### **Report of the Committee of the Portland Hospital.**

#### **Contributors**

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London School of Hygiene and Tropical Medicine

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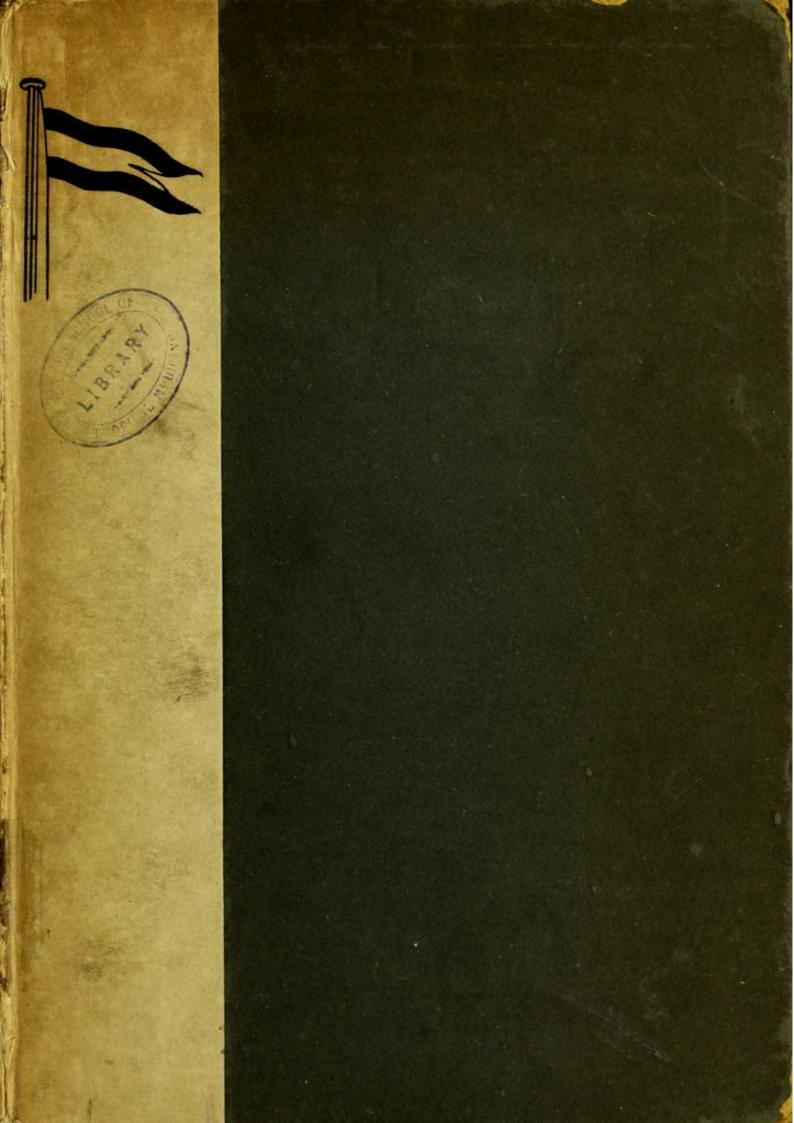
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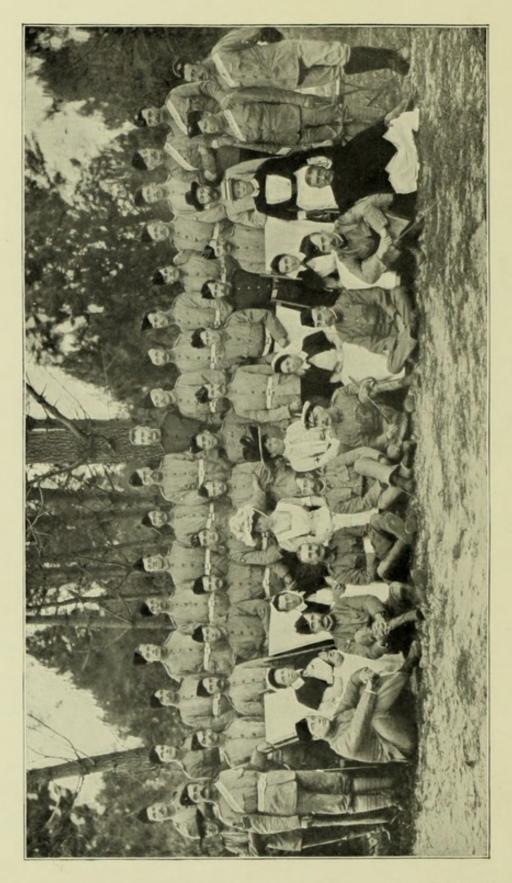




### REPORT OF THE COMMITTEE OF THE PORTLAND HOSPITAL

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[Frontispiece,



## REPORT

OF THE

# Committee of the Portland Hospital

in South africa

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LONDON JOHN MURRAY, ALBEMARLE STREET



## Committee of the Portland Hospital

President.
The EARL OF DERBY, K.G.

Vice-Presidents.

ADELINE, DUCHESS OF BEDFORD. | The DUKE OF PORTLAND, K.G.

Hon. Treasurer.

J. L. LANGMAN, Esq.

Hon. Secretary.

Major-General The Hon. H. EATON.

Committee.

The DUCHESS OF BUCCLEUCH. The DUCHESS OF WESTMINSTER. The DUCHESS OF ST ALBANS. The Countess Grosvenor. The Countess Somers. The Countess of Bective. The Countess of Airlie. LADY HENRY BENTINCK. LADY WANTAGE. MRS JOSCELINE BAGOT. The EARL GREY. SIR J. P. DICKSON POYNDER, Bart. SIR THOMAS SMITH, Bart. LORD HENRY BENTINCK, M.P. J. WERNHER, Esq. CAPTAIN J. BAGOT, M.P. E. CLIFFORD, Esq.

DR W. J. COLLINS.



### INTRODUCTION

To the Committee of the Portland Hospital.

THE following is the Report which is issued in accordance with the resolution passed at a meeting of the Committee on 10th November 1900—"That an illustrated Report should be published of the working of the Portland Hospital in South Africa." The compilation of this was left to a Sub-Committee formed as follows:

Her Grace Adeline, Duchess of Bedford.
Mr Anthony Bowlby, F.R.C.S.
Dr Howard Tooth, M.D., F.R.C.P.
Surgeon-Colonel C. R. Kilkelly, Grenadier Guards.
And Major-General The Hon. H. Eaton, Secretary.

It is divided into three heads as follows:

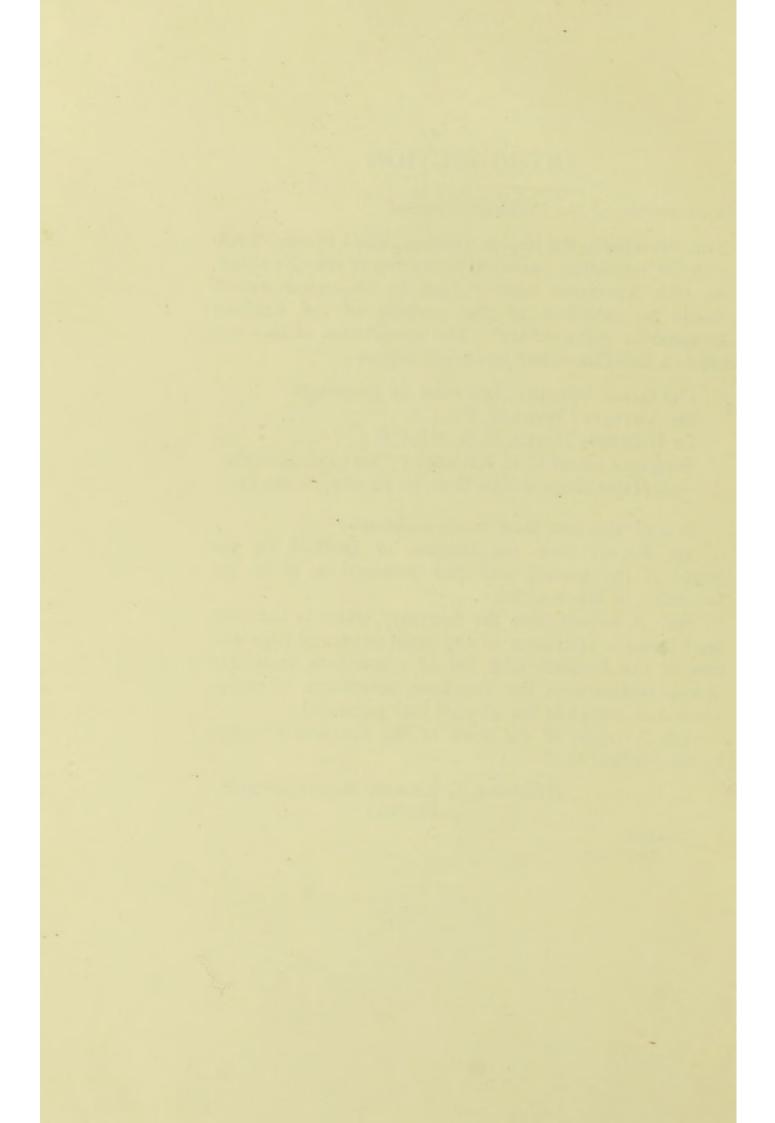
Ist. Report from the Duchess of Bedford on the origin of the scheme and first propositions as to the formation of the hospital.

2nd. A Report from the Secretary, which is naturally brief, being a statement of the equipment and organisation of the hospital, with list of subscribers, statement of expenditure from the Treasurer, inventories of equipment, and complete list of staff and personnel.

3rd. A report of the work of the Portland Hospital by the Medical Staff.

HERBERT F. EATON, Major-General, Secretary.

London, April 1901.





### ORIGIN OF THE SCHEME

A FEW words concerning the origin of the scheme which led to the formation of the Portland Hospital will not, I think, be without special interest and importance in view of the fact that the movement in favour of voluntary hospitals thus received its first impetus:—

The Boer War, which has developed into so momentous a struggle, opened (as every one will remember) on 11th October 1899, and a few days later a letter written to *The Times* by Mr George Stoker suggested the advisability of providing ambulances, or movable hospitals, supported by voluntary efforts, in order to supplement the provision for the sick and wounded made by the official department in connection with the War Office.

Mr Stoker wrote with experience on the subject, having taken charge of an ambulance during the Zulu War of 1879, and his arguments aroused the attention of Mrs Josceline Bagot, who promptly resolved to give practical shape to the suggestion. This lady had long been interested in measures for the relief of the sick and suffering, and her appeal was generously responded to. On receiving promises of financial help sufficient to start the enterprise, a provisional Committee was formed, and met at 26 Hertford Street, on 22nd November 1899, to consider the work of organisation.

This was by no means an easy task as there was no precedent which would serve for our guidance under the existing conditions. Mr Stoker placed his varied experience at our service, and, as the subsequent reports show, the proposal took a highly practical shape and effected a most beneficial work on behalf of the sick and wounded.

In considering the initiation of a scheme of this nature, it is interesting to note the combinations of various elements which eventually ensure success. Without paradox it may perhaps be said that the obstacles which encounter the development of any movement are among the most valuable of these elements. The mere fact that a private undertaking entered the lines hitherto reserved to official organisations is sufficient to explain the existence of some difficulty in the earlier stages, but common sense and good-will were not absent on either side, and a working scheme was speedily set on foot.

The promoters of the Portland Hospital may be said, without arrogating to themselves any undue importance, to have set the type of the voluntary hospitals which subsequently became so marked a feature in the war. Although on a small scale compared with the Base Hospital at Deelfontein, organised by the Imperial Yeomanry Hospital Committee, this larger organisation followed on the general lines adopted by the Portland Hospital. This was also the case in regard to the Welsh, Scotch, Irish, Langman, and other voluntary efforts.

Amid the desolation, misery, and suffering entailed by the war, we cannot but dwell with thankfulness on the courageous sacrifices made on behalf of the sufferers by those who devoted themselves to their relief. It is very good to remember that all classes have taken a share in this work, and that none have grudged any labour in the cause. The simple desire to do what they could, and to do it well, has alone guided the friends and fellow-workers who, in many varying ways, and with large differences of opportunities of service, sent forth the Portland Hospital to South Africa on its mission of mercy.

ADELINE BEDFORD, Vice-President.

### SECRETARY'S REPORT

HAVING been invited by Captain Bagot to act as Secretary in England, when the idea to send out a Field Hospital to aid the military authorities in South Africa was originally formed by Mrs Bagot and Mr Stoker, and subsequently by the Duke of Portland when he became interested in it, I accepted the post, and my duties as Secretary and my connection with the hospital may be said to have commenced on the 1st December 1899, when a Committee Meeting was held. At this meeting it was resolved that the hospital should be called the "Portland Hospital," in consequence of the generous support which had been given to it by His Grace. It was also decided that the further organisation and arrangements for the equipment should be left to the Secretary and the Medical Officers, who, with one exception, had already been selected by Sir Thomas Smith, Bart., the eminent surgeon, to accompany the hospital, and were: Mr Anthony Bowlby, F.R.C.S., of St Bartholomew's Hospital, Dr Howard Tooth, M.D., F.R.C.P., of St Bartholomew's Hospital, and Mr Cuthbert Wallace, M.B., F.R.C.S., of St Thomas's Hospital.

Mr Calverley, M.B., B.S., was selected at the meeting as the fourth Medical Officer in the place of Mr Stoker, who resigned in consequence of some compulsory alterations that had been made in the nature of the hospital by the Army Medical Department. We had the assistance of Mr Oliver Williams, and I may here state that the services of this gentleman have been invaluable, and to his untiring energy and interest in all matters connected with the hospital at home, I attribute very largely

the success attained in the initial equipment and subsequent despatch of supplies and stores. As the time was short and much had to be done in the thirteen days that intervened before the hospital was to embark on board the hired transport Majestic, of the White Star Line, at Liverpool, the Medical Officers and Secretary with Mr Williams met every morning at the Secretary's house to make the necessary arrangements. Bowlby, the Senior Surgeon, with Mr Cuthbert Wallace, was left the ordering of the surgical instruments and appliances that they considered necessary, Dr Tooth and Mr Calverley undertaking the purchase of the medical stores and drugs. The Committee at this time were most fortunate in obtaining the services of Surgeon-Colonel C. R. Kilkelly, Grenadier Guards, to whom permission had been granted by the War Office to accompany the hospital as military medical officer in charge. This officer was at the time in charge of the hospital at the Guards' Depôt at Caterham, and, having to do his duty there until another officer could be found to relieve him, his work was rendered doubly hard for the first few days. Having so recently been employed on active service with the 1st Battalion Grenadier Guards in the Soudan Campaign, under Lord Kitchener, his experiences and knowledge of the requirements of a hospital were of the greatest service to the Committee.

It had been decided by the military authorities that the hospital should be equipped as a section of a Base Hospital, with accommodation for 4 officers (this number was subsequently increased to 30) and 100 non-commissioned officers and men (increased to 130), and that it should be entirely subservient to any military orders that it might receive while in South Africa. Every assistance and advice was given at this time to the Committee by Dr Jameson, C.B., Director-General of the Army Medical Department, and Colonel Gubbins, R.A.M.C., until the latter officer was ordered himself to South Africa.

As it was thought possible that a sufficient number of hospital marquees might be available from the stores in Cape Town, a cable was despatched making inquiries; but to prevent any disappointment and subsequent delay, tents were provisionally ordered from the Tortoise Tent Company. This proved to be a wise precaution, as not only were marquees not procurable, but the tortoise tents proved superior in every respect to the regulation hospital marquees, their great merits being that they were both lighter to carry, better ventilated, and consequently cooler, and afforded better accommodation from their square shape. Beds and mattresses had been ordered by Mr Stoker from Harrod's Stores, as also had ten waggons from the Gloucester Waggon Company, and these were sent with the necessary harness for a team of four mules. A portion of the waggons not being required were subsequently sold in Africa to the Imperial Yeomanry Hospital. (See Appendix H.)

Lord Henry Bentinck and Captain J. Bagot, who were going out with the hospital as Treasurer and Secretary in South Africa, undertook the ordering of the stores for the officers' mess, and these, in addition to the articles of camp furniture that were required, including tables, chairs, etc., a list of which will be found in the Appendix, were supplied by the Army and Navy Stores. (Appendices I and K.)

A Sub-Committee, with Her Grace Adeline, Duchess of Bedford, at its head, had selected the four nursing sisters they considered most suitable for the hospital, namely, Miss Edith Pretty, Miss Frances Russell, Miss A. M. Davis, and Miss Rachael A. Cox Davies, and these ladies were subsequently, by special permission of H.R.H. the Princess Christian of Schleswig-Holstein, President of the Army Nursing Reserve, enrolled in that body, and agreed to accept service on the conditions laid down in the regulations for these nurses.

The orderlies were, with two exceptions, supplied by the St John's Ambulance Brigade, and the warmest thanks of the Committee are due to Colonel Bowdler, the Commandant, for his great assistance in providing these men, and his judicious selection of them. I may mention that they were specially selected for their several qualifications, one being a telegraphist, another a farrier, another a carpenter, etc., as it was thought most desirable that they should be representatives of various trades, and that the Committee were wise in their suggestions subsequent events proved. The number of the St John's Ambulance men was 26, and included 4 supernumerary officers, 10 first grade orderlies, and 12 second grade orderlies; there were in addition 2 ex-R.A.M.C. men (Boyd and Heaton), who were attached to the first grade.

One staff-sergeant and I sergeant, on full pay, of the R.A.M.C., were specially attached to the hospital by the Army Medical Department, and I private Grenadier Guards was allowed to go as servant to Surgeon-Colonel Kilkelly. In addition there were I cook, I assistant cook, 2 male servants, and 2 women servants for the nurses. (See Appendix A for full list of staff and personnel).

As the St John's Ambulance men came from various parts of the country (three coming from Welbeck Abbey), Colonel Bowdler made arrangements for housing and feeding the men while in London at a cost of 3s. 6d. per man per diem, and with the help of his staff he most kindly undertook to clothe the men, each receiving the uniform of the St John's Brigade and a suit of Khaki, and being given every advice as to what extra clothing they should provide themselves with.\*

The whole of the staff were required to sign a form of contract, stating their several rates of pay and length of service, which originally was for six months from the date of embarkation from England.† It was also specially

† I should strongly advocate that in similar contracts in future the minimum period should be for twelve months.

<sup>\*</sup> We have subsequently proved that a man can be provided with a complete equipment, including two suits, overcoat, etc., at a cost of about £7.

stated that in the event of the decease of any one of them, that his or her relations should have no claim on the Committee. When it was found later that their services would be required for a longer period than six months they were asked to extend it for a further term of three months, to which they all, with one exception, agreed.

To cover any pension that might accrue to any of the staff from accident or injury, a policy of insurance was taken out, based on the army rate of pension at an

average of £18 per man per annum.\*

Every possible assistance was given to the Committee by Major Cowans (now Lieut.-Colonel), A.A.G., who was in charge of the transport arrangements at the War Office, and it was decided that the whole of the personnel and baggage should be sent by the Majestic, sailing on 13th December from Liverpool, though it was found impossible to send the nurses at the Government expense. Mr William Wright was sent by Mr Williams to Liverpool to collect the various packages as they arrived, great care having been taken that all cases should be marked on two sides, and numbered and lettered, so that their contents could be easily identified, and in addition they were marked with the distinguishing black and white badge (the Duke's colours) of the hospital. Unfortunately the amount of baggage was found to be more than the Majestic with her other cargo had accommodation for, and, accordingly, a large portion of it had to be transferred to Southampton for shipment on other vessels, viz., the transport steamers Victorian and Cestrian, which naturally caused some delay in its arrival in South Africa.

In consequence of the decision of the War Office not to send out the nurses at Government expense, passages were taken on the Mail Steamer *Tantallon Castle*, sailing on 9th December from Southampton, for them, at the

<sup>\*</sup> Subsequently all persons serving in voluntary hospitals were placed by the Government on the same footing as regards pensions as the regular troops.

expense of the hospital, and Lord and Lady Henry Bentinck and Captain and Mrs Bagot decided to accom-

pany them, paying their own passages.

Mr J. L. Langman had from the start kindly undertaken the office of Honorary Treasurer, and the Committee are much indebted to him and his staff for their very valuable assistance. All bills have been paid by him on receipt of certified vouchers from the Secretary, which were attached to them. In addition, arrangements were made by which the staff could apportion any part of their pay to their relatives at home, and these have been regularly paid by the Treasurer each month. Each member of the staff was allowed, if he so wished, to draw one month's pay in advance before leaving England. (See Treasurer's statement of accounts). In addition to the many subscriptions in money that were raised (see Treasurer's list), including £5000 from the Duke of Portland, £1000 from Lord H. Bentinck, £500 from Lord Derby, and £500 from Mr Wernher, the Committee were indebted to many ladies and gentlemen, a list of whom it is impossible to give in so condensed a report, for many gifts of medical comforts, luxuries, tobacco and pipes, cushions, tea, warm clothing, Bovril, mineral waters, etc., which proved of great value to the hospital; the Countess of Bective, Lady Young, Mrs Anthony Bowlby, and Mrs Lewis James, and several ladies in Westmoreland, including Mrs Argles, Miss Cropper, Mrs Hamilton, Mrs Price, and Miss Hornby, being especially energetic in this way, and in raising money for the purpose.\*

The Committee were also indebted to Mr Churchill, Grenadier Guards, for the loan of a Röntgen Ray

apparatus.

The Duke of Portland had kindly lent his stables in Grosvenor Square, which formed a useful depôt for the collection of small articles and presents, and it was here, on

<sup>\*</sup> Subsequently £1000 was contributed by the Lord Mayor of London from his discretionary fund.

the 8th December, that the St John's Ambulance Brigade was inspected, the general appearance and good physique of the men giving the greatest satisfaction to the ladies and gentlemen of the Committee who were present.

At midnight, on the 12th December 1899, the orderlies, under Surgeon-Colonel Kilkelly, were seen off by Mr Williams and myself, from Euston, where a large number of friends and relatives had congregated to bid farewell and wish "God speed" to those who had so gallantly volunteered to meet unknown risks in their wish to render help to their wounded and invalided countrymen. On their arrival on the following morning at Liverpool, a hot breakfast had been ordered for them to be ready in the London and North-Western Railway Hotel, previous to their embarkation. Thanks are due to the officials of the L. and N.-W. R. Co., who had most considerately made every arrangement for their convenience and comfort while travelling, as well as for that of the Medical Officers, who had preceded the men by an afternoon train.

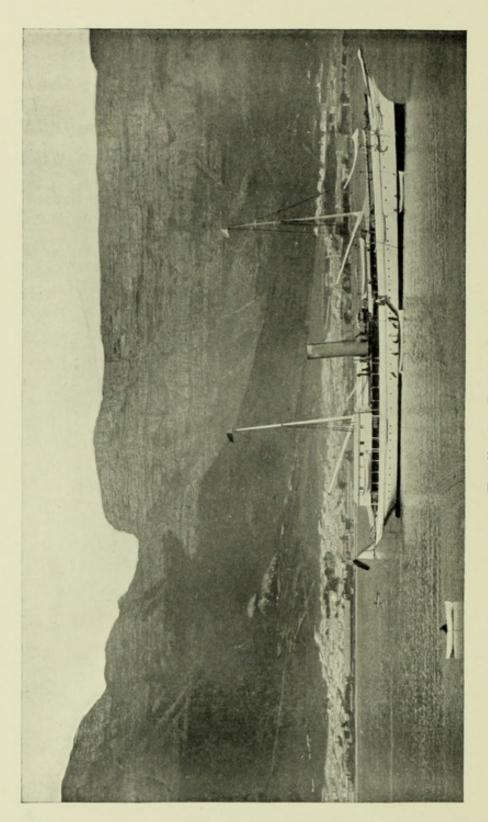
The Duke of Portland went to Liverpool on the 13th to wish them good-bye, and had sent a generous supply of pheasants for consumption on board, which kindly interest in their departure was appreciated by all.

With the exception of one or two incidents I should like to mention, my report practically ceases at the departure of the hospital from England, as I should be encroaching on that of the Medical Staff were I to describe the doings of the hospital after this date. The home work consisted mainly in attending to the request for money and supplies from time to time, and supplying the information that was received both to the press and to the relations of the staff and patients. A code cable address was registered both in London and in Cape Town by which cable communications were cheapened and accelerated; all matters of interest were at once sent to relations at addresses left by the various members of the staff, as also were messages that were sent by patients

who were desirous that their conditions should be communicated. Notices were sent to the press on receipt of the weekly reports from Surgeon-Colonel Kilkelly, which were received regularly after the hospital was established. These reports contained the weekly list of admissions to and discharges from the hospital, and proved to the satisfaction of all concerned the good work done. At the end of March, when the weekly return showed that the general advance had resulted in a great diminution of the number of cases admitted, it was a matter of much congratulation to hear, in response to a telegram from the Duke of Portland, that Lord Roberts had ordered the hospital to Bloemfontein, and to know that it arrived there when hospitals were most needed. And the subscribers will be glad to hear that the request of the Medical Staff that the Portland Hospital might be maintained beyond the time for which it had been sent out, was responded to by the Duke of Portland, who gave his guarantee for any expense that might be incurred by keeping it in Africa till July.

One subject I should like to mention is the reason for the return of the hospital in August. It will be remembered that the orderlies and nurses had arranged to stay on so as to complete a term of nine months, and that some of the staff and nurses were also bound to return to England in September, by which time the nine months would have been completed. When, therefore, in July the hospital had become very empty, Lord Roberts was asked whether he wished it to remain in South Africa and go to Pretoria, to which he replied that it had been decided to send no more hospitals to the Transvaal; so that, as in the opinion of the Surgeon-General there was no need for the hospital to remain in the Free State, where there was now plenty of accommodation and little sickness, it was arranged with the military authorities that some of the staff should return to England in August in charge of invalids on a hospital ship. In accordance with this decision, a cable was received on 12th July announcing that the hospital was to





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leave Bloemfontein and to embark on 1st August on board the *Canada*. I have thought it right to mention this in case any of the subscribers may have heard a rumour that was circulated that the hospital was returning owing to the want of funds; the balance, as shown in the balance-sheet, is a sufficient refutation of this statement, and, in addition, the Duke of Portland and other generous subscribers had promised increased subscriptions if they were needed.

It was with great sorrow that the cable announcing the death of Henry James Borer, one of the St John's Ambulance Brigade orderlies, from enteric fever, was received, and the sad news was at once sent to his parents. Private Borer had rendered most excellent service, and was exceptionally well reported on. At the request of his friends in Caterham, where he lived, it was decided to grant £20 towards the memorial they were proposing to erect in his memory, which was to take the useful and suitable form of erecting an ambulance station in the neighbourhood.

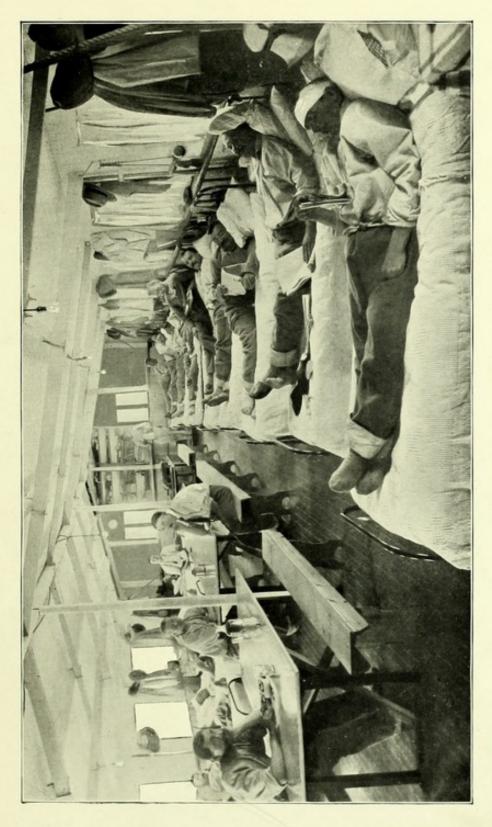
To the regret of all the staff, Surgeon-Colonel Kilkelly was unable to return with them, as he was ordered to Pretoria to take charge of the Imperial Yeomanry Hospital there; but they embarked as stated on the 1st August, arriving at Southampton on 18th August, when, with Mr Langman and Mr Williams, I met them to welcome them home on behalf of the Committee. Arrangements had been made to give them a special welcome and luncheon on arrival in the landing shed, and warrants had been obtained by which each person could proceed home at once at Government expense, and in addition they each received £2 for their immediate wants. The conduct of all had been as exemplary on the homeward voyage as in the field, they having been detailed to attend to the invalids on board the transport.

I must also mention the great kindness of Mr Bullough, who from time to time received many convalescent patients from the hospital on board his yacht the *Rhouma*,

at Cape Town, by which the men were greatly benefited; and from reports received, nothing could have exceeded the care and attention that they received from one and all of his crew. Two of the yacht hands volunteered, and were allowed to go to Bloemfontein with the hospital, to replace two of the orderlies who were temporarily incapacitated through suffering from enteric fever.

It will, I am sure, be a source of the greatest satisfaction to all the subscribers to know with what assiduity the work of the hospital was carried on by all the medical officers, nurses, and orderlies, one and all vieing with each other to keep up the reputation of the hospital, especially through the trying time of the epidemic of enteric fever at Bloemfontein, when the accommodation was tried to the utmost, and there were nearly double the established number of patients under treatment; at this time there were two additional nurses, Sisters Carston and Godfrey from New Zealand, and subsequently Sister Harland, attached to the hospital, whose services were invaluable. It is also gratifying to realise that the good services of all were appreciated and recognised by the Commander-in-Chief and all in authority who came into contact with the hospital. The fact that Mr Bowlby and Dr Tooth were on several occasions asked to visit other hospitals is a proof in what estimation the Medical Staff was held, and if further confirmation of the success achieved were necessary, it would be found in the numerous letters received from time to time from grateful relations of the patients, expressing their thanks for the care and attention bestowed on them, and still more in the complimentary valedictory order that was issued on the departure of the hospital, thanking all for their services.

I hope it will not be thought presumption on my part if, in conclusion, I say that the originators of this philanthropic scheme of despatching a privately equipped hospital to the theatre of war may be justly proud of their efforts, as the Portland Hospital proved the pioneer of many



WARD ON BOARD THE "RHOUMA,"

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other similar hospitals, which were equally generously sent out, and were all worked on the same lines, and have been the means of alleviating the sufferings of so many gallant countrymen, both of the Imperial and Colonial troops, who have been wounded and invalided in the service of their Queen and country.

A somewhat hurried meeting of the Committee was called on 10th November 1900, as it was important that the question of granting further gratuities should be decided, and some resolution passed as to the Report that should be issued. It was unanimously agreed that an additional gratuity of £20 should be given to each nurse, and one month's pay to the orderlies and servants for their exemplary services, and, as before stated, it was determined to publish this illustrated Report. It is hoped this will be approved of by the subscribers, and that it will serve as an interesting memento of the hospital, as well as a useful guide in the event of a similar hospital being equipped at some future time.

One brief summary, and my task is completed. It will be seen from the weekly reports that the total admissions to the hospital were 81 officers and 1009 non-commissioned officers and men, of whom only 2 officers and 33 men died, notwithstanding that a large number of the most serious enteric fever cases were transferred to the Portland Hospital from other hospitals during the epidemic at Bloemfontein, a percentage of a little over 3 per cent., and this at a cost of about £10 per patient, a record that I feel sure would compare favourably with that of any metropolitan hospital, and I hope it will prove to the satisfaction of the subscribers that the funds were as carefully looked after as were the patients.

HERBERT F. EATON, Major-General, Secretary, Portland Hospital.

### RECEIPTS AND PAYMENTS BY

### RECEIPTS.

DONATIONS AS PER LIST APPEN	DED			613,648	0	3			
Less 20% of Donations returned to	to Don	ors:	_						
Walter Palmer, Esq	£42	0	0						
R. W. Hudson, Esq	£20	0	0						
	_			62	0	0			
at their desire under proposal	contai	ned	in		-	- £	13,586	0	3
Committee's Circular.									
INTEREST ON DEPOSIT							51	10	3
SALE OF COPIES OF REPORT							0	12	0

It was resolved at the Committee's final meeting that in addition to the £500 given to Lady Charles Bentinck's Fund and £600 to the Soldiers' and Sailors' Help Society to permanently endow a bed in one of their homes, the balance as shown above (less any subsequent charges, which will include about £200 for printing the Report, etc.), should be presented to the general funds of the Soldiers' and Sailors' Help Society.

JOHN L. LANGMAN, Hon. Treasurer.

### THE TREASURER-MAY 1901

P	AY	M	EN	TS.

