

Housing of the labouring classes and back-to-back houses / [Henry Percy Boulnois].

Contributors

Boulnois, H. Percy

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THE
HOUSING
OF THE
LABOURING CLASSES
AND
BACK-TO-BACK HOUSES.

BY
H. PERCY BOULNOIS, M.INST.C.E.,
CITY ENGINEER, LIVERPOOL.

LONDON :
THE ST. BRIDE'S PRESS, LIMITED,
24 BRIDE LANE, FLEET ST., E.C.

PRICE ONE SHILLING NETT.



K4

Presented by



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1896

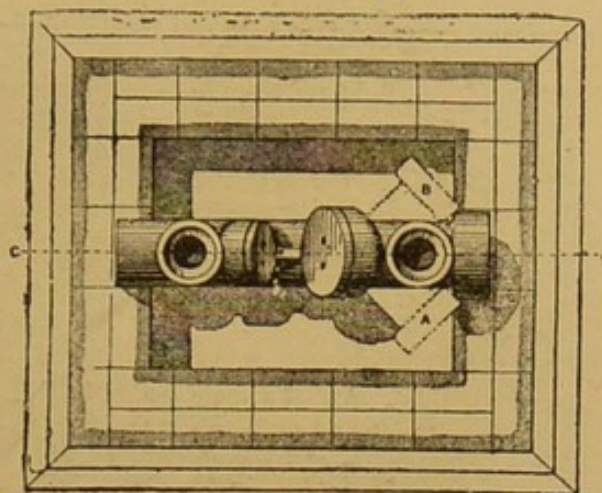
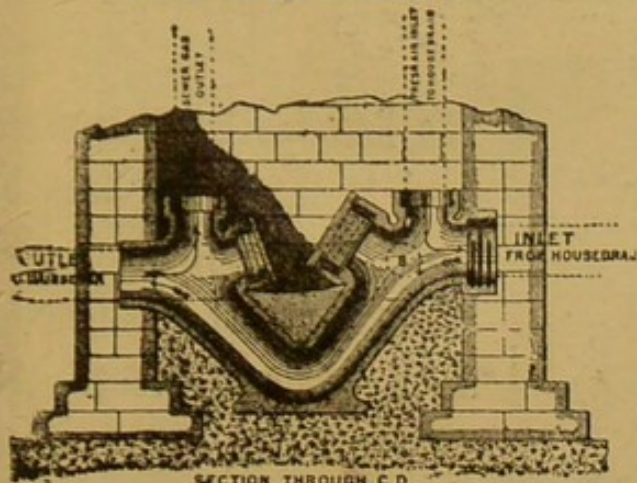
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Connection shall ventilate the Sewer "

Sykes Patent Interceptor.

SYKES' PATENT INTERCEPTOR.



NOTE.—If the Sewer Gas outlet is not used, a Screw Plug can be inserted and closed with our India-rubber Washer or with grease.

IMPROVEMENTS.

Dispensing with open channel, which is often choked with solids. In case of a stoppage the Chamber cannot fill with Sewage; a man can therefore enter and unstop the drain.

Provision for ventilating Public Sewer (which may or may not be used). The pressure of gas is taken off the sewer side of the Interceptor, whereby the water seal cannot be forced.

The Interceptor is sealed up, which prevents the escape of gases in the Chamber.

Provision for the admission of fresh air to the house drain.

By confining such fresh air to space in the pipe we insure a current; by the old system it enters the Chamber, diffuses itself and becomes foul, and the current destroyed.

The use of screw stoppers which cannot be blown out.

The screw stoppers can be taken out of the Inspection Arms and the respective drains cleansed.

The inlets A and B are made with a shoot into the Interceptor, thereby thoroughly flushing same by the roof-water during a storm.

By confining the liquid to the Interceptor no sewage can escape to permeate the surrounding subsoil.

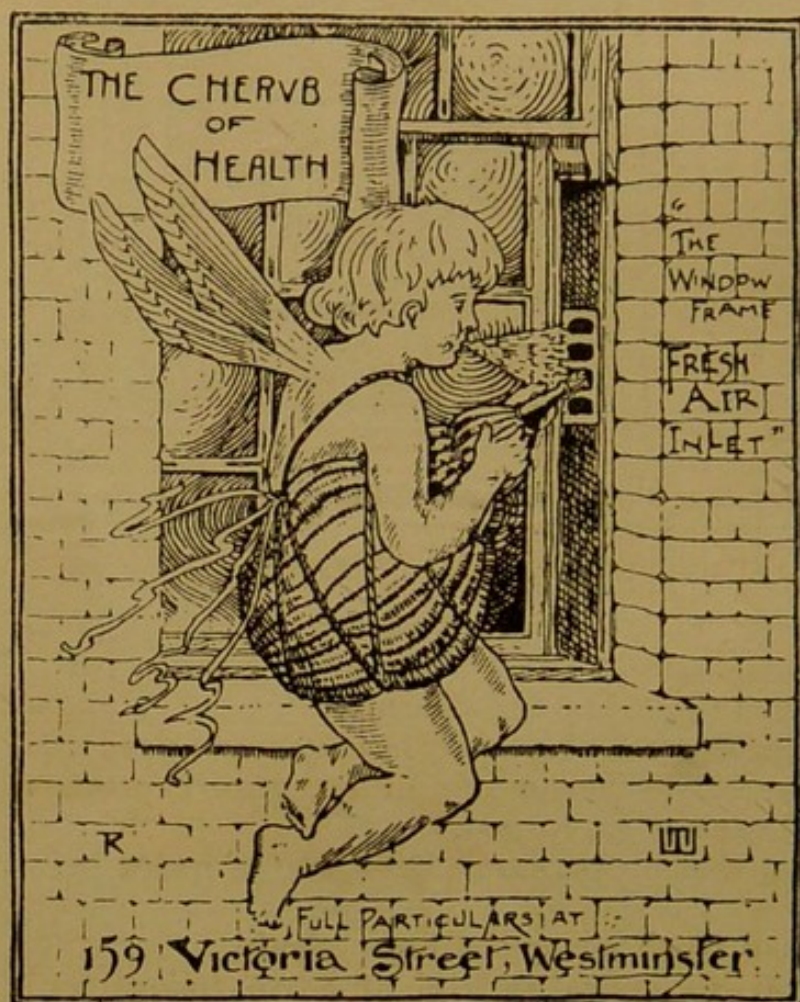
Concentration of all parts in the Chamber, where they are easily accessible, and where full control is obtained over the system.

Price delivered to any part of United Kingdom, 4in. 16/6, 6in. 22/6, 9in. 38/6.
Side Inlets, 2/- each extra.

ALBION CLAY CO., LIMITED

Albion Works, Woodville Burton-on-Trent,
OR 18 NEW BRIDGE STREET, BLACKFRIARS, E.C.

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Fenestra Ventilating Company.



The Fenestra Ventilators are fixed to the pulley-stiles of ordinary sash frames, and enable air to be admitted to an apartment through the medium of the weight boxings by merely manipulating a knob—a convenience considerably appreciated by the occupants of an apartment who are unable to admit air into the room at night without raising the blind and opening the window.

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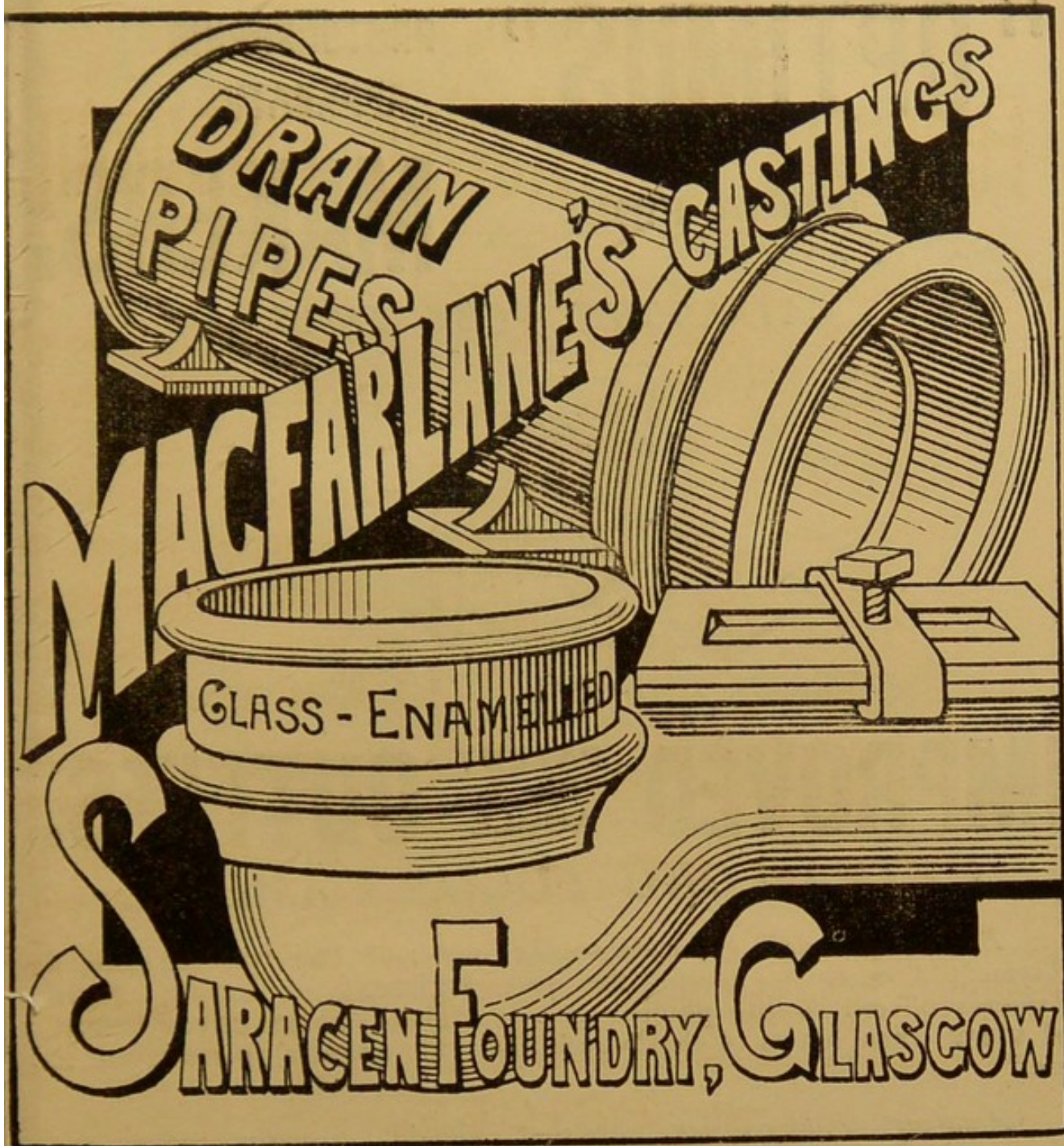
In Brass, 7/6 per set, for one side of a window.

In Malleable Galvanised Iron, 4/- per set, for one side of a window.

Full Directions for Fixing are despatched with each Order.

Detailed drawings, and any additional information, will be furnished on application to—

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FIRST-CLASS AWARD—INTERNATIONAL SANITARY EXHIBITION.

Macfarlane's Glass Enamelled Drain and Soil Pipes are impervious to rust, have perfectly smooth interiors, and can be supplied tested to any pressure.

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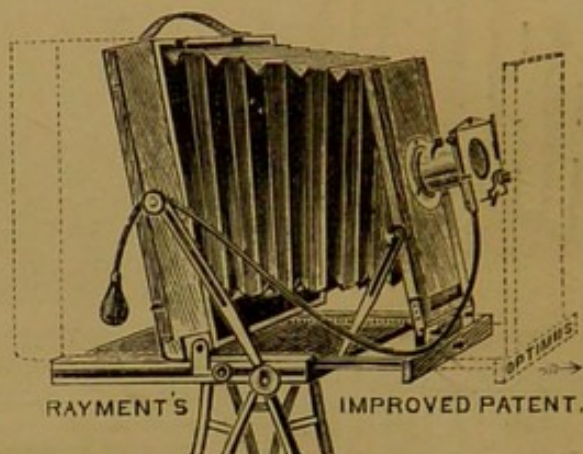
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APPARATUS

(BONA FIDE)

MAKERS.

CATALOGUE POST FREE.



IMPROVED PATENT WIDE ANGLE OUTFITS. EXTRA=LONG FOCUS CAMERA.

British Journal of Photography says:—"The present Model Rayment Camera is among the very **lightest** of actually **rigid** Cameras offered to the public. . . . There is **no curtailment of view** when lenses of short focus and wide angular aperture are in use."

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£10	£12	£15	£20	£25	£30

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142 OXFORD STREET,

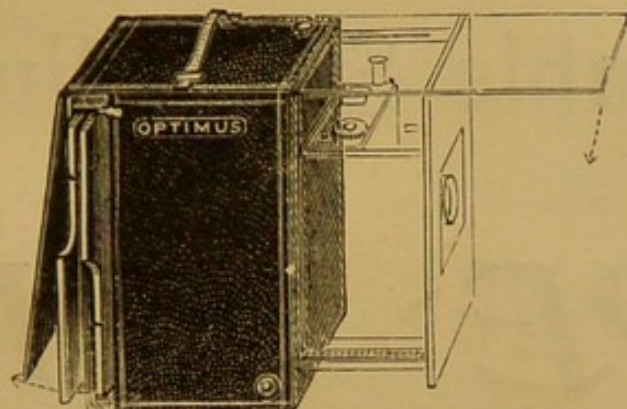
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APPARATUS

(BONA FIDE)

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"OPTIMUS" CAMERA DE POCHE.

Pictures $4\frac{1}{4}$ by $3\frac{1}{4}$, Quarter-plate.

Covered with durable hard-grained leather; outside dimensions $3\frac{3}{4}$ by $4\frac{5}{8}$ by 5 inches.

Price, complete with Three Double Dark Slides, £6 6s.

GREAT ingenuity has been displayed in devising the form of this instrument. It is at once the quickest to open and to reclose, as well as the smallest camera which allows a full quarter-plate picture to be taken.

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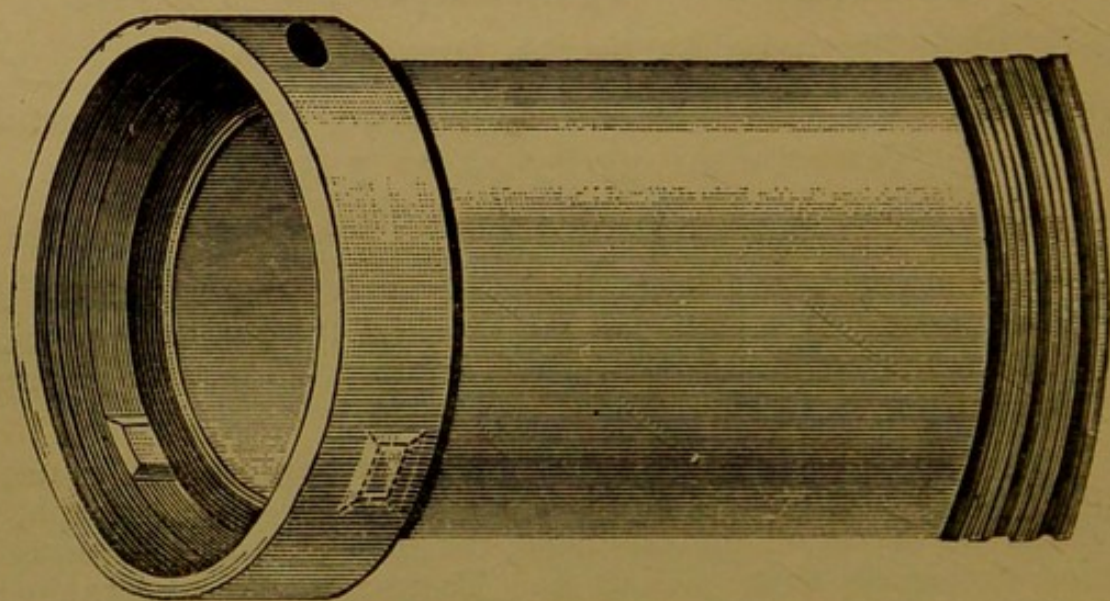
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PATENT

Reliable Self-Adjusting

PIPE JOINT.



All the advantages of the most expensive
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practically the cost of an ordinary pipe.

. . . ADVANTAGES. . . .

- Perfectly sound gas and water tight joints which will stand pressure can be quickly made by ordinary workmen under all conditions with CLAY and CEMENT, which are the CHEAPEST and MOST RELIABLE JOINTING MATERIALS.
- A self-adjusting and true alignment of the invert at the joints is insured and maintained.
- A firm rest for the SPIGOT, which secures concentricity of the SPIGOT and SOCKET, giving an equal sealing space round the Spigot and preventing OBSTRUCTIVE LEDGES at the joints, thus maintaining the FULL CAPACITY of the pipes and a FREE FLOW for the sewage.
- The SPIGOT, having a firm rest, cannot drop, and the pipes may be walked upon or subjected to pressure in filling up the trenches before the cement is set without damaging the joint.
- Special construction of SOCKET and Rest Pieces, which insures a true alignment of the invert without impairing the efficiency of the joint, the rest pieces being entirely surrounded by jointing materials.
- A specially-constructed SEALING CHAMBER, which insures a perfect seal at the seat of the SOCKET and prevents the displaced jointing materials from entering the pipes.
- The great facility with which sound and reliable joints can be made, and a true alignment of the invert insured by ordinary workmen, fully compensate for the slight increase in the initial cost over an ordinary pipe; thus all the advantages of the most expensive patent pipe joints are secured at practically the same cost as an ordinary pipe.
- h. Less supervision is needed, as careless or inexperienced workmen cannot lay the pipes with a defective invert.
- h.—There are no composition rings, which increase the cost and the liability to damage in transit.
- h.—The special double-seal joint for water-logged ground may be made under the most unfavourable conditions, as the jointing materials in the sealing chambers at the seat of the SOCKET and in the collar on the SPIGOT cannot get washed away.
- h.—The pipes are made from the very best stoneware, well glazed, and are made perfectly true in every part by special PATENTED MACHINERY.
- h.—All BENDS, JUNCTIONS and other CONNECTIONS have additional rest pieces in the SOCKETS, so that they can be laid in any position without the trouble and annoyance of ordering special rights and lefts; the rest pieces, coming in the upper part of the SOCKET when laid, may be readily chipped out if it is found necessary to remove them.

Further Particulars and Prices can be obtained from

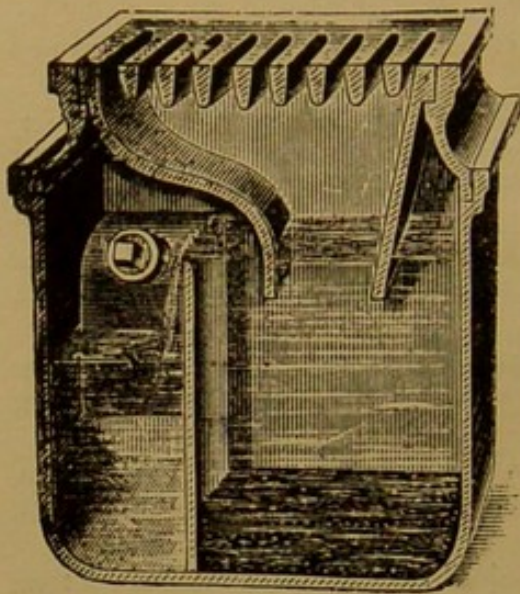
AMES, CROSTA & CO.,
LIMITED,

Mechanical & Sanitary Engineers, Manufacturers & Merchants,
EXCHANGE WALK, NOTTINGHAM.

Telegraphic Address:—"AMES, NOTTINGHAM."

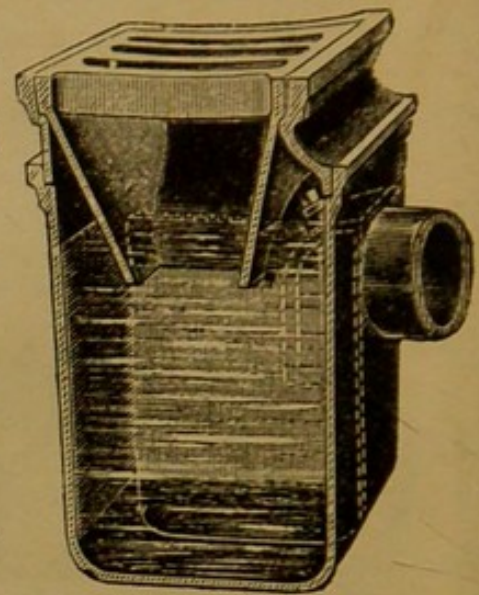
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Supplied to Corporations in all parts of the Kingdom.



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Highest Award
obtained
for Gullies,
Liverpool
Exhibition,
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ADVANTAGES.

- Self-contained. Speedily and cheaply fixed without impeding traffic.
- No brickwork required. Can be used immediately after fixing.
- Capacity not limited ; can be made any size to suit circumstances.
- Made sufficiently strong to withstand the heaviest traffic.
- Effectually prevents admission of road *detritus* into the sewers.
- Small area of water exposed to atmosphere.
- Complete trap, whereby, even when body of gully is empty, noxious gases from drains are effectually sealed.
- Second trap completely protected from being silted up.
- Easy access to drains by means of removable plug.
- Drains can be cleared of obstructions by flushing through plug hole.
- Frame and grate can be renewed without disturbing body of gully.
- No joints below water line, trap cannot get destroyed by leakage or evaporation.
- Being made of impermeable materials, it cannot become foul by absorbing offensive matter ; therefore will not give off dangerous exhalations during long dry seasons.
- Effective preventive against cholera, fevers, diphtheria and other zymotic diseases so frequently contracted from defective gullies.
- Ultimate cost (with all its special advantages) is less than any other gully of similar capacity.

Prices, Illustrated Lists and full Particulars from

THE PATENT GULLY CO., Ltd.,
ST. PETER'S CHURCH WALK, NOTTINGHAM.

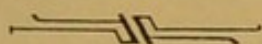
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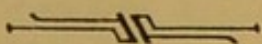
FOR

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PERMANENCY, ECONOMY,
EASIEST FIXING.

DESIGNS MADE TO ORDER.



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R. HARDING & SON,

Sanitary, Hydraulic & Gas Engineers, &c.

75 ARODENE ROAD, BRIXTON, S.W.

HARDING'S New Perfect Drinking Fountain.

