It has been determined, therefore, to accede to the wish thus expressed, and the plans about to be described have been carefully selected from a large available number kindly placed at our disposal. The author is bound, indeed, to say that he believes this selection

GRANTHAM HOSPITAL.

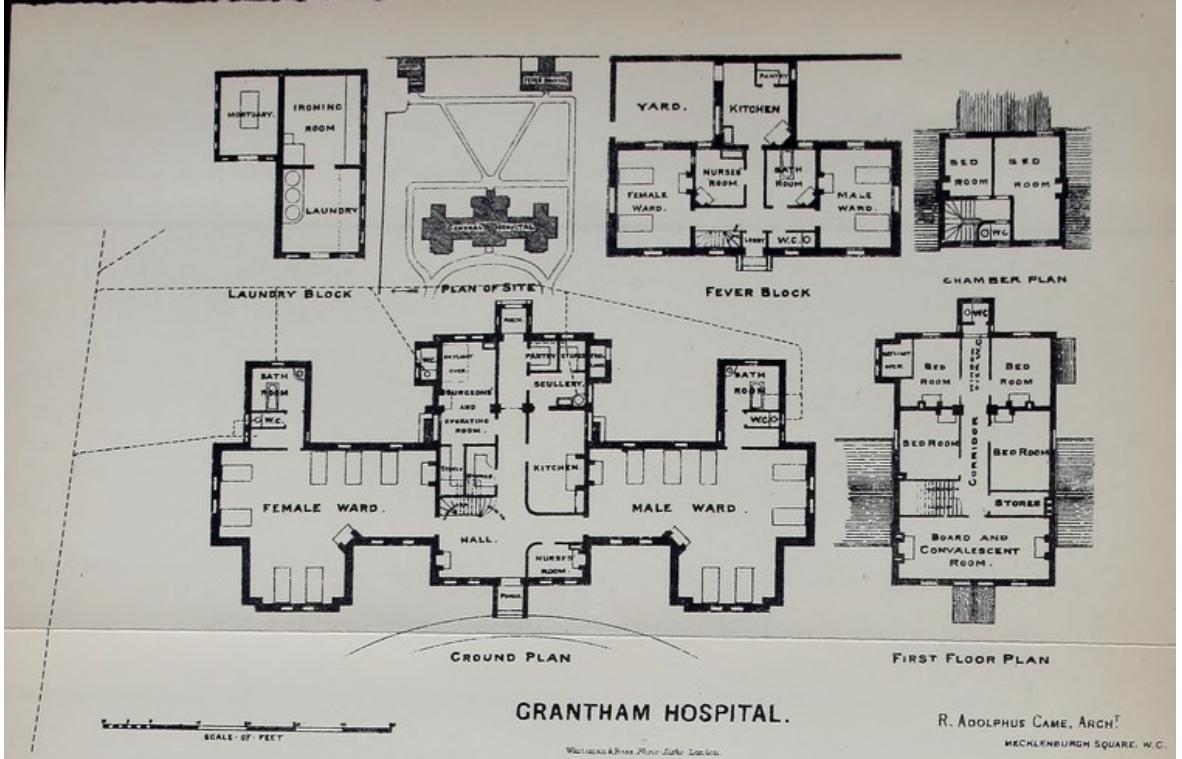
Whiteman & Bland, Photo-Litho, London.

929

will be found to include not only the best types, but every type of cottage hospital construction to be met with in Great Britain. No plan has been omitted on the ground of expense. Far from it: all have been carefully considered on their merits, and the following have passed the scrutiny with more or less credit.

First and foremost, quite a head and shoulders in advance of its fellows, and probably, hygienically speaking, the most complete in the country, stands out the *Grantham Hospital, Lincolnshire.* Fortunately for the committee, the medical officers had very clear views upon the subject of sanitary arrangements. They very carefully altered, amended, and re-arranged the plans first submitted by the architect until the result was in this respect satisfactory. There are a few points upon which criticism is desirable, and these we will deal with first. The kitchen is badly placed and worse lighted. It is very undesirable that the smell of cooking should penetrate to the wards, and this fault is present at Grantham. We would suggest arrangements being made to transfer the kitchen to the top of the building, where light, air, and ventilation could be made complete, and from which no smell would enter the hospital proper. The situation of the water-closets in the fever block is very faulty, and the method of ventilation adopted is not wholly successful. Indeed, we believe that were these closets constantly used the nuisance from them would soon be unbearable. With these slight modi-

fications there would be little left to desire. The hospital is built of stone, and being situated upon the side of a hill, and commanding an excellent view, it is certainly a delightful place for an invalid. Indeed, when looking out of the board and convalescent room one instinctively wishes that if struck down by illness such excellent accommodation might be within easy reach. The plan of the site is excellent, and the arrangements and shape of the wards novel, pleasing, and noteworthy. They present a cheerful and airy appearance which fills the visitor with pleasure. Much has been said about the advantages of octagon and circular wards, and here at Grantham is another plan which merits imitation. We commend it to the attention of architects generally. The laundry, mortuary, and fever block are well and thoughtfully placed, and will bear careful inspection. But the points which reflect the highest credit upon those who planned this hospital are its drainage and sanitary arrangements. It would be, perhaps, too much to say that any system of drainage was perfect, but we may fearlessly state that every modern improvement and precaution is to be found at Grantham. In one or two cases it would be better to let the waste pipes empty on to an open gully rather than over a trapped grating, but this is one of those minor matters which can easily be remedied, and at trifling expense. Taken as a whole, the drainage arrangements at Grantham are far in advance of those to be met with at any other



SCALE OF FEET

GRANTHAM HOSPITAL.

R. ADOLPHUS CAME, ARCH.T
MECKLENBURGH SQUARE. W.C.

hospital, large or small, with which we are acquainted, in the United Kingdom. A detailed statement will not, therefore, be out of place in this book.

We are indebted to Mr Alfred Ashby, the Medical Officer of Health to the Grantham Combined Sanitary District, for the following description of the drainage of the Grantham Hospital:—"The drains are placed entirely outside the buildings; they are made of four, six and nine inch sanitary pipes jointed with clay after some tarred gaskin has been forced into the sockets. The main drain joins a nine inch sewer on the public road: this is freely ventilated by direct openings to the external air at frequent intervals. A manhole is placed at the head of this sewer, and in it there is a flushing valve; when this is let down it admits of the drain being filled with water and flushed out. The main drain from the hospital is disconnected from the manhole by a syphon trap, on the hospital side of which is an opening from the drain to the external air protected by an iron grating on the surface of the ground. At the head of each branch drain a light three inch pipe is carried up the side of the buildings, with as few bends as possible, two of them to the ridge of the roof, and left open at the top. A four inch lead soil-pipe in the main building, and another in the fever hospital, are carried up full bore above the roofs and left open at the top. A direct communication is thus established between the opening

in the drain on the hospital side of the syphon trap at the manhole, and the open ends of these pipes, so that the drains are freely ventilated and filled with fresh air, all sewer air being excluded from them by the syphon trap. Places are provided at the heads of the drains, where water can be run in to flush them.

"All bath, lavatory, sink, and other waste pipes end in the external air over gulley traps, so that there is everywhere complete air disconnection, and no direct communication between the drains and the interior of the hospital.

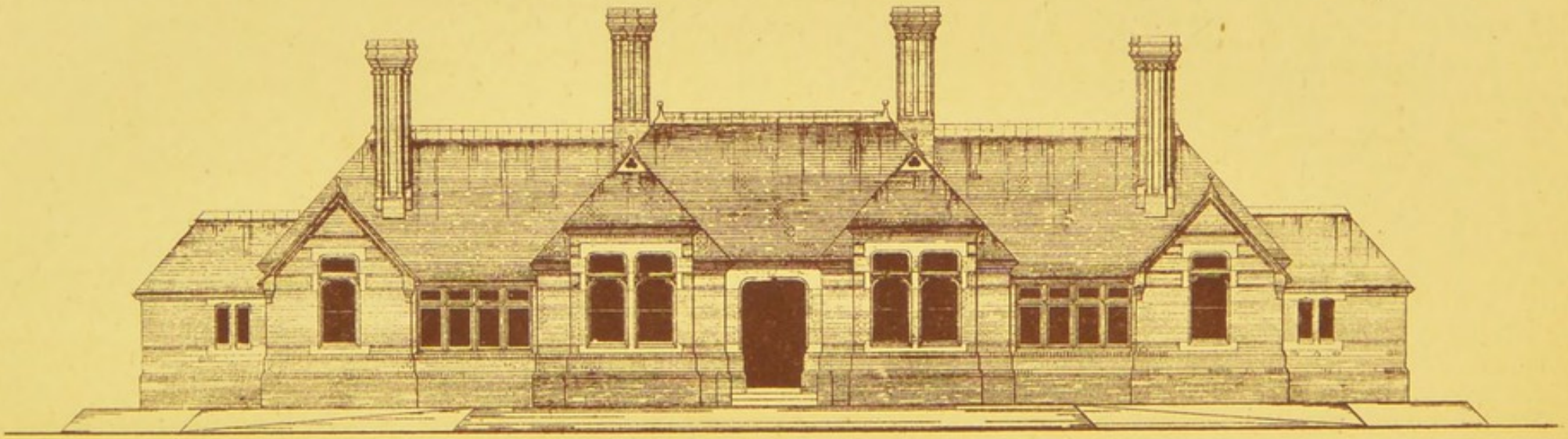
"The rain water from the roof of the main building is conveyed through sanitary pipes, laid at a less depth than the drains, to an underground tank beneath the washhouse; a gulley trap is sunk low enough to receive the overflow from this, so that it is open to the external air, and disconnected from the drain. The rain water from the fever hospital and the mortuary and *post-mortem* room is not collected, in case it might carry infection, but is run into the drains, the down spouts ending over gulley traps.

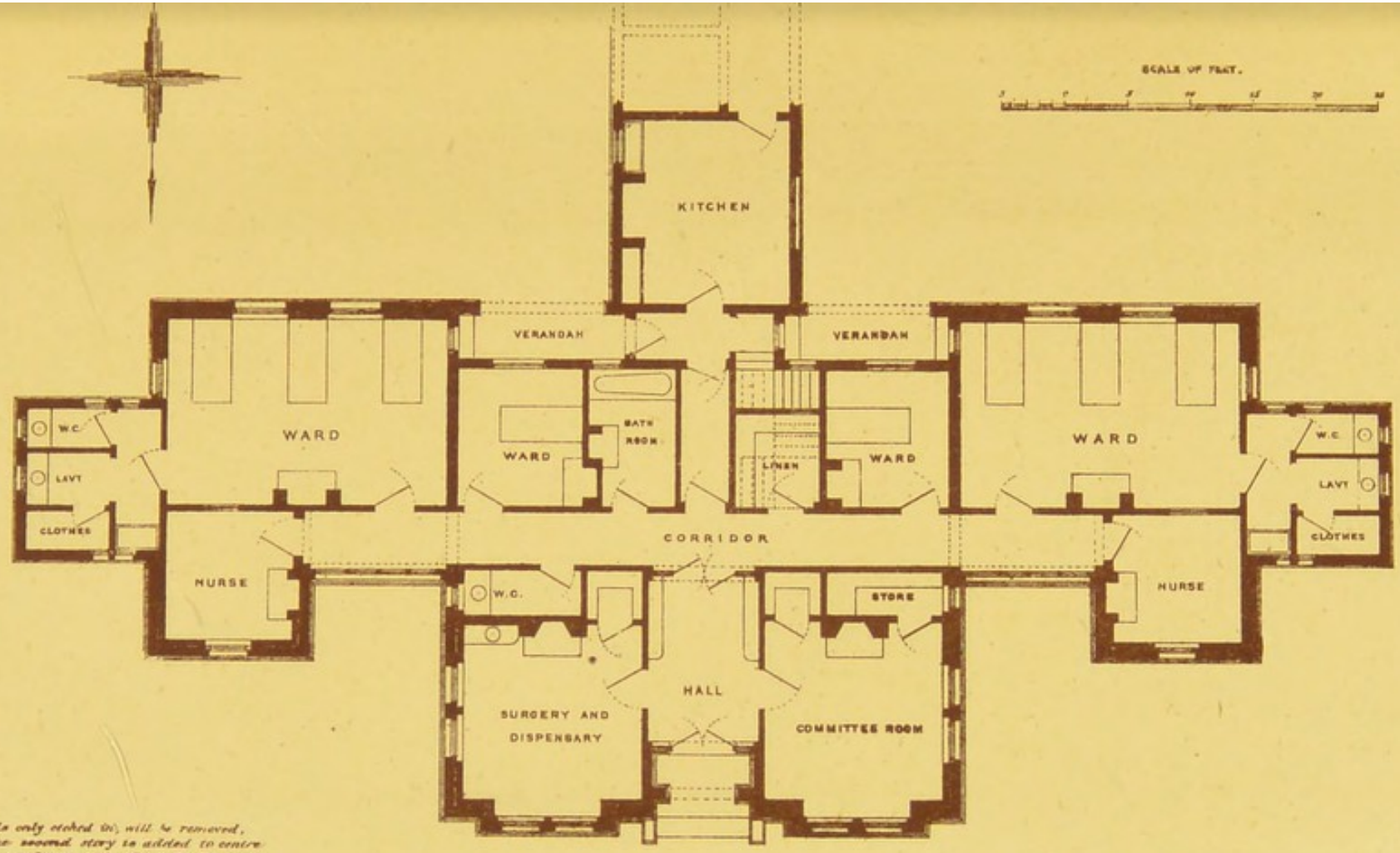
"Panson's patent valve closets are used in the hospital.* In this form of closet, water alone is not trusted to for trapping; there is in addition a solid plug with an india-rubber flange, which makes it absolutely impossible for any air to enter from the drains; the overflow pipe ends in the external air over a gulley trap. Each time the plug is pulled up, the

* These closets are made at Grantham.

London School of Hygiene & Tropical Medicine
RAT
28 JAN. 1929

MAIDENHEAD COTTAGE HOSPITAL.





NOTE. *The walls only etched thus will be removed, when the second story is added to centre block, in order to make room for Staircase as shown by dotted lines.*

ARTHUR L. COOPER DEL.

Arthur Cooper & Son
architects.
86 High Street.
Maidenhead

C.F. KELL, PHOTO-LITH 8, CASTLE ST HOLBORN, EC

28 JAN. 1929

water it had held up flows freely away, thoroughly clearing out the trap of the closet, flushing the drain, and thereby keeping it clean. The closets, baths, and lavatories, are cut off from the wards and from the main building by cross ventilation.

"In the fever hospital there are two water-closets placed one above the other. They each have an external window, and a wooden shaft is carried up from an opening in their ceilings, on the inner side of them, to the external air. There is a partition along the whole length of these shafts so as to ensure an up and down cast draught to change the air in the closets."

We can only hope that all new hospitals will be constructed upon equally sound principles. A visit to the hospitals at Boston, and Lincoln, two adjoining towns, will show that this is too much to hope for at any rate at present. The Grantham Hospital cost £5364 to build, £812 to furnish; total, £6166.

Maidenhead Cottage Hospital.—This plan is generally good, compact, and economical. The building is arranged on the pavilion system, and contains accommodation for four patients of either sex. There are two wards for three beds each, and two for one bed each. The wards are so situated that their principal windows face the south, and provision is made for thorough cross-ventilation by means of the doors and windows. At the end of each of the general wards are the lavatories, clothes' cupboards, &c., which are separated from the building by

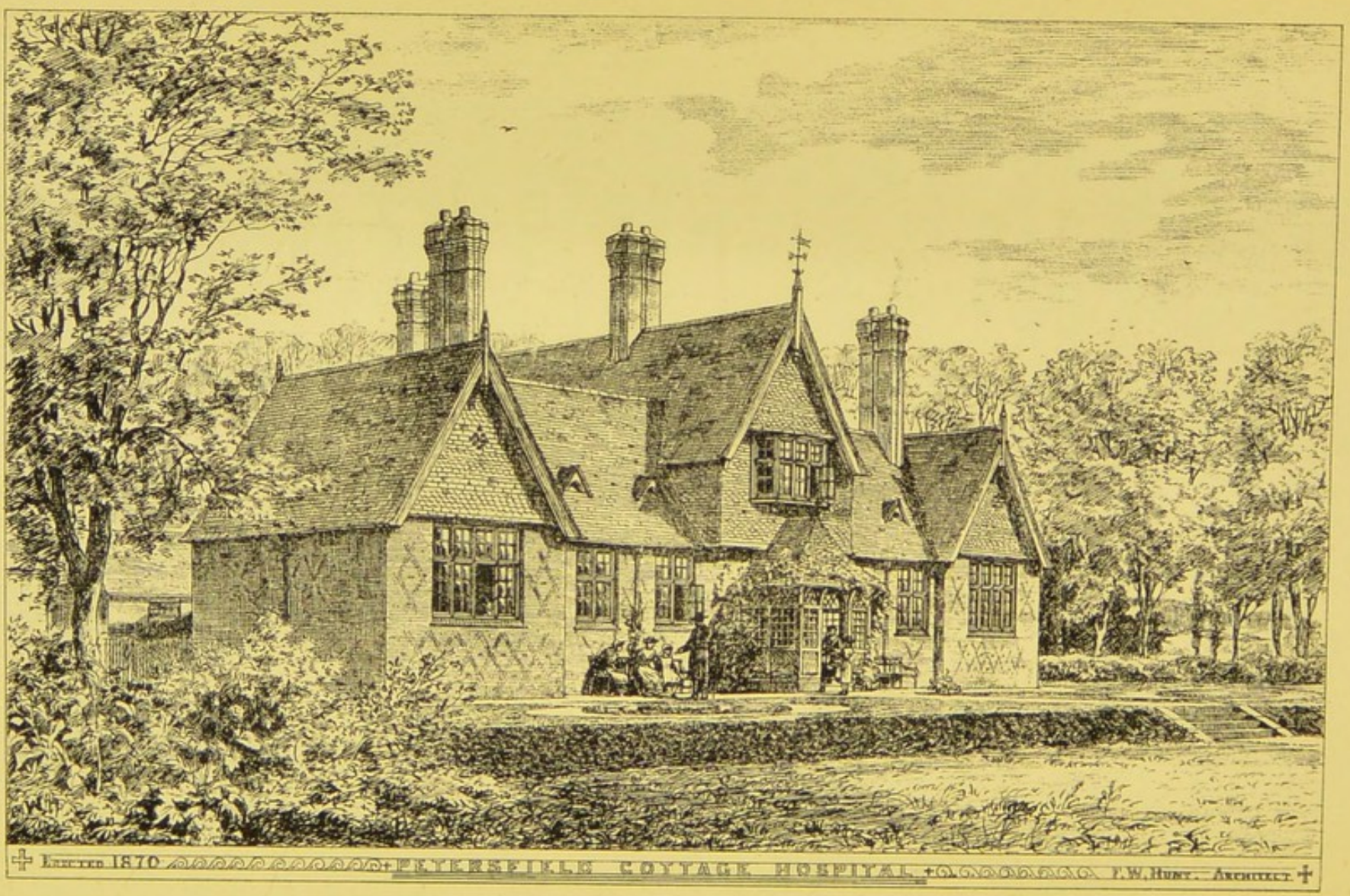
lobbies for ventilation. Near to and overlooking the wards are the nurses' bedrooms. The surgery and the matron's room open out of the entrance hall, and have cupboards and store for surgeon's and matron's use. A bathroom and a linen room are also provided. The plan is so arranged, however, that the latter will be removed when the additional storey is added to the central block, so as to make room for the staircase, as shown by dotted lines on the plan. It will then be placed on the one pair story.

The kitchen is situated at the back, and has a lobby of separation in order to prevent as much as possible the smell of the cooking having access to the main block. Opening out of this lobby are the stairs leading to the basement, which contain cellar, larder, &c. The scullery, mortuary, &c., will be added on the south of kitchen as soon as the funds admit.

The buildings are faced with red and grey bricks, with Bath stone lintels and sills, and the roof is covered with Broseley tiles. The general effect thus produced is very pleasing.

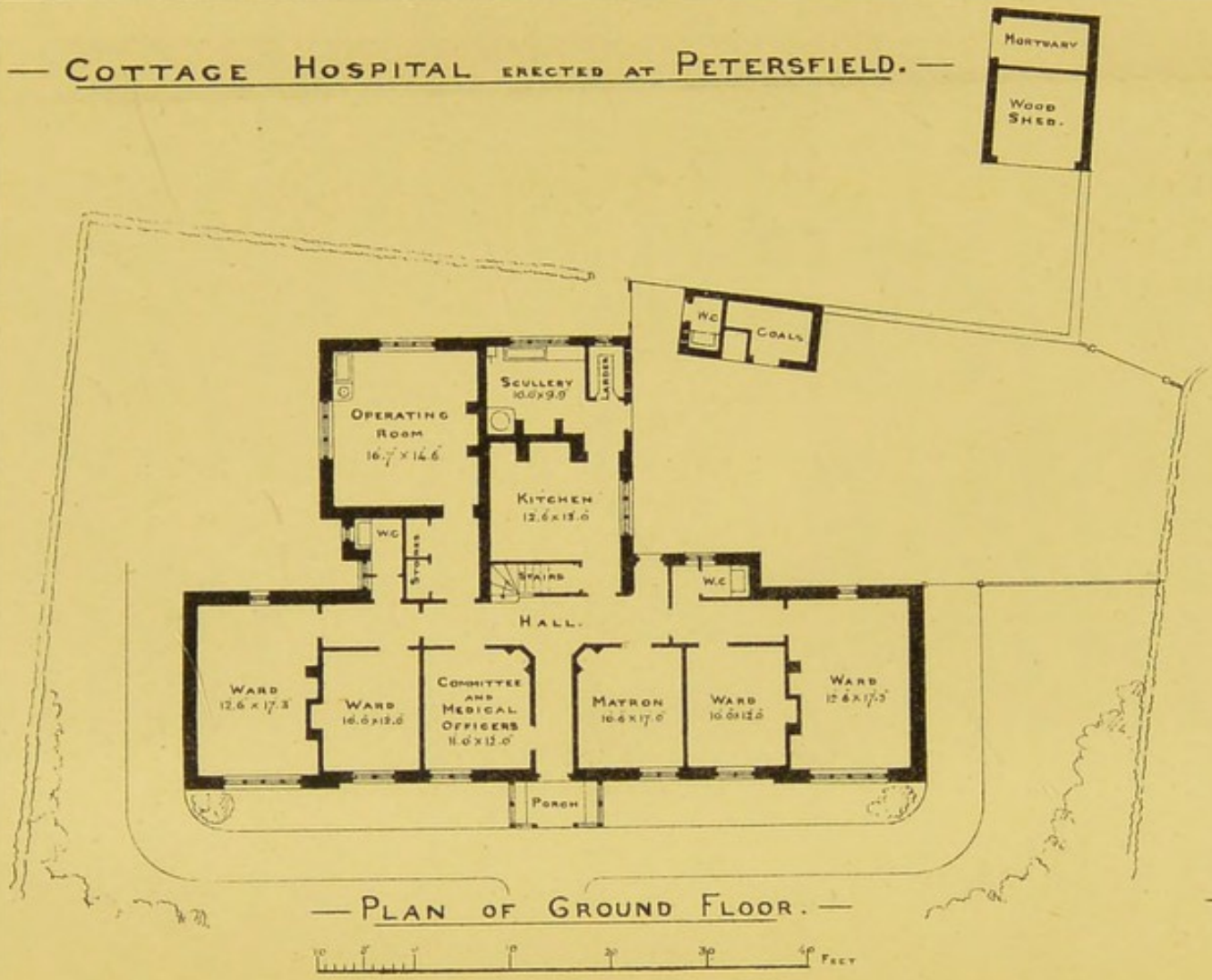
The water-closet, which opens directly into the centre corridor, is wrongly placed, and should be removed. The kitchen is excellently situated for a hospital of 10 to 12 beds. This plan offers many advantages. It reflects great credit on the architect, and the hospital will well repay a visit. It cost £1925 to build, £350 for furniture; making a total outlay of £2275.

London School of Hygiene & Tropical Medicine
LIBRARY
28 JAN. 1929

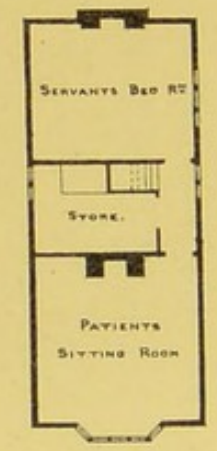


Erected 1870 — FETTERSHILL COTTAGE HOSPITAL — F.W. Hunt, Architect

— COTTAGE HOSPITAL ERECTED AT PETERSFIELD. —



— PLAN OF GROUND FLOOR. —



— PLAN OF CHAMBER FLOOR —

F.W HUNT. ARCH^T
27 UPPER BAKER ST
LONDON
N.W.

London School of Hygiene & Tropical Medicine
RAY
28 JAN. 1929

Petersfield Cottage Hospital.—The situation of this hospital is probably more charming than that of any other in Hampshire. The view from its windows in the summer is really lovely, and the air quite a treat to breathe. The wards are well lighted, well ventilated, and airy; the new operation theatre is excellent in situation, and the lighting and fittings are all that can be desired. Unfortunately the architect has, as usual, marred an otherwise admirable plan by his total disregard of sanitary arrangements. Every closet is so placed that disagreeable smells perceptibly arise from it, and often fill the corridor and small wards. This is not creditable, especially as the medical staff have done their best to get the evil remedied. There is plenty of room to build out these conveniences in each case, and to separate them from the hospital by a cross ventilated lobby. In the first edition of this book, through a mistake in the rough plan, this fault was not detected. But a recent inspection of the hospital brought it prominently under notice. The evil is a very bad one and should be remedied without delay, or septic mischief will undoubtedly compel the authorities to make the needful alterations. A bathroom would be an advantage. Pleasantly situated, admirably conducted, and possessing accommodation for from 8 to 10 patients, this hospital is also worthy of inspection. The arrangements for heating the hall, and the garden plan are particularly good. It originally cost £1100 to build, and £234 to furnish; total £1334. Last year the opera-

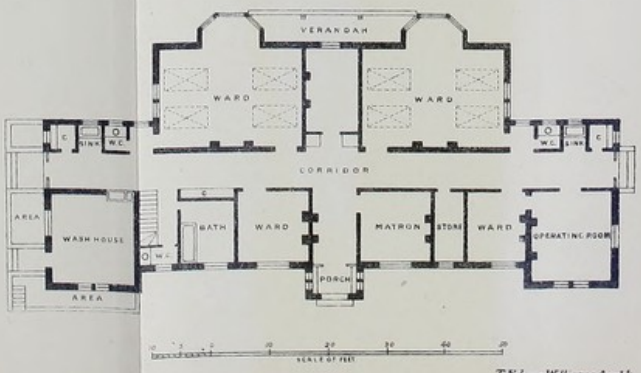
tion theatre was added at an additional outlay of £300.