PAYMENTS.	
HOSPITAL EQUIPMENT:-	
Ambulance Waggons, etc	£826 2 6
Tortoise Tents, etc.	554 5 0
Medical and Surgical Appliances, Filter,	334 3
Rontgen Ray Apparatus, etc.	888 19 11
Rontgen Ray Apparatus, etc	000 19 11
	774 4 4
Crockery, etc	77+ + +
	(2012 II 0
Less amount received for Sale of Equipment,	£3,043 II 9
etc., in South Africa	2 222 10 10
etc., iii South Airea	2,322 IO IO £721 O II
EXPENDITURE IN ENGLAND AS FOLLOWS:-	5/21 0 11
PROVISIONS, MESS STORES, AND HOSPITAL	
COMFORTS	£976 9 2
SALARIES, GRATUITIES, AND EXPENSES	
OF PERSONNEL:-	
Salaries of Medical Staff £3,860 0 0	
Salaries of Nurses 80 12 6	
Wages of Orderlies 804 19 4	
Gratuities (including £20 given	
to H. Borer Memorial Fund) 1,247 16 4	
Allowances for Expenses to	
Nursing Staff prior to leav-	
ing England 66 o 3	
Fares and Passages of Nurses	
(not provided by Govern-	
ment)	
Insurance of St John's Ambul-	
ance Men 312 9 0	
Clerical help, Stationery, Print-	
ing, Fares, and General Sun-	
dries	
Packing, Carriage, Transport,	
and Insurance of Goods . 237 11 7	
	7,144 14 3
	8,121 3 5
Remittances to South Africa through the	
Bank for Service of the Hospital	1,852 6 10
	£10,694 11 2
Special Appropriations, viz.:—	
Donation to Lady Charles Bentinck's Fund	
for providing Clothing and Comforts for	
the Troops in South Africa-	
Out of General Donations . £300 0 0	
Out of Donation from the Man-	
sion-House, 20% of £1000 200 0 0	
200 0 0	f:m 0 0
Donation to the Soldiers' and Sailors' Help	£500 0 0
Society to endow a bed in perpetuity, to	
be known as the "Portland Hospital Bed"	600 0 0
a known as the Tortiand Hospital Bed	600 0 0
	1,100 0 0
	(11.701.11.4
C 1 . B 1 1: 1	£11,794 11 2
Cash at Bank and in hand, unexpended	
	1,843 11 4
	£13,638 2 6

### LIST OF SUBSCRIPTIONS

Duke of Portland, K.G.		-	-	-	£5000	0	0			
Lord Henry Bentinck -	-	-	-	-	1000	0	0			
Lord Mayor (Transvaal W	ar Fund)	-	-	-	1000	0	0			
Earl of Derby, K.G	-	-	-	-	500	0	0			
J. Wernher, Esq	-	-	-	-	500	0	0			
Kirkby Lonsdale Fund -	-	-	-	-	300	0	0			
Walter and Mrs Palmer	-	-	-	-	210	0	0			
Worksop War Fund, per (	George Stev	vart,	Esq.	- 12	200	0	0			
Retford War Fund, per J.			-	-	200	0	0			
"Farmers of the Oxenholme Hunt District," per J. W.										
Weston, Esq	-	-			136	5	0			
John L. Langman, Esq	-	-	-	-	105	0	0			
Thomas G. Gibson, Esq.	-	-	-		105	0	0			
Per Duchess of Bedford-										
Adeline, Duchess of B			£,100	0 0						
Anonymous -	-	-	100	0 0						
					200	0	0			
Lord Manners		172	2	-	100	0	0			
Hon. W. F. D. Smith, M.	P	-		-	100	0	0			
Sir Chas. Seely, Bart	-		-	-	100	0	0			
Wm. Hall Walker, Esq.		-		-	100	0	0			
E. Salvin Bowlby, Esq.	-	-	-	-	100	0	0			
Duke of Northumberland	_	-	-	-	100	0	0			
Carl Meyer, Esq	-		-		100	0	0			
Jacob Wakefield, Esq	-		-	-	100	0	0			
Sir John Dickson Poynder	. Bart.				100	0	0			
E. W. Beckett, Esq., M.P.					100	0	0			
Anonymous	-		- 2	-	100	0	0			
H. J. King, Esq.	-	-	-	-	100	0	0			
Clement Wallace, Esq., of	Buluwayo	-	-	-	100	0	0			
Captain Bagot, M.P.	-	_	_	-	100	0	0			
Captain F. Forester -	-	-	-		50	0	0			
Miss Emma Holt -	-	-	-	-	50	0	0			
Lindsay Fitzgerald, Esq.	-	-		-	50	0	0			
						- 100				
	Carry forward,			-	£11,006	5	0			

	Brough	nt forw	ard,	-		-	£11,006	5	0
R. W. Hudson, Esq.		-	-	-		-	50	0	0
General Sir Ch. L. d'Ag		C.B.	-	-		-	50	0	0
E. G. S. Hornby, Esq.		-	-	-		-	50	0	0
Anonymous -		-	-	-			50	0	0
James Mason -		-	-	-		-	50	0	0
Ernest Crewdson, Esq.		-	_	12		-	50	0	0
A. C. Harmsworth, Esq.		-		-		-	50	0	0
Per Earl of Hardwicke-									
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Anonymous			-	10	0	0			
Brinsley Fitzgerald,				50	0				
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R. W. Hudson, Esq.			-	-		-	50	0	0
Mrs A. Harmsworth				-		-	50	0	0
Lord Windsor -						-	50	0	0
Lady Young -			_				50	0	0
Per James Cropper, Esq	-						,		
James Cropper, Esc		_	-	£50	0	0			
John Graham, Esq.				I					
Levens Church Coll				5		0			
Bevens church con	cetton			,	-		56	0	0
Henry E. Lindsay, Esq.		. 3				-	25	0	0
Thos. H. Rushton, Esq.				-		-	25	0	0
Archer H. Heywood, Es			-	-			25	0	0
Duke of Bedford	-1						25	0	0
From a Friend -	_						30	0	0
Countess of Brownlow							25	0	0
Earl Grey -		_	-	_			25	0	0
Alfred de Rothschild, E		_	_	-		-	25	0	0
Chas. J. Cropper, Esq.							25	0	0
Alfred Farquhar, Esq.							25	0	0
Regd. Chandos Pole, Es							25	0	0
Sir Thos. Glen-Coats, B							25	0	0
Earl of Crewe -							25	0	0
Countess of Bective							21	0	0
Sam Lewis, Esq.							21	0	0
Hon. Mrs Peel -							20	0	0
Mrs Van Raalte							20	0	0
Mrs Haslam -	. 3						20	0	0
Lord Wandsworth			1.0	(5.75)		-		0	
John Deacon, Esq.	58						20		0
John Deacon, Esq.	300						20	0	0
	Carr	y forw	ard,	-		-	£12,194	5	0

	Brough	ht forwa	rd,	-		- 1	(12,194		5	0
E. Potter, Esq		-	-	-		-	20		0	0
A. Middleton, Esq.	-			-		-	15	3	0	0
Hon. Mrs C. Fitzwillian	1			-		-	15		0	0
Chas. Morley Saunders		-				_	10		0	0
Geo. R. Murray, Esq.	-			-		-	10			0
Mrs Thomson -	-			-		-	10	I	0	0
Arnold & Sons -	-	-		-		-	10	I	0	0
Military Equipment Sto	res			-		-	10	I	0	0
Mrs Janet Little	_	2	2	328		-	10		0	0
Lord Harlech -			_	1		-	10		0	0
Sir Wm. Eden, Bart.		-		-		~	10		0	0
Dowager Marchioness 1	Downsh	nire				-	10		0	0
Lady Sassoon -	_	-		-		-	10	,	0	0
Mrs Moorsom Maude	-			-		-	10	,	0	0
H. B. Arkwright, Esq.		-	-	-		-	10	,	0	0
Mrs Arkwright -	-		2			-	IC	)	0	0
Mrs Agnew -				-		-	IC	)	0	0
Mrs Ansdell -	_			_		_	10		0	0
Per Miss D. Roberts-										
Mrs Halim			-	£5	0	0				
Miss D. Roberts		-		3	0	0				
D. L. Hollins, Esq				2	0	0				
D. L. Homms, Esq					_	_	10	,	0	0
Douglas Uzielli, Esq.	_	-		-		-	10	0	0	0
Lady Mason -				-		-	10	0	0	0
Edw. Clifford, Esq.				_		-	IC	)	0	0
Miss L. Hill				-		-	10		0	0
Wm. Younger, Esq., M	p	-				-	10		0	0
Mrs M. Saunders						-	10		0	0
Anonymous, per Lady	H Ren	tinck					10		0	0
	II. Deli	tillek				-	10		0	0
Alex. Peckover, Esq.	-					_	10		0	0
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Hon. G. R. C. Ormsby	Gore	100					10		0	0
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	Broug	ht forw	ard,	-	-	£12,553	15	0
Mrs Davis -			-		-	10		0
Mrs H. Lindsay	-	-	-			8	10	0
Per Captain and Mrs B	lagot—							
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Sec., — Gibson,		-	-	£10 0	0			
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omaren at Beven						11	5	0
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Mrs Charles Bowlby		-		-		7	7	0
Chas. E. Mumford	-	_	-	-		5	5	0
Chas. Ed. Rivington, E	sq.	-	-	-	-	5	5	0
Lady Fitzwygram	- '	-	-	-	-	5	5	0
Mrs Van Raalte	-	-	-	-	-	5	5	0
Davies & Sons -	-	-	-	-	-	5	5	0
J. R. Upton, Esq.	-	-	-	-	-	5	5	0
A. Vagliano, Esq.	_	_	-		-	5	5	0
Davey, Hill & Son, Yat	es & H	icks	-			5	5	0
W. H. Myers, Esq., M.		-			-	5	5	0
Evans & Wormull			-	-		5	5	0
Duke of Wellington	-	. 3		-	_	5	0	0
Mrs C. E. Fuller-Maitla				-		5	0	0
Mrs Earle -	-					5	0	0
Mrs de Winton -	-	_				5	0	0
Mrs Hamlyn -		-				5	0	0
Sir Ed. Lawrence	_					5	0	0
Mrs Mary Hollins						5	0	0
Rev. Dr and Mrs Price	_					5	0	0
Sir Wm. Hower Forwood		Lady F	orwo	od -		5	0	0
Sir Geo. H. Lewis	-		-	-		5	0	0
Duchess of Sutherland	-					5	0	0
John Nicholson, Esq.		. 1				5	0	0
E. W. Hennell, Esq.						5	0	0
W. Middleton Moore, F						5	0	0
Mrs Sibyl Currie	- and.					5	0	0
William Fair, Esq.						5	0	0
Lady Lumsden -	-					5	0	0
Countess Grosvenor	.5	_				5	0	0
A. F. M. Spalding, Esq		_				5	0	0
W. D. Cruddas, Esq., M						5	0	0
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	Carr	ry forw	ard,	-	-	£12,766	9	3

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	Brought	iorwa	ra,	-		-	£12,766	9	3
Duke of Norfolk, K.G.				-		-	5	0	0
Rev. Robert Webster				-		-	5	0	0
Thos. Bumpus, Esq.				-		-	3	10	0
Arth. Bellingham, Esq.				-		-	5	0	0
Lady Cowell -				-		-	4	4	0
John Rigby, Esq.				-		-	3	3	0
Mrs Timmis -				-		-	3	0	0
Alfred Apps, Esq.				-		-	3	3	0
Per Chas. Walker, Esq.	_								
St John's, Kilburn			- 1	(1	18	5			
J. Sinclair Moore, 1					10	0			
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Mrs Corkran -			. 6	-		_	2	2	0
Arth. A. Collings, Esq.				_		-	2	2	0
Mrs M. J. F. Turner						-	2	2	0
Miss Gartside Tippinge				_		_	2	2	0
Per Rev. J. S. Moore-								17	
Rev. J. S. Moore	_		-	(2	2	0			
St John's Vicarage,						0			
or joins vieninge,	moun				.~	_	2	12	0
Rev. H. Hammersley				-		-	2	10	0
Mrs Wilson -				-		-	2	2	0
H. W. Segelake, Esq.			-	-		-	2	2	0
Chas. Davis, Esq.				-		-	2	2	0
Per Rev. Canon Gilbert									
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Rev. R. H. Law				I	1	0			
Heversham Church	, per Car	ot. Bag	ot	0	10	0			
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S. W. Silver & Co., and	Benj. E	dgingto	on, Ltd			-	2	2	0
Geo. P. Cooley, Esq.				-			2	5	0
Gilbert Parker, Esq.				-			2	0	0
Canon Mason (collected	at Whit	well Pa	arish C	hui	rch)	-	1	12	6
Mrs Fuller Maitland				_			1	11	6
Members of the Girls' C			Parish	Ki	lbur	n)	1	10	0
Miss Baines -		Oiiii 3	-	-	1001	/	1	5	6
Rev. W. B. Greenside							1	1	0
Mrs Jacob Tanner							,	1	0
Mrs Ellen Plumbe							î	ī	0
Rev. T. Lewthwaite							1	1	0
ice. I. Dewillwaite	200						- '	1	_
	Carry	forwa	rd,	-		-	£12,842	16	2

	Brough	nt forw	ard,	-		-	£12,842	16	2
Mrs Bell (collected by)		-	-	-		-	1	I	0
Anonymous, per Lady I			-	-		_	1	I	0
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Miss Bridson -				-		-	1	0	0
Anonymous, per Lady I		inck	_	-			1	0	0
Fred. W. Poland, Esq.		-	-				I	0	0
Anonymous, St Leonard						-	100	0	0
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Miss Geraldine Plumme			0210					10	0
Miss K. Mostyn								5	0
Collected by Miss Pame								,	
Andrew Wood				£.10	0	0			
J. P. Heywood Lor				10		0			
W. H. Millard			-		5	0			
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Lord Kenyon and	Anonyn	ious		10	0	0	25	. 5	0
Day Chuis Cusham Va							35	,	0
Per Chris. Graham, Esc				10	0	0			
Miss Richmond, K				£2					
Ernest Crossley, E	-			5		0			
T. A. Argles, Esq.	-			25	0	0	22	0	0
Per Mayor of Kendal-							32	0	0
E. W. Wakefield, I				£25	0	0			
Mr and Mrs Colin		1011	197	20	0	0			
Miss Marjorie Son		-				6			
Mrs A. H. Willink				0	7				
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Alex. Milne, Esq.					10	0			
F. W. Crewdson, I Mrs F. W. Crewds			-	5	0	0			
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Henry Hoggarth, I Mrs E. W. Wakefi					10	0			
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Gilbert Gilkes, Esc		-		10	0	0			
Norman F. Wilson	, Esq.			5	0	0			
T. Thwaites, Esq.				. I	0	0			
Mr and Mrs Swing		-		5	0	0			
John Botten, Esq.		-	-	3	0	0			
Mrs Benson	* 17	-	-	10	0	0			
Miss Hornby	-	-	-	2	0	0			
Carry forw	ard,	-	-	£119	7	6	£12,920	16	3

3							
Brought forward,	-	-	£119	7	6 £	12,920 16	3
Mrs Keightley -		-	50	0	0		
Mrs H. Miles Radcliffe	-	-	25	0	0		
The Misses Whitwell		-	5	0	0		
D. J. Pennington, Esq.		- 1	5	0	0		
John Banks, Esq		-	5	0	0		
Geo. E. Moser, Esq.			5	5	0		
Mrs M. Bowsher -	-	-	1	0	0		
Gordon Wordsworth, Es	id	-	5	0	0		
Mrs Crossley -	-		20	0	0		
Mrs A. Keightley -		-	15	0	0		
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Kendal and S. Westmorel	and D	istrict.	per	Ch	ris.	- , ,	
Graham, Esq.—	und 2	1511101,	P				
E. J. Abott, Esq		-	£1	I	0		
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A. Hickling, Esq	-	-	£,20	) (	0		
H. Greenway, Esq.	-	-	2		0		
C. W. Wilson, Esq.		-	2		2 0		
Miss Laura C. Hickling	r -	-	1	1	0		
R. Reid, Esq	,	-	1		0		
D. Phillips, Esq		-					
H. Yatman, Esq		-			0 0		
Mrs T. M. Mort		-			0 0		
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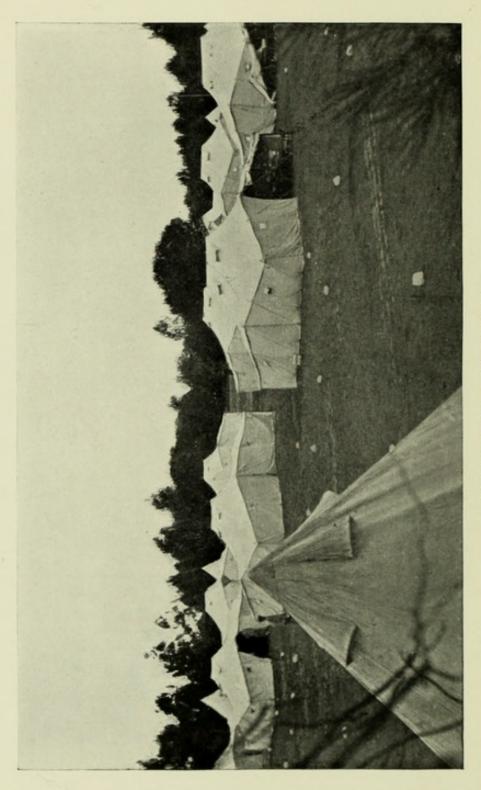
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Mrs Mason	-	-	5 0	0	
Marcia and Randle Mason	-	-	2 0	0	
Miss Mason	-	-	3 10	0	
G. E. Thompson, Esq		-	5 0	0	
Mrs John Thompson -		_	5 0	0	
Miss Marcia Feilden -	-		1 0	0	
Miss C. K. Feilden -	-	-	1 0	0	
Miss K. N. Feilden -	-	-	1 0	0	
Mrs Thompson	-	-	1 0	0	
Rev. J. G. Leonard -	-	-	1 0	0	
C. S. Robinson, Esq	-	-	1 0	0	
A. F. Jordon, Esq	-	-	I 2	6	
Joseph Thompson, Esq.	-	-	1 5	0	
Mrs Davis	-	-	2 0	0	
Mrs Byers	-	-	1 0	0	
Mrs Eleanor Holmes -	-	-	0 10	0	
J. F. Trotman, Esq	-	-	0 10	0	
Mrs Dixon	-	-	0 10	0	
Armstrong & Sons -	-	-	0 10	0	
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Collected by Mrs Anthony l	Bowlby-	-			
Mrs James	-	-	£1 0	0	
Miss Mary James -	-	-	0 10	0	
Mrs Heathcote -	-	-	0 5	0	
Mrs George Bowlby	-	-	2 0	0	
E. Macrory, Esq	-	-	5 0	0	
Miss W. M. James	-		0 10	0	
Rev. R. Pollexfen -	-	-	0 3	6	
Mrs Boyce	-	-	2 2	0	
Mrs E. Brice Pearse	-	-	2 0	0	
Mrs Levinge -	-	-	3 0	0	
Mrs Majendie -	-	-	0 10	0	
Miss D. M. Majendie	-	-	1 0	0	
Rev. Henry Bowlby	-	-	5 0	0	
Mrs Tristram -	-	-	0 10	0	
Mrs H. Boyce -	-	-	I I	0	
Mrs Thackray -	-	-	O I	0	
Edward Levinge -	-	-	5 0	0	
Mrs Malcolm Fox -	1	-	5 0	0	
Lady Mabel Howard		-	0 10	0	
Carry forward,	-	-	£35 2	6 £13,541	3 9

Brought forward,	-	-	£35	2	6 1	(13,541	3	9
Archdeacon and Mrs Ves	ssy	-	2	0	0			
Misses L. and E. Moore	-	-	2	2	0			
T. W. S. Bowlby, Esq.	-	100	3	3	0			
Miss E. Mostyn -	-	-	0	3	0			
Hon. Mrs Chas. Scott	-	-	5	0	0			
David Pennant, Esq.	-	141	I	0	0			
Mrs and Misses Leventh	orpe		5	0	0			
Mrs Wm. Grey -	-	-	2	0	0			
Mrs Wethered -	-	-	I	0	0			
Sir Arthur Marshall			5	0	0			
Hon. Essex Mostyn	-	-	10	0	0			
Wm. Welby, Esq		-	2	0	0			
Miss Heathcote -	-	-	1	I	0			
J. Layton Mills -	-	-	I	0	0			
Lady Nina Balfour		-	I	0	0			
F. A. Bowlby, Esq.	-	-	5	5	0			
Howard Gilliat, Esq.		-	5	0	0			
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Per Chas. J. Cropper, Esq	-0							
Proceeds of Entertainme	ent at	Burn-						
side	-	-	£19	0	0			
Collected by Misses M. a	and S.	Cropper	r I	0	0			
			-		-	20	0	0
						£13,648	0	3

REPORT OF THE MEDICAL STAFF







HOSPITAL TENTS AT RONDEBOSCH.

[To face page 35.

## PERSONNEL, EQUIPMENT, AND INTERIOR ECONOMY

By Surgeon-Colonel KILKELLY, Grenadier Guards P.M.O. of the Portland Hospital.

In connection with the fitting out of War Hospitals it must be remembered first that there is always present the transport difficulty, and hence the lighter the hospital the quicker and the more completely will it reach its destination. Secondly, the exact nature of the hospital must be definitely determined, for, by attempting to attain too many objects the utility of the hospital will be considerably impaired. The object of medical aid in war is to evacuate from the front as quickly as possible, consistently with the greatest care and comfort to the sick and wounded. This evacuation is carried out by "Bearer Companies," "Field Hospitals," "Ambulance Trains," "Stationary Hospitals," "General Hospitals," and "Hospital Ships" to England.

"Bearer Companies" and "Field Hospitals" are essentially mobile units. They have a large transport and a light equipment—no beds, and only a few bell tents. The "Field Hospital" weighs 8 tons and will accommodate 100 patients, and can be pitched or struck and packed into waggons in about an hour. "Stationary Hospitals" (which must not be confounded with "Station" Hospitals in peace time) are more of the nature of rest camps on long lines of communication. The "General Hospital,"

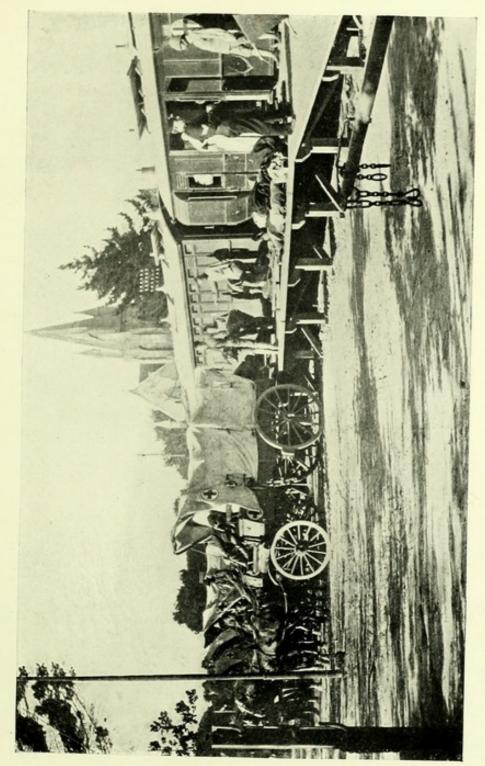
the place to which all sick and wounded are ultimately sent, is equipped for 520 beds. It is here that all important surgical and medical treatment is carried out with the maximum of skill and comfort attainable under the circumstances, and here the final destination of the inmates is determined, whether to "duty," "garrison duty," or "home."

The Portland Hospital Committee decided to send out to South Africa a hospital for 104 beds, equipped as a fifth section of a General Hospital, but with some considerable modifications, according to the suggestions of its Medical Staff. The hospital was afterwards increased to 130 beds for non-commissioned officers and men, and 30 for officers. It is to a description of its personnel, equipment, and interior economy that this section is devoted.

## PERSONNEL (see Appendix A, including Pay).

The Committee having appointed the Medical Staff, left to us and to the Hon. Secretary, Major-General the Hon. H. Eaton, the selection of the remainder of the personnel and the purchase of the equipment. We necessarily divided our labour. The surgeons selected their surgical instruments and material, etc., whilst we were all more or less responsible for the purchase of our stores. The physicians selected their medicines and medical stores, including the X-ray and photographic apparatus, whilst to the Hon. Secretary and the Surgeon-Major in military charge was delegated the task of purchasing the bulk of the equipment and general supplies.

Our personnel consisted of 2 non-commissioned officers of the R.A.M.C., 4 non-commissioned officers, and 24 men of St John's Ambulance Brigade, and 6 servants, including a Swiss cook and a female servant. Amongst our orderlies certain useful trades and professions were represented, such as: compounders, cooks, carpenters, farriers, painters, engine-fitter, sailors, clerks,



HOSPITAL TRAIN DISCHARGING SICK AND WOUNDED. Army Ambulance Waggons in foreground.



steward, etc. All had obtained the first aid certificates, and many had also the "nursing" certificates, of the St John's Ambulance Association. Some were men who had served in the Royal Marines, Royal Army Medical Corps, or Army Service Corps. Each man signed a contract (Appendix B) for six months' service. insurance was effected at Lloyds for an annuity up to Is, a day for each man if disabled by wounds or disease. The conditions for obtaining this pension were similar to those approved by Chelsea Pensioners' Board. Married men, especially those with families, were discouraged from joining our hospital. Each man who signed the contract was then clothed according to the scale adopted by the St John's Ambulance Association (see Appendix C, which includes supplementary issue). This scale proved afterwards to be much too small, and several of the articles were not of a sufficiently good quality, so that the kit had to be largely supplemented or replaced in Cape Colony by an issue of warm serge khaki suits, strong boots, underclothing, etc., from the Army Ordnance Corps. Too much latitude had also been allowed the men in the selection of their boots, and old and part-worn boots had been obtained, which soon became useless. of military pattern were accidentally omitted from the original list of kit, but were obtained later and found most useful.

During the voyage out every one was examined, to ascertain if they were sufficiently protected by vaccination against smallpox. Every one was also offered the opportunity of being inoculated against enteric fever—a precaution which proved most valuable afterwards during the Bloemfontein epidemic. At the same time the various orderlies were told off for different appointments, and after the selections had been made for the so-called "staff" appointments, such as cooks, clerks, wardmaster, steward, storekeeper, compounder, etc., the whole of the remaining orderlies were divided into four sections or

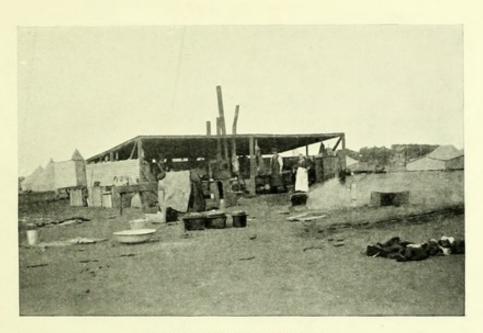
groups, and each section was detailed to work with one of the four sisters.

In addition to the pay of each individual as fixed by contract, a system of "Extra-duty Pay" and "Extra Messing Allowance" was adopted. The scale for each of these was fixed at 4d. a day. Extra-duty pay was given to those who had certain extra duties to perform, such as mess waiter, postman, post-mortem orderly, etc., or who worked at their respective trades (painter, carpenter, farrier, etc.). The extra messing allowance of 4d. a day was given to every man, with the object of improving the rations allowed by Government, by the purchase of such articles as jam, fresh vegetables, butter, porridge, milk, etc., in bulk, according to the wishes of individuals, or of the various "messes" into which the personnel were grouped, and which corresponded very closely with the four ward sections.

For night duty no separate staff of night orderlies was appointed, but a system was adopted by which no orderly, even at the time of our greatest pressure, need ever be without six hours sleep. According to a roster, about a fourth to a third of the orderlies and a due proportion of sick officers' servants were detailed for each night duty in two reliefs, under a wardmaster or noncommissioned officer. The first group were ordered and seen to bed in a special tent by the night wardmaster at 7 P.M., and remained there till I A.M., when they were called to relieve those who were on duty during this first period. The first group would then remain on duty till 7 A.M., whilst the other group slept. At I A.M. a cup of cocoa and milk was given to the whole of the orderlies on night duty.

The remainder of the so-called "staff billets" were

"Chief Wardmaster," whose duties comprised discipline, keeping roster of duties for orderlies, arrangements for meeting and sending off convoys of patients, responsi-



KITCHEN AT BLOEMFONTEIN.



WASHING AT BLOEMFONTEIN.

[To face page 38.



bility in seeing that orders were carried out, etc. The "Steward" was responsible for requisitions for drawing of rations and diets, provision stores, and returns. Under the steward was a staff of clerks and storekeepers for "provisions," "linen," "pack," and "ordnance" stores. dispensary was in charge of a sergeant. An orderly was appointed to the operation theatre, X-ray apparatus, and surgical stores, which were in the care of a sister. A non-commissioned officer with some natives supervised the sanitary arrangements. Another orderly had charge of the transport vehicles and animals, and had as his assistants, a groom, a farrier, and some natives. This orderly, being an engine-fitter by trade, had also care of an engine which was used for charging the X-ray accumulator. Another of our orderlies, whose occupation was in a Water Works Company, was placed in charge of the Pasteur filter installation.

Our last, but not least in importance, "staff billets" were the cooks. We had three cooks and some assistants working in two kitchens, one for officers and nurses and the other for the patients and orderlies. In fitting out kitchens it is well to keep each kitchen in a separate building if possible, and with separate establishments and equipments.

The kitchens were divided into two portions, the one for patients and orderlies, and the other for the officers' and sisters' messes and for special foods. This division suited the capabilities of the two men in charge of their respective sections. Each section had two Swedish Bollinger ranges inside and some War Office pattern camp kettles on two rails outside the kitchen building, also a complete set of the usual cooking pots and utensils, including a set of steel nesting saucepans (Appendix L, kitchen inventory). A 40-gallon caldron was always kept full of boiling water. For night use a few portable paraffin stoves were in use. The kitchen was contained in a zinc shed building kindly erected by the Royal

Engineers. Refuse pits for dry and decomposing refuse were dug behind the camp some fifty yards or more from the kitchen. A meat safe, an ice safe, and a Pasteur-Chamberland filter completed the equipment of the hospital proper.

This Pasteur-Chamberland filter was specially constructed with a view to its carriage on a mule. It consisted of three baskets. Two of these were lined with a waterproof cloth. The third basket was intended for the pump and spare parts. Near the top of these two lined baskets was a framework supporting six collecting metal tubes, and from these were suspended some 80 Pasteur-Chamberland porcelain tubes. The six collecting tubes conveyed the water into one flexible tube leading to a vacuum delivery pump. From four to six such baskets of tubes might be connected with one vacuum and delivery pump, but we only used two such baskets. The filter was put in action by filling the baskets with water by means of buckets. Then by working the pump a vacuum was produced in the vacuum chamber and along the tubes into the porcelain cylinders, and in this way by atmospheric pressure water was filtered through the tubes into a vacuum chamber, and then out by the delivery pipe to wherever it was required.

This filter answered very well up to a certain point. It requires to have duplicate parts supplied, especially the pump, so that the filter may be divided for use in different parts of a hospital, and any part requiring repair may be immediately replaced. It should be placed on coiled springs, and if possible mounted on a small carriage so that it may be wheeled about to places as well as carried on mules as panniers. The filtering medium is one of the best that is known, and it is generally believed that it will not allow the passage of any organism; it is less brittle and harder substance than the Berkefeld, and more easily cleansed by brushing. This method of filtering the water by means of a vacuum is preferable to direct



CALDRON FOR BOILING INFECTED LINEN.



THRESH'S DISINFECTOR.

[ To face page 40.



pressure as there is less strain on the apparatus; the water can be subjected first to a coarse filtration through flannel if very turbid. A large number of 3-bougie pocket filters and water-bottles can be substituted for this larger pattern if necessary.

The system of Sanitation adopted by us was as follows:-Latrines were built for sick officers, medical officers, sisters, non-commissioned officers, men, and enteric cases. Dysenteric and enteric stools were burnt with sawdust (see Rules for Disinfection, F). All infected linen and clothing was at once soaked in perchloride of mercury or izal, and then either boiled in caldrons or steamed in Thresh's disinfector. All refuse-dry, moist, and ward slops—was carried away and buried in deep separate pits. All refuse that was capable of being so treated was burnt. Clothing of patients admitted to hospital was frequently full of lice, and was all boiled after previous soaking. All clothing that remained good after being so boiled was re-issued to the patients on discharge, and supplemented by new clothing, a stock of which we kept in hospital for this purpose.

Washing.—At Rondebosch our hospital and private washing was done by contract, but at Bloemfontein we had to make special arrangements. Anticipating difficulties, we provided ourselves at Cape Town with a stock of blue soap, 40-gallon boiler, metal baths in nests, 15-feet posts, clothes lines and clips. On arrival at Bloemfontein we engaged a dozen native women, at 2s. a day with food, to wash every day for us. A tent with a large table was also provided, where all the ironing, starching, folding, and finishing was carried on. We found this system to answer admirably.

Besides these native women, some seven or eight native men were employed in various fatigue duties about the camp, chiefly to keep it clean.

On our departure for Bloemfontein we were allowed, through the kindness of Mr Bullough, to engage two sailors from off his yacht *Rhouma*. They were of the greatest assistance to us, and did every kind of work most cheerfully and thoroughly.

## EQUIPMENT.

Briefly stated, the total weight of our equipment for 160 beds was 70 tons, and the space occupied was twelve railway trucks. Including our personnel complete, two ambulances, a water-cart, six mules and three horses, twelve trucks (one of which was a bogie, and one a saloon carriage) took us all, except a small advance party of four, from Cape Town to Bloemfontein.

Our surgical and medical equipment is detailed elsewhere. The operating theatre was a tortoise tent 20 by 24 feet, with a boarded floor, and a powerful 50-candle-power oil lamp. Electric light was also available, but was not often used.

The dispensary was also a tortoise tent fitted up ingeniously by the dispenser (Staff-Sergeant MacNamara). The boxes containing the drugs were all of the same size and shape. By placing these on their sides, one on the top of another, the lids of each box could be opened downwards and each formed a sort of cupboard for the drugs it contained. The case in which the operating tables had been packed formed a most excellent dispensing table. The floor was covered with tarpaulin.

The patients' tents consisted of 13 tortoise tents, 20 by 24, and one 20 by 30, 2 ordnance store tents 60 by 30, and 8 bell tents. Each tortoise tent contained 8 patients, except the larger one which was arranged for 16. The ordnance tents contained 18 patients each, and the bell tents contained one to two patients, according to the nature of the cases—these completing a total of 160 beds.

The tortoise tent, 20 feet by 24 feet size, makes an excellent ward tent for 8 beds, although 10 beds could be easily put in. If well pitched it will keep out the heat of the sun, and it is quite water tight and will withstand heavy and prolonged rain and strong winds. Each tent requires, especially



A TORTOISE TENT.





THE X-RAY ENGINE AND ENGINEER.



in clay soils, to be provided with four long iron pegs, 2 to 3 feet in length. The sides can be lifted up easily and thorough ventilation effected. The tortoise tent weighs about 320 lbs. and can be packed on two mules, being divisible into four parts of about 80 pounds each. (See Appendix H).

The ordnance store tent made a very good ward, but required to have an inner lining something like that of the tortoise tent. Flooring for these tents was a question much discussed, and we decided to use nothing except two strips of coir matting and small strips of Japanese matting. Thus, the ground could be swept daily and sprinkled with a solution of izal in water, and a most satisfactory floor was the result. Each tent was well trenched.

For inventory of equipment of a tortoise tent ward, see Appendix J. The eight beds were wooden-framed spring beds with folding legs. Each bed and mattress complete weighed 60 lbs. Although none of them broke, yet these bedsteads were liable to break unless carefully packed, and for this reason similar light, strongly-made, steel-framed, spring beds might perhaps be better, if they could be made of the same weight. In the centre of the ward was placed a table 6 feet by 3 feet, with two cupboards made from packing cases, and covered with a cretonne. Between every two beds was a bedside table. A combined diet and chart board belonged to each bed. A complete set of enamel ware and cutlery was provided for each tent, also feedingcups, milk and water cans, brushes, etc., according to list in appendix. An officers' ward was similarly fitted up, except that china and crockery was used instead of enamel ware, and a finer quality of matting was placed on the floors.

All our provisions, linen, clothing, and gifts were kept in a large ordnance store tent divided into three parts. Empty cases were piled and arranged in a row along the centre and sides, with their open ends facing outwards, and thus an excellent set of storing shelves were constructed, and our packing cases were preserved from damage for future moves of the hospital. The pack store and ordnance clothing stores had necessarily to be in a separate tent. The ordnance stores were arranged in a tent, and patients who had lost their clothing were re-fitted there. A strong safe was kept in the office, where all money and valuables belonging to patients were kept. Some patients have handed in sums of £50 and £60 at a time for safe custody.

The officers' mess was located in a green tortoise tent with a floor of coir matting. We arranged to have a combined mess, so that medical officers and convalescent officers and their friends should mess together. A daily menu card, which included luncheon and dinner for the day and breakfast the day following, was useful, inasmuch as sick officers on full diet, but who were not able to come to mess, could select their own food. (Specimen menus, Appendix D). The food in mess consisted of each officer's rations supplemented by extras ordered for those who might be patients, by mess stores, and by local purchases of milk, eggs, fruit, and vegetables. The mess stores from England were packed in two ways: (1) Small quantities of various foods were packed in numbered cases, and catalogued so that each case had an assortment of food. (2) Other cases were each filled with one kind of food or other stores. The former is the better method if one anticipates much movement, and the latter if the hospital is to be more stationary. A judicious combination of the two methods would be the best. There are certain articles of food which we found were in great demand, such as jams, especially Cape jams, which are of most excellent quality, oatmeal, milk, particularly unsweetened milk and Dahl's Norwegian milk, small tins of cream, pressed beef, arrowroot, cigarettes, etc. Enamel-ware plates and dishes were in stock for use during moves, but these were replaced completely, whenever we became stationary, with crockery and glass.



DISTRIBUTION OF CLOTHING.





UNLOADING WOUNDED.



Each medical officer had a square bell tent to himself, and except at the very beginning each sister had a tent to herself. A "square bell" tent has four corners, which enables the space to be economised, and by means of an upright pole of 6 feet in the doorway a great deal more head room is obtained than in an ordinary bell tent. The centre pole has sometimes a nasty way of going through the canvas and allowing the tent to subside. These tents are very good if lined. They weigh 80 lbs.

All non-commissioned officers and men had their diets served to them in their wards on diet trays, as ordered by their medical officers. Diets for patients in hospital were of two kinds. At Rondebosch, where we were near abundant supplies, the regular hospital diets and extras were issued, and the military diet sheets used (see Appendix for Diet Sheets, and Diets and Extras, E, b, e, d). At Bloemfontein "rations" and "extras" were issued, and from these we devised a scale of diets and extras (see Appendix E). As these were daily prescribed by the medical officers the sisters wrote down the instructions in the ward book, and each made a summary of diets and extras ordered for her section, and sent this summary in to the steward, who then requisitioned accordingly. This question of diets and extras is a much debated question. In our opinion the military system of ordering

diets, if properly carried out, is a most excellent one, but the number of meals is too few. We therefore arranged for a fourth meal at about 7 P.M. as a kind of light supper, which we found to answer exceedingly well. We were fortunate in having good cooks, but if men were obtainable for war hospitals who had been thoroughly trained in a combination of "field" and "sick" cooking, and who could adapt themselves to circumstances, a most useful and

valuable addition could be made to the personnel.

For local transport we had a couple of ambulances and some six to eight mules, as well as an American trap, a water cart, and riding horses. A light American General

Service waggon would in addition have been very useful. This transport was utilised for the sick, for drawing rations and forage, and for transport of water.

A large number of tarpaulins, with poles 15 feet long and bolts and nuts a foot long, were very useful to us. With these we erected a bath house for men, shelters for natives, and shelters for packing cases, rough stores, and tools. Tarpaulins were also useful for floors of tents, and

for quickly protecting exposed stores from rain.

There are some important points in connection with the *packing* of all this equipment that we have not yet touched upon. It is well to have some trained packers amongst the orderlies. All packing cases should be so constructed as to be capable of being utilised either as tables or cupboards. It would be useful to have these cases made in standard sizes, so that they could be built up into tiers of shelves or cupboards. They should not be too large or heavy—40 and 80 lbs. loads are the most convenient for transport.

Beds and mattresses should not be packed too many together. Not more than two beds and two mattresses should be packed together. One of our beds and mattresses alone weighed 60 lbs., and they were light.

Cases should be bound with iron, and screws used instead of nails, so that they can be removed without destroying the cases.

The name of the corps and the address should be clearly painted on each package. Each case should have a consecutive number in its own special series and distinguishing mark, and the contents should be carefully enumerated in an inventory.

These precautions, most of which we had taken when fitting out our hospital, proved of the greatest possible assistance to us and saved us no end of time, trouble, and losses afterwards. Printed labels are useful to have always ready, but are difficult to make adhere properly. We went so far as to paste labels on the railway trucks carrying



A PORTLAND HOSPITAL AMBULANCE WAGGON.



our hospital, and they saved our losing two truck loads of stores.

A few suggestions as to stores may not be out of place here as the result of our experiences: Provision should always be made for a good supply of unsweetened milk. It is perhaps in some ways better than fresh milk, for one never knows whether the latter is pure. We have on several occasions, when we were short of fresh milk, issued unsweetened milk ready mixed with water as fresh milk, and it has been invariably taken with relish, and has often not been detected as tinned milk. Some brands of milk, such as Dahl's Norwegian Sterilised Milk, are most excellent and much better than many specimens of fresh milk.