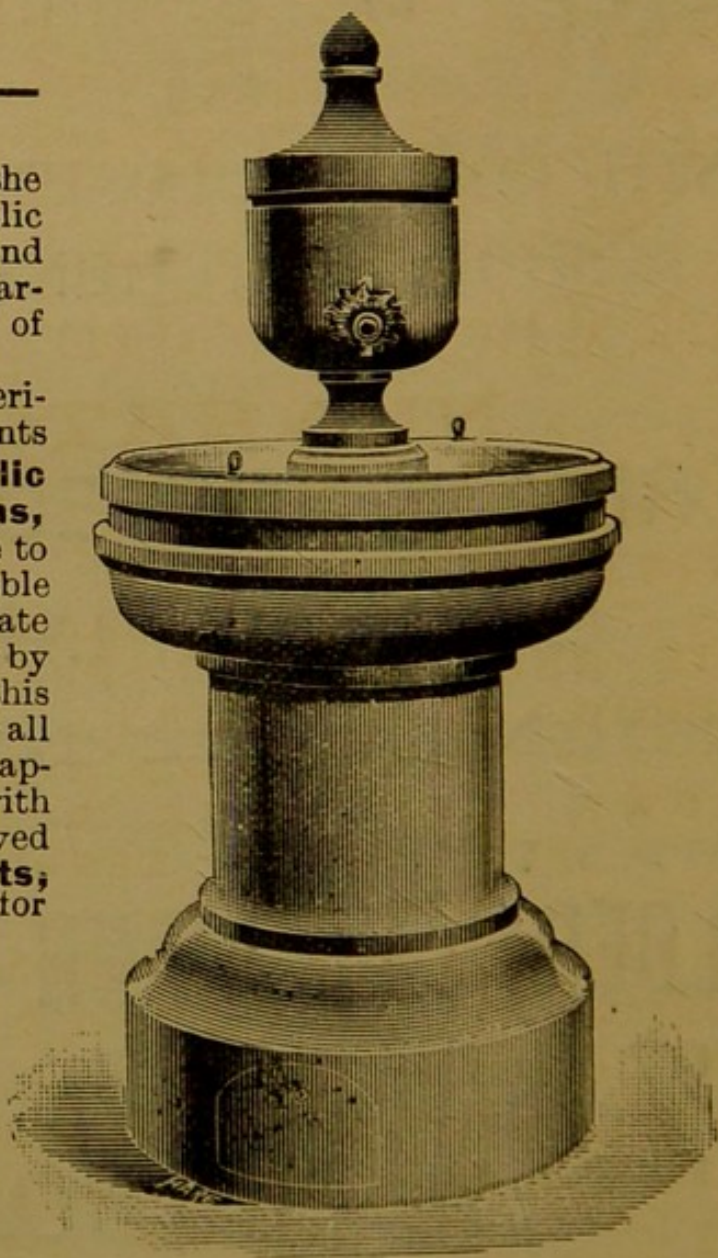
(PATENT APPLIED FOR)

As SUPPLIED to the LONDON COUNTY COUNCIL.



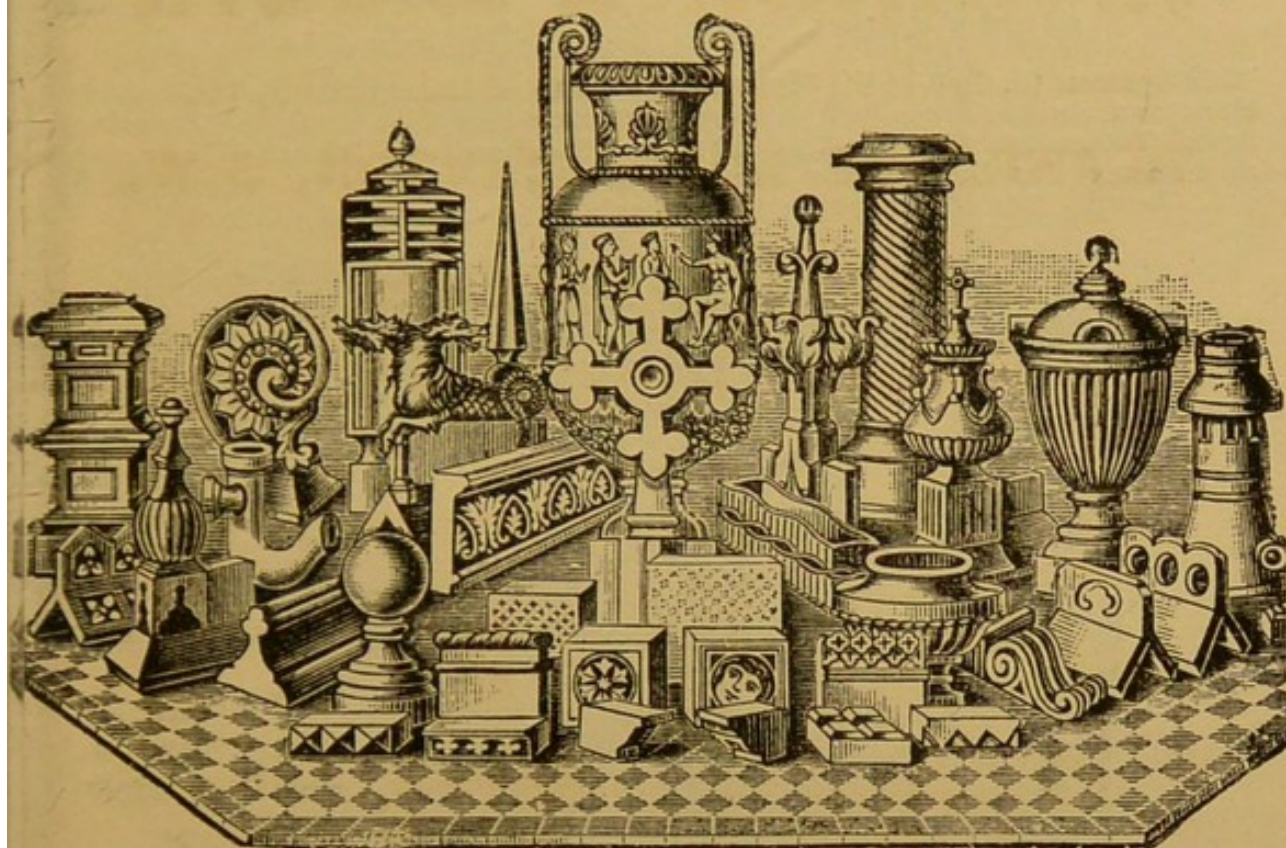
WE beg to call the attention of Public Bodies, Local Boards and furnishers of Public Gardens, to the merits of this Fountain.

After 20 years' experience in the requirements of **Metropolitan Public Drinking Fountains**, and the study of late to produce a good serviceable Fountain at a moderate cost, we are now able, by adapting cast Iron to this design, and combining all the most approved appliances together with Harding & Son's improved **Strong Spring Jets**, and perfect escape for the waste water which is impossible to get stopped up, to present a **Strong Useful Drinking Fountain**.



75 ARODENE RD., BRIXTON,
LONDON, S.W.

STANLEY + BROS.,



Brick, Tile, Pipe AND Terra-cotta Works, **NUNEATON.**

Manufacturers of—

SSANITARY PIPES AND CONNECTIONS.

WHITE GLAZED CHANNEL PIPES.

WHITE AND COLOURED ENAMELLED BRICKS.

BROWN GLAZED BRICKS (various shades).

SALT-GLAZED BRICKS.

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*Illustrated Catalogue (containing more than 1000 Designs),
together with Price List, on application.*

Utilization of Ordinary Street Lighting for Sewer Gas Extraction and Destruction.

W. DEAKIN & Co., SANITARY ENGINEERS, &c. GUEST STREET, HOCKLEY, BIRMINGHAM.

This System (J. E. Webb's Patent), as in use at Abergavenny, Tottenham, Hereford, Southampton, the Wolverhampton Hospital (Oldbury, Birmingham), Tettenhall (Shoreditch, London), &c., secures Street Illumination and Sewer Gas Destruction, at a cost of only One Halfpenny per lamp per hour. It is also especially applicable for ventilating purposes.

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DEAR SIR,

The five lamps which you converted from "**Holman's**" to the "**Webb**" Patent Sewer Ventilator have all been fixed and are working very satisfactorily. I calculate that we shall save something like £50 per annum by the conversion, and get a better light.

JOHN PARKER,
City Surveyor,
— Hereford.

NEW COURT, TEMPLE,
LONDON, E.C.

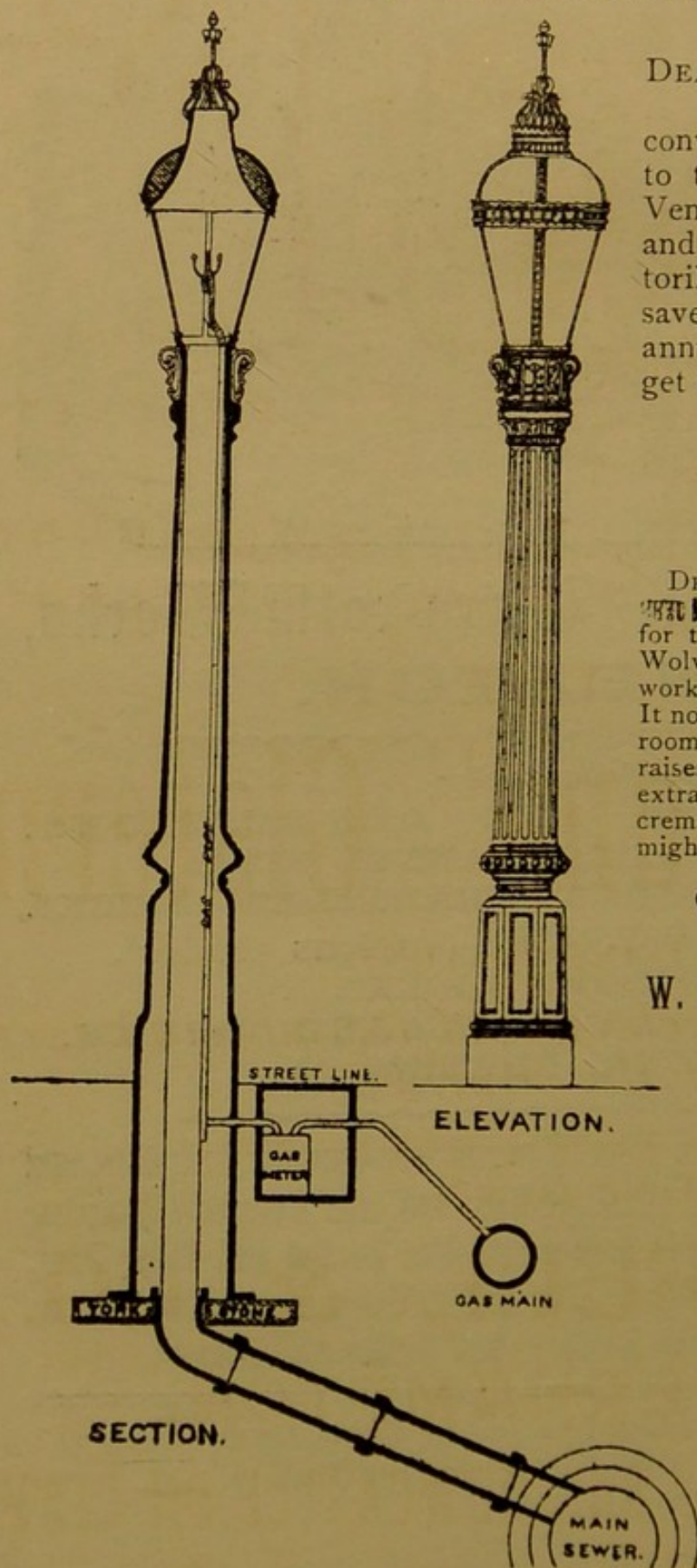
DEAR SIR, Dec. 20, 1894.
The Ventilator you have erected for the new Mortuary Block at the Wolverhampton General Hospital is working with very satisfactory results. It not only changes the air in the three rooms 5 or 6 times every hour, but it raises the temperature of all the air extracted to 600°—700° Fahr., thus cremating any disease germs that might be present.

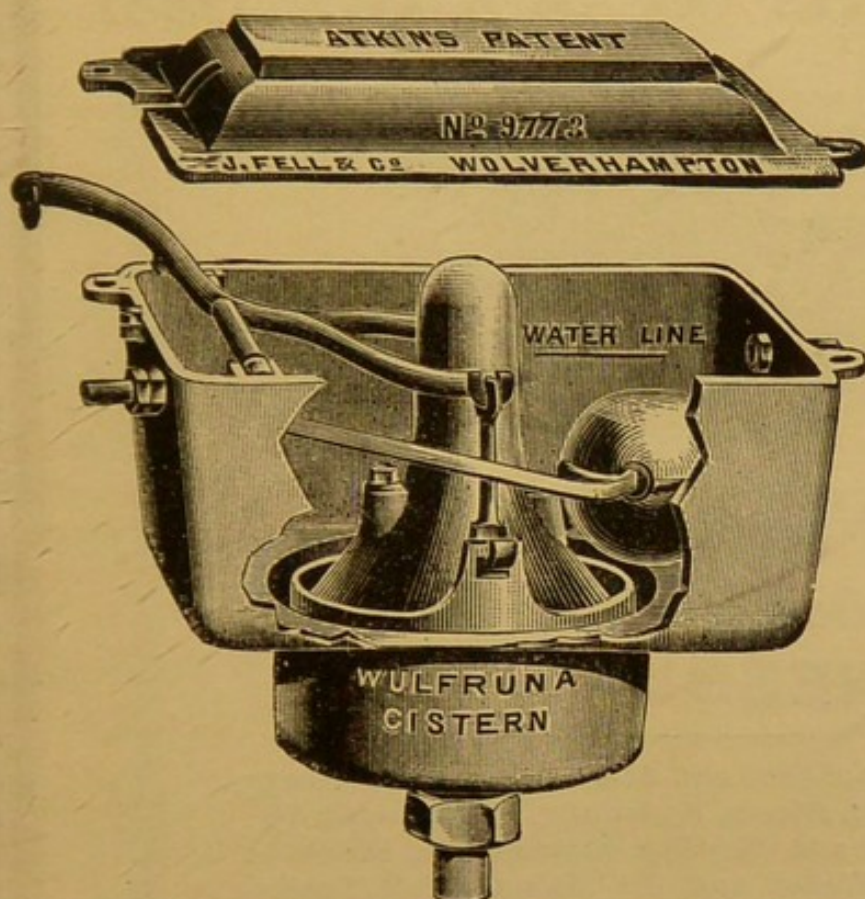
Yours faithfully.

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C.E., F.R.I.B.A.

W. Deakin & Co.'s Specialities.

1. Sewer Gas Extractors and Destructors.
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No. 9773.

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BRACKET
FOR THE
WULFRUNA
CISTERN.

... THE ...
“Wulfruna” Cistern

(ATKINS' PATENT)

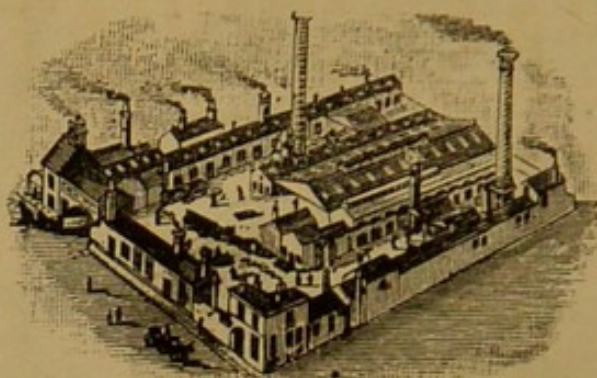
*Is the Most Perfect and Reliable Cistern
in the Market.*

Sole Makers:

JOHN FELL & CO.,
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And 69 Westgate Rd., NEWCASTLE-ON-TYNE.

GOLD MEDAL, MELBOURNE, 1881.



SEWER VENTILATOR
WRO^T IRON

SPENCER'S REGISTERED TUBULAR CLOTHES LINE POST

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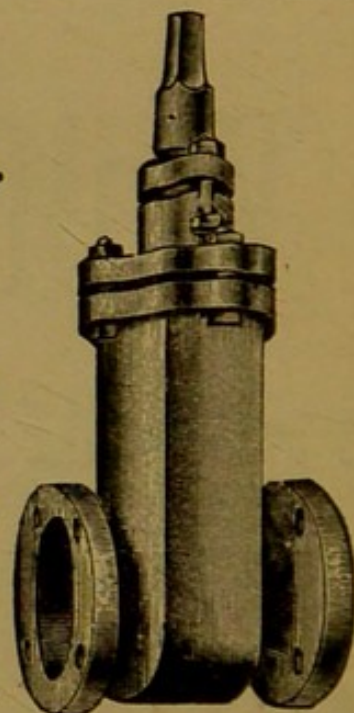
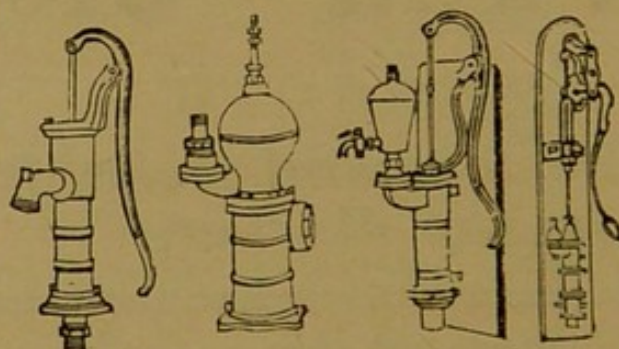
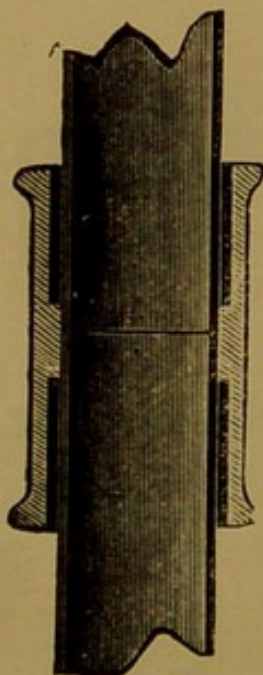
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Manufacturer of Iron and Steel Tubes and Fittings for Gas, Water, Steam, Hydraulic, Compressed Air, Refrigerating and Heating purposes, in Stock to 8in. diam. Water and Oil Mains, Well Tubes, Telegraphic Poles, &c.

Light Wrot.-Iron Rain-
Water Tubes.

Sewer Ventilating Tubes.

Tubular Line Posts, &c.



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WRO^T IRON

RAIN WATER PIPES

London Office : 14 Gt. St. Thomas Apostle, E.C.

By Her Majesty's



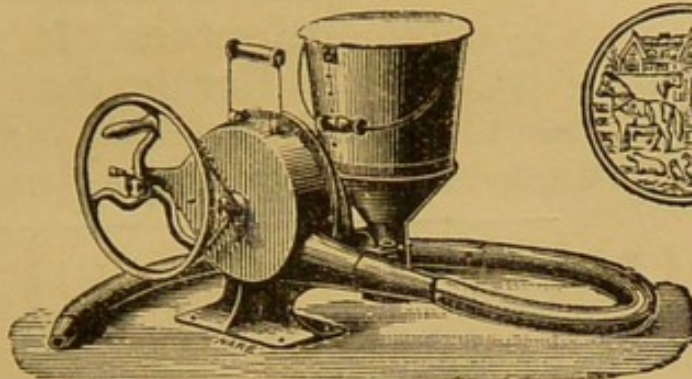
Royal Letters Patent.

THE "ASPHYXIATOR."

Thousands in use.—Registered Trade Mark, No. 36,872.



*Under the patronage
of H.R.H. the
Prince of Wales,*



*The War
Department
and the
Lords of the
Admiralty.*

**CERTIFICATE OF MERIT (ONLY AWARD) SANITARY EXHIBITION, DUBLIN, 1884.
CERTIFICATE OF MERIT SANITARY EXHIBITION, BRIGHTON, 1890.
CERTIFICATE OF MERIT SANITARY EXHIBITION, NOTTINGHAM, 1892.
FOR APPLYING THE SMOKE TEST TO DRAINS, FOR DISINFECTING
PURPOSES, FOR THE DESTRUCTION OF VERMIN IN HOLES.**

The "ASPHYXIATOR" is universally acknowledged to be the only reliable machine by which the smoke-test can be applied to drains. It is used by Sanitary Authorities, Sanitary Associations, Unions, Medical Officers of Health, Architects, Plumbers, and Builders throughout the United Kingdom and abroad. The "ASPHYXIATOR" is also applicable for disinfecting purposes.

TESTIMONIALS.

66 & 68, CHESTNUT ROAD, TOTTENHAM, N.

Dear Sirs,

We have pleasure in informing you that the "ASPHYXIATOR" you sent has proved a most effective drain-testing machine, and having had it in use now some years, we consider it thoroughly reliable and far superior to rockets. It has also the advantage of being very easy to work.

Yours truly,

(Signed) HENRY KNIGHT & SON.

April 14th, 1893.

SANITARY INSPECTOR'S OFFICE, TOWN HALL, GRIMSBY.

Gentlemen,

April 21st, 1893.

I have much pleasure in testifying to the efficiency of the "ASPHYXIATOR" supplied by you for us in our Sanitary Department here. It is certainly the best drain-tester extant, and from my personal experience of the use of the machine I strongly recommend it to Sanitary Authorities as a reliable method of testing drainage.

Faithfully yours,

(Signed) HENRY F. MOODY, Assoc. San. Inst., Sanitary Inspector.

Descriptive Circular, with Testimonials, Price List of Machines, Fumigating Materials, and full instructions for use, Post Free on application to the Manufacturers,

JOHN WATTS & CO., BROAD WEIR WORKS, BRISTOL.

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CAUTION.—In consequence of spurious imitations by unprincipled firms, BUYERS should observe that every genuine Machine bears our Registered Trade Mark "ASPHYXIATOR."

AGENTS WANTED FOR THE UNITED STATES, CANADA, AND PRINCIPAL CITIES IN EUROPE.