Ashford Cottage Hospital.—The elevation of this hospital is tasty and effective. The ground plan is novel, and possesses many admirable features; *e.g.*, the verandah, the bay windows to the large wards, and the operation theatre. It is a pity, however, that the washhouse should have been attached to the hospital proper, and that the water-closet sinks are so placed that they must tend to keep the hospital in an insanitary condition. To ventilate such places directly into the main corridor of a hospital is an error of construction much to be regretted. The water-closets, lavatories, and sinks, could easily be placed outside the building and be cut off from the corridor, and the expense would be slight. We shall hope to hear that this has been done. We presume the kitchen is below the wash-house in the basement; but all our ingenuity fails to discover the use to which the large space is put between the four-bedded wards. We presume the operation theatre serves as a waiting and surgeon's room. The hospital contains 10 beds. It cost £3140 to build, £200 to furnish; making a total of £3340.

The Fever Wards, Stamford.—We include a description of these wards here, because, although attached to a general hospital, they are built as separate cottages or blocks, and have much to commend them. The description given by Dr Newman in his history of the Stamford, Rutland, and General

ASHFORD COTTAGE HOSPITAL.

PLAN



T. Edgar Williams Arch.t
67, Victoria Street,
London, S.W.

Whitmore & Binyon, Lith., London.

1929

Infirmary is so full and interesting that it is reproduced below. Everything seems to have been thought of that care and ingenuity combined could discover to be likely to promote the efficient construction, arrangement, and administration of these excellent fever blocks. We commend them to the candid consideration of sanitary authorities throughout the country.

"The fever blocks have a space of from 40 to 50 yards intervening between them and the older building. Three blocks of two stories each afford on each floor accommodation for five patients and a nurse. These blocks are practically uniform in arrangement, the central block differing, however, somewhat in external appearance and in the internal plan from the other two; a distance of from 7 to 10 yards exists between the several blocks. Behind these structures is an open space, 50 yards deep, left purposely for the erection at some future time, if it be found desirable, of a kitchen, or other offices. At the further end of this space is placed a low one-storied building containing the appliances for a laundry and disinfecting chamber, while in the rear of this again is the dead-house, also quite detached. Especial care was taken to cover all the enclosed area with a layer of Portland cement concrete, 6 inches thick, so as to prevent the ascent of damp from the subjacent porous oolitic strata. A damp-proof course was also provided at the base of the walls. The buildings are of

the local stone of the district, oolitic, of varying density. The quoins, jambs, and window-beads are of Casterton stone, the window-sills and plinths of Clipsham limestone.

"Each block has two stories above the ground-level, with a cellar in each basement. Every floor is thus arranged:—There is an entrance-lobby, having on one side the stone staircase, and on the other side a nurse's room, while between the two is placed the door of the ward, which, with its appendages, occupies the remaining space.

"The wards are 25 feet square, with a height of 15 feet, and are arranged to receive five patients: the air-space for each bed, therefore, being over 1800 cubic feet. The walls are lined with glazed bricks throughout, built in as the work proceeded, and jointed in Parian cement with the purpose of making the wall impermeable and absolutely non-retentive of organic matters.* The windows are placed on the three outer sides of the ward; two, smaller in size, face the door of entrance, while the larger windows on the right and left hand respectively are directly opposite to each other. In their lower two-thirds the windows are of the ordinary sash-pattern, while the upper third is occupied by a framed casement, which is hinged at the bottom and falls inwards at pleasure. This arrange-

* Dr Newman is in error here. Parian cement is probably the most pervious and absorbent material for hospital walls with which we are acquainted.

ment has been adopted in all the windows. Each ward has a bath-room and water-closet, opening, with the intervention of a cross-ventilated lobby, from the corners most distant from the entrance door. This description applies to the two end blocks only; in the central structure the bath-room and water-closet are on the right and left of the entrance door in the corners of the return walls. These additions are lined with Parian cement; the staircase, nurse's room, &c., with ordinary plaster. Four rectangular metal ventilating shafts for the supply of fresh air are fitted in each ward, opening below the floor-level to the external air, and ending within the ward about 5 feet above the floor.

"A central stove on Galton's pattern is placed in the ward; to this fresh air is brought by special wide channels from the outside, and this air, warmed in its passages, is delivered into the room through perforated openings above the stove, 3 feet from the floor. The smoke-flue is continued straight upwards to the open air, running within a square framing of metal-work covered with tiles. Not quite one-half of the sectional area of this framing is, however, occupied by the smoke-flues; the remaining portion is so contrived as to form a ventilating shaft for the two wards, extracting by special gratings the foul and heated air close under the ceiling, and then delivering it through openings of proportionate size placed on the sides of the chimney some

distance above the roof. The entrances and the nurses' rooms are paved with hard, well-burned red and black Staffordshire tiles. The ward floor is of hard pitch pine, long dried before use, and closely joined by grooved and tongued joints; it is intended, by coating of paraffin or varnish, to make these floors impermeable to moisture. Under all these wooden floors there is provision for the free circulation of air between the concrete below and the joints above. The whole of the internal woodwork has been so arranged that there are no mouldings or projections round the doors or windows; no facilities, in short, for the collection of dust. The woodwork, again, internally is all varnished, not painted.

"The glazed linings of the ward have been thus planned:—Next the floor are placed two courses of black bricks; then a dado, about 4 feet high, of cream-coloured brick, finished above by a single band of chocolate colour; from this darker line to the ceiling the wall is covered with bricks of greyish white. To break the uniformity and coldness of this colour, three tile pictures (3 feet by 2 feet) have been placed, one on the inner face of each external wall. These pictures illustrate in each instance some agricultural or outdoor occupation, and are let in flush with the inner surface of the wall itself. In the lobby of the bath-room is fitted a plain slate lavatory. The baths in most of the wards will be on wheels, so as to allow of easy movement to the bedside of any inmate. The closets are throughout on Jennings' trapless

SOUTH ELEVATION

GROUND PLAN

STAMFORD FEVER WARDS.

Scale of Feet

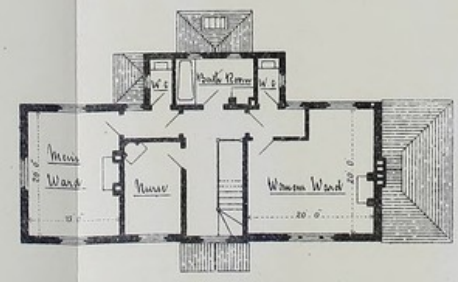
pattern; they open directly without syphon or bend into an earthenware soil-pipe, constructed of jointed lengths of glazed sanitary pipes, specially made for the purpose. The upper end of the soil-pipe open to the external air, is guarded by a Field's cowl, and the channel, fixed to the outside of the wall, discharges below into a main sewer, with the intervention, close outside the wall, of a Pott's Edinburgh trap. All the waste pipes from closets, cisterns, or baths, from sinks in the nurses' rooms, or lavatories, are so constructed as to ensure perfect disconnection. In each instance they are carried through the outer walls, run down the outside, and open upon hollowed stones a foot or more distant from a trapped iron grating lying upon the ground-level: sewer gas, if it should regurgitate through the traps, cannot therefore ascend through these pipes into the building. The branches of sewer from each closet, bath-room, and surface-trap are collected into one large channel, which leads down to a closed but yet well-ventilated cesspool. This is fitted with convenient arrangement on the ground-level for such frequent emptying as may be desired. In the line of the main sewer, 140 yards in length, there are two or more apertures for the escape of sewer gas. The disinfecting apparatus which has been selected is on the pattern suggested by Dr Ransome of Nottingham.

"The whole arrangements have been carefully worked out by Mr Browning, the architect, of Stamford. The exterior is extremely plain, with no

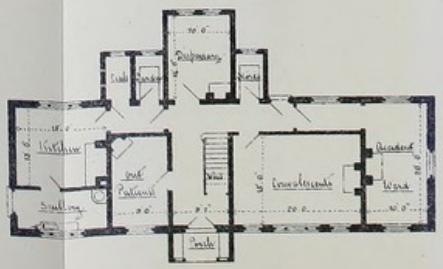
elaborate ornamentation, and the internal arrangements at least allow the hope that perfect isolation, with every convenience for the sick inmates, will have been attained." The cost of the three blocks, including internal fittings, furnishing, and all other expenses, was £7500.

Bourton-on-the-Water.—This hospital, which is plainly and inexpensively built, occupies one of the best sites in the village. It was erected in 1878, and opened in the autumn of 1879. It has accommodation for 10 patients. The wards are well proportioned, light and airy, those on the first floor being especially pleasant. It will be noticed that the sanitary arrangements of this hospital are decidedly unsatisfactory, and the author is glad to know that the surgeon, Mr Moore, has obtained a special fund to place these matters right. The closets and bath-room are placed inside the building, and the water-closet on the women's side opens directly opposite to the door of the ward. All the drainage empties into a closed cesspool, which is unventilated. The consequence is that, as no open manhole disconnects the hospital drains from the cesspool, the latter acts as a gas generator, and sewer gas is thus laid on directly to all parts of the hospital. When will architects learn to pay some small attention to the elements of sanitary construction? Before this notice appears the author hopes Mr Moore will have succeeded in remedying the evils pointed out. It has been thought well, however, to give an account of these faults here, to pre-

BOURTON-ON-THE-WATER:
COTTAGE HOSPITAL: ERECTED: 1878



CHAMBER PLAN

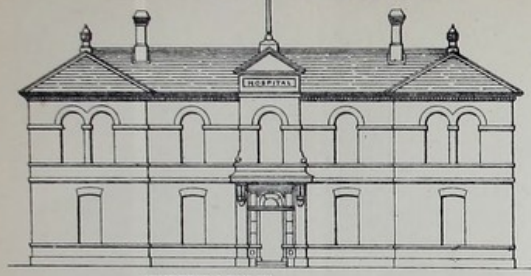


GROUND PLAN

Whitehead & Rose, Photo-Litho, London.

THE HOSPITAL, BECCLES.

ELEVATION IN FAIR CLOSE ROAD.



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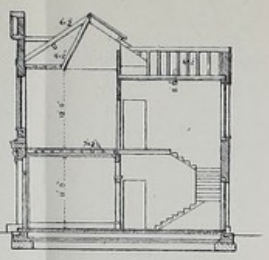
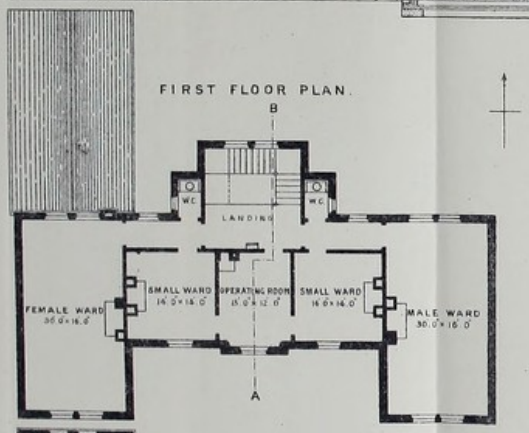


FIRST FLOOR PLAN.



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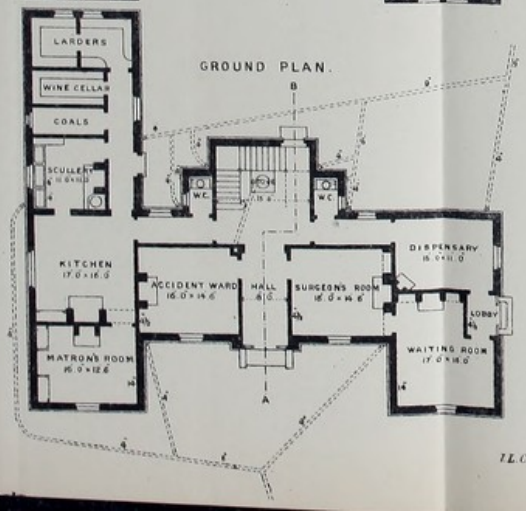


H.L. Clemence, Arch.t
Lowestoft

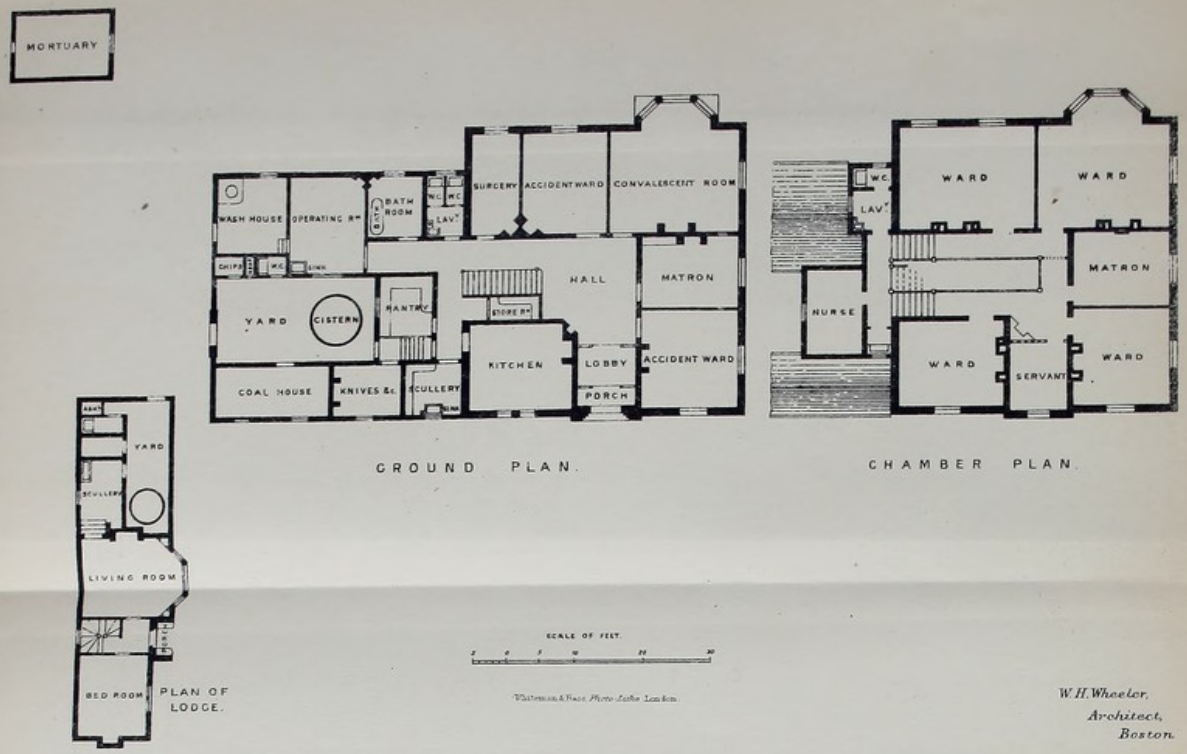
vent similar mistakes in the construction of cottage hospitals elsewhere. If every new cottage hospital were built with the above sanitary faults and so occupied, it is not too much to say that the unhealthiness of cottage hospitals would soon surpass that of the most insanitary of large hospitals. The building cost £1100, the furniture £180; total, £1280. The number of beds is 8.

Beccles Cottage Hospital.—An inspection of this hospital is well worth the trouble. There is something to see and learn there; and the general arrangements are on the whole good. Of the general plan it may be said that the matron's room is badly placed, that the operation room should be on the ground floor closely adjacent to the accident ward; that the water-closets on the ground and first floor are scarcely satisfactory, and that a bath-room is much needed. Having carefully examined this hospital, we find the water-closets less objectionable than might be imagined from the plan; but as there is abundant space on the present site, we would suggest to the managers that they should cut off the water-closets from the hospital by a cross ventilated lobby, which might communicate with the main building through a bath-room. The extra buildings might be erected at the back of the present water-closets at small cost, and the improvement would well repay the expenditure. All the wards are well proportioned, airy, and cheerful; the accommodation is ample, and the plan of the garden and elevation most satisfactory.

The building cost £1500, the furniture cost £300; total, £1800. There is accommodation for 12 in-patients, and the out-patient arrangements are well planned and satisfactory.

Boston, Lincolnshire.—On pages 398–405 we have given a detailed description of the decoration and fittings of this hospital. It remains only to criticise the structural plan. We would warn our readers not to be disappointed when they first see the hospital, because the elevation given is rather a flattering likeness. The building is prettily situated on the borders, almost in the grounds of the public recreation park, and although the lithograph is taken from a photograph, it is not quite to the author's taste. The fact is, the weather at the time was unfavourable to the photographer's art, and hence the result is not so good as could be desired. The planning of the grounds, lodge, and hospital generally reflect credit upon the architect and all concerned. It is much to be regretted, however, that although nominally a disconnection has been made between cesspit and hospital, practically the arrangements in this respect are very faulty, and are quite as bad as those at Bourton-on-the-Water previously referred to. The situation of the water-closets is as bad as bad can be. This is the more to be regretted, because a hospital, which in other respects has many points that are admirable, must necessarily be put in the second rank when its sanitary arrangements are so lamentably faulty. A glance at the plan shows

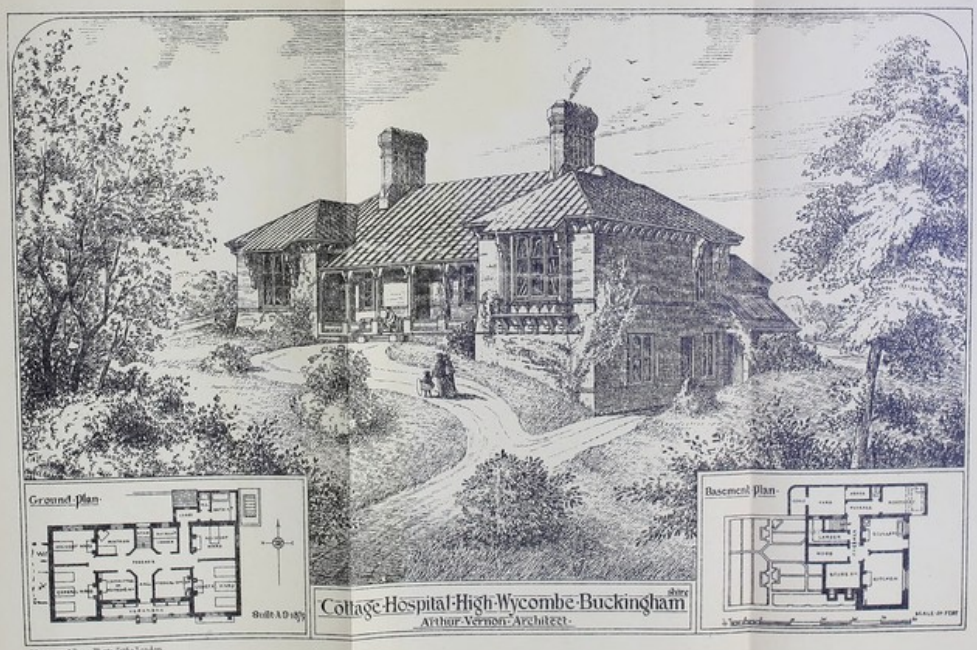
BOSTON COTTAGE HOSPITAL.


MORTUARY
WASH HOUSE
OPERATING Rm
BATH ROOM
LAV.
SURGERY
ACCIDENT WARD
CONVALESCENT ROOM
HALL
MATRON
YARD
CISTERN
PANTRY
STORE Rm
KITCHEN
LOBBY
ACCIDENT WARD
PORCH
COAL HOUSE
KNIVES &c.
SCULLERY
GROUND PLAN.
W.C.
LAV.
WARD
WARD
MATRON
NURSE
WARD
SERVANTS
WARD
CHAMBER PLAN.
YARD
SCULLERY
LIVING ROOM
BED ROOM
PLAN OF LODGE.
SCALE OF FEET.
Whitemore & Rose, Photo-Litho London.
W.H. Wheeler, Architect, Boston.

that the water-closets and bath-room communicate directly with the central staircase, and when we visited the hospital the result was distinctly shown by the atmosphere of the hospital generally. That pyæmia and erysipelas are not present seems in the author's opinion to be due rather to the absence of many surgical cases than to any other cause. As we pointed out in the first edition of this book, the Boston Cottage Hospital can never be regarded as hygienically satisfactory until the water-closets and lavatories are placed outside instead of inside the building. Funds are not difficult to obtain, we imagine, in a thrifty town like Boston, the cost of erecting a turret separated from the main building by a cross-ventilated lobby of communication would not be great, and such an alteration would leave little to be desired. Until these necessary structural alterations are effected, the Boston Hospital should not be largely used for surgical cases. We have received so much kindness from the staff of this hospital, and they take so great an interest and pride in the welfare of their institution, that we would rather have avoided hostile criticism of this character. Still the evils complained of are so patent, and the danger to the health of the patients if they are allowed to remain is, in our opinion so serious, that we have felt it a duty to speak thus plainly. Until action is taken much needless risk must be run, and we therefore hope that the suggested alterations will be carried out without

further unnecessary delay. It may be said generally that there is perhaps a waste of space in the hall and staircase, though when the water-closets cease to ventilate into the building this would be a good fault. The situation of the bath-room on the ground floor, where accident and convalescent patients are alone treated, is surely a mistake, and the cost of erection has been large when the accommodation provided is taken into consideration. The general arrangement of the wards is good, but we would suggest the removal of the kitchen to the site of the present operation room, and *vice versa.* By this plan the kitchen could be completely cut off from the wards, and proper roof ventilation would free the hospital from all smell of cooking,—an important point to bear in mind in the construction of a hospital. There is accommodation for 12 in-patients. The building cost £2000, the porter's lodge £550, and the furniture £450; total, £3000.

High Wycombe, Buckinghamshire.—This is a novel plan. Advantage has been taken of an inequality in the site to place the kitchen and offices in the basement with a mortuary at the back of all. The situation is pleasant, the garden is well laid out, the elevation is homely and well adapted to the purpose of a cottage hospital, and the general arrangements are good. The water-closets and lavatories are, however, insufficient when the hospital is full, and are placed at an inconvenient distance from the wards. No operation room has been



Ground Plan.

Built A.D. 1875

Basement Plan.

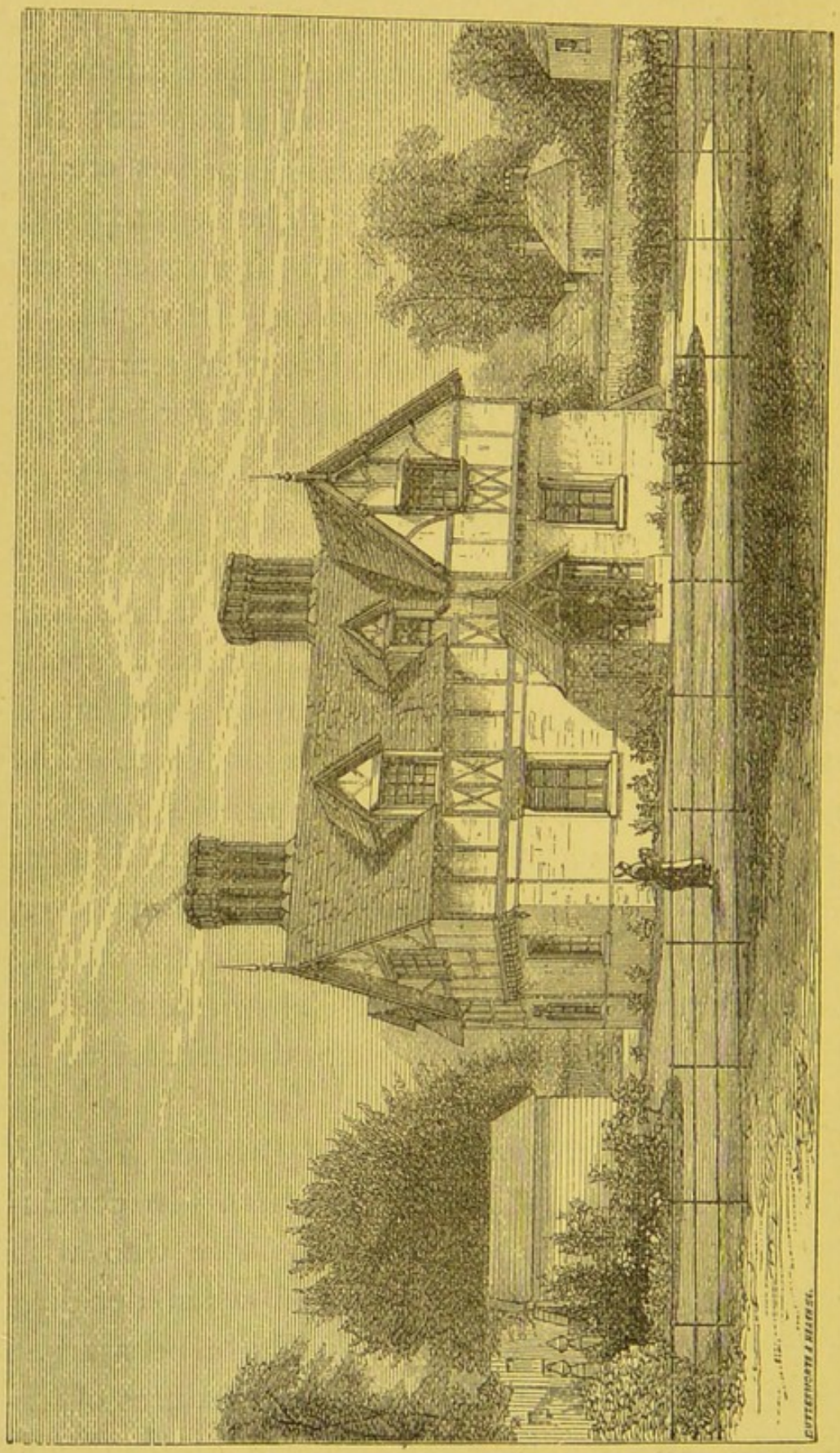
Cottage Hospital High Wycombe Buckinghamshire

Arthur Vernon Architect.

provided, but we presume the medical officer's room is customarily used for this purpose. There are many good points, the provision of a mortuary not the least; and the architect undoubtedly deserves credit, on the whole, for the satisfactory plan he has prepared. For a rural district we have no doubt it answers well, though in a mining or colliery one it would be difficult to administer, and would require rearrangement in some points. The original cost for building was £1240, furniture £260; total, £1500. There is accommodation for 8 patients.