A simple laundry and portable disinfecting apparatus (such as that constructed by Messrs Defries) should if possible be established.

A spare surplus stock of palliasses, waterproof sheets, and blankets are useful to have ready in the event of the unexpected arrival of any large convoy of sick. Convalescents or those slightly wounded can then be temporarily accommodated till more room became available, and more serious cases can be examined on these temporary beds before they are allotted to their proper wards.

An agent to collect stores and send off supplies at the base of operations is a most necessary appointment to make, and will help to save much trouble and time.

Appendix M will show the dates of our arrivals and departures, and of our first and last convoys of sick. During an actual number of 180 days, when sick were in our hospital, we treated 1009 patients. We received our first convoy of 33 sick at Rondebosch on 8th January, six days after the arrival of the transport *Victorian* with our equipment. It occupied us eleven days from the day we discharged our last patients at Rondebosch on 6th April to the day we received our first at Bloemfontein, including the railway journey of six days. On the 18th July we handed over our last patients prior to our departure for

England, where the hospital arrived on the 18th August 1900. During the voyage the personnel treated 82 cases (see Appendix O).

In Appendix N is a short statement of rates per cent. of sick and wounded for calculating hospital accommodation. Appendix O contains a list of kit recommended for hospital officers.

In a military hospital a large number of rules have been framed as the result of experience so as to enable the whole to work automatically, and yet maintain the chain of responsibility. One is apt to forget in the administration of a military hospital that the regiment is the soldier's home for the time being, and that he has a commanding officer, and relations and friends asking for information, and that the War Office Authorities require certain statistics on the health of our troops all over the world, so that health precautions may be adopted. Consequently there are certain correspondence records and returns which are essential. There is no doubt, however, that many returns and much correspondence might be abolished.

The aim of a Private War Hospital should be to reproduce those Military Rules and Returns, etc., that are most suitable, and omit the others.

The following are some that appear to be essential:-

"Admission and Discharge Book" is the basis of all returns. It gives the number, name, rank, corps, age, service, disease, date of admission, discharge or death, and remarks. In order to keep this book correctly, it is essential that these particulars should be furnished by some responsible person immediately on the admission of a patient, and that the medical officer should, in his own handwriting, name the disease according to the "Nomenclature of Diseases compiled by the Royal College of Physicians, London."

"Diet Sheets" are usually collected by a Wardmaster who has a "Summary of Diets" made (see Appendix E c)



CONVALESCENTS.



and sent to the steward of the hospital, who is then responsible for the drawing of diets and extras and issuing them to the cooks. For this reason the original ordering or prescribing of diets must be accurately done by the medical officer or person he deputes.

The Weekly Return gives a summary of the sick by diseases, and by corps, a list of officers sick, deaths, remarks on sanitation, prevalence of disease, etc. This return gives a brief review of the state of the sick in hospital and the changes they undergo from the state of the previous week.

## THE CAREER AND WORK OF THE PORTLAND HOSPITAL

By ANTHONY BOWLEY, F.R.C.S., Senior Surgeon.

THE Portland Hospital may be said to have commenced its career on 13th December 1899, on which day the Medical Staff and the orderlies embarked at Liverpool on the R.M.S. *Majestic*, "transport No. 68," and its work was finished when the transport *Canada*, with sick and wounded troops, arrived at Southampton on 18th August 1900. Much had happened during this time, and great events had occurred in South Africa, with very important and far-reaching results, affecting both the army as a whole and the hospitals which proved so important and necessary for the maintenance of that army in the field.

The voyage was comparatively uneventful, but the opportunity of a quiet time on board was utilised to inoculate a large number of the orderlies and staff with typhoid toxin, with results which will be found in detail later on; and for the present it is sufficient to note that, though some were for a short time rendered much more ill than others, all arrived at Cape Town in good health on 28th December, when on a lovely evening Table Bay and Mountain and the more distant peaks on the mainland looked their best in the light of the setting sun. Orders arrived for the *Majestic* to go round



TENTS OF MEDICAL STAFF AND ORDERLIES AT RONDEBOSCH,



Staff disembarked on the morning of 30th December, the orderlies, with Surgeon-Colonel Kilkelly in command, going to Rondebosch, and the rest of the staff joining Lord and Lady Henry Bentinck and Captain and Mrs Bagot at the hotel to which they had gone with the nurses who had accompanied them on the mail steamer which arrived three days previously.

A call on the Surgeon-General resulted in the information that the military authorities had fixed upon Rondebosch, five miles from Cape Town, as the place where the hospital should commence work, and the arrival of the transport *Victorian* with stores three days later

enabled the camp to be pitched forthwith.

The situation of Rondebosch was quite ideal from every point of view. Situated on the line of railway which crosses the Cape Peninsula to Simon's Town, it was excellently served by numerous trains, and the camp was placed about a mile and a quarter from the station, on

rising ground.

The soil was sandy, and fir trees grew in abundance. The camp ground had been but recently cleared of trees, and had never been built over. The houses immediately around consisted of scattered villas in their own grounds, whilst to the east was the open country called the "Sand Flats," covered mostly with small bushes and heather, and rich with flowers.

From the camp there was an uninterrupted view of Table Mountain, Constantia Nek, the Constantia Berg, and the Muizenberg, whilst the few trees which had been left here and there were subsequently found most useful by the convalescent patients as a shelter from the blazing sun in the months of January and February.

There was already an excellent water supply near at hand, which had been brought from Table Mountain to supply the houses in the neighbourhood, and the work of the Royal Engineers soon resulted in a series of stand-pipes being erected, so that there was an abundant supply for baths and wash-houses, as well as for the kitchens and the wards.

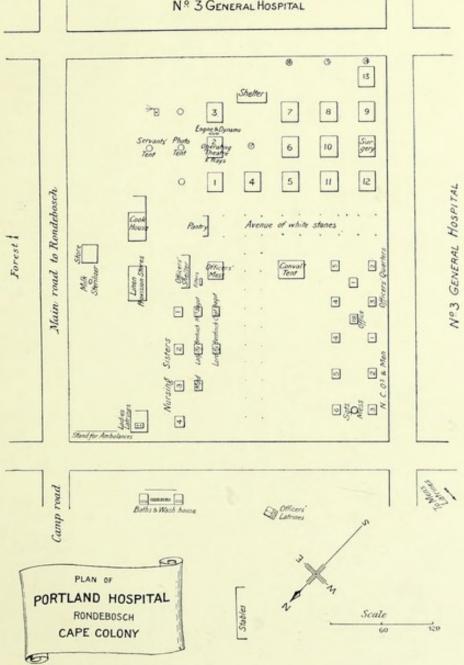
We found much of the camping-ground already occupied by the tents of No. 3 General Hospital, under the command of Col. Wood, R.A.M.C., who, with his officers, received us in the most cordial manner, and treated us during the whole of our stay with the greatest possible kindness and consideration, and did their utmost to make us feel thoroughly at home. Our camping ground was separated from the hospital tents of No. 3 by one roadway, and from those of the officers by another running at right angles, so we aligned our camp by theirs and set to work to get the tents erected.

Our kit was disembarked on Tuesday, 2nd January, and was brought to the camp mainly by road, the only difficulty experienced being that the traction engines and trucks were too heavy to pass safely over a small wooden bridge near to our ground, and that all the goods had to be offloaded on to waggons before they could be brought to their destination. In spite, however, of such minor troubles all went smoothly and well, and so heartily did our men work that by Saturday, 6th January, our tents were pitched, our beds and bedding were unpacked, and our kitchen was in sufficiently good working order to enable us to announce that we were ready to receive patients forthwith.

The plan of the camp will show at a glance its general arrangement. It was divided into two separate parts by a central roadway, so that the tortoise tents for the patients lay on one side, and the square bell tents of the staff were pitched on the other. The tortoise tents were 24 feet by 20 feet and rectangular. They consisted of waterproof canvas, with a lining of thinner canvas loosely attached so as to hang in folds and leave a considerable air space between it and the outer covering. This lining and air-space made all the difference in the comfort of patients during the hot weather, and the universal opinion

Forest.

OFFICER'S QUARTERS Nº 3 GENERAL HOSPITAL





of officers and men alike was that the tents were very cool and comfortable. They were also very easy to ventilate thoroughly, as they were fitted with numerous small openings for windows, and the whole of one or other side could be furled so as to open it completely to the outside air. Each tent held four beds a side, with room to place small tables between the beds and to leave a space in the middle of the tent six feet wide for a passage way, with a central table and other ward accessories. Each tent would have held ten beds instead of eight without material crowding.

The square bell tents of the staff and orderlies were 12 feet by 9, and of single canvas. They were very commodious, but the absence of any inner lining made it quite impossible to stay in them under a hot sun, and they could not well have been used for patients. As there was no necessity for either staff or orderlies to use them during the day, the heat of these tents was not a matter of much importance. The mess tent was a square tortoise tent 20 by 20, made of green canvas with an inner lining, and was floored with cocoa-nut matting. None of the tents for patients were floored at all, and no inconvenience arose therefrom, but the floor of the operation tent was boarded, so that it might be kept free from dust and give an even surface for the operation table.

Whilst at Rondebosch we utilised the packstore of No. 3 Hospital for the storage of men's kits and rifles, whilst another storehouse was built for us by the Royal Engineers for the keeping of our stock of clothes and food, and a tortoise tent was utilised for the stores in daily use.

Our kitchen was built in a few days of wood and galvanised iron, and was fitted with a range, but we also utilised Congo-stoves. A galvanised iron wash-house for the orderlies was erected on one flank of the camping ground.

We had taken out with us ten ambulance waggons, and

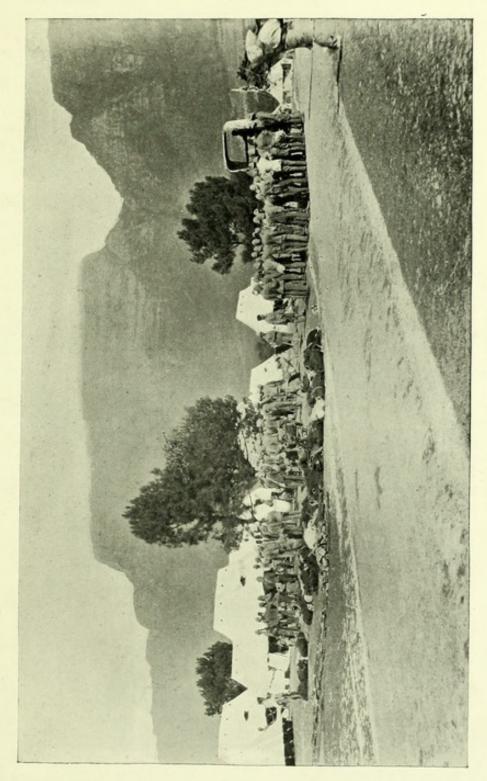
soon found that they were of more use to the military authorities than to ourselves. The patients who came to us were brought by train to Rondebosch Station, and were thence brought to us in army ambulances, in private carriages lent by people in the neighbourhood, and in our own ambulances, but the army supplied all the animals, and there was no need for us to obtain mules of our own. Our own waggons were often used, but we need not have had them.

For the purpose of bringing parcels from the station or goods from the docks at Cape Town, etc., we purchased four mules and used them in an ambulance waggon, and the mules and various horses for private use were stabled under some trees just outside our camp. Before we left for Bloemfontein we sold eight out of our ten waggons, two of them being purchased for the use of the Commander-in-Chief.

The three months of January, February, and March, during which the hospital was pitched at Rondebosch, were hot months, corresponding roughly to our summer months of July, August, and September. They were dry months, with a hot sun and a brisk wind. The sky was generally cloudless, and the shade temperature was often about 90°. The prevailing wind was from the southeast, and was sometimes very high, but, although more than a score of the marquees in No. 3 General Hospital were split and torn during our stay, none of our tortoise tents suffered in any way, although on many days the force of the wind was very great.

The soil was light and sandy and did not easily hold tent pegs, so that we had to obtain some iron pegs two feet in length to hold the chief stays of each tent. These precautions were sufficient, and no tent was ever blown over.

It will easily be gathered from the foregoing brief description of our camp and its surroundings that we had good reason to be satisfied with the start we had



ARRIVAL OF CONVOY OF WOUNDED.



made, but there was another very fortunate circumstance to notice, namely: our proximity to the three large Base Hospitals already established, and the opportunities we were afforded of becoming at once familiarised with bullet wounds of every variety, for the battles of Modder River and Magersfontein had not long since been fought, and the wounded had nearly all been sent down when we The close companionship of No. 3 General Hospital at Rondebosch, and the courtesy of its officers, supplied us with the opportunity of visiting their 500 beds as often as we pleased, and we soon found ourselves seeing cases in consultation and inviting our friends in turn to see anything of interest we had to show them, whilst the two Wynberg Hospitals were also so easily accessible that it happened we had some 1000 beds to visit when we pleased, and an unrivalled opportunity of acquiring a large experience of gunshot wounds in a very short time.

At this period there was very little sickness and no serious epidemics. A few cases of enteric began to appear in January, but it was not until the beginning of February that the epidemic of that disease began to be serious in the camp at Modder River Station.

We were well placed at Rondebosch in other ways than on suitable soil and in a good climate, for the residents of the district vied with each other in acts of kindness. The presents of food of all kinds, and notably of grapes and other fruits, were innumerable: vegetables, milk, and butter arrived daily for the use of "No. 3" and ourselves; cigarettes and tobacco and pipes were supplied in abundance. Concerts were got up for the evenings, and on many moonlight and starlight nights several hundred patients and orderlies collected in an open space amidst the trees near the hospital; and the piano, presided over by the justly popular chaplain, and the banjo of one of the Rondebosch residents, accompanied songs which were all the more appreciated if there was a chorus which was generally known. It was a picturesque sight on such occasions. The

stage was lit by a couple of lamps, and the men in their blue hospital uniforms, the army nurses in their scarlet capes, gave the necessary colour to the scene. Some of the patients proved valuable allies, and one of "Rimington's Tigers" with a tenor voice, and an Irishman who sang bass, were in constant request. We had also many lady performers, and especially one of very exceptional talents.

A little farther afield we found another valuable ally, for the owner of the steam yacht Rhouma, of 800 tons, offered to take twenty men and six officers as convalescents. It need scarcely be said that the offer was promptly accepted, and in a very brief space a large deck-house was built as a ward, and was furnished with bedsteads and bedding, and fresh and salt water tanks and baths, by the very generous donor. It was curious to notice how shy the first few patients were of accepting the offer to convalesce on the yacht. Reminiscences of a not too pleasant passage out, and a dread of sea-sickness, acted as strong deterrents; but as soon as the reports of the first convalescents reached the camp there was no more hesitation, and to go on board the yacht for a week or two was the ambition of most of our patients. They thoroughly enjoyed themselves there, and the soldiers and yacht's crew spun yarns in the forecastle to their mutual satisfaction, or fished with a line over the ship's side, or played deck quoits, and never found the day too long. There are many of our soldiers to whom the yacht and the life thereon must long remain as one of their most pleasant recollections. It was of great service to the Portland Hospital, and was very much appreciated by the staff.

Our female Nursing Staff consisted of four sisters, and to each of them the charge of certain tents was given. Those orderlies to whom were allotted the duties of nursing were similarly told off to be under certain sisters, and thus, before we had been at work more than two or three weeks, we had selected the men most suited for ward work as well as those whose duties were in the store, the stables, or other



DEPARTURE OF CONVALESCENTS.



out-door employment. The orderlies were daily instructed in their duties by the sisters, and they very soon proved themselves apt pupils, and many of them became admirable nurses. This was of course mainly the result of the example and precept of the sisters themselves, of whose excellence it is quite impossible to speak too highly. At Rondebosch itself their work was never very arduous, though they had plenty to do, but later on, at Bloemfontein, they were constantly overworked for many weeks, and it was only because they had trained their orderlies so well when times were more easy that the nursing of the hospital was able to sustain the strain thrown upon it, and it may truly be said that in this respect it could challenge comparison with any other hospital in South Africa.

The smallness of our staff did not permit of a regular night nurse, so, as it was evidently advisable to superintend the work of the orderlies who were not sufficiently experienced to rely on their own judgment, the five members of the Medical Staff and the four nurses were all placed on a night roster and took their turn at night duty—a system which worked quite satisfactorily.

The ladies who were living in camp relieved us of all housekeeping difficulties, and took charge of the officers' mess.

They also superintended the distribution to the men of the many presents of clothing, papers, tobacco, etc., with which we had been so well provided before leaving England, and, visiting daily in the tents, they were always welcome guests, and earned the gratitude of many anxious women in England by writing home letters for men who were unable to do so themselves.

During the first part of our stay at Rondebosch our patients were chiefly derived from the troops under General French, in the country between Naauwpoort and Norval's Pont, where there was incessant fighting on a small scale constantly going on. The men were Royal Artillerymen and cavalry soldiers for the most part, but we had ere long a considerable number of infantry and of Colonial troops in addition, and then, as the fighting became more general, our patients were drawn from all parts of South Africa, including men who had been sent round from Natal after the fighting at Spion Kop and Vaal Krantz.

Early in February, when the enteric fever epidemic was developing into a serious outbreak at Modder River Station, one of us (Dr Tooth) was sent to investigate the conditions of the outbreak, and, on his return a fortnight later, another of us (Mr Bowlby) visited the same place and Kimberley at the time when the wounded were arriving in large numbers from the fighting at Paardeberg and on the march thither. During the latter half of March we had very little work, for two reasons: In the first place another large hospital, No. 6 General, had been established at Naauwpoort, nearer to the front than we were; and secondly, after the blowing up of the Orange River bridges it was impossible to send sick and wounded down from Bloemfontein, which was by this time occupied by our troops.

It was therefore with much pleasure that we received orders to prepare for a journey to Bloemfontein, and on 8th April an advance party started to choose a camping ground and to make preparations, and on the 14th the hospital arrived at Bloemfontein.

Our move from Rondebosch perhaps deserves a brief description, for there are one or two matters which require a passing comment.

We ceased admitting patients and began to pack up ten days before we actually moved, but we did not evacuate our last patients till four days before removal. We took with us the whole of our possessions, and it was well we did so, for it was almost impossible to get anything sent up to Bloemfontein for weeks afterwards, and our supply of "medical comforts" was of the utmost service after our arrival, at a time when it was very



RAILWAY TRANSPORT OF PORTLAND HOSPITAL OVER HEX RIVER PASS.





LOADING TRAIN AT RONDEBOSCH.



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difficult for the supply to keep pace with the constantly and rapidly increasing demand. We packed our stores mostly in the boxes and cases in which they had been sent from England, and we obtained the help of two packers from Cape Town to assist in dealing with the glass and china. The beds and mattresses were roped together and packed in cases of six each, and the blankets were separately packed. The large tortoise tents were divisible into four equal parts of about 80 lbs. each, and were easy to handle thus divided, while the small bell tents of the staff presented no difficulties.

Our whole kit was finally packed in the large trucks called "trailers," which were dragged by one of the military traction engines, and were taken by the latter to the siding at Rondebosch Station. The only misfortune that occurred at this time was that the traction engine when on its way up to our camp broke through a wooden bridge and carried it, together with the whole width of the roadway, into the bed of a stream. It was two days before the road was repaired and the engine put on its wheels again, but the delay was of no importance as we had yet time to get packed before the date fixed for our departure. Our train, consisting of eleven trucks, was drawn up at the siding, and our own orderlies loaded it up in a day.

It left Cape Town on 8th April and arrived at Bloemfontein, after an uneventful journey, in six days' time.

During our stay at Rondebosch of just three months, we had had altogether 477 patients. Of these but one wounded man died, namely, an officer who had been shot through the chest and spine and was almost completely paralysed. All our other wounded did exceedingly well, and, though some of them had been badly hit, they were all fortunate enough to keep their arms and legs. One man had his forearm and his leg shattered by expanding or so-called "explosive" bullets, and not so many years

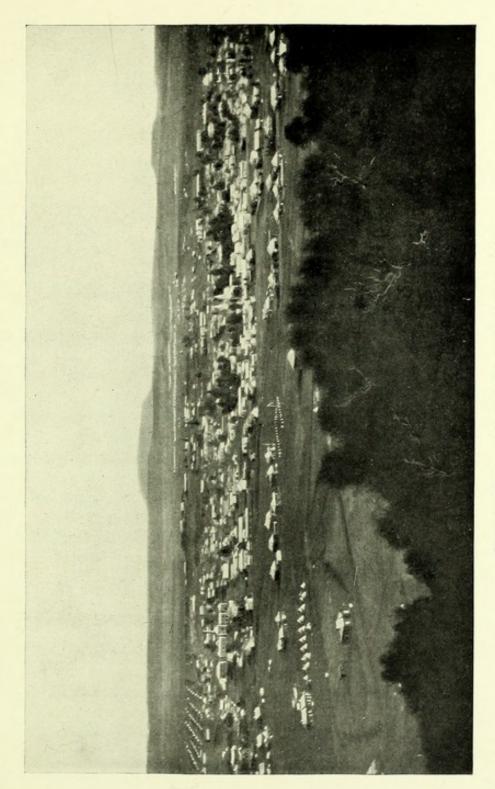
since would have probably lost both of them. He did very well, however, and was on a fair way to recovery when he went to England.

When we arrived at Bloemfontein we found that the Irish Hospital had also just arrived from Naauwpoort and was pitching its tents, and that the Langman Hospital was being erected in the cricket ground. The staff of No. 8 Hospital and most of its kit had arrived, and the tents of No. 9 were also in process of erection, but neither of these hospitals was ready for work.

The principal medical officer, Col. Stevenson, informed us that we could either camp below "Gun Hill," near to No. 9, or could go to the south-west of Bloemfontein about a mile and a quarter from the town, and after a walk over the whole of the ground around the town, we decided in favour of the latter site and never had cause to regret it.

For some time before we arrived there had been great difficulty in obtaining a supply of water, for owing to the loss of the water works Bloemfontein was dependent entirely upon the spring from which the town takes its name—"the Bloemfontein"—and upon wells and dams. These gave a wholly insufficient supply of doubtfully pure quality, and, in addition, every drop of water for all the troops and for the numerous buildings utilised as hospitals had to be pumped into water carts and taken very considerable distances by road. Fortunately, a few days before our arrival the Royal Engineers had re-opened two wells at the depth of 140 feet and 160 feet respectively, to the south-west of the town, and, after sampling the water, we at once decided to camp near it, for it was impossible to over-estimate the value of good water, and the ground near to the wells was fresh and clean, not having been previously occupied by any troops. It thus came to pass that the Portland Hospital was ere long erected in "The Park," for that was the name given to the open veldt on that side of the town.

Our stores were detrained on the morning of 14th

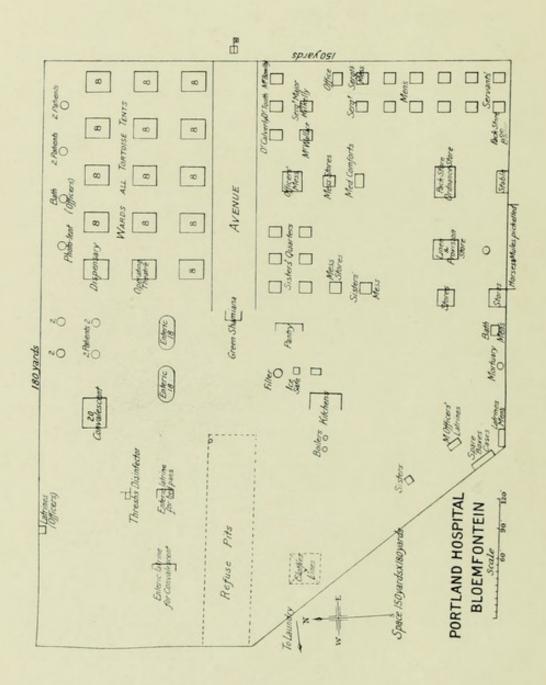


GENERAL VIEW OF BLOEMFONTEIN LOOKING SOUTH.

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April, and were some of them sent up to our camping ground by a traction engine that day. Most of them, however, did not arrive till after nightfall on a dark and wet night, and it was late before we had off-loaded the sixteen ox-waggons which carried our equipment. Next day—Easter Sunday—we had a busy time, pitching tents and unpacking a few things, but the afternoon brought with it a tremendous thunderstorm and a perfect deluge of rain, and made a horrible mess of much of our ground. We had already dug trenches round our tents, but the next day we had to dig long drains to carry off the water that trickled down the hillside, and which would have flooded us had we not been on sloping ground where it quickly flowed off.

We had a good deal of wet the next few days, but there were fine intervals, and when the sun came out things dried very quickly, so that we were able to go on pitching camp and unpacking stores, and although we were a good deal delayed by the wet, we were yet able to take in over 40 patients on 21st April.

The rain that had fallen had certainly impeded us, and had soaked the camps of the troops, who had all too few tents and shelters, but it had its advantages, for it filled up the dam at the entrance to the town and replenished all the springs and wells, so that there was a better supply of water. It had also a more far-reaching effect, for, by providing an abundant supply of water in the dams and vleis throughout the Free State, it greatly facilitated the march of our armies in their advance north.

Our new site was on the slope of a hill. The ground was covered with a thick crop of short grass, and the soil was light, though it soon became muddy and sticky when there was rain, and did not easily soak up water. Near to the camp, and between it and the town, was a cluster of willow trees, which were all the more noticeable because of the bareness of the surrounding country, and past them a road or track ran to the south side of the town.

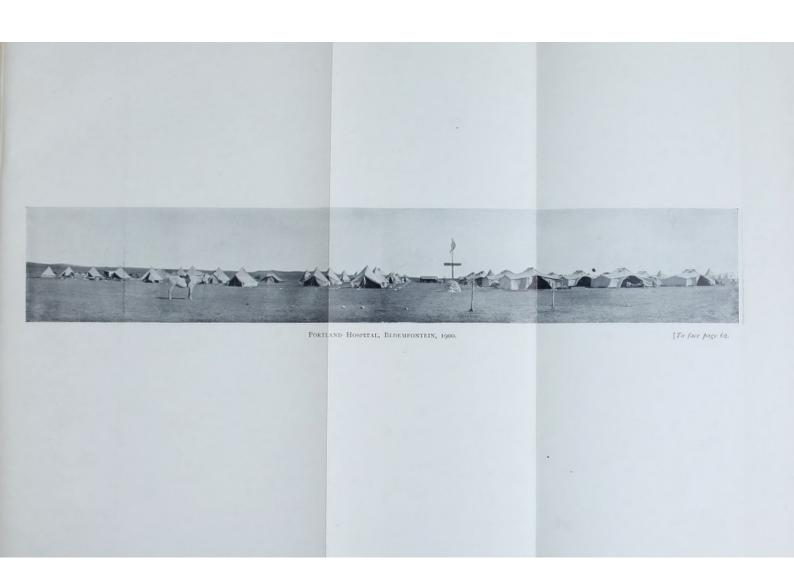
Our camp faced nearly due north, and looked on to the hills on the slope of which the recent parts of Bloemfontein are built. On the flatter ground below, where the hills rise from the veldt, were the tents of the 6th Division, and a little further and to the left was the camp of the Cavalry Division. Further on the right lay the tower of the Government buildings, and still more to the east was the President's house, lately the residence of President Steyn. In this direction also the turreted mountain top of Thaba N'chu rose, and looked only some fifteen or twenty miles away, though really it was more than forty.

To the south-east of our site, about a mile and a half away, lay the tents of the Highland Brigade and of the Artillery Camp, together with the encampment of a regiment of Colonial Horse; and in our rear, towards the south, was the open veldt stretching away to Leeuw-Berg and Brandtkop and the trees of Holden's farm. To the west and close to us was the camping ground of No. 8 General Hospital, and over the hill, up which their tents reached, lay an artillery camp near to the Kimberley Road.

We were indeed very well placed, being in open country and surrounded by the various divisions, yet at the same time having a clean and healthy camping ground placed not too far from the town.

The general health of our troops at Bloemfontein was at this time certainly bad, and very large numbers of men were daily going sick with enteric fever, whilst almost every one suffered, more or less, from diarrhæa, and there was a good deal of dysentery. For the explanation of this we must go back a little.

Before our army left Modder River Camp there had been an increasing amount of enteric fever, and not only were many cases left behind, but it is practically certain that many men already infected marched out with the army and did not develop the disease for perhaps a week





or a fortnight. It is very probable that the Modder River water below Paardeberg was infected by the Boer force, for there was certainly a good deal of enteric fever amongst the Boers whom we captured there, and no doubt more of our men became infected near Paardeberg, so that when we arrived in Bloemfontein we took with us into that place both men already suffering from enteric fever, as well as others who were to develop it within the next few days. There is of course no doubt that many of the sick men infected others, for they often remained in the ranks until the disease was well advanced, and where men are feeding together and using the same utensils, there are abundant opportunities of contagion.

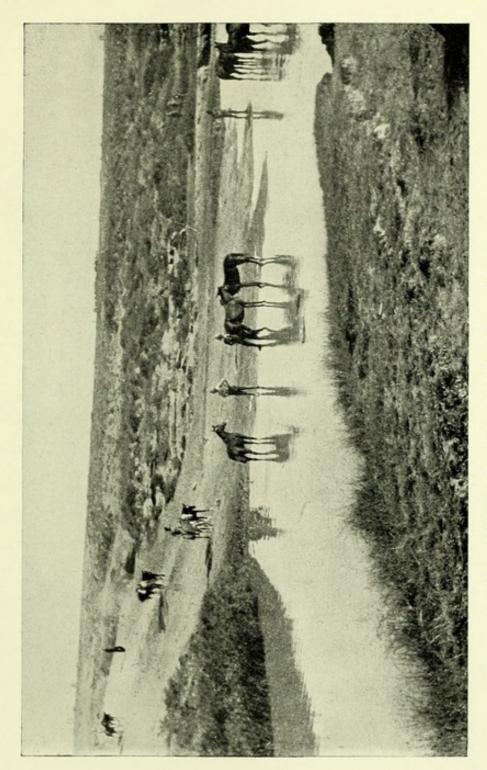
In the next place, and apart altogether from enteric fever, the men had had a very trying time, with long marches and short rations, and both great heat and much wet to make matters worse. When our army reached Bloemfontein the clothes of many of the men were worn to rags, and their boots were in shreds, while the destruction of the Orange River bridges and the injury to the railway line prevented any tents from arriving for some time, and left the men camped on a wet and muddy soil, on which many of them had to lie at night in their wet clothing. It is easy to understand how diarrhoea and dysentery increased under these conditions, for some time elapsed before the repair of the bridges and the restoration of the railway line allowed of the transport to the front of the tents and stores, which were in such abundance only the other side of the Orange River.

Under these circumstances the Field Hospitals quickly became crowded, and as fast as the various Civilian and Army Hospitals opened their beds they were filled with patients. A large proportion of the latter were sick, but we also had many wounded sent to us from the fighting which took place towards De Wet's Dorp and Thaba N'chu.

On 21st April we took in 42 cases from one of the

Field Hospitals, and a few days later one of us (Mr Bowlby) went, together with Mr Makins, to the camp of the 9th Division near the water-works, to see some badly wounded men. "Sanna's Post," where the water supply is taken from the Modder River, is about 24 miles from Bloemfontein, and had been recaptured by our troops on the 22nd, after which there had been more fighting on the way to Thaba N'chu. We had had a good many men wounded, and the officers of "Marshall's Horse" had suffered most severely. One of them was dead, and the officer in command and three others were more or less severely wounded. One of them was well enough to travel, so he, with several waggon loads of other sick and wounded men, was sent off to the Portland Hospital in the evening, and a few days later the remaining two officers and a private, who as it proved was fatally injured, followed them. It was on this occasion that we first made the acquaintance of the Indian Tongas presented to the army by Mr Dhanjibhoy, and especially built for the rapid conveyance of the wounded. They proved very comfortable ambulances, and were of much service, though they were too small to take comfortably more than two badly hit men. Their springs, however, were very good, and they took patients with much less shaking than any other form of vehicle.

The ox-waggons, especially those that had springs, were both capacious and comfortable on good roads, and, where patients who had to lie down could be supplied with plenty of hay, straw, or grass for bedding, there was little to complain of. There was, however, much, though unavoidable, suffering caused to men with broken bones in places where the road was stony and rocky, and especially where the track crossed a spruit or watercourse with steep banks and a rocky bed. At such places even a carriage with perfect springs would have jolted and bumped, for none of the roads are macadamised, and no attempt is made to move away even the most obvious



THE DRIFT ON THE MODDER AT SANNA'S POST.

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loose rocks and stones that are so freely littered in many places.

With all the ox-transport it is the custom to make night journeys, for thus the oxen both feed better by day and do their work at night when the weather is cooler, and thus it happened that convoys very frequently arrived at hospital at night-time and in the early hours of the morning.

On 29th April we took in another convoy of 30 men and officers, most of whom belonged to the cavalry and had been wounded some thirty miles away: there were also a few sick.

The convoy included six Boers, five of whom were more or less severely wounded. They were all Free Staters and well-built, healthy-looking men. Three days later some more wounded men and a Boer lad of 22 shot in the thigh arrived late at night, and all the time more cases of sickness, amongst which were many patients with enteric fever, continued to arrive from the camps around us. Our hundred beds had become all too few, and, as accommodation for officers was everywhere difficult to provide, considering the large number going sick, we increased our beds to 130 for non-commissioned officers and men, and 30 for officers. In order to do this we had to obtain two large ordnance store tents, which we utilised for enteric patients, and to fit up a tortoise tent with stretcher-beds and straw for more convalescent cases. The ordnance tents proved excellent-they were 60 feet in length and 30 feet in breadth, and were airy and high, and, though never intended for patients, they made excellent wards for 18 beds each. They were pitched in the rear of the camp so as to be as much isolated as possible, and the only drawback to them was that they were made of single canvas; this made them rather cold at night, and although the weather was no longer hot, the sun was sometimes too warm for a single layer of canvas in the day-time.

On 4th May one of us (Mr Wallace) went, together with

Mr Makins, to join the 9th Division at Brandford and Winburg, in the general advance to Pretoria, remaining with one of the Field Hospitals for the next fortnight, and then returning with a large convoy of sick and wounded.

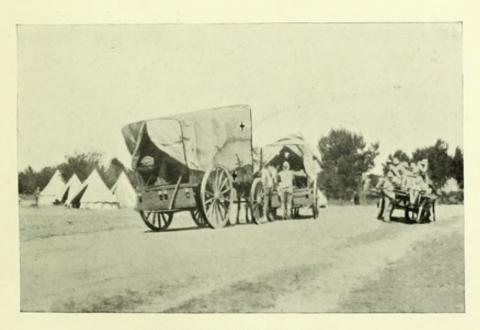
All the month of May sickness was rife, and enteric fever spread with increasing rapidity both at Bloemfontein and amongst the troops marching north. The weather from 18th April had been very fine and bracing, with brilliant, sunny days, and clear, cool nights. Ever since our arrival we had been troubled with myriads of flies, and as the country became drier, there was also a great deal of dust. The flies, it appeared, had come with the army, and we were assured by residents that in other years there had never been many flies at any time. We thought ourselves that they were very harmful in conveying disease, and knowing how they swarmed over the worst cases of enteric fever, we viewed their presence on every article of food with much distrust. Considering also the very soiled condition of the ground near to the various large camps, we felt that there was much danger in the dust which was sometimes very bad nearer the town, and in its streets. It should, however, be noted that typhoid fever never assumed a serious aspect amongst the civilian population, even when at its worst amongst the troops in camp.

There can be no reasonable doubt that many camps became regularly contaminated, and in the case of the 6th Division an immediate improvement in the health of the troops resulted when the General in command, at the instigation of the Principal Medical Officer, changed the camping ground of every regiment. All of them were moved at least a couple of miles away, and one regiment was camped out at the water-works 24 miles distant.

In certain camps an immense proportion of the men and officers went sick with enteric, in spite of every precaution being taken to boil or otherwise purify the drinking water, and we thought that if all the camps could have been shifted after the bulk of the army marched for Pretoria, it



BOERS GIVING UP ARMS AT WINBERG.



AN ARMY AMBULANCE WAGGON.

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would have been a very good thing from a sanitary point of view.

It is perhaps even now hardly realised how large a number of our troops went sick in a very short time. We were told by the medical authorities that on 4th May, when the army was en route to the Transvaal, there were 4500 sick and wounded left at Bloemfontein, and that by 28th May the number of men unfit for duty had been increased to 11,000. No wonder that it was difficult to provide accommodation and hospital equipments sufficient to keep pace with so rapidly rising a tide.

The difficulties indeed were liable to be increased in another way, for not only was it difficult to supply fresh orderlies in proportion to the increasing number of patients, but a very large number of orderlies, of servants of sick officers, and of soldiers detailed for hospital work, contracted enteric fever from attendance on the sick.

The reality of the risk run by the orderlies may be gathered from the fact that nine out of our twenty-four men were attacked, and of these one died. One of our sisters was also infected, but made a good recovery. In the face of these risks the behaviour of our orderlies was beyond all praise. They were all St John's Ambulance men, and had had no previous experience of hospitals or sick people. They proved a most excellent lot, and were most keen to learn to nurse.