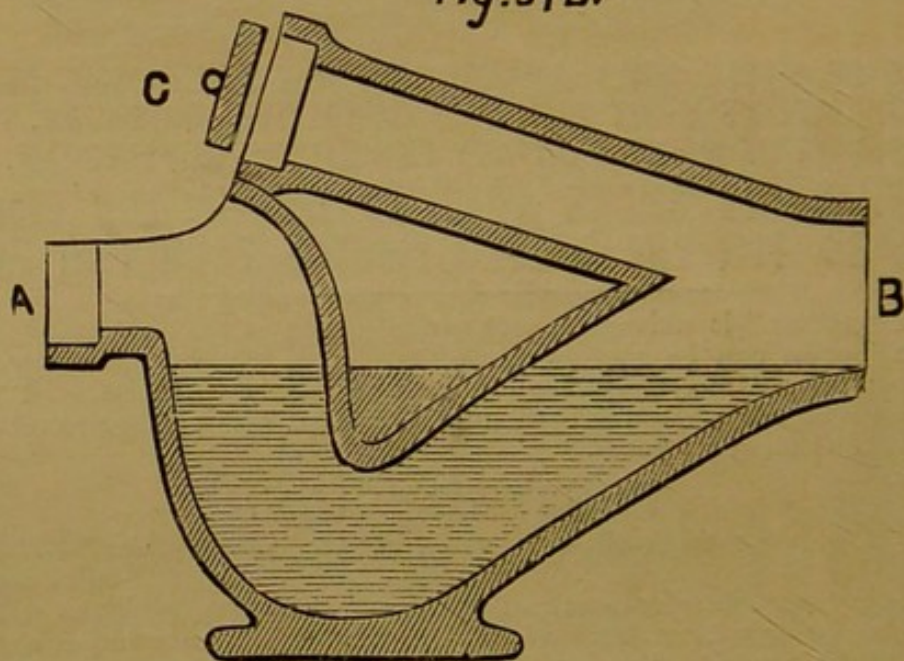
BROAD & CO.,

Sanitary Specialists, Brickmakers & Merchants.

Sole Patentees of
White Enamelled Channel Bends, &c., and Pioneers in
the introduction of White Enamelled Ware for the manu-
facture of Grease and Gully Traps, Interceptors, &c.

CHANNEL INTERCEPTOR.

Fig. 37 B.



This is one of the most generally approved Interceptors designed by BROAD & Co. Specious imitations being now in the market, Architects, Sanitary Engineers and Builders should see that INTERCEPTORS or other SPECIALITIES of BROAD & Co.'s design are stamped with the name of the Firm.

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Sanitary Specialists,

Brickmakers, Lime, Cement and Tile Merchants,

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And FINCHLEY ROAD, N.W. (L. & N. W. Ry.).

COWLEY BRICKFIELDS & GRAVEL PITS, WEST DRAYTON.

DENNIS RUABON & Co. Ltd

The Ruabon Coal & Coke Co. Ltd

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Frank Hodson

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The Company works its own
mines of coal and clay.
They own the largest works of
the kind in the kingdom and are
now manufacturing:

Terra-cotta in Red Buff and Pink.
Moulded and ornamental Brickwork.
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Tessellated and Encaustic Tiles.
Ruabon blue Vitrified Goods.

Roofing and Ridge-tiles Finials and Chimney-pots
Glazed Sanitary Pipes
and Traps of every Description.

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Liverpool Agent, Mr. O. Helmerdine, Prudential Assurance Buildings, 36 Dale Street.

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474 OXFORD STREET, W.

J. Armistead Agent.
Telephone No. 718A.

THE
Shone Drainage System,

FOR THE

Drainage of Flat and Low-lying Districts.

Shone Pneumatic Ejectors,

— FOR —

Automatically raising Sewage, Sludge, Pail Contents, &c.,

AS APPLIED AT

EASTBOURNE, RANGOON, KARACHI, SOUTHAMPTON, HOUSES
OF PARLIAMENT, WESTMINSTER, and a large number of
Towns in ENGLAND and Abroad.

For Pamphlets and full Particulars apply to

HUGHES & LANCASTER,

Engineers and Contractors for Sewerage Works,

ACREFAIR ENGINEERING WORKS,

RUABON,

— AND —

47 VICTORIA ST., LONDON, S.W.

Makers of High-Class Air-Compressing Machinery,
Sluice Valves, Stop Valves, &c., &c.

HOUSING
OF THE
LABOURING CLASSES
AND
BACK-TO-BACK HOUSES.

BY
H. PERCY BOULNOIS, M.INST.C.E.,
CITY ENGINEER, LIVERPOOL.

Reprinted from
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1895

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P R E F A C E .

Notwithstanding the great advances which have been made during the present century in many branches of sanitation, the problem of suitably housing the very poor or labouring classes of the populations of our larger cities still remains an unsolved one. The huge blocks of tenement houses which have been erected fail to provide accommodation for the class for which they were intended, and the casual labourer and "submerged tenth" are still obliged to seek habitations in houses which are really quite unfit for human habitation.

This little pamphlet endeavours to show what has been done to meet this want, and to give some suggestions as to the description of house which is required. The author has felt that sketch plans of the ground floors of houses would be of more use than mere descriptions, and he believes that nothing of the kind has hitherto been published.

H. PERCY BOULNOIS.

LIVERPOOL.

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THE HOUSING OF THE LABOURING CLASSES AND BACK-TO-BACK HOUSES.

The following pages were originally published in
THE SURVEYOR AND MUNICIPAL AND COUNTY ENGINEER,
and the author had hoped that whilst they were

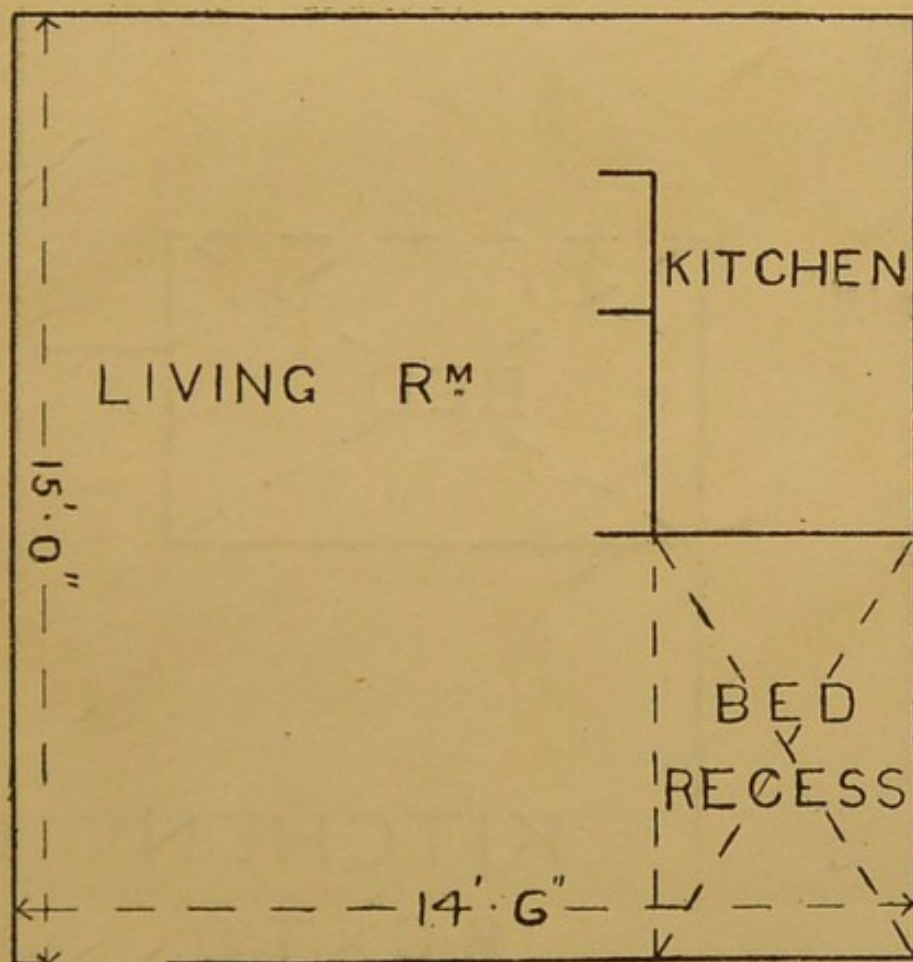


FIG. 1.—TYPE OF ARTISANS' DWELLINGS IN PARIS.

appearing an exhaustive controversy, or, at all
events, some correspondence, favourable to his views

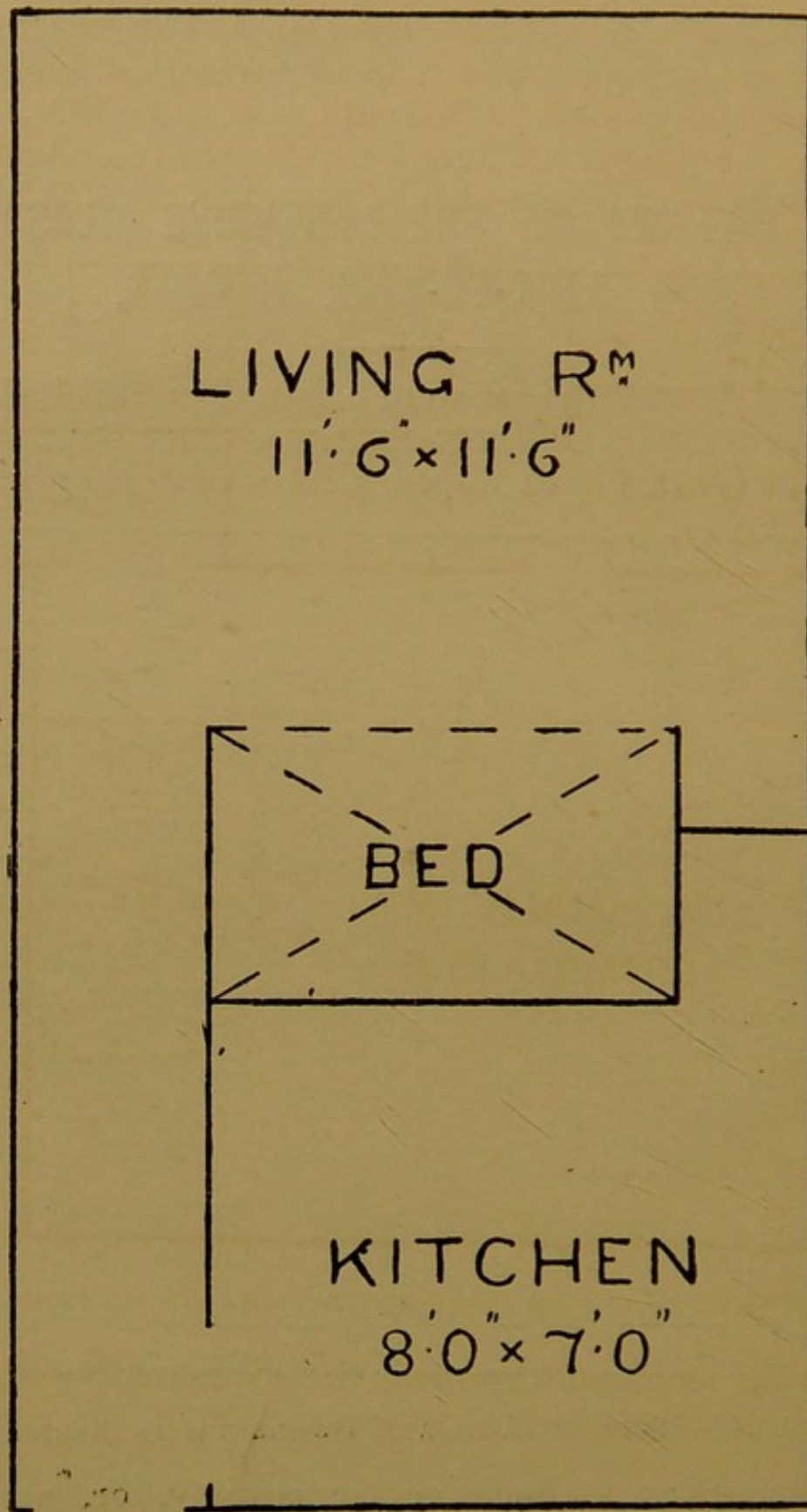


FIG 2.—TYPE OF ARTISANS' DWELLINGS IN PARIS.

or otherwise, would have been elicited. This hope, however, was not realised to the extent anticipated, and at the request of the editor of *THE SURVEYOR* the author has given permission for the reproduction of the articles in question in pamphlet form, hoping

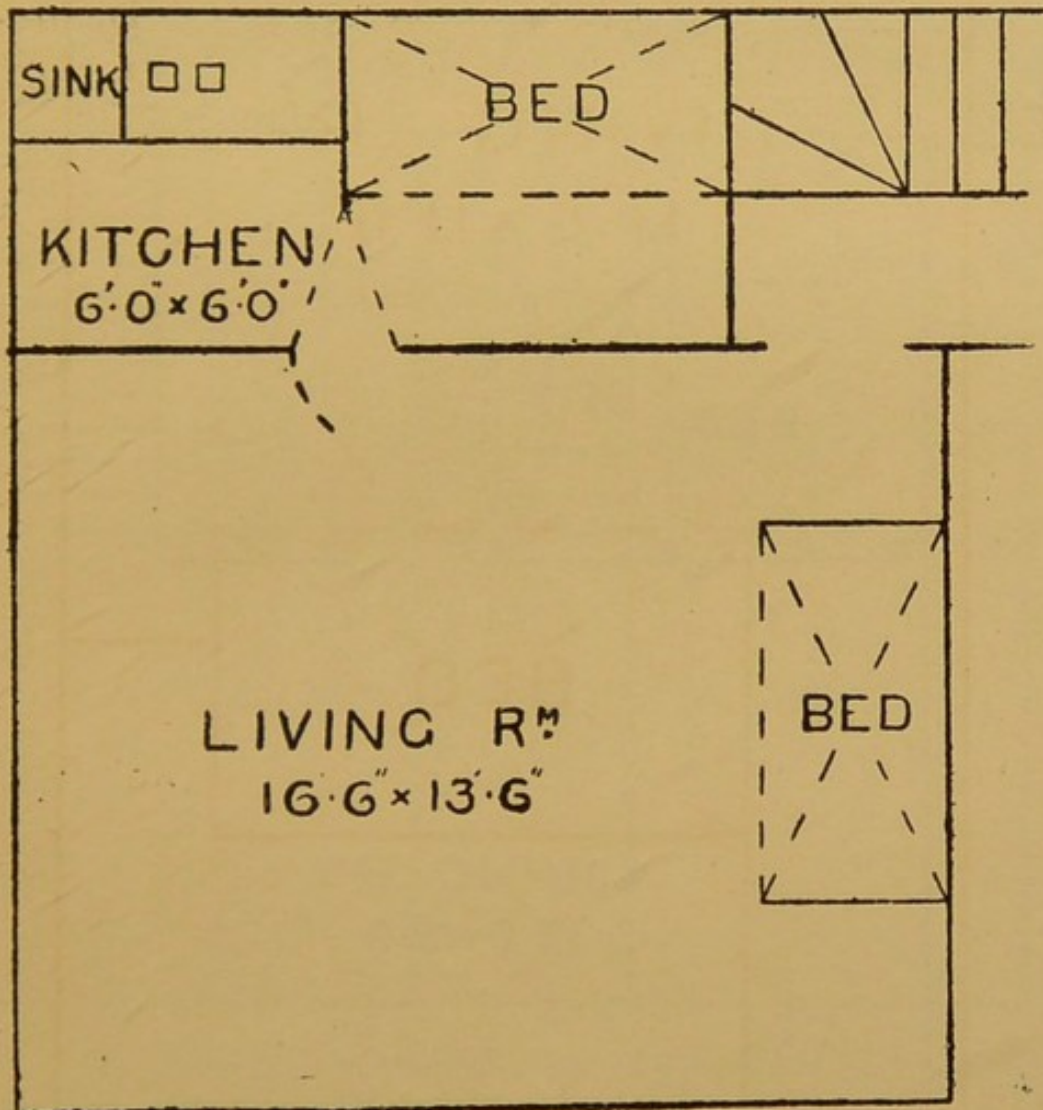


FIG. 3.—TYPE OF ARTISANS' DWELLINGS IN PARIS.

that the small addition this little work will make to the literature which already exists upon the subject may be of some use.

The idea of writing the articles came to the

author during the holding of the Congress of the Sanitary Institute at Liverpool in 1894, as during that meeting much was said, and many references

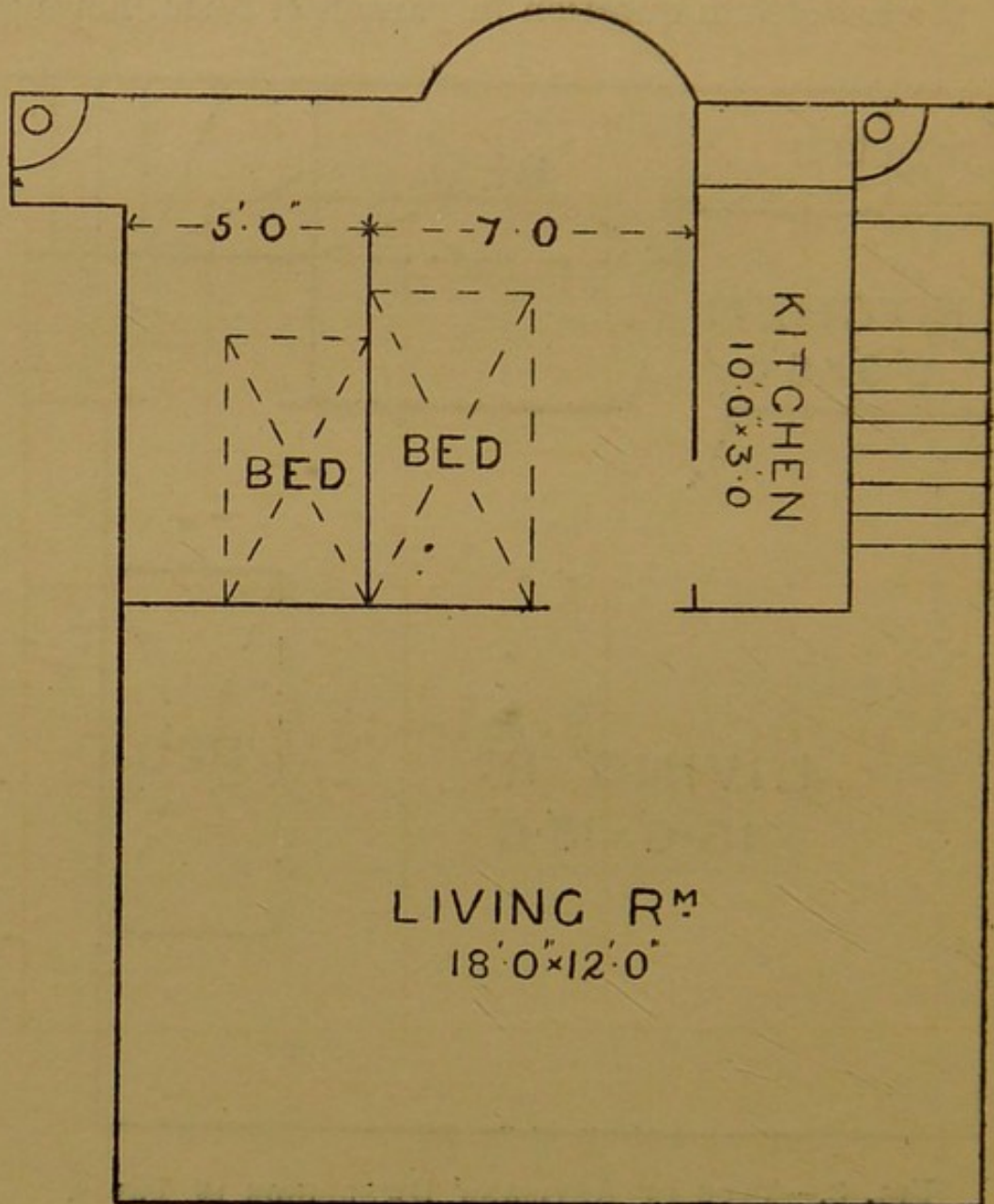


FIG. 4.—TYPE OF ARTISANS' DWELLINGS IN PARIS.

were made, to the subject of housing the labouring classes, and especially to the healthiness or otherwise of what are known as "back-to-back houses"

and to that important problem—the best method of housing the “labouring classes.” And here let it be clearly understood that the author throughout this pamphlet refers not to the “artisan” class but to those who cannot afford to pay more than about 1s. per room per week as rent by reason of their wages averaging only about 18s. per week. Mr.

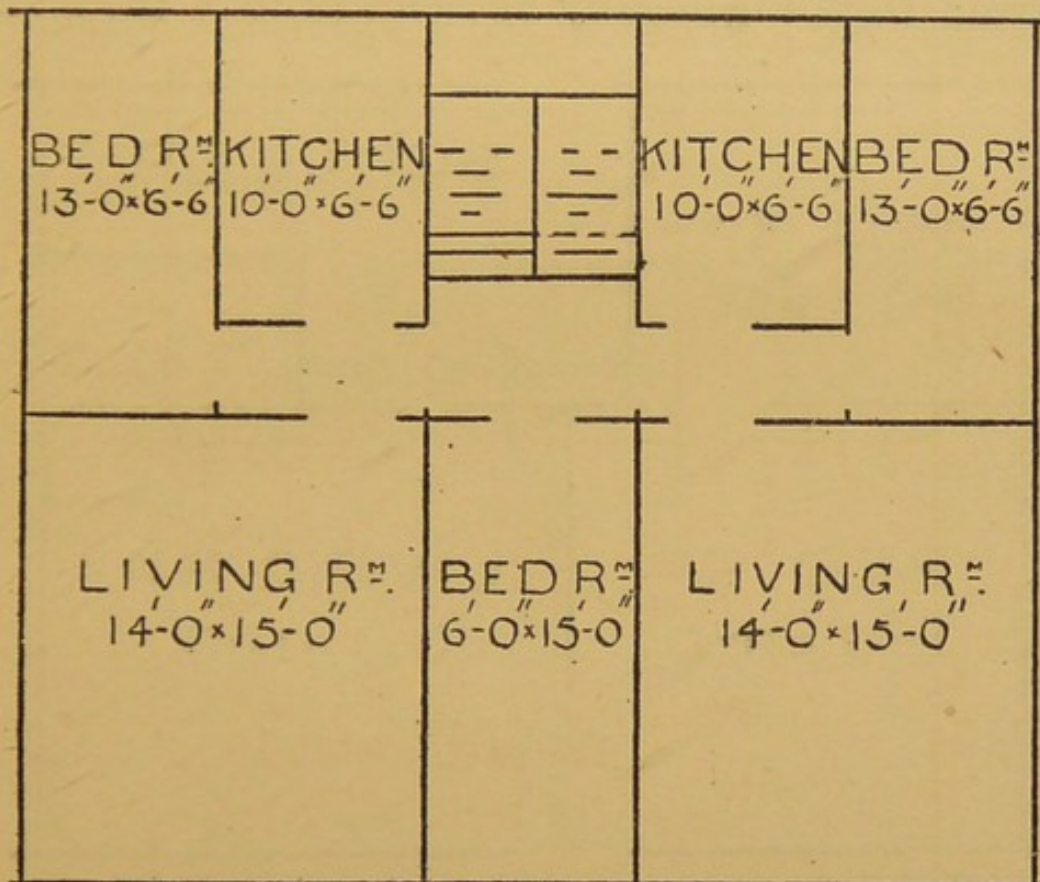


FIG. 5.—ARTISANS' DWELLINGS, BERLIN.