Speen Cottage Hospital.—Only an elevation of this building is given. It formed the frontispiece to the first edition of this book, and is a good specimen of what cottage decoration can effect at small cost if taste be displayed by the architect. The whole appearance of this little hospital is pleasing to the eye, and as a design it has been copied more than once. The internal arrangements, however, need revision, and the sanitary condition is hardly as satisfactory as it might be. These defects can easily be remedied, and will no doubt receive in future the attention they deserve.

Plans for the Erection of a Model Pavilion General, Fever, or Convalescent Cottage Hospital.—In conclusion, as a guide in some sense to those who wish to achieve efficiency of construction when deciding upon the plan of a new hospital, we have been urged to give a model embracing the chief features of importance. In order to secure efficient drainage and



SPEEN COTTAGE HOSPITAL.

sanitary arrangements, it will suffice to say here that the Grantham system, as deseribed on page 411, and also the instructions given in Chapter IV., should be closely followed.

Our plan can be made available for a small or large institution, and it is capable of meeting the requirements of a fever, acute, or convalescent hospital. The authorities of St John's Hospital, Northampton, have erected a convalescent institution of precisely similar design, with one exception, to the model given in the first edition. The exception is important, for the architect has carefully left out every sanitary precaution, and whilst copying the main details of our plan he has deliberately ignored all precautions which were intended to secure the inmates from septic disease. Sewer gas was, in fact, carefully laid on direct from the cesspool at each available point, and the interior air became of the worst possible description in consequence. Luckily, Dr Barr, of Northampton, had his attention drawn to these points before the building was occupied, and so the patients were saved from what would ultimately have produced disease if not death. Imitation is, we know, the sincerest flattery; but one may be allowed to add that the appropriation even of a hospital plan if unacknowledged should at any rate be complete.

The accompanying model plan embraces all the points of detail, and the whole of the principles of construction included in these pages. In

order to facilitate the description, each kind of hospital will be separately detailed. In every case the front central portion will have in the basement stores, cellars, and a larder, &c., and on the upper floor the bedrooms for the staff, nurses, and servants.

Description of Small Cottage Hospital, with 9 or 12 beds.—In this case the wings A and B will be dispensed with, and the lavatories, &c., will communicate with the corridor by a cross-ventilated lobby. Passing through the porch, which is fitted with seats, a well-lighted hall is entered. On the right is placed the matron's sitting-room, and on the left the surgery or accident room, and beyond the matron's room again is a well-arranged storeroom of ample proportions. Ascending the staircase we enter the sleeping apartments of the matron, nurses, and servants, which are spacious and admirably adapted for the purpose. The kitchen is seen from the windows at the back, and it is noticed that no room is placed over it, and that its roof is well ventilated and has an open skylight of considerable proportions. Thus no smell of cooking ever enters the hospital wards and passages. Returning to the entrance hall we enter room K, which can either be utilised as a ward for 3 beds or as a committee room. By another door beneath the staircase an area is reached which leads to a private water-closet for the staff. Communicating with the corridor are 3 wards, D, C, and E, each of which contains 3 beds. L is

used as a dining hall or day room where the convalescent patients are able to sit and to have their meals. F is the kitchen, and H, which communicates directly with the entrance hall, is a well-lighted operation theatre, replete with all necessary appliances and fittings. It will be seen that this plan admits of an arrangement which will give 12 beds for the use of patients, by sacrificing the committee-room, which can well be dispensed with, as either the matron's room or the surgery could be made available for such a purpose. In practice this plan has much to recommend it. The cost of building such an hospital is estimated at £3000, furniture will cost £200, making a total of expenditure of £3200.

Situated in its own grounds, upon a well-chosen site, such a cottage hospital leaves little to be desired.

General Hospital, with 30 *or* 48 *beds.*—The foregoing description of the central block would apply in this case also, and 18 additional beds will be obtained by adding at each end of the corridor the two one-storied pavilions A and B, or 36 extra beds will be available if these pavilions are two-storied. The cost of such a hospital is estimated at £4000 for building, £470 for furnishing; total, £4470 for 30 beds, or £4600 for building, £650 for furnishing; total, £5250 for 48 beds.

Fever Hospital.—The central block with 12 beds, already described, would answer well as the nucleus for a larger number of cases if tents or sheds were erected as occasion might require on the plan de-

scribed in Chapter VIII. Such accommodation does not cost a large sum, the tents or sheds are easily erected and removed, and by their aid an epidemic can be met with promptness and success.

Permanent Fever Hospital, with 24 *or* 45 *beds.*—In this case A would be used as the male fever ward with 9 beds, B as the female ward with 9 beds, C and D as the male and female convalescent rooms, E, H, K, and L as isolation wards, and G as the medical officer's room. If A and B are two-storied pavilions, 18 additional beds would be available, and the central block would still be devoted to the purposes previously detailed. This plan has many advantages, because A and B might easily be utilised for different kinds of fever, a separate entrance being obtained to each, through the corridor at the back of the hospital. The cost of erection, owing to the extra cubic space required for these cases, would be one-third more at least, say £5000 with one-storied pavilions, or £6500 if they were of two stories, and the furniture would cost about £600; making a total expenditure of £5600 in the first case, or of £7100 in the second.

A Convalescent Institution, with 50 *beds.*—This plan has been carried out at Weston Favell, Northamptonshire, with perfect success, and a very complete convalescent institution with 50 beds may there be seen. It will well repay a visit, and can easily be reached from Northampton, as it is within an easy drive of that town. To make our plan

available for convalescents it will require slight modification in one or two particulars. Thus A and B with floor above will easily accommodate 36 patients, C and D can be used for sleeping rooms with 4 beds in each, and K and L will easily accommodate 3 patients each. A splendid dining-hall and general sitting-room is obtained by throwing E and H into one apartment, and its shape well adapts it for such a purpose. G would again be used as the medical officer's apartment, and the other arrangements of the central block would remain as in the first case. The cost of erecting such a building is estimated at £6000, and the furniture will entail an additional expenditure of £600; total £6600.

In all these plans the position of the lavatories and water-closets will depend upon the size of the building and the purposes to which it is devoted. Thus, although these offices are shown in the plan, both as connected with the pavilions A and B and also with the corridors, where the pavilions are erected it would be unnecessary to have the corridor and lavatories.

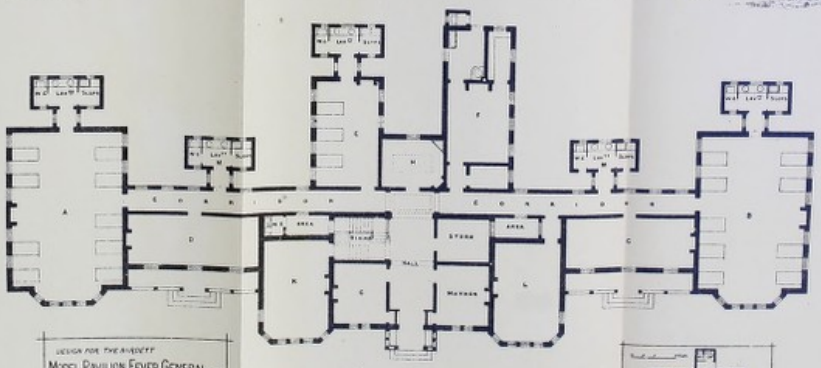
It will be noticed that the kitchen is centrally situated, and adjacent to it is the bath-room (not marked) so as to be the more economically heated. One bath would be sufficient for a hospital of 12 beds, but if on a larger scale, a bath-room should be built out with the lavatories, &c., at the end of the pavilions A and B. A small ward with 3 beds is conveniently placed attached to the operation theatre, the aspect and

general principles applying to the larger wards being strictly preserved.

The corridors, by an arrangement for completely throwing open the windows, would become in summer practically nothing more than covered ways, and verandahs are provided, which, if thought desirable, might be carried across the front of the centre building.

The wards in the pavilions A and B, each containing 9 beds, are placed at the end of the corridors. A bay window is thrown out at one end of each, which is not only a convenient arrangement, but also gives a remarkably cheerful appearance to the wards. It will be noticed that the water-closets, lavatory, sink, &c., are invariably cut off from the wards and corridors by a lobby or separation with cross ventilation. We cannot too strongly impress upon architects and others who are responsible for hospital construction that this plan must invariably be adopted, because, however perfect may be the drainage and apparatus, experience proves this lobby to be a *sine quâ non* in hospital construction. A plan is given of a mortuary with *post-mortem* and inquest rooms, which, with the wash-house, laundry, &c., would be detached buildings placed according to the requirements of the site. Such a mortuary as that given in the plan would cost from £200 to £300.

Although these plans give an appearance of a somewhat extensive building, it will be found on comparing them with the other plans given in this book that the



DESIGN FOR THE ARRANGEMENT OF A
MODEL PAVILION, FEVER, GENERAL, OR
CONVALESCENT COTTAGE HOSPITAL
BY ERNEST TURNER ARCHITECT
246 ELGENT STREET

PLAN OF MORTUARY.

cost of erection is in no case excessive. Abundant roof space is most desirable from a hygienic point of view, and it becomes an important consideration when the water-supply is either uncertain or limited. This is more often than not the case in country districts, and so we have carefully considered it in preparing these plans. In every case the roof space is ample to provide against any shortness in the water-supply if proper tanks are provided, and all the rain-water is carefully stored.

Having now had the advantage of seeing these model pavilion hospitals in working use, the author feels justified in recommending them as well adapted to the purposes for which they are intended. Any one who doubts this can easily judge for himself by paying a visit to St John's Convalescent Hospital, Weston Favell, Northampton.

CHAPTER XVI.

PECULIARITIES AND SPECIAL FEATURES IN THE WORKING OF COTTAGE HOSPITALS.

Training institution for nurses—Visits of patients' friends—Religious services—Office of chaplain—Management—Letters of recommendation—Medical practitioners not belonging to hospital staff—Inadmissible cases—Patients boarded by the nurse or matron—Practice at Fowey—Furnishing and fitting-up a Cottage Hospital—Out-patients—Consultation by medical staff of hospital on cases sent by medical men for that purpose—Hospital kitchen—Provident and other Dispensaries—Cleansing and disinfecting at a given time—Varnished paper for walls of hospitals and nurseries.

IN perusing the various reports, sundry special features of interest, which are peculiar to one or two hospitals here and there, seem to demand a passing notice. We have therefore decided to devote a short chapter to their consideration, believing that the best school of practical instruction is that in which one is able to learn what to receive, and what to avoid, from a study of the experiences of others in the same path of duty or labour. We shall arrange each subject under a separate head, in order to facilitate reference, and to save time.

Training Institution for Nurses.—The evil of this arrangement has been pointed out over and over again by previous writers, and, in confirmation of the justice of their censure, we will quote from the experi-

ence of one or two hospitals, in which such a trial has been made.

At the Yeatman Cottage Hospital, Sherborne, and at Oswestry, Warminster, and North Ormesby, training institutions for nurses have been started in connection with the hospitals, and at Leek there is a staff of trained nurses for private cases in connection with the hospital. At the first named institution (Sherborne), after a fair trial, the plan has been discontinued, and the training institution, or, more properly speaking, the "diocesan institution for *trained* nurses," is now under the control of a separate lady superintendent. At Oswestry, the two institutions are still united, but the result cannot be regarded as satisfactory, for a rule is in force, that "when the beds are empty, consumptive cases shall be taken on payment, on the understanding that if the beds are wanted for accidents, they must be vacated." This clearly points to a paucity of patients, and a desire to keep the beds occupied with cases of some kind, in order that the probationers may have patients to nurse. It is evident, too, from the fact that the staff are the sub-officers of the Oswestry Dispensary, and "are requested to make such arrangements for visiting the hospital patients as may seem best to them," that too many schemes are here connected together, without any clearly defined object. Much confusion is thus caused throughout the arrangements of all the schemes, and of the rules generally. At Warminster, a sisterhood (St Denny's Home) is attached to the

hospital, and some arrangements are made for giving instruction to probationers at the hospital. But here again the rules are not clear, nor is the arrangement likely to lead to any great results. The managers, however, have the good sense not to make the hospital in any way dependent upon the Home, which has several objects, schools, orphanages, &c. They merely allow the committee of the Home to avail themselves of the hospital for nursing purposes when practicable. At North Ormesby or Middlesboro', where the hospital has now assumed the proportions of a general hospital with 60 beds, a nursing institution, conducted by sisters of the Holy Rood, seems to have prospered. The reason for this is very manifest. When a hospital has sufficient beds to enable its managers to afford scope for the energies of several nurses and probationers, a training institution is not only feasible but desirable. In a cottage hospital, with say 8 beds, the very idea of opening an establishment for training nurses, whose whole experience is to be acquired from tending the patients in the little village infirmary, bears the stamp of impracticability upon the face of it. Training institutions are much needed, and trained nurses cannot be had in anything like sufficient number. For the philanthropist, who desires to establish a nursing institution, there remain the county hospitals, which, as a rule, have no system of training nurses in connection with them. This is the proper field in which to labour, where the means and

advantages offered bear some proportion to the end in view.

Admission of Friends to see the Patients in Cottage Hospitals.—One would naturally suppose that in the little village or cottage hospital, the managers would aim at making the arrangements as simple and homely as possible, and that they would encourage everything likely in any way to foster a feeling of rest and homely comfort amongst the patients, which these hospitals, as originally established, were meant to promote. It is a matter of regret that so important an element in the successful working of these institutions has often been lost sight of by those who are responsible for the rules and regulations. Thus, free permission for the friends of a patient to visit him, while in the cottage hospital, at all reasonable times, would seem one of the most desirable regulations possible. The friends are sure to live in the immediate neighbourhood, and a daily visit, when the health of the patient permits it, would appear to be so likely to make the hospital popular, and to that extent successful, that one would naturally expect to find every facility offered in this regard. Not so, however. With the exception of nine cottage hospitals, viz.:—Ruabon, Woodford, Bromley, Charlwood, Ealing, Wallasey, Clearwell, Capel, and Shepton Mallet, the rules as to the admission of visitors require material amendment and alterations. It is decidedly unnecessary to limit the visits of patients' friends to two hours a day for three days in the week. Such a rule is not

only reasonable, but necessary in a general hospital, where the work to be got through in the course of the day is very great. But in a cottage hospital, we hold that all restrictions of this kind should be abolished, and that the general rules should be those in force at the cottage hospitals already named. The proper rules are, in effect, that "patients may be visited by their friends between the hours of 2 and 5 o'clock daily, and on special occasions at any hour. These visits will at all times be subject to the discretion of the medical officer in charge of the case." "Not more than two visitors to each patient shall be admitted at the same time, and all visitors must strictly comply with any rules or orders given for the good conduct of the institution." This may appear to be a small matter at first sight, but the patients regard it as of so much importance, that it should not be overlooked in the best managed institutions.

It has often been said that extremes meet, and so it is proved in the case of this rule in cottage hospitals. At Capel the friends of patients are allowed to visit them "at all convenient times," but at Bourton-on-the-Water, the friends of the patients are allowed to visit them "only on Thursday between the hours of 2 and 4 o'clock." The excessive liberty at Capel has not been abused in any way, and the patients and their friends value it as an inestimable boon. We recommend for universal adoption the freedom of the one, in preference to the harassing and unnecessary restrictions of the other.

Religious Services and the Office of Chaplain.—As bearing on the above rule, we think it wise to show how fully the homely feeling of the cottage is maintained in the matter of religion. In this respect very little is left to be desired. The nurse or lady in charge reads prayers daily in the convalescent room, to such as are able to get up; and she also reads to those patients who are confined to bed, if they desire her to do so. On Sunday, it is the almost universal custom, for those patients who are able, to attend divine service in the parish church, and the rector or his curate generally finds time to visit the sick in the hospital some time in the course of the day, as also during the week. So admirably has the feeling of simple piety, which animated the early promoters of this movement, descended upon their successors and followers everywhere, that sectarian bitterness is entirely unknown to the managers of these little hospitals. We regard this as a great proof of the sound common sense which characterizes the great majority of the country clergy, from which body the honorary secretaries and more active managers are in the main selected. There can be no question that the day of sickness is a great time of blessing to all if rightly used, and it is of the highest importance that the utmost religious liberty and freedom should exist in every cottage hospital.

Chaplain.—We find few rules relating to religious attendance, and these simply note, that patients may be visited by any minister of religion they desire.

From information kindly given to us, we find this is the case in every hospital without exception. None are so bigoted as to exclude the clergy of any denomination. In those hospitals conducted by sisterhoods, where we might perhaps imagine more narrow views would prevail, the same rule is in force. In one or two hospitals this liberality is carried to the opposite extreme, for the rules directly provide that no minister of any denomination shall be on the committee, lest it might cause jealousy amongst others. As regards a regular chaplain, practically the vicar or curate of the parish is in the habit of frequently calling at the hospital, and seeing such patients as may desire his ministrations. Very little attention, however, seems to be paid to the reading of regular prayers and Church services, a field which is too much neglected. Surely an opportunity should be afforded each convalescent to praise Almighty God at least once a day for His goodness in restoring him to health, and to commend afflicted neighbours confined to bed in the next ward to the Almighty's protecting care.

Management.—In most cases the management is under a committee, with here and there a sub-committee or working committee in addition, often called trustees. Sometimes there is a still further sub-division, and an acting manager is appointed, as at Cranleigh, who, along with the medical officer, manages most of the details of the hospital, and reports to the committee.

Letters of Recommendation.—With, we believe, the exceptions of Lynton and Sudbury, a letter of recom-

mendation from a subscriber is always required before a patient can be received; but accidents are admitted without such letters, though such patients are sometimes expected to get one afterwards. Why cannot the example of Lynton be everywhere followed? We commend the rules of the Lynton Hospital for general adoption. The letters of recommendation are valuable for one reason. The subscriber who signs them renders himself liable for the amount to be paid per week for the patient's maintenance. But the object of a hospital is to relieve suffering, and not to make money, and too much stress is laid on getting a large and increasing balance at the end of every year. A sum of £50 in hand for emergencies is amply sufficient for a cottage hospital.

Neighbouring Medical Practitioners not belonging to the Permanent Staff.—In almost all cases the medical men of the district are invited to follow up the treatment of their own cases in conjunction with the medical officers of the hospital. Tewkesbury and Shepton Mallet have exceptionally bad rules on this point.

Inadmissible Cases.—Into most cottage hospitals, infectious, incurable, and phthisical cases are not admitted.

Patients boarded by the Nurse or Matron.—At Milton Abbas Cottage Hospital, founded by the Baroness Hambro', the nurse is paid £25 a year, with an addition of 10s. a week as board wages. She is allowed a servant to assist her in the work, who is paid wages, and

has in addition 8s. per week allowed her for her board. Here the patients are supplied by the committee with wines and other stimulants only; the Baroness Hambro' gives the necessary vegetables, and much of the milk free of charge. The nurse has the right to supply the patients with other food and necessaries, except of course drugs, &c., and she is allowed by the committee 7s. a head per week for adults, and 5s. for children. The sum received by the nurse for the year 1875, for the board of fifteen patients, &c., under this rule, was £73, 10s. We are only cognizant of one other hospital where a similar rule is in force, viz., the South London Ophthalmic Hospital, London. It cannot be doubted that such a system as this should be discountenanced on every ground of good management, efficiency, and economy, and we are glad to find Milton Abbas is the only cottage hospital that has adopted so pernicious a system. At Fowey, the arrangements for boarding the patients, if such they can be called, must certainly be condemned for their unsatisfactory and unbusiness like character. Here there is a regular nurse, who resides in the cottage rent free, but provides her own furniture. She is paid when her services are required to attend to any sick person in the hospital; but her wages are settled by the superintendent as circumstances may require. "Many patients are fed from the nurse's table, or they may provide themselves in some other way." "Others are placed in the institution, and daily supplied with dinner, and perhaps breakfast, by the person who gets the patient

admitted." Anything worse than this it is almost impossible to imagine, as we must always regard diet of proper quantity and quality, served at regular hours, as one of the most important features—nay, an essential feature—of successful hospital administration. Surely it would be better to close this cottage hospital altogether, if some better arrangement cannot be made forthwith.

The medical officer, Mr A. Percy Davis, commenting on the observations on this subject in the first edition of this work, remarks :—"Fowey is a small seaport, the town itself containing almost 1500 inhabitants. The patients are from the poorer classes of the town and neighbourhood, and from sailors landed from the shipping in the harbour. The number of patients admitted in the last two years amounted to 40, and the subscriptions received from the public did not exceed £15 in either year. With reference to the dietary of the patients, I must tell you that many of them (including all foreign and almost all British seamen) pay for their own food. They are all of a class that have been accustomed to plain and homely fare, and I am satisfied that what they get is sufficient, both in quantity and quality, and that it is properly served. The meals furnished by the nurse are amply sufficient in the majority of cases, and they are supplied at a far less cost than would be the case if a separate dietary were insisted on. Whenever food of a superior kind is required, it is usually provided either by the patients themselves or their friends,

or through the kindness of persons in the neighbourhood, and sometimes out of the funds of the hospital.

"By dint of careful management and strict economy, and with the aid of an excellent nurse, much good has been done at this place through the instrumentality of the hospital, at a very small cost to the public (apart from the cost of its erection, &c.), and thus the institution has, in my opinion, fulfilled the objects for which cottage hospitals are needed." Notwithstanding this expression of opinion, we retain our view as to the extreme undesirability of any such arrangement as that which exists at Fowey.

Furnishing and Fitting up a Cottage Hospital.—No doubt many more hospitals would be started if the would-be originators could see their way to fit up the cottage, and put it into fair working order for a start. An excellent idea has been originated at Boston, where four families have each furnished a ward at their own expense. This is a very good plan, as it not only enables those who are not rich to give of their collected earnings a sum which will enable them to see the result of their contribution in an appreciable and permanent form, but it assures to the hospital a sustained interest in its prosperity and welfare, which cannot but be beneficial to its continued success. We have much pleasure in drawing public attention to this specially admirable plan, in the belief that it will encourage other persons, whose individual means may not be large, to go and do likewise.

Out-Patients.—Mr Dowson shows that at twenty-six cottage hospitals the system of out-patient relief has been introduced with success, and that 14,740 patients have been relieved at these institutions in one year. The only hospitals, however, which have pure out-patient departments are Shedfield, Savernake, Beccles, Newton, Tewkesbury, Bourton-on-the-Water, Shepton Mallet, and Crewkerne, and they relieve annually about 1420 out-patients. At the others out-patients are seen, but these hospitals all have dispensaries in connection with them, and so they are purposely omitted from our list. At Shedfield and Savernake there appears to be a dispensary, but it is not clear whether or no it is established apart from the hospital, or whether practically it is simply a part of the institution for the accommodation of out-patients. We are inclined to think, indeed, that these are dispensaries rather in name than in fact, as the out-patients are not numerous, being 79 at Shedfield and 64 at Savernake: we therefore include them in the list of cottage hospitals which possess out-patient departments. It seems to be the usual custom to give 8 out-patient tickets for a guinea; but at Savernake only 2 out-patients' tickets are given for this sum, and the principle of small subscriptions is introduced at Beccles, where 6s. is the price fixed for an out-patient ticket, and at Newton, where the subscription for one out-patient ticket is 5s. and for two, 7s. 6d. It is the invariable rule not to admit as out-patients those who are able to pay for their treatment, paupers,

or persons in receipt of parish relief, and members of clubs or sick societies. Every out-patient is bound to bring a subscriber's recommendation, or the case is refused treatment. The decision as to the circumstances of the patients, and their ability to pay, seems to be left in these cases entirely to the discretion of the medical officer. Under no circumstances are patients at any of the cottage hospitals mentioned above allowed to be visited at their own homes, as under the dispensary system; and unless an out-patient can attend at the hospital, his case is deemed ineligible, and treatment is refused. The time for which a ticket lasts varies for six weeks, as at Tenby, to three months at Beccles. Out-patients are required to bring their own bottles and gallipots, &c. At Crewkerne the following rule is added, and we cannot help thinking that it is likely to be of value, and to lead to amicable relations between all the members of the medical profession and the staff of the cottage hospital:—

"The medical officers will consult upon the case of any patient sent to them by a properly qualified medical gentleman for the purpose on Thursday at 10 A.M." We believe that, in cases of difficulty, this offer will be accepted gladly by outside practitioners. On the general question of the advisability or otherwise of opening out-patient departments in connection with cottage hospitals, it is difficult to give a decided opinion on the facts before us, one way or the other. We fear, however, that the funds of most cottage

hospitals will hardly bear this additional burden. The only hospital which gives the expense of treating the out-patients as a separate item in the accounts is Savernake. Here each out-patient cost the hospital in 1874, 7s. 8d., but in 1875 the cost was reduced to 5s. per head. The average number of out-patients at the eight hospitals where this class of cases has been treated is 177, which, at the lowest estimate, would cost each hospital £44, 5s. per annum. We very much doubt if cottage hospitals, as a rule, can afford to spend so much of their income for such a purpose without decreasing materially the usefulness and efficiency of the in-patient department.