It was quite surprising to us to see how little they seemed to fear being attacked, though they could not help knowing that the risks were very considerable; and this was all the more noticeable, of course, because they were not used, like ourselves and the sisters, to see sickness and death; at the same time it was all the more creditable. The conduct of the men was indeed most praiseworthy. They came out to nurse for six months, and at the expiration of that time, with one exception, they all stayed on when it was found that their services were needed for a longer period. They seemed to think

that they were bound to see it through, and they proved

willing and helpful till the end of our stay.

It is impossible to speak of the troops at Bloemfontein and of their sufferings without alluding to the work of the Red Cross Society. Down at Rondebosch we were ourselves nearly quite independent of it, but up at the front things were different, and, owing to special trucks being placed at the Society's disposal for transport of goods from the base, it was enabled to obtain supplies of food and clothing and hospital appliances which were much needed by all. We owed a large debt of gratitude to Colonel Ryerson, the Canadian Commissioner, who was in charge of the British Red Cross stores, for much assistance when it was most needed, and when we were called upon to enlarge our hospital we obtained from him invaluable supplies of kit, and, at a time when it was difficult to get much milk and "medical comforts," we drew from the Red Cross depôts supplies of all kinds, which we could not then obtain elsewhere. The Society seemed at all times to have just what was most wanted, and its stores seemed inexhaustible, though it was not always easy to get them to where they were most required.

The month of June found us still busy, but the closing days of May had brought with them some keen, frosty nights, cold enough to cover our water buckets with ice, and cold enough, as we soon found, to kill most of the flies. The townspeople had always been very positive as to the departure of the enteric fever when the cold nights set in, and we had been told by many people that the previous epidemics had always ceased after the winter frosts. It was at any rate certain that the decrease of the fever was coincident with the fall in temperature, and by the middle of June there was a very rapid decline of the epidemic. It ceased almost as suddenly as it had begun, and by the beginning of July there were very few fresh cases.

It has already been mentioned that we admitted several convoys of wounded from the fighting east and



LADY ROBERTS'S WARD.



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south of Bloemfontein, and then, during the few weeks that were occupied in the advance of the army to Pretoria, wounded as well as sick men came in from the various skirmishes. Consequently, as the hospitals were very much crowded, Lady Roberts arranged for the conversion of the ball-room at the Residency into a ward for wounded, and fitted it up with 36 beds. It was under the charge of Major MacMunn, and one of us (Mr Bowlby) was asked to act as consulting surgeon to it. The extra beds came in very useful at a time of great pressure, and the room made a most excellent ward, and was much appreciated. At this time also the various consulting surgeons were either with the advancing army, or else had returned to England, and it therefore happened that, owing to the courtesy of the staffs of most of the other hospitals, we saw many of the most serious cases in consultation, whilst the services of one of us (Dr Tooth) were similarly requisitioned in cases of enteric and dysentery.

As at Rondebosch, so also at Bloemfontein, many of the officers of the R.A.M.C. and the civilian surgeons attached to the military hospitals did everything in their power to enable us to see all that there was to see of military surgery and medicine, and we in turn were glad at all times to offer them whatever hospitality the Portland Hospital could afford.

With the month of July came empty beds and empty tents, and it seemed difficult to believe that the whole of the sickness and over-crowding should have come and gone in three short months. Yet such was the case, and it thus happened that we found ourselves with nothing to do at Bloemfontein but look after convalescents, so we placed ourselves in communication with the military authorities in order to ascertain what might be required of us, informing them that we were prepared to stay until September if our services were required, but that three of the existing staff would be obliged to return to England in October. We heard in reply that it had been decided not

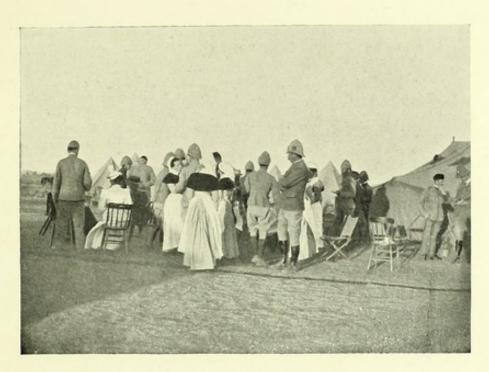
to send any more hospitals to the Transvaal, and that there was no present need for the maintenance of so many beds as had hitherto been required, so, as the time for which the Portland Hospital had been authorised had already expired, and the contracts with our orderlies and sisters were running out in August, we reluctantly were forced to the conclusion that we must bring our work to an end.

At the end of July, therefore, we arranged to sell all ourkit and remaining stores. The Ordnance Department bought our tents, and there was keen competition between the officers in neighbouring camps and the townspeople for the purchase of blankets, linen, and eatables of various kinds. We also found ready purchasers for drugs and surgical dressings, and if our stores had been in much greater quantities than they actually were, we should have had no difficulty in selling them all, for Bloemfontein had been practically cleared out by the Boers, and the difficulty of getting up fresh supplies by the over-worked railways had left every one for miles around very short of all kinds of household goods.

It thus happened that two of the staff (Dr Tooth and Mr Calverley), together with the nurses and orderlies, took charge of the hospital and invalid officers on board the transport *Canada*, whilst Surgeon-Colonel Kilkelly was appointed to the post of Principal Medical Officer to the Yeomanry Hospital at Pretoria, and Mr Bowlby went to Natal and visited many of the hospitals in that Colony.

The work done by the Portland Hospital during its stay from December to July may be very briefly summarised. It admitted 1009 officers and men, and of these, 37 died, 159 returned to duty, 303 were discharged to convalescent camps or hospitals, 98 went to England, and 412 were transferred to other hospitals at the base.

The general results obtained in the treatment of the wounded were very satisfactory. Altogether we admitted into the Portland Hospital 303 surgical cases, and of these only three died: one of them was an officer who had been



TEA IN CAMP, BLOEMFONTEIN.



PORTLAND HOSPITAL FOOTBALL TEAM.

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AND AND ALLER II MADE

shot through the lung and spinal cord, and was paralysed from the neck downwards; another was a man shot through the brain, who survived the injury nearly a week; and the third was a man with gangrene of his leg, who died from gangrene of the other leg, due to formation of a clot in the abdominal aorta, a week after one limb had been amputated.

All the other patients recovered, and in none of them was it found necessary to amputate either upper or lower extremities, though in some cases the saving of the limb was not at all an easy matter. The fact that our patients were practically all treated in the open air, and that our tents were never crowded, no doubt had much to do with the fact that nearly all the wounds healed without suppuration, and that there were no cases of erysipelas or other forms of septic poisoning.

## STATISTICS OF SURGICAL CASES.

Gunshot Wounds :-					
Spine and Back .		. 16			7
Abdomen					12
Head and Neck .					24
Thorax			-		10
Joints	4 4 9				18
Lower Extremity.					82
Upper Extremity					57
Various Injuries, including	Fractures				36
Surgical Diseases .					57
				Total	303

## A VISIT TO THE CAMP AT MODDER RIVER

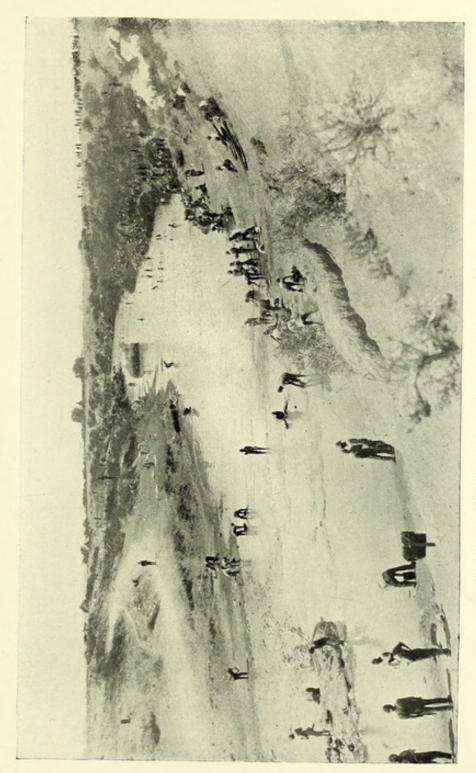
By HOWARD TOOTH, M.D., F.R.C.P.

THE sphere of action of the Portland Hospital was not confined to the treatment of the sick and wounded within its own boundaries, for when work was slack in the hospital, individual members of the staff were sent up to the front on several occasions, when the medical authorities thought their services were needed.

The following is a short account of a visit of one of us to Modder River Camp in February, shortly before the general advance under Lord Roberts which resulted in the relief of Kimberley, the capture of Cronje's laager, and the occupation of Bloemfontein.

It is the object of the writer to show something of the inner life of the great camp as it presented itself to a civilian, actuated, moreover, by a spirit of friendly criticism.

I arrived at Modder River some time after midnight on 6th February; we had passed through a blinding sand-storm a few hours before at Graspan, an interesting but unpleasant example of one of nature's moods. After a wholly inadequate wash, soon after daybreak, my servant and I were trudging over a vast sandy plain in bright hot sunshine, in search of the Guards' Brigade Field Hospital. It was in a scene full of life and interest that we found



BATHING AND WASHING CLOTHES AT MODDER RIVER CAMP.

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ourselves—tents, soldiers, horses, as far as the eye could see. Bugle calls sounding chastened by distance, long lines of patient horses being walked down to the Modder to water, amidst clouds of dust. A martial scene in every sense of the word, but how different from the preconceived picture! Where was the colour so dear to the military artist? Monotone only, and that khaki—ground, river, trees, tents, men, and horses, all the same. Blue sky, and not always that; everything else yellow. Away to the north, softened by distance, lay the forbidding Magersfontein kopjes full of sinister reminiscence.

Across the plain we laboured, ankle deep in soft dust, until we came to the Modder, rightly so named, the colour of pea soup. The Modder and the Riet rivers join near the railway bridge wrecked by the Boers, the two rivers thus embracing an area of land on which was encamped the Guards' Brigade.

I was received with the utmost kindness by Col. Magill, Principal Medical Officer of the Guards, and by his colleagues; and I very soon found myself quite at home in a comfortable bell tent, properly trenched, and with a double roof, through which, however, the heat rays beat mercilessly.

A stretcher and two boxes served for a bedstead, and a very comfortable one too.

Our tents faced the outposts opposing Magersfontein, and in the mornings we could see our 4.7 guns shelling the enemy, and at night the search-lights were busy signalling to Enslin from the beleaguered Kimberley. Immediately in front of us lay the Guards' Camp, full of interest to the civilian.

A Field Hospital is a very simply constructed unit. Except the Bearer Company, it is the most mobile of the medical appurtenances of an army in the field. It must be ready to follow its brigade at a moment's notice. Lightness of transport, therefore, is of the first importance.

Its tents are of the regulation bell pattern, to contain

6 or 7 patients. There is one larger, but light, square tent for operation purposes, also used as a mess tent for the officers.

Its staff consisted of the Colonel and three Surgeon-Majors of the Guards' regiments, a Quarter-master Captain of the R.A.M.C., 7 non-commissioned officers, 3 corporals, and 14 orderlies, making with supernumeraries a total personnel of 40.

The transport consisted of 10 so-called ambulance-waggons, of the usual army pattern. These were also service-waggons, as we were unpleasantly reminded by an order, issued on the arrival of the Commander-in-Chief, that all Field Hospitals were to be reduced to 2 waggons only, the remainder being requisitioned for general transport purposes.

This use of waggons for two such different services results in the production of a vehicle which is unfit for one or both of the purposes to which it is put. For the wounded it should be light, with comfortable springs, in which case it is not fitted for heavy transport. A carriage that could be used for both services seems, on the face of it, an impossible dream, even if it were advisable at all. The medical service should be supplied with its own inalienable means of transport, something after the fashion of the Indian tonga, or the ambulances used by the Australians or Yeomanry in this war. The spectacle of 8 or 10 mules dragging two lying down wounded men is not a credit to the authorities, either from the point of view of expediency or economy.

The daily life of the medical officers of the hospital, though perhaps somewhat monotonous to themselves, was full of interest to the visitor. The mornings were taken up with visiting the tents full of sick and wounded patients, most of whom were lying on the ground, unless very ill, in which case they enjoyed the luxury of a stretcher. Everything was done that could be to make them comfortable, but the intense heat, the in-

tolerable nuisance of flies, and the frequent sandstorms, combined to make a pitiable picture of human discomfort. Enteric fever was becoming a serious matter at that time, and all day long fresh cases were being brought in, and the hospital was rapidly growing larger. In the same tent might be found enteric fever, dysentery, sunstroke, to say nothing of minor ailments, and a large batch of wounded came in from Koodoos' Drift while I was there, mostly shot in the legs and feet. The surgeons were most assiduous in their attention to their patients, and there was little time for relaxation. We found time, however, for an occasional ride in the afternoon, or a visit to the outposts, or even for a quiet angle in the Modder.

The evenings were very pleasant. After dinner we sat and smoked outside the mess tent, and the nights were something to be remembered. The glamour of the African night must be felt, it cannot be described. All round the horizon the noiseless lightning would be playing, feebly imitated by the search-lights of the signallers. The brilliant moon and stars, and the general hush over the great camp, made it difficult to believe that we were in the theatre of a bloody war.

But life was not always as agreeable as above pictured. Every now and then the whole plain would be swept from end to end by a gale of wind, bringing with it a vast cloud of fine sand. This also must be experienced to be properly appreciated. A sand-storm approaches its victims as a huge yellow wall, and in a moment they find themselves in the darkness of a London fog, coughing and sneezing, and breathing and swallowing an ill-smelling reddish dust which would find its way through the best constructed tent in the world. To the initiated, however, the sand-storm has other terrors beyond those of mere physical misery, for this sand is the vehicle for the transmission of disease germs of all sorts. When such a storm is in progress meals are out of the question, and in fact

there is nothing to be done but to cover one's mouth and wait until it is over. We believe these storms and the other pest of flies to be important factors in the spread of enteric fever.

The arrangements for the accommodation of the enteric fever patients were perhaps the best that could be made in the circumstances. The Field Hospitals received the patients first, and then, as soon as the diagnosis was made, they were removed to the school-house and another building near the station, where they were accommodated with beds or stretchers. Here also there were four nursing sisters, and more comfort than could be given in a Field Hospital. The officers were put into a pleasant little house on the banks of the Modder, where they were well looked after, and one of the Guards' officers was in a room behind the Station Hotel, which was the head-quarters of the staff.

It is needless to say that these buildings soon became quite full, and then the Field Hospitals had to go on filling up and adding tents; a foretaste of what occurred on a far larger scale at Bloemfontein afterwards.

It must be borne in mind that Lord Roberts had now arrived on the scene, that a general advance was daily, almost hourly, expected, and that such an advance must be shared by the Field Hospitals, which were still glutted with sick men, and yet were compelled to empty. The buildings were full. The nearest Stationary Hospital was at Orange River, 40 miles away, but the daily cry was to evacuate, and it became imperative to send down the line large batches of sick men, many, of course, in the early stages of enteric fever. It was regrettable that such a course was necessary, but what other course was possible, save the establishment of a fully-equipped Base Hospital at Modder River, which would soon have been useless?

Compared with the terrible epidemic at Bloemfontein, this of Modder River appears almost insignificant, if looked at from the point of view of numbers. I have copies of the daily returns between 29th January and 6th February, kindly furnished me by the Principal Medical Officer, Col. Townsend, showing the number of cases in each unit of the forces encamped. On 29th January the return was 97 and 17 deaths. There was a daily increase, so that on 6th February there were 156 cases reported and 27 deaths. I could not get any more returns, but these figures will serve to show the rate of increase and mortality. Lord Roberts arrived on 8th February, and the camp rapidly emptied for the forward movement to Klip Drift, 13th February.

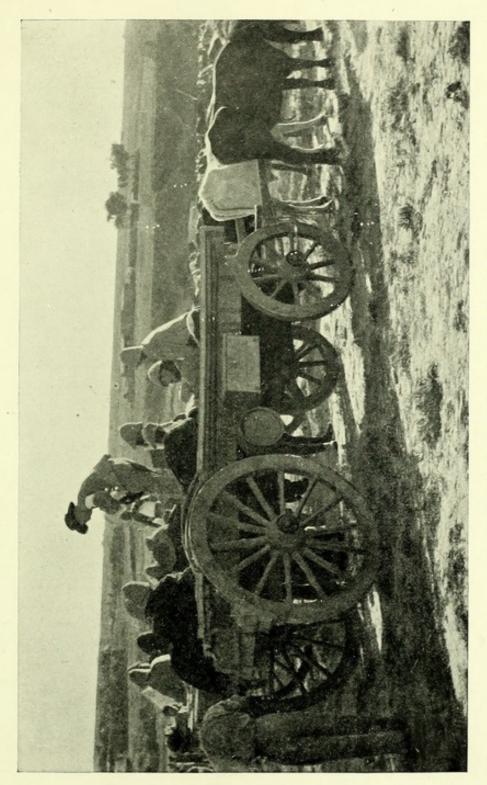
But these figures, though comparatively small, are deeply significant in the light of after events. It is popularly supposed that the fearful outbreak of enteric fever at Bloemfontein was the direct outcome of the halt at Paardeberg, the antecedent events at Modder River being overlooked. Paardeberg was surrounded on 17th February and captured on the 27th. Foul as Cronje's laager was found to be, it is not stated that there was much enteric fever there, in fact I was afterwards told by a Boer doctor, who ought to have known, that there was not much of the disease amongst the Boers, at any period of the campaign. Without then denying the possibility of the Paardeberg incident having a share in the infection of the troops, it seems more reasonable to look upon the Bloemfontein epidemic as the natural consequence of that of Modder River. For all through the march, which took about 28 days, men were falling sick and infecting others, and it is practically certain that the troops took the enteric fever with them from Modder River Camp, and that it continued to spread amongst them all the way to Bloemfontein, where it finally blazed up with increased virulence as soon as the army was stationary in camp. With these remarks I conclude my account of my stay at Modder River. On 16th February I left, with much reluctance, this interesting scene.

## THE MEDICAL WORK

By HOWARD TOOTH, M.D., F.R.C.P.

In a medical report of the doings of the Portland Hospital the most important place must be given to the consideration of enteric fever, without which scourge, it must be remembered, the medical casualties of this campaign would have been comparatively insignificant. It is scarcely within the province of the present report to discuss the ætiology of enteric fever, yet a few remarks on the spread of the disease as it presented itself to our experience may not be out of place here. One of us had the opportunity of investigating the outbreak among the troops encamped at Modder River before the general advance by Lord Roberts, and in addition to this, our knowledge was gained principally from the experience of the hospital encamped at Bloemfontein when the epidemic was at its height.

Apparently for some years enteric fever has been endemic in South Africa. As in England, the disease lies dormant during the winter months to reappear with the warm weather, and it is therefore reasonable to assume that the disease was not brought out by the army, but acquired in the country. The experience of the Guards in this connection is instructive. By the kindness of Col. Magill, Principal Medical Officer of the Guards' Hospital at Modder River, one of us was shown the admission and discharge book of the hospital, and it was



AN OX-WAGGON WITH WOUNDED AT SANNA'S POST.

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evident from this that enteric fever was almost unknown until about 25th December, though the Guards had been fighting and marching for a month before that date. About this time four cases were recorded in men of the same company, who were known to be friends, and who had drunk water at a farm, and therefore were probably all infected at the same time. From the date of this commencement enteric was a common feature in the daily record.

When troops are on the march, or constantly shifting camp and sending their sick to the rear, the number of cases of illness appears to be comparatively small, but when troops are massed in large camps the outbreak assumes the proportions of a serious epidemic. was the experience at Modder River and afterwards at Bloemfontein, but the Bloemfontein epidemic was by far the most serious for the following reasons. The troops that marched there were those that had encamped at Modder River Station, and many were already tainted deeply with the disease, which they had contracted there; there can be no doubt that many a man started on the march from Modder River with the disease upon him. When to this is added the privation of a forced march, the heat of the summer and short rations, the extreme severity of the cases may be easily understood. Regarded in this light the epidemic of Bloemfontein was the natural sequel of that of Modder River Camp and not of the delay of Paardeberg.

The spread of the disease among troops encamped is, however, the question now requiring discussion. As before remarked, an epidemic does not appear to assume alarming proportions while an army is on the march, but the conditions among troops encamped are very favourable for the dissemination of the disease, and this was especially the

case in the camps now under consideration.

The most obvious factors in the spread of the disease are:-

1. Water.—The water supply of the Modder River Station Camp was in the main that of Modder River, but that of the head-quarter staff, which was lodged at the hotel near the station, was a well behind the hotel. This water was clear, and looked good, but the chemical analysis was less favourable than that of the river itself. The troops generally drew their water from the river. This water was thick and muddy, but not unpalatable even in its natural state. It was liable to contamination from various sources in its course, mainly dead horses, and possibly dead Boers; moreover there was said to be enteric at Jacobsdal, on the Riet, which joins the Modder below the railway station. The water from this river was also used, but to a less extent than that of the Modder. Various methods were used by many regiments to purify the water drawn from the Modder; these were boiling and clearing by the addition of a small quantity of alum, and filtering by the Berkefeldt and Pasteur filters; but in spite of all precautions the vast majority of soldiers filled their bottles straight from the river above the drift. Latterly some six or seven wells were sunk about 30 feet from the river, but these do not seem to have been used very much.

The water supply of Bloemfontein was very restricted at first from the fact that the water works were in the possession of the enemy for about a month and were only recaptured on 22nd April, so that until early in May Bloemfontein spring and certain wells were the only source of supply. Of these the spring was the most important. It is situated to the west of the town close under the Residency. The water looked clear and good, but the chemical analysis was unfavourable. There was a large donga about 50 feet from it, and at a slightly higher level than it, but separated from it by a high bank. There was no reason to suppose that there was any communication between the spring and this donga, but it must be noted that the donga was formed by the confluence



Ordnance Store Tents, used as Wards for Enteric Fever at Bloemfontein.





TUBE WELLS AT BLOEMFONTEIN.



of two smaller dongas which practically drained a large camp area west of the town, occupied, in fact, by the whole of the 6th Division; also that on the banks of one branch was a Field Hospital with at least 60 enteric cases in it at the time of observation. These dongas are dry in the dry season, during which time they accumulate a great quantity of refuse, fæcal, and other dangerous matter, but when the rain comes they become torrents for a time, as we had ample opportunity of seeing for ourselves. We cannot therefore exclude the possibility of contamination of the Bloemfontein spring, though it is scarcely probable.

Close to the site chosen for the Portland Hospital Camp, near a clump of trees known as the "Willows," were two tube wells from which, after 12th April, a good supply of excellent water was drawn. Another well was bored close to the "Willows," and these three wells were made great use of by the camps near them, among them No. 8 General Hospital and the Portland. These wells were bored deeply into solid rock, one of them was 160 feet deep, and contamination from surface drainage was practically impossible. Other wells existed in the town and to the east, but of these we know nothing.

After the arrival of the Portland Hospital, one of its staff was placed upon a Board which was appointed to inquire into the water supply and the precautions necessary for checking the spread of the fever, and as a result the bucket system of drainage was ordered to be adopted in all camps and hospitals. This was carried out fairly thoroughly, and the old open trench latrines done away with. After, the water works were taken, and when the supply therefrom was reopened an analysis was made of water from the town main (Appendix G). This was not satisfactory, and it was suggested by us with reason that the mains having been so long stagnant might have become contaminated, so after a time another analysis was made (Appendix G), but this being still

unsatisfactory, one was made of the water from the Modder River reservoir (Appendix G) as a control. This was not above suspicion, but as the possibility of contamination at the source was not great, it is probable that the organic matter as shown by analysis might be only vegetable.

In conclusion, it will be seen that both at Modder River Station and Bloemfontein the water supply was open to question, but it is probable that water did not play a very important part in the dissemination of the disease. This is a matter of opinion only, for as far as we know no bacterial examination of the water was ever made, and without that no analysis can be said to be of much value. A consideration of the number of officers suffering from the disease has some value in this discussion. Officers as a rule are much more careful in the matter of drinking water than the men, and in camp many drank nothing but boiled water, yet the percentage of officers affected is probably very high, for at our hospital out of a total of 70 sick officers 33 were cases of enteric fever, that is 47.1 per cent., while the percentage of enteric cases among the sick men was 33 per cent.

2. Dust and sand storms.—In our opinion these are very important factors in the spread of the disease. Whenever the wind blew strongly, which it did most days for a time, and sometimes all day at Modder River Station, the camps were smothered in dust. No tent, however carefully closed, could keep it out. The food at such times was full of sand; and bedding, clothes, and baggage were full of dust. The latrines were all of the open trench form at this time, and the atmosphere being intensely dry, the dust from these latrines must have blown about with the rest. In a camp of this size (there were 40,000 men there at the time one of us was there) there must at any time have been many men with enteric walking about, and it is not therefore too much to say that many of the ordinary latrines contained enteric evacuations. Moreover, a day never passed without the appearance of one or more local

whirlwinds, called "sand devils," by means of which light articles, paper, etc., were whirled up high into the air and deposited all over the camps. Under these conditions the water supply as a medium of spreading the disease seems to take almost a secondary position. At Bloemfontein these same forces were at work, but to a less striking degree than at Modder River, probably because the season of the year was less favourable to them.

3. Flies seem to have a special attraction to enteric fever patients. In a tent full of men all apparently equally ill one may almost pick out the enteric cases by the masses of flies that they attract. This was very noticeable at Modder River, for at that time there were in many tents men with severe sunstroke who resembled in some ways enteric patients, and it was remarkable to see how the flies passed over them to hover round and settle on the enterics. The moment an enteric patient put out his tongue one or more flies would settle on it.

At Bloemfontein the flies were a perfect pest; they were everywhere, and in and on every article of food. It is impossible not to regard them as most important factors in the dissemination of enteric fever. Our opinion is further strengthened by the fact that enteric fever in South Africa practically ceases every year with the cold weather, and this was the case at Bloemfontein. For though the days after about 10 A.M. are as warm as an English summer day, and the temperature in our tents at mid-day was rarely below 70° F. and often about 80° F., the nights are very cold and often frosty, and with the cold nights the flies disappeared. It seemed to us that the cold weather reduced the number of the enteric cases by killing these pests.

Statistics relating to enteric fever and inoculation.—If these remarks have any value it would appear in the present state of knowledge to be almost impossible to successfully combat hygienically the spread of enteric in any army under similar conditions, and it must be remembered that these are the conditions under which most of our campaigns are carried on in India, Egypt, and Africa. We therefore turn naturally to the question of the establishment of an artificial immunity in the individual soldier from this greatest of all scourges.

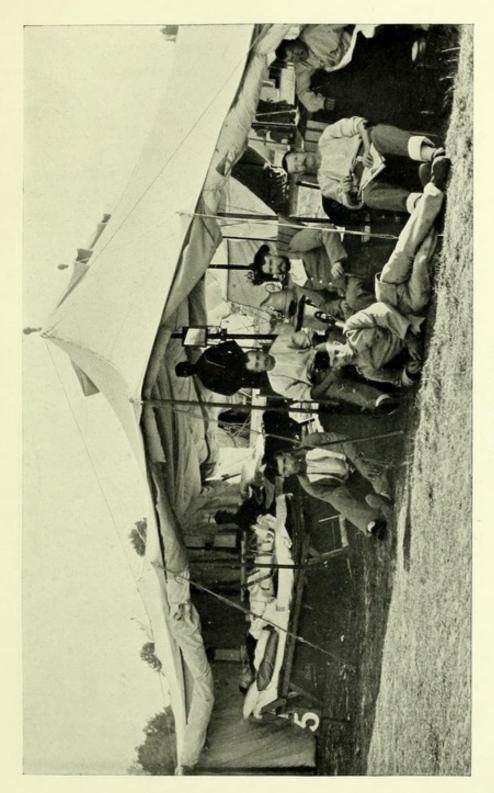
Inoculation against enteric has excited the greatest interest in the medical history of this campaign. Our experience unfortunately covers only a small part of the ground, but such as it is we now record it.

The personnel of the Portland Hospital.—The strength of the Portland Hospital was 41 persons, including sisters and servants. Of these 24 non-commissioned officers and orderlies were inoculated on the voyage out and 4 of the medical staff also were inoculated. Of these all showed the local symptoms well-marked, i.e., pain and stiffness and local erythema. Seventeen presented well-marked constitutional symptoms in addition, i.e., general feeling of illness, rise of temperature and headache. Of the orderlies 9 had enteric fever subsequently, as had also one of the sisters. Two of these orderlies, both of whom had refused to be inoculated, had it very severely, and one of them died; the others had been inoculated, and of these 5 had the disease lightly and 2 fairly severely.

These facts are shown in the following table:-

Personnel.	Inoculated.	Not Inoculated.	Had Enteric.	Died.
Medical Staff . 5	4	1	0	0
Sisters 4*	0	4	I	0
N.C.O.s, Order- lies, and Ser- vants }32	24	8	9	1†
Total Strength . 41	28	13	10	1

<sup>\*</sup> Two New Zealand Sisters joined the Hospital at Bloemfontein, and were finally replaced by Miss Harland. † Had not been inoculated.



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Officers and men admitted to the hospital.—We do not consider in these figures patients who were admitted to the hospital as convalescents, and who would appear in our admission and discharge book as enteric cases, but only those who were directly under our care. If we included all the former our percentage of mortality would of course be much lower.

We have notes of 232 enteric fever cases (including those among our own personnel), most of which came under our care while at Bloemfontein. Among these we find that 54 gave a history of having been inoculated before coming out, or on the voyage out, that is 23.2 per cent. of the whole number of officers and men. Of the inoculated cases 4 died, making a percentage of deaths from enteric fever among inoculated patients of 7.4 per cent.

Of the non-inoculated cases 25 died, that is 14.0 per cent.

The total percentage of deaths among our enteric cases amounts to 12.5 per cent. only, and we are inclined to attribute this low death rate to the fact that we were not overcrowded with more cases than we could fairly undertake to nurse and treat.

These results are tabulated as follows:-

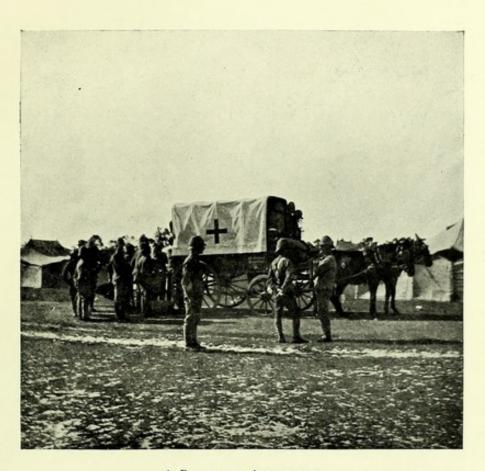
ENTERIC FEVER.	Reco	VERED.	Died.		
ENTERIC PEVER.	Inoculated.	Not Inoculated.	Inoculated.	Not Inoculated	
Officers 34	21	12	Per cent.	Per cent. I = 7.6	
N.C.O.s & Men 198	29	141	4=12.1	24=14.6	
Total . 232	50	153	4=7.4	25=14	

The percentages in the last two columns represent the mortality of inoculated cases as compared with that of the non-inoculated patients, and the figures as will be seen are very much in favour of the inoculated.

An attack of enteric fever is supposed to confer immunity from the disease for a longer or shorter period, and in the main this must be true, but in six of our cases there was a distinct history of a previous attack; in one the patient said he had had the disease twice, and in another so lately as a year ago, when he had a very severe attack. If in some persons the immunity conferred by the disease itself is so slight, we can hardly expect very great things from inoculation only in such cases.

Remarks on inoculation.—The figures above given, though small, and our general impression from observation of the individual cases are distinctly favourable to inoculation. There were undoubtedly severe cases among the inoculated, but these were few, and the greater number were mild both as regards symptoms and duration—in fact in several the disease might almost be described as abortive. The mortality at our hospital among inoculated cases, as compared with that of the non-inoculated, was small (7.4 per cent.). There were only four deaths. One man died quite suddenly during convalescence from embolism of the pulmonary artery, another was found postmortem to have had septic pneumonia, and the other man died of pneumonia which was not apparently septic. Three therefore died of complications.

Inoculation is still on its trial, and even if the larger figures of the whole army, yet to be published, are not so favourable as these, it must not be judged too hardly. The natural immunity possessed by certain individuals on the one hand, and the extremely small amount possessed by others on the other, is so undeterminable that nothing but experiment on the most extensive scale and careful record can possibly enlighten us. In some, for instance, even the immunity conferred by an attack of the disease itself is so slight that they may get it again within a year, whereas numbers of non-inoculated officers and men who



A PORTLAND AMBULANCE.



AND ARREST AND ARREST A.

in a transfer of



An Indian Tonga.



must have taken the bacilli into their alimentary canals many times have not had the disease. It is on cases which fall between these two extremes that inoculation

may probably be of the greatest use.

Simple continued fever.—Where large bodies of troops are encamped, there appear to be always a number of cases of fever without any other distinguishing features. Moreover in certain localities medical men recognise febrile diseases peculiar to those localities of which the pathology is still obscure, such as, for instance, "Kimberley" fever and "Pretoria" fever. No doubt in time light will be thrown upon these diseases, as has been the case with the so-called "Mediterranean" fever. That there is some pathogenic organism or toxin vet to be discovered is of course highly probable. Where enteric fever is epidemic there are generally many such cases, and there are medical officers who refuse to recognise such a condition apart from enteric infection. Without going so far as that, however, we strongly suspect that many of these so-called "simple continued" fever cases are enteric of a mild type, for it must be obvious that if cases can be of so mild a nature as to be walking about until perforation accidentally occurs-the so-called "ambulant" cases-there must be many degrees of mildness between these latter and the severer and unmistakable forms. While the hospital was at Rondebosch we had several patients who, having been returned as "simple continued" fever, were certainly well marked enterics on their arrival from the front. We noticed also a tendency, in many of our cases, to an early fall in the temperature (about the 17th day), and then, after a day or two of normal temperature, a rise to high continued fever and other evidence of true enteric fever.

Of such cases we have 41 on our admission book.

Diarrhwa and dysentery.—These diseases are second in importance only to enteric fever. Diarrhœa was so common as to be almost universal. In the majority of cases it yielded readily to treatment, especially if treated

early. But some cases proved very obstinate, and it was sometimes necessary to send the patient to the base, where he generally recovered. The causes of this diarrhœa are probably more than one.

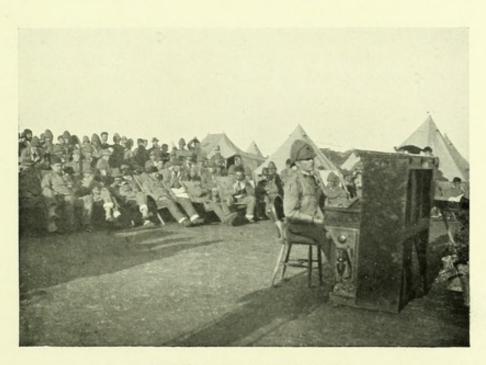
The soldier is the most careless of mortals in the matter and manner of feeding; it is rare to find, among these patients, a good set of teeth, and the food on the march is necessarily not so good as in camp, and some stomachs do not take kindly to tinned meat and biscuit. The food is liable to be contaminated with sand; in fact, in Africa the men were swallowing sand all day in large quantities, more especially on the march, but also in camp to a greater or less degree. It has been suggested that this gritty matter has a mechanical effect on the mucous membrane of the intestines, and the term "sand diarrhœa" was frequently used. In our opinion, however, the diarrhœa is much more likely to be due to microbes adhering to the sand than to the mechanical effect of it.

The great diurnal variation of temperature must not be overlooked as a possible factor in this affection. It was not uncommon to experience a difference between the night and day reading of 50° F. in the tents, such as a mid-day temperature of 80° F., and a fall at night to 30° F., and this difference must have been still greater in the open air. A catarrhal inflammation of the large intestine due to cold is therefore at least a possibility. In the more chronic cases it is not unreasonable to suppose a simple follicular ulceration of the large intestine, readily curable by local means. It is difficult to say when a case ceases to be one of simple diarrhæa and becomes dysentery—in fact we are inclined to regard the difference as being only one of degree in the majority of cases, in other words, to look upon epidemic diarrhæa as mild dysentery.

If this is so, every case of diarrhoa, however slight, becomes of importance, not so much on account of the patient, but as a possible focus of dissemination of the disease. For there can be little doubt that there is a



PRIZE DISTRIBUTION AT BLOEMFONTEIN.



CAMP CONCERT, BLOEMFONTEIN.

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micro-organism yet to be discovered, and that the disease is probably spread by the same means as enteric fever, therefore similar precautions as regards disinfection should be taken.

Thirty-three cases of diarrhœa were admitted into the wards, many of these, however, convalescent; it is most likely that the great majority of these deserved to be called dysentery. Of unmistakable dysentery 101 were under treatment from first to last. Three of these died, and characteristic inflammation and ulceration of the large intestine was found.

Sunstroke.—Our opportunities of studying this disease were comparatively few, for the hospital was at Rondebosch during the summer months, and this was too far from the front for patients to come in the acute stages, and local cases were not very common. A fair number of patients were sent down as cases of sunstroke, and the disease deserves some notice here. When the hospital removed to Bloemfontein the weather was so comparatively cool that we saw very few cases there. One of us, however, had the opportunity of seeing cases in the early stages at Modder River in February before the general advance.