W. H. Mallock, in an exceedingly able article in *The Pall Mall Magazine*, entitled “The Census and the Condition of the People,” states that about half the families in England and Wales occupy tenements containing four rooms and under, and he gives a diagram showing that of these out of every fifty tenements twenty-three consist of four rooms,

twelve of three rooms, eleven of two rooms and four of one room. That is to say, of all the families in England and Wales, 23, 12, 11 and 4 per cent. respectively occupy tenements of the sizes mentioned, and he adds that in some of the two-roomed tenements there is a very considerable amount of "overcrowding." With regard to Great Britain generally he remarks that the most

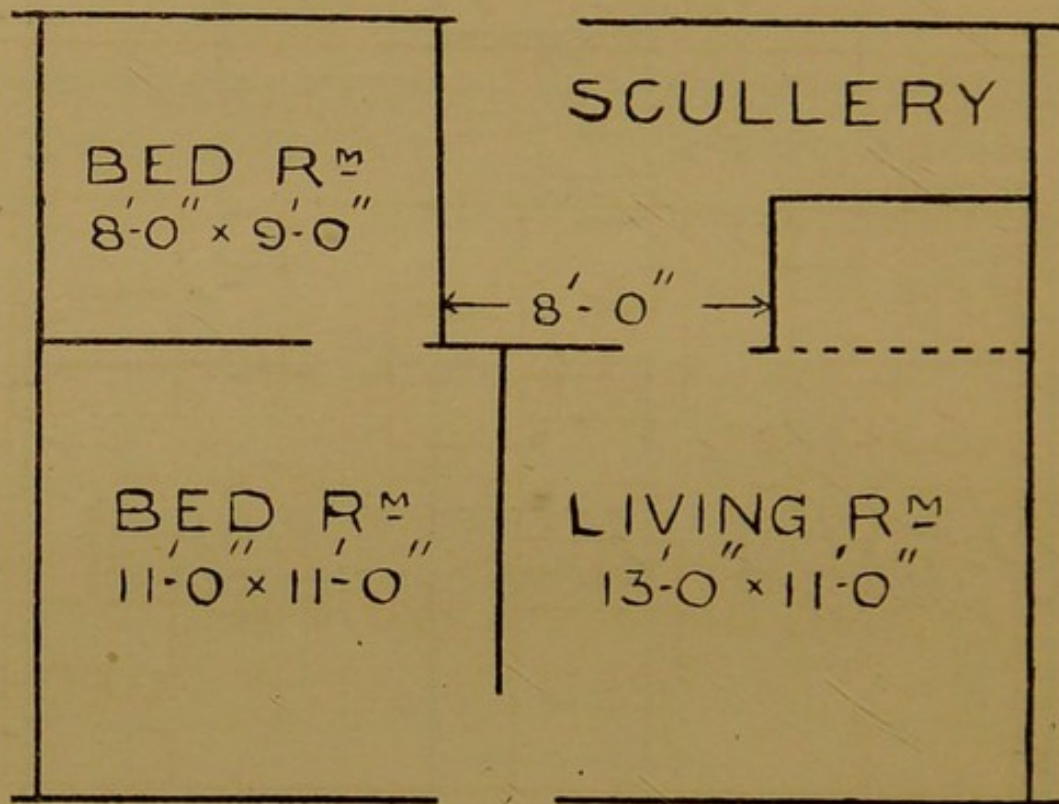


FIG. 6.—WORKMEN'S DWELLINGS, NORTON.

important question, however, for us to consider is not how the population are lodged now, but whether under the existing economic system "their condition is tending to get better or worse. The favourite commonplace of the Socialistic agitation is that their condition is becoming steadily worse, and that nothing but an industrial revolution can ever make it grow better. A conclusive answer

to this false and ignorant doctrine is to be found in the Census volume that relates to Scotland"; and Mr. Mallock then proceeds to show that Highland cabins, consisting of only one room, with no window, of which there were in Scotland in the year 1881 no less than 7,000, have now nearly entirely disappeared; that the one-roomed dwellings with windows have decreased 25 per cent., while two-roomed tenements have increased 8 per cent. and

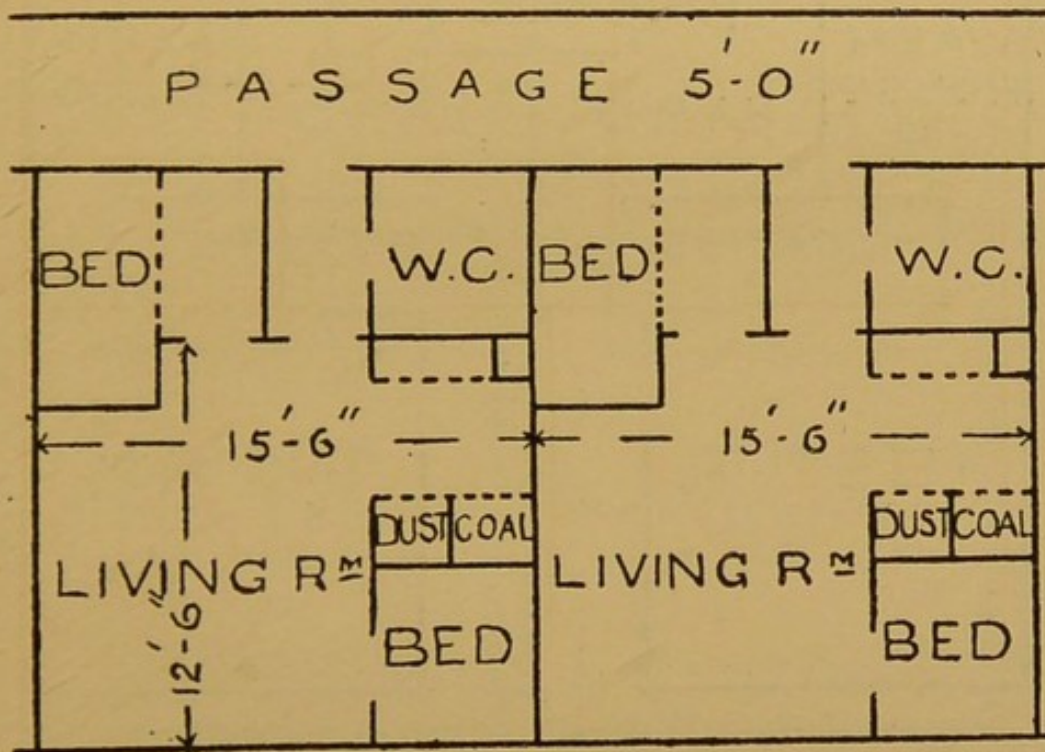


FIG. 7.—LUMSDEN DWELLINGS, GLASGOW.

three-roomed tenements 17 per cent. The whole of Mr. Mallock's statements are well worth perusal, but the author refers his readers to the article itself for further most useful information.

Before proceeding to treat of the evils of back-to-back houses it will be well to point out some of the efforts which have been made from time to time to deal with the question of the housing of

the working classes ; and for this purpose outline diagrams of plans only will be given. In some cases they will be described, and in others, where they are sufficiently self-descriptive, a reference only will be made to them.

The foregoing, for example (Figs. 1, 2, 3 and 4), are some of the types of artisans' dwellings erected in Paris.

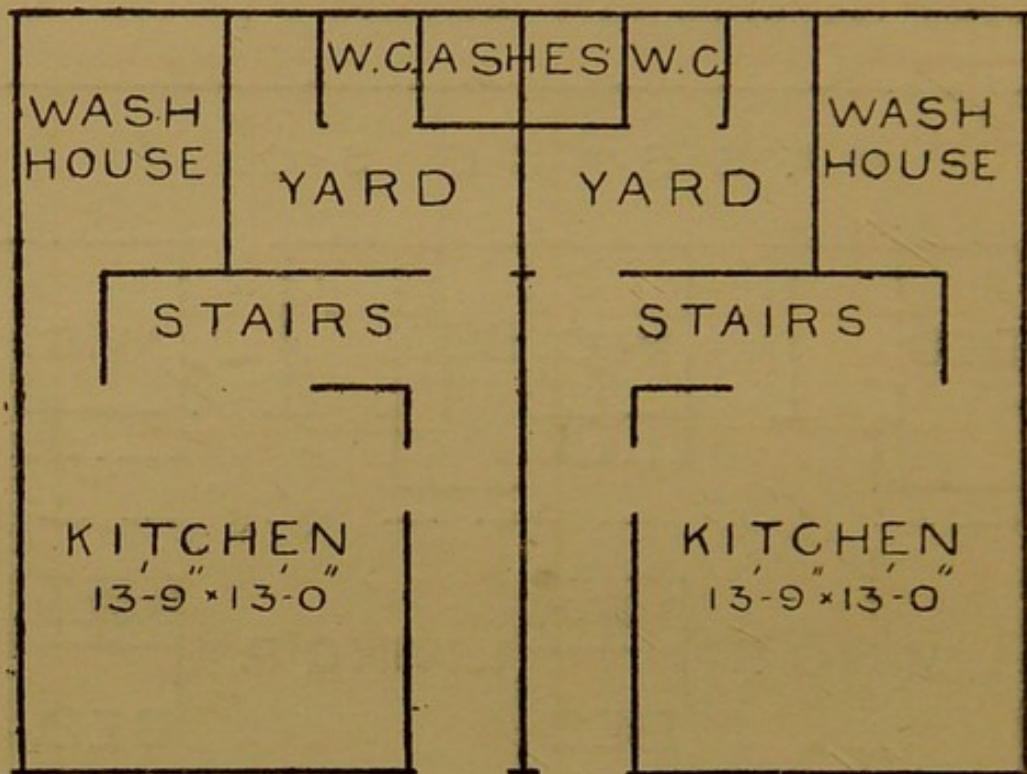


FIG. 8.—STOCKTON TYPE.

These diagrams are somewhat peculiar, as showing the arrangement for a bed recess which obtains in France and Scotland. The planning of the rooms has many hygienic faults, and they must not in any way be taken as examples of what should be done.

Fig. 5 is an example of artisans' dwellings in Berlin.

This is a simple plan, but bad in arrangement,

the bedrooms being long and narrow, and the whole scheme has little to recommend it. It may be noted that in this and in Figs. 1, 2, 3 and 4 the "kitchen" (*cuisine*) is more properly what we term the "scullery."

Figs. 6 and 7 are plans of workmen's dwellings at Norton and Glasgow.

As to the Glasgow dwellings, the verdict of many persons in England will be "exceedingly bad." The

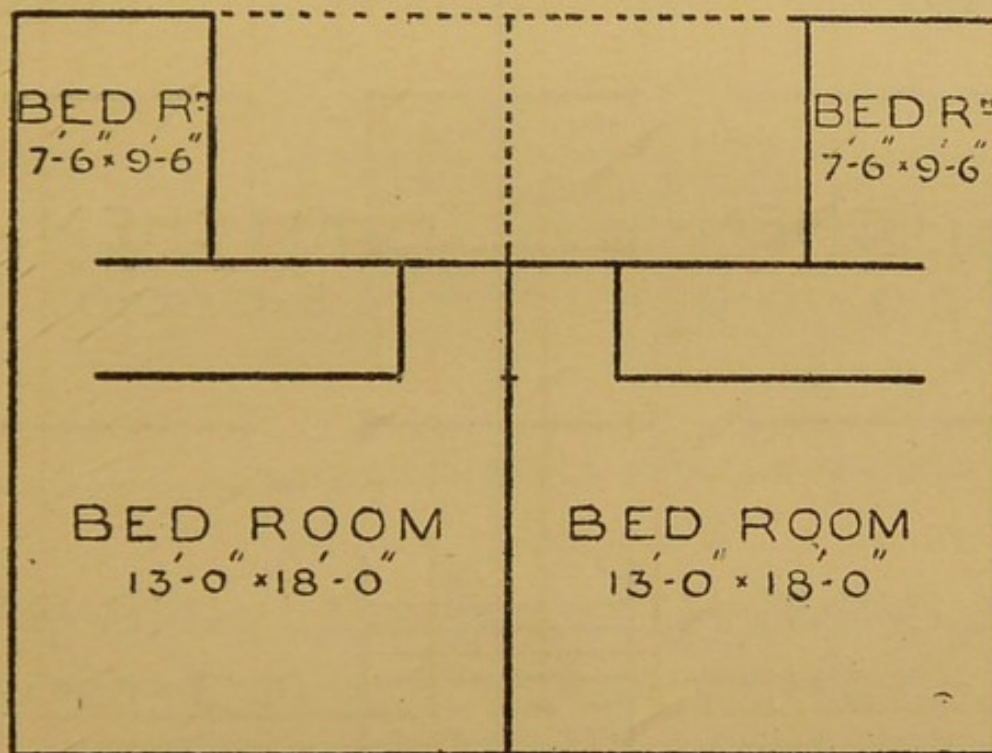


FIG. 9.—STOCKTON TYPE.

arrangements for bed, watercloset and dust-bin are excellent examples of "how not to do it."

Much better types than these are some of the dwellings erected in Stockton, examples of which are shown in Figs. 8, 9, 10 and 11.

All these four types have been taken from a paper by Mr. Henman, architect, Birmingham, in which may also be found suggestions both by himself and

others for the erection of artisans' dwellings, and these may be usefully given. They are as shown in Figs. 12, 13, 14, 15 and 16.

Pursuing the method of endeavouring to show

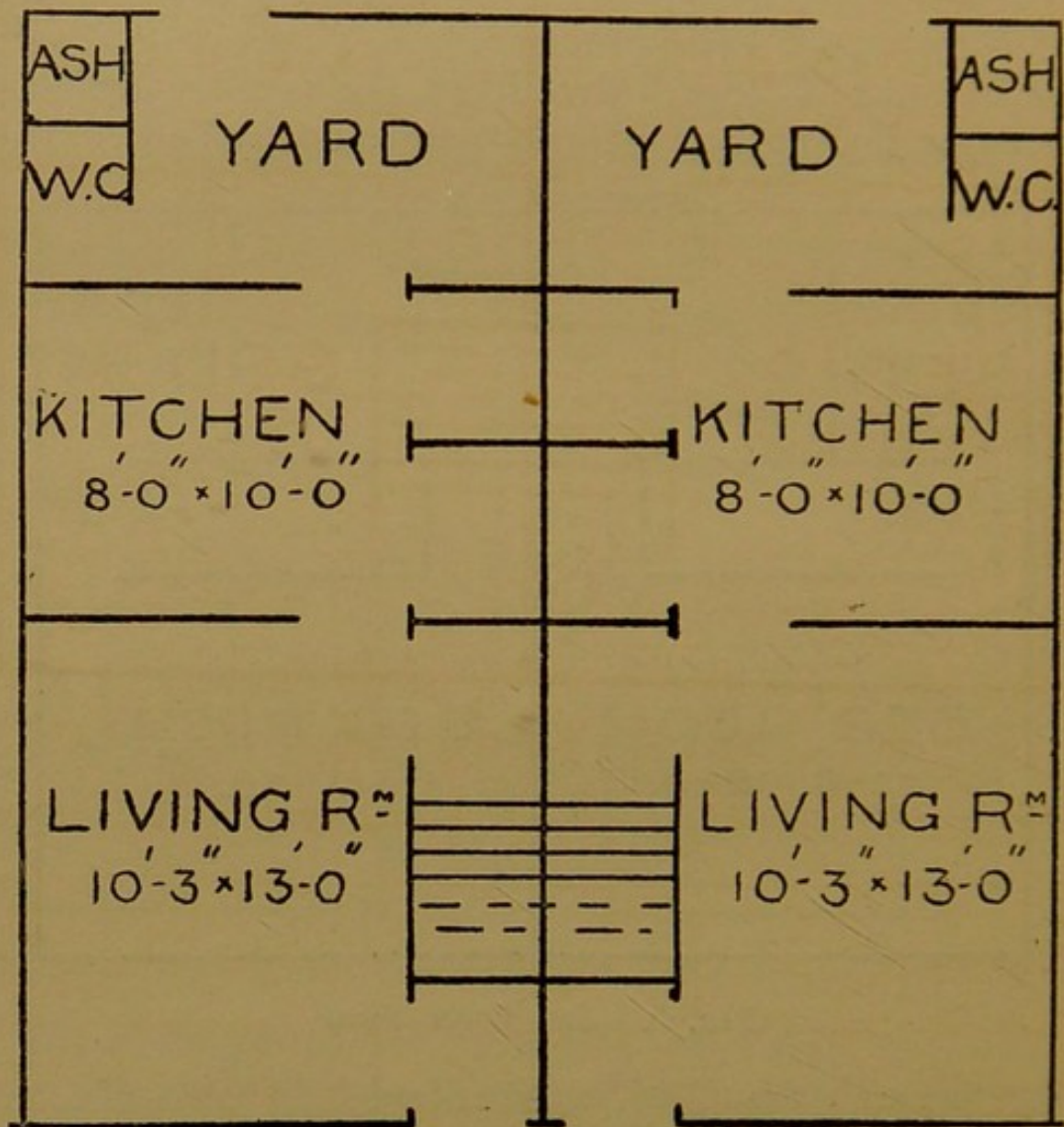


FIG. 10.—STOCKTON TYPE.

some of the attempts which have been made to house the labouring classes in buildings other than the objectionable and out-of-date back-to-back types, the author will now give diagrams represent-

ing recent erections in Dublin. These diagrams

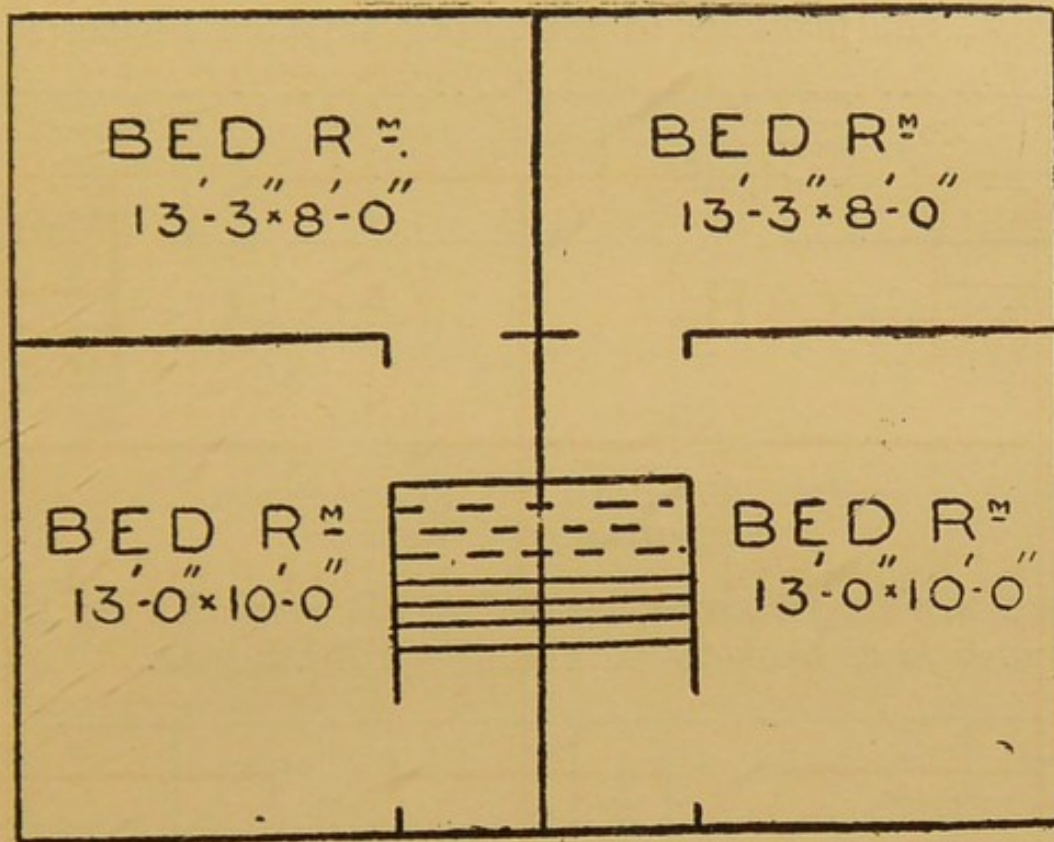


FIG. 11.—STOCKTON TYPE.

(Figs. 17 and 18) explain themselves, and it need

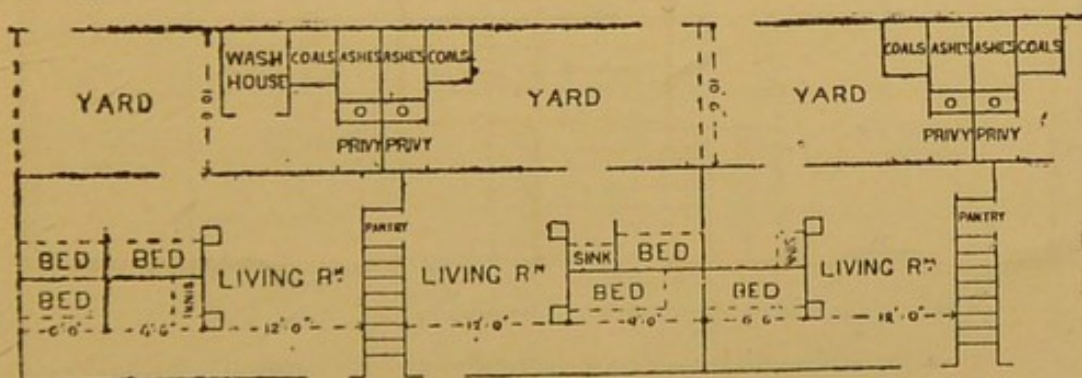


FIG. 12.—PLAN OF GROUND FLOOR.
(Suggested by W. Henman).

only be remarked in passing that they are ingenious and worthy of general application.

It will at this point be of interest to note what has been done in Liverpool from time to time to solve the problem of providing suitable houses for

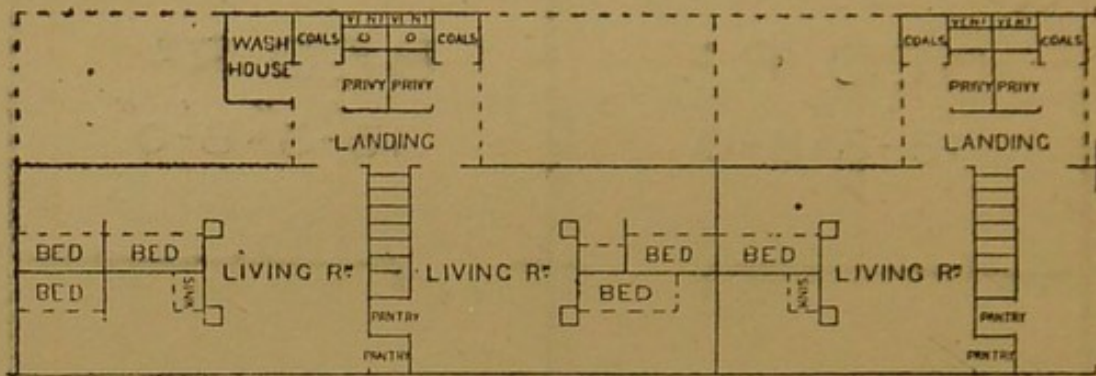


FIG. 13.—PLAN OF FIRST FLOOR.
(Suggested by W. Henman).

the working classes, reserving all remarks on the question of back-to-back houses till later on.