A Hospital Kitchen.—At Shedfield the hospital kitchen is an independent branch of the institution. "Tickets can be procured by any one (whether subscribing to the hospital or not) who desires to help the sick and needy, by providing nourishing and well-cooked food." They may be had throughout the year,—meat tickets, 9d. each; broth and pudding tickets, 6d. each,—from the matron at the hospital. Each ticket will procure ½ lb. of cooked meat, and broth or pudding as required. The meat tickets have been raised to 9d. each, owing to the high price of meat. The tickets have to be presented at the hospital on Mondays and Thursdays, and the food is given out on Wednesdays and Saturdays at the hospital at one o'clock. This is certainly an original idea. We are informed it has been well patronised, and that it is considered a great boon by the poor.

It is certainly a pleasant contrast to the system at Milton Abbas and Fowey. We can imagine, in winter especially, if carefully managed, the kitchen will be a real help to the sick poor, and we commend the plan for adoption where such a system may be needed.

Provident and other Dispensaries.—Provident dispensaries are worked with the following cottage hospitals:—Woodford, Warwick, Ealing, Bournemouth, Ashburton, Enfield, Jarrow, Rugeley, Walker, Lloyd, Harrogate, Mansfield, and some others. However good these institutions may be, and undoubtedly are in themselves, we are of opinion that they are best kept separate from the cottage hospital system. This may be said with equal truth of the dispensaries at Tilbury, Gravesend, Seacombe, and elsewhere. It seems to us that the only way of working these institutions under the same management is to keep the accounts of the dispensary and hospital quite distinct. Even then the non-success of one enterprise will probably kill the other. We are convinced, as we have stated elsewhere, that it is a mistake to mix up other schemes with that of cottage hospitals. All the writers on the subject have held these views, and our experience teaches us that, on business grounds alone, such a system is not likely to work efficiently.

Cleaning and Disinfecting at a given time.—There is a very good rule on this point at Dunster. After seven years the hospital was closed for six weeks,

the wall papers were all removed, the mattresses renovated, and the bedding overlooked. This was all done at the recommendation and under the supervision of the medical officer. In May 1878, the hospital was again closed for a short time to undergo the thorough cleansing in all its parts, which the medical officer considers necessary every second year. A hint as to purity is here given, which should be followed by every cottage hospital in existence.

This purity can be effectually secured, and the annual cost of cleaning can be minimised, by having all the walls painted and varnished throughout the hospital at the outset. Experience has proved that the expensive Parian cement, which was a popular rage some ten or twelve years ago, is neither impervious nor non-absorbent. Parian, except as a smooth surface to be painted and varnished, possesses few advantages, and we should strongly advocate Portland cement in preference. A trial of silicate paint leads us to feel that its merits have been too loudly sung. The absence of lead in paint is undoubtedly an advantage; but to have walls recently painted suddenly assuming the appearance of a huge cobweb, from the multiplicity and variety of the cracks in the paint, is not calculated to commend it to the adoption of economical people. Yet silicate does undoubtedly show a tendency to crack in this way; it is apt to come off in flakes, and it is a difficult article for an ordinary workman to use successfully.

Varnished paper for walls of hospitals and nurseries.—

Returning to the consideration of the comparative advantages of varnished paint and varnished paper for hospitals and nurseries, a prolonged trial leads us to recommend varnished paper for preference. We find that unless the varnish or the paint is everywhere applied with great care and skill, soft patches will here and there be left, to which dust and other matters will attach themselves to the disfigurement of the whole surface. Indeed the utmost care will not ensure immunity from these unsightly patches, and the best oil paint will fade and discolour in time, in spite of the varnish. On the other hand a good paper of tasty pattern can be selected; the manufacturer will carefully prepare it for varnishing, and with proper usage walls thus treated will last without stain or disfigurement for from ten to fifteen years at least.

In applying the varnish to paper or paint we have ascertained that the best white copal varnish should invariably be used. It is a trifle expensive, but the first outlay will be found cheapest in the end. Care should be taken to apply only one coat of varnish to new paint or paper. At the end of the first year, when the whole has been carefully washed down, a second coat of varnish will ensure a wall-surface smooth, glossy, hard, non-absorbent and impervious, which will wear for ten years at least.

APPENDIX

APPENDIX A.

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APPENDIX A.

Points upon which the managers of Cottage Hospitals are requested to give special information in any communication they may address to the author.

In all cases please send a copy of the last Report of the Cottage Hospital under your management, with the By-Laws and the following particulars :—

(1.) The date of its foundation, and the endowment, if any.
(2.) The cost of its erection, and how the amount was raised, viz., by subscription or otherwise. Did the farmers and others in the district assist the scheme with presents of stone, wood, and labour? Was it erected at the cost of one person alone?
(3.) If it is a Cottage, altered to meet the requirements of a Hospital, what rent do you pay, and what was the cost of the alterations? Could you send me a plan of it—ground plan and elevation?
(4.) What is the extent of the district from which patients are sent, and what is the name of the nearest town having a General Hospital?
(5.) Do the patients pay anything for the relief they receive, and what is the rule with pauper cases?
(6.) Do the Medical Staff receive payment for their services?
(7.) Average income and average expenditure, average number of beds occupied during past three years.
(8.) Number of beds ; number of patients.
(9.) System of nursing.

If this information can be furnished, together with any other on points which may be considered of importance and interest, a great service will be rendered to the author.

APPENDIX B.

ANNUAL STATEMENT OF ACCOUNTS.

Suggested to Cottage Hospital Managers for general adoption, and to secure uniformity of Account.

BALANCE SHEET for the year ending 31*st December* 188 .

RECEIPTS.	£	s.	d.	EXPENDITURE.	£	s.	d.
Balance in hand Dec. 31, 188 .				PROVISIONS—			
SUBSCRIPTIONS . .				Groceries . . .			
DONATIONS . . .				Milk			
HOSPITAL SUNDAY and Church				Meat			
Collections, viz.—				Milk, Butter, and Eggs .			
				Vegetables . . .			
				Fish and Ice . . .			
				HOUSEHOLD EXPENSES—			
				Coals, Gas . . .			
Hospital Saturday, viz.—				Ironmonger, Glass, Earthenware,			
				Brushes, &c. . .			
				REPAIRS.			
				MEDICAL DEPARTMENT—			
				Drugs and Surgical Instruments			
Collected by (*or at*), viz.—				Wines, Spirits, Ale, and Porter			
				SALARIES—			
				Medical Officer . .			
				Matron (*nurse*) . .			
Payments by In Patients .				Servant, &c. . . .			
,, *Out* ,, . .				INCIDENTAL EXPENSES—			
Sale of Kitchen waste, &c. .				Printing and Stationery .			
Sundries . . .				Advertisements and Postage .			
EXTRAORDINARY INCOME.				Garden . . .			
Interest on Investments . .				Sundries . . .			
Legacies . . .				*Balance* in Treasurer's hands .			

THE INVESTMENT FUND CONSISTS AT PRESENT OF:—

" " " " at per cent.
" " " " at per cent.

DISPOSAL OF BALANCE FROM THE PRECEDING YEAR 188 .	£	s.	d.
Invested—			
Erection of additional buildings, viz. :—			
Purchase of additional furniture, instruments, &c., viz. :—			
Divided between the Medical Officers			
Leaving in hands of Treasurer			
Total . . .			

APPENDIX C.

Mr Thomas Moore's Case Book, as used at Petersfield Cottage Hospital.

| No. | | |

TABLES.

APP

LIST I.—ALPHABETICAL LIST OF COTTAGE INCOME AND

* In default of any later statistics, those contained in the first edition are Directory for 1879, but no information has been procurable from the total of columns 3 to 8 inclusive of Appendix E, and the balance (if any) of the preceding year.

Name of Hospital, and County in which it is situated.		Income.‡	
		Year.	Amount.
			£ s. d.
*Alloa	Scotland	...	...
†Alnwick	Northumberland	...	...
Alton	Hampshire	1878	395 0 0
Andover	,,	1875–7	2572 0 0
,,	,,	1878	329 0 0
Ashburton and Buckfastleigh	Devon	1877	213 0 0
,, ,,	,,	1878	201 0 0
Ashford	Kent	1878	670 0 0
*Balfour (Kirkwall)	Scotland	...	...
Bangor	Co. Down	1878	79 0 0
Barnsley (Beckett)	Yorkshire	1877–8	1379 0 0
Barrow-in-Furness	Lancashire	...	...
Barton-under-Needwood	Stafford	1879	...
Beccles	Suffolk	1876	508 0 0
,,	,,	1877	471 0 0
,,	,,	1878	494 0 0
*Beckenham	Kent	...	...
Beckenham (St Agatha's Convalescent Home)	,,	1877	508 0 0
,, ,,	,,	1878	551 0 0
Berwick	Berwick	1877–8	677 0 0
,,	,,	1878–9	390 0 0
Bideford Infirmary	Devon	1878	362 0 0
†Birkenhead (Fever)	Cheshire	...	...
†Birkenhead (Wirral Hospital)	,,	...	...
Bodmin (East Cornwall)	Cornwall	1878	1204 0 0
Boston	Lincoln	1876	540 0 0
,,	,,	1877	579 0 0
,,	,,	1878	613 0 0
Bournemouth	Hampshire	1878	645 0 0

NDIX D.

HOSPITALS, WITH PARTICULARS OF THEIR EXPENDITURE.

reproduced. † The names of these Hospitals appear in the Medical authorities concerned. ‡ Generally "INCOME" consists of the (if any) of the preceding year, whilst "EXPENDITURE" includes deficit

		Expenditure.‡			Balance in hand.	Deficit.
Average.		Year.	Amount.	Average.		
£ s. d.			£ s. d.	£ s. d.	£ s. d.	£ s. d.
...		...	...	...	...	..
...		...	...	...	...	...
...		1878	358 0 0	...	37 0 0	...
...		1875–7	2483 0 0	...	89 0 0	...
...		1878	255 0 0	...	74 0 0	...
207 0 0		1877	214 0 0	206 0 0	...	1 0 0
		1878	199 0 0	...	2 0 0	...
650 0 0		1878	561 0 0	700 0 0	109 0 0	...
...		...	...	...	...	...
...		1878	79 0 0	...	...	...
...		1877–8	1476 0 0	...	...	97 0 0
...		...	...	...	...	...
...		...	...	...	...	...
		1876	487 0 0		21 0 0	...
446 0 0		1877	380 0 0	368 0 0	91 0 0	...
		1878	378 0 0		116 0 0	...
395 0 0		...	...	323 0 0	...	...
530 0 0		1877	579 0 0	606 0 0	...	71 0 0
		1878	632 0 0		...	81 0 0
...		1877–8	374 0 0	...	374 0 0	...
380 0 0		1878–9	427 0 0	380 0 0	...	37 0 0
350 0 0		1878	327 0 0	340 0 0	35 0 0	...
...		...	...	...	...	...
...		...	...	...	...	...
...		1878	411 0 0	...	793 0 0	...
		1876	450 0 0		90 0 0	...
577 0 0		1877	554 0 0	538 0 0	25 0 0	...
		1878	612 0 0		1 0 0	...
...		1878	627 0 0	650 0 0	18 0 0	...

Name of Hospital, and County in which it is situated.		Income.‡	
		Year.	Amount.
			£ s. d.
†Bournemouth (St Joseph's Home)	,,	...	...
Bourton-on-the-Water	Gloucester	1878	272 0 0
Bovey Tracey	Devon	1878	43 0 0
Brackley	Northampton	1877–8	262 0 0
Braintree	Essex	...	...
†Bridgnorth	Stafford	...	...
Bridlington (Lloyd)	Yorkshire	1878	340 0 0
Bridport	Dorset	1878	290 0 0
Bromley	Kent	1878	636 0 0
Bromsgrove	Worcester	1878	297 0 0
Bromyard	Hereford	1878	248 0 0
†Brotton	Yorkshire	...	...
Buckhurst Hill	Essex	1876	385 0 0
,,	,,	1877	318 0 0
,,	,,	1878	326 0 0
Burford	Oxford	1878	213 0 0
Burford	Salop	...	...
*Capel	Surrey	1874	330 0 0
*Chalfont St Peters	Bucks	1874	189 0 0
Charlton Children's Home	Wilts	1878	137 0 0
Charlwood	Surrey	1878	151 0 0
Charmouth	Dorset	1876	139 0 0
,,	,,	1877	102 0 0
,,	,,	1878	128 0 0
†Chelmsford	Essex	...	...
Chesham	Bucks	1877–8	425 0 0
Chipping Norton	Oxon	...	...
†Chumleigh	Devon	...	...
Cirencester	Gloucester	1876	791 0 0
,,	,,	1877	746 0 0
,,	,,	1878	788 0 0
†Clayton	Yorkshire	...	...
*Clearwell	Gloucester	1875	152 0 0
Clevedon	Somerset	1877–8	220 0 0
Cleveland	Yorkshire	1878	1286 0 0
Coleford (Lady Dunraven's)	Gloucester	...	...
Congleton	Cheshire	1876–7	220 0 0
,,	,,	1877–8	256 0 0

Expenditure.‡				Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
...	...	...	..	...	...
122 0 0	1878	184 0 0	118 0 0	88 0 0	...
...	1878	73 0 0	...	...	30 0 0
...	1877–8	229 0 0	...	33 0 0	...
...	...	...	...	...	...
...	...	...	...	...	...
..	1878	374 0 0	...	...	34 0 0
300 0 0	1878	352 0 0	320 0 0	...	62 0 0
...	1878	428 0 0	...	208 0 0	...
...	1878	290 0 0	...	7 0 0	...
...	1878	221 0 0	...	27 0 0	...
...	...	...	...	...	...
	1876	300 0 0		85 0 0	...
343 0 0	1877	284 0 0	291 0 0	34 0 0	...
	1878	290 0 0		36 0 0	...
142 0 0	1878	183 0 0	151 0 0	...	30 0 0
...	...	...	...	...	...
...	1874	260 0 0	...	70 0 0	...
...	1874	193 0 0	...	...	4 0 0
145 0 0	1878	190 0 0	164 0 0	...	53 0 0
...	1878	138 0 0	...	13 0 0	...
	1876	84 0 0		55 0 0	...
77 0 0	1877	69 0 0	76 0 0	33 0 0	...
	1878	76 0 0		52 0 0	...
...	...	...	...	...	...
...	1877–8	322 0 0	...	103 0 0	...
...	...	...	...	...	...
...	...	...	...	...	...
	1876	691 0 0		100 0 0	...
687 0 0	1877	651 0 0	700 0 0	95 0 0	...
	1878	758 0 0		30 0 0	...
...	...	...	...	...	...
...	1875	132 0 0	...	13 0 0	...
231 0 0	1877–8	275 0 0	242 0 0	...	55 0 0
...	1878	1739 0 0	...	...	453 0 0
...	...	...	...	...	...
	1876–7	287 0 0			67 0 0
238 0 0	1877–8	335 0 0	311 0 0	...	79 0 0

Name of Hospital, and County in which it is situated.		Income.‡			
		Year.	Amount.		
			£	s.	d.
Cranleigh	Surrey	1876	157	0	0
,,	,,	1877	168	0	0
,,	,,	1878	181	0	0
Crewkerne	Somerset	1877–8	622	0	0
*Crimond	Aberdeen	...	...		
Cromer	Norfolk	1878	327	0	0
Croydon	Surrey	1878	2844	0	0
Darlington	Durham	...	...		
Dawlish	Devon	1877	278	0	0
,,	,,	1878	287	0	0
*Deal	Kent	1875	447	0	0
†Derby	Derbyshire	...	...		
Devizes	Wiltshire	1878	376	0	0
†Dewsbury	Yorkshire	...	...		
Dingwall	Ross	1876–7	143	0	0
Dinorben (Amlwch)	Anglesea	1877	34	0	0
Dinorvic	Carnarvon	...	...		
*Ditchingham	Norfolk	1874	675	0	0
Dorking	Surrey	1875	675	0	0
,,	,,	1878	609	0	0
Dover	Kent	...	...		
*Dowlais	Glamorganshire	...	...		
Driffield	Yorkshire	1878–9	273	0	0
Dunster	Somerset	1878	329	0	0
Ealing	Middlesex	1878	585	0	0
East Grimstead	Sussex	...	...		
East Rudham	Norfolk	...	...		
Egham	Surrey	1878	149	0	0
Enfield	Middlesex	1878	289	0	0
Epsom and Ewell	Surrey	1876	308	0	0
,,	,,	1877	409	0	0
,,	,,	1878	463	0	0
Erith, Crayford, and Belvedere	Kent	1878	407	0	0
Fairford	Gloucester	1878	198	0	0
Felixstowe (Suffolk Convalescent Home)	Suffolk	1878–9	649	0	0
Forgue	Aberdeen, N.B.	1876–7	161	0	0
,,	,,	1877–8	186	0	0

Expenditure.‡				Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
	1876	148 0 0		9 0 0	...
158 0 0	1877	155 0 0	156 0 0	13 0 0	...
	1878	164 0 0		17 0 0	...
...	1877–8	524 0 0	...	98 0 0	...
...	...	...	...	...	...
...	1878	260 0 0	...	67 0 0	...
...	1878	2569 0 0	...	275 0 0	...
...	...	...	...	...	...
	1877	180 0 0		98 0 0	...
282 0 0	1878	184 0 0	182 0 0	103 0 0	...
...	1875	154 0 0	...	293 0 0	...
...	...	...	...	...	...
...	1878	272 0 0	...	104 0 0	...
...	...	...	...	...	...
...	1876–7	116 0 0	...	27 0 0	...
...	1877	14 0 0	...	20 0 0	...
...	...	...	...	...	...
...	1874	668 0 0	...	7 0 0	...
	1875	663 0 0		12 0 0	...
612 0 0	1878	708 0 0	685 0 0	...	99 0 0
240 0 0	...	...	about £270	...	...
...	...	...	...	...	...
290 0 0	1878–9	240 0 0	279 0 0	33 0 0	...
...	1878	239 0 0	...	90 0 0	...
...	1878	532 0 0	...	53 0 0	...
...	...	...	...	...	...
...	...	...	...	...	...
...	1878	172 0 0	...	...	23 0 0
...	1878	275 0 0	...	14 0 0	...
	1876	209 0 0		109 0 0	...
391 0 0	1877	328 0 0	366 0 0	81 0 0	...
	1878	444 0 0		19 0 0	...
...	1878	289 0 0	...	11 0 0	...
...	1878	97 0 0	...	101 0 0	...
450 0 0	1878–9	801 0 0	400 0 0	...	152 0 0
	1876–7	104 0 0		57 0 0	...
121 0 0	1877–8	108 0 0	106 0 0	78 0 0	...

Name of Hospital, and County in which it is situated.		Income.‡	
		Year.	Amount.
			£ s. d.
†Foston	Stafford	...	...
*Fowey	Cornwall	...	...
Frome	Somerset	1878	335 0 0
Fyvie	Aberdeen	1879	...
Grantham	Lincoln	1876	992 0 0
,,	,,	1877	1158 0 0
,,	,,	1878	1112 0 0
Great Bookham	Yorkshire	...	...
†Grimsby	Lincoln	...	...
*Guisborough	Yorkshire	1875	611 0 0
Hambrook	Gloucester	1878	141 0 0
Harrogate	Yorkshire	1878	443 0 0
Harrow (Copland Sodbury)	Middlesex	1875	196 0 0
Harrow-on-the-Hill	,,	1878	553 0 0
Hatfield (Broad Oak)	Essex	1875	196 0 0
,, ,,	,,	1876	178 0 0
,, ,,	,,	1877	169 0 0
Hayes	Middlesex	1878	205 0 0
High Wycombe	Bucks	1878	537 0 0
*Hillingdon	Middlesex	1875	185 0 0
Hilston	Hereford	...	...
Holmesdale	Kent	1878	434 0 0
Ilfracombe	Devon	1877	353 0 0
,,	,,	1878	278 0 0
*Iver, Langley, and Denham	Bucks	1875	101 0 0
Jarrow	Durham	1877	801 0 0
,,	,,	1878	881 0 0
†Keighley	Yorkshire	...	...
Kendal	Westmoreland	1873	376 0 0
,,	,,	1874	521 0 0
,,	,,	1875	613 0 0
Kidderminster Infirmary	Worcester	1878	1627 0 0
Knole	Kent	...	...
Ledbury	Hereford	1878	247 0 0
Leek	Stafford	1878	505 0 0
*Litcham	Norfolk	1875	138 0 0

	Expenditure.‡			Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
...	...	...	...	...	...
...	...	...	...	...	...
371 0 0	1878	324 0 0	368 0 0	11 0 0	...
...	...	...	...	...	...
	1876	604 0 0		388 0 0	...
1087 0 0	1877	960 0 0	765 0 0	198 0 0	...
	1878	731 0 0		381 0 0	...
...	...	...	...	...	...
...	...	...	...	...	...
...	1875	357 0 0	...	254 0 0	...
...	1878	150 0 0	...	...	9 0 0
...	1878	350 0 0	...	93 0 0	...
180 0 0	1875	165 0 0	195 0 0	31 0 0	...
...	1878	514 0 0	...	39 0 0	...
	1875	167 0 0		29 0 0	...
181 0 0	1876	175 0 0	173 0 0	3 0 0	...
	1877	178 0 0		...	9 0 0
...	1878	160 0 0	...	45 0 0	...
...	1878	466 0 0	...	71 0 0	...
...	1875	119 0 0	...	66 0 0	...
...	...	...	...	...	...
...	1878	355 0 0	...	79 0 0	...
	1877	311 0 0		42 0 0	...
265 0 0	1878	269 0 0	315 0 0	9 0 0	...
...	1875	101 0 0	...	...	...
	1877	769 0 0		32 0 0	...
798 0 0	1878	967 0 0	868 0 0	...	86 0 0
...	...	...	...	...	...
	1873	394 0 0		...	18 0 0
503 0 0	1874	486 0 0	441 0 0	35 0 0	...
	1875	442 0 0		171 0 0	...
...	1878	1820 0 0	...	...	193 0 0
...	...	...	...	...	...
...	1878	134 0 0	...	113 0 0	...
...	1878	366 0 0	...	139 0 0	...
...	1875	102 0 0	...	36 0 0	...

Name of Hospital, and County in which it is situated.		Income.‡			
		Year.	Amount.		
			£	s.	d.
Littlehampton (St Mary)	Sussex	1879	...		
Llangollen	Denbigh	1878	435	0	0
Longton	Stafford	1878	891	0	0
Louth	Lincolnshire	1877–8	824	0	0
†Lowestoft	Suffolk	...	...		
Luton	Bedford	1878	330	0	0
Lyme Regis	Dorset	1875	122	0	0
,,	,,	1876	106	0	0
,,	,,	1877	79	0	0
Lynton	Devon	1878	151	0	0
Lytham	Lancashire	1878	280	0	0
Maidenhead	Berks	1879	...		
Malvern	Worcester	1878	308	0	0
Mansfield Woodhouse	Notts	1877	181	0	0
Margate	Kent	1877–8	285	0	0
Market Rasen	Lincolnshire	1878	278	0	0
Melksham	Wilts	1878	254	0	0
Mildenhall	Suffolk	1878	207	0	0
Milton Abbas	Dorset	1878	243	0	0
Mold	Flint	1878	2002	0	0
Moreton Hampstead (Convalescent)	Devon	1878	346	0	0
Moreton-in-Marsh	Gloucester	1878	328	0	0
Mountsorrel	Leicester	1879	...		
*Newick	Sussex	1874	327	0	0
Newton	Devon	1878	417	0	0
North Ormesby	Yorkshire	1878	1910	0	0
Northallerton	Yorkshire	1878	603	0	0
Oakeley	Merionethshire	1878	...		
*Oswestry	Salop	1875	629	0	0
Ottery St Mary	Devon	...	...		
Oxlinch, near Stonehouse	Gloucester	...	...		
Paulton	Somerset	1877–8	373	0	0
Penrhyn (Carnarvon)	Carnarvon	1878	3608	0	0
†Penzance (West Cornwall)	Cornwall	...	...		
Petersfield	Hampshire	1876	276	0	0
,,	,,	1877	214	0	0
,,	,,	1878	268	0	0

Expenditure.‡				Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
...	...	...	...	...	...
...	1878	323 0 0	...	112 0 0	...
...	1878	875 0 0	...	16 0 0	...
...	1877–8	810 0 0	...	14 0 0	...
...	...	...	...	...	...
...	1878	341 0 0	...	...	11 0 0
	1875	80 0 0		42 0 0	...
66 0 0	1876	84 0 0	81 0 0	22 0 0	...
	1877	79 0 0		...	...
130 0 0	1878	118 0 0	130 0 0	33 0 0	...
...	1878	210 0 0	...	70 0 0	...
...	...	...	...	...	...
...	1878	297 0 0	...	11 0 0	...
...	1877	154 0 0	...	27 0 0	...
...	1877–8	261 0 0	...	24 0 0	...
...	1878	176 0 0	...	102 0 0	...
...	1878	203 0 0	...	51 0 0	...
...	1878	241 0 0	...	...	34 0 0
...	1878	205 0 0	...	38 0 0	...
...	1878	1858 0 0	...	144 0 0	...
329 0 0	1878	250 0 0	297 0 0	96 0 0	...
...	1878	174 0 0	...	154 0 0	...
...	...	...	...	...	...
157 0 0	1874	170 0 0	173 0 0	157 0 0	...
...	1878	326 0 0	...	91 0 0	...
...	1878	1740 0 0	...	170 0 0	...
...	1878	458 0 0	...	145 0 0	...
...	...	...	...	...	...
...	1875	545 0 0	...	84 0 0	...
...	...	...	...	...	...
...	...	...	...	...	...
...	1877–8	389 0 0	...	...	16 0 0
...	1878	3561 0 0	...	47 0 0	...
...	...	...	...	...	...
	1876	210 0 0		66 0 0	...
253 0 0	1877	201 0 0	209 0 0	13 0 0	...
	1878	216 0 0		52 0 0	...