The work at outposts was at this time very trying, and the heat often intense. The only shelter for the men from the sun was and is afforded by the brown service blankets stretched on short posts; under these the men lay with their coats off, and often their chests bare. It is needless to say that a blanket offers a very poor shelter from the heat rays when a double-roofed tent is almost unbearable.

On their arrival at our hospital at the base, the most striking feature presented by these patients was the great debility, but most of them still complained of headache, generally posterior, and they showed a marked reluctance to leave the shelter of the ward tents. Exposure to the comparatively mild sunshine of the Cape seemed to bring on the headache. They resembled in this particular some forms of neurasthenia. A few cases made little improvement and had to be sent home.

Diseases commonly attributed to exposure.—Among these may be included catarrhal inflammation of bronchi, lungs, and kidneys, and rheumatism. If exposure to cold is a prime factor in these diseases they should have been very common, for large numbers of men, even at Bloemfontein, slept on the ground night after night with no more protection than a blanket shelter, when the thermometer was considerably below the freezing point. It is true the air at these altitudes is comparatively dry, but there was enough moisture to cause a white frost on most nights, and when the rain fell, the ground, being of clay, became unpleasantly sodden, and the drying process was slow. The large daily variation of temperature, at least 50° F., has been already referred to. The very dress of the soldier would appear to favour these diseases, for it is difficult to imagine a more uncomfortable covering than a wet, sodden cotton drill. And yet in our experience bronchitis was rare. We have notes of only 6 cases, and of these 3 were previously subject to the disease. Of true Lobar pneumonia we saw not one case.

Even as a complication of enteric these affections were rare, strikingly so, compared with home experience. The common cold in the head was rarely seen. We must, therefore, assume that the micro-organisms which probably play so important a part in these diseases do not flourish

on the higher plains of South Africa.

Phthisis was still more uncommon, i.e., 2 cases only, both apparently acquired on the voyage out.

Acute nephritis should have been not uncommon if exposure plays an important part in its causation, but we only saw 3 cases, and in these the kidney lesion was almost certainly not acquired during the campaign.

Rheumatism.—We had under treatment from first to last only 15 cases, but it was a common diagnosis among patients received into our hospital convalescent and on

their way from the front to the Cape. The commonest manifestation of this disease seems to consist of pain in the legs without swelling of joints; II were of this description. The remaining four had some articular swelling, but without much fever. But of true rheumatic fever we saw no example except one on the ship coming home, and we therefore assume that it was not common.

In considering the remarkable immunity of soldiers on active service from these diseases commonly attributed to exposure, we must not lose sight of certain important points. The age of the soldier is that in which, after initial risk, exposure in a healthy climate might be expected to have a hardening effect, and consequently a diminishing liability to such diseases. Alcohol is not an article of diet on active service, in fact almost total abstinence was the rule throughout the campaign.

The condition of the soldier after a few weeks' active service compares very favourably with that on the voyage out, when cases of pulmonary disease were quite common, even after so slight exposure as sleeping on deck in warm latitudes. The medical officers of the Woodstock Hospital, Cape Town, utilised largely for receiving the sick from amongst troops newly arrived, would probably have a very different experience from ours.

Heart disease may be conveniently considered here. In only one case was it likely that the heart affection was acquired on service, and this was in one of the few cases of articular rheumatism. In the other cases the heart lesion probably dated from a previous attack of rheumatism. Naturally one does not expect to find many cases of heart disease among a selected body of men. We had, however, 8 cases in all; in these the mitral was the valve diseased, 5 with regurgitation, and 3 with stenosis.

Disordered action of the heart is very commonly diagnosed, i.e., palpitation and irregularity of action, but when one sees the debilitated and sometimes anæmic condition of some men after hard service, it is only sur-

prising that functional derangement of the heart is not more common.

General debility. — This somewhat indefinite term includes a number of cases of men obviously unfit for duty, by reason of loss of flesh and general weakness, but without any marked mental or nervous symptoms. There is often distinct anæmia. Many of them suffer from dyspepsia, and bad teeth were very common among them —no doubt a fruitful cause of such malnutrition. The treatment was generally simple and satisfactory; rest and good feeding, iron and strychnine tonic, with proper attention to the digestion, and the result was usually a rapid gain in weight and bodily power. Fifty of such cases appear in the admission and discharge book.

Neurasthenia.—A review of all the functional nervous disorders arising out of this campaign would probably be of the greatest interest. Unfortunately it has not been in our power to make comprehensive observations on this class of disease, those falling under our immediate care being comparatively few. The frequent poor state of general nutrition, the excitement of battle often following prolonged mental strain, and bodily fatigue, must all combine to favour the appearance of functional nervous disorders.

The X-ray Equipment.—In this respect the hospital was very fully equipped. Mr Churchill was so kind as to lend us an Influence machine by Pidgeon. But unfortunately we could make no use of it. The atmospheric conditions at Rondebosch were not favourable to this form of machine, and it was almost impossible to keep sand from covering the plates and collectors with innumerable points of leakage—at least that was the only explanation we can give of the failure to get sufficient tension to give any result with the tubes.

But our experience with the coil was highly satisfactory. We took out two Lithanode batteries of 6 cells each, and of 30 A.H. capacity. These we had charged at the

Rondebosch Electric Light Works only three times in the three months that we were there. We must here express our obligation to the manager of these works, Mr M'Muldrow, for his repeated kindness and help to us in electrical matters. The batteries stood extremely well, and ran the whole time we were at Bloemfontein without recharging, never standing below 12 volts on the voltmeter.

We were, however, quite prepared to charge them ourselves if necessary, for we had a complete generating plant, *i.e.*, a small ½ h.p. horizontal engine, boiler, and dynamo. One of our orderlies was a fitter, and therefore quite at home with the engine, which, though looking at first rather a toy, turned out to be quite up to its work, that is to drive the small dynamo at a speed sufficient to charge the batteries. Strictly speaking, the batteries should have been charged regularly every week at least, but practically we found the loss so slight that we never thought this necessary, especially as fuel was scarce at Bloemfontein.

The coil was one of Apps's of the pattern of which he has supplied many to the War Office. It was capable of giving a 12-inch spark under favourable circumstances. The interruptor and condensor were separate from the coil, which we think a convenience. This apparatus gave us no trouble whatever, except that the platinum contacts wore rather too rapidly, and would in the future be better rather longer.

We took out 12 Crooke's tubes of various makes and resistances, but finding one of them gave satisfactory results, both with screen and photography, we used no other all the time we were out. The Mackenzie-Davidson couch proved of the greatest use: but though we had the localising apparatus, we never had occasion to use it. The whole of this apparatus was arranged on one side of the operating tent, and proved of the greatest value in the diagnosis of the presence and position of bullets, and also in the examination of fractures of bones. In fact we may

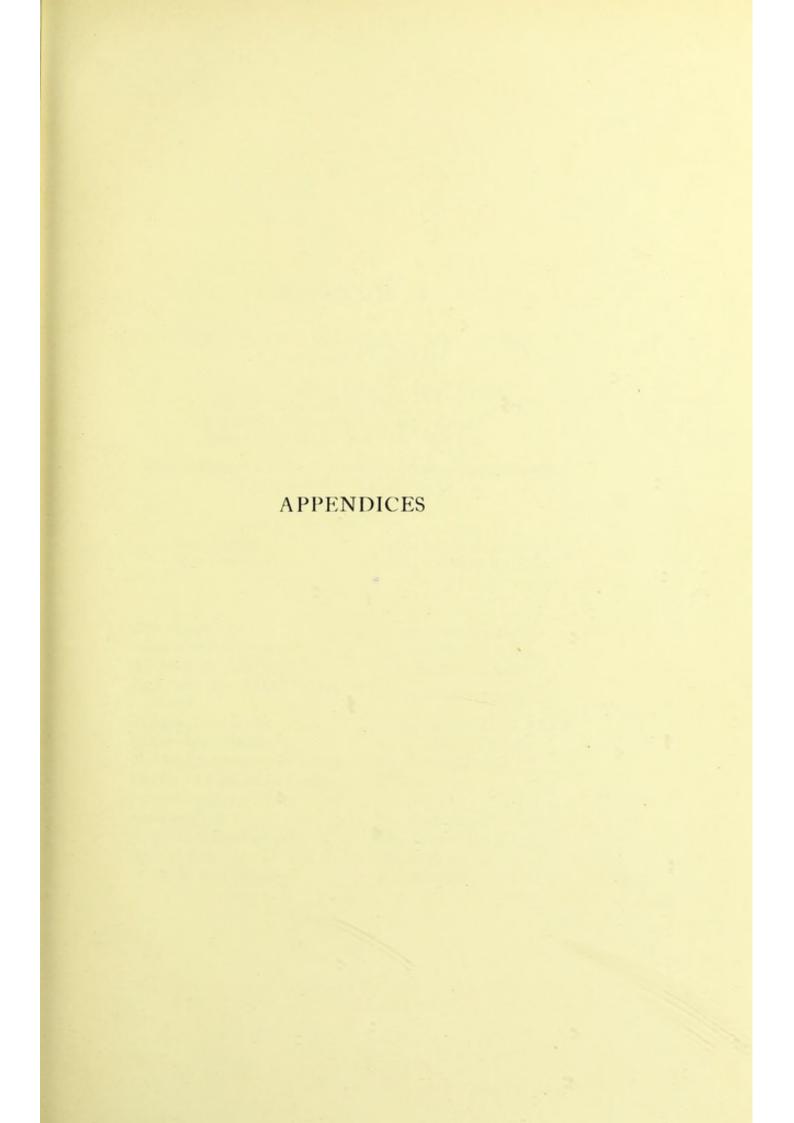
safely say that the usefulness of the hospital would have been impaired considerably if it had gone out without the X-ray equipment.

A bell tent was reserved for photographic purposes. In this tent was set up a small dark tent, which enabled us to change plates or even to develop in broad daylight; but as a rule all X-ray work was done after dark. We had many opportunities of proving the superiority of photography over simple observation by means of the fluorescent screen, though the latter has advantages of its own.



BOER WOUNDED.







# APPENDIX A.

# MEDICAL AND SURGICAL STAFF OF THE PORTLAND HOSPITAL.

ANTHONY BOWLBY, F.R.C.S., Senior Surgeon. HOWARD TOOTH, M.D., F.R.C.P. CUTHBERT WALLACE, M.B., B.S., F.R.C.S. JOSEPH CALVERLEY, M.B., B.S., M.R.C.S.

Surgeon-Colonel KILKELLY, Grenadier Guards, Principal Medical Officer, and in Military Charge.

### Nursing Sisters.

Miss Pretty.
Miss Cox-Davies.

Miss A. M. DAVIES. Miss Frances Russell.

Chief Wardmaster		-	SSgt. Noble, R.A.M.C.
Steward and Compounder			Sgt. FARRELL, R.A.M.C.
Assistant do. and Office			SSgt. Peat, S.J.A.B.
Pack Store and Sanitary Du Camp	ties .	of )	SSgt. Evans, S.J.A.B.
Assistant Compounder .			SSgt. MACNAMARA, S.J.A.B.
Master Cook-Hospital .			SSgt. SAYER, S.J.A.B.
Chef for Officers' Mess and Sick	Offic	cers	W. A. SCETTRINO.
Chef for Sick Officers in Hospi	ital		G. T. EVANS.
Provision and Linen Store			Pte. BOYD.
Assistant Cook			Pte. Bushell.
Assistant in Pack Store .			Pte. BOTTERILL.
Office Orderly			Pte. Collins.
In Charge of Transport .			Pte. MITCHELL.
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Section A.—Sister DAVIES.	Section C Sister RUSSELL.
Ward I Orderly, Pte. BLEASDALE. ,, 2 ,, Pte. STRATFORD. ,, 3 ,, Pte. HOLLOWAY.	Ward 7 Orderly, Pte. HARNESS. " 8 " Pte. SQUIRES. " 9 " Pte. POTTINGER.
Section B.—Sister Cox-Davies.	Section D.—Sister PRETTY.
Ward 4 Orderly, Pte. RYAN.	Ward 10 Orderly, Pte. HARPER.
" 5 " Pte. Newnes.	" II " Pte. Ellis.
" 6 " Pte. Compston.	" 12 " Pte. PALLETT.

### Enteric Ward, No. 16.

Sisters Carston and Godfray, New Zealand, temporarily attached for night duties.

Orderlies, Ptes. MARCHANT, MOORE, and HARRIS.

Enteric Ward, No. 18.
Sister HARLAND.
Orderlies, Ptes. BORER and MATTHEW.

21 Convalescent Tent.—Ward No. 13. Orderly, Pte. WILSON.

Operating Theatre	and Photo Tent.
Orderly, Pte.	FREEMAN.

In Charge of Enteric Linen.
Pte. JOHNSON.

### Officers' Servants.

Pte. Barnes (Grenadier Guards). | Matilda Clutton (to Nurses). S. Marker (afterwards Messman). | I. Collins.

## 

"Extra Duty" pay, at 4d. daily, was given to some for certain extra duties.

"Extra Messing" Allowance, 4d. daily, was given to each N.C.O. and man to improve their messes.

One month's gratuity on termination of contract services, increased later to two months.

## APPENDIX B.

#### FORMS OF CONTRACT.

To the Committee of the Portland Hospital (Red Cross).

I, A. B. C.,

of A. B.,

hereby offer to serve as a Nurse to Her Majesty's Forces in South Africa on the following conditions:—

I. The period of my service hereunder shall commence as from the day on which I shall embark from England, and shall continue until the expiration of six calendar months thereafter, or until my services are no longer required, which ever shall first happen.

 My pay shall (subject as hereinafter appears) be at the rate of £40 per annum, and a gratuity of £20 at the expiration of my services.

3. In addition to such pay, I shall receive a free passage from England to South Africa, and (subject as hereinafter appears) a similar free passage from South Africa to England at the end of the said period; and I shall be put to no expense for maintenance, rations, or transport during such period.

4. During the said period I will devote my whole time and professional skill to my service hereunder, and will obey all orders given to me by Commissioned Military or Naval Officers, or by the Permanent Medical Officers of either of those Services, or others

who may be appointed as my superior officer or master.

5. In case I shall in any manner misconduct myself, or shall be (otherwise than through illness or unavoidable accident) unfit in any respect for service hereunder, of which misconduct or unfitness the Military Authorities, or those in charge of the Portland Hospital, shall be sole judges, you shall be at liberty from and immediately after such misconduct or unfitness to discharge me from further service hereunder, and thereupon all pay and allowances hereunder shall cease, and I shall not be entitled to any free passage home.

6. In the event of my death or injury by accident or otherwise, neither I nor my relatives or others shall have any claim whatsoever against the Committee or otherwise in respect to my decease or injury.

Dated this 6th day of December 1899.

A. B. C. (here sign).

Witness to the signature of the said D. E. (Witness).
On behalf of the Committee of the Portland Hospital I accept the foregoing offer. (Signed) PORTLAND.

#### FORMS OF CONTRACT-Continued.

To the Committee of the Portland Hospital (Red Cross).

I, A. B. C.,

of A. B.,

hereby offer to serve as a First Grade Orderly to Her Majesty's Forces in South Africa, and make myself generally useful, on the following conditions:—

1. The period of my service hereunder shall commence as from the day on which I shall embark from England, and shall continue until the expiration of six calendar months thereafter, or until my services are no longer required, which ever shall first happen.

2. My pay shall (subject as hereinafter appears) be at the rate of

30s. per week.

3. In addition to such pay, I shall receive a free passage from England to South Africa, and (subject as hereinafter appears) a similar free passage from South Africa to England at the end of the said period; and I shall be put to no expense for maintenance, rations, or transport during such period.

4. During the said period I will devote my whole time and professional skill to my service hereunder, and will obey all orders given to me by Commissioned Military or Naval Officers, or by the Permanent Medical Officers of either of those services, or others who

may be appointed as my superior officer or master.

5. In case I shall in any manner misconduct myself, or shall be (otherwise than through illness or unavoidable accident) unfit in any respect for service hereunder, of which misconduct or unfitness the Military Authorities, or those in charge of the Portland Hospital, shall be sole judges, you shall be at liberty from and immediately after such misconduct or unfitness to discharge me from further service hereunder, and thereupon all pay and allowances hereunder shall cease, and I shall not be entitled to any free passage home.

6. In the event of my death or injury by accident or otherwise, neither I nor my relatives or others shall have any claim whatsoever against the Committee or otherwise in respect to my decease or

injury.

Dated this 5th day of December 1899.

A. B. C. (here sign).

Witness to the signature of the said

D. E. (Witness).

On behalf of the Committee of the Portland Hospital I accept the foregoing offer. (Signed) PORTLAND,

# APPENDIX C.

### SCALE OF CLOTHING FOR ORDERLIES.

- 1 Great Coat.
- 1 Serge Suit, Khaki.
- 1 Drill Suit, Khaki.
- 1 Helmet and Field Service Cap.
- 2 pairs Boots.
- 3 Blankets.
- 2 Towels.
- 2 pairs Drawers.
- 2 pairs Socks.

- 1 pair Putties.
- 1 pair Braces.
- 2 Flannel Shirts.
- 1 Haversack.
- 1 pair Canvas Shoes.
- I Holdall, with Knife, Fork, Spoon, Razor, Brush.
- 1 Jersey.
- 1 Mess Tin.

# APPENDIX D.

### MENU.

Menu of Queen's Birthday Dinner, 24th May.

Soup—Julienne.

Lamb Cutlets.

Green Peas.

Sirloin of Beef.

Roast Venison.

Fruit Tart. Cheese Straws.

### PORTLAND HOSPITAL.

Menu.

LUNCHEON

DINNER

BLOEMFONTEIN. 102

Date

# APPENDIX E.

### ARMY "HOSPITAL DIETS" AND "EXTRAS."

### VII.-Hospital Rations.

Diets on ordinary service. 54. Except at stations abroad where special scales are in force, which are detailed in the local regulations of the station, issues will be made to the patients specified in paragraph 65 in accordance with the following scales, according to the diet upon which each patient may be placed:—

Diets.

### (a) DIETS.

	CLASS OF DIET.						
ARTICLE.	Va- ried.	Roast.	Con- vales- cent.	Chicken.	Beef- Tea.	Milk.	Plain Milk.
Meat (Beef or Mutton) without bone . ozs.	12	8 (steak)		half	8 (beef)		
with bone "	15	(chop or joint)	10	fowl	(beef)		
Bread ,, Salt ,, Tea ,	18	18	16 13 13 134	16	14	12	
Sugar ,, Milk ,,	1 1 1 2 6	6	6	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I 3 pints	3 pints
Butter ,, Potatoes ,,	1 16	1 8	8	8	1		**********
Vegetables ,, Flour ,,	4	4	4 1 1 1 2				
Barley ,,			1½ 			2	
Pepper (every 100 diets ,, Mustard (every 20	2	2	2	2	2		
beef diets) "	I	1	1				

Extras.

55. Extras to be ordered when considered necessary for the treatment of the case.

	Extras.	Class of diet upon which admissible.
	Butter Bread	All diets except varied.
4800 3 142	Customary fruits in season White fish, 12 ozs. gross weight . Butter, 2 ozs	
	Potatoes, 8 ozs., or	Upon beef-tea diet when it is found necessary to keep a patient on this diet for any lengthened period, or when there is a tendency to scorbutic taint.
	Flour, \(\frac{1}{8}\) oz	Upon varied, steak and chicken diets when ordered by the medical officer to be stewed.
	Wines * (Sherry, Port, Tarragona, Claret)	Upon all diets, including varied.  [For officers' diets, or in excep-
38407 Medical 162	Other articles, in addition to above	tional cases, as considered necessary by the senior medical officer.

Ingredients.

56. When any of the extras specified in paragraph 55 are ordered, they will be made and charged according to the following proportions:—

Barley-water—barley, 2 oz.; sugar, 2 oz. For every 5 pints of Rice-water—rice, 2 oz.; sugar, 2 oz. each.

Measure of liquids.

<sup>\*</sup> Milk, wines, and spirits are to be calculated at 20 oz. the Imperial pint. The reputed quart bottle should contain  $5\frac{1}{3}$  gills, or  $26\frac{2}{3}$  oz.

```
Lemonade-two large lemons and 11 oz. of sugar
                                                         to every 2
Gruel-oatmeal, 2 oz., and 11 oz. of sugar
                                                           pints.
Rice-pudding-rice, 2 oz.; milk, 3/4 pint; sugar, 1/2 oz.; egg, 1.
Sago-pudding—sago, 11 oz.; milk, 2 pint; sugar, 2 oz.; egg, 1.
Custard-pudding-milk, 1 pint; sugar, 1 oz.; eggs, 2.
Cinnamon, 1 oz. may be issued for 15 puddings, or one lemon to
    12 puddings.
Oatmeal, 4 oz.; with milk, 8 oz.
Arrowroot, 2 oz.; with sugar, 1 oz.
Sago, 2 oz.; with sugar, 1 oz.
Egg flip; 2 eggs with 1 oz. sugar.
Tea, per pint; \frac{1}{8} oz. tea; \frac{3}{4} oz. sugar; 3 oz. milk.
                   10% oz. meat without bone.
                    133 oz. meat with bone.
                     ½ oz. extractum carnis.
Beef-tea, per pint ₹
                     4 oz. essence of beef.
                   With pepper and salt as required.
```

57. The following rates will be allowed for substitutes:

Substitutes.

2 oz. lime juice = 1 lemon.

3 oz. rice, or

3 oz. flour, or = 16 oz. potatoes.

8 oz. bread

1 oz. preserved potatoes = 5 oz. fresh potatoes.

1 oz. preserved vegetables = 10 oz. fresh vegetables.

 $\frac{1}{2}$  oz. coffee= $\frac{1}{6}$  oz. tea.

I tin condensed milk = 21 pints.

58. On active service, in general hospitals at the base, and in On active stationary hospitals on the lines of communication, the scale of diets laid down in paragraph 54 will be followed as far as practicable, and any deviations found necessary, on account of the position, climate, or the supplies obtainable, will be sanctioned by the general officer commanding, on the advice of the principal medical officer. If a special hospital for officers is formed on active service, the scale of issues will be such as from time to time may be ordered by the Secretary of State, or by the general officer commanding in anticipation of his authority.

59. In the event of a soldier not being likely to require treatment When beyond that of the day on which he has reported himself sick, he will soldiers are be detained in the hospital for that day only and subsisted from his rarily unit, to which he will return if considered fit for duty; but if at the evening visit he is found unfit for duty, he will be regularly admitted and placed on hospital diet for the following day, notice to that effect being sent to the officer commanding his unit.

(6) AN ARMY DIET SHEET.

189	DISEASE.		CASE BOOK, Vol. page	Religious   *	Initial of Medical Officer (first time, name in full). All spaces in which no entries have been made	must be severally ob- literated by the Medical Officer thus before he signs his name or initials.		
fe	py., Age.							
Month of	Regtl. No. Troop, Compy., or Battery.		Discharged from hospital.		Extras. Quantities in words.			
	Regtl. No.		Discharge		Exr			
	Corps.		Admitted into hospital.	189				
at			Admitted		RINKS. in words.			
Hospital, at.	RANK AND NAME.		dmission	ge Book.	DIET DRINKS. Quantities in words.			
	RANK A		Number in Admission	and Discharge Book.	Diet, first time name	in full, afterwards by initials.		
			N	ar		Date.	- 4 64 500 10	0
	DIET	SHEET	Ward	No.	up, the if for for tal duty, so.	If allowed hours, and light hospi state		

	Tor
330 22 23 23 23 23 23 23 23 23 23 23 23 24 23 23 24 23 24 23 24 24 24 24 24 24 24 24 24 24 24 24 24	TOTAL IN FIGURES.
	-

I certify that the above Diets, Drinks, and Extras were prescribed by me solely for the use of the above-named Patient, for whom I consider them absolutely necessary. Medical Officer in Charge.

Diets and Extras to be filled in daily by the Prescribing Medical Officer, and on discharge of a patient a diagonal line to be ruled from last day's Diet to right hand lower corner. The date of discharge is invariably to be filled in by Prescribing Medical Officer. No erasures to be made on this Form; any alterations of Diet or Extras prescribing Medical Officer, and initialed by him.

\* "Church of England," "Presbyterian," "Wesleyan," other Protestants not included in the foregoing." "Roman Catholic" or "Jews," according to the class to which the patient belongs.

### (c) AN ARMY "SUMMARY OF DIETS."

### Diet and Extra Sheet Summary.

Description of Diets.	No.	Extras and I	Drinks.		Quantity
$VARIED \begin{cases} Roast \\ Stewed \end{cases}$		Lemonade Barley Water Gruel .		12	
Chop Steak Roast . Stewed .		Beef-Tea .  Rice . Sago . Custard Fruits, Orange		No.	
CONVALESCENT .		Fish .  Milk . Eggs .		pts. No.	
CHICKEN Roast Boiled Stewed  Seef-Tea		Wines, Port ,, Sherry Soda Water Porter, draught		ozs.  bots.  pts.	
Milk		" bottles Ale, draught " bottles Brandy . Whiskey . Gin .		ozs.	

# (d) DIET TABLE DEVISED FROM RATIONS AND EXTRAS ON THE FIELD AT BLOEMFONTEIN.

## Portland Hospital-Diet Table.

RATIONS.	Meat, 14 lb. Vege- tables.  on any diet,	Bread, 14 lb. time.	Sugar, 2 ozs.	Tea, 3 pints.	RATIONS.	and Tea, Bread and Extras as Butter. ordered.	Meat, Vegetables, Rice.	
MINCE RATIONS.	Ration meat made into Mince. Vegetables.	Bread, 1 lb.	Sugar, 2 ozs.	Tea, 3 pints.	MINCE.	Tea, Bread and Butter.	Mince. Vegetables.	
					Soup.	Tea, Bread and Butter.	Soup and Bread. Vegetables.	Tea Bread and
SOUP RATIONS.	s. Ration meat made into Soup. Vegetables.	Bread, r lb.	Sugar, 2 ozs.	Tea, 3 pints.	BEEF-TEA.	Tea, Bread and Butter.	Beef-Tea.	Tea. Bread and
BEEF-TEA.	Bovril, 3 pints.	s. Bread, 1 lb.	Sugar, 2 ozs.	Tea, 3 pints.	Мп.к.	Milk and Bread.	Milk and Rice.	Milk and Bread.
Мп.к.	Milk, 4 pints.	Bread, 12 ozs.	Sugar, 1 oz.	Tea, 3 pints.	MEAL.	Breakfast.	Dinner.	Tea.

EXTRAS.

DINNER.	TEA.	SUPPER.
Fruit Tarts.	Biscuits.	Soup.
Preserved Pears.	Rasin Wine.	Rice )
Bovril (To be added	1000	Sago Puddings.
Packet Soups Stock Soups.	-	Ovo
Milk or Beef-Tea, as ordered.	Jams.	Lemonade.
Chicken.		Drinks   Soda Water.
Turkey.		Wine as ordered.
Fish.		Jelly.
Venison.		Milk or Beet-Tea, as ordered.
Cheese.		
Fruits in season.		
87		
	Fruit Tarts.  Preserved Pears.  Bovril (To be added to	tock Soups.

C. R. KILKELLY, Surgeon-Colonel, Grenadier Guards, in/c. Portland Hospital.

BLOEMFONTEIN.

### APPENDIX F.

### RULES FOR DISINFECTION OF EXCRETA.

### METHOD OF DISINFECTION.

Enteric or Infectious Stools.—I. The bedpan to contain  $2\frac{1}{2}$  oz. bichloride solution, I in 250. This solution will be issued from the surgery to the respective wards as ordered by the medical officer.

- The stool will then be covered with chloride of lime, also obtained from surgery.
- The bedpan, covered by a cloth soaked in carbolic lotion, I in 40, will then be taken to the latrine and emptied into a bucket marked E in red letter, and covered.
- 4. The bedpan will then be washed out, at the latrine, with carbolic lotion, I in 15, and the washings added to the bucket marked E. The orderly will then wash his hands with carbolic lotion, I in 40, soap and water, and dry his hands on his own towel at the latrines.
- 5. Urine will also be treated in the same way and emptied into urine bucket marked E. The buckets will be emptied twice daily under arrangements made with the sanitary officials, or the contents may be boiled and emptied into pits.
- All slops from washings in wards to be emptied into slop buckets provided in each section, and then carried and emptied into slop pit.

### APPENDIX G.

### WATER ANALYSES BY DR TOOTH.

### EXAMINATION OF A SAMPLE OF DRINKING WATER.

From Water supplied to Portland Hospital, 19th May 1900.

Source and Possibility of Contamination. Said to be from Modder River Waterworks. Many of the joints of the delivery tube are defective.

### Chemical and Physical Examination.

1. Colour in 6-in. column. Distinct yellow tinge.

Turbidity. Very considerable, not increased on boil-

ing.

2. Odour. None.

3. Residue left on evaporation. Very small, yellowish-white, very slight, charring on heating, no smell, dissolves with effervescence with acid.

4. Free ammonia. None.

5. Chlorine. Two grains per gallon.
Equivalent of common Three grains per gallon, about.

salt.

6. Nitrites. A very considerable quantity.7. Nitrates. ?

8. Hardness. Somewhat over 4°.

9. Lead. None.

Io. Zinc, iron, and copper. A distinct trace of iron.
 Oxygen absorbed in Between '20 and '30, with brown discoloration.

Portland Hospital, Bloemfontein, 19th May 1900.

To P.M.O., Bloemfontein.

DEAR SIR,—From the examination of the water herein referred to, and the results obtained by analysis, I am of opinion that it should be regarded with great suspicion for drinking purposes.

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The abundant evidence of the presence of nitrites and the quantity of oxygen absorbed, in addition to the marked and constant turbidity of the water, point strongly to contamination of the water, either at the source or in transmission.

The analysis is more unfavourable even than that of Bloemfontein spring, of which I had the honour to forward you a copy on 24th April .- I am, yours faithfully,

HOWARD H. TOOTH, M.A., M.D., F.R.C.P.

### EXAMINATION OF A SAMPLE OF DRINKING WATER.

From Bloemfontein Main, 4th June 1900.

Source and Possibility of Contamination.—The water may still be somewhat contaminated by the stagnant water of the mains.

### Chemical and Physical Examination.

 Colour in 6-in. column. Very slight tinge of yellow. Turbidity. Very slight. None on boiling.

2. Odour.

3. Residue left on evap-Very little, white, no charring on further oration. heating.

4. Free ammonia. None.

5. Chlorine. Two grains per gallon.

Equivalent of common About three grains per gallon. salt.

6. Nitrites.

A doubtful trace, but iron is present.

7. Nitrates. None. 8. Hardness. About 9°. 9. Lead. None.

10. Zinc, iron, and copper. A trace of iron.

11. Oxygen absorbed in About '4 grain per gallon, with much 15 min. at 212° F. brown turbidity.

Portland Hospital, Bloemfontein, 4th June 1900.

The P.M.O., Bloemfontein.

SIR,-From the examination of the water herein referred to, and the results obtained by analysis, I am of opinion that it contains a distinct trace of iron, and this circumstance may partially account for the unsatisfactory result noted in par. 11 of the analysis. The decoloration of the permanganate of potash, and its subsequent brown turbidity, suggests contamination. It is possible that the stagnant water in the mains, of the last month or two, has not yet been completely flushed out.

It is advisable to analyse a sample of water fresh from the reservoir as a control.—I am, yours faithfully,

HOWARD H. TOOTH, M.A., M.D., F.R.C.P.

### EXAMINATION OF A SAMPLE OF DRINKING WATER.

From Bloemfontein Waterworks Reservoir, 13th June 1900.

Source and Possibility of Contamination.—The possibility of contamination by sewage at the source or above it should be ascertained; also whether any peaty streams flow into the river above.

### Chemical and Physical Examination.

 Colour in 6-in, column. Very faint tinge of yellow. Turbidity. None.

2. Odour. None.

3. Residue left on evap- White, insoluble in water. Very little of oration. it. Does not char.

4. Free ammonia. None.

5. Chlorine. About 2 grains to the gallon. Equivalent of common About 3 grains to the gallon. salt.

6. Nitrites. None. 7. Nitrates. None.

Hardness. Somewhat over 4°.

9. Lead. None.

10. Zinc, iron, and copper. ? A trace of zinc. A trace of iron.

11. Oxygen absorbed in About '4 grain to the gallon, possibly 15 min. at 212° F. more; reaction obscured by brown turbidity.

### Portland Hospital, Bloemfontein, 13th June 1900.

### To P.M.O., Bloemfontein.

From the examination of the water herein referred to, and the results obtained by analysis, I am of opinion that it is of a purer quality than the sample from the main, but there is still a large amount of absorbed oxygen (v. test 11).

If the possibility of contamination by sewage or animal matter at the source can be eliminated, this reaction may be attributed to vegetable matter, but under any circumstances the water should be regarded with some suspicion for drinking purposes, and boiling and filtering is advisable.

HOWARD H. TOOTH, M.D., M.A. Cantab, F.R.C.P.

### APPENDIX H.

### EQUIPMENT.

Marquees, Tents, etc.

14 Tortoise Tents.

16 Square Bell Tents.

2 Latrine Tents.

I Cooks' Shelter.

More tents were obtained in Africa when the Hospital was enlarged.

### Beds and Bedding.

150 2' 6" × 6' 2" Hospital Beds, double-wove wire.

150 2' 6" × 6' 2" Hair Matresses.

150 27" X 18" Feather Pillows. 100 Pairs Scarlet Blankets.

130 Pairs Brown Blankets.

200 Pairs Sheets.

300 Pillow Cases.

200 Brown Army Blankets.

These were subsequently augmented by the purchase in Cape Town of additional blankets, sheets, and pillows.

### Ambulance Waggons, etc.

10 AmbulanceWaggons complete, with cover inside.

2 Stretchers, with cross irons.

2 Stretcher Carriers.

2 Water Cans, with straps.

8 Staples for ditto.

I Bore Tools.

1 Tin Grease.

5 lbs. Tarred Spun Yarn.

I Hind Wheel.

I Fore Wheel.

I Tin Axle Grease.

4 Stretcher Irons.

### Tools.

3 Shovels.

3 Spades.

3 Hand Axes.

I Cold Chisel.

3 Screw Drivers.

I Claw Hammer.

1 Notched Screw Driver.

2 Small Screw Drivers.

1 Hand Saw.

I Tenon Saw.

2 Butcher's Knives.

2 Mallets (Beech)

I Jack Plane.

2 Gross assorted Screws.

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### APPENDIX H

### Stationery.

- I Cloth Blotter.
- 4 School Slates.

- 3 Hollow Inkstands.
- 6 MSS. Books.

### Games.

- 3 Backgammon Boards.
- 3 Sets Men.
- 5 Dice Boxes.

- 5 Sets Dominoes.
- 18 Dice.

### Flags, Ground Sheets, and Sundries.

- 100 Yards Mosquito Netting.
  - 2 Fly Switches.
  - 1 Ground Sheet.
  - 5 Potato Nets.
- 30 Waterproof Sheets.
- 3 Flag Staffs.

- 6 Bunting Flags.
- 1 Union Jack.
- 14 Tent Pole Straps.
- 12 Tan Sheets.
- 5 Black Waterproof Sheets.
- 36 Deck Chairs.

### Books.

A small library of books for officers and men was kindly provided by Lady Henry Bentinck.

### APPENDIX J.

### EQUIPMENT OF A TORTOISE TENT WARD.

To be kept complete from stock.

- 1 Tortoise Tent, 20 ft. × 24 ft.
- 8 Beds and Mattresses.
- 16 Pillows (1 hard, 1 soft).
- I Table, 6 ft. × 3 ft.
- 2 Cupboards (Packing-Cases).
- 4 to 8 Bedside Tables.
- 2 Strips Coir Matting (officers' ward).
- 8 Strips Japanese Matting (officers' ward).
- 8 Chart and Diet Boards.
- 8 Knives, Forks, Spoons (large and small).
- 8 Plates, enamel ware.
- 8 Bowls, enamel ware.
- 8 Mugs, enamel ware.
- 8 Butter Dishes, enamel ware.
- 8 Egg Cups, enamel ware.
- 4 Feeding Cups.
- 1 set Salt, Pepper, and Mustard Pots.
- I Tea Urn.
- 2 Milk Cans, with lid.
- 1 Water Can.
- 4 Hair Brushes and Combs.
- 4 Shaving Brushes and Bowls.
- 2 Looking-glasses.
- 2 Soap Dishes.
- 1 Set of Diet Tin Trays, army pattern.
- 4 Trays.
- 2 Stores Baskets.
- 1 Oil Lamp.
- 1 Candle Lamp.
- 1 Night Light.

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- 2 Candlesticks.
- 1 Camp Stool.
- 3 Chairs.
- I Broom.
- 1 Scrubbing Brush.
- I Bucket.
- I Slop Pail.
- 1 Large Pail (to each section).
- 2 Bed Pans.
- 4 Urinals and 4 Chambers.
- 4 Spittoons.
- 4 Spit Cups.
- i Commode (basket army pattern).
- 3 Bowls, for dressings.
- 3 Medicine Glasses.
- 1 Wine-glass Measure, 3iv.
- 2 Thermometers.
- 4 Wash-hand Basins, enamel.
- 4 Wash-hand Jugs, enamel.
- I Corkscrew.
- I Tin Opener.
- 2 Bed Tables.
- 8 Reading Candles (officers') Crockery and Glass, if available (officers' mess).
- 2 Foot Baths.
- 2 Hip Baths.
- 1 Knife Board.
- Pair Scissors.
- I Notice Board.
  - Allow 2½ Sheets and 4 Blankets to each Bed; keep stock in Hospital Linen Store.