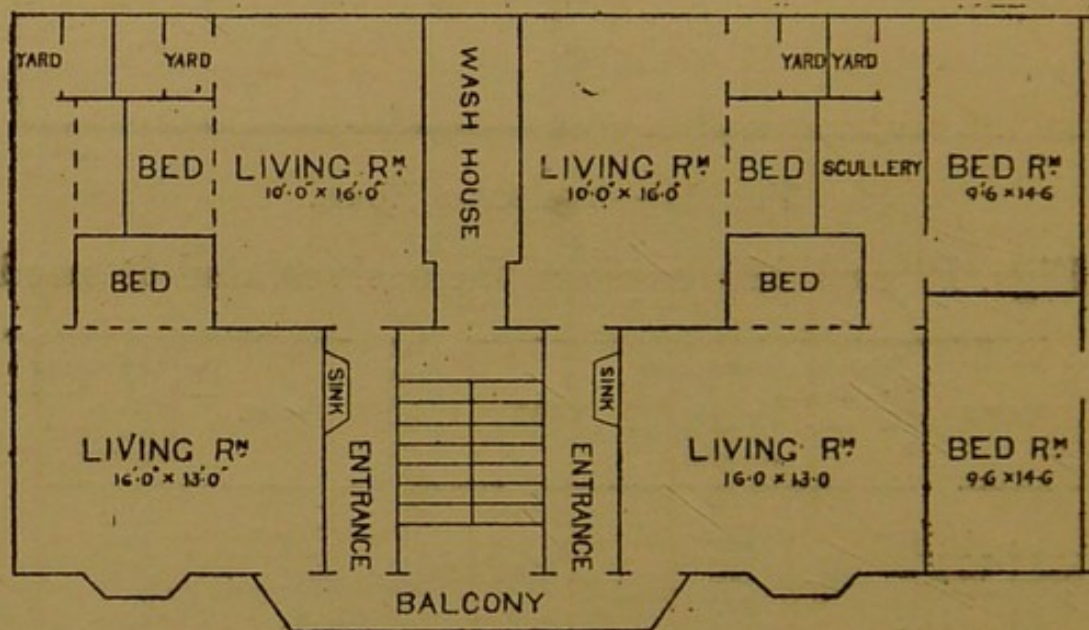


FIG. 14.—PLAN OF FIRST FLOOR.
(Suggested by J. Corbet, architect.)

In Liverpool the attempts made to meet the difficulties of the case have been principally in the direction of erecting what are known as "tenement"

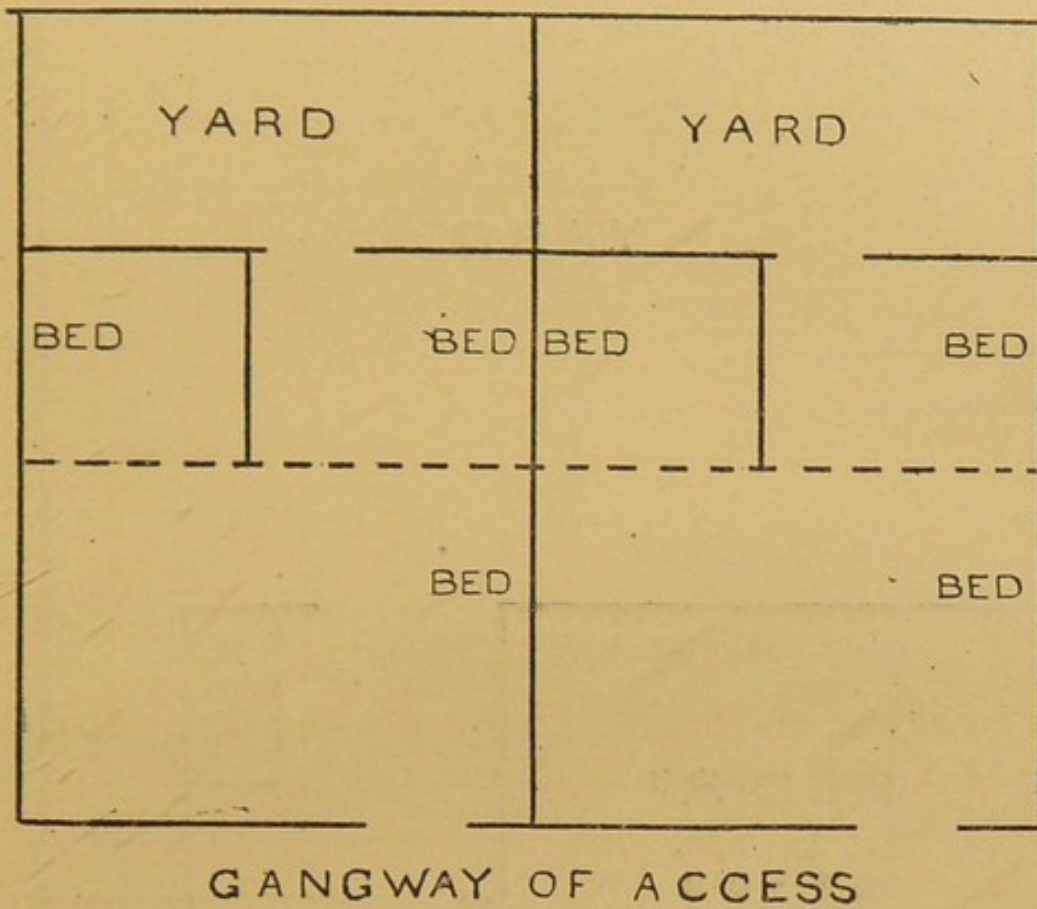


FIG. 15.—SUGGESTED BY PROF. KER.

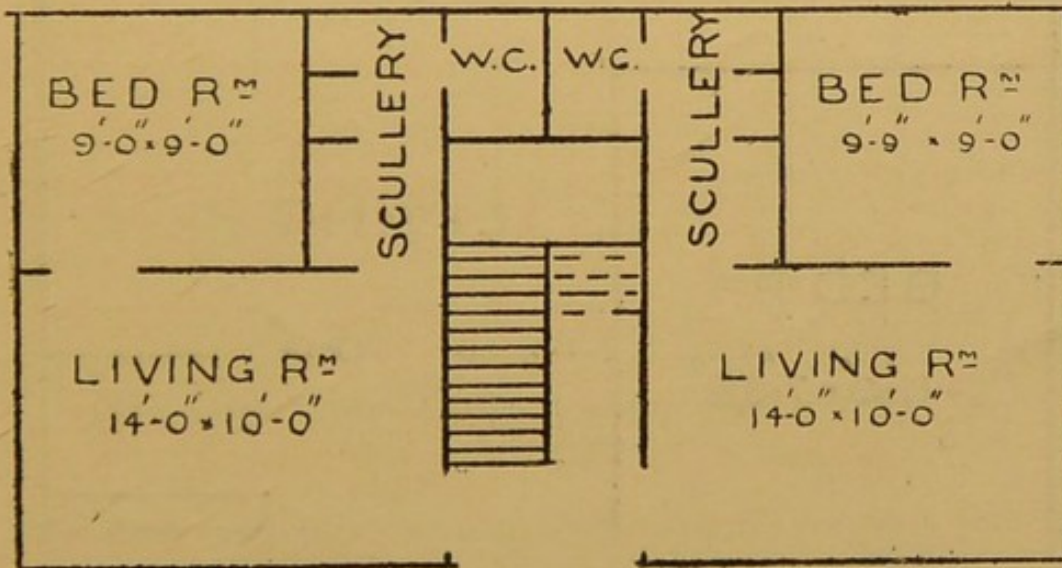


FIG. 16.—SUGGESTED BY PROF. BANISTER FLETCHER.

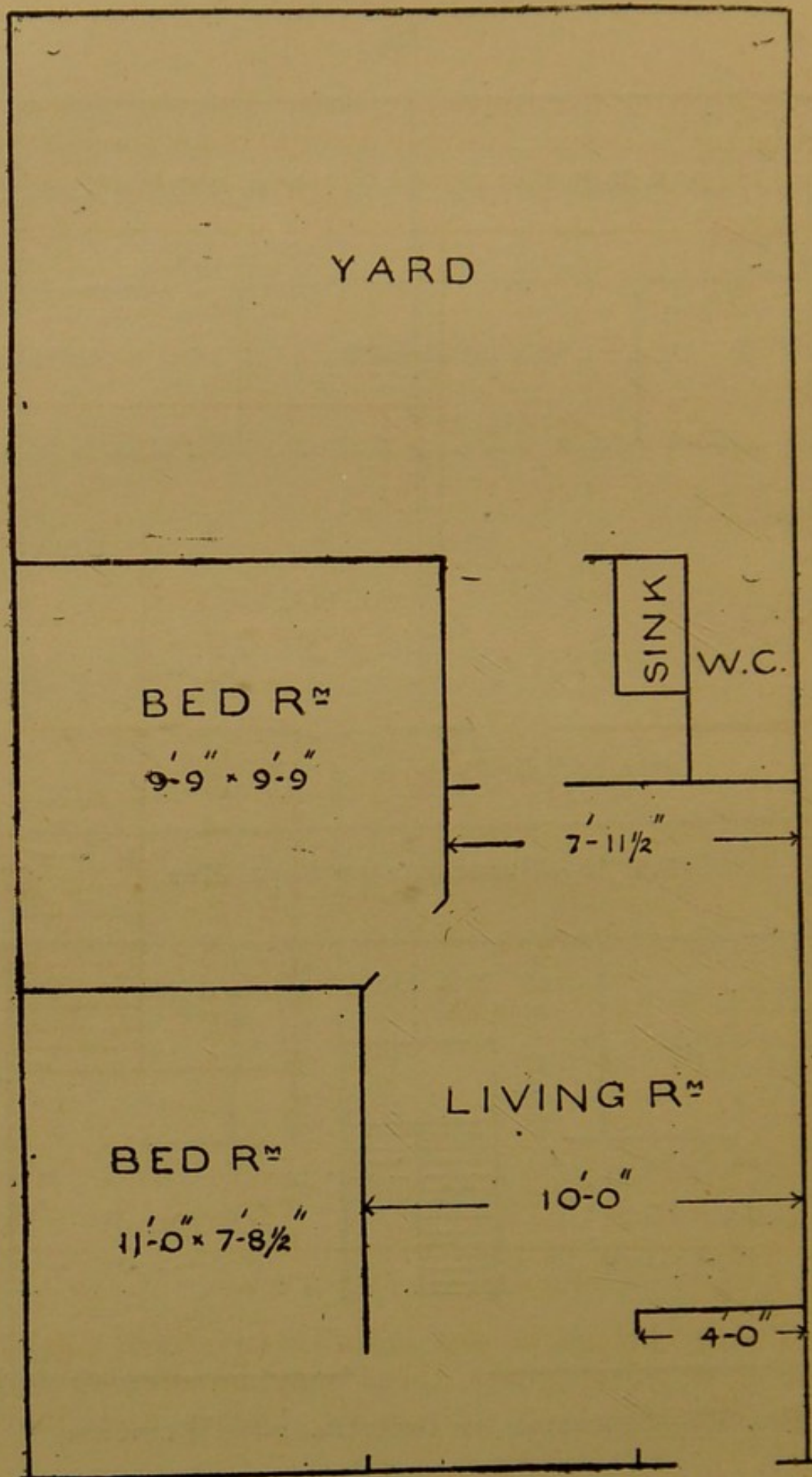


FIG. 17.—DUBLIN TYPE.

dwellings or dwellings in "flats," the object aimed at being to provide suitable dwellings for the labouring classes at a low rental charge. As regards the

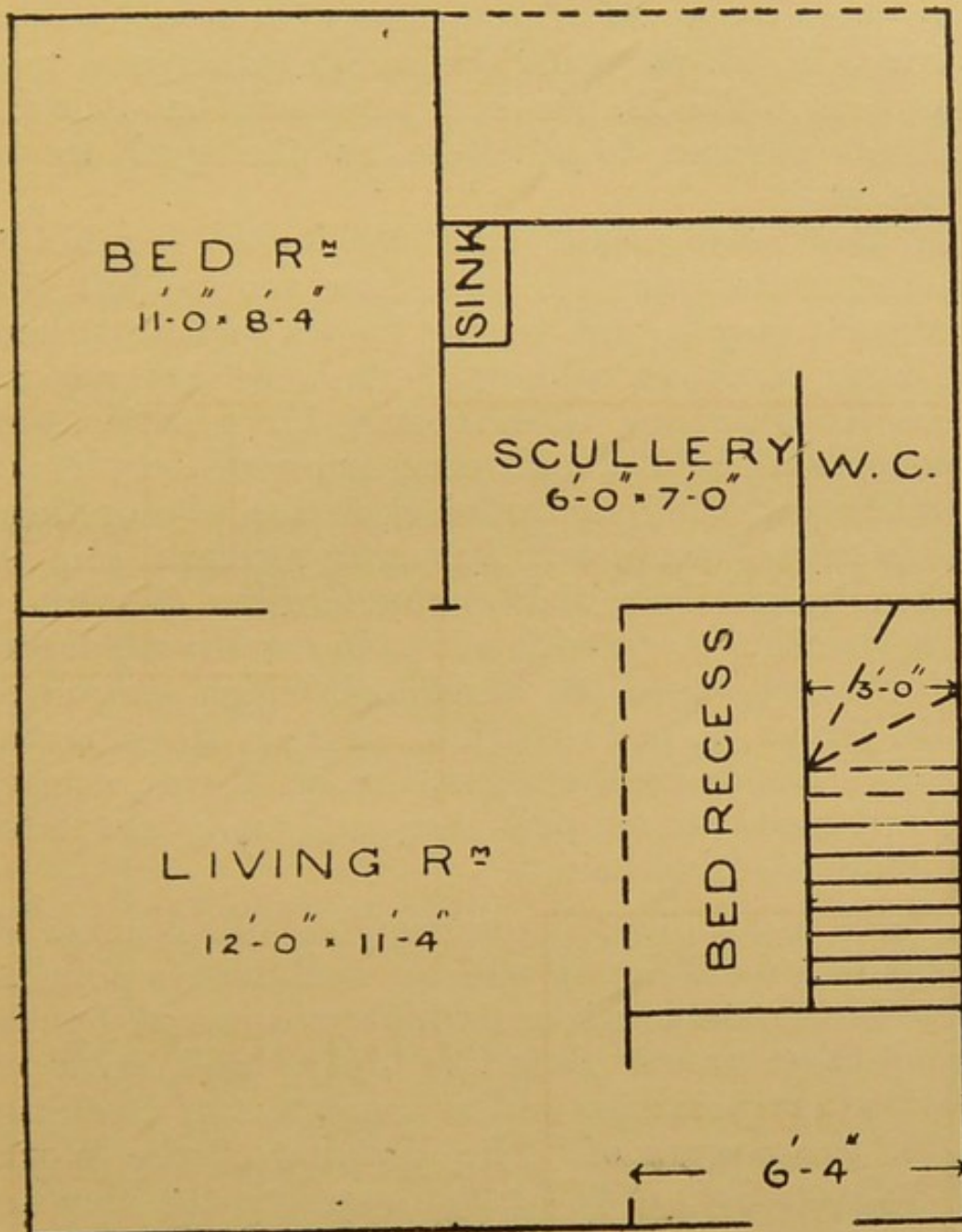


FIG. 18.—DUBLIN TYPE.

ordinary cottage houses built in Liverpool during the past thirty years, these may be divided into two classes—*viz.*, six-roomed houses and four-

roomed houses, the former letting at a rental of about 7s. 6d. per week, and the latter at a minimum rental of 5s. per week. It may therefore be assumed that the rents of the ordinary modern houses average 1s. 3d. per room per week, which is a near approach to the 1s. per room per week that it is the author's purpose to advocate as the goal to be aimed at.

It has been urged that no house should be erected containing less than four rooms; but this argument may be met by the known fact that there are large numbers of families who do not require more than two or three rooms for conditions of decency and health, and many more who could not possibly pay a higher rental than the two or three rooms should command. The author knows from his personal experience that many families (for whom it is desirable to provide suitable dwellings) living in the court houses of Liverpool, which are rented at 2s. 6d. to 3s. per week and contain three rooms situated one above the other, rarely, if ever, occupy the uppermost room, and frequently only use it for the storage of lumber.

With regard to the question of the number of rooms in a dwelling, it will be well at this point to refer to the memorandum which was issued by the Local Government Board in July, 1894, with respect to the provision and arrangement of dwellings under the powers of "The Housing of the Working Classes Act, 1890," which explains the views of the board upon the question of separate houses or cottages for the labouring classes as follows:—

The ordinary dwelling adapted to the working-class family should comprise a living-room with a scullery and pantry attached and two or three bed-rooms—one for the parents, and one or two for the children—together with the necessary

conveniences and out-offices. In rural districts accommodation may sometimes be conveniently arranged in a one-storey cottage, but in urban districts it will more often be found economical to arrange it in a two-storey cottage.

It is important that every dwelling should be arranged so as to have ample open space both in front and at the rear; and likewise that windows should open into such space in each storey, so as to ensure adequate through ventilation of the dwelling.

The living room, being the principal one and used by all the inhabitants in common, ought to be as large and commodious as practicable. It should have a floor area of some 200 square feet, with a clear height of from 8 to 9 ft. The pantry or larder is better entered from the living room than actually within it, and in either case it should be well lighted and ventilated by a separate window opening into the external air, and be well removed from proximity to any fireplace or chimney-flue, in order that food may be kept there without being affected by heat or by the air of the room itself. There are objections to arranging a larder where food is to be kept either in an underground cellar or at the top of the stairs leading up from cellars. If, however, cellars are properly constructed they afford certain definite advantages which are of value. The scullery, which should have a floor area of some 90 square feet, should be entered directly from the living-room, and be fitted with a sink (with water laid on), plate-rack, &c., and a boiling copper for washing purposes. In some districts a bread oven may also be provided in the scullery, in which case an oven in the kitchen range in the living-room fireplace is not so necessary, but a boiler for hot-water supply is always indispensable in the kitchen range. The fuel store, whether for coal or wood, may be either outside in the back yard or in a cellar, but wherever a cellar is provided it is important that special care should be taken to protect the interior of the house from damp and ground air penetrating the walls of the cellar. The cellar should have means of light, and of through ventilation into the external air; and, whether a cellar be provided or not, it is essential that the site should be covered with an impervious layer of cement concrete. The cellar should likewise have facility for effectual and proper drainage. The staircase should be as independent of the rooms as possible, in order to obviate the possibility of its

conveying vitiated air from the cellars or living-rooms to the rooms above; under no circumstances should the stairs rise directly from the kitchen or scullery. There should be a separate watercloset, earthcloset or privy of proper construction for each dwelling, and while a privy must of course be outside the building, it is best to so arrange the watercloset or earthcloset also, or, at any rate, to wall it off from the interior and give it an entrance under cover if possible—as from a porch—direct from the outside. Where detached waterclosets are provided, it may be well to bear in mind the advantages of certain efficient kinds of automatic slop waterclosets, which are but little likely to be affected by frost. The bed-rooms ought to be as large as the circumstances permit, and from 8 to 9 ft. in height throughout. That for the parents should be at least 120 ft. in area, and be provided with a proper fireplace and a good cupboard. The children's rooms, in which fireplaces are also desirable, should have a floor-area of not less than some 80 square feet each.

The above accommodation will be found adequate for an average of some five persons in the dwelling. It may, however, occasionally be desirable to provide an additional bedroom in an attic storey, but this is rarely needed for the family, while, where it is not so needed and is still provided, it tends to encourage the practice of receiving one or more lodgers—a practice which is by no means free from objection. Where persons needing lodging accommodation are at all numerous the sanitary authority would do well to consider the expediency of providing suitable working-class lodging houses under the Act. While, however, accommodation in three or four bed-rooms is recommended in each tenement or dwelling, there may frequently be demand for two-room tenements by persons of a class who would be reluctant to avail themselves of the lodging houses; and it may be worth considering whether some such accommodation might not usefully be provided in the block dwellings.

The above suggestions of the Local Government Board are exceedingly valuable, and to some extent may be followed in considering any schemes for the erection of labourers' dwellings, and an endeavour will be made to show later on a class of dwellings that could be erected in which the above suggestions

would be followed out in their main points. The author will, however, at present proceed to show what has been done in Liverpool in respect of providing tenement dwellings at a rental of not more than about 5s. per week.

There have been a comparatively large number of houses erected in rows or blocks of two storeys in height in which there is on the ground floor level a series of complete houses, each containing two or three rooms, and in which there is on the first floor level another set of complete houses of the same dimensions as those below, each one entered by an independent stair directly from the street. These are commonly known here as "Scotch" houses, though why they are so named is not easy to fathom.

Each dwelling comprises two rooms only, and the rental charged is from 3s. 9d. to 4s. per week. Structurally this kind of house would seem to be the first stage in the evolution of the "block" type; but chronologically it is not so, at least in Liverpool.

Of "tenement" houses, terrace houses, or dwellings in 'flats,' more properly so-called, there are about 120 blocks, containing some 3,000 houses or dwellings. They vary somewhat as to size, arrangement and rental; and as there has been a degree of development in their characteristics it may be well to briefly describe some of them as nearly as possible in order of date.

The first attempt to provide cheap dwellings on this system appears to have been made in 1863, the year before the bye-law as to open space was procured. Consequently the open space does not extend throughout the rear, and the extreme back walls of the houses abut directly on a 3-ft. passage.

The block is three storeys in height, with separate houses on each floor, approached by a common stair in the middle of the block, and by continuous balconies facing the front street.