Name of Hospital, and County in which it is situated.		Income.‡			
		Year.	Amount.		
			£	s.	d.
Petworth	Sussex	1878	224	0	0
Purton	Wiltshire	1878–9	202	0	0
*Redruth	Cornwall	...	...		
Reigate	Surrey	1875–6	772	0	0
,,	,,	1876–7	978	0	0
,,	,,	1877–8	860	0	0
Richmond	,,	1878	2067	0	0
Richmond	Yorkshire	1867–77	610	0	0
,,	,,	1878	91	0	0
Ross	Hereford	1875	190	0	0
,,	,,	1878	200	0	0
Rotherham	York	1876	1485	0	0
,,	,,	1877	2695	0	0
,,	,,	1878	1570	0	0
Royston	Cambridge	1876	163	0	0
,,	,,	1877	158	0	0
,,	,,	1878	218	0	0
Ruabon	Denbigh	1877	331	0	0
Rugby	Warwick	1878	700	0	0
Rugeley	Stafford	1877	366	0	0
,,	,,	1878	406	0	0
Rugeley Convalescent Home	,,	1878	183	0	0
*St Albans	Herts	1875	674	0	0
St Andrews	Fife, N.B.	1876	167	0	0
,,	,,	1877	219	0	0
St Helens	Lancashire	1878	1276	0	0
†St Leonards	Sussex	...	...		
Saffron Walden	Essex	1877	1120	0	0
,,	,,	1878	1207	0	0
Savernake	Wilts	1878	806	0	0
Scarborough (Accident)	Yorkshire	1878	549	0	0
Scarborough (Cottage)	,,	1878	498	0	0
Seacombe	Cheshire	1878	292	0	0
*Seaforth	Lancashire	1874	150	0	0
Seaham Harbour	Durham	1878	289	0	0
Shaftesbury	Dorset	1878	647	0	0
Shedfield	Hants	1876	116	0	0
,,	,,	1877	164	0	0
,,	,,	1878	105	0	0

	Expenditure.‡			Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
...	1878	235 0 0	...	...	11 0 0
...	1878–9	133 0 0	...	69 0 0	...
...	...	...	...	...	...
	1875–6	677 0 0		84 0 0	...
870 0 0	1876–7	699 0 0	733 0 0	244 0 0	...
	1877–8	822 0 0		42 0 0	...
...	1878	1750 0 0	...	317 0 0	...
55 0 0	1867–77	617 0 0	56 0 0	...	7 0 0
...	1878	82 0 0	...	9 0 0	...
162 0 0	1875	125 0 0	134 0 0	65 0 0	...
	1878	144 0 0		56 0 0	...
	1876	1716 0 0		...	231 0 0
1916 0 0	1877	3082 0 0	1880 0 0	...	387 0 0
	1878	2072 0 0		...	502 0 0
	1876	180 0 0		...	17 0 0
180 0 0	1877	181 0 0	209 0 0	...	23 0 0
	1878	265 0 0		...	47 0 0
...	1877	148 0 0	...	183 0 0	...
...	1878	348 0 0	...	352 0 0	...
386 0 0	1877	370 0 0	457 0 0	...	4 0 0
	1878	543 0 0		...	137 0 0
...	1878	178 0 0	...	5 0 0	...
...	1875	462 0 0	...	212 0 0	...
193 0 0	1876	166 0 0	178 0 0	1 0 0	...
	1877	191 0 0		28 0 0	...
...	1878	1715 0 0	...	...	439 0 0
...	...	...	...	...	...
1042 0 0	1877	1075 0 0	1012 0 0	45 0 0	...
	1878	1049 0 0		158 0 0	...
...	1878	735 0 0	...	71 0 0	...
...	1878	511 0 0	...	38 0 0	...
...	1878	498 0 0	...	Nil.	Nil.
...	1878	350 0 0	...	...	58 0 0
...	1874	103 0 0	...	47 0 0	...
...	1878	162 0 0	...	127 0 0	...
...	1878	269 0 0	...	378 0 0	...
	1876	180 0 0		...	64 0 0
128 0 0	1877	183 0 0	143 0 0	...	19 0 0
	1878	136 0 0		...	31 0 0

Name of Hospital, and County in which it is situated.		Income.‡	
		Year.	Amount.
			£ s. d.
†Sheffield (Children's Hospital)	Yorkshire	...	...
†Sheffield (Women's Hospital)	,,	...	...
Shepton Mallet	Somerset	1876	377 0 0
,,	,,	1877	388 0 0
,,	,,	1878	403 0 0
Sherborne (Yeatman)	Dorset	1878	814 0 0
Shipley	Yorkshire	...	...
Southam	Warwick	...	...
Southampton (St Mary's)	Hampshire	1878	692 0 0
Southsea	Hampshire	1877–8	697 0 0
,,	,,	1878–9	526 0 0
†South Shields	Durham	...	...
Spalding	Lincolnshire	1879	...
Speen	Berkshire	1878	356 0 0
Stapleford	Notts	...	...
Stockton	Durham	...	...
Stony Stratford	Bucks	1876	273 0 0
,,	,,	1877	248 0 0
,,	,,	1878	242 0 0
Stratford-upon-Avon	Warwick	1878–9	714 0 0
Stratton	Cornwall	1876	244 0 0
,,	,,	1877	243 0 0
,,	,,	1878	227 0 0
Sudbury	Suffolk	1878	677 0 0
Sunderland	Durham	1877–8	786 0 0
Surbiton	Surrey	1878	487 0 0
Swindon (New)	Wilts	...	...
Tenbury	Salop	1878	301 0 0
Tenby	Pembroke	1878	309 0 0
*Tetbury	Gloucester	1874	208 0 0
Tewkesbury	,,	1877–8	426 0 0
Trowbridge	Wilts	1878	308 0 0
Tunbridge Wells	Kent	1878–9	...
*Ulverston	Lancashire	1875	456 0 0
*Wakefield	Yorkshire	...	...
*Walker	Northumberland	1875	...
Wallasey	Cheshire	1878	210 0 0

Expenditure.‡				Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
...	...	...	...	...	...
...	...	...	...	...	...
	1876	351 0 0		26 0 0	...
389 0 0	1877	399 0 0	394 0 0	...	11 0 0
	1878	431 0 0		...	28 0 0
...	1878	842 0 0	...	...	26 0 0
...	...	...	...	...	...
...	...	...	...	...	...
...	1878	263 0 0	...	429 0 0	...
	1877–8	713 0 0		...	16 0 0
612 0 0	1878–9	577 0 0	645 0 0	...	51 0 0
...	...	...	...	...	...
...	...	...	...	...	...
...	1878	203 0 0	...	153 0 0	...
...	...	...	...	...	...
...	...	...	...	...	...
	1876	243 0 0		30 0 0	...
228 0 0	1877	264 0 0	244 0 0	...	16 0 0
	1878	230 0 0		12 0 0	...
...	1879	884 0 0	...	...	190 0 0
	1876	171 0 0		73 0 0	...
171 0 0	1877	199 0 0	185 0 0	44 0 0	...
	1878	172 0 0		55 0 0	...
550 0 0	1878	620 0 0	560 0 0	57 0 0	...
...	1877–8	1443 0 0	...	...	657 0 0
525 0 0	1878	395 0 0	431 0 0	92 0 0	...
...	...	...	...	...	...
...	1878	225 0 0	...	76 0 0	...
...	1878	195 0 0	...	114 0 0	...
...	1874	175 0 0	...	33 0 0	...
...	1877–8	373 0 0	...	53 0 0	...
...	1878	290 0 0	...	18 0 0	...
...	1878–9	207 0 0	...	...	...
312 0 0	1875	234 0 0	201 0 0	222 0 0	...
...	...	...	...	...	...
534 0 0	1875	...	508 0 0	235 0 0	...
...	1878	225 0 0	...	...	15 0 0

Name of Hospital, and County in which it is situated.		Income.‡			
		Year.	Amount.		
			£	s.	d.
*Walsall	Stafford	1874	1372	0	0
Warminster	Wiltshire	1878	196	0	0
†Warrington	Lancashire	...	...		
Warwick	Warwick	1878	198	0	0
Watlington	Oxford	1878	194	0	0
Wells	Somerset	1878	347	0	0
Weston Super Mare	,,	1878	1383	0	0
*Weybread	Suffolk	1875	364	0	0
Weymouth Sanatorium	Dorset	1874–5	651	0	0
,,	,,	1877–8	712	0	0
,,	,,	1878–9	791	0	0
*Wimbledon	Surrey	1875	535	0	0
Wimbledon (Infectious Diseases)	,,	...	...		
Wirksworth	Derbyshire	1878	254	0	0
†Wisbeach (Fever)	Cambridge	...	...		
Wisbeach (North Cambridgeshire)	,,	1878	940	0	0
*Woodford	Essex	1874	356	0	0
Woodhall Spa	Lincolnshire	1878	247	0	0
*Worksop	Notts	...	...		
Wrington	Somerset	...	...		
Yate	Gloucester	...	...		
Yeovil	Somerset	1877–8	633	0	0
*Yoxall	Staffordshire	...	...		

	Expenditure.‡			Balance in hand.	Deficit.
Average.	Year.	Amount.	Average.		
£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
...	1874	842 0 0	...	530 0 0	...
...	1878	184 0 0	...	12 0 0	...
...	...	...	...	...	...
...	1878	167 0 0	...	31 0 0	...
...	1878	180 0 0	...	14 0 0	...
...	1878	195 0 0	...	152 0 0	...
...	1878	1540 0 0	...	...	157 0 0
...	1875	362 0 0	...	2 0 0	...
	1874–5	631 0 0		20 0 0	...
718 0 0	1877–8	562 0 0	622 0 0	150 0 0	...
	1878–9	672 0 0		119 0 0	...
325 0 0	1875	299 0 0	301 0 0	236 0 0	...
...	...	...	...	...	...
...	1878	198 0 0	...	56 0 0	...
...	...	...	...	...	...
...	1878	893 0 0	...	47 0 0	...
...	1874	306 0 0	...	50 0 0	...
280 0 0	1878	230 0 0	...	17 0 0	...
...	...	...	...	...	...
115 0 0	...	...	100 0 0	...	...
...	...	...	...	...	...
...	1877–8	449 0 0	...	184 0 0	...
300 0 0	...	...	300 0 0	...	...

APP

LIST II.—ALPHABETICAL LIST OF THEIR SOURCES

* In default of any later statistics, those contained in the first edition are Directory for 1879, but no information has been procurable from the of the amounts in these columns added to the balance (if any) of

Name of Hospital.	Source of								
	Year.	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
*Alloa	...	...			...			...		
†Alnwick	...	...			...			...		
Alton	1878	131	0	0	6	0	0	75	0	0
Andover	1875–7	119	0	0	681	0	0	35	0	0
,,	1878	108	0	0	106	0	0	12	0	0
Ashburton and Buckfastleigh	1877	122	0	0	29	0	0	26	0	0
,, ,,	1878	119	0	0	35	0	0	24	0	0
Ashford	1878	219	0	0	150	0	0	128	0	0
*Balfour (Kirkwall)	...	...			...			...		
Bangor	1878	42	0	0	...			16	0	0
Barnsley (Beckett)	1877–8	190	0	0	54	0	0	...		
Barrow-in-Furness	...	...			...			...		
Barton-under-Needwood	1879	...			...			...		
Beccles	1876	238	0	0	177	0	0	80	0	0
,,	1877	275	0	0	88	0	0	101	0	0
,,	1878	263	0	0	70	0	0	77	0	0
*Beckenham	...	...			...			...		
Beckenham (St Agatha's Convalescent Home)	1877	214	0	0	144	0	0	...		
,, ,,	1878	284	0	0	52	0	0	...		
Berwick	1877–8	129	0	0	57	0	0	7	0	0
,,	1878–9	135	0	0	23	0	0	59	0	0
Bideford Infirmary	1878	168	0	0	30	0	0	73	0	0
†Birkenhead (Fever)	...	...			...			...		
†Birkenhead (Wirral Hospital)	...	...			...			...		
Bodmin (East Cornwall)	1878	254	0	0	113	0	0	...		
Boston	1876	200	0	0				164	0	0
,,	1877	246	0	0				168	0	0
,,	1878	233	0	0				183	0	0

ENDIX E.

COTTAGE HOSPITALS SHOWING OF INCOME.

reproduced. † The names of these Hospitals appear in the Medical authorities concerned. "INCOME" in Appendix D consists of the totals the preceding year.

Income.						Remarks.
Funded Interests, &c.			Patients' Payments.			Other.			
£	s.	d.	£	s.	d.	£	s.	d.	
...			...			...			
...			...			...			
60	0	0	50	0	0	...			
13	0	0	25	0	0	...			1875–7 accounts include building expenses.
9	0	0	45	0	0	...			
4	0	0	13	0	0	23	0	0	
4	0	0	15	0	0	8	0	0	
41	0	0	132	0	0	...			
...			...			...			Information refused.
...			7	0	0	...			
535	0	0	...			...			£690 invested.
...			...			...			Not a Cottage Hospital now. Rebuilt since 1877.
...			...			...			Not yet opened.
5	0	0	6	0	0	2	0	0	
5	0	0	1	0	0	1	0	0	
7	0	0	5	0	0	2	0	0	
...			...			...			
...			110	0	0	40	0	0	Not including furniture, £458.
...			135	0	0	80	0	0	
174	0	0	9	0	0	...			
159	0	0	14	0	0	...			
20	0	0	18	0	0	53	0	0	
...			...			...			
...			...			...			
24	0	0	...			813	0	0	£813 proceeds of a Bazaar invested.
...			60	0	0	116	0	0	
...			87	0	0	78	0	0	
18	0	0	62	0	0	117	0	0	

Name of Hospital.	Source of								
	Year.	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
Bournemouth	1878	427	0	0				39	0	0
†Bournemouth (St Joseph's Home)	...	...			...			...		
Bourton-on-the-Water	1878	74	0	0	14	0	0	55	0	0
Bovey Tracey	1878	27	0	0	6	0	0	...		
Brackley	1877–8	163	0	0	...			40	0	0
Braintree	...	...			...			...		
†Bridgnorth	...	...			...			...		
Bridlington (Lloyd)	1878	68	0	0	75	0	0	110	0	0
Bridport	1878	125	0	0	1	0	0	56	0	0
Bromley	1878	242	0	0	143	0	0	...		
Bromsgrove	1878	92	0	0	66	0	0	105	0	0
Bromyard	1878	101	0	0	20	0	0	42	0	0
†Brotton	...	...			...			...		
Buckhurst Hill	1876	107	0	0	160	0	0	57	0	0
,,	1877	114	0	0	39	0	0	29	0	0
,,	1878	105	0	0	39	0	0	117	0	0
Burford (Oxford)	1878	70	0	0	11	0	0	59	0	0
Burford (Salop)	...	...			...			...		
*Capel	1874	170	0	0				11	0	0
*Chalfont St Peters	1874	117	0	0	5	0	0	28	0	0
Charlton Children's Home	1878	48	0	0	26	0	0	...		
Charlwood	1878	102	0	0	13	0	0	14	0	0
Charmouth	1876	38	0	0	38	0	0	14	0	0
,,	1877	38	0	0	8	0	0	...		
,,	1878	33	0	0	27	0	0	32	0	0
†Chelmsford	...	...			...			...		
Chesham	1877–8	153	0	0	2	0	0	71	0	0
Chipping Norton	...	...			...			...		
†Chumleigh	...	...			...			...		
Cirencester	1876	300	0	0	124	0	0	194	0	0
,,	1877	312	0	0	72	0	0	182	0	0
,,	1878	311	0	0	100	0	0	211	0	0
†Clayton	...	...			...			...		
*Clearwell	1875	89	0	0	13	0	0	16	0	0
Clevedon	1877–8	171	0	0				...		

Income.			Remarks.
Funded Interests, &c.	Patients' Payments.	Other.	
£ s. d.	£ s. d.	£ s. d.	
4 0 0	78 0 0	...	Including dispensary accounts.
...	...	...	
3 0 0	32 0 0	...	
...	1 0 0	...	Temporarily closed.
5 0 0	9 0 0	45 0 0	
...	...	...	No Reports issued. Expenses defrayed by Mr George Courtauld.
...	...	...	
57 0 0	27 0 0	2 0 0	Grant from Charity Trustees, £45.
79 0 0	2 0 0	27 0 0	Average deficit £20 to £30.
6 0 0	53 0 0	...	
...	34 0 0	...	
...	17 0 0	68 0 0	
...	...	...	
...	41 0 0	...	
2 0 0	32 0 0	...	
...	26 0 0	...	
...	15 0 0	...	
...	...	...	See Tenbury.
3 0 0	80 0 0	6 0 0	
...	39 0 0	...	
19 0 0	52 0 0	...	The expenditure in 1876 and 1878 much higher, owing to works of a permanent nature to buildings.
...	14 0 0	8 0 0	Balance in hand of Repairing Fund —£13, 8s. 3d.
1 0 0	...	...	
1 0 0	...	...	
1 0 0	1 0 0	...	
...	...	...	
32 0 0	22 0 0	1 0 0	
...	...	...	Mrs Burgess and her family give everything, and undertake management.
...	...	...	
...	77 0 0	25 0 0	
...	53 0 0	28 0 0	
...	49 0 0	22 0 0	
...	...	...	
29 0 0	...	5 0 0	Now closed for want of funds.
...	...	...	

Name of Hospital.	Source of								
	Year	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
Cleveland	1878	1010	0	0	186	0	0	90	0	0
Coleford (Lady Dunraven's	...	...			...			...		
Congleton	1876–7	129	0	0	2	0	0	47	0	0
,,	1877–8	137	0	0	7	0	0	18	0	0
Cranleigh	1876	81	0	0	36	0	0	...		
,,	1877	96	0	0	38	0	0	...		
,,	1878	93	0	0	40	0	0	...		
Crewkerne	1877–8	216	0	0	6	0	0	76	0	0
*Crimond	...	...			...			...		
Cromer	1878	139	0	0	34	0	0	24	0	0
Croydon	1878	1293	0	0	102	0	0	854	0	0
Darlington	...	...			...			...		
Dawlish	1877	124	0	0				48	0	0
,,	1878	122	0	0				40	0	0
*Deal	1875	81	0	0	30	0	0	...		
†Derby	...	...			...			...		
Devizes	1878	223	0	0	...			...		
†Dewsbury	...	...			...			...		
Dingwall	1876–7	36	0	0	15	0	0	25	0	0
Dinorben (Amlwch)	1877	28	0	0	...			1	0	0
Dinorvic	...	...			...			...		
*Ditchingham	1874	97	0	0	417	0	0	28	0	0
Dorking	1875	259	0	0	56	0	0	91	0	0
,,	1878	289	0	0	4	0	0	108	0	0
Dover	...	...			40	0	0	‡200	0	0
*Dowlais	...	...			...			...		
Driffield	1878–9	129	0	0	...			78	0	0
Dunster	1878	95	0	0	24	0	0	52	0	0
Ealing	1878	263	0	0				153	0	0
East Grimstead	...	...			...			...		
East Rudham	...	...			...			...		
Egham	1878	125	0	0	...			...		
Enfield	1878	127	0	0	119	0	0	35	0	0
Epsom and Ewell	1876	122	0	0	129	0	0	...		
,,	1877	127	0	0	92	0	0	22	0	0

Income.			Remarks.
Funded Interests, &c.	Patients' Payments.	Other.	
£ s. d.	£ s. d.	£ s. d.	
...	...	...	Accumulated debt to December 31, 1878, £1058, 11s. 1d.
...	...	...	Closed for want of funds.
...	31 0 0	8 0 0	The fund of £161, 6s. 8d. is paid to a reserve account, with the view of purchasing the present or other suitable premises.
...	29 0 0	1 0 0	
...	20 0 0	4 0 0	
...	35 0 0	1 0 0	
35 0 0	25 0 0	...	
...	...	...	
11 0 0	43 0 0	...	
131 0 0	447 0 0	16 0 0	General Hospital on the Cottage Hospital arrangement.
...	...	...	Supported at the entire cost of Miss Pease.
3 0 0	7 0 0	6 0 0	
3 0 0	15 0 0	9 0 0	
12 0 0	56 0 0	...	Including dispensary accounts.
...	...	...	
16 0 0	40 0 0	...	
...	...	...	
20 0 0	...	4 0 0	
...	...	...	
...	...	...	Closed.
...	119 0 0	14 0 0	
...	187 0 0	23 0 0	
4 0 0	174 0 0	...	
...	...	...	‡Subscribed by sanitary authorities.
...	...	...	No particulars sent.
...	27 0 0	8 0 0	
20 0 0	17 0 0	17 0 0	
...	113 0 0	...	
...	...	...	Now closed.
...	...	...	Now closed.
...	24 0 0	...	
...	8 0 0	...	
...	51 0 0	...	
...	65 0 0	...	£290 (part of proceeds of Bazaar) on deposit in Bank.

Name of Hospital.	Year.	Source of Subscriptions. £ s. d.	Donations. £ s. d.	Collections. £ s. d.
Epsom and Ewell	1878	125 0 0	75 0 0	18 0 0
Erith, Crayford, and Belvedere	1878	315 0 0		54 0 0
Fairford	1878	88 0 0	20 0 0	17 0 0
Felixstowe (Suffolk Convalescent Home)	1878–9	237 0 0	249 0 0	15 0 0
Forgue	1876–7	12 0 0		6 0 0
,,	1877–8	20 0 0		14 0 0
†Foston	...	...	...	...
*Fowey	...	...	...	...
Frome	1878	173 0 0	20 0 0	68 0 0
Fyvie	1879	...	...	...
Grantham	1876	457 0 0	6 0 0	201 0 0
,,	1877	411 0 0	23 0 0	206 0 0
,,	1878	469 0 0	16 0 0	224 0 0
Great Bookham	...	...	...	...
†Grimsby	...	...	...	...
*Guisborough	1875	219 0 0	...	...
Hambrook	1878	76 0 0	5 0 0	22 0 0
Harrogate	1878	103 0 0	33 0 0	184 0 0
Harrow (Copland Sodbury)	1875	46 0 0	...	9 0 0
Harrow-on-the-Hill	1878	162 0 0		81 0 0
Hatfield (Broad Oak)	1875	98 0 0	9 0 0	32 0 0
,, ,,	1876	94 0 0	11 0 0	19 0 0
,, ,,	1877	98 0 0	4 0 0	49 0 0
Hayes	1878	103 0 0		26 0 0
High Wycombe	1878	145 0 0	216 0 0	104 0 0
Hillingdon	1875	88 0 0	70 0 0	...
Hilston	...	...	...	...
Holmesdale	1878	318 0 0	58 0 0	...
Ilfracombe	1877	137 0 0		77 0 0
,,	1878	139 0 0		81 0 0
*Iver, Langley, and Denham	1875	71 0 0	4 0 0	...
Jarrow	1877	732 0 0	10 0 0	...
,,	1878	794 0 0	55 0 0	...

Income.			Remarks.
Funded Interests, &c.	Patients' Payments.	Other.	
£ s. d.	£ s. d.	£ s. d.	
4 0 0	51 0 0	109 0 0	
...	38 0 0	...	The dispensary connected with the hospital has been a great extra expense during the year.
...	...	...	
...	128 0 0	20 0 0	Debt of £150 is being steadily reduced.
81 0 0	16 0 0	...	
81 0 0	13 0 0	...	
...	...	...	
...	...	...	No Report issued. Many contributions in kind.
...	46 0 0	...	
...	...	...	Not yet built. Will be completed by the end of the year.
36 0 0	56 0 0	...	
33 0 0	97 0 0	...	
56 0 0	96 0 0	53 0 0	
...	...	...	Now closed.
...	...	...	
5 0 0	174 0 0	...	Workmen's contributions, £174.
4 0 0	34 0 0	...	
...	8 0 0	...	
107 0 0	10 0 0	18 0 0	
11 0 0	74 0 0	101 0 0	Children's fund, £24.
...	23 0 0	...	
...	25 0 0	...	
...	15 0 0	...	
...	24 0 0	...	
...	46 0 0	...	
3 0 0	14 0 0	10 0 0	
...	...	...	Now closed.
...	37 0 0	...	Reserve Fund, £340.
29 0 0	22 0 0	...	
29 0 0	8 0 0	...	
...	12 0 0	14 0 0	
...	5 0 0	...	£84 expended on capital account.
...	...	...	£137 ,, ,,

Name of Hospital.	Source of								
	Year.	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
†Keighley	...	...			...			...		
Kendal	1873	279	0	0	87	0	0	...		
,,	1874	403	0	0	87	0	0	...		
,,	1875	462	0	0	87	0	0	...		
Kidderminster Infirmary	1878	849	0	0	339	0	0	224	0	0
Knole	...	...			...			...		
Ledbury	1878	107	0	0				23	0	0
Leek	1878	202	0	0	2	0	0	85	0	0
*Litcham	1875	66	0	0	...			16	0	0
Littlehampton (St Mary)	1879	...			...			...		
Llangollen	1878	134	0	0	30	0	0	50	0	0
Longton	1878	459	0	0	133	0	0	47	0	0
Louth	1877–8	262	0	0	42	0	0	202	0	0
†Lowestoft	...	...			...			...		
Luton	1878	176	0	0	80	0	0	1	0	0
Lyme Regis	1875–7	176	0	0	43	0	0	3	0	0
Lynton	1878	76	0	0	6	0	0	26	0	0
Lytham	1878	72	0	0	16	0	0	93	0	0
Maidenhead	1879	...			...			...		
Malvern	1878	159	0	0	27	0	0	63	0	0
Mansfield Woodhouse	1877	82	0	0	...			46	0	0
Margate	1877–8	103	0	0	57	0	0	56	0	0
Market Rasen	1878	93	0	0	7	0	0	37	0	0
Melksham	1878	87	0	0	17	0	0	63	0	0
Mildenhall	1878	97	0	0	11	0	0	22	0	0
Milton Abbas	1878	17	0	0	...			...		
Mold	1878	1302	0	0				...		
Moreton Hampstead (Convalescent)	1878	200	0	0	13	0	0	19	0	0
Moreton-in-Marsh	1878	114	0	0	21	0	0	35	0	0
Mountsorrel	1879	...			...			...		
*Newick	1874	63	0	0	15	0	0	...		
Newton	1878	220	0	0	34	0	0	48	0	0
North Ormesby	1878	1009	0	0	186	0	0	90	0	0
Northallerton	1878	128	0	0	174	0	0	8	0	0

Income.						Remarks.
Funded Interests, &c.			Patients' Payments.			Other.			
£	s.	d.	£	s.	d.	£	s.	d.	
...			...			...			
3	0	0	7	0	0	...			
3	0	0	28	0	0	...			
2	0	0	13	0	0	14	0	0	
184	0	0	...			31	0	0	
...			...			...			Superseded by Holmesdale.
4	0	0	11	0	0	...			
7	0	0	48	0	0	...			
1	0	0	11	0	0	...			
...			...			...			Hospital not yet commenced. Possibly will be opened in May or June.
22	0	0	33	0	0	105	0	0	
...			..			224	0	0	Legacy, £150.
184	0	0	116	0	0	10	0	0	
...			...			...			
...			48	0	0	...			
...			22	0	0	...			Legacy of £90.
...			6	0	0	15	0	0	
4	0	0	56	0	0	...			
...			...			...			Hospital in course of erection.
20	0	0	39	0	0	...			
...			33	0	0	4	0	0	
5	0	0	24	0	0	40	0	0	
2	0	0	22	0	0	8	0	0	
1	0	0	33	0	0	...			
...			61	0	0	14	0	0	
142	0	0	19	0	0	...			
33	0	0	...			667	0	0	Opened 1st January 1879. Includes cost of erection.
...			64	0	0	16	0	0	
9	0	0	17	0	0	97	0	0	Legacy, £50.
...			...			...			Erected at cost of Mount Sorrel Granite Company.
4	0	0	57	0	0	9	0	0	
7	0	0	23	0	0	...			
...			...			467	0	0	Workmen's subscriptions, £643.
...			...			293	0	0	Bazaar, £293.