### APPENDIX K.

### KITCHEN EQUIPMENT.

- 3 Congo Stoves, and Nest of Pots, 10.
- 4 Cooking Ranges 2 Bolinger Swedish, 2 English.
- 2 Hot-water Boilers.
- 2 Hot-water Boilers, 6-gallon.
- 2 Hot-water Boilers, 4-gallon.
- 1 Steam Boiler, 60-gallon.
- 3 Stewpans, round.
- 1 Stewpan, nest of 10, steel.
- 4 Stewpans, miscellaneous.
- 2 Stock Pots.
- 1 Saucepan, iron.
- 3 Kitchen Pans, iron.
- 4 Omelette Pans, enamel.
- 8 Camp Kettles.
- 1 Grill (iron).
- 1 Steak Tongs.
- 15 Dripping Tins.
- 12 Pudding Dishes.
- 2 Meat Saws.
- 2 Meat Mincers, large.
- 1 Cleaver.
- 1 Chopper.
- 6 Knives (kitchen).
- 2 Forks (kitchen).
- 2 Flesh Forks.
- 2 Balances (spring).

- 1 Scale (spring).
- 3 Ladles, pint.
- 4 Long Spoons.
- 2 Measures-1 gallon, 1 gallon.
- 2 Colanders.
- 1 Fine Hair Sieve.
- 2 Strainers.
- 2 Toasting Forks.
- 1 Rolling Pin.
- 2 Cutting Boards.
- 1 Egg Whisk.
- 1 Flour Dredger.
- 1 Pepper Box.
- 1 Lamp (50 candle power).
- 2 Coffee Pots.
- 1 Salt Box.
- 20 Pudding Shapes.
- 1 Nutmeg Grater.
- 2 Wire Dish-Covers.
- 2 Jelly Bowls.
- 2 Fish Slicers.
- 1 Washing-up Bowl.
- 4 Hand Basins, enamel.
- 1 Kitchen Basin.
- 2 Cupboards (from Packingcases).
- I Bath, for washing up.

### APPENDIX L.

### MESS STORES AND MEDICAL COMFORTS.

(18 pairs) = 36 cases.

2 1-lb. tins Pressed Beef.

2 1-lb. tins Spiced Beef.

2 tins S. & K. Puddings.

2 tins Ox Tongues.

4 tins O. M. Sausages.

1 1-tin Arrowroot, Bermuda.

1 1-tin Baking Powder.

2 tins Beef Essence, 3 oz.

3 tins Beef Extract, 2 oz.

2 tins Meat Lozenges.

1 tin Albert Biscuits, 2 lbs.

I tin Oaten Biscuits, 2 lbs.

6 1-lb. tins Butter.

2 lbs. P. S. Candles, 12s.

3 tins Chocolate Food.

1 bottle Chutney.

2 1-lb. tins Cocoa Essence.

2 tins Cocoa and Milk, 1-lb.

2 bottles Coffee Essence.

1 1-lb. tin Curry Powder.

6 4-lb. tins Sardines.

I tin Dubbin.

1 1-lb. tin French Plums.

I I-lb. tin Figs.

1 tin Apricots in Syrup.

1 tin Peaches in Syrup.

16 1-lb. tins Jams.

12 1-lb. tins Marmalade.

2 ½ bottles Lime Juice.

4 tins Ideal Milk.

4 I-oz. tins Mustard.

1 tin Quaker Oats.

3 White Pepperettes.

3 tins Plum Pudding.

1 1 bottle Pickles.

6 tins assorted Potted Meats.

2 2-lb. tins Patna Rice.

2 1-lb. tins Salt.

2 1 bottles Worcester Sauce.

1 tablet Carbolic Soap.

1 bar Sunlight Soap.

2 tins (6 each) Soup Squares.

3 tins Maggis Consomme.

3 1-lb. tins Tea.

3 lbs. Mixed Vegetables.

2 tins Haricot Vert.

2 tins Petit Pois.

2 Tin Openers.

(Repeat 18 times.)

36 tins Bacon (641 lb.)

24 1-lb. tins M. and M. Coffee.

24 tins Brand's Nutrient Powder.

48 tins Bloaters.

48 tins Kippered Herrings.

48 tins Findon Haddocks.

48 tins Sardines.

1 case (2 doz.) Bartlett Pears.

48 tins Chicken Broth, 1 lb.

48 tins Ox-Tail Soup, thick, 1 lb.

48 tins M. Turtle Soup, clear,

ı lb.

48 tins Mutton Broth, 1 lb.

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### MESS STORES AND MEDICAL COMFORTS-Continued.

48 bottles Apples.

48 bottles Raspberries.

48 bottles Red Currants.

9 cases (each 48 tins) Dahl's Milk.

16 tins Dahl's Milk.

100 1-lb. Devon Butter.

16 2-lb. tins Soups.

16 1-lb. tins Chicken Broth.

2 1-gross boxes Sunlight Soap.

6 doz. tablets Pears' Soap.

28 1-lb. tins Bermuda Arrowroot.

30 1-lb. boxes F Patent Sperm Candles.

100 boxes C. P. N. Lights.

2 cwt. Yellow Soap.

3 Tin Openers.

16 7-lb. tins Best Soft Soap.

3 gross B. & M. Safety Matches.

1 case (2 doz.) Portuguese Figs.

3 cases (4 doz.) bottles Raspberries;

(4 doz.) bottles Red Currants ; (7 doz.) Pepperettes.

in 7-lb. tins, half Mocha, half Mysore.

28 lbs. Pure Ground Mocha in 7-lb, tins.

6 cases "Bear" Cond. Milk, 48 tins.

1 case (2 doz.) "Ship" Bart. Pears.

2 cases (4 doz.) Kidney Soup.

2 cases (4 doz.) Ox-Tail Soup, thick.

2 cases (4 doz.) Mock Turtle Clear Soup.

2 cases (4 doz.) Kidney Soup.

2 cases (4 doz.) "Tom Tit" Apples. 5 cases "Sledge" Cond. Milk, unsweetened, 48s.

1 case Devon Butter, 48 lbs.

1 case (2 doz.) Assorted Soups.

1 case (2 doz.) Chicken Broth.

1 case (2 doz.) Pressed Beef.

1 case (4 doz.) Pressed Beef.

1 case (4 doz.) "Signal" Camp Rations.

r case (4 doz.) "Ship" Ox Tongues.

3 cases (6 doz.) Oxford Sausages.

I case (50 lbs.) Butter.

1 case (4 doz.) Cocoa and Milk.

1 case (81 doz.) A. G. Sardines.

1 case (2 doz.) "Ship "Apricots.

1 case (2 doz.) "Ship" Peaches.

1 case (81 doz.) Macedoines.

I case 50 tins Extra Fine Haricots Verts;

50 tins Fine Petit Pois.

3 cases (6 doz.) Sliced Bacon.

1 case (4 doz.) "Sledge" Cream.

3 boxes (3 doz.) A. G. Anchovies in Oil.

1 case (8<sup>1</sup>/<sub>3</sub> doz.) A. G. Royans aux Achards.

1 case (8½ doz.) "Signal" Norwegian Sardines.

1 case (8½ doz.) A. G. Sardines in Lemon.

I case (4 doz.) "Ship" Flat Lobsters.

1 case (2 doz.) Johnson's Guavas.

1 case (2 doz.) A. G. Olives, pints.

t case (2 doz.) A. G. Olive Farcies.

1 case (2 doz.) Pulvis Nutrient Powder.

### MESS STORES AND MEDICAL COMFORTS-Continued.

- 2 cases (each 1 cwt.) Yellow Soap.
- 3 Iron-handed Tin Openers.
- I case 16 7-lb. tins Best Soft Soap.
- 2 cases (each ½ gross) Sunlight Soap.
- I case (6 doz.) tablets Pears' Soap.
- 1 case F. Patent Sperm Candles.
- 1 case 100 boxes Clark's Patent Night Lights.
- 1 case (36 tins) Brand's Beef Essence;
  - 54 2-oz. pots "Ship" Extract of Meat.
  - 36 boxes Brand's Meat Lozenges.
- I case 18 2-lb. tins Albert Biscuits,
- 1 case 18 2-lb. tins Oaten Biscuits.
- 1 case 36 lbs. Price's Sperm Candles.
- 1 case 54 tins Chocolate Food; 18 bottles Chutney;
  - 36 tins Cadbury ✓ Cocoa Essence.
- 1 case 36 bottles Reveille Coffee Essence;
  - 18 tins Dale's Dubbin.
- 4 cases Jam, each 6 doz. 1-lb tins.
- 1 case (6 doz.) Marmalade.
- 3 cases (3 doz.) "Ship" Lime Juice.
- r case 6 lbs. Mustard;
- 18 pint bottles Thega Pickles.
- 1 case 36 2-lb. Quaker Oats.
  1 case 54 1-lb. tins Plum
- Puddings.
- 1 case (9 doz.) "Ship" Potted Meats.

- 1 case 48 6d. tins Cerebos Salt; 36 ½-pt.bots.Worcester Sauce.
- 1 case (56 lbs.) Carbolic Soap.
- I case ¼ gross Sunlight; 36 tins Soup Squares; 54 tins Maggis Consommie; ½ doz. Iron-handed Tin Openers.
- I case 28 I-lb. tins Bermuda Kind Arrowroot.
- I case 18 I-lb. tins Bermuda Kind Arrowroot;
  - 18 ¼-lb. tins "Ship" Baking Powder;
  - 18 \(\frac{1}{4}\)-lb. tins Curry Powder; 36 2-lb. tins Patna Rice.
  - 2 boxes, each 28, 1s Perfection Macaroni;
  - 2 boxes, each 28, 1-lbs Perfection Vermacelli.
- 1 case 28 2-lb jars A. G. French Plums.
- 1 case 54½-lb. tins Tea.
- I case (24 lbs.) best Ground Coffee.
- 1 case, tin-lined, 3600 Cigarettes
- I case 20 lbs. Capstan Navy Cut, 4-lb. tins, Mild.
- 13 cases Vanguard Scotch Whisky.
- 3 cases (3 doz.) "1869" Brandy.
- 2 cases (4 doz.) Champagne, Special L'Daloux.
- 3600 Cigarettes, Egypt.
- 13½-lbs Capstan Navy Cut (¼-lb tins).
- 13 doz. Whisky.
- 3 doz. Cognac.
- 4 ½-bots. Moet's Special Cuvee de Reserve.
- Egg Powders.
- Meat Essences.

### APPENDIX M.

### DATES AND RESULTS.

Portland Hospital personnel embarked in the transport Majestic at Liverpool, 13th December 1899.

Portland Hospital personnel arrived at Cape Town, 28th December 1900.

Stores disembarked from ss. Victorian, 2nd and 3rd January 1900.

Hospital opened and received first convoy at Rondebosch, 8th January 1900.

Portland Hospital handed over patients on 6th April, and entrained for Bloemfontein on 8th April, arriving on 14th April 1900, and received first patients on 17th April 1900 (a total of 11 days).

Portland Hospital handed over patients on 21st July at Bloemfontein. Sailed for England in transport *Canada* on 1st August. Arrived in England on August 18th, 1900 (28 days after handing over patients).

Net result.—183 working days out of a total period of mobilisation of 248 days, 65 being spent in travelling.

1009 cases treated at a net cost of about £10 per head.

### APPENDIX N.

### TO CALCULATE SICK AND WOUNDED.

Sick equals double peace rates, i.e., 10 per cent.

Wounded equals . . . . 6 per cent. \( \frac{3}{3} \) severe.
\( \frac{1}{3} \) of sick and wounded are in Field Hospitals.
\( \frac{2}{3} \) of sick and wounded are in General Hospitals.

Thus for 100,000 men in the field—

Number of sick . . . 10,000

Wounded . . . . 5,000

Total, 15,000

### APPENDIX O.

### MEDICAL OFFICERS' KITS (RECOMMENDED).

- 1 Waterproof Coat.
- I Great Coat, or ("Coat warm British Officers").
- 2 Serge Khaki Suits.
- 1 Drill Khaki Suit.
- 1 Riding Breeches.
- 1 Gaiters.
- 1 Helmet, Egyptian pattern.
- 1 Field-service Cap.
- 2 Pairs Boots, brown, walking.
- 1 Pair Shoes, brown, walking.
- 3 Shirts, flannel.
- 3 Drawers, cotton or silk.
- 2 Drawers, warm.
- 4 Vests, cool.
- 2 Vests, warm.
- 12 Pairs Socks, medium.
- 1 Jersey.
- 12 Handkerchiefs.
- 2 Pair Braces.

- 3 Sets Bootlaces and Dubbin.
- 1 Haversack.
- 1 Water-bottle, vulcanite.
- I Pasteur Filter (cork to fit bottle).
- I Holdall (razor, tooth-brush, etc.).
- 1 Valise (Wolseley).
- 3 Blankets.
- 1 Waterproof Sheet.
- 1 Folding Bath.
- Basin, with leather cover to hold washing kit.
- 1 X bed.
- 3 Canvas Buckets.
  - Canteen for 3 or 2.
  - Pocket-case Surgical Instruments.
  - Hypodermic Syringe and Morphia tabloids.

### APPENDIX P.

### TRANSPORT (RECOMMENDED).

Transport sufficient for Local Purposes.

- 2 Ambulances, capable of carrying 4 lying-down cases each.
- 1 Watercart.
- I Trap.
- 5 Riding Horses and Saddlery.
- 8 Mules and Harness.

Extra mules available by requisition for occasional use.

Jack for raising wheels.

Tools for repairing.

Grease and Spun Yarn.

## APPENDIX Q.

Admissions, Discharges, Transfers, and Deaths, from 8th January to 21st July 1900. SICK STATISTICS—PORTLAND HOSPITAL.

		Discн	DISCHARGES.			Transfers to Base
ADMISSIONS.	Duty.	Garrison Duty.	England.	Convalescent.	Deaths.	or other Hospitals.
Officers . 119	20	61	7	7	п	51
N.C.O.'s & 890 Men . \$890	103	4	16	296	35	361
Totals . 1009	153	9	86	303	37	412

Officers and Men treated in the Portland Hospital on board ss. "Canada," Capetown to England, 1st August to 18th May.

					Transferred to Netley.	Transferred to Alder- shot and other Hospitals.	Sick Furlough.
Officers .				-			П
Men .					15	25	31
	Totals	10			15	25	42
Officers Men .		17			ıs.	C. R. KILKELLY Surgeon-Colonel, Grenadier	KELLY, enadier Guard

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PORTLAND HOSPITAL.

Abstract of Admissions, Discharges, and Transfers at Rondebosch, from 8th January to 5th April 1900.

			Dıscн	DISCHARGES.			
ADMISSIONS.	1	Duty.	Garrison Duty.	England.	Convalescent,	Deaths.	Transferred to other Hospitals
Officers	55	30	1	7	4	-	12
N.C.O.'s and Men	422	21	4	16	251	m	52
Totals .	477	51	10	86	255	4	64

BLOEMFONTEIN, 27th April 1900.

### APPENDIX R.

### LIST OF DRUGS.

These drugs, alphabetically grouped, were packed in cases 1 to 18, each case in duplicate. The equipment, therefore, comprised double the quantities mentioned below.

1 lb. Acid. Sulph. Pur.

1 lb. Acid. Citric.

1 lb. Acid. Gallic.

1 oz. Acid. Hydrocyan. Dil.

1 lb. Acid. Phosphoric. Dil.

1 lb. Acid. Tannic.

2 lb. Acid. Tart. Pulv.

1 lb. Ammon. Bromid.

2 lb. Ammon. Carb., Opt.

I lb. Acetanilid.

I oz. Antim. Tart.

2 lb. Adeps. Lanæ. Hydrosus.

4 oz. Argent. Nit.

2 lb. Aqua Dest.

3 lb. Alum Pulv.

1 lb. Ammon. Chlor. Pur. Pulv.

1 lb. Alcohol Absolute.

I lb. Acid. Hydrobrom. Dil.

1 lb. Acid. Hydrochlor. Dil.

1 lb. Bismuth. Carb.

1 lb. Boracis. Pulv.

4 oz. Butyl Chloral Hydrate.

4 oz. Beta Naphthol.

1 lb. Collodion.

1 lb. Camphora.

2 oz. Cera Alb. Pur., Cake.

1 lb. Chloral Hydras.

5 lb. Chloroform.

4 oz. Cocain Hydrochlor.

4 oz. Creasote.

1 lb. Cupri. Sulph. Pur.

½ gross Caps. Amyl. Nit.

2 oz. Caffein Cit.

1 lb. Ext. Cinchon. Liq.

4 oz. Ext. Ergotæ Liq.

4 oz. Ext. Filicis Liq.

1 yd. Emp. Canthar.

1 yd. Emp. Saponis. 2 lb. Ext. Belæ Liq.

4 oz. Ext. Belladon. Virid.

½ lb. Ext. Cascaræ Liq.

ı yd. Emp. Belladon.

1 lb. Ext. Pareiræ Liq.

1 doz. 5 gr. Tubes Eserine.

1 lb. Ferri et Quin. Cit.

1 lb. Ferri et Ammon. Cit.

I lb. Ferri Carb. Sacch.

4 lb. Glycerine.

1 doz. 5 gr. Tubes Homatropine.

8 oz. Hydrarg. Perchlor. Pulv.

1 lb. Hydrarg. Subchlor. Pulv.

1 lb. Inf. Buchu Conc. (1-7).

4 oz. Inj. Morph. Hypoderm.

2 lb. 8 oz. Iodoform.

1 lb. Ipecac. Pulv.

1 lb. Inf. Gent. Co. Conc.

b lb. Inf. Cocain Hydroch.

4 oz. Liq. Epispasticus.

1 lb. Liq. Iodi. Fort.

1/2 lb. Lin. Aconit. Meth.

b. Lin. Belladon. Meth.

3 lb. Lin. Camph. Co.

2 lb. Lin. Saponis. Meth.

2 lb. Liq. Ammon. Fort.

2 lb. Liq. Ammon. Acet. Fort.

1 lb. Liq. Arsenicalis.

1 lb. Liq. Arsen. et Hyd. Iodid.

2 lb. Liq. Ferri Perch. Fort.

1 lb. Liq. Opii Sed.

1 lb. Liq. Plumbi. Subacet.

1 lb. Liq. Potassæ.

1 lb. Liq. Picis. Carb.

2 lb. Liq. Quassia Conc. (1-9).

1 lb. Liq. Strychninæ Hydroch.

### LIST OF DRUGS-Continued

b. Liq. Calumbæ Conc. (1-9). 4 oz. Liq. Arsenic. Hydroch. b. Liq. Senegæ Conc. (1-9) 2 lb. Lin. Pot. Iodid. c. Sapon. 5 lb. Magnes. Sulph. Opt. ½ oz. Morphinæ Hydrochlor. 2 lb. Mist. Senna Co. Conc. 2 lb. Ol. Terebinth. 1 lb. Ol. Copaibæ. 1 oz. Ol. Crotonis. 2 oz. Ol. Menth. Pip. 4 lb. Ol. Olivæ. 4 lb. Ol. Ricini. 2 oz. Opii. Pulv. 2 lb. P. Rhei Co. 5 gross Pil. Hyd. c. Creta, gr. 2. 2 lb. Paraffin Molle. 3 x 2 lb. Paraffin, Molle Boric (1-6). I lb. Paraffin. Molle c. Hyd. Ox. Rub. (4 gr. to oz.). 1 lb. Phenacetine. 5 gross Pil. Hydrarg., gr. 5. 5 gross Pil. Rhei Co., gr. 5. 2 gross Pil. Ipecac. c. Scilla., gr. 5. 1 lb. Pot. Caustica. 16 oz. Phenazone. I lb. Pot. Bromid. 2 lb. Pot. Chlor. 2 lb. Pot. Iodid. 2 lb. Pot. Nit. Pulv. b lb. Pot. Tart. Acida. 5 lb. Pot. Permang. 1 lb. P. Cretæ Arom. 2 lb. P. Cretæ Arom. c. Opio.

1 lb. P. Ipecac. Co.

1 lb. P. Jalapæ Co.

1 Copy P. B., 1898.

1 Copy Martindale.

1 Stopper Loosener Pannier.

2 gross Pil. Scammon. Co.

5 gross Pil. Plumbi c. Opio.

11 doz. Gallipot's Nested Pannier.

40 oz. Quininæ Sulph., Compressed. 40 oz. Quininæ Sulph., 2 gr. Tabs. 1 lb. Spts. Ætheris. 2 lb. Spts. Ætheris Nit. I oz. Santonine. 3 lb. Sinapis Pulv. 3 Boxes Sinapis Charta Rigollots. 4 lb. Sodii Bicarb. 2 lb. Sodii Salicylas. 4 lb. Spts. Ammon. Arom. 4 lb. Spts. Chloroform. 4 pts. Spts. Vini. Meth. 3 lb. Sanitas. 4 pts. Spts. Vini. Rect. 2 lb. Syr. Scillæ. I gross Suppos. Bella., P. B. gr. 12. I gross Suppos. Morph., P. B. gr. 1. 600 Tabs. Tabellæ Atropin. Sulph., gr. 100. 500 Tabs. Morphinæ Tart., gr. 1. 500 Tabs. Morphinæ Tart., gr. 1. 1 lb. Tabs. Sulphonal., gr. 5. 4 oz. Tinct. Aconit. 4 oz. Tinct. Arnicæ. 2 lb. Tinct. Aurant. 1/2 lb. Tinct. Belladon. b. Tinct. Benzoin. Co. 2 lb. Tinct. Camph. Co. 4 oz. Tinct. Capsici. 1 lb. Tinct. Cardam. Co. 1 lb. Tinct. Catechu. 1 lb. Tinct. Chlorof. et Morph. 2 lb. Tinct. Cinchon. Co. b lb. Tinct. Colchici Sem. 1 lb. Tinct. Digitalis. 1 lb. Tinct. Hyoscyam. 1 lb. Tinct. Iodi. b. Tinct. Myrrhæ. I lb. Tinct. Nuc. Vom. 4 lb. Tinct. Opii. I lb. Tinct. Rhei, P. B. I lb. Tinct. Scillæ.

### LIST OF DRUGS-Continued

- lb. Tabellæ Trinitrinæ.
- 1 lb. Tabellæ Salol., gr 5.
- 4 oz. Tinct. Cannab. Ind.
- b. Tinct. Hamamelidis.
- I lb. Ung. Sulphur. Co.
- I lb. Ung. Zinci.
- 1 lb. Ung. Hydrarg.
- 1 lb. Ung. Hydrarg. Nit. Dil.
- 1 lb. Ung. Hydrarg. Ox. Flav.
- 1 lb. Ung. Resinæ.
- 2 lb. Ung. Acid. Boric.
- 2 lb. Ung. Paraffin. Flav.
- 2 lb. Ung. Hydrarg. Ammon.
- 1 lb. Ung. Hydrarg. Comp.
- ½ lb. Ung. Hydrarg. Oleat.
- 2 lb. Vin. Antim.
- 2 lb. Vin. Ipecac.
- 8 oz. Zinci Chlor. Sticks.
- 1 lb. Zinci Oxid.
- 1 lb. Zinci Sulph. Pur.
- 1 lb. Zinci Sulpho-Carb.
- 1 doz. Bottles, 4 oz.
- 2 doz. Bottles, 6 oz.
- 11 doz. Bottles, 8 oz.
- doz. Bottles, 12 oz.
- 1 doz. Bottles, 1 oz. Fluted Poison.
- 1 doz. Bottles, 2 oz. Fluted Poison.
- 1 doz. Bottles, 4 oz. Fluted Poison.
- 1 doz. Bottles, 6 oz. Fluted Poison.
- ½ doz. Bottles, ½ oz. Vial.
- I doz. Bottles, I oz. Vial.
- 1 doz. Bottles, 2 oz. Vial.
- 1 × Bolus Tile, large.
- 1 × Bolus Tile, small.

- 3 papers Boxes, Pill Chip.
- 2 papers Boxes, Pill Paper
- 2 gross Corks, vial.
- 2 gross Corks, ½ pint.
- I gross Corks, pint.
- I gross Corks, quart.
- 4 quire Filtering Paper.
- 500 Labels, Blank.
- 200 Labels, "External Use."
- 300 Labels, "Poison."
- 200 Labels, "Shake the Bottle."
- 300 Labels, Ward.
- 2 yds. Straining Cloth
- 2 oz. Packthread.
- 2 Measures, grad. minim.
- 2 Measures, grad. 2 oz.
- 3 Measures, grad. 4 oz.
- 1 Measure, grad. 1 pint.
- 1 Measure, grad. pint.
- 2 Evaporating Basins.
- 1 Funnel, Compo.
- 2 Funnels, Glass.
- 2 Funnels, Tin.
- 1 Pestles and Mortars, Compo., sm.
- I Pestles and Mortars, Compo., medium.
- 1 Pestles and Mortars, Glass.
- 21 gross Pil. Coloc. et Hyoscyam.
- 2 lb. Acaciæ Pulv.
- 8 lb. Acid. Boric. Pulv.
- 2 lb. Acid. Carbolic. Xts.
- 10 lb. Acid. Carbolic. Liq.
- 4 oz. Acid. Acetic. Glac.
- 5 lb. Æther, .720.

### LIST OF APPLIANCES

- 500 Loose Wove Bandages, Sal
- 2 Doz. Suspensory Bandages.
- 2 Doz. Triangular Bandages, Sal Alem.
- 2 Bandage Rollers,

- 5 C.H. Pencils, bent.
- 15 C.H. Pencils, straight.
- 20 yds. Thin Calico.
- 25 yds. Christia Tissue.
- 12 Tubes, Drainage Tubing in Aseptic Solution.

40 lb. Cotton Wool Absorbent.

12 lb. Cotton Wool Double Cyanide, in 2 oz. packets.

6 lb. Cotton Wool, Alembroth, in 4 oz. packets.

14 Single Eye-shades.

6 Eye-shades, Double.

6 Vulcanite Idioform Dredgers.

2 Gutta-percha Idioform Dredgers.

25 yds. Jaconet Waterproof.

2 Leather Skins.

6 Packets Common Pins.

40 Boxes Safety Pins.

30 Boxes Fine Lint.

12 yds. Poultice Cloth.

6 yds. Sheeting, Bleached Linen.

12 Old Linen Sheets.

25 Tubes, Silk, twisted five inch, in Aseptic Solution.

6 Reels Ligature Silk.

2 Syringes, Male, Pewter.

24 Syringes, Male, Glass.

6 Pieces Broad Tape.

6 Pieces Narrow Tape.

100 Pieces for Field Equipment.

8 oz. Thread for Ligatures.

6 Books Test Papers.

6 Sets Test Tubes.

12 yds. Waterproof Cloth.

4 Eye Baths.

6 Corkscrews, Folding.

2 Caustic Holders.

I Knife, Bolus, 6-inch.

4 Leather Arm Slings.

1 Small Air Bellows.

3 Air Pillows, Round.

3 Air Pillows, Square.

15 lb. Tenax.

25 lb. Marine Lint.

60 lb. Surgeon's Tow.

2 Air Bed Boxes, complete.

250 Bandages, Gauze, Dble. Cyanide. | 6 Cradles, Fracture, Iron Portable.

24 Catheters, Olivary.

24 Catheters, E.G.

12 Bougies, Olivary.

2 Bags, Ice, Spine.

2 Hones, Turkey.

2 Hones, Arkansas Slip.

2 Sets of Irrigators, 2 in a set.

6 Glass Rods.

4 Slings, Arm, Wire.

2 Screwdrivers.

2 Scissors, Counter.

1 Set Scales & Weights, Brass Pan.

1 Set Scales & Weights, Glass Pan.

2 Sets Pillar Scales.

I Set Ounce Scales.

2 Spatulas, Bone.

2 Spatulas, Spreading.

12 yds. Tubing, Drainage.

2 Machines, Pill.

2 Tapes, Measuring, Chesterman's Spring.

6 Sets Common Splints.

4 Salter's Cradles.

2 Straps.

1 Apparatus Urinometer, Small.

6 Pillows, Stump Waterproof.

12 Glass Ear Syringes.

2 Thermometers, Bath.

1 Tourniquet Screw.

I Apparatus, Enema, Brass.

1 Set Catheters, Silver and Nickel.

2 Aluminium Stethoscopes.

I Stomach Pump.

24 Thermometers, Clinical in B. C. Cases.

2 General Fracture Boxes, com-

I Thomas's Hip Splint, adult size.

1 Patten for Thomas's Splint.

4 Water-Bottles, c. Felt Covers.

100 yds. Flannelette.

6 Higginson's Enemas, c. Bone Nozzles.

6 Higginson's Enemas, c. Glass Nozzles.

4 Doz. Spare Glass Nozzles.

16 Lapis Divinus Points.

2 Holders for ditto.

80 lb. Chloroform in Stop. and Cap. Bottles.

30 lb. Ether in Stop. and Cap. Bots.

12 Drop Bottles.

9 Pairs M'Burney's Gloves.

3 Trays, Enamelled Iron.

6 Basins, 14-inch.

24 Lane's Screws.

30 Ivory Pegs for Bone Sutures.

1 File, 6-inch.

1 Aseptic Brace, c. 9 Twist Drill.

3 Pins, Steel Patella.

1 Screwdriver, Lane's, all Metal.

4 Sounds, Clutton's, four sizes.

3 Bone Drills, N.-P. Metal Handles.

1 Combined Sterilizer, Fig. 2628.

2 Infusion Canulas, Silver.

1 Infusion Canula, Steel.

100 ft. White Pine for Splints.

100 ft. Iron for Splints.

6 Assorted Glass Funnels.

12 lb. Carbolic Acid Cryst., B.P.

3 20-oz. Measures, grad. cylin.

3 40-oz. Measures, grad. cylin.

6 2-oz. Measures, grad. cylin.

200 Infusion Tabloids.

2 lb. Olive Oil.

132 yds. Grey Scourer.

1 Berkfeld Filter.

6 Spare Cylinders for ditto.

24 Ligature Holders, Metal, to pat.

4 Operating Blouses.

2 Antiseptic Cases, complete.

Bandages, Loose Wove, Salalembroth. Bandages, Suspensory.

Bandages, Triangular, Salalembroth.

Bandages, Rollers for.

Camel Hair Pencils, bent.

Camel Hair Pencils, straight.

Calico, thin.

Christia Tissue.

Drainage Tubing, in Aseptic Solu-

tion.

Bandages, Gauze, Double Cyanide.

Cotton Wool, Absorbent.

Cotton Wool, Double Cyanide, 2

oz. packets.

Cotton Wool, Salalem., 4 oz.

packets.

Eye-shades, single.

Eye-shades, double.

Dredgers, Iodoform, Vulcanite.

Gutta percha, for Splints.

Jaconet Waterproof.

Leather Skins.

Pins, Common.

Pins, Safety, Boxes of 50.

Lint, fine.

Poultice Cloth.

Sheeting, Bleached Linen.

Sheets, Old Linen.

Silk, Twisted, fine and medium, in

Aseptic Solution.

Silk Ligature, on Reels.

Syringes, Male, Pewter.

Syringes, Male, Glass.

Tape, broad.

Tape, narrow.

Tape, for Field Equipment.

Thread, for Ligatures.

Test Papers.

Test Tubes.

Waterproof Cloth.

Eye Baths.

Corkscrews, Folding.

Holders, Caustic. Knife, Bolus, 6-inch. Slings, Arm, Leather. Air Bellows, small. Air Pillows, round. Air Pillows, square. Tenax. Tow, Surgeon's. Air-bed Boxes, complete. Cradles, Fracture, Iron portable. Catheters, Olivary. Catheters. Bougies, Olivary. Bags, Ice, Spine. Hones, Turkey. Hones, Arkansas Slip. Irrigators, sets of 2 complete. Rods, Glass. Splints, Wire Arm. Screwdrivers. Scales and Weights, Brass Pan. Scales and Weights, Glass. Scales and Weights, Pillar. Scales and Weights, Ounce. Tubing, Drainage. Machines, Pill. Splints, Common. Splints, Salter's Cradles. Strops. Apparatus, Urinometer, small. Pillows, Stump, Waterproof. Glass Ear Syringes. Thermometers, Bath. Tourniquet, Screw. Apparatus, Enema Brass. Catheters, Silver and Nickle. Stethoscopes, Aluminium. Stomach Pump. Thermometers, Clinical, in bayonet catch cases. General Fracture Boxes.

Thomas's Hip Splint, adult size.

Medical Companion. Surgical Haversacks. Water Bottles, c. Felt Covers. Flannelette. Higginson's Enemas, c. Bone Nozzles. Higginson's Enemas, c. Glass Nozzles. Glass Nozzles, spare. Chloroform, in 2 lb. bottles. Ether, in 1 lb. bottles. Drop Bottles. M'Burney's Gloves. Trays, Enamelled Iron. Basins, Enamelled Iron, 14-inch. Lane's Screws. Ivory Pegs for Bone Sutures. File, 6-inch. Aseptic Brace, N.-P., c. 9 Twist Drill. Pins, Steel Patella. Bone Drills, metal handle. Combined Sterilizer. Infusion Canulas, Silver. Wood, White Pine. Iron, as used in Hip Splints. Funnels, Glass, assorted. Carbolic Acid Cryst., B.P. Measures, graduated cylindrical, 20 oz. Do., do., 40 oz. Do., do., 2 oz. Infusion Tabloids. Olive Oil. Grey Scourer. Blouses, Operating. Scissors, Counter. Spatulas, Bone. Spatulas, Spreading. Tapes, Measuring, Chesterman's Spring. Ligature Holders, Metal.

Pattern for Thomas Splint.

Marine Lint.

3 Amputation Knives, 6-inch.

3 Amputation Knives, 8-inch.

3 Ankle Joint Knives.

2 Amputation Saws.

2 Amputation Saws, small.

I Amputation Saw, Butcher's.

2 Metacarpal Saws.

48 Wells' Forceps.

4 Spring Dressing Forceps.

1 Small Needle Holder.

3 Large Needle Holders.

2 Bullet Forceps.

2 Gunshot Probes.

3 Bone Forceps.

2 Bone Forceps, angular.

3 Bone Gouges.

1 Bone Cutting Scissors.

3 Bone Chisels.

1 Lion Forceps.

2 Gouge Forceps.

4 Necrosis Forceps.

6 Tooth Forceps.

1 Parrot-bill Forceps.

6 Bottles Dental Liquid.

2 Elevators.

3 Esmarch's Tourniquets.

2 Raspatories.

Brain Searcher.

4 Aneurism Needles.

2 Bistouries.

2 Bistouries, sharp.

4 Finger Knives.

4 Hernia Knives.

48 Scalpels.

24 doz. Needles.

2 doz. Hanks Silk.

1 doz. Hanks Silk.

2 doz. Hanks Catgut.

6 doz. S. W. Gut.

3 Kangaroo Tendons, in bottle.

12 Hanks Silver Wire.

Wire-cutting Forceps, plated.

4 Large Retractors.

4 Double Blunt Hooks.

2 Liston's Needles.

2 Liston's Needles.

2 Hernia Directors.

12 Pairs Dissecting Forceps.

3 Pairs Dressing Forceps.

2 Pairs Rat-Tooth Forceps.

3 Pairs 5-in. Sharp-pointed Scissors.

3 Pairs 5-in. Blunt-pointed Scissors.

3 Pairs 5-inch Angular Scissors.

3 Pairs Curved Scissors.

2 Scissors, Long-pointed, Straight.

1 Set Trephines.

6 Volkmann's Spoons.

1 Eye Case.

1 Laryngoscope.

2 Ward Scissors, 8-inch.

2 Ward Scissors, 9-inch.

Clover's Crutch.

Junker's Inhaler.

Ophthalmoscope.

Nasal Speculum.

2 Fergusson's Gags.

4 Tongue Depressors, 2 sizes, large

and small.

2 Vulsellum Forceps.

2 Trachea Tubes.

2 Trachea Dilators in case.

Aspirator.

Exploring Syringe.

2 Trocars and Canulas.

3 Hypo. Syringes.

2 Clover's Inhalers, with spare bags.

Chloroform Inhaler.

3 Long Pressure Forceps.

6 Sponge-holding Forceps.

3 Sponge Holders.

1 Bladder Trocar.

1 Case Lister's Bougies.

1 Rectal Speculum.

Tongue Forceps.

12 Assorted Probes.

12 Assorted Directors.

Blunt Dissector.

File Forceps.

2 Mallets.

24 Steel Pins.

Bradawl.

Screwdriver.

2 Intestinal Clamps.

12 Razors.

24 Nail Brushes.

2 Infusion Apparatus.

3 Murphy's Buttons.

3 Glycerine Syringes.

3 I. R. Œsophagus Tubes.

I Set Leiter's Coils.

2 Fracture Cradles.

12 Straps.

2 Body Cradles.

3 Bed Cradles.

3 Pieces Splinting.

6 lb. Guttapercha.

2 Ice Caps.

2 Bed Rests.

6 Sets Lined Splints.

12 doz. Safety Pins.