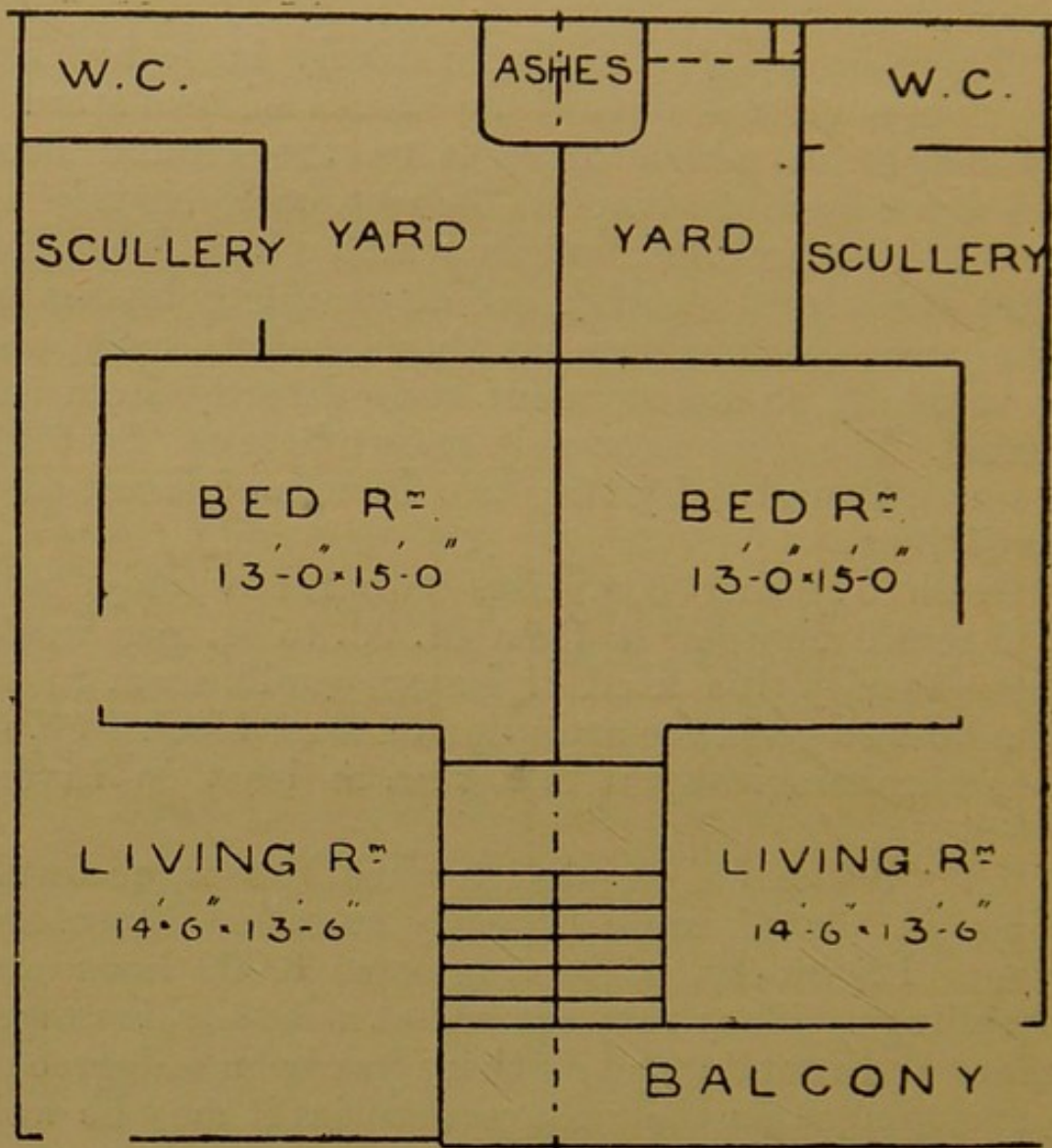


FIG. 19.—LIVERPOOL TENEMENT HOUSE.

The foregoing (Fig. 19) is a plan of this description of tenement house.

In the year 1865, whilst the above-mentioned houses were in course of erection, a rather consider-

able scheme was carried through by an experienced architect, who designed and erected for his own personal investment several blocks of tenement houses in three spacious streets adjacent to each other. They are three storeys in height, with a continuous balcony at the level of each floor and

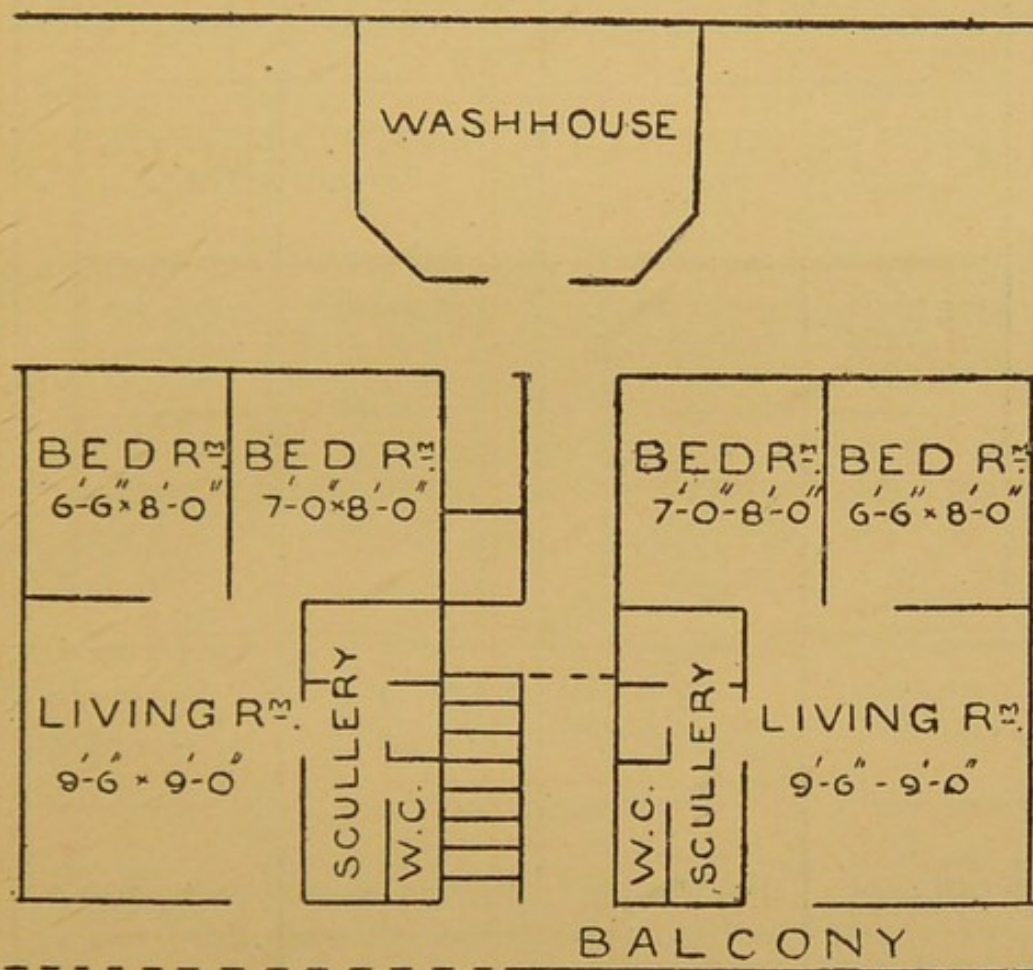


FIG. 20.—ANOTHER LIVERPOOL TYPE.

a large open space at the rear. On this space washhouses were erected. But neither the common yard nor the washhouses are used as intended. The one is a harbour for filth and the others have fallen to ruin. The tenants could not agree in the joint occupation. There are fifty-one tenements in all, each containing four rooms of medium dimensions.

The foregoing (Fig. 20) is a plan of this class of dwelling.

In the year 1867 another tenement block of a different kind was erected, the entire building

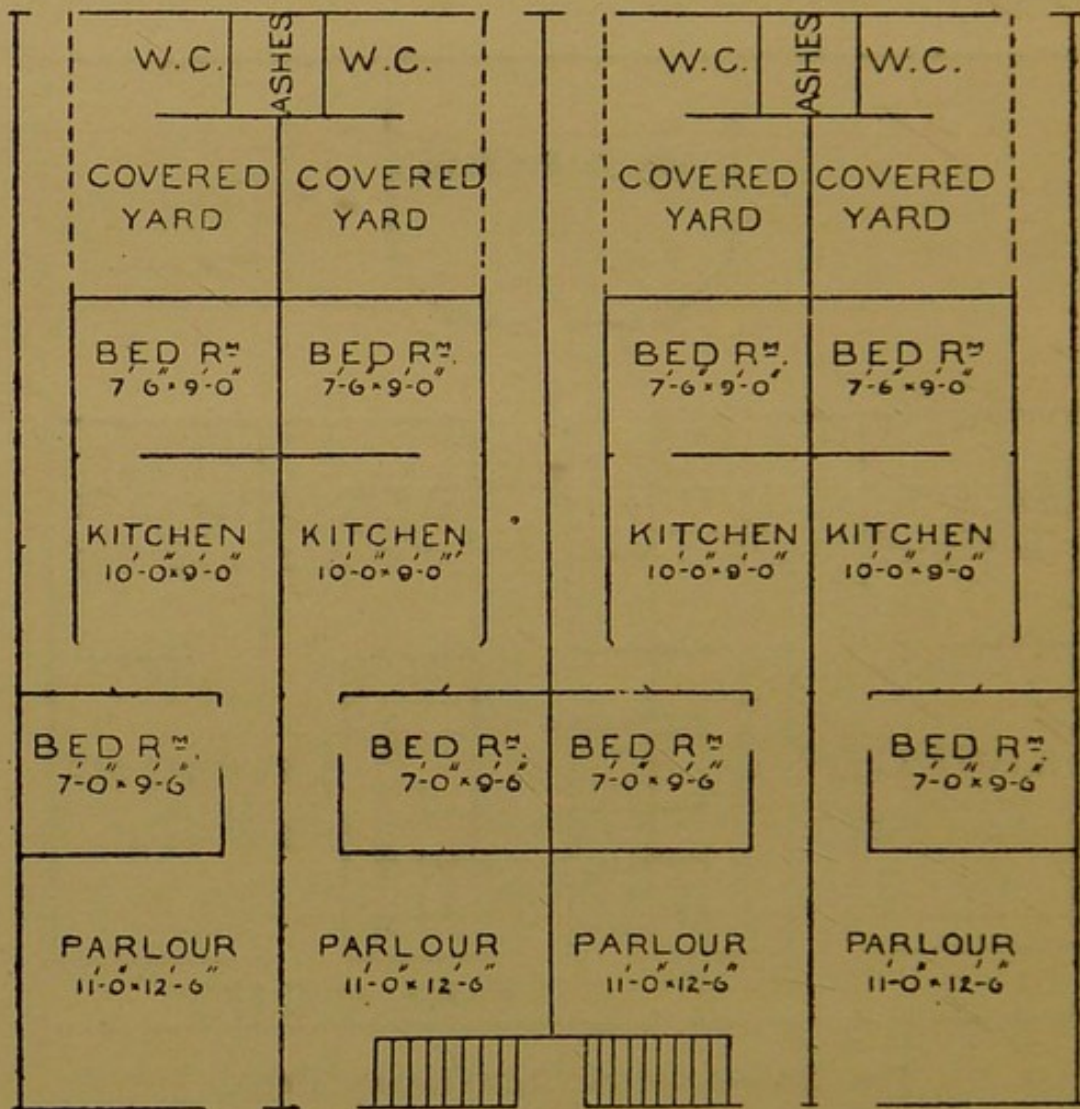


FIG. 21.—A THIRD LIVERPOOL TYPE.

being three storeys in height and divided into eighteen dwellings in the ground storey, each containing four rooms; and into eighteen dwellings in the two upper storeys (taken together), each containing six rooms. In this case the three-storey

block is arranged in two flats, the lower houses being of one storey and the upper houses of two storeys in height. It was the first of a type which has been rather frequently reproduced in Liverpool. Another special feature is the construction of a yard for each of the upper houses over the rear portion of the yard of the lower houses. The projecting back wings of the houses are rather close

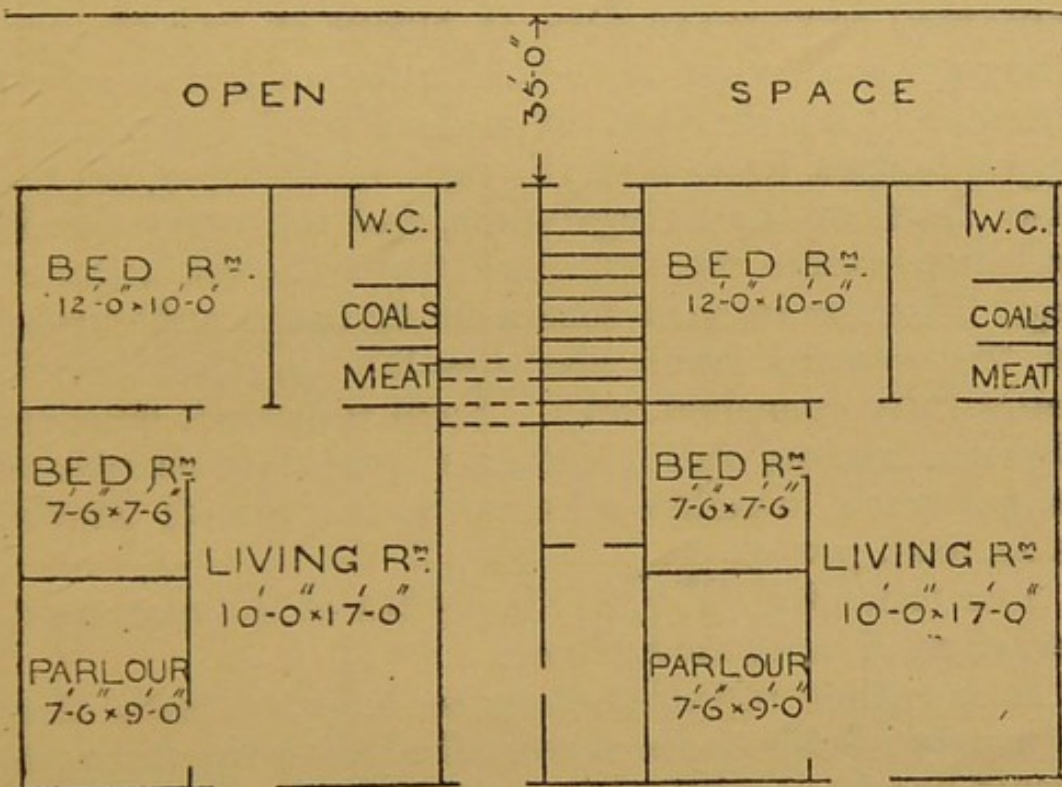


FIG. 22.—A FOURTH LIVERPOOL TYPE.

to each other, and consequently the back rooms in the ground storey are badly lighted.

The foregoing (Fig. 21) is a plan of this description of tenement house.

In the year 1871 two large blocks of tenement houses were built with a large common open space at the rear of each block. Each of the three storeys forms a separate flat, and has a continuous balcony

running along the front. Each house consists of a living-room, three bed-rooms and a scullery, &c., making practically a five-roomed tenement.

The foregoing (Fig. 22) is a plan of the above arrangement.

The latest example in Liverpool may now be briefly described. A large owner of property, who has had a wide experience in this direction, has only recently finished the erection of twenty self-contained cottages in flats, in blocks of two storeys. They are somewhat of the character of the so-called "Scotch" houses, but of a developed type. The upper houses have a small yard at the rear, on the same level as the living-rooms, and the waterclosets and dust-shoots are detached from the main building. There is in each case a fairly large open space on the ground level, the bye-law in that behalf being fully complied with. Each tenement consists of three rooms, and is let at a rental of 5s. 6d. or 5s. per week, which works out at the rate of 1s. 8d. to 1s. 10d. per week.

The following (Fig. 23) is a plan of the above description of tenement house.

It is rather unsatisfactory to have to state that in nearly all the cases above alluded to the financial result has been a failure. It is certain, from trustworthy evidence supplied to the author, that the ordinary builder and owner of cottage property, at all events in Liverpool, does not regard the "tenement" or "flat" type of house with favour. It will therefore be obvious that in order to provide houses at a sufficiently low rental it will be requisite to erect small tenements one above the other, and by this means secure a sufficiently low rental per room per week. Experience, however, indicates that the experiments made in the past have in almost

all cases proved failures. The dilapidated and dirty condition of the tenement blocks which are in the

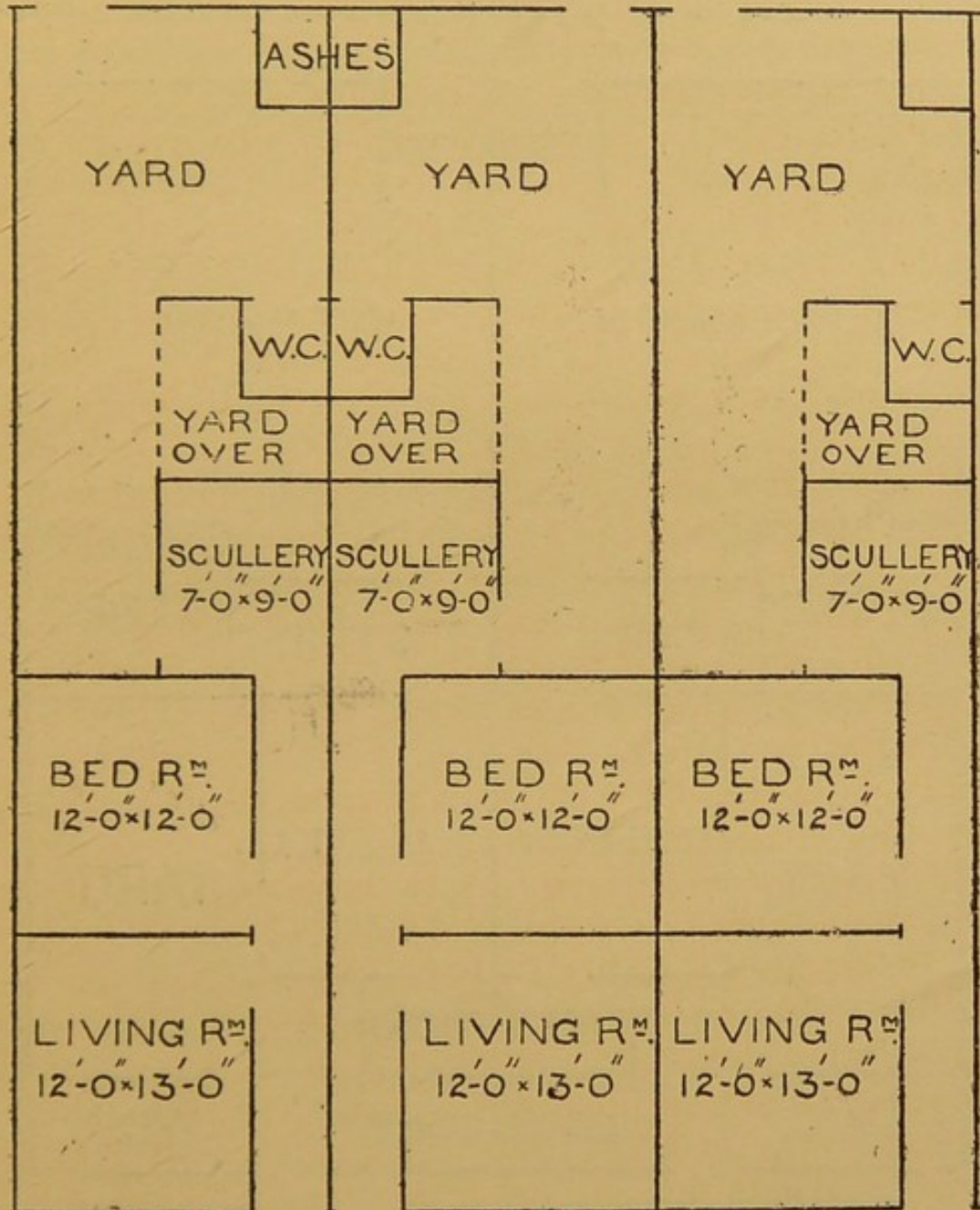


FIG. 23.—THE LATEST LIVERPOOL TYPE.

hands of individual owners, and the great financial losses which such owners have undoubtedly suffered

from the low-class and unmanageable tenants, all point to the conclusion that such blocks or tenements should be owned and managed by powerful bodies, such as corporations, who can make bye-

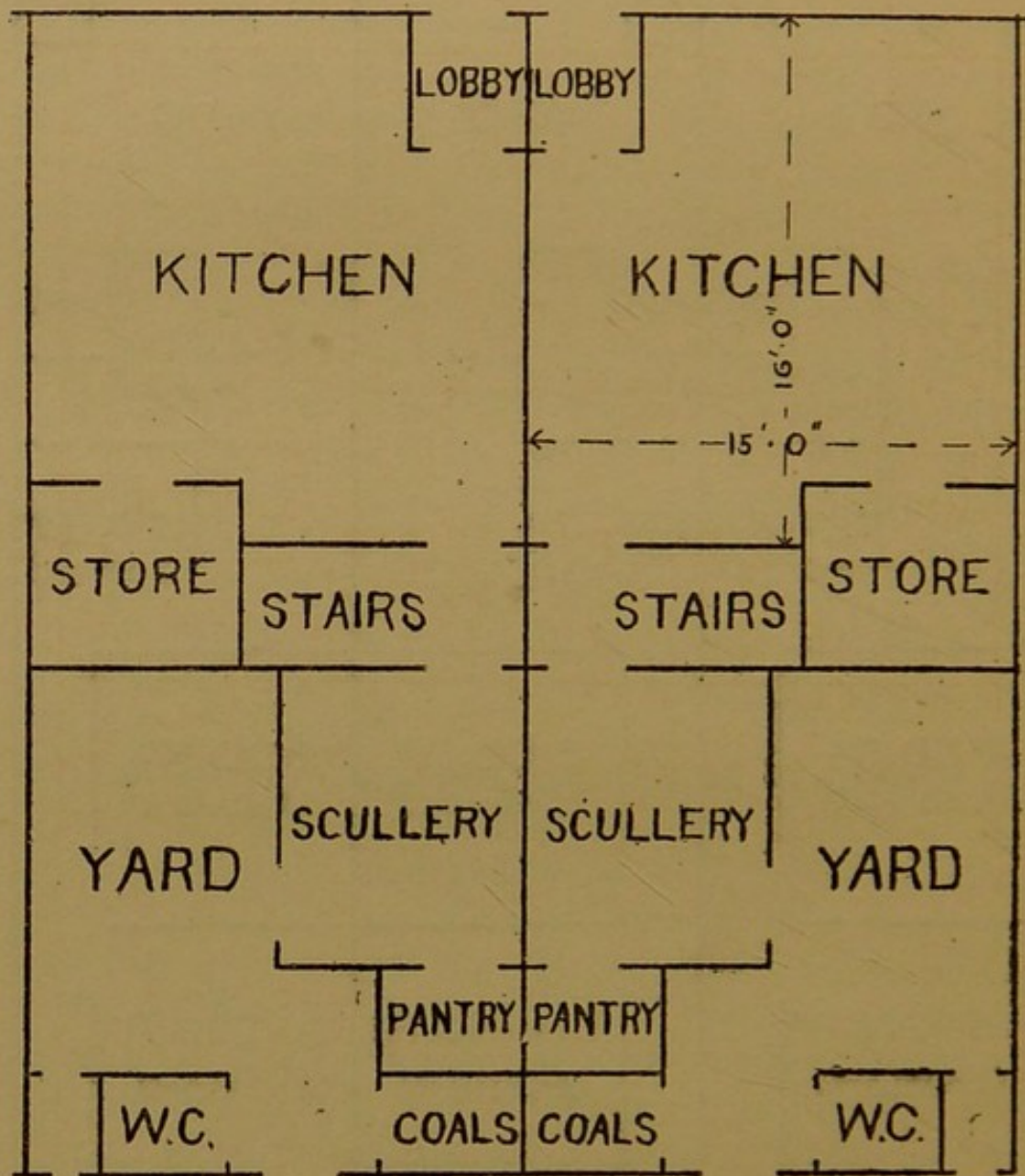


FIG. 24.—WEST HARTLEPOOL: TYPE A (GROUND FLOOR).

laws securing the payment of the rentals charged and the keeping of the tenements in decent condition.