Name of Hospital.	Year.	Source of Subscriptions. £ s. d.	Donations. £ s. d.	Collections. £ s. d.
Oakeley	1878	...	...	...
*Oswestry	1875	334 0 0	100 0 0	11 0 0
Ottery St Mary	...	...	...	...
Oxlinch, near Stonehouse	...	...	...	...
Paulton	1877–8	315 0 0		47 0 0
Penrhyn (Carnarvon)	1878	3504 0 0	...	...
†Penzance (West Cornwall)	...	...	...	...
Petersfield	1876	147 0 0	40 0 0	42 0 0
,,	1877	138 0 0	18 0 0	24 0 0
,,	1878	138 0 0	20 0 0	55 0 0
Petworth	1878	50 0 0	10 0 0	33 0 0
Purton	1878–9	70 0 0	56 0 0	55 0 0
*Redruth	...	...	...	...
Reigate	1875–6	342 0 0	112 0 0	165 0 0
,,	1876–7	437 0 0	176 0 0	202 0 0
,,	1877–8	381 0 0	77 0 0	240 0 0
Richmond (Surrey)	1878	1081 0 0	98 0 0	494 0 0
Richmond (Yorks)	1867–77	544 0 0	3 0 0	19 0 0
,,	1878	54 0 0	1 0 0	25 0 0
Ross	1875	108 0 0		29 0 0
,,	1878	98 0 0	4 0 0	30 0 0
Rotherham	1876	1036 0 0	...	234 0 0
,,	1877	1088 0 0	...	228 0 0
,,	1878	1044 0 0	...	240 0 0
Royston	1876	102 0 0	...	25 0 0
,,	1877	99 0 0	...	26 0 0
,,	1878	122 0 0	7 0 0	44 0 0
Ruabon	1877	131 0 0	99 0 0	20 0 0
Rugby	1878	190 0 0	...	68 0 0
Rugeley	1877	194 0 0		49 0 0
,,	1878	248 0 0		51 0 0
Rugeley Convalescent Home	1878	101 0 0		9 0 0

Income.			Remarks.
Funded Interests, &c.	Patients' Payments.	Other.	
£ s. d.	£ s. d.	£ s. d.	
...	...	...	Expenses defrayed by subscription of a shilling a month from quarrymen to include their family.
...	14 0 0	...	
...	...	...	Supported entirely by the Founder. No Report.
...	...	...	Being supported solely by Mrs Potter and the fees of the patients. No books are kept beyond case-book, and no report is issued.
...	...	11 0 0	
74 0 0	...	27 0 0	
...	...	...	
2 0 0	43 0 0	2 0 0	
3 0 0	30 0 0	1 0 0	
1 0 0	42 0 0	12 0 0	
33 0 0	28 0 0	...	
1 0 0	20 0 0	...	
...	...	...	
7 0 0	146 0 0	...	Not including building expenses.
10 0 0	153 0 0	...	
8 0 0	154 0 0	...	
98 0 0	18 0 0	6 0 0	
...	34 0 0	10 0 0	
...	11 0 0	...	
...	17 0 0	4 0 0	Dispensary attached.
...	30 0 0	2 0 0	
94 0 0	...	118 0 0	Donations included with 'OTHER.'
100 0 0	...	1279 0 0	Invested £1000 in 1877.
129 0 0	...	157 0 0	
...	32 0 0	4 0 0	
...	31 0 0	2 0 0	
...	45 0 0	...	
3 0 0		...	Reserve Fund, £101.
5 0 0	‡122 0 0	...	‡Includes payments for out-patient tickets.
24 0 0	78 0 0	21 0 0	
17 0 0	64 0 0	26 0 0	
14 0 0	55 0 0	4 0 0	

Name of Hospital.	Source of								
	Year.	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
*St Albans	1875	272	0	0	72	0	0	98	0	0
St Andrews	1876	108	0	0				...		
,,	1877	140	0	0				...		
St Helen's	1878	1067	0	0	...			97	0	0
†St Leonards	...	...			...			...		
Saffron Walden	1877	540	0	0	17	0	0	115	0	0
,,	1878	553	0	0	19	0	0	90	0	0
Savernake	1878	429	0	0	5	0	0	264	0	0
Scarborough (Accident)	1878	135	0	0	26	0	0	191	0	0
Scarborough (Cottage)	1878	242	0	0	54	0	0	...		
Seacombe	1878	163	0	0	111	0	0	...		
*Seaforth	1874	90	0	0	...			10	0	0
Seaham Harbour	1878	146	0	0	19	0	0	19	0	0
Shaftesbury	1878	171	0	0	6	0	0	46	0	0
Shedfield	1876	78	0	0	9	0	0	20	0	0
,,	1877	64	0	0	8	0	0	...		
,,	1878	66	0	0	13	0	0	...		
†Sheffield (Children's Hospital)	...	...			...			...		
†Sheffield (Women's Hospital)	...	...			...			...		
Shepton Mallet	1876	164	0	0	...			122	0	0
,,	1877	169	0	0	...			134	0	0
,,	1878	193	0	0	...			117	0	0
Sherborne (Yeatman)	1878	371	0	0	71	0	0	209	0	0
Shipley	...	...			...			...		
Southam	...	...			...			...		
Southampton (St Mary's)	1878	135	0	0	122	0	0	33	0	0
Southsea	1877–8	84	0	0	236	0	0	31	0	0
,,	1878–9	109	0	0	61	0	0	15	0	0
†South Shields	...	...			...			...		
Spalding	1879	...			...			...		
Speen	1878	109	0	0	62	0	0	28	0	0
Stapleford	...	...			...			...		
Stockton	...	...			...			...		
Stony Stratford	1876	109	0	0	47	0	0	25	0	0

Income.			Remarks.
Funded Interests, &c.	Patients' Payments.	Other.	
£ s. d.	£ s. d.	£ s. d.	
7 0 0	...	100 0 0	Includes dispensary accounts.
...	34 0 0	10 0 0	
..	40 0 0	38 0 0	
...	107 0 0	5 0 0	
...	...	...	
238 0 0	41 0 0	13 0 0	
322 0 0	63 0 0	23 0 0	
99 0 0	8 0 0	6 0 0	
35 0 0	...	...	
..	202 0 0	...	
...	18 0 0	...	
...	...	...	Appears to be now entirely a dispensary.
...	11 0 0	...	
6 0 0	34 0 0	...	
...	7 0 0	...	
6 0 0	13 0 0	...	
6 0 0	19 0 0	...	
..	...	...	
...	...	...	
60 0 0	...	31 0 0	
63 0 0	...	22 0 0	
65 0 0	...	28 0 0	
131 0 0	...	32 0 0	
...	...	...	Expenses paid out of the late Sir Titus Salt's endowment of £1300 per annum for the sick and poor of the district.
...	...	...	Now closed.
53 0 0	...	302 0 0	Hospital solely for treatment of ulcerated legs and eczema. £329 of Balance invested.
...	199 0 0	147 0 0	Including furnishing, £265.
...	213 0 0	128 0 0	
...	...	...	
...	...	...	Not yet built.
20 0 0	35 0 0	8 0 0	
...	...	...	Now closed.
..	...	...	Now a general hospital.
5 0 0	21 0 0	10 0 0	

Name of Hospital.	Source of								
	Year.	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
Stony Stratford	1877	104	0	0	20	0	0	24	0	0
,,	1878	108	0	0	50	0	0	26	0	0
Stratford-upon-Avon	1878–9	368	0	0	13	0	0	94	0	0
Stratton	1876	102	0	0	13	0	0	23	0	0
,,	1877	102	0	0	12	0	0	19	0	0
,,	1878	107	0	0	8	0	0	23	0	0
Sudbury	1878	250	0	0	44	0	0	73	0	0
Sunderland	1877–8	182	0	0	5	0	0	2	0	0
Surbiton	1878	186	0	0	24	0	0	130	0	0
Swindon (New)	...	...			...			...		
Tenbury	1878	98	0	0	8	0	0	84	0	0
Tenby	1878	75	0	0	44	0	0	3	0	0
*Tetbury	1874	97	0	0	63	0	0	2	0	0
Tewkesbury	1877–8	263	0	0	40	0	0	93	0	0
Trowbridge	1878	142	0	0	22	0	0	77	0	0
Tunbridge Wells	1878–9	...			...			...		
*Ulverston	1875	350	0	0				63	0	0
*Wakefield	...	...			...			...		
*Walker	...	...			...			...		
Wallasey	1878	105	0	0	48	0	0	...		
*Walsall	1874	762	0	0				240	0	0
*Warminster	1878	47	0	0				56	0	0
†Warrington	...	...			...			...		
Warwick	1878	91	0	0	90	0	0	...		
Watlington	1878	102	0	0	3	0	0	37	0	0
Wells	1878	120	0	0	33	0	0	127	0	0
Weston Super Mare	1878	481	0	0	171	0	0	444	0	0
*Weybread	1875	319	0	0				...		
Weymouth Sanatorium	1874–5	258	0	0				...		
,,	1877–8	235	0	0				...		
,,	1878–9	214	0	0				...		
*Wimbledon	1875	141	0	0	88	0	0	27	0	0
†Wimbledon (Infectious Diseases)	...	...			...			...		
Wirksworth	1878	101	0	0	4	0	0	33	0	0
†Wisbeach (Fever)	...	...			...			...		

Income.									Remarks.
Funded Interests, &c.			Patients' Payments.			Other.			
£	s.	d.	£	s.	d.	£	s.	d.	
5	0	0	40	0	0	24	0	0	
5	0	0	32	0	0	21	0	0	
88	0	0	22	0	0	129	0	0	Annual Ball, £122.
...			34	0	0	...			
...			37	0	0	...			
...			44	0	0	...			
90	0	0	50	0	0	100	0	0	Legacy, £100.
...			53	0	0	544	0	0	Building cost £868, of which £530 has been raised by Bazaar.
59	0	0	26	0	0	...			
...			...			...			Under management of Great Western Railway Medical Fund.
...			26	0	0	7	0	0	
...			14	0	0	5	0	0	
...			23	0	0	...			
19	0	0	3	0	0	8	0	0	
14	0	0	22	0	0	6	0	0	
...			6	0	0	...			Provided by the Local Board of Health out of the rates.
3	0	0	1	0	0	...			
...			...			...			No particulars given.
...			...			...			
...			20	0	0	...			
3	0	0	...			277	0	0	
...			45	0	0	12	0	0	
...			...			...			
...			17	0	0	...			
2	0	0	35	0	0	15	0	0	
...			5	0	0	...			
123	0	0	70	0	0	...			
...			45	0	0	...			
138	0	0	208	0	0	...			£200 invested.
99	0	0	253	0	0	...			
209	0	0	218	0	0	...			£170 invested.
...			56	0	0	128	0	0	
...			...			...			
2	0	0	43	0	0	...			
...			...			...			

Name of Hospital.	Source of								
	Year.	Subscriptions.			Donations.			Collections.		
		£	s.	d.	£	s.	d.	£	s.	d.
Wisbeach (N. Camb'shire)	1878	392	0	0	...			153	0	0
*Woodford	1874	106	0	0	175	0	0	24	0	0
Woodhall Spa	1878	117	0	0	24	0	0	6	0	0
*Worksop	...	...			...			...		
Wrington	...	...			...			...		
Yate	...	...			...			...		
Yeovil	1877–8	140	0	0	65	0	0	132	0	0
*Yoxall	...	...			...			...		

Income.			Remarks.
Funded Interests, &c.	Patients' Payments.	Other.	
£ s. d.	£ s. d.	£ s. d.	
102 0 0	35 0 0	...	
1 0 0	51 0 0	1 0 0	
1 0 0	77 0 0	...	Owing to the limited character of the Spa (itself yet in its infancy) the Hospital is also small.
...	...	...	No separate accounts.
...	...	...	Not stated. Closed in 1869.
...	...	...	Now closed.
54 0 0	44 0 0	16 0 0	
...	...	...	

APP

LIST III.—ALPHABETICAL LIST OF COTTAGE OF ERECTION, AND

* Extracts from the Table appended to the first edition were sent to the has been received to two applications the figures given in the first in the Medical Directory of 1879, but no reply has been received

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
*Alloa	Near Stirling, N.B.	1868	... ...
Alnwick	Northumberland	...	... ...
Alton	Hants	1868	House rented. New hospital being built at cost of £1800.
Andover	Hampshire	1875	£2185, 12s. 10d.
Ashburton and Buckfastleigh	Devon	1876	House rented. No alterations. Furniture, fittings, and drugs cost £177, 14s.
Ashford	Kent	1870	(*a*) Two cottages adapted at a cost of £379 (*b*) New hospital built 1877–8, £3500.
*Balfour Hospital (Kirkwall)	N.B.	1836	Information refused
Bangor	Co. Down	1869	House rented
Barnsley (Beckett)	Yorkshire	1865	£6324
Barrow-in-Furness	Lancashire	1867	Eight houses rented
Barton-under-Needwood	Stafford	1879	£800
Beccles	Suffolk	1874	About £1800. Land (in value £100) given
*Beckenham	Kent	1872	Over £4000

ENDIX F.

HOSPITALS, SHOWING ENDOWMENTS, COST OTHER INFORMATION.

authorities of these Hospitals for any needful alterations, but as no reply
edition are reproduced. † The names of these Hospitals appear
to two requests for information.

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
...	... ...	..	...
...	... ...	...	...
£2080 consols, £1500 bequeathed	Out of endowment	Winchester	16
£200	Various subscriptions and donations. Sir C. Pressly gave £1000; Mr H. Thompson, £500; Mr W. Gue the site	Winchester	13
£130	By general subscriptions, the largest not exceeding £25. About £130 more than was actually required was raised, which is referred to under endowment	Exeter	21
£1000	(*a*) By subscription	Canterbury	12
£1363	(*b*) By donation as a memorial hospital		
...	... ...	...	...
...	Furniture given by Admiral Ward	Belfast	10
£12,197	Legacy and donations	Leeds	...
...	... ...,	Lancaster	35
None	Subscriptions	Birmingham	25
None	Subscriptions. Nearly £400 from Governors of Dispensary	Lowestoft	10
None	At sole cost of P. N. Hoare, Esq.	...	10

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Beckenham (St Agatha's Convalescent Home)	Kent	1876	... ...
Berwick	Berwick	1814	About £3500
Bideford	Devon	1850, extended 1873	Purchase-money of house and cost of alterations £492
Birkenhead (Fever)	Cheshire	...	Corporation manage
Birkenhead (Wirral Hospital)	Cheshire	...	... ...
Bodmin (East Cornwall)	Cornwall	1851	... ...
Boston	Lincoln	1871	£2000
Bournemouth	Hants	1869	About £1000
Bournemouth (St Joseph's Home)	Hampshire	...	... ...
Bourton-on-the-Water	Gloucester	1861	A new hospital was opened in 1879
Bovey Tracey	Devon	1871	Two cottages, with doors of communication
Brackley	Northampton	1877	A rented two-storied cottage
Braintree	Essex	...	... ...
Bridgenorth	Shropshire	...	... ...
Bridlington (Lloyd)	York	1868	£1800
Bridport	Dorset	1867	Conversion of four cottages. Cost about £450
Bromley	Kent	1869 rebuilt, 1875	£1700. Fittings, £150

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
None	Entirely private	London	10
£1000	Voluntary contributions	Edinburgh Infirmary	58
Nil.	By subscriptions and donations, and legacy of £100	Barnstaple	9
everything	... ...	...	...
...	... ...	...	...
£1513	... ...	...	...
About £533	Subscriptions, &c.	Lincoln	30
None	By subscriptions. Many gifts of furniture	Dorchester	20
...	... ...	...	...
None	Voluntary contributions	Cheltenham	17
None	Furnishing (£130) defrayed by secretary	Exeter	14
About £210 saved and invested in 2½ years out of income	Alterations and improvements cost £20	Oxford Northampton	22 22
...	By the late Mrs Courtauld	...	...
...	... ...	...	...
£60 per year	New hospital built in 1877 by subscription, £1500 by members of one family, £300 by residents in town of Bridlington	Hull	32
£80–90 a year (fluctuates)	By subscription	Dorchester	16
...	By subscription. Land given at peppercorn rent	Croydon	7

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Bromsgrove	Worcester	1878	Converted from three cottages at a total cost of £244, 10s.
Bromyard	Hereford	1869	Cottage rented
†Brotton	York	1874	... ...
Buckhurst Hill	Essex	1866	Cottage converted
Burford	Oxon	1868	Cottage altered. Cost £120
Burford	Salop	...	... ...
*Capel	Surrey	1866	... ...
*Chalfont St Peters	Bucks	1871	... ...
Charlton Children's Home	Wilts	1870	£434
Charlwood	Surrey	1873	Furniture, &c., £206
Charmouth	Dorset	1867	Cottage rented
Chelmsford	Essex	...	... ...
Chesham	Bucks	1867	£1015, and Iron Hospital cost £297
Chipping Norton	Oxon	1870	Mrs Burgess and her
†Chumleigh	Devon	1871	... ...
Cirencester	Gloucester	1875	About £1300
Clayton	Yorkshire	...	... ...
Clearwell	Gloucester	1870	About £800
Clevedon	Somerset	1875	Converted barn with additions. Probable cost (including furnishing, &c.), over £800

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
Nil.	Conversion, furnishing, &c., cost £410, 11s. 10d. Raised by donations from the town and districts	Worcester Birmingham	13 13
£100 legacy	... ...	Hereford	14
...	... ...	...	...
About £100	By subscription. Cost of alteration £100, given by landlord	London hospital	12
None	... ...	Oxford	20
...	... ...	...	...
None	Building, land, and furniture given by Mrs C. Braidwood	Guildford	..
...	Gift of Mr and Mrs Hibbert	...	...
...	Privately, and with the aid of a bazaar	...	...
None	Built by Rector. Site given by H. C. Wise, Esq., M.P. Furniture by donations, bazaar, &c.	...	...
None	... ...	Taunton	...
...	... ...	...	...
£1175, 9s. 3d. new 3 per cents.	Subscription. Free site given by Lord Chesham	Hemel Hempstead	8
family give	everything and undertake	manage	ment
...	... ...	...	...
...	Whole cost of erecting and furnishing hospital defrayed by present Earl Bathurst. The surgical instruments (which are very complete) were given by his mother, the late Hon. Mrs Seymour Bathurst	Stroud Gloucester	13 17
...	... ...	...	...
£29 per annum	Gift of Lady Dunraven	Monmouth	6
None	At expense of Sir Arthur Elton	Bristol	12

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Cleveland	York	1858 New building opened 1861	£2646
Coleford (Lady Dunraven)	Gloucester	...	... ...
Congleton	Cheshire	1866	House rented
Cranleigh	Surrey	1859	... ...
Crewkerne	Somerset	1866	Factory transformed at cost of about £300
*Crimond	Aberdeen	1866	... ...
Cromer	Norfolk	1866	Cottage rented
Croydon	Surrey	1867	A converted house. Purchase and conversion cost £10,750
Darlington	Durham	1869	... ...
Dawlish	Devon	1871	Cottage altered
*Deal	Kent	1863	About £1200
Derby	Derby	...	... ...
Devizes	Wilts	1872	£667
Dewsbury	Yorkshire	...	... .
Dingwall (Ross Memorial)	Ross	1873	£1300
Dinorben (Amlwch)	Anglesea	1873	£527
Dinorvic	Carnarvon	1861	... ...
*Ditchingham	Norfolk	1873	About £3000
Dorking	Surrey	1871	£2300
Dover	Kent	1870	£3100. Two separate houses. Laundries and disinfecting apparatus, with about 7 acres of land
*Dowlais	Glamorganshire	1870	... ...

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
None	Partly by gifts of promoters, and partly by public subscriptions	Middlesbro'	1½
...	... ...	...	...
None	Subscription	Macclesfield	8
None	The house (the old vicarage) is given rent free by the rector	Guildford County Hospital	9
£500	Building given by Mrs Bird. Alterations by subscription	Taunton	20
...	... ...	...	...
£350 consols	... ...	Norwich	22
£7610, 1s. 3d.	By subscription	London	10
...	Given by Miss E. G. Pease	...	...
£90	Subscriptions	Exeter	12
...	Subscriptions, bazaar, legacy, £500	Canterbury	20
...	... ...	...	...
£400	Subscriptions and bazaar. Land given by the Hon. G. Sotheron Estcourt	Bath	18
...	... ...	...	...
£500 invested	Subscriptions	Inverness	22
None	Subscriptions. Site given	Bangor	22
...	... ...	...	...
None	Subscription. Land given	...	...
£100 bequest	Subscriptions. Land given by Mr Hope	Guildford County Hospital	...
None	Donations partly; principally by money given by Dr Astley	Dover	1
...	... ...	...	...

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Driffield	York	1867	About £900
Dunster	Somerset	1867	Free gift
Ealing	Middlesex	1872	House rented
East Grinstead	Sussex	1863	Two cottages altered, &c., £150
East Rudham	Norfolk	1872	Cottage rented
Egham	Surrey	1872	New hospital in contemplation
Enfield	Middlesex	1875	£1632. Furniture, £215
Epsom and Ewell	Surrey	1873	Two cottages altered and furnished at cost of £111
Erith, Crayford, and Belvedere	Kent	1871	Land, £40. Building, £1861
Fairford	Gloucester	1867	Two cottages, with door of communication
Felixstowe (Suffolk Convalescent Home)	Suffolk	1868	Purchased for £1550
Forgue	Aberdeen, N.B.	1875	£1265 for building, £200 for land
†Foston	Stafford	1875	... .
*Fowey	Cornwall	1870	£450
Frome	Somerset	1875	House purchased for £550. Furniture, £100. Alterations, &c., £100
Fyvie	Aberdeen	1879	... ...
Grantham	Lincoln	1874	£5354. Furnishing £812
Great Bookham	York	1866	... ...
Grimsby	Lincoln	...	... ...
*Guisborough	York	1865	£4000
Hambrook	Gloucester	1867	Cottage altered, £80. Furniture, £100
Harrogate	York	1870	Two cottages purchased, £550. Alterations, £294
*Harrow (Copland Sodbury)	Middlesex	1871	... ...

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
None	Donations, with £200 on loan	Hull	20
£450	House given. Furniture bought by subscription	Taunton	22
£200	... ...	...	...
None	Cottage altered and given by Dr Rogers. Furnished by subscription	Tunbridge Wells	14
None	... ...	Lynn	15
...	... ...	...	...
None	Subscription	Tottenham	8
None	Subscriptions	London	16
None	Bazaar, £885. Donations, £1068	London	15
None	... ...	Cheltenham	23
None	By subscription	Ipswich	12
£2000	Gift of Mrs Morison of Mountblairy	Banff	18
...	... ...	...	...
None	Subscriptions	Truro	25
None	Subscriptions	Bath	13
...	... ...	...	...
£1500	Legacies and donations	Lincoln Co. Hospital	22
...	... ...	...	...
...	... ...	...	...
None	Gift of Admiral Challoner	...	...
None	Subscriptions	Bristol	4
None	Subscriptions	Leeds	18
£2700	Given by Miss Copland	...	...