6 doz. 1-inch Calico Bandages.

24 doz. 3-inch Calico Bandages.

6 doz. 6-inch Calico Bandages.

36 doz. 3-in. Calico Bandages, O.W.

4 doz. 4-inch Flannel Bandages.

2 doz. 6-inch Flannel Bandages.

4 doz. 4-inch Domette Bandages.

6 doz. 3-in. Plaster Paris Bandages.

6 Tins Plaster Paris.

18 Spools Plaster, 1 inch.

18 Spools Plaster, 2 inch.

12 Spools Plaster, 3 inch.

12 Bottles Drainage Tubing.

12 yds. Drainage Tubing.

4 doz. Honeycomb Sponges.

6 Abd. Sponges.

2 doz. Turkey Sponges.

2 Bottles Zimocca Sponges.

36 yds. Carbolized Gauze.

1000 yds. Cyanide Gauze (6 yds.).

500 yds. Plain Gauze.

48 lb. Gamgee Tissue.

24 yds. Iodoform Gauze.

300 yds. Thymol Gauze.

30 lb. Lint.

2 Pieces Sheeting, 9 ft. x 3 ft. 6 in.

4 Pieces Sheeting, 54 in. x 48 in.

(5 yds. 1 ft.).

24 yds. Pink Jaconet.

12 lb. Boracic Lint.

400 lb. Absorbent Wool.

3 Inst. Tables.

2 Operation Tables.

4 Boxes for Dressings.

2 Sterilizers.

2 Ligature Troughs.

4 Sponge Jars.

4 Solution Jars, 3 galls.

4 Solution Bowls.

4 Solution Bowls.

2 Sets 3 Dressing Trays.

4 Inst. Trays.

4 Inst. Trays.

18 Bed Pans.

6 Urinals.

4 Solution Jars, 2 galls.

6 Tube Clips, large.

22 Bottles of Mercuric Chloride.

20 lb. Carb. Acid Crystals.

8 yds. Tubing for Solution Jars.

2 doz. Tubes Eucaine.

1 doz. Tubes of Cocaine.

3 doz. Tubes Glass Reels.

12 Blocks.

24 yds. Cords.

2 doz. Pulleys.

## APPENDIX S.

### REGULARS.

## OFFICERS AND MEN TREATED IN PORTLAND HOSPITAL.

### OFFICERS.

DISEASE.	Gunshot wound of side (VI. 1),	Severe. Gunshot wound of right leg	(I.X. 1), severe. Gunshot wound of arm (VIII. 1),	severe. Dysentery. Gunshot wounds of thigh and	abdomen. Catarrh, duodenum & bile duct. Dysentery. Acute dysentery. Pleurisy. Gunshot wound of spine. Gunshot wound of shoulder. Diarrhœa. Debility. Gunshot wound of ankle.	Author to mind a company
. NAME.	. Alexander, Harvey	. Milbanke, Sir John	. Gibson, Thomas George .	. Hendriks, Campbell Orr, Michael Harrison .	Godfrey-Faussett Davies-Cooke, A. Scott, Lord George Boyce, John Henry Thomas, Berkeley Hardinge Ruxton, Fitzherbert Jameson, Kenneth Eustace Amphlett, Chas. Edward Tremearne, Arthur	
RANK.	Major .	Lieutenant	2nd Lieutenant .	Captain .	Captain Lieutenant Captain Captain Captain Lieutenant 2nd Lieutenant 2nd Lieutenant Lieutenant	
REGIMENT.	roth Hussars	roth Hussars	6th Innis. Dragoons .	1st Royal Munster Fus. 1st Yorks Regiment .	Buffis, 2nd East Kent 6th Innis. Dragoons (at.) roth Hussars 2nd K.O.R.L.R 2nd Worcester 2nd Worcester 2nd Worcester Royal Field Artillery 6th Innis. Dragoons Australian Mounted Inf.	

DISEASE.	Gunshot wound of knee. Dysentery. Gunshot wound of left arm. Dysentery. Influenza. S.C. Fever.	. Enteric fever Sunstroke Enteric fever Fever and sore throat Enteritis S.C. Fever Diarrhœa.	Ankylosis. Debility. Heat stroke. Influenza. Hernia. Enteritis. Influenza. Gunshot wound of thigh, frac	Influenza. Diarrhœa. Debility. Diarrhœa. Diarrhœa. Diarrhœa.
NAME.	Carr, Martin R. J. Newman Leader, John Brown, Walter Sidney Eaves, Wilberforce Vaughan Commeline, Francis H. Bagot Harrison, James Molyneux Marrable, Arthur George	Mallinson, Henry Barton, Charles Walter Heneage, Godfrey Tristram, Uvedale Piper, Edwin James Delap, George Jenkins, Wm. Reginald Leader. Iohn	Baring, Hon. Caryl Rowden, Henry Weatherall Jones, Ed. Whitmore Smith, George Halford Williams, D. Tindale, Wentworth Brodrick, St John Bond, Algernon	Coke, Percy Thynne, Lord Alexander Wellford, Francis Lainson, Alexander Bolitho, Wm. Ed. Thomas Carey, Lewis
RANK.	2nd Lieutenant . Lieutenant . Civ. Surgeon . Captain .	2nd Lieutenant . Lieutenant . Captain . Lieutenant . Lieut. & QrMr. Lieutenant . Lieutenant . Lieutenant .	2nd Lieutenant . Major Captain Lieut. & QrMr. Lieutenant Civ. Surgeon . Lieutenant Lieutenant	Major Lieutenant Surgeon-Captain Captain Captain
REGIMENT.	2nd Worcester 2nd Bedford 2nd Wiltshire 2nd Bengal Lancers Army Service Corps 2nd K.O.Y. Light Inf.	2nd K.O.Y. Light Inf. 2nd Northampton . 3rd Grenadier Guards . 3rd Imperial Yeomanry . 5th Imperial Yeomanry . R.A.M.C 7th Dragoon Guards .	and Coldstream Guards. and Wiltshire M.I. and S.W.B. Loch's Contingent and Wiltshire 1st Div. Field Hospital. 1st Imperial Yeomanry. and Riffe Brigade.	6th Scots Imp. Yeomanry 1st Imperial Yeomanry . 7th Imperial Yeomanry . 2nd King's Royal Rifles 7th Imperial Yeomanry . 7th Imperial Yeomanry .

H. H.

pu

DISEASE.	252 25252 5 455	Diarrhœa. Enteric fever. Enteric fever. Enteric fever. Diarrhœa. Gunshot wound of arm, slight Gunshot wound of forearm severe. Debility. Debility. Debility.	hand. S.C. Fever. S.C. Fever.
NAME.	Jones, Wm. Henry Raleigh, George Hebden Leader, Jno. Weldon, Arthur Ruck-Keene, Lancelot Henry Sloane, Stanley, R. F. A. Dickenson, Douglas Jno. Bowes-Wilson, John H. Trydell, Fred. Wm. Sworder, Fred. Robert Cornes, Hugh Cousins, F. J. Barratt, Herbert James Cuddon-Fletcher, A. J. M'Nab. Hinde, Allan Hine-Haycock, V. Randolph	Blois, Dudley Payne, George Gosling, Wm. Sullivan French, Houston Ollivier, Robert Harold Hull, George Henry Barry, Arthur Joseph Fiaschi, Thomas Henry Wood, Leonard Brooke, Victor	Hutchinson, Cecil
RANK.	Lieutenant 2nd Lieutenant Lieutenant Captain Captain 2nd Lieutenant Civ.Vet. Surgeon 2nd Lieutenant Civ.Vet. Surgeon 2nd Lieutenant Civ. Civ. Vet. Surgeon Lieutenant Major Lieutenant	Lieutenant Lieut. & QrMr. Captain Captain 2nd Lieutenant Lieutenant Lieutenant Major Lieutenant Lieutenant Lieutenant Lieutenant Lieutenant Lieutenant	Lieutenant .
REGIMENT.	Royal Engineers	Royal Field Artillery 1st Scots Guards 1st Scots Guards Life Guards 2nd D.C.L.I. Marshall's Horse Marshall's Horse N.S.W. A.M.C. R.A.M.C.	1st Coldstream Guards . 1oth Hussars

DISEASE.	Debility. Gunshot wound of shoulder. Gunshot wound of abdomen. Varicocele. Gunshot wound of cluster		Sugnt. Gunshot wound of knee joint. Gunshot wounds of forearm and abdomen.	Diarrhœa. Gunshot wound of foot. Enteric fever.	Dysentery. Diarrhoa.	Diarrhosa. Diarrhosa. Enteric fever.	Enteric fever. Diarrhœa.	Enteric fever. Enteric fever. Thrombosis.	Abscess, buttock.	Enteric fever.	Dysentery. Enteric fever. Enteric fever.
NAME.	Bond, Richard Pratt	Warren, Fred. John	Brown, Claude Russell Vaughan, Chas. Jerome	Johnston, George Dawkins, Charles Dyrwhit Radcliff, Robt. Edwin Lowndy	Abbott-Anderson, John Henry . Mullineux, Matthew .	Wilmott, Ralph Fordyce Buchann, Geo. Charles	Currie, Arthur Cecil	Wilkinson, N. K Owen, C. M. E	Rowe, Earnest Fentinmer.	Mellor, Abel	Nichol, Charles . Nugent, George Colborne . Mortis, Harold Edward
RANK.	Major	Captain	Lieutenant .	Captain Major Captain	Major Chaplain	Lieutenant	Colonel	Captain	Captain	and Lieutenant .	Major Captain
REGIMENT.	R.A.M.C. Marshall's Horse Marshall's Horse Oxford Light Infantry	Kitchener's Horse.	Royal Engineers znd Dragoon Guards	Victoria Artillery znd Shropshire L.I Royal Horse Artillery	2nd Manchester 6th Division	Coldstream Guards	Royal Garrison Artillery Royal Garrison Artillery	Royal Garrison Artillery	2nd Bedford	Royal Field Artillery	R.A.M.C. Grenadier Guards Militia M.S.C.

H.H.

DISEASE.	Enteric fever. Enteric fever. Enteric fever. Enteric fever. Enteric fever. V.D.H. Enteric fever. Cunshot wound of shoulder. Dysentery. Enteric fever. Injury of chest. Enteric fever. Contraction finger. Iritis.	O S S S S S S S S S S S S S S S S S S S	noa	Gunshot wound of chest. Debility.
	s			
NAME.	Johnston, George Herbert, A. C. Austin, Jno. Gardiner Smith, Carlton C. D. Synnot, Wilfred Thomas Peckham, Richard Hay Cousins, F. J. Davenport, Walter Henry Farquhar, James Marshall, George Cannot, Ferdinand Ed. Goodden, Jno. Bernhard Chapman, Lionel J. A. Harbin Webb, Audrey Henry Kaye, John Henry Caunter, James Eales Kesteven, Lord	MEN.	Carr, Sydney George, William	Wood, George Nolan, James
NK.	nt	BANK		
RANK	Captain	8	Gunner Private	Private Private
	ery			
REGIMENT.	Victorian Artillery.  2nd Royal Warwick Royal Artillery Imperial Yeomanry Royal Field Artillery City Imperial Volunteers 6th Royal Warwick Royal Field Artillery Marshall's Horse Army Service Corps Imperial Yeomanry Royal Field Artillery Royal Garrison Artillery R. Canadian Regiment Lancaster Fusiliers Imperial Yeomanry	REGIMENT	Royal Horse Artillery 6th Innis. Dragoons	6th Dragoon Guards Loyal North Lancs.

DISEASE.	Gunshot wound of right thigh	Gunshot wound of right arm (1), slight.	Gunshot wound of face (II. 1), slight. Gunshot wound of left foot (IX. 1),	Slight.  Gunshot wound of left arm.  Gunshot wound of left arm (VIII. 1),	Gunshot wound of face. Gunshot wound of neck. Gunshot wound of neck (III. 1),	Gunshot wound of left leg (1), slight. Gunshot wound of right shoulder	Gunshot wound of left shoulder. Gunshot wound of left leg (IX. 1),	Gunshot wounds of eye and neck. Gunshot wound of right thigh (IX. 2). Gunshot wound of right hand	Gunshot wound of left shoulder	Gunshot wounds of right and left	ungns (1A. 1), severe. Gunshot wound of right hip (VI. 1),
						. H					
			. 1		. 81 .	ame	rles				
NAME	les	El .	les	hard	n noma nry	cis J hrist	Cha	iam y	liam	ober	mes
Z	Smith, Charles	Willson, John	Ayres, Charles . Bridcutt, Matthew	Pickens, Richard Evans, Thomas	Fownes, John . Sharples, Thomas Stanley, Henry .	Wells, Francis James . Vaughan, Christopher	Wardroper, Charles Looker, Albert	Spires, Robert Clarke, William Flood, Percy	Brisley, William .	Zacamini, Robert	Handley, James
	th,	lson	es, C	kens ins,	rples	lls, I	rdro ker,	rke, od, I	sley,	amir	ndle
	Smi	Wil	Ayr Bric	Picl Eva	Fow Sha Star	We	Wa	Spin Clan Flo	Bris	Zac	Нал
K.							10.7			*	
RANK	ite	oral	te ite	oral	te te te	te	te te	er er	oral	te	ier
	Private	Corporal	Private Private	Corporal Private	Sergeant Private Private	Gunner Private	Private Private	Private Private Driver	Corporal	Private	Gunner
				is.		ery .		uards ery			ery
NT.		ders	ks	R.W	sx	ks	ks	n Gu			rtill
REGIMENT.	ars .	chlar	Ber	on C	ars. ars. Ber	se A Ber	ons.	trear	ars.	ons.	rse A
REC	Inss	Hig	oyal	rago ted 1	Huss Huss oyal	Honoyal	ago	olds ffolk Hor	Inss	ago	Нол
	roth Hussars.	Royal Highlanders	2nd Royal Berks 2nd Royal Berks	6th Dragoon Guards Mounted Inf., R.W.F	roth Hussars . roth Hussars . and Royal Berks	Royal Horse Artillery and Royal Berks	6th Dragoons. 2nd Royal Berks	2nd Coldstream Guards. 1st Suffolk	roth Hussars .	6th Dragoons.	Royal Horse Artillery
	I	R	6 6	20	21 12	Z 12	22.0	21 R 13	I	61	R

DISEASE.	Dysentery. Gunshot wound of right shoulder. Gunshot wound of right forearm (VIII. 1), severe.	Inflammation of liver. Neurasthenia D.C., 10/1/00. Dysentery. D.C. V.D.H., 10/1/00.	V.D.H. Periostitis. Varix.	Injury to knee. Fracture of femur, simple. Hernia.	Hernia. D.C. Ruptured muscle, adductor longus (905), 23/1/00.	Dysentery.  D.C. G.S.W. with compound fracture, and radius (VIII. 4), 23/1/00.	Spinal Meningitis. Inflammation of liver. D.C. Enteric fever, 23/1/00. S.C. Fever. Inflammation of liver. Sunstroke.
NAME.	Amos, Fred Pettitt, William Gardiner, Alexander	Cross, Phillips Stitson, Walter Loins Green, Edward	Hunt, Edward	Aylmer, Alfred Skoyles, Edward	Phelps, Herbert Robert Shaw, Clarke	Estill, Charles Pratt, Walter	Davies, Henry  Wilson, Joseph  Brown, Harry  Tarrant, Thomas Alfred  Alexander, William  Holcombe, Herbert
RANK.	Private Lance-Corporal . Private	Private Staff Sergeant Sergeant Private	Private	Private Conductor Private	Gunner Corporal	Private	Private Private
REGIMENT.	9th Lancers 1st Suffolk 6th Dragoons	2nd Northampton Army Ordnance Corps . Northampton	Army Ordnance Corps . 12th Lancers	oth Dragoon Guards roth Hussars	Royal Horse Artillery . 9th Lancers	rst Yorkshire Bedford M. I. Regiment	rst Scots Guards

DISEASE.	Abscess of Liver.	Club-foot (c).	Gunshot wound of knee (XI.), Patella.	Gunshot wound of ankle, R.L.E. (XI.), Tibia.	Gunshot wound of hand, R.V.E. (VIII.), Carpus,	Gunshot wound of R.L. extremity.	Dis. C. Eczema, 1/2/00.	D.C. Enteric fever, 7/2/00.	D.C. V.D.H., 10/2/00.	Dysentery.	Ruptured muscle, adductor longus.	Gunshot wound, with compound	frac. of ulna and radius (VIII. 4).	Enteric fever.	Enteric fever.	Rheumatism.	Bright's disease.	D.C. Pneumonia, 21/1/00.	Rheumatism.	Hæmorrhoids.	Functional disease of the heart.	Piles.	Gunshot wound of left wrist, L.V.E.	D.C. Mitral regurgitation, V.D.H.,		Gunshot wound of right leg, in action (IX. 2).	
NAME.	Tubb, William Joseph.	Cleave, John Henry	Beech, John	Jameson, Albert	Cooke, Robert	Chase, William	Little, Charles	Sheppard, Frank	Brooks, Charles	Harbour, John William .	Shaw, Clarke	Pratt, Walter		Shepherd, Henry	Brown, Harry	Bartlett, Frank	Bell, Fred	Mead, Fred	Bruorton, George Edward .	Jones, Vaughan	Everton, William	Campbell, Henry	Clarke, James	Walsh, Ernest	;	Belsey, John	
RANK.	Private	Private	Private	Private	Private	Private	Private	Private	Private	Sergeant	Corporal	Private		Corporal	Private	Private	Corporal	Corporal	Private	Private	Private	Private	Shoeing-Smith .	Sergeant		Driver	
REGIMENT.	R.A.M.C.	2nd Coldstream Guards.	3rd Coldstream Guards.	12th Lancers	2nd Coldstream Guards.	1st Essex Regiment .	6th Innis. Dragoons .	Army Service Corps .	3rd Grenadier Guards .	2nd Northampton	9th Lancers	2nd Bedford Regt. M.I.		r2th Lancers	9th Lancers	2nd D.C.L.I	1st Yorks Regiment .	6th Innis. Dragoons .	2nd Coldstream Guards.	2nd Shropshires	2nd D.C.L.I	2nd Seaforth Highlanders	Scots Greys	3rd Grenadier Guards .		Royal Horse Artillery .	

DISEASE.	. Pneumonia. Gunshot wound of thigh (IX. 1, 2), V.D.H.	. Sprain back, contusion of belly (shell wound).	Dysentery.	S.C. Fever.	. Dysentery.	. Dysentery.	. Gunshot wound, frac. ilium (V. 2).	. Ulcerated throat.	D.C. Enteric fever, 5/2/00.	. Rheumatism.	. Inflammation of stomach.	. Enteric fever.	. Rheumatism.	Gunshot wound of thigh and buttock	(IX. 1).	. Enteric fever.	Prolapsus (6).	Gunshot wound of wrist joint, in	action (VIII. 4).	. Enteric fever.	. Contusion of brain.	. Rheumatism.	. Rheumatism.	. Debility.	. Debility.	. Dis. action of heart,
NAME.	Meade, Fred Cudmore, Robert	Johnson, Edward .	Leverett, Luke	Devereaux, Patrick .	Meyers, George	Dunbar, Robert	Fox, Thomas	Pepper, Rupert	Bishop, Robert	Ewing, Alexander .	Williams, Arthur	Knight, Henry Harold	M'Laughlin, Patrick .	Flood, Charles		Fletcher, Joseph	Green, John	Bunning, John		Morris, James	Caveney, Edward .	M'Donald, John	Gale, James	Harris, Edward	Wood, Samuel	Denial, Percy
RANK.	Corporal Private	Private	Private	Driver	Private	Sergeant	Private	Private	Sapper	Private	Private	2nd Corporal .	Private	Private		Private	Private	Private		Private	Private	Private	Private	Lance-Corporal.	Corporal	Private
REGIMENT.	6th Innis. Dragoons . 1st Essex Regiment .	1st Gordon Highlanders	2nd Northampton	Army Service Corps	2nd Coldstream Guards.	1st A. & S. Highlanders	3rd Grenadier Guards .	2nd Northampton	Royal Engineers	1st Yorks Regiment .	2nd D.C.L.I.	Army Service Corps .	2nd Coldstream Guards.	1st Yorks Regiment .	,	R.A.M.C	1st Welsh Regiment .	2nd Royal Berks		1st Scots Guards	12th Lancers	2nd Seaforth Highlanders	2nd Colstream Guards .	1st Essex Regiment .	roth Hussars	roth Hussars

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DISEASE.	D.C. Debility, 11/2/00. Enteric fever. D.C. Debility, 11/2/00.	V.D.H. Mitral regurgitation. Eczema.	Enteric fever. Gunshot wound of shoulder (VIII. 1).	severe. Abscess in axilla.	Contusion.	(IX. I), severe.	Gunshot wound of hip, R.L.E.	Gunshot wound of foot, R.L.E.	(1X. 1), slight. Gunshot wound of right calf, R.L.E.	(IX. 1), severe. Gunshot wound of back (VI. 1),	Gunshot wound of face (II. 1),	slight contusion of belly.  Dysentery.	Sunstroke.	Dysentery.	Piles and rheumatism.	Colic.	Ague. Malarial fever.
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NAME.	Horne, Charles . Burberry, Alfred . Rothery, John .	Walsh, Ernest Little, Charles .	Bishop, Robert . Holt, William .	Light, Frederick.	Wilson, George	Edwards, John rienry	Busby, Arthur .	Mason, John .	M'Bride, John .	Moss, George	Jones, John	Jefferson, Benjamin	Jory, Frederick Henry	Bavin, William	Cull, George	Sargent, Arthur .	Curtis, Arthur Roach, Leonard .
RANK.				Lance-Corporal.							Lance-Corporal.						
	Driver Private Private	Sergeant Private	Sapper Private	Lance-	Private	Tivale	Private	Private	Private	Private	Lance-	Sapper	Private	Private Private			Private Private
REGIMENT.	Army Service Corps and K.O.Y.L.I. roth Hussars	oth Innis. Dragoons	Royal Engineers	and Royal West Surrey.	and Usest Yorks	. Comes results .	2nd East Surrey	2nd East Surrey	2nd Royal Dublin Fus	2nd East Surrey	2nd Lancs. Fusiliers .	Royal Engineers	and Royal Scots Fusiliers	1st Border Regiment .	rst Royal Welsh Fus	and Scots Fusiliers	and Royal Dublin Fus

DISEASE.	Eczema. Rheumatism. Dysentery. Diarrhea. Pneumonia,	. Tonsillitis Pneumonia D.C. Enteric fever, 22/2/00 Rheumatic fever Ague.	. Rheumatism Sunstroke Enteric fever V.D.H Rheumatism Rheumatism Hydrocele.	Gunshot wounds of right and left arms, R.I.L.V.E. (1), severe. S.C. Fever. D.C. Enteric fever, 26/2/00. Debility. S.C. Fever. Sprain. Palpitation. S.C. Fever. Sprain. Dysentery.
NAME.	Goodfellow, John Elliott, Thomas Henry Graham, Donald Madden, Edward Stanier, George	Brown, James Randall, Walter Banbury, Joseph Black, Alfred Denmead, Charles Symonds, John	Kent, Edward Robson, George Sheppard, Frank Hensby, Walter Brooks, Charles Martin, Thomas Ben. Anderson, Edward Devitt, William	Matthews, George  Pyper, Robert Woodward, George Fletcher, George Watson, James Maley, Henry Pulleyne, Percy Tunney, James Banks, Arthur
RANK.	Private Private Private Private Private		Lance-Corporal. Gunner Private Driver Private Private Private Private Brivate Brivate Brivate	
REGIMENT.	rst Innis. Fusiliers 2nd Middlesex Regiment 2nd Gordon Highlanders 2nd Irish Fusiliers. 2nd Lancs. Regiment	2nd Dorset Regiment 2nd Dorset Regiment 2nd Dorset Regiment 2nd Royal Lancers R.A.M.C. Royal Artillery	and West Yorks  and Royal Irish Fusiliers  Royal Artillery  Army Service Corps  Army Service Corps  3rd Grenadier Guards  Q.M.I.	rst N.F.M.Irst A. & S. Highlanders rst A. & S. Highlanders Highland Light Infantry rst A. & S. Highlanders Royal Horse Artillery. 9th Lancers

DISEASE.	Diarrhœa. Ulcer.	Debility. Debility.	Enteric fever.	Abscess.	Inflammation of tympanum.	Debility.	Rheumatism.	Piles.	S.C. Fever.	S.C. Fever.	Dysentery.	Sprain of left ankle.	Rheumatism.	Inflammation of bladder, catarrh.	D.C. Enteric fever, 5/3/00.	Dysentery.	Bronchitis.	Dyspepsia.	Gunshot wound of right shoulder,	R.V.E. (VIII. 1), severe.	Neuralgia.	Dislocation of articular cartilage of	knee.	Eczema.	Debility.	Burn, sunburn,	Concussion.
NAME.	Pitman, Henry Gibbons, William	Horne, Charles Rothery, Iohn	Broadbent, George	Hamilton, Alexander	Buxton, James	Gleeson, Patrick John	Walley, Thomas	Nelson, Thomas	Carter, Donald	Cousins, Joseph	Smith, Alexander	Cattuach, Alexander	Gabe, Ivor	Thronton, James	Bensley, Joseph	Hines, Arthur	Allsebrook, Edwin	Yorke, Fred	Barnes, John		Heyden, Harry	Griffiths, Joseph		Trivett, George	Kirwan, Patrick	Keen, Francis Robert.	Burdett, Henry
RANK.	Private	Driver	Private	Corporal	Private	Staff SergMai.	Private	Drummer	Trooper	Gunner	Private	s Lance-Corporal.	Private	Private	s Private	Private	Private	Private	Private		Private	Private		Private	Private	Private	Corporal
REGIMENT.	1st A. & S. Highlanders 1st Coldstream Guards .	Army Service Corps	1st Scots Guards	2nd Black Watch	2nd Shropshire L.I.	Army Service Corps	2nd Cheshire Regiment.	2nd Northumb. Fus	1st Life Guards	Royal Horse Artillery .	1st H.L.I.	2nd Seaforth Highlanders	oth Lancers	1st East Lancashire .	2nd Seaforth Highlanders	1st Scots Guards	2nd North Stafford .	2nd North Stafford .	12th Lancers		2nd D.C.L.I	2nd North Stafford .		1st East Lancashire .	2nd S.W.B.	2nd S.W.B	12th Lancers

DISEASE.	Pleurisy. Pneumonia. Anæmia. Enteritis.	Dysentery. Wound of neck (III. 1), severe. Hernia.	Chronic rheumatism. Gunshot wound of eye (II. 1), severe. Conjunctivitis. Gunshot wound of left foot, L.L.E.	(IX. 1), severe.  Gunshot wound of abdomen (wall), (V. 1), severe.	Gunshot wounds of lung, hip, and	Gunshot wound of right thigh, R.L.E. (IX.), severe.	S.C. Fever. Dysentery.	D.C. Paralysis, 22/2/00. Gunshot wound of thigh, R.L.E.	Gunshot wound of left leg, L.L.E. (IX. 1), severe.	Gunshot wounds of right hand, left arm, left thigh, head.
NAME.	Nelson, Albert	Stephens, Tom Cripps, William	Allpress, Charles.  Morey, Edward  Lehane, Michael  Whaustall, Edward Charles	Pitt, Thomas	Cowdery, William Ponting, Frederick	Buckle, William	West, James Honess, George	Appleton, George Kent, Arthur	Callf, Frederick	Green, George
REGIMENT. RANK.	2nd Shropshire L.I Private	rs rtillery .	oth King's Royal Rifles. Private	and Worcester . Private	ons .		Army Service Corps . 2nd Corporal . roth Hussars W.O. SergMaj. 1st Prince of Wales'	Own Yorks. Regiment Private roth Hussars		zna worcester . Frivate

DISEASE.	. Enteric fever.	. Paralysis.	Gunshot wound of knee.		. Gunshot wound of left extremity,	C.L.E. (IX. 1), slight.	Gunshot wound of left extremity	L.L.E. (IX.), tibia.	. Contusion of back.	<ul> <li>Gunshot wound of back (VI. 1).</li> </ul>	. Gunshot wound of foot, L.L.E.	(IX. r), slight.	. Enteric fever, parotid bubo.	<ul> <li>Gunshot wound of chest (IV. 5).</li> </ul>	. Enteric fever.	. Gunshot wound of left arm, L.L.E.	(VIII. 1), slight.	. Gunshot wound of nand, K.V.E.	. Gunshot wound of left arm (VIII. 1),	severe. Gunshot wound of throat (III. 1).	severe.	. Gunshot wound of left forearm, L.V.E. (VIII. 1), slight.
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NAME.	seph.	Appleton, George	ge	rd	Kennedy, Charles	Flynn Cornelius	Bowie, Alexander		n .	thur .	Burwood, Edward		Chapman, William	nk N	Woodward, George	Williams, William	T mo	Jones, william John	Williams, William	urles		ngh
-	ury, Jo	ton, (	Poole, George Sharpe, Walter	Hett. Edward	edy, C	Con	, Ale		Brown, John	Mundy, Arthur	ood, E		nan,	ames, Frank	ward,	ms, V	WELL	N I	ums, V	e, Cha		gh, H
	Banbury, Joseph	Apple	Sharp	Hett.	Kenn	Flynn	Bowie		Brown	Mund	Burwe		Chapi	ame	Wood	Willia	Tonor	Jones	Willia	Clarke, Charles		M'Hugh, Hugh
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K.																rgea						
RANK	Corporal	Private	Private	Private	Private	Private	Private		Sapper	Private	Corporal		Private	Private	Private	Colour-Sergeant	Deiroto	Lilvaic	Private	Corporal		Private
	es, .	ent					ers								ers							٠.
٥	Wal	egime		. u			land			Inf.			uard		land							٠,
REGIMENT.	· Jo	ks. R	ding	mpto		9.	High		neers	Light	guipi		am		High							
REGI	and Dorset	Own Yorks. Regiment	zna Gloucester 1st West Riding	and Northampton .	2nd Bedford .	2nd Cheshire	1st Gordon Highlanders		Royal Engineers .	ctord	West Riding		rst Coldstream Guards .	Ioth Hussars	S. S.	elsh	olch	11613	elsh	sex		Scots Greys .
	nd D	OWI	st W	N pu	nd B	nd C	st Go		coyal	st Ox	Ist W	(	st Co	oth P	St A.	rst Welsh	ret Welch	11 10	ıst Welsh	1st Essex		cots
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Inflammation of ears, tympanur suppurative,	Piles. Gunshot wound of shoulder, R.V.E	Gunshot wound of left arm, J.V.E (VIII. 1), severe.	Enteric fever.	Contusion.	Contusion.	Gunshot wound of thigh, L.L.E.	(IX. 1), slight. Gunshot wound of shoulder, R.V.E. (VIII. 1). slight.	Gunshot wound of chest (IV. 5).	Gunshot wound of abdomen (V. 1),	Gunshot wound of thigh, R.J.E.	Gunshot wound of leg (IX. 1).	Gunshot wound of forearm (VIII. 1)	slight. S.C. Fever.	S.C. Fever.	S.C. Fever.	Rheumatism.	Rheumatism.	Dysentery.
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Tidman, James .	Irwin, Robert . Brightwell, Ernest	Bletchly, John .	Rippager, Maurice	Buckley, George	Netber, Arthur .	Harris, Morgan .	Davies, Edward .	Finelly, James .	Edwards, William	Donovan, Richard	Williams, Charles	Gibbs, John .	Hill. George	Kaye, Sam	Teasdale, Henry.	Jackson, John Herb	Williams, John .	Parkerson, William
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Sapper .	Private . Trumpeter	Sergeant .	Private .	Gunner .	Gunner .	Private .	Private .	Private .	Private .	Private .	Private .	Private .	Private	Private .	Corporal .	2nd Corporal	Private .	Private .
Royal Engineers	rst A. & S. Highlanders Royal Horse Artillery .	9th Lancers	2nd Worcester	Royal Field Artillery	Royal Horse Artillery .	rst Welsh Regiment	1st Welsh Regiment .	1st Welsh Regiment .	1st Welsh Regiment .	1st Welsh Regiment .	1st Welsh M.I.	2nd S.W.B.M.I.	2nd Norfolk Regiment	1st Coldstream Guards .	2nd Dragoon Guards .	Royal Engineers	3rd Grenadier Guards .	ist East Lancs
	. Sapper . Tidman, James	landers Private . Tidman, James	ghlanders Private . Tridman, James	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James In ghlanders Private Irwin, Robert Pi trillery . Trumpeter . Brightwell, Ernest G	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James	ghlanders Private . Irwin, Robert Sergeant . Brightwell, Ernest	ghlanders Private . Irwin, Robert Sergeant . Brightwell, Ernest	ghlanders Private . Tridman, James	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James	ghlanders Private . Tidman, James	ghlanders Private Tidman, James	ghlanders Private Tidman, James

DISEASE.	Gunshot wound of leg (IX. 1), severe.	Gunshot wound of chest (IV. 5). Ague. S.C. Fever.	Rheumatism. Ague.	Enteric fever. S.C. Fever. Sprain.	Gunshot wound of hip (IX. 1),	severe. Dysentery.	Debility. Debility.	Dysentery.	Diarrhœa.	Dysentery.	Dysentery. Gunshot wound of thigh (IX. 1),	severe.	V.D.H. Gunshot wound of hip (IX. 1), slight.	Abscess.	S.C. Fever.	Gunshot wound of shoulder (VIII. 1),	slight. Debility.
NAME.	Ravenhill, John	Watson, John . Morton, Frederick William Ruffell, James	Letton, Charles Fox, Edward	Bensley, Joseph	Hall, Frederick	Beard, Charles	Noble, John Christopher . Buckingham, Charles .	Tucker, Richard.	Batt, Frederick Tyrell Robert William	Dawson, William	Strickland, George Wilson, William		Baybutt, Henry	Noake, Arthur	Murray, Frederick Strange Thomas	O'Brien, Edward	Hinton, Walter
RANK.	Drummer	Sergeant Private Private	Private	Private Lance-Corporal.	Lance-Corporal.	Private	Lance-Corporal.	Driver	Sapper	Private	Private		Private	Corporal-Farrier	Driver	Private	Corporal
REGIMENT.	1st Essex Regiment .	1st K.O.S.B	1st Gordon Highlanders 1st Gordon Highlanders	2nd Seaforth Highlanders 3rd Grenadier Guards Royal Canadian	1st West Riding	1st West Riding	rst Coldstream Guards .	Royal Horse Artillery .	Royal Engineers	2nd Lincoln M.I.	and Lincoln M.I		rst K.O.S.B.	Army Service Corps .	Army Service Corps .	15t Column Highwan	R.A.M.C.