The author will now proceed to describe some of the plans which have been most kindly sent to him by the surveyors of the localities in which the houses shown on these plans have been erected; and he takes this opportunity of warmly thanking

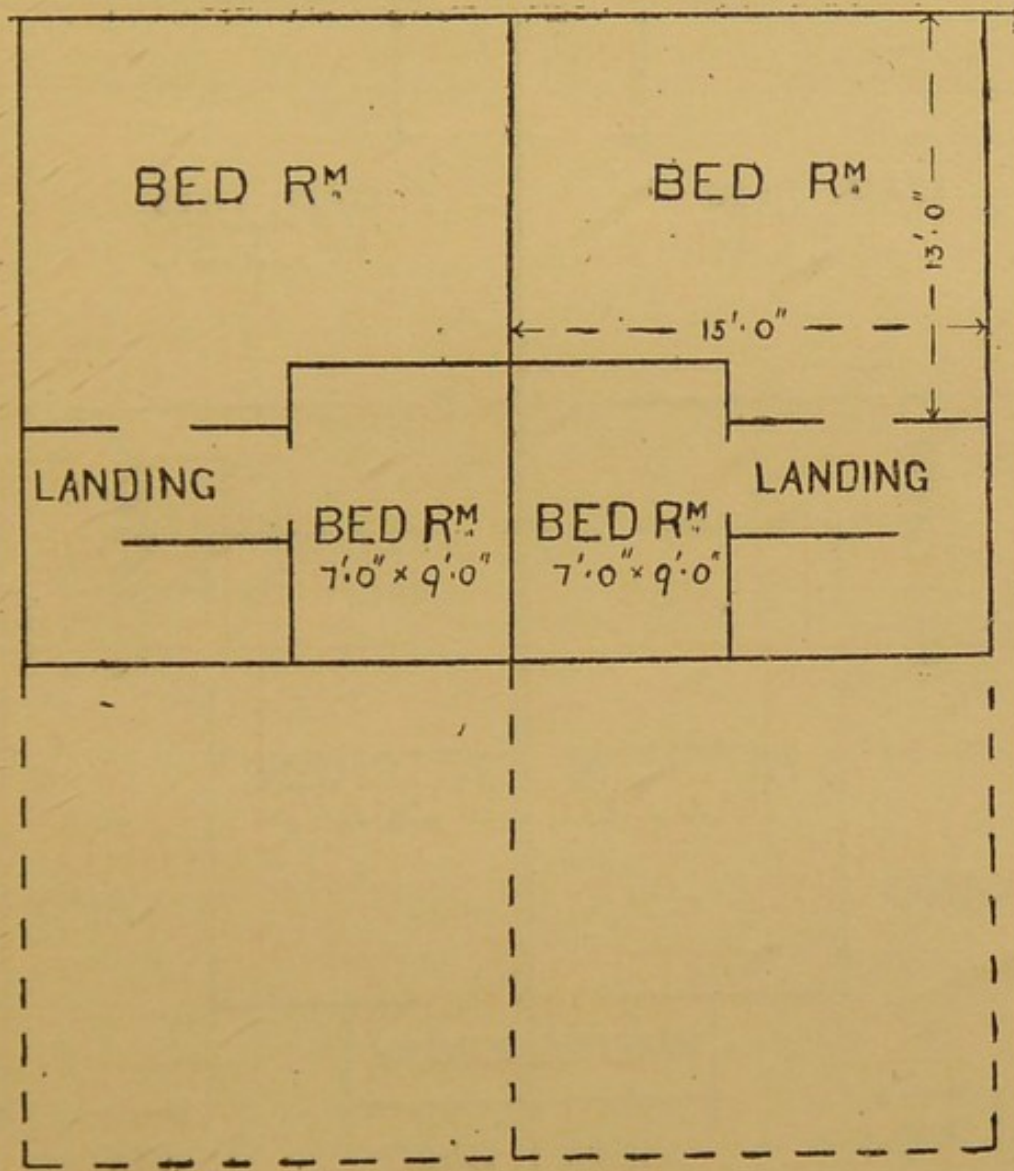


FIG. 25.—WEST HARTLEPOOL: TYPE A (FIRST FLOOR).

them for so courteously acceding to the request conveyed by him through the columns of THE SURVEYOR.

Mr. J. W. Brown, the borough engineer of West

Hartlepool, sent ground and first floor plans of types of houses erected in his locality and principally occupied by the artisan class. These are shown in Figs. 24, 25, 26 and 27.

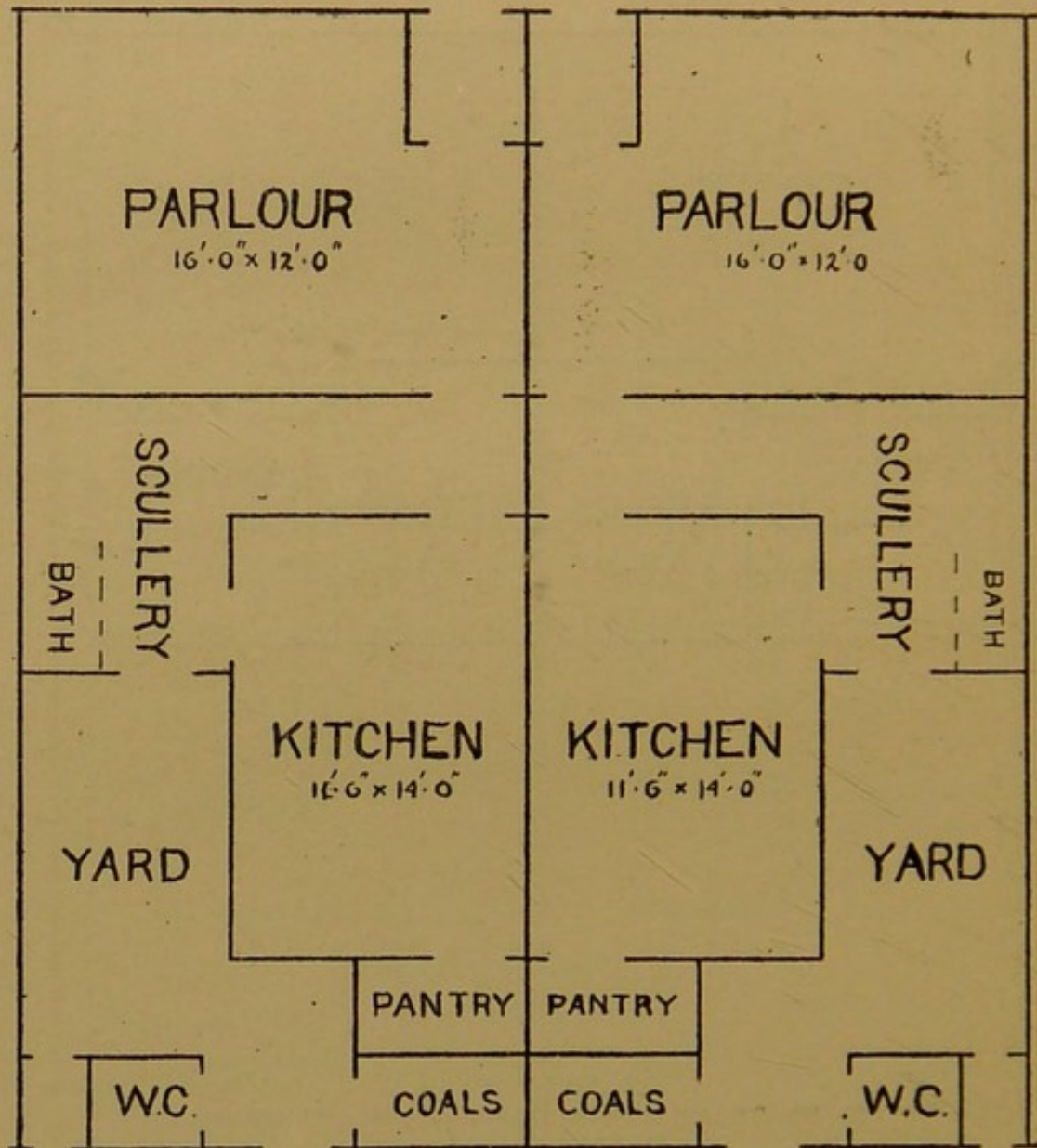


FIG. 26.—WEST HARTLEPOOL: TYPE B (GROUND FLOOR).

The area of the site required for the type of house in Figs. 24 and 25 is 60 yards, including an open space at the rear of 11.84 yards. The cubical

contents of each house are 8,793 ft.; and the cost per cubic foot, exclusive of site, &c., is calculated to be $3\frac{3}{4}$ d.

Mr. Brown states that the selling value of these houses is £165; and that the rent paid, exclusive of municipal rates, is 4s. 10d. per week, which, after

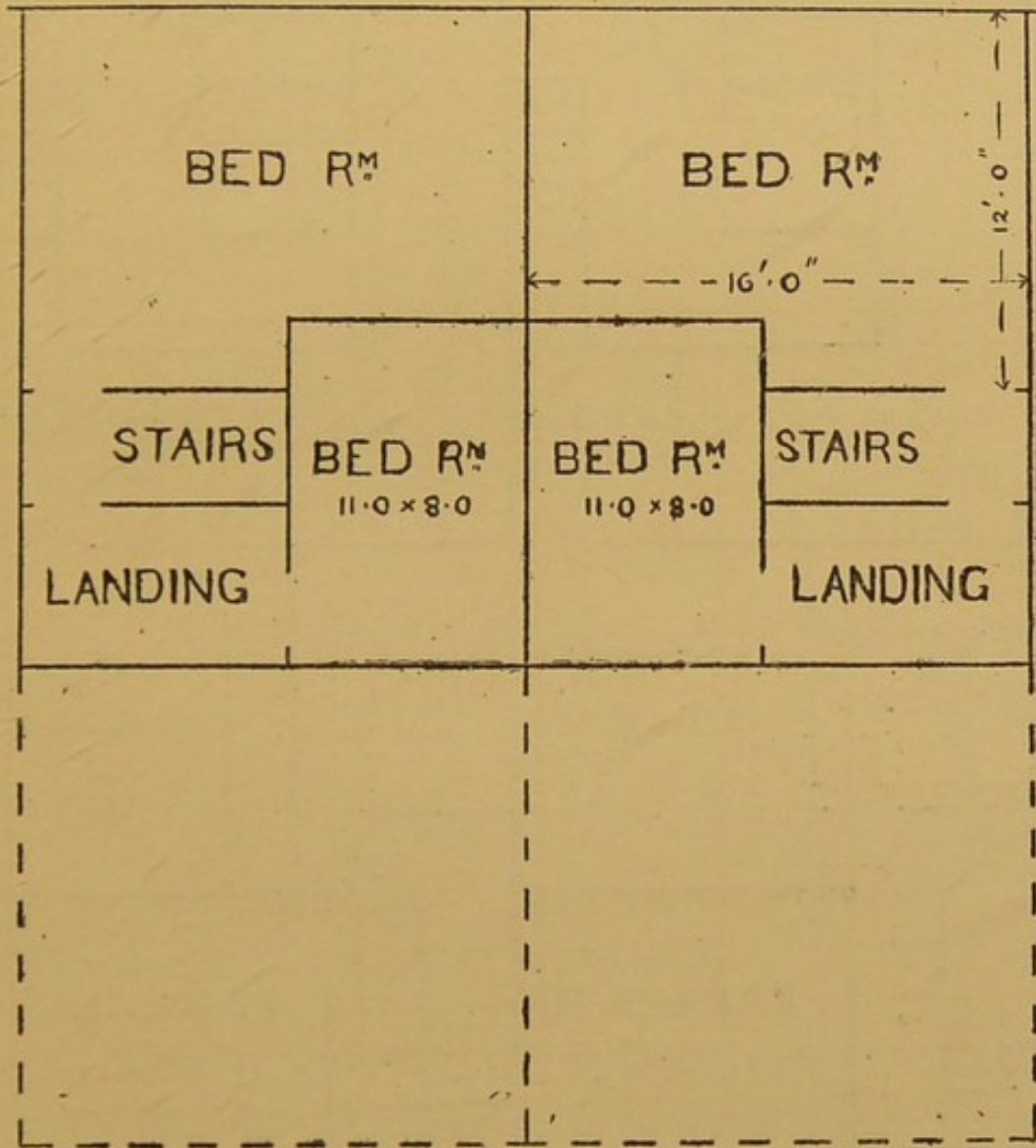


FIG. 27.—WEST HARTLEPOOL: TYPE B (FIRST FLOOR).

allowing 7 per cent. for interest and repairs, leaves a nett rental of 4s. 5d. per house per week. The

density of the population of these houses he calculates at 212 per acre.

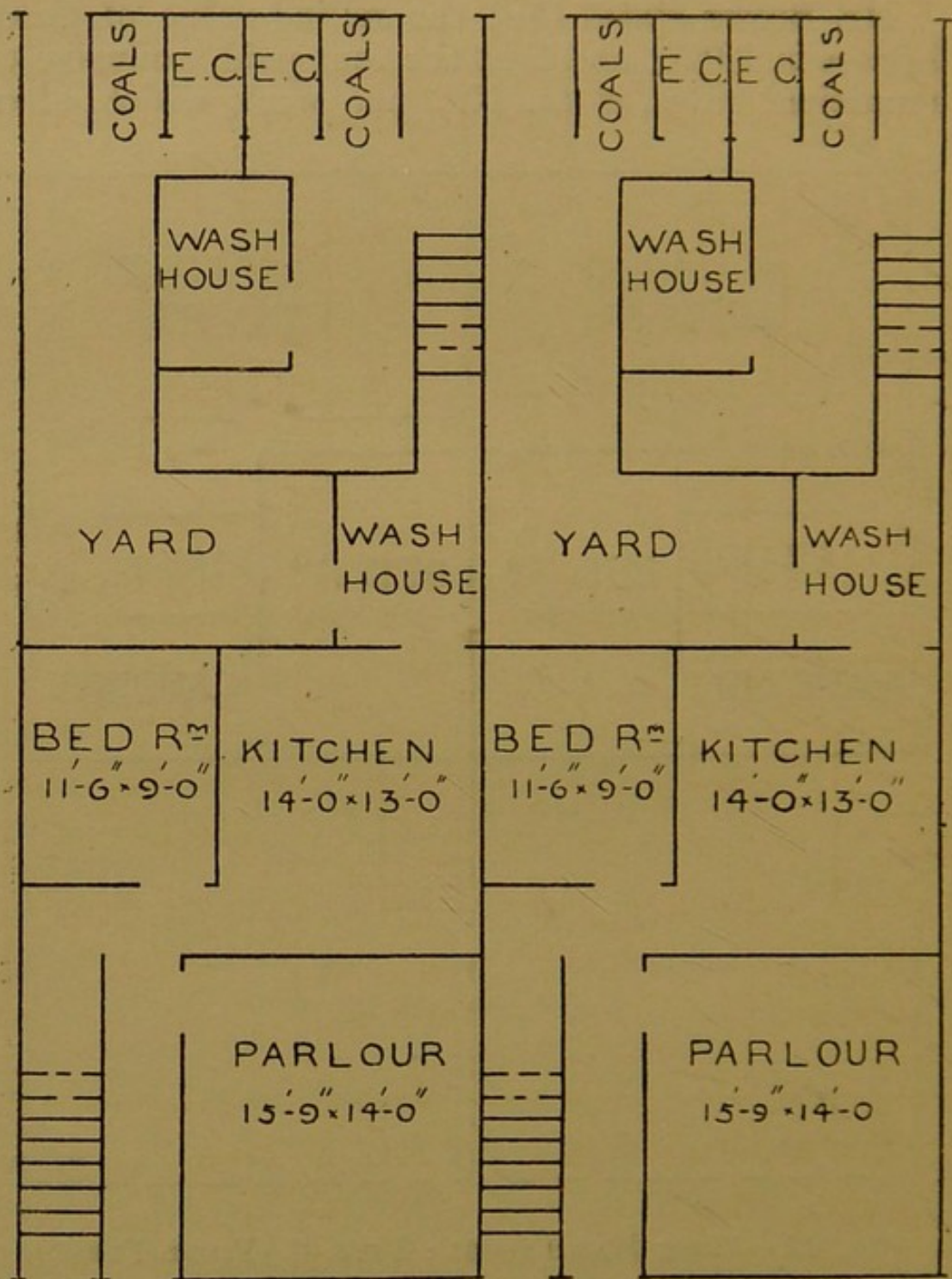


FIG. 28.—JARROW-ON-TYNE: TYPE A (GROUND FLOOR).

The area of the site necessary in the case of Figs.

26 and 27 is 64 yards, inclusive of an open yard space of $10\frac{3}{4}$ yards. The cubical contents of each house are 10,289 ft., and the cost per cubic foot, exclusive of value of site, &c., is calculated to be $5\frac{1}{4}$ d. The selling price is stated to be £250 per house, and the rent paid, exclusive of municipal

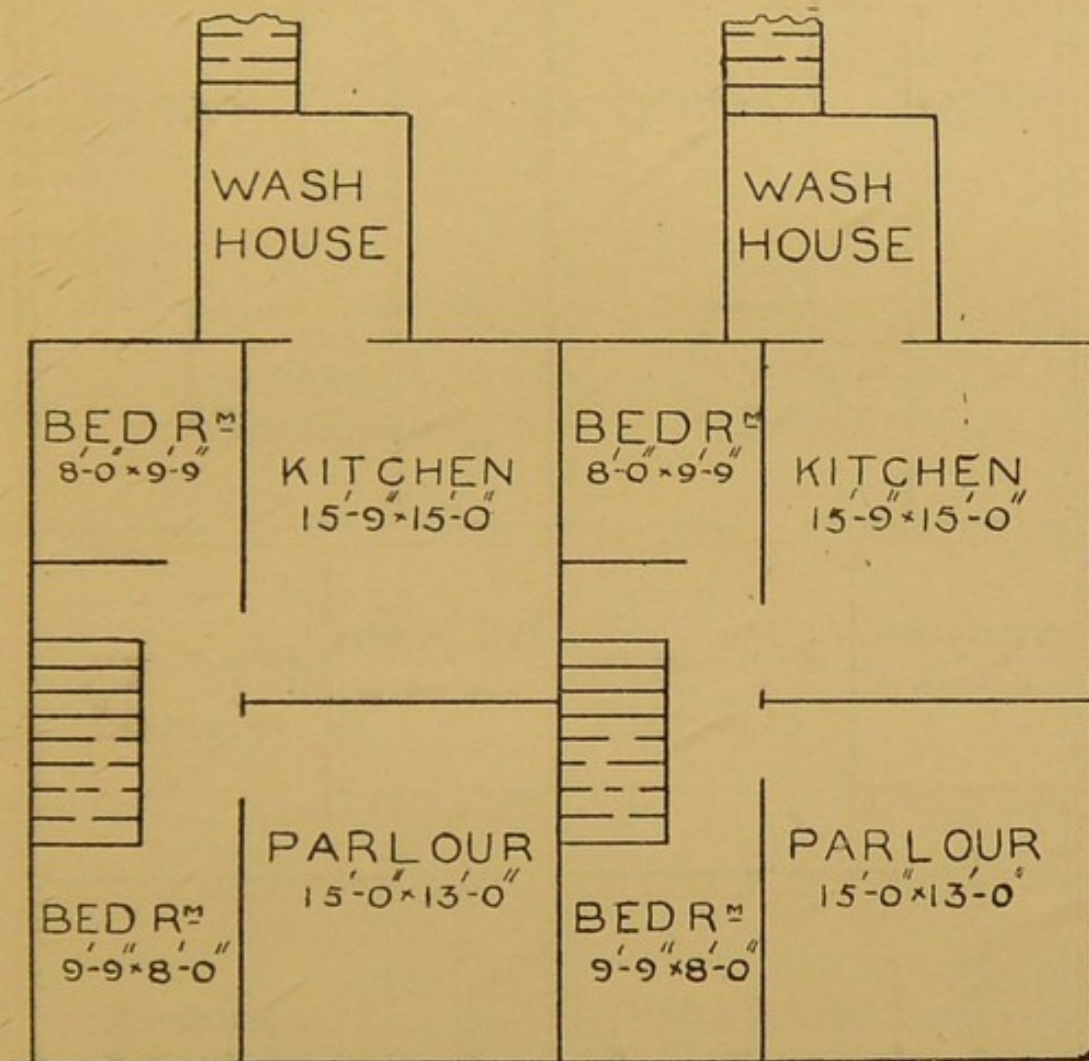


FIG. 29.—JARROW-ON-TYNE: TYPE A (FIRST FLOOR.)

rates, 6s. 6d. per week, which, after allowing 7 per cent. for interest and repairs, leaves a nett rental of 6s. $0\frac{3}{4}$ d. per week. The density of the population of these houses is calculated at 199 per acre.