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Harrow-on-the-Hill	Middlesex	1872	... ...
Hatfield (Broad Oak)	Essex	1867	... ...
Hayes	Middlesex	1874	Hired cottage at first. New hospital opened 1876 at cost of over £500
High Wycombe	Bucks	1875	£1240
*Hillingdon	Middlesex	1868	... ...
Hilston	Hereford	1875	... ...
Homesdale	Kent	1873	About £1200
Ilfracombe	Devon	1864	About £1000
Iver, Langley, and Denham	Bucks	1863	Cottage rented
Jarrow-on-Tyne	Durham	1870	... .
†Keighley	York	1876	... ...
Kendal	Westmoreland	1869	£2000
Kidderminster Infirmary	Worcester	1821	£11,000
Knole	Kent	1868	... ...
Ledbury	Hereford	1873	House altered
Leek	Stafford	1870	Not known
*Litcham	Norfolk	1868	Two cottages altered
Littlehampton (St Mary)	Sussex	1879	... ...
Llangollen	Denbigh	1876	A gift to the town of Llangollen by the late Wm. Wagstaff, Esq., in memory of his wife
Longton	Stafford	1868	About £1000
Louth	Lincolnshire	1873	£1700
Lowestoft	Suffolk	...	... ...
Luton	Bedford	1872	Cottage altered

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
None	... ...	...	...
None	Cottage given by G. A. Lowndes, Esq.	Chelmsford	16
None	Donations	St Mary's	12
None	Subscriptions. Land given by Lord Carrington	Aylesbury	16
£100	Founded by Miss Greville	London	...
...	Supported by Mrs Graham	...	...
None	Subscription	Maidstone	17
		London	21
£1200	Given by Miss Tyrrell	Barnstaple	10
None	... ...	Windsor	6
...	Gift of C. M. Palmer, Esq., M.P.	Newcastle	6
...	... ...	...	...
Not endowed	Gift of one family	Lancaster	23
£4448	Voluntary subscriptions	...	...
...	... ...	...	...
£100 from balances	Subscription	...	15
£500 legacy, & two legacies of £100 each	Given entirely by Mrs Alsop	Hartshill-Stoke	12
None	Subscription	Lynn	20
...	... ...	...	...
£595	... ...	Wexham	11
...	Subscription	Hartshill-Stoke	4
£5000	Public subscription	Lincoln	30
...	... ...	...	...
None	... ...	Hitchin	9
		Bedford	20

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Lyme Regis	Dorset	1873	An ordinary cottage was taken for the purpose.
Lynton	Devon	1874	£682, including furniture
Lytham	Lancashire	1871	£2000, with furniture
Maidenhead	Berks	1879	£1700
Malvern	Worcester	1868	£1800
Mansfield Woodhouse	Notts	1867	About £2000. New building opened in 1877
Margate	Kent	1876	Purchase, alterations, and furnishing, £930. New wing, &c., now building, £650
Market Rasen	Lincolnshire	1869	House bought, £400. Alterations, £50
Melksham	Wilts	1868	Cottage (altered by landlord) rented
Mildenhall	Suffolk	1868	Building altered, £500
Milton Abbas	Dorset	1873	£2000
Mold	Flint	1879	£1725
Moreton Hampstead (Convalescent)	Devon	1873	Dwelling-house made suitable for the purpose
Moreton-in-Marsh	Gloucester	1873	£997 including furniture. Addition in 1879 of Board and matron's rooms, and other rooms as yet unappropriated
Mountsorrel	Leicester	1879	Old school used as cottage
*Newick	Sussex	1869	Cottage altered
Newton	Devon	1873	House purchased on freehold site for £750
North Ormesby	York	1859	£2646

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
£175	... ...	Dorchester	25
None	Subscriptions. The carting given by farmers, and land by James Lean, Esq.	Barnstaple	18
£100	Given by J. T. Clifton, Esq.	Preston	14
...	Subscription	Windsor	6
£606	Subscription. £600 from an extinct charity. Furniture given	Worcester	8
...	Subscription. Site given	Nottingham	16
£100	Donations. Special gift of £500 for new wing	Canterbury	17
None	Subscription	Lincoln	15
None	... ...	Bath	12
None	Half by a patient. Half by subscription	Bury St Edmunds	12
Endowed by Baron Hambro'	Built by Baron Hambro'	Dorchester	11
None	Voluntary subscriptions	Chester Infirmary	12
None	Rented for the first 5 years at £60, but now purchased by the Misses Phillips of Torville, Torquay, who also pay the matron's salary	Devon and Exeter	12
£2000 consols	Subscription. Bazaar, &c. Site and some furniture given	Worcester	30
...	Founded at cost of Mountsorrel Granite Company for their men	...	...
None	... ...	Brighton	...
None	By donations	Torquay	7
None	Land and half of cost by three persons. Rest by subscription	Middlesbro'	...

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Northallerton	York	1877	Furnishing and fittings, £163, 10s.
Oakeley Hospital (The)	Merionethsh.	1870	... ...
*Oswestry	Salop	1868	£2300
Ottery St Mary	Devon	1870	... ...
Oxlinch, near Stonehouse	Gloucester	1871	Farmhouse altered
Paulton	Somerset	1872	Alteration and furnishing £134
Penrhyn	Carnarvon	1843	... ...
Penzance (West Cornwall)	Cornwall	...	... ...
Petersfield	Hampshire	1871	£1578, including new operating room
Petworth	Sussex	1868	... ...
Purton, near Swindon	Wilts	1877	About £700. Furnished by Mrs C. Wykeham Martin at a cost of about £120
*Redruth	Cornwall	1863	£2000
Reigate	Surrey	1866	£2765. West wing erected at a cost (including the purchase of additional land and furniture) of about £970
Richmond	Surrey	1868	House and grounds purchased for about £2500
Richmond	Yorkshire	1867	... ...
Ross	Hereford	1873	£300. Cottage converted
Rotherham	York	1871	£9863, including site
Royston	Cambridge	1870	£1010, including furniture
Ruabon	Denbigh	1869	Cottage altered
Rugby	Warwick	1869	None
Rugeley	Stafford	1871	£1100. Furniture, £300

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
None	... ...	N. Ormesby, Middlesbro'	25
		County York	30
...	By owner	Bangor	30
None	Subscriptions	Shrewsbury	19
...	... ...	Exeter	12
...	Mrs R. Potter rents it and furnishes it	Stroud	4
£800	£200 was given by the late Lord Hylton to build the Kilmoredon wing	Bath	11
None	Given by Lord Penrhyn	...	...
...	... ...	...	...
£21	Donations, bazaars, &c.	Portsmouth	17
£33, 8/6 pr. an.	Built by Lord Leconfield	...	13
None	Given by Mrs C. Wykeham Martin	Bath	31
...	Gift of Lord Roberts	Truro	10
£300 consols	Subscriptions. Amount for west wing raised by a donation from one gentleman of £600, and other donations, the balance from the ordinary subscription account	Croydon	...
£3900	By subscriptions and donations	St George's, London	9
None	A cottage rented for 11 years. In 1877 a hospital was built by a lady, and presented to the town.	Darlington	12
£100	... ...	Hereford	14
£3041	Subscriptions and donations	Sheffield	6
None	Subscriptions. Free site by Lord Dacre	...	...
None	At expense of Sir W. W. Wynn, Bart.	Wrexham	6
None	... ...	Northampton	20
£404	Subscription and bazaar	Stafford	9

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Rugeley (Convalescent Home)	Stafford	1862	... ...
*St Albans	Herts	1870	£1400
St Andrews	Fife, N.B.	1866	House rented. Small villa, quite detached
St Helens	Lancashire	1870	... ...
St Leonards	Sussex	...	... ...
Saffron Walden	Essex	1866	£4500
Savernake	Wilts	1866	£5000
Scarborough (Accident)	York	1852	£1200 to £1300
,, (Cottage)	York	1870	£1340. Wing added in 1878 at cost of £800
Seacombe	Cheshire	1871	£1300
Seaforth	Lancashire	1850	Modern house
Seaham Harbour	Durham	1844	... ...
Shaftesbury	Dorset	1871	About £2000
Shedfield	Hampshire	1867	About £500
Sheffield (Children's Hospital)	Yorkshire	...	... ...
Sheffield (Women's Hospital)	Yorkshire	...	... ...
Shepton Mallet	Somerset	1869	£1300
Sherborne (Yeatman)	Dorset	1866	£4000
Shipley	Yorkshire	1868	Built and endowed by
Southam	Warwick	...	... ...
Southampton (St Mary's)	Hampshire	1872	... ...
Southsea (Home for Women)	Hampshire	1877	Two adjoining houses rented. Furnishing £265
South Shields	Durham	...	... ...
Spalding	Lincolnshire	1879	£20,000 left by Miss Johnson
Speen	Berkshire	1869	£600

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
£344	Entirely given by Mrs and Miss Levett	Stafford	9
£2400	Subscription	Hemel Hempstead	18
None	... ...	Dundee Infirmary	14
...	... ...	...	...
...	... ...	...	...
£5000 legacy for erection £7000	£5000 legacy	Cambridge	14
£99	Free site. Subscriptions	Salisbury Infirmary	27
None	Subscriptions, concerts, &c.	York	...
£825	Most of building given by Mrs Wright. Money for new wing by contributions and bazaar	York	...
None	By subscription	Birkenhead	...
...	... ...	...	...
...	... ...	...	...
£2200	Subscriptions. Site given	...	...
None	Free site. Subscription	Portsmouth	10
...	... ...	...	...
...	... ...	...	...
None	Subscription	Bath	17
£3574	By subscription	Dorchester	18
the late Sir	Titus Salt, Bart., Bradford.	Bradford	3
...	... ...	...	...
£1600	Entirely by Mrs Black	R. S. Hunts Infirmary	2
None	... ...	Portsmouth	1½
...	... ...	...	...
...	... ...	...	...
£500 from balances and legacies	Built by late vicar. Furnished by subscription	Reading	19

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
Stapleford	Notts	1870	Cottage altered
Stockton	Durham	1862	House rented
Stony Stratford	Bucks	1872	Alterations cost £560
Stratford-on-Avon	Warwick	1823	About £3000
Stratton	Cornwall	1867	£321
Sudbury	Suffolk	1867	£1500
Sunderland (Hospital for Children)	Durham	1864	... ...
Surbiton	Surrey	1878	Rented, but funds are accumulating for the erection of a suitable building when land can be obtained
Swindon (New)	Wilts	1871	Erected by the employés of the Gt. Western Railway for accidents
Tenbury	Salop	1869	Cottage altered
Tenby	Pembroke	1871	£550. Furniture, £150
*Tetbury	Gloucester	1870	£2800
Tewkesbury	Gloucester	1864	£1000
Trowbridge	Wilts	1870	House rented
Tunbridge Wells	Kent	...	About £900, including furniture
Ulverston	Lancashire	1873	£1896. Furniture, &c., £284
*Wakefield	Yorkshire	1871	... ...
*Walker	Northumberland	1870	£1550
Wallasey	Cheshire	1866	... ...
Walsall	Staffordshire	1863	New building just erected
Warminster	Wiltshire	1866	Farmhouse altered, £300
Warrington	Lancashire	...	... ...
Warwick	Warwick	1874	Old dispensary in part fitted up
Watlington	Oxford	1873	Cottage altered at a cost of £50. Furniture and fittings £180 extra
Wells	Somerset	1875	... ...
Weston Super Mare	Somerset	1865	... ...

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
...	... ...	...	...
None	... ...	...	...
£100 Russian 5% bonds	It was given by one person	Northampton	15
£2437	By subscriptions and donation	Leamington	12
None	Voluntary contributions	Barnstaple	33
£37 per annum	Subscription	Colchester	16
...	... ...	...	12
£1590 towards new building	... ...	The London Hospitals	...
...	... ...	...	...
None	Subscription	Worcester	22
None	Subscription	Carmarthen	...
None	At sole expense of S. S. Estcourt, Esq.	Gloucester	23
None	Subscriptions by all classes	Cheltenham	9
£230	... ...	...	...
...	Out of general district rate	...	...
None	Site given. Subscription	...	10
...	... ...	...	...
None	Gift of C. Mitchell, Esq.	Newcastle	4
None	Subscription	...	...
...	Subscription	Birmingham	9
...	Subscription	Bath	17
...	... ...	...	...
...	... ...	...	...
...	By a concert, church collections, and special appeal	Radcliffe Infirmary, Oxford	16
None	Public subscription	Bath or Bristol	20 20
£2695	... ...	...	...

Name of Hospital, and County in which it is situated.		Date of Formation.	Cost of Erection.
*Weybread	Suffolk	1868	... ...
Weymouth Sanatorium	Dorset	1848	£2000
*Wimbledon	Surrey	1870	About £1200
Wimbledon (Infectious Diseases)	Surrey	...	... ...
Wirksworth	Derbyshire	1867	Cottage altered, £120. Furniture, £43, 10/
Wisbeach (Fever)	Cambridge	...	... ...
Wisbeach (North Cambridgeshire)	Cambridge	1873	... ...
*Woodford	Essex	1866	Cottage altered and enlarged at various times
Woodhall Spa	Lincolnshire	1873	Cottage rented
*Worksop	Notts	1870	Two cottages altered
Wrington	Somerset	1864	Cottage altered at a cost of £92, 10/
Yate	Gloucester	1870	Cottage altered
Yeovil	Somerset	1871	£2000, exclusive of £500 for the land
*Yoxall	Staffordshire	1873	Built and endowed by Miss M. Ingram

Endowment.	How money for Erection was raised.	Nearest General Hospital	
		Name.	Distance. Miles.
...	... ...	...	...
£2000, bank stock	Subscriptions and donations	Dorset Co.	...
None	Subscription	London	...
...	... ...	...	...
£85	... ...	Derby	13
...	... ...	...	...
£2334	Given by Miss Southwell	King's Lynn	15
None	Subscription	...	10
None	... ...	Lincoln Co.	16
...	Subscriptions and bazaar	Sheffield	15
None	Subscription	Bristol	10
None	Cottage and furniture given	Bristol	13
Various small endowments	By subscriptions raised in the neighbourhood	Sherborne	6
...	... ...	...	...

APP

LIST IV.—ALPHABETICAL LIST OF COTTAGE OF BEDS, PATIENTS, SALARIES OF PAYMENTS,

* Extracts from the Table appended to the first edition were sent to the has been received to two applications the figures given in the first in the Medical Directory of 1879, but no reply has been received to

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
*Alloa	Near Stirling, N.B.	...	15	...	...
Alnwick	Northumberland	...	...	...	...
Alton	Hants	£25	7	6	56
Andover	Hampshire	Nil.	8	6	44
Ashburton and Buckfastleigh	Devon	£25	8	...	27
Ashford	Kent	£35	10	6	56
*Balfour Hospital (Kirkwall)	N.B.	...	18	..	...
Bangor	Co. Down	£14	4	...	10
Barnsley (Beckett)	Yorkshire	None	20	10	81
Barrow-in-Furness	Lancashire	£350	Over 34	...	...
Barton-under-Needwood	Stafford	None	5 and 2 cots	...	...
Beccles	Suffolk	...	9 and cot	5 to 7	72
*Beckenham	Kent	...	...	3 to 4	40
Beckenham (St Agatha's Convalescent Home)	Kent	...	18	...	58
Berwick	Berwick	None	16	3 to 5	22
Bideford	Devon	Ground rent £4	6	4	86
Birkenhead(Fever)	Cheshire	...	...	...	...

ENDIX G.

HOSPITALS, SHOWING RENT PAID, NUMBER MEDICAL OFFICERS, RATES OF PATIENTS' &c.

authorities of these Hospitals for any needful alterations, but as no reply
edition are reproduced. † The names of these Hospitals appear
two requests for information.

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
...	5/ and under	Union sometimes	
...	... ...	... ...	
Nil.	2/6 to 8/	... ...	
Nil.	From 3/ to 10/6. Average 5/	Not Admitted	
Nil.	2/6 about	Union allows 2/6 per week	
Nil.	7/ and upwards	Paupers not admitted	
...	... ...	... ...	
Nil.	5/ to 10/	Not admitted	
...	Nil.	Nil.	
2 paid house surgeons	According to means	Union pays	Not a cottage hospital now. Rebuilt since 1877.
Nil.	... ...	... ...	In course of erection.
Pd. dispenser	3/6 to 7/6 if considered able to pay	Union subscribes	
Nil.	3/6 per week	... ...	Servants of subscribers pay 10/ a week; of non-subscribers, 20/ a week.
Nil.	8/6	... ...	
Nil.	No fixed scale	Not admissible	
£30	According to circumstances	... ...	Infirmary was added 1874.
...	... ...	... ...	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
Birkenhead (Wirral Hospital)	Cheshire	...	...	...	...
Bodmin (East Cornwall)	Cornwall	...	...	...	44
Boston	Lincoln	£2, 14s. ground rent	12	10	102
Bournemouth	Hants	...	6	2 to 3	48
Bournemouth (St Joseph's Home)	Hampshire	...	...	...	...
Bourton-on-the Water	Gloucester	£12 per an.	8	5	42
Bovey Tracey	Devon	£14	6	...	4
Brackley	Northampton	£15	4	2	25
Braintree	Essex	...	4	...	...
Bridgenorth	Shropshire	...	...	...	...
Bridlington (Lloyd)	York	...	11	...	35
Bridport	Dorset	£17	8, room for 14 to 16	5	45
Bromley	Kent	...	8	...	70
Bromsgrove	Worcester	£32, lease 14 years	8	...	50
Bromyard	Hereford	£16	5	5	31
†Brotton	York	...	30	...	40
Buckhurst Hill	Essex	£40. Landlord returns half the rent	5, 6 on emergency	...	34

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
...	... ...	... ...	
Nil.	... ...	... ...	
Nil.	5/ adults 2/6 children	5/	
Pd. ho. surg.	6/ weekly	6/ weekly	
...	... ...	... ...	
Nil.	Committee decides	By Union	
Nil.	1/ to 3/6	No arrangement	Temporarily closed.
Nil.	Average— Men, 3/6 pr. wk. Women, 2/6 ,, Child, 1/ ,,	Nil. Board of Guardians give £6, 6s. per an.	
Nil.	From 3/6 a week according to ability	... ...	Expenses defrayed by Mr Geo. Courtauld.
...	... ...	... ...	
Paid a total sum of £26	3/ ordinary, 6/ farm servants, 10/ seamen, 12/ strangers from extended area	Paid by Union	Benefits of hospital extended to the whole of East Riding of Yorkshire, August 1878.
Nil.	2/6 on admission for one month	... ...	
Nil.	2/ to 5/	... ...	
Nil.	According to circumstances of patients. No charge for accidents.	... ...	
Nil.	3/ general charge	By Union	
Pd. ho. surg.	... ...	... ...	
Nil.	5/ patients, 7/6 convalescents, 15/ domestics	... ...	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
Burford	Oxon	£10	6	3	29
Burford	Salop	...	...	...	...
*Capel	Surrey	...	10	...	35
*Chalfont St Peters	Bucks	...	6	...	34
Charlton Children's Home	Wilts	Nil.	10	10	...
Charlwood	Surrey	Nil.	4	1	13
Charmouth	Dorset	£7	3	2	15
Chelmsford	Essex	...	..	..	...
Chesham	Bucks	None	7	5	30
Chipping Norton	Oxon	...	...	...	...
†Chumleigh	Devon	...	6	...	25
Cirencester	Gloucester	1s. a year	9	All	89
Clayton	Yorkshire	...	...	...	...
Clearwell	Gloucester	...	6	...	...
Clevedon	Somerset	None	11	6	59
Cleveland	York	None	30	All	234
Coleford (Lady Dunraven)	Gloucester	...	...	...	...
Congleton	Cheshire	£25	8	All	63
Cranleigh	Surrey	None	6	4	25. Average of 3 years, 26
Crewkerne	Somerset	...	13	5	64
*Crimond	Aberdeen	...	...	...	...
Cromer	Norfolk	£18, 10s.	8	...	38

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	When able	Union pays	
...	... ...	... ...	See Tenbury.
Nil.	3/6	Part by Union	
Nil.	Committee decides	... ...	
Paid	2/6 with recommendation, 4/ otherwise	... ...	
Nil.	2/6, not less	... ...	
Nil.	According to circumstances	... ...	
...	... ...	... ...	
Nil.	2/6, not less	2/6 by Union	
...	... ...	... ...	
...	... ...	... ...	
Nil.	From 2/6 to 5/ or thereabout	... ...	
...	... ...	... ...	
Nil.	10/6	5/ by Union	Now closed for want of funds.
Nil.	7/6 and 10/6. In either case also 2/6 a week from patient when able to pay	By Board of Guardians	Accident cases in immediate neighbourhood admitted free of all charge.
Ho. surg. £75	Nil.	Nil.	
...	... ...	... ...	The hospital has been closed for some months from the want of funds.
Nil.	2/6	Not admissible	
Nil.	From 3/6 to 5/ per week	3/6 to 5/ per week	
Nil.	2/ average	By Union	
...	... ...	... ...	Stated to be still in existence, but no particulars obtainable.
...	2/6 to 5/	2/6 by Union	

Name of Hospital, and County in which it is situated.		Rent Paid.	No of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
Croydon	Surrey	...	30	...	305
Darlington	Durham	...	7	7	...
Dawlish	Devon	£17	7 to 8	3 to 4	29
*Deal	Kent	...	5	...	10
Derby	Derby	...	...	...	...
Devizes	Wilts	...	6	4	34
Dewsbury	Yorkshire	...	...	...	...
Dingwall (Ross Memorial)	Ross	...	8	2	27
Dinorben (Amlwch)	Anglesea	...	4	...	...
Dinorvic	Carnarvon	...	...	...	...
*Ditchingham	Norfolk	...	...	...	112
Dorking	Surrey	2/6 ground rent	15	...	123
Dover	Kent	...	30	variable	40
*Dowlais	Glamorganshire	...	...	...	...
Driffield	York	...	6	5	In-patients 47, out-patients 63
Dunster	Somerset	...	7	7	36
Ealing	Middlesex	£40	...	...	73
East Grinstead	Sussex	...	7	...	...
East Rudham	Norfolk	£15	4	...	...
Egham	Surrey	...	...	...	...

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	5/	... ...	Accidents free. There are also 4 free beds, to which patients are admitted at the discretion of the head officers.
5 Gs. per an.	Nil.	Nil.	
...	2/6 to 7/	... ...	
Nil.	16/6 or by letter	... ...	
...	... ...	... ...	
...	2/6 to 5/	... ...	
...	... ...	... ...	
None	None as yet	Parishes (6) subscribe £5 annually	
...	3/6 to 7/	Paid by Union	
...	... ...	... ...	Closed.
...	5/ adults	Paid by Union	
Nil.	5/ adults 3/6 children	None	
Nil.	Boro' pays £150 pr. an. for 12 beds 10/ to 15/ a week. Rural Sanitary Authority (for non-pauper cases) £50 per an. for 6 beds	Paid by Union	
...	... ...	... ...	No particulars sent.
Nil.	2/	Special arrangement. Out-patients pay 1/ per week	
Nil.	1/ to 2/6	By Union	
...	Committee decides	... ...	
...	3/6 to 5/	Paid by Union	Now closed.
...	1/6	Nil.	Now closed.
...	... ...	... ...	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
Enfield	Middlesex	...	7	5	33
Epsom and Ewell	Surrey	£52	10	4	58
Erith, Crayford, and Belvedere	Kent	...	8	...	65
Fairford	Gloucester	£10	8	3 to 4	24
Felixstowe(Suffolk Convalescent Home)	Suffolk	None	30	18	150
Forgue	Aberdeen, N.B.	None	8	4	17
†Foston	Stafford	...	3	...	25
*Fowey	Cornwall	Ground rent 10/ per an.	8	...	40
Frome	Somerset	...	11	...	64
Fyvie	Aberdeen	...	...	...	...
Grantham	Lincoln	Nil.	27	26	87
Great Bookham	York	...	...	...	...
Grimsby	Lincoln	...	...	...	...
*Guisborough	York	...	20 or more	...	40
Hambrook	Gloucester	£12	6	...	51
Harrogate	York	...	6	5	51
*Harrow (Copland Sodbury)	Middlesex	...	6	2	...
Harrow-on-the-Hill	Middlesex	...	8	...	46
Hatfield (Broad Oak)	Essex	1/	8	...	42
Hayes	Middlesex	...	5	All	25
High Wycombe	Bucks	...	8	...	150

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
...	2/6 to 7/6 5/ to 10/6 servants	22 cases received gratuitously	
Nil.	5/ women, 7/6 men, 10/ distant and convalescent cases	... ...	
...	2/6 to 20/	Paid by Union	
...	From 2/6. Free to £1, 1/ subscribers	Paid by Union	
23	5/	None admitted	Only open from May 1 to November 30 in each year.
£10	Males 3/6, females 2/6, boys and girls 2/ to 3/	None admitted	
...	... ...	... ...	
Nil.	Committee decides	Sometimes	Medical officer supplies medicines.
...	Fixed by Committee	Paid by Union	
...	... ...	... ...	Not yet built. Will be completed by the end of the year
Nil.	3/6 and upwards	7/	
...	... ...	... ...	Closed in 1868 except in very special cases.
...	... ...	... ...	
Club doctor attends	Workmen subscribe ½d. a week	... ...	
...	7/. Never more	Paid by Union	
Nil.	Nil.	... ...	
£50	3/	By Union	
...	3/6 to 9/	... ...	
Nil.	5/	If able	
...	2/ to 7/ according to their circumstances	... ...	
...	3/ to 6/	3/ by Union	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
*Hillingdon	Middlesex	...	4	...	29
Hilston	Hereford	...	5	...	...
Homesdale	Kent	Ground rent £14	8 to 10	5	50
Ilfracombe	Devon	None	16	6	59
Iver, Langley, and Denham	Bucks	£20	7	5 to 6	44
Jarrow-on-Tyne	Durham	...	11	4	69
†Keighley	York	£12	...	...	28
Kendal	Westmoreland	Nil.	26	10	109
Kidderminster Infirmary	Worcester	Nil.	28	...	154
Knole	Kent	...	...	...	...
Ledbury	Hereford	£15	4	...	29
Leek	Stafford	...	10 & 2 cots	...	73
*Litcham	Norfolk	£15	7 to 8	...	28
Littlehampton (St Mary)	Sussex	...	...	...	...
Llangollen	Denbigh	None	6	4·75	38
Longton	Stafford	...	30	...	118
Louth	Lincolnshire	None	20	10	97
Lowestoft	Suffolk	...	...	...	...
Luton	Bedford	£37	11	5 to 6	43

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
...	2/ to 7/	... ...	
...	... ...	... ...	Closed. Only out-door patients now attended.
Nil.	3/6 to 10/6	3/6	
Nil.	Free to neighbourhood ; 10/ others	... ...	Preference always given to Ilfracombe and neighbouring parishes.
...	2/ to 4/	... ...	
Paid	... ...	... ...	
...	... ...	... ...	
Nil.	5/	Nil.	11 beds not yet completed.
...	Nil.	... ...	
...	... ...	... ...	Superseded by Holmesdale.
Nil. Paid by patients. (Doctors club of 4000 members)	3/ to 5/ 2/ children 2/6 minimum	Paid by Union Not admitted	
...	2/6 to 5/	... ...	
...	... ...	... ...	Hospital not yet commenced. Possibly will be opened in May or June.
Nil.	According to their circumstances, but not less than 2/6 per week	... ...	
Nil.	Variable	... ...	
Dispenser £80	3/6	3/6	
...	... ...	... ...	
Nil.	2/6 to 3/6	Not received	New hospital under consideration.