DISEASE.	Debility. S.C. Fever. Rheumatism. Thrombosis (285) (1).	. Varix. Dysentery. Gunshot wound of hip (IX. 1), severe. Rheumatism.	. Rheumatism Rheumatism Rheumatism Rheumatism.	Dysentery. S.C. Fever. Stricture. Stricture. Graph wound of left elbow, J.V.E.	Dysentery. Iritis. Rheumatism. S.C. Fever. S.C. Fever. Gunshot wound of forearm (VIII. 1),	slight. Dysentery. Gunshot wound of face (II. 1), severe. Rheumatism. S.C. Fever.
NAME	Daly, John	Collier, Alfred	Plume, George Taylor, George Smith, James D'Anthrean, Edward	Pierce, Walter Tibble, Frank Connors, Thomas Reeves, Alfred	Young, George	Cordwell, William Jane, Samuel Smith, Thomas
RANK.	Private Corporal Lance-Corporal . Private Private			Sapper Sapper Driver Private Private	Private Private Private Private Private Private Private	Private Sergeant Private
REGIMENT.	znd Shropshire L.I. znd Shropshire L.I. znd Shropshire L.I. znd North Staffs.	2nd Gloucester 2nd Cheshire 2nd Seaforth Highlanders 2nd Seaforth Highlanders	and Seaforth Highlanders 1st Gordon Highlanders 1st A. & S. Highlanders Royal Engineers	Royal Engineers Royal Engineers 2nd S.W.B	Royal Horse Artillery . 2nd Coldstream Guards . 3rd Coldstream Guards . 3rd Grenadier Guards . 2nd Norfolk	1st Essex 1st West Riding 2nd D.C.L.I

DISEASE.	. Dysentery.	. Varicose veins.	. Rheumatism.	. Rheumatism.	. Piles.	. Hernia.	. Rheumatism.	. Dysentery.	. Rheumatism.	. Varicose veins.	. Varicose veins.	. Ague.	. Debility.	. Diarrhœa.	. Debility.	. Contusion.	. Rheumatism.	. Orchitis.	. Synovitis.	. Onychia.	. S.C. Fever.	. Gunshot wound of leg (IX. 1), severe.	. Dysentery.	. Gunshot wound of neck (III.1), slight.	. Gunshot wounds of legs (IX.1), severe.	Gunshot wound of left arm, amp,	L.V.C. (VIII. 4).
NAME.	Waitender, Fred Tolley, William	Robinson, Richard .	Hanlon, Thomas	Peacock, Henry	Brown, Albert	Hucketepp, Walter	Pedler, Harry	M'Causland, Andrew .	Mosley, Charles	Farrant, John	Hobbin, Frederick .	Barnes, William	Brown, John	West, Harry	Brown, Frank	Regan, Thomas	Murray, Zacharia	Morrison, Angus	Allen, Fred	Noble, Frederick .	Connelly, Thomas	Purdie, Robert	Mackay, Angus	Maclean, John	Stewart, James	Gregory, Roland.	
RANK.	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Corporal	Lance-Corporal.	Driver	Sapper	Private	Lance-Corporal.				Private			Private	
REGIMENT.	2nd D.C.L.I.	2nd K. Shronshire I. I	1st K.O.S.B	rst K.O.S.B.	and East Kent	znd East Nent	1st Yorks	2nd Lincoln	2nd Lincoln	1st Oxford	1st Oxford		2nd Hants	2nd Gloucester	2nd Gloucester	Koyal Engineers	Koyal Engineers	2nd Seatorth Highlanders	2nd Seaforth Highlanders	A. & S.		Royal	2nd Royal Highlanders	2nd Seaforth Highlanders	2nd Seaforth Highlanders	2nd Seaforth Highlanders	

DISEASE.	Gunshot wound of mouth (II. 1),	severe. Enteric fever. Gunshot wound of hip (IX. 1), severe.	Gunshot wound of hand, amp.	Gunshot wounds of left armand chest	Gunshot wound of left arm (VIII. 1),	Severe. Gunshot wounds of left arm and neck	Gunshot wound of left foot (IX. 1),	severe. Gunshot wound of neck (III. 1),	severe. Gunshot wound of left foot (IX. 1),	severe. Gunshot wound of right arm	(VIII. 1), severe. Gunshot wound of arm (VIII. 1),	Severe. Wound of left foot (IX. 1), slight.	Bronchial catarrh. Rheumatism, whitlow.	Burn.	Tubercle of lung.
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NAME.	M'Guiness, William	Mitchell, John . Blackmun, Charles	Perham, William	Cooper, Henry .	Mahoney, Thomas	Smith, William .	Chandler, Harry.	Newman, Charles	Burrows, George	Speller, Henry .	Jones, Horace .	Ridler, William Henry	Simpson, Fred . Holmes, Patrick .	Crowther, Ernest	King, George
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RANK.	Private	Private . Lance-Corporal	Private	Sergeant	Private	Private	Private	Private	Private	Private	Lance-Corporal.	Corporal	Bombardier	Private	Private
	SIS							,			,				
REGIMENT.	1st A. & S. Highlanders	6th Innis. Dragoons 1st West Riding M.I.	1st West Riding .	2nd Bedford	2nd Lincoln	2nd Shropshire .	2nd S.W.B.M.I.	2nd Royal Warwick	ıst Yorks M.I.	1st Essex	1st Oxford	Royal Horse Artillery	Royal Field Artillery	and West Yorks .	rst York & Lancs.

DISEASE.	Gunshot wound of foot (IX. 1),	Shell wound, leg.	Otitis. Gunshot wound of arm (VIII 1)	Debility.	Gunshot wound of head (I. 3).	Debility.	Dysentery.	Dysentery.	Enteric fever.	Dysentery.	Abscess.	Ulcer, cornea.	Debility.	Dysentery.	D.H.A.	Dysentery.	Gunshot wound of mouth (I. 1),	slight.	Sec. syphilis.	Dysentery.	Bronchitis.	Bronchitis.	Bronchitis.	Abscess.	Pleurisy.	Gunshot wound of groin.	Enteric fever.	Piles.
NAME.	Courtney, Henry	Haley, Thomas	Smith. Arthur	Hughes, Joseph James	Hales, George	Drew, John Samuel Henry.	Bull, Edward	Jazzard, Ewen Albert	Kenning, Alfred	Allen, Joseph	Grindle, William	Stanley, William	Weeks, Arthur	Colley, John Henry	Dungworth, Wm. Henry .	Wilkinson, Arthur	Sutherland, William		Sulivan, John	Walker, Thomas	Blount, Arthur	Lee, George	Crohan, John	Morgan, Thomas	Court, Herbert	Mitchell, William	Cooke, Edwin	Lane, William
RANK.	Private	Private	Private	Private	Private	Corporal	Sapper	Sapper	Sapper	Bombardier .	Gunner	Private	Sergeant	Private	Private	Private	Private		Private	Private	Bandsman.	Private	Private	Private	Corporal	Lance-Corporal.	Private	Private
REGIMENT.	1st Loyal North Lancs	1st Loyal North Lancs	2nd S.W.B.	2nd D.C.L.I	Buffs, E. Kent	Royal Engineers	Royal Engineers	Royal Engineers	Koyal Engineers	Koyal Field Artillery	Royal Field Artillery .	2nd K.O.Y.L.I	2nd K.O.Y.L.I	2nd K.O.Y.L.I	2nd K.O.Y.L.I.	rst P.W.O.Y.R.	Royal Scots Greys .		3rd S.W.B	2nd East Kent	1st Loyal North Lancs	1st Loyal North Lancs	1st Loyal North Lancs	2nd Shropshire L.I.	2nd Gloucester	2nd Gloucester M.I.	2nd Northampton	2nd Northampton

DISEASE.	Bronchitis. Debility. Debility.	Gunshot wound of thigh. Gunshot wound of elbow.	Enteric fever. Skin disease.	Facal accumulation. Enteric fever.	Enteric fever.	Enteric fever. S.C. Fever. Gunshot wound of shoulder	Dysentery. Enteric fever. Enteric fever.	Enteric fever. Enteric fever. Enteric fever.	Enteric fever. Enteric fever. Enteric fever.	Enteric fever. Enteric fever. Enteric fever.
NAME.	Percival, George. Wheatley, Thomas Snow, Joseph	Lown, Frederick	Davies, John Walter Brown, Ernest	Turner, Thomas Hall Fisher, F. C.	Hilliard, T.	Constance, E. Duffy, J. Parker, John Briggs	Wrout, Horatio Arthur, Christopher Phillips, Arthur	Jessop, Frederick Charles . Walters, John Arnold . Marsh, John Edward .	Shadick, George Telfs, James Cook, George William	Goode, Arthur Reading, John Elliott, Thomas
BANK.	Private Private Private Private	Private	Driver Driver	Corporal	Private	Private Corporal	Private Private	Sergeant Private Sergeant	Private Private Private	Lance-Corporal . Private
REGIMENT.	2nd Northampton 2nd Northampton 2nd Coldstream Guards	rst Yorks 2nd Royal Highlanders.	Royal Horse Artillery . Royal Horse Artillery . Royal Horse Artillery .	Royal Horse Artillery .	Royal Warwick rst Essex	1st Essex	1st Life Guards 1st Welsh	rst Welsh rst Welsh	rst Welsh 2nd Cheshire	2nd Royal Warwick . 2nd Royal Warwick . 2nd Royal Warwick .

DISEASE.	Enteric fever, Dysentery,	Enteric fever.	Dysentery.	Debility.	Enteric fever.	Debility.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Debility.	Enteric fever.	Debility.	Dysentery.	Enteric fever.	Enteric fever.	Debility.	Enteric fever.	Diarrhœa.	Enteric fever.	Dysentery.	Enteric fever.	Gonorrhœa.
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NAME.	Glenham, James . Sugden, Leonard	Wilson, Witham.	Constance, Edward	Nuttall, Albert .	Manty, Arthur .	Offen, Harold Brunswick	Gibson, Charles .	Perrin, John .	Rasin, Alroy Edward	Logdale, William	Arthey, William .	Bowtle, Basil .	Holmes, William	Hall, Joseph .	Carter, William Fred	Duffy, John	Fane, Henry John .	Loveys, Henry .	Jones, John.	Holland, Albert .	Bodkin, Arthur John	Morden, Albert .	Greaves, George Benjamin	Pritchard, David.	Scott, Richard .	Faint, Arthur .	Rhodes, William.	Duff, Thomson .	Somers, Archibald
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RANK.	Private Private	Private	Private	Private	Private	Sergeant	Private	Private	Private	Private	Private	Corporal	Private	Private	Private	Private	Lance-Corpora	Bombardier	Staff-Sergeant	Lance-Corpora	Private	Private	Private	Private	Colour-Sergeant	Driver	Trooper	Private	Private
						•		-		*		1													s.			rs.	rs.
REGIMENT	and Royal Warwick	rst Essex	ist Essex	st Essex	st Essex	st Essex	st Essex	st Essex	st Essex	st Essex	st Essex	st Essex	st Yorks	st Yorks	st Yorks	st Yorks	st Yorks	Royal Horse Artillery	Army Service Corps	Army Service Corps	R.A.M.C	R.A.M.C	R.A.M.C	rst Welsh	2nd Coldstream Guards	Royal Horse Artillery	and Life Guards .	and Royal Highlanders	2nd Royal Highlanders
	61 61	-	I	-	-	-	-	H	H	-	-	-	-	-	-	1	-	X	4	T.	K	X	×.	-	61	×	61	63	CI

DISEASE.	Debility. S.C. Fever. Chronic (1044).	. Enteric fever Gunshot wound of forearm Enteric fever Dysentery.	Chronic rheumatism. Enteric fever. Typhlitis.	. Chronic rheumatism Gunshot wound of shoulder, slight.	. Gunshot wound of forearm, slight.  . Gunshot wounds of thigh and	Gunshot wound of forearm, slight. Gunshot wound of foot. Gunshot wound of axilla. slight.	Gunshot wound of buttock. Gunshot wound of foot, slight. Gunshot wounds of right and left	Gunshot wound of thigh. Gunshot wound of knee, severe. Gunshot wound of thigh, slight. Gunshot wound of thigh. Gunshot wound of thigh. Gunshot wound of thigh.
NAME.	Morrison, Andrew Kennedy, Donald West, William M'Lean, Angus	Bass, Robert Crowder, Alfred . Young, Arthur . Lawrence, Edward	Appleton, Thomas Hart, George William Fox, Charles	Herd, Robert . Dennis, Thomas .	Short, George . Reilly, Patrick .	Fleming, James . Shepherd, Charles Piper. Leonard .	Cotton, John Sabatini, Walter Jones, William	Sheldon, Henry . Spring, John . Hay, Henry . Elliott, John . Webber, Walter . Kerr, James .
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RANK.			Smit					-Sad
BA	Private Private Private Private	Corporal Sergeant Private Private	Corporal Gunner Shoeing-Smith	Private Private	Private Private	Private Private Sergeant	Private Private Private	Private Corporal-Saddler Private Private Private Private Private
	ders ders ders							
H.	ghlan ghlan ghlan ghlan	EEE.		ls .				
REGIMENT	并	M.I. oshire oshire oshire	shire ld Ar ld Ar	Guard	urs .	ars .	ars .	ars. rs. rs. rs.
RE	and Seaforth Highlanders and Seaforth Highlanders and Seaforth Highlanders and Seaforth Highlanders	Nortolk, M.I. 2nd Shropshire 2nd Shropshire 2nd Shropshire	and Shropshire I Royal Field Arti Royal Field Arti	rst Scots Guards .	Hussars	8th Hussars 14th Hussars	Hussars Hussars Hussars	14th Hussars 14th Hussars 9th Lancers 9th Lancers 9th Lancers
	2nd 2	2nd 2nd 2nd	Roya Roya	rst S 7th I		8th 1	444	4444444

DISEASE.	Gunshot wound of foot. Gunshot wound of left foot. Gunshot wound of knee, severe. Gunshot wounds of shoulder and	Gunshot wound of thigh, frac.	Enteric fever.	Gunshot wound of head. Gunshot wound of left shoulder.	Gunshot wound of left forearm. Gunshot wound of back.	Enteric fever. Enteric fever.	Gunshot wound of knee. Enteric fever.	Enteric fever.	Gunshot wound of shoulder. Enteric fever.	Enteric fever.	Enteric fever.	Gunshot wound of chest. Enteric fever.	Enteric fever.	Enteric fever.	S.C. Fever. Enteric fever.
*			es .												
NAME,	Taylor, Samuel Holmes, Arthur Twyford, George Lindley, George	Cooke, James	Carpenter, William . Martin, Frederick Charles	Roe M'Elliott, Michael	Smith, George Clegg, Arthur	Brewster, Charles Martin, Harry	Spelling, John	Devonport, Joseph Clarke, George	Herbert, William .	Clarke, Thomas Henry	Barnett, Harry	Carr, Thomas Dadv, William	Owen, George	Mitchell, George Henry	Dymott, William King Phillips, George
RANK.	Private Corporal Private Private	Sergeant	Lance-Corporal. Sergeant	Private	Private	OrMrSergeant Private	Private	Lance-Corporal. Lance-Sergeant.	Colour-Sergeant Private	Private	Private	Private	Private	Private	Lance-Sergeant. Private
REGIMENT.	9th Lancers 9th Lancers 9th Lancers 7th Lancers	17th Lancers	Army Service Corps .	Shropshire ist Connaught Rangers	oth Lancers	1st Essex	2nd Essex M.I	Buffs M.I	2nd Shropshire L.I	2nd Worcester M.I.	rst Wilts M.I.	Royal Irish		4th King's Royal Rifles.	2nd Hampshire

Enteric fever. Enteric fever. Enteric fever. Enteric fever.	
Mayhew, Charles Dickinson, Charles Bullock, Walter Elms, Arthur	
Driver	
Royal Horse Artillery . 2nd Coldstream Guards . 1st Royal Sussex 1st Royal Sussex	The state of the s
. I IIValle	Guards. Driver

DISEASE.	Enteric fever. Debility. Enteric fever. Enteric fever. Enteric fever. Dysentery. Debility. Gunshot wound of head. Rheumatism. Enteric fever. Synovitis. Bronchitis. Bronchitis. Sc. Fever. Disentery. S.C. Fever. Dysentery. S.C. Fever. Dysentery. S.C. Fever. Dysentery. Enteric fever. Debility. Enteric fever. Enteric fever.	Enteric fever,
NAME.	Webb, William Yeo, Percy Harrison, Charles James Walker, William Williams, Frederick Dew, Charles Trimgham, Alfred Cooper, Joseph Matthison, Ernest William Dixon, Ernest Cross, William Chaplin, Samuel Corbett, William Chaplin, Samuel Corbett, William Healy, Hy. Taylor Ryan, Frank Martin, J. Healy, Hy. Taylor Ryan, Frank Martin, J. Heyes, T. Sullivan, William Hogan, Thomas Flynn, James Sillivan, Stephen M'Cauley, John Simot, Nicholas Dunne, Patrick Wilkie, William Lee, Thomas Lee, Thomas Lee, Thomas	Ryan, Patrick
RANK.	Private Private Private Private Driver Gunner Private	. Private
REGIMENT.	and Shropshire L.I. and Shropshire  12th Lancers  Royal Artillery Royal Horse Artillery and North Stafford 6th Innis. Dragoons and Shropshire L.I. Royal Horse Guards 10th Hussars 10th Hussars 11th Royal Horse Artillery Royal Field Artillery Royal Field Artillery 11th Royal Irish	rst Royal Irish .

DISEASE.																														
	Enteric fever.	Enteric fever.	Enteric fever.	S.C. Fever.	Dysentery.	Debility.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Dysentery.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Dysentery.	Enteric fever.	Dysentery.	Debility.	Enteric fever,
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NAME.	'illiam .		umnel .	Page, Joseph Wallace	narles .	Charles.	Harold.	/illiam .	rancis .		N	en .	Cecil .	Harry .	hn .	, Frank	James W	, Charles	Harry .	George	ames .	. John .	ank .	homas .	. payl	Villiam	John .	John .	imes .	Fred .
	Brown, William	White, W.	Norris, Samuel	Page, Jose	Gregg, Charles	Bowery, C	Burrage, Harold	Taylor, William	Dillon, Francis	Bullard, F.	Parkins, W.	Dyer, Owen	Thomas, Cecil	Sparrow, Harry	Welsh, John	Stoneham, Frank	Thomson,	Holloway, Charles	Hodson, Harry	Bartram, George	Preston, James	Partridge	Dicks, Frank	Roche, Thomas	Piggott, Alfred	Barnett, William	Harrison, John	Cummins, John	Young, James	Erdwein, Fred
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				1																										
RANK.				ean																	=	=								
RA	Private	Private	Private	F. Sergeant	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Private	Corporal	Corporal	Gunner	Private	Private	Private	Private	Gunner	Driver	Driver
 E.																						illery	illery					illery		tillery
REGIMENT.	Wilts .	Wilts .	Wilts .	Bedford .	Bedford .	Bedford .	Bedford .	Bedford .	Bedford .	Bedford .	Bedford .	Worcester	Worcester	Worcester	Worcester	Worcester	Worcester	Worcester	Worcester	and Worcester	and Leicester	Royal Field Artillery	Royal Field Artillery	st Royal Irish	and Bedford .	st Welsh .	st Welsh M.I.	Royal Field Artillery	Royal Artillery	Royal Horse Artillery
	2nd \	2nd \	2nd \					2nd I	2nd I	2nd I		2nd \					2nd	2nd	2nd	2nd	2nd l	Roya	Roya	1st R	2nd l	Ist W	Ist W	Roya	Roya	Roya

DISEASE.	. Enteric fever.	S.C. Fever.	. Debility.	. Debility.	. Abscess of face.	. Blister, heel.	. Debility.	. Debility.	. Ague.	. Ulcer, cornea.	. Ulcer, leg.	. Blister, feet.	. Inflammation of stomach.	. Enteric fever.	. Enteric fever.	. Gunshot wound of upper ex	severe.	. Enteric fever.	. Enteric fever.	. Enteric fever.	. Enteric fever.	. Enteric fever.	. Enteric fever.	. Enteric fever.	. Fistula, arm.	. Piles.
NAME.	Butcher, James Kitson, Charles	Brown, John Edward .	Hearn, Andrew	Hearn, Michael	Errol, William	Craige, Richard	Grewer, Alexander	Franklin, George	M'Nab, William	M'Namee, Patrick .	Brown, James	Day, Edward	White, Charles	Anderson, Joseph .	Borlase, Richard.	Andrews, John	;	Gregory, Henry	James, Henry	Moore, William	Murphy, F	Adams, A	Smith, H	Finnigan, E	Bellaby, J	Ballard, R
RANK.	Private	Private	Private	Private			Private		~	_		_	Private	Private	Drummer	Private		Private	Lance-Corporal.	Private	Private	Sergeant	Private	Corporal	Private	Private
REGIMENT.	8th Hussars	K.O.S.B.	rst Highland L.I.	1st Highland L.I	and Royal Highlanders .	and Royal Highlanders.	and Royal Highlanders .	1st A. & S. Highlanders	1st A. & S. Highlanders	rst A. & S. Highlanders	1st A. & S. Highlanders	2nd Seaforth Highlanders	2nd Seaforth Highlanders	r7th Lancers	rst Coldstream Guards .	1st Berks		K.A.M.C	1st Essex	2nd Shropshire L.I.	2nd West Riding	2nd West Riding	2nd West Riding	2nd West Riding	2nd West Riding	and West Riding

DISEASE.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Dysentery.	Blister, feet.	Enteric fever.	Abscess, axilla.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Enteric fever.	Dysentery.	Dysentery.	Dysentery.	Enteric fever.	Heat stroke.	Dysentery.	Dysentery.	Enteric fever.	Enteric fever.	Enteric fever.	Myalgia.	Rheumatism.	Enteric fever.	Enteric fever.	Dysentery.
NAME.	Hirst, John Thomas	Phillips, Alfred	Moore, Alfred John	Wright, Harry	Studdy, Alfred	Leech, John	Truss, Ferdinand Charles .	Sullivan, John	Shea, John	Hoolahan, Daniel	Flood, Martin	O'Flynn, Edward	O'Brian, George	Smith, Henry	Holland, Joseph	Gordon-Cumming, Robert .	Smith, Frederick	Hinton, Joseph	Burchell, William	Bingham, Charles	Tolley, George	James, George	Hooker, Joseph	Clarke, Charles	M'Farlane, James	Atkins, William	Hubbard, Frederick	Gent, William
RANK.	Private	Private	Gunner	Cunner	Private	Private	Driver	Driver	Private	Private	Private	Private	Private	Private	Private	Sergeant	Private	Private	Private	Private	Frivate	Private	Private	Private	Private	Sergeant	Driver : .	Private . :
REGIMENT.	1st Coldstream Guards . 2nd Scots Guards	1st Welsh	Royal Horse Artillery	Royal Armiery	and East Yorks	2nd East Yorks	Army Service Corps .	Army Service Corps	Ist Koyal Irish	Ist Royal Irish	Ist Royal Irish	ist Koyal Irish	ist Leinster	2nd Bedford	2nd Bedford	2nd Bedford	2nd Bedford	2nd S.W.B.		and West Kent	2nd Worcester	ist 5. Staffs	Ist S. Staffs	Ist S. Staffs	Ist S. Staffs	Koyal Field Artillery .	K.Y.A	14th Hussars

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DISEASE.	Dysentery. Dysentery. Dysentery. Enteric fever. Abscess face	Enteric fever. Enteric fever. Enteric fever. Enteric fever. Enteric fever.	Enteric fever. Enteric fever. Enteric fever. Enteric fever. S.C. Fever. Enteric fever.	Enteric fever. Enteric fever. Enteric fever. Enteric fever. Enteric fever. Enteric fever.	Enteric fever. S.C. Fever. S.C. Fever. Enteric fever. S.C. Fever. S.C. Fever. S.C. Fever.
NAME.	Yeddes, James	Turner, Cli. Ogden, Aubiron Copeland, Charles Cowper, John Goulding, Joe	Ferris, Jacob Phillips, Samuel George Archer, Sidney Cowdery, Charles Sainsbury, George Osborne, Albert Edward	Tutt, Joseph Henry Slingsby, Sydney Elliott, Arthur Fickner, Thomas Wise, Walter Wilson, Ernest John Smithman Frank	Hamshaw, William Randall, William Guest, Arthur Fitzer, William Kavannah, Phillip Kennedy, John Moore, William
RANK.	Corporal . Private . Private . Bandsman .	Private Private Private Private Corporal	Private .	Private Private Corporal Private Lance-Corpora Private Private Rucler	Sergeant Sergeant Private Private Private Private Private Private Private Private Sergeant Se
REGIMENT.	2nd Dragoons . 7th Dragoon Guards 2nd Shropshire L.I. 1st Worcester	1st West Riding	and Wilts	and Buffs Buffs and Buffs and Buffs and Buffs	2nd Worcester

DISEASE.	Debility. Diarrhœa. Enteric fever.	Gunshot wound of left arm. Gunshot wound of left foot,	Gunshot wound of hand. Gunshot wound of left foot.	Gunshot wounds of right and left	Gunshot wound of right side.	Gunshot wound of leg.	Dysentery.	Debility.	Pneumonia.	Enteric fever.	Enteric fever.	Fracture.	Gunshot wound of hand.	Contusion of left hip.	Debility.	Gunshot wound of hand.	Gunshot wounds of right and left thigh.	Contusion.	Piles. Diarrhea	THOUSE THE PARTY OF THE PARTY O
	Deb Diar Ente	Gun	Gun	Gun	Gum	Gun	Dyse	Deb	Pnet	Ente	Ente	Frac	Gum	Cont	Debi	Gum	Cum	Cont	Piles.	-
NAME.	Williams, James Craven, John Dixon, Frank	Thompson, Daniel Kynoch, David	Shelley, John	Melville, David	Lowe, Thomas	Giles, James		Ir	Roche, George	Day, Martin	Hazleton, John	Collins, George	Brennan, Thomas	Butler, William	Willis, Edward	M'Lean, Charlie.	Hearn, Robert William .	Roper, William	Harper, Frank	The Same of the sa
RANK,	Private Private Corporal	Sergeant Private	Private	Private	Corporal	Private	Private	Driver	Gunner	Sapper	Private	Sergeant	Private	Private	Private	Driver	Corporal	Private	Private	rance corbonie
REGIMENT.	2nd Royal Warwick . 2nd Royal Warwick . 6th Dragoon Guards .	1st Gordon Highlanders 1st Gordon Highlanders	1st Gordon Highlanders 1st Gordon Highlanders	1st Gordon Highlanders	1st Gordon Highlanders	rst Gordon Highlanders	Royal Horse Artillery .	Royal Horse Artillery .		Royal Engineers		16th Lancers	1st West Riding M.I.	1st Royal Irish M.I.	1st Loyal North Lancs		1st Koyal Sussex		2nd Northampton	and Comments

DISEASE.	Rheumatism.  Dysentery.  Dysentery.  Stricture.	Debility. D.A.H. Rheumatism.	Bronchial catarrh, Dysentery. Rheumatism.	S.C. Fever. Dysentery. Dysentery.	Dysentery. Epilepsy. Ague.	Rheumatism. Debility. S.C. Fever.	Ague. Ulcer. Ague. Ginshot wound of thigh	Gunshot wound of left extremity. Jaundice. Dysentery.	Bronchial catarrh. Typhlitis. Rheumatism. Dysentery.
NAME.	Lattimore, James Brammer, George Whybrow, George Arthur Llovd, Arthur	Cook, Martin Gavin, Thomas Thompson, James	Farrell, Edward Baker, George	Smith, Joseph Lord, Charles Bryan, Thomas	Culmer, William Sands, William Smith, Arthur	Wright, Alfred Skins, William Evans, Frank	Thompson, Henry Hawkes, Peter Foster, Benjamin	Hadden, William	Shorter, Joseph Middleton, George Ayres, Joseph
RANK.	Private Private Private Private	vo.	- о, -	Private Private	Driver Private Private	Sergeant Private	Gunner Driver		
REGIMENT.	2nd Essex		13th Hussars	rath Hussars	2nd East Kent	2nd Northampton	Royal Field Artillery Royal Horse Artillery Royal Field Artillery and Seaforth Highlanders	and Royal Highlanders. and Royal Highlanders. and Royal Highlanders.	rst Oxford L.I. rst Oxford L.I. 2nd Hampshire

DISEASE.	Dysentery. Enteric fever. Pleurisy. Debility. Bronchitis. Dysentery. Rheumatism. Stricture. Deafness. Epilepsy. Contusion of shoulder. Rheumatism.		DISEASE.	Diarrhœa. Diarrhœa. Cullulitis suppurating, hand. Malaria and debility. Dislocation of clavicle, simple.	Enteric fever. Laryngitis. Rheumatism. S.C. Fever.
NAME.	Hodges, Henry	IRREGULARS.	NAME.	Johnson	Tiety, Gustave Little, Robert
RANK.	Private		RANK.	Private Trooper Trooper Trooper Lance-Corporal .	Conductor Trooper Stoker
REGIMENT.	2nd Hampshire 2nd East Kent		REGIMENT.	S.J.A.B. S.J.A.B. S.A.L.H. Queensland M.I. S.A.L.H.	S.A.L.H. S.A.L.H. Naval Brigade

DISEASE.	V.D.H. Dysentery. Gunshot wound of head (I. 3). Gunshot wound of right thigh	(IX. 1), severe. Gunshot wound of left thigh (IX. 1),	Gunshot wound of left shoulder	Gunshot wounds of left arm and	Gunshot wounds of right and left	Gunshot wound of femur, fracture through left hip and int. perineum.	Gunshot wound of left thigh.	Periostitis.	Scalp wound.	Gunshot wound of right eye.	Diarrhea.	Dysentery.	Debility.	Diarrhœa.	Synovitis.	Gunshot wound of right thigh.	Fracture of ribs	Enteric fever.
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NAME.	Helps, John Stewart . Bateup, Albert Colley, Henry James . Cunningham, James .	Macauley, Dennis	Gamble, William	France, Levi	Wallace, Frederick William	Peters, Erick	Bush, Henry	Bond, John Henry Percy	Foles, Charles	Spurr, William Herbert	Scettrins, W. A.	O'Hara, James Christopher	Chapman, Herbert William	Pugsley, Ernest Osmond	Read, Arthur	Binns, Christopher Snowdon	Jones John Hugh	Freeman, Henry Francis
	- · ·																	
RANK.	Lance-Corporal. Private	Corporal .	Private .	Private .	Private .	Private .	Private .	Sergeant .	Conductor .	Private .	Private .	Trumpeter.	Private .	Private .	Trooper .	Bugler .	Trooper	Private .
REGIMENT.	Rimington Guides. N.S.W.M.R. Victorian Mounted Rifles West Australian	Victorian Mounted Rifles	Victorian Mounted Rifles	West Australian	Victorian Mounted Rifles	Victorian Mounted Rifles	Victorian Mounted Rifles	N.Z.M.R.	Army Service Corps	Rimington's Guides	S.J.A.B.	Roberts' Horse	C.I.V.	C.I.V.	Rimington's Guides	N.S.W.M.I.	Loch's Horse	S.J.A.B.

DISEASE.	Fracture of leg. Piles. Debility. Otitis. Gunshot wound of forearm (VIII. 1). S.C. Fever. Lacerated wound of face (II. 1),	Enteric fever. Enteric fever. Diarrhœa. Enteric fever. Diarrhœa. Lumbago. Diarrhœa. Hammer toe. Diarrhœa. Dysentery. Corns. Loose cartilage. Enteric fever. Teno-synovitis. Enteric fever. Tonsillitis. S.C. Fever.	Ellielle level.
NAME.	Ingliss, Lindsay Merson . Phillpot, Frederick William Adams, George . Lee, Griffith Boynton . Harrison, Charles . Tulloch, Alexander John . Holloway, Harry .	Ford, Edgar Ellis, Frank J. Price, James George Cooney, Teddes Kidd, Alexander Otter, Joseph Marsh, Charles Trusler, Alfred Henry Harper, Alfred G. M. N. Lapwood, George Hayer, William Briggs, F. J. William Hatley, Alfred White, John Hopkins, Charles James Cutbill, Cecil Edward Williams, Francis Baird, George Ryan, Andrew Bushell, Harry	Theirbert, victor
RANK.	Private Private Private Private Private Private Private Private	Trooper	CIVII FOIGINAII .
REGIMENT.	Victorian Mounted Rifles R.P.R	Loch's Horse. S.J.A.B. Q.M.I. Q.M.I. Q.M.I. Q.M.I. C.M.R. C.M.R. C.I.V.	works Dept

DISEASE.	Gunshot wound of calf. Gunshot wound of forearm, slight. Debility.	Chronic rheumatism. Enteric fever. Gunshot wound of axilla.	Gunshot wound of thigh. Gunshot wound of arm.	Gunshot wound of buttock. Gunshot wound, fract. radius. Gunshot wound of thigh, fract. femur.	Severe.	Gunshot wound of hand, slight.	Gunshot wound of leg, severe.	Dysentery.	Enteric fever.	Headache.	Enteric fever.	Enteric fever. Gunshot wounds of arm and back	Malaria.	Enteric fever.	Gunshot wound of right leg.	Gunshot wound of forearm.	Enteric fever.	Futeric fever
NAME.	Culver, John Wright Burns, Robert Scott, James	Atkinson, George Bird, Sidney Cleaver, Ernest Patrick	Reid, Alexander.	Collett, James Botha, Fredk. Stephanus Botha, Jacobus Hendrik	Talija, Iohn	Davell, Guilliam Johannes.	Kruger, Jan Aram Schmidt, Andres	Bleasdale, Robert	Frawley, William Fawcett, John	Major, John	Humphrey, Edmund Luke.	White, John	Serwill, George Harry	Willis, Frederick John	M'Clurty Wm Hamilton	Gambling, Thomas	Cause, John	Gilbert, Archibald
RANK.	. Private Lance-Corporal . Private	Private Private	. Private Sergeant	. Frivate	3	:	: :	. Private	. Sergeant	. Private	. Trooper .	. Private	. Corporal	. Sergeant .	. Trooper	. Trooper	. Able Seaman .	. Able Seaman .
REGIMENT.	Royal Canadian R. Royal Canadian R. Royal Canadian R. Royal Canadian P.	N.S.W.M.I	Marshall's Horse .	Boer Force	Boer Force	Boer Force	Boer Force	S.J.A.B.	Royal Canadian Regt.	Royal Canadian Regt.	Ceylon M.I	Kitchener's Horse.	Marshall's Horse	Post Office Corps .	Roberts' Horse	Kitchener's Horse.	Naval Brigade	Naval Brigade .

DISEASE.	Enteric fever. Hæmaturia. Enteric fever. Rheumatism. Enteric fever. Tonsillitis. Tonsillitis. Debility. Diarrhœa. Enteric fever. Dysentery. Enteric fever. Enteric fever. Enteric fever. Enteric fever.	Gunshot wound of upper extremity, severe. Gunshot wound of upper extremity. Enteric fever. Paralysis. Enteric fever. Enteric fever. Dysentery. Enteric fever. Tonsillitis. Enteric fever.
NAME.	French, Thomas.  Bailey, Aiden Barber, Charles Hume Freeman, Henry Francis Newnes, John Edward Harper, W.  Buckland, Henry Richard Mitchell, William Faircloth, Richard Skipp, Albert Hesse, William Macauley, Aulay Babbyton Boreo, Henry James Pottinger, James	Agnew, Herman M. Robinson, Godfrey Gumaclieus, Frederick P. Oxley, Joseph H. Slater, Frederick Harold, Richard O'Donnell, Thomas O'Donnell
RANK.	Private Private Private Private	Trooper
REGIMENT.	Royal Canadian Regt French's Scouts . S.J.A.B	Imperial Yeomanry Imperial Yeomanry Imperial Yeomanry Cape Mounted Rifles Brabant's Horse Lumsden's Horse S.J.A.B. S.J.A.B. Ist Imperial Yeomanry R.C.R.

DISEASE.	Enteric fever. Bronchitis. Enteric fever. Enteric fever.	Fæcal accumulation. Orchitis, N.G.	Fracture (1031). (a) Radius. Ague.	Ague. Constipation. Rheumatism.	Diarrhœa. Gunshot wound of knee. Rheumatism.	Contusion, sacral region. Gunshot wound of head. Gunshot wound of neck.	Gunshot wound of chest. Gunshot wound of neck. Shell wound. Pleurisy	Gunshot wound of buttock. Ague. Hernia. Ulcer. S.C. Fever. Deblity.	
NAME.	Holloway, Harry.  Burden, George.  Stratford, Samuel Merchant, Thomas England	Matthew, Herbert Edward. Alexander, James Pearson, Edward	Hobbs, Bedo Campbell, Jno. James.	Banks, Edward Nugent Boyd, Manuel Martin. Gibson, Frank	Galvey, Richard Asher, William Friend, Charles	Goodchild, Frank Dyke, Albert Ward, Bernard	Smith, Henry Shuttleworth, Henry Newman, George M'Pherson, Allan	Hood, Richard Brown, Henry Lovell, Leonard Patterson, John Haywood Coincross, Frederick M'Pherson, George Smith Clark, James	
RANK.	Private Private Private Private Private	Private Trooper	Private Lance-Corporal. Lance-Corporal.	Private Private Trooper	Trooper Sergeant	Corporal Private	Corporal	Corporal	
REGIMENT.	S.J.A.B Imperial Yeomanry S.J.A.B	S.J.A.B Imperial Yeomanry	Canadian M.R. Lumsden's Horse	S.J.A.B	Imperial Yeomanry Imperial Yeomanry Imperial Yeomanry	Imperial Yeomanry Imperial Yeomanry 4th Derby	4th Derby	South Province Horse . 4th A. & S. Highlanders Kitchener's Horse Kitchener's Horse Kitchener's Horse 4th Gordon Highlanders 4th Scottish Rifles	

DISEASE.	Dislocation of left shoulder. Gonorrhæa. Dislocation of shoulder. Rheumatism. Hernia.
NAME.	Barnes, Reginald Perkins, William. Frazer, Duncan. Grace, Reginald. Lye, George. Squires, David
RANK.	Private Private Private Private Private Private Private
REGIMENT.	Roberts' Horse 4th Sherwood Foresters New Zealand M.R. New South Wales M.R. New South Wales M.R. S.J.A.B.

## APPENDIX T

AT a final meeting of the Committee held on 27th April 1901, the Report, as submitted by the Sub-Committee, was approved, and it was decided to present a copy to all Subscribers, as well as to those who had interested themselves in, and rendered assistance to, the hospital. It was also resolved that any officer or soldier who had been a patient in the hospital should have the privilege of purchasing a copy at cost price. It was further agreed that £500 of the surplus funds should be given to Lady Charles Bentinck's fund for providing warm clothing and comforts to the men still serving in South Africa, and that £600 should be given to the Soldiers' and Sailors' Help Society to endow a bed in perpetuity in the Princess Christian's Homes for Disabled Soldiers, to be designated the "Portland Hospital Bed," and that the remaining funds, after payment of the Report, and incidental expenses, should be given to the same society. Any Subscriber not agreeing to this proposal shall have the option of receiving 20 per cent. of their original subscription (the approximate relative proportion of the unexpended funds) on application to the Secretary.

In recognition of their services in connection with the hospital, His Grace the Duke of Portland, K.G., and Mr J. L. Langman, who, in addition to acting as Honorary

Treasurer of the Portland Hospital, had at his own expense equipped and sent out a field hospital, were made Knights of Grace of the Grand Priory of the Order of the Hospital of St John of Jerusalem of England, and Lady Henry Cavendish Bentinck was made a Lady of Grace.

Surgeon-Colonel Kilkelly, Grenadier Guards, Mr Anthony Bowlby, and Dr Tooth were gazetted as Companions of the Most Distinguished Order of Saint Michael and Saint George.