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878–79.
Lyme Regis	Dorset	£10	4	2	Average 15
Lynton	Devon	None	5	2½	15
Lytham	Lancashire	...	10	6 or 8	33
Maidenhead	Berks	...	8	...	...
Malvern	Worcester	...	12	4	58
Mansfield Woodhouse	Notts	...	12 or 14	About 6	41 in the new
Margate	Kent	...	At present 5, with new ward 9	...	25
Market Rasen	Lincolnshire	...	6	4	17
Melksham	Wilts	£20	5	...	36
Mildenhall	Suffolk	...	8	6	51
Milton Abbas	Dorset	...	5 & 2 cots	...	10
Mold	Flint	None	6	...	...
Moreton Hampstead Convalescent)	Devon	Freehold	14, shortly to be increased to 22	10	133
Moreton-in-Marsh	Gloucester	...	7. To be increased	...	35
Mountsorrel	Leicester	£10	3	...	...
*Newick	Sussex	£15	6	...	21

Salary of Medical Officers.	Patient's Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	2/6 to 10/	2/6	
Nil.	2/ labourers and servants	2/ paid by Union	
...	3/6 to 7/ surrounding district, 12/ if from a distance	... ...	
...	... ...	... ...	Hospital in course of erection.
Nil.	From 2/6 to 15/, according to the circumstances of patient. A fixed sum of 7/ for servants	No paupers as such admitted	Accidents are admitted gratuitously, unless the patient is manifestly capable of paying something.
...	5/ men 3/6 women and children	By arrangement with Guardians	
Nil.	3/6 to 7/	3/	
Nil.	2/6	Not admitted	
Nil.	5/. Not more	5/ paid by Union	
Fees in surgical cases	5/ adults 3/6 children	Paid by Union	
Nil.	3/6	2/6	
Nil.	2/6 and upwards	... ...	Opened 1st June 1879.
Nil.	2/6	2/6	A charge of 5/ a week has this year been adopted for servants who come for change, their situations being kept for them.
...	Variable from 2/6	... ...	
...	... ...	... ...	
Allowance of £10 for drugs	5/ average	Union subscription £10	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878–79.
Newton	Devon	...	10	6	60
North Ormesby	York	...	30	...	...
Northallerton	York	£50. In future, £35	5	3½	30
Oakeley Hospital (The)	Merionethsh.	...	12	6	43
*Oswestry	Salop	...	12 & a cot	8	46
Ottery St Mary	Devon	...	7	...	50
Oxlinch, near Stonehouse	Gloucester	£10	6	...	25
Paulton	Somerset	£14	10	8	107
Penrhyn	Carnarvon	...	13	...	...
Penzance (West Cornwall)	Cornwall	...	...	...	...
Petersfield	Hampshire	...	6	4 to 5	48
Petworth	Sussex	...	8	...	28
Purton, near Swindon	Wilts	None	5	...	19
*Redruth	Cornwall	...	30	17¼	124
Reigate	Surrey	...	16 & 2 cots	17	131
Richmond	Surrey	None	21	17	176

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	2/6	2/6	
Pd. ho. surgeon	Special cases pay	... ...	
Nil.	None	Not admitted	
...	... ...	... ...	
...	... ...	... ...	
...	3/6 average	Union declines to pay anything	
Nil.	6/ and under	Paid by Union	Being supported solely by Mrs Potter and the fees of the patients. No books are kept beyond case book, and no report is issued.
Nil.	Nothing. Gentlemen's servants 7/, others 5/	2/6 paid by Union	£600 of endowment by bazaar.
...	For club patients	Not admitted	
...	... ...	.. ...	
Nil., except the advantage mentioned in next column	4/ to 8/ generally, 2/6 for children. The medical officer may always have 1 patient in free	5/	Many patients are admitted free. Accidents are received at all times without question.
...	1/6 to 12/	5/ paid by Union	
Nil.	2/6 to 5/	Paid by the Board of Guardians	
...	... ...	... ...	
Nil.	2/6 to 10/6 7/6 to 10/6 servants	... ...	
House Surgeon £100	Nil.	Nil.	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878-79.
Richmond	Yorkshire	Nominal	4	1	2
Ross	Hereford	...	6	3	26
Rotherham	York	...	30	16·5	132
Royston	Cambridge	...	7	4	60
Ruabon	Denbigh	Rent free	6	...	21
Rugby	Warwick	£25 per an.	12	10	54
Rugeley	Stafford	None	12	6	55
Rugeley (Convalescent Home)	Stafford	...	8	6	17
*St Albans	Herts	...	8	...	56
St Andrews	Fife, N.B.	£30	7	...	31
St Helens	Lancashire	...	...	...	101
St Leonards	Sussex	...	...	...	...
Saffron Walden	Essex	None	36	15 to 20	139
Savernake	Wilts	...	22	17 and 18	205
Scarborough(Accident)	York	...	4	...	10
,, (Cottage)	York	...	40	35	205
Seacombe	Cheshire	None	10	5	78
Seaforth	Lancashire	£30	2	...	...
Seaham Harbour	Durham	...	24	...	38
Shaftesbury	Dorset	...	7	...	47
Shedfield	Hampshire	...	8	...	22
Sheffield (Children's Hospital)	Yorkshire	...	...	...	...
Sheffield (Women's Hospital)	Yorkshire	...	...	...	...
Shepton Mallet	Somerset	...	12	7 to 28	100

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	15/ a week for non-subscribers, 10/ for subscribers	Not admitted	
...	3/6 and upwards	Not admitted	New hospital about to be commenced.
£100	Nil.	Nil.	
...	3/6 adults 2/6 children	Paid by Union	
Nil.	Nil.	Not admitted	
Nil.	5/ per week	Free	
Nil.	5/ to 10/6	One free bed exists for these	
Nil.	7/	Not admitted	
...	Nil.	Nil.	
Nil.	5/. 7/ for servants	... ...	
...	7/ a week	... ...	
...	... ...	... ...	
Nil.	1/6. Single men in clubs ⅔ of weekly club money	... ...	
Nil.	... ...	... ...	Out-patients 2/6 for six weeks.
Pd. ho. surg.	Nil.	Not admitted	
Nil.	5/ to 10/	Not admitted	
Nil.	2/6 to 15/	Not admitted	
...	... ...	Not admitted	
£30	13/. Seamen free	10/6	
...	2/ to 8/	Paid by Union	
Nil.	5/ clubs, 10/ servants in service, 8/ convalescents	2/6	
...	... ...	... ...	
...	... ...	... ...	
Nil.	12/	Not admitted	Very exceptional a patient pays for maintenance. New hospital in contemplation.

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878–79.
Sherborne (Yeatman)	Dorset	None	21	14	127
Shipley	Yorkshire	...	10	Say 6	56
Southam	Warwick	...	...	...	...
Southampton (St Mary's)	Hampshire	...	2 at first, now none	...	225
Southsea (Home for Women)	Hampshire	£65	11	5	70 from 1st July 1878 to 30th June 1879
South Shields	Durham	...	...	...	...
Spalding	Lincolnshire	...	20	...	...
Speen	Berkshire	...	6	4	41
Stapleford	Notts	...	...	...	...
Stockton	Durham	£15	31	...	...
Stony Stratford	Bucks	£6	6	2½	26
Stratford-on-Avon	Warwick	None	23	18	138
Stratton	Cornwall	£2	6	5	...
Sudbury	Suffolk	...	20	12	137
Sunderland (Hospital for Children)	Durham	£40	6	6	36
Surbiton	Surrey	...	...	...	28
Swindon (New)	Wilts	...	7	...	...
Tenbury	Salop	Nominal	6 to 7	3	38
Tenby	Pembroke	Gd. Rt. £5	7	...	9
*Tetbury	Gloucester	...	8	...	39
Tewkesbury	Gloucester	...	10	...	60

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	No payments	Not admitted	
Paid out of endowment	None	None	No report issued.
...	... ...	... ...	Now closed.
Hon. surg.	Patients pay for bandages	... ...	Hospital solely for treatment of ulcerated legs and eczema.
Nil.	1st class £1, 1/ and £1, 3/6, 2nd class 12/3	... ...	
...	... ...	... ...	
...	... ...	... ...	Not yet built.
...	3/ to 7/	Not admitted. Very poor patients are received free	
...	... ...	... ...	Now closed.
...	... ...	... ...	Now a general hospital.
...	4/ and upwards	Go to Northampton Infirmary	
Nil.	Free by ticket or 1/ per day, accidents 1/6 per diem	Not received	
Nil.	2/6 to 5/	3/6	
...	2/	Paid by Union	
Nil.	2/6 to 10/6	... ..	
Nil.	Nil.	... ...	
...	... ...	... ...	
...	3/6 average	Not admitted	
Nil.	3/6 to 10/	Admitted free if parish will not pay	
...	Variable	2/6 paid by Union	
...	... ...	... ...	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878–79.
Trowbridge	Wilts	£15	6	...	27
Tunbridge Wells	Kent	£5 gd. rent	16 maximum	...	7
Ulverston	Lancashire	...	12 or more	...	24
*Wakefield	Yorkshire	...	...	...	...
*Walker	Northumberland	...	16	7 to 77	87
Wallasey	Cheshire	...	10	...	54
Walsall	Staffordshire	...	30	...	...
Warminster	Wiltshire	Nominal	7	6 to 7	41
Warrington	Lancashire	...	...	...	...
Warwick	Warwick	...	5	...	52
Watlington	Oxford	£16	7	...	21
Wells	Somerset	None	6	4	30
Weston Super Mare	Somerset	...	32	...	...
*Weybread	Suffolk	...	18	...	46
Weymouth Sanatorium	Dorset	None	25	12	107
*Wimbledon	Surrey	...	9	3 to 4	47
Wimbledon (Infectious Diseases)	Surrey	...	...	...	...
Wirksworth	Derbyshire	£8	7	...	38
Wisbeach (Fever)	Cambridge	...	...	...	...
Wisbeach (North Cambridgeshire)	Cambridge	...	16	...	161
*Woodford	Essex	£40	6	...	38
Woodhall Spa	Lincolnshire	£15	12	10	45
*Worksop	Notts	£15	5	...	...

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
...	3/ to 10/	... ...	
Paid by fees	Patients pay for food only	... ...	Provided by the Local Board of Health out of the rates.
...	At option of patients	... ...	
...	... ...	... ...	No particulars given.
Nil.	6d. per quarter paid by workmen of district	... ...	
...	2/6 to 5/	... ...	
...	Nil.	... ...	
...	2/6 and upwards	2/6	
...	... ...	... ...	
...	2/6 to 6/	... ...	Chiefly a dispensary.
Nil.	From 3/6	... ...	
Nil.	Seldom obtained	... ...	
Pd. ho. surgeon £70	5/	... ...	
...	... ...	... ...	
Nil.	7/ to 10/	Not admitted	For women and children only.
...	Variable	Not admitted	
...	... ...	... ...	
...	3/	Paid by Union	
...	... ...	... ...	
Pd. ho. surgeon £130	3/6. Not less	3/6. Union subscribes £12	
Nil.	5/ ordinary, 7/6 convalescents, 15/ servants	Not admitted	
£10, 10s.	10/	... ...	10/ a week rendered necessary owing to the cost of baths, the speciality of the place.
...	... ...	Not admitted	

Name of Hospital, and County in which it is situated.		Rent Paid.	No. of Beds.	Average number Occupied.	No. of Patients admitted 1878–79.
Wrington	Somerset	£10 always returned by the landlord	5	3	29
Yate	Gloucester	...	4 to 5	3	...
Yeovil	Somerset	...	20. At present only 8 are allowed tobefilled at once	8	54
*Yoxall	Staffordshire	...	5	...	25

Salary of Medical Officers.	Patients' Payments per Week.		Remarks.
	Ordinary.	Pauper.	
Nil.	2/6 to 10/ per week	Guardians subscribe £2, 2/ per an. and have tickets	
Nil.	3/	Paid by Union	Hospital now closed.
Nil.	Decided by Committee. Not less than 2/ per week	Not admitted	
...	... ...	... ...	

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NEILL AND COMPANY, EDINBURGH,
GOVERNMENT BOOK AND LAW PRINTERS FOR SCOTLAND.

OPINIONS OF THE PRESS

ON THE FIRST EDITION OF

COTTAGE HOSPITALS.

London: J. & A. Churchill, 1877.

Standard.—To all those, and they are now many, who are interested in the work of cottage hospitals, Mr BURDETT'S compendium on the subject will be found a most useful handbook. He writes after long and careful experience, and enters fully into their nature, work, and value; the difficulties which beset them, and the best means of making them as prosperous and beneficial as their best friends can wish.

Daily News.—The continual extension of the admirable system of cottage hospitals sufficiently explains the appearance of a little volume, entitled "The Cottage Hospital," by Mr H. C. BURDETT, a gentleman who has had considerable experience of hospital management and administration. This handy little book is at once a practical instructor and a guide to the cottage hospitals of the kingdom.

Pall Mall Gazette.—It is evident that no pains have been spared to make this volume a complete authority on the subject. Cottage hospital construction, the proper method of nursing, the domestic management of the patients, the rules at present adopted in the different institutions, midwifery in cottage hospitals,—these are a few of the topics upon which ample information is given in this carefully prepared volume.

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British Medical Journal.—Cottage hospitals have done good service already, and may do more. Hence a sensible, handy, and complete work on their organisation and management cannot be otherwise than useful; and, as far as we can judge, Mr BURDETT'S work contains all the information which could be required by any one who undertakes to found or to manage a cottage hospital, and will, no doubt, be both popular and useful. Cottage hospitals answer their own purpose, and that an admirable one, without in any way interfering with the functions of large general hospitals. We wish them success most heartily, and we hope Mr BURDETT'S work will promote it.

Lancet.—The book gives many useful and important particulars relating to cottage hospitals.

Medical Times and Gazette.—A good work on the organisation and management of institutions so popular and of such recognised utility cannot fail to be of value; and such a work Mr BURDETT'S book, on the whole, is. It contains a vast amount of practical information, and may on that ground be strongly recommended to all who may wish to found, or may have to manage, a cottage hospital. They will find, we think, advice founded on experience, on pretty well every subject that they are likely to be called upon to deal with.

Dublin Journal of Medical Science.—Mr BURDETT has spared no pains to collect information and tabulate particulars with regard to cottage hospitals. From this information, and Mr BURDETT'S personal experience of hospital management, this little work has been constructed. It consists of a statement of carefully-arranged facts and elaborate details, which we consider will be found useful to all persons who take an interest in hospital construction and management. We have been unable to discover that anything is omitted which is requisite for a just appreciation of the value and requirements of cottage hospitals.

Opinions of the Press.

Birmingham Medical Review.—Mr BURDETT has been long connected with hospitals, and he is well qualified, by personal experience, to write upon their management. He has produced an excellent book, one full of practical information, and likely to prove a serviceable guide to many who are engaged in the promotion and conduct of cottage hospitals. In spite of faults, the book has many merits. The author appears to have included in his work a consideration of almost every detail in the management and arrangement of a cottage hospital. He writes as one who has seen and knows the things he describes, and his constant aim seems to have been to make his writing of practical utility. We feel sure this little volume will be of interest and service to a large number of readers.

Sanitary Record.—We are glad to be enabled to congratulate Mr BURDETT very heartily upon the production of this, his first completed work. He has brought to bear upon the subject not only the experience which ten years' superintendence of general hospitals has given him, but an amount of patience and care—which cannot be too highly commended—in collating the heterogeneous materials which exist for a book on "Cottage Hospitals." Not only do we find in his work information of the most detailed and useful kind on the particular subject of the title, but the question of hospital management generally is ably dealt with in it. Indeed we do not hesitate to say that as a text-book of practical reference, it deserves to be in the hands of every one interested in the subject of hospital management, and it is gratifying to know that this opinion is shared by a very large section of the medical profession. Mr BURDETT has done very much to make the path of managers of cottage hospitals easier than it has been, and we trust that a perusal of his admirable little book will open the eyes of the richer classes of the country to the benefits which a small expense incurred by the maintenance of a cottage hospital would confer upon their dependants, and the poorer classes resident in their vicinity.

Local Government Chronicle.—Mr BURDETT entered upon a good and much-needed work when he undertook to write a really comprehensive book on cottage hospital management. But it was an undertaking that might easily have been spoiled. It has been thoroughly well accomplished. The great distinction of the book is its thoroughly practical character. The book is at once a safe and sufficient guide in establishing a cottage hospital, and a judicious and practical manual for its management.

Metropolitan.—The advantages of cottage hospitals are lucidly pointed out by the author, whose style, we may remark, is clear and correct, and whose remarks exhibit that common sense which we hear of so often, and meet so seldom. We are of opinion that this book should be in the hands of every one interested in the sick poor.

Architect.—The advantages of cottage hospitals would appear to be no longer doubtful. It is time that the subject should be presented in such a form to the public as to enable them to judge of the merits of the system, and to decide whether it is deserving of their interest. This has now been done in an admirable manner by Mr BURDETT. We do not pretend to be able to estimate its worth to the promoters and officers of cottage hospitals, but if the book is as interesting to them as a great part of it is to architects, there need be no doubt about its success.

Public Health.—The author of this book has supplied an undoubted want. With a considerable acquaintance with the management of hospitals, and an extended acquaintance with many other zealous and able managers of such institutions, Mr BURDETT has enjoyed special facilities for his work. The book is likely to be as useful as the institutions it advocates, and that is saying a good deal.

Builder.—Mr BURDETT'S book contains much valuable information on the subject, and may be studied as well by those who are connected with existing cottage hospitals, as by those who project the foundation of one.

Saturday Review.—Mr BURDETT deserves the thanks of the medical profession as well as of every one interested in the sick poor, for the admirable little book he has compiled. Notwithstanding all impediments, Mr BURDETT has succeeded in collecting a large mass of information, and arranging it in so clear and business-like a fashion that no one in possession of his book need hesitate to start a cottage hospital because he does not know how to set about the matter.

There is a record of the successes and failures in a large number of instances. There is sound advice which will enable beginners to escape the pitfalls into which others have fallen, and to avoid those mistakes which, once made, are often irreparable. There are short hints upon the proper treatment of cases requiring prompt attention, which, if printed separately, would make a more useful tract for distribution than many of those ordinarily left by the district visitor. There are, besides, plans for the erection of suitable buildings, and directions how to make use of an ordinary small cottage.

Spectator.—At a time when so much discussion is going on as to the relative merits of large and small hospitals, it cannot but be satisfactory to notice the appearance of a good and reliable work on cottage hospitals, by one whose experience in such matters entitles him to speak with more than ordinary authority. Every subject has been treated of, from the building of the hospital itself to the diet of the patients.

Athenæum.—We can cordially recommend the book to all who are interested in the movement for the establishment of cottage hospitals, and especially to any persons who may be about to found a new one. It will be found to contain much information on all needful points—the probable first cost, and that of maintenance, rules relative to the medical staff, construction, and sanitary arrangements, furniture and fittings, the nursing system, ladies' committees; on all these matters the writer has good advice to give—advice which is specially valuable, because he has carefully studied the causes of success when there has been success, and failure when there has been failure in existing hospitals, the latter, we are glad to find, being quite the exception.

Land and Water.—The appearance of a work like this, written by one who is in every way competent to treat of the subject, will be cordially welcomed, not only by the medical profession, but likewise by the public at large, who are specially interested in the extension of hospital accommodation. Had Mr BURDETT experienced less difficulty in collecting his information, it is possible, perhaps, that having been able to extend his inquiries over a wider and more extended area, he might have been in a position to furnish other and entirely different details in addition. This would have made his work more complete, but we cannot think it would have enhanced its value to any appreciable extent.

Freemasons' Chronicle.—Few men are better qualified than Mr BURDETT to write on a subject of this character. In order to set before the public all the information it would be likely to need, he has consulted those best qualified to contribute to the general stock of knowledge, the result being a treatise which, if not complete in all essentials, is, nevertheless, clear and precise in all its details, and trustworthy in all matters, both of theory and practice, so far as it has been possible to lay down the one or determine the other. We cannot, indeed, speak too highly of the general plan of the work, of the manner in which the subject has been treated, or of the matter which has been collected together for the purpose of illustrating it in detail. Statistics of the character which Mr BURDETT has collected speak for themselves, while his experience and the evident ability he has displayed in his treatment and arrangement of the work are a sufficient guarantee of its excellence. We may even go so far as to say that, considering it is a book which must chiefly interest medical practitioners and the managers of hospitals, it is even interesting to the general reader in many parts.

The Queen.—This work supplies every needful information on the construction, management, and organisation of this excellent system for encouraging self-help among a class who are too apt to look upon hospital relief as a right, due to them from the community under all circumstances. We can heartily recommend the Manual.

Churchman's Shilling Magazine.—The author has spared no pains to make his work complete in every department, and the tabular statements afford some valuable statistics of the working, cost, and number of patients in existing hospitals. We cannot speak too highly of the volume, and we cordially commend it to our readers' notice.

Illustrated London News.—A considerable amount of pains has evidently been taken in the compilation. Mr BURDETT'S book will be welcome to all who are directly or indirectly aiding the organisation or superintending the arrangement of these small rural refuges for the sick.

BY THE SAME AUTHOR.

PAY HOSPITALS AND PAYING WARDS THROUGHOUT THE WORLD:

Facts in support of a Rearrangement of the English System of Medical Relief.

London: J. & A. Churchill, 1879.

Extracts from Reviews.

British Medical Journal.—Mr BURDETT is well known to the medical profession as an advocate of provident dispensaries and hospitals, and as the originator of the Home Hospitals Association. All who are interested in these subjects will be gratified by this volume. In it the author deals with the whole question of pay hospitals and dispensaries in a large and comprehensive spirit. We commend the book to all who are interested in the improvement of medical relief,—and which of us is not? It is clearly and pleasantly written, it is full of facts, and it contains many valuable suggestions. This work cannot fail to stimulate the reforming movements which have been gathering strength in this country during the last few years.

Medical Times and Gazette.—We can well believe that the work has occupied Mr BURDETT'S spare time for three years; and the result is highly creditable to his industry and perseverance. Altogether the book is well worth reading. It contains a mass of interesting and useful information.

Dublin Medical Journal.—Mr BURDETT has done much to merit his well-earned fame as a promoter of sanitary reform and a contributor to the literature of state medicine. In the department of public medicine, which relates to hospitals and their economies, Mr BURDETT has not only merited the fame which he has earned, but may be fairly characterised as the highest authority upon the branch of the subject which is discussed in the work now before us.

London Medical Record.—The profession owe to Mr BURDETT a debt of gratitude for his energetic and sustained efforts towards a reform in the present unsystematic and improvident system of medical relief, and he has now codified in the present work the large fund of information which he has gathered together on the subject. As a comprehensive and able review of the whole question of pay hospitals and pay wards, Mr BURDETT'S book should commend itself to the study of every one connected with public medical institutions.

Birmingham Medical Review.—The author of this book is well known to the profession as a writer, and above all as a worker in the important duties of hospital administration. Altogether the impression we derived from reading Mr BURDETT'S book has been a very pleasant one. He holds out a prospect of so many good things that we would all wish to see realised, and he appears to be so full of enthusiasm in the cause he has at heart, that he makes us cordially sympathise with him and heartily wish him success in all his endeavours.

Sanitary Record.—The cause of pay hospitals has a very earnest and powerful advocate in Mr BURDETT, whose book should be in the hands of every hospital manager in the country who desires to rescue the institution in which he is interested from the chronic impecuniosity to which too many hospitals seem to be subject.

Extracts from Reviews.

Revue d' Hygiene.—This book, although written more especially from an administrative point of view, touches also upon questions which intimately concern the public health. The author is an ardent apostle, convinced of the usefulness of hospitals for the well-to-do in a great number of maladies; and it is both a pleasure and a profit to read his book.

Boston Medical and Surgical Journal.—Mr HENRY C. BURDETT is one of the highest authorities of Great Britain on the subject of hospital administration.

New York Medical Journal.—Mr BURDETT has devoted many years to the study of hospital administration and management, and his book and plans are well worth perusal.

The American Practitioner.—Mr BURDETT displays and discusses the whole scheme of hospital accommodation with a comprehensive understanding of its nature and extent, and he does it in fulness without prolixity, and in a clear catholic spirit with perspicacity. The book is a stepping stone, a valuable contribution in the way of introduction to a review and candid reconsideration of the whole subject of legal and organised charity,—a theme which much demands reconsideration and readjustment in the whole civilised world.—A good and timely book and suggestive.

Daily News.—Strictly a Medical Work, but its contents no less than its unaffected style are well calculated to attract the lay reader. It has the rare merit of propounding no merely speculative theories.

Pall Mall Gazette.—Mr BURDETT affirms that the present system of medical relief is unsatisfactory and unjust. He points out the abuses to which free hospitals are liable, and argues that each person should be required to pay something, however small, towards the expense of his treatment when in hospital. The present system of free medical relief tends to make the great mass of our population less and less independent. It is clear that something might be done and ought to be done to diminish the imposition practised by unscrupulous patients who get advice gratis for which they can well afford to pay. A great deal of interesting information is to be found in this book with regard to continental hospitals.

St James's Gazette.—There is much to be learnt from the full and interesting details given in this volume, and Mr BURDETT has accumulated a large amount of information on this subject.

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