The area of the site of the type of house in Figs. 28

and 29 is $146\frac{2}{3}$ square yards, with a yard space of not less than one-fourth the area of the site. The

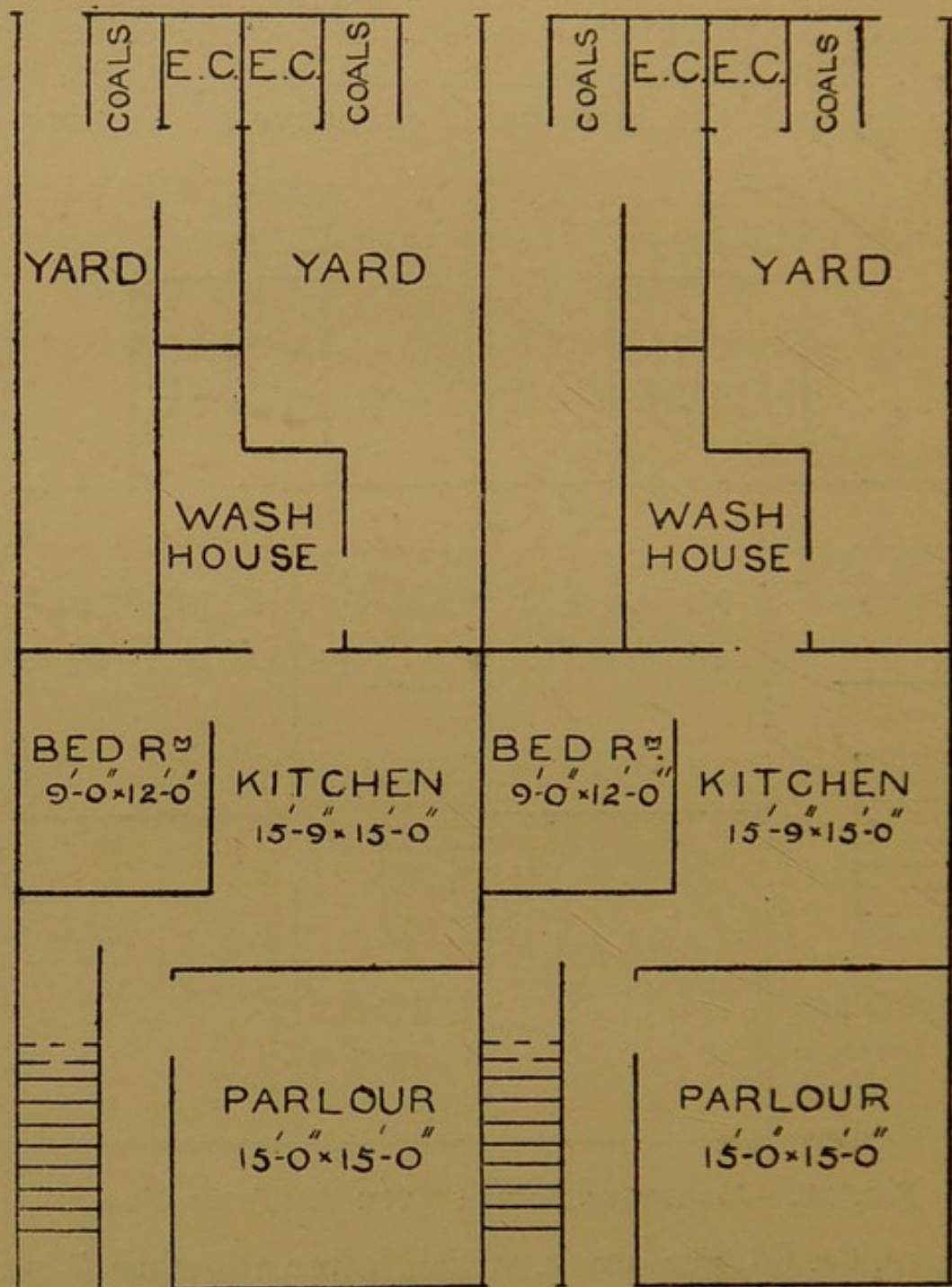


FIG. 30.—JARROW-ON-TYNE: TYPE B (GROUND FLOOR).

selling price is stated to be £230 per house, and the rents charged 5s. per week per tenement..

The site area for the type of house in Figs. 30 and 31 is $146\frac{2}{3}$ square yards, not less than one-fourth of which is devoted to open yard space. The selling price is £280 per house, and the rent charged is 5s. 6d. per week per tenement.

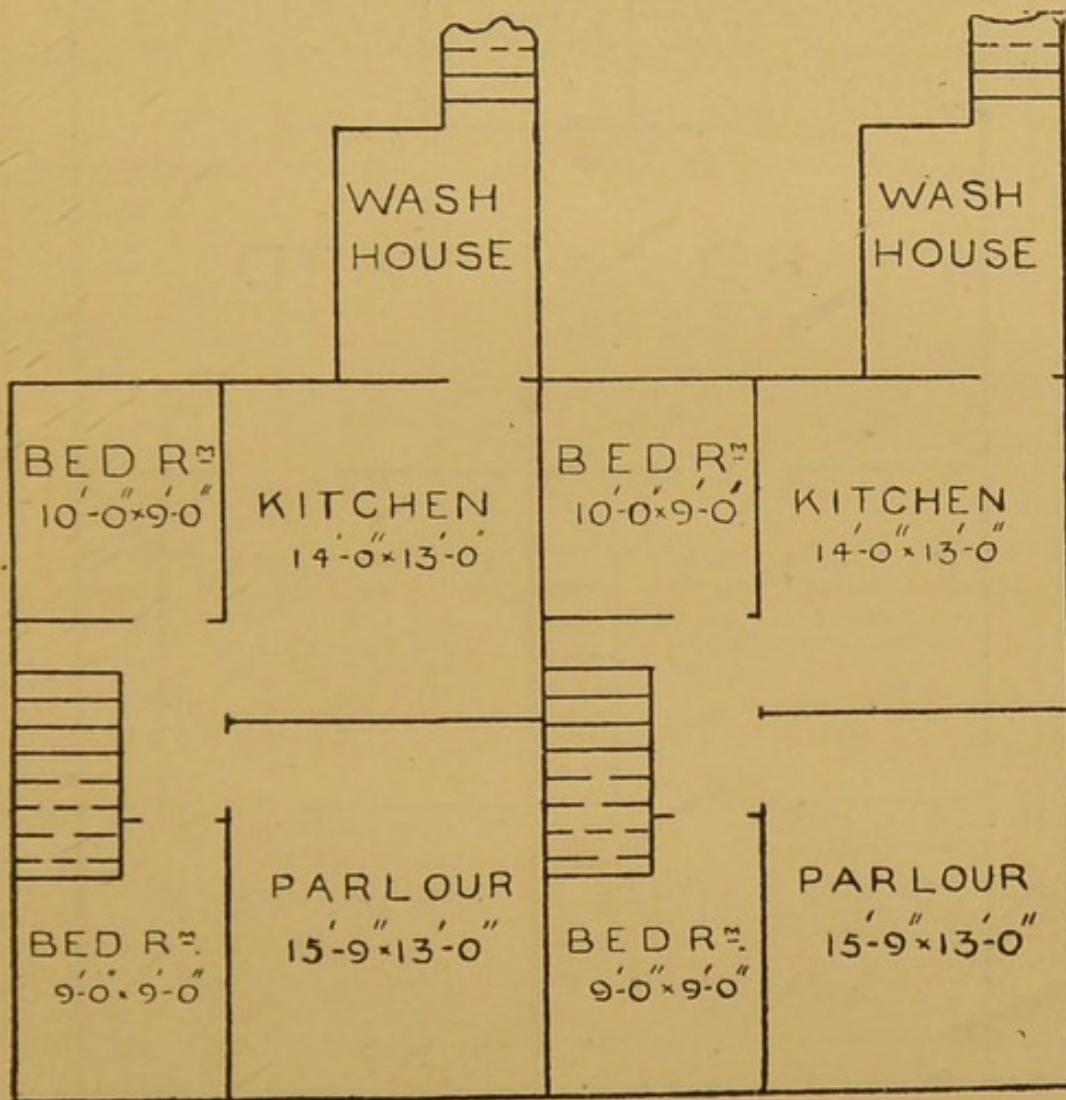


FIG. 31.—JARROW-ON-TYNE: TYPE B (FIRST FLOOR).

Mr. John Price, the engineer and surveyor to the Urban District Council of Toxteth Park, also forwarded the author drawings of a description of cottage house which is a type of hundreds that are

being erected there at the present time (Figs. 32 and 33).

The area of site of this type of house is 51 square

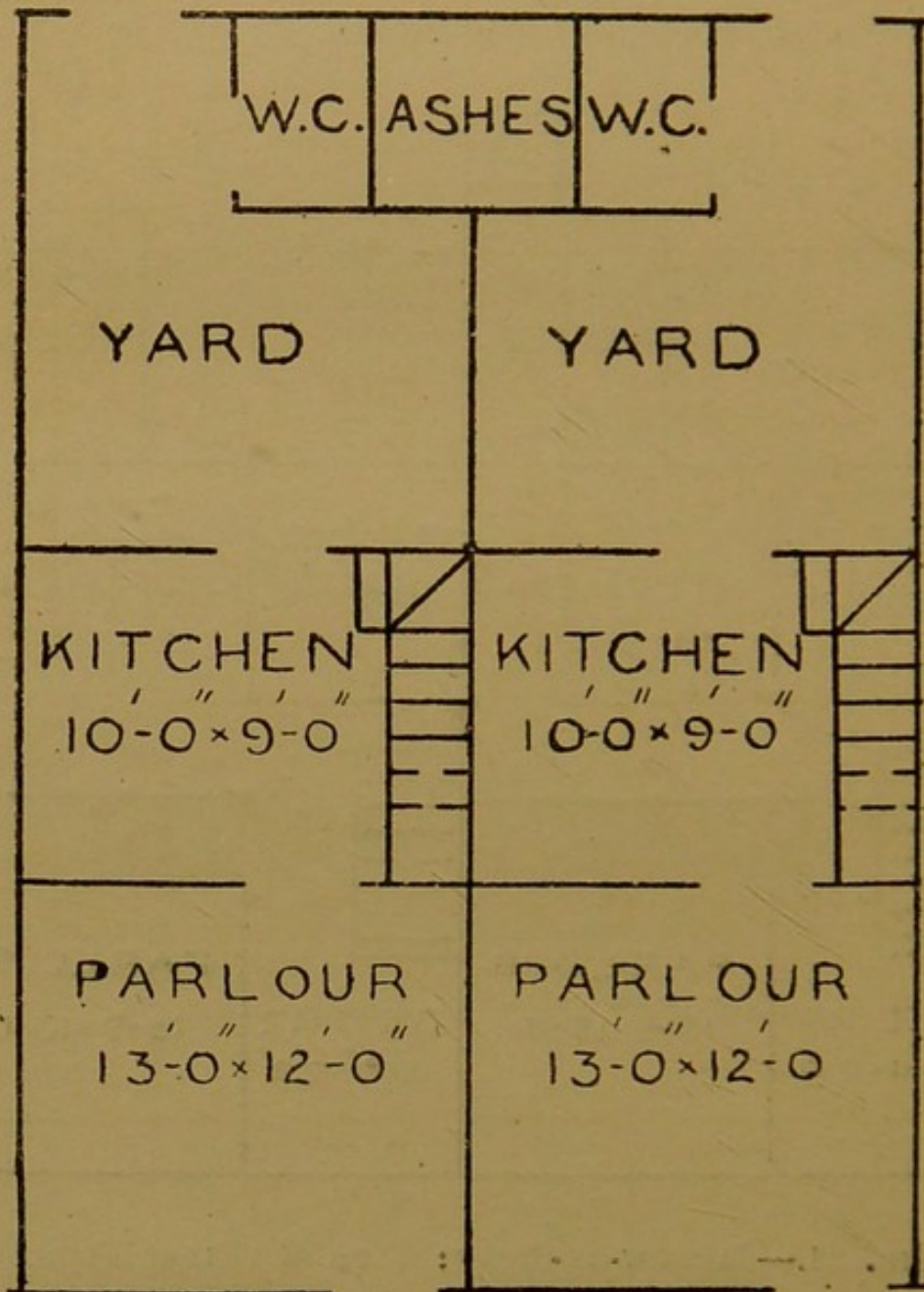


FIG. 32.—TOXTETH PARK TYPE.

yards, and it is stated that the cost of erection per house is £135, and the selling price £150. The rental, including water rate, is £13 per annum.

Turning to the question of back-to-back houses, upon which some correspondence appeared in the columns of *THE SURVEYOR* in the autumn of last year, and in which it was conclusively shown, without any rebutting evidence whatever, that there was no point upon which back-to-back houses could be commended, it will be well to state what has been

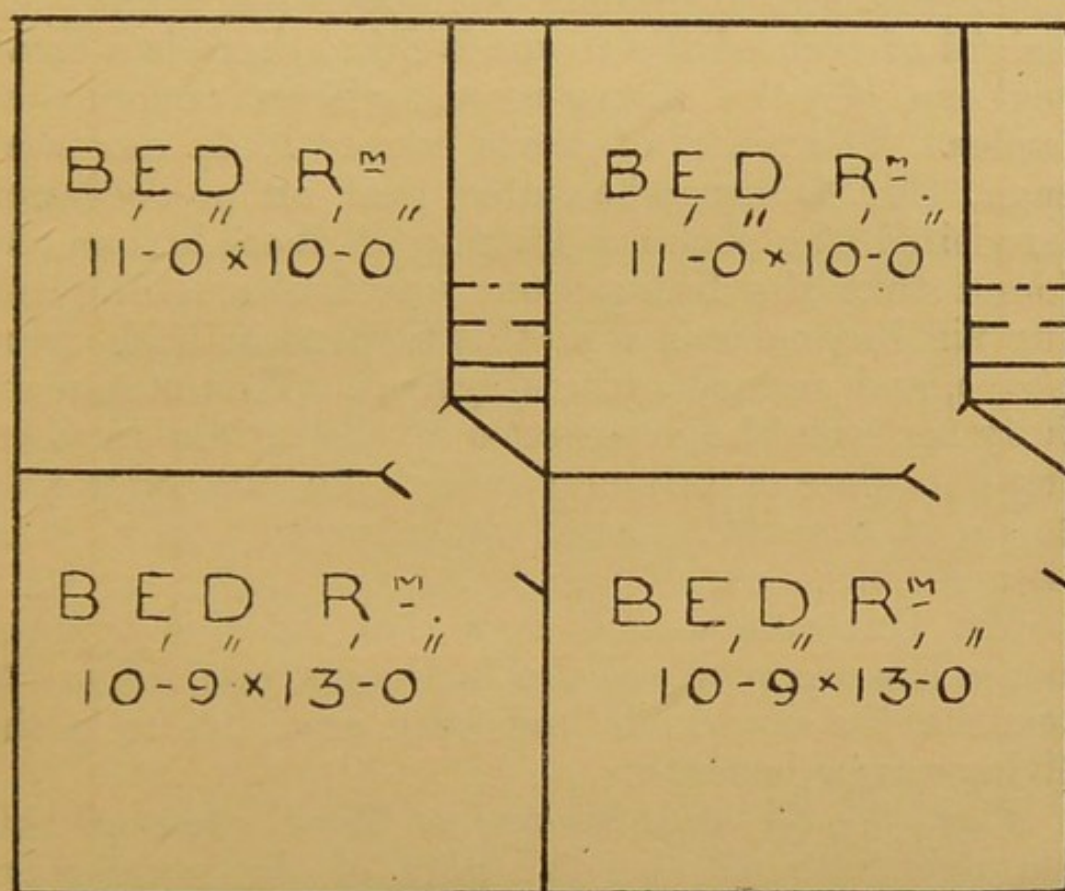


FIG. 33.—TOXTETH PARK TYPE.

done with respect to this type of house, excluding the famous back-to-back houses in Leeds—an example of which was given by one of *THE SURVEYOR*'s correspondents last year.

Mr. Nicholas Dunscombe, the borough surveyor of Chesterfield, has been good enough to send the author

a plan of back-to-back houses erected in that town. The houses are built in blocks of twenty, with a passage between every two blocks. The water-closets are grouped in the centre of the common yard, or court at rear, and the people living in the furthest end houses must, in order to reach these closets, pass along the street in front of all the other houses in the block. Each house contains one living-room and two bedrooms, one above the other; the height of each of the rooms is 8 ft.; there is a small scullery off the living-room, without copper or larder. The rental of these houses is 4s. per week each. Mr. Dunscombe states that on one occasion he visited the cleanest looking of these houses and found that the living-room was foul smelling and the air became worse in this respect in each room above, and seemed quite stagnant. This statement fully confirms the experience of the author in visiting this class of property, which he has constantly to do in connection with its inspection in view of demolition.

Mr. Dunscombe well says that in this type of house the occupants of the bedrooms would have to breathe the air which had been used before in the living-rooms beneath.

Figs. 34, 35 and 36 are a block plan of this arrangement and also the plan of the usual room arrangements.

These houses are erected in blocks of twenty, abutting upon a front street, only 16 ft. in width, and upon a narrow rear court. An earth closet is provided for every two houses.

The rental charged per house is 4s. a week.

Before leaving the subject of back-to-back houses it will be well to refer to the report made by Dr. Barry and Mr. P. Gordon Smith upon the subject

of back-to-back houses, which was issued by the Local Government Board in the year 1888. In this report particulars are given of the extent to which back-to-back houses had been erected during a period of eleven years immediately preceding the date of the report, the space required by local regulations about dwellings and the amount actually provided in practice, together with the arrangement made for securing circulation of air about the dwellings, their structural arrangements, means of ventilation, accommodation, &c. It is stated that

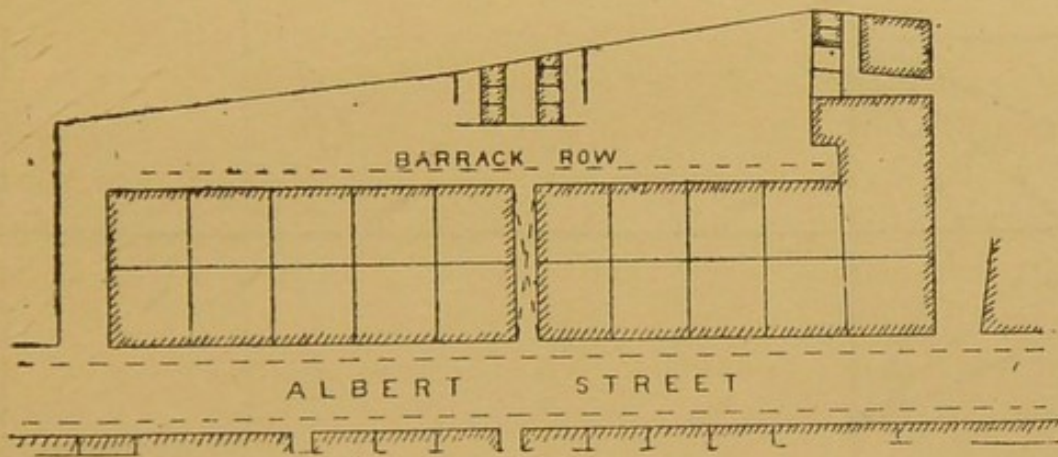
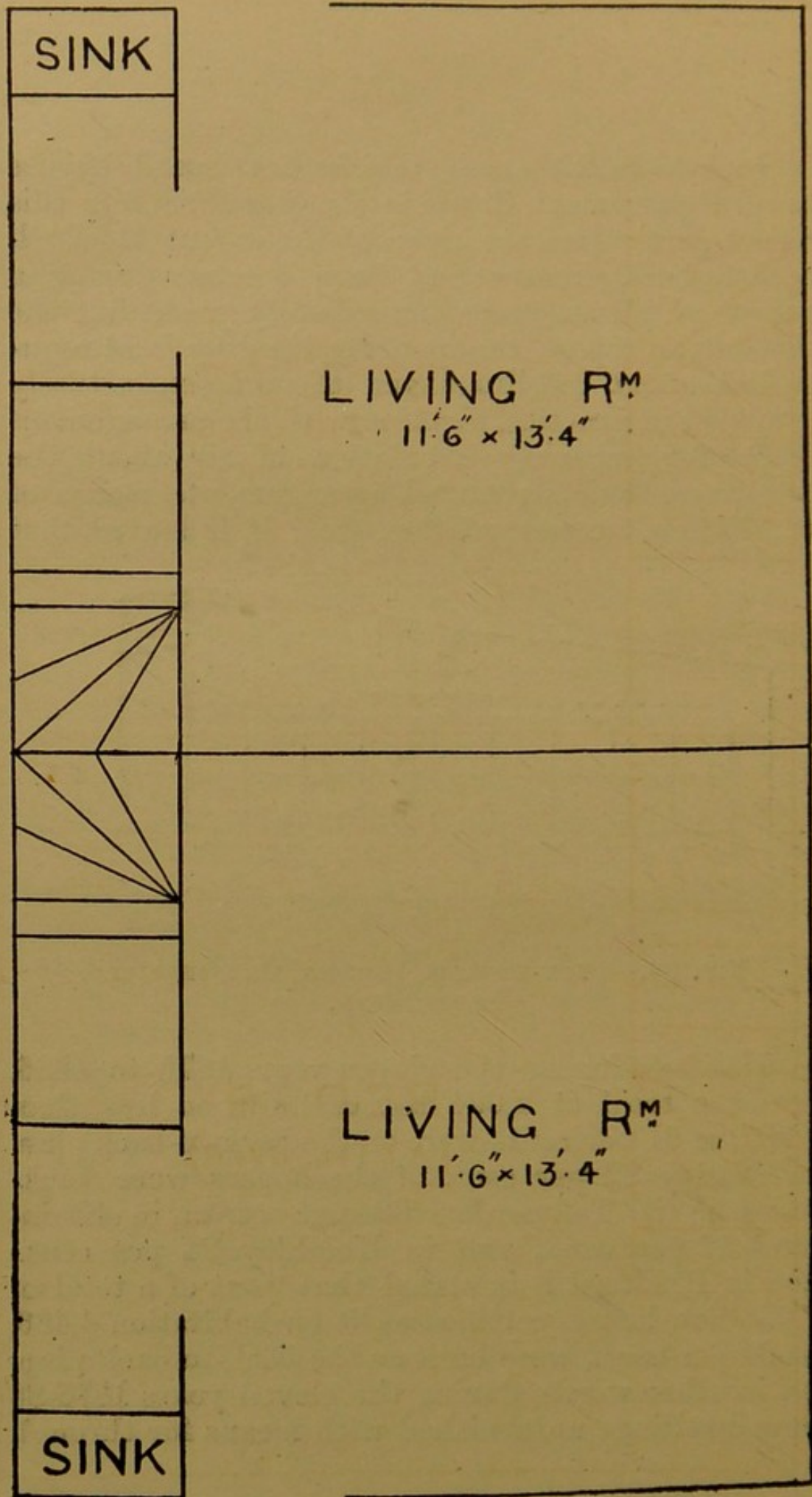


FIG. 34.—BACK-TO-BACK HOUSES, CHESTERFIELD.
BLOCK PLAN.

in Halifax during the eleven years 1876 to 1886, out of a total of 2,094 houses built, no less than 1,287, or 61 per cent., were on the back-to-back plan. In Morley 82 per cent. of the houses were back-to-back; in Todmorden 32 per cent.; in Stainland 52 per cent., and in Keighley 24 per cent.; and in Bradford it is stated that "out of a total of 7,036 new houses certified as fit for habitation 4,486, or 64 per cent., were built on the back-to-back plan, or, in other words, during the eleven years 1876-86 new dwellings unfurnished with means for through



35.—BACK-TO-BACK HOUSES, CHESTERFIELD.
GROUND PLAN.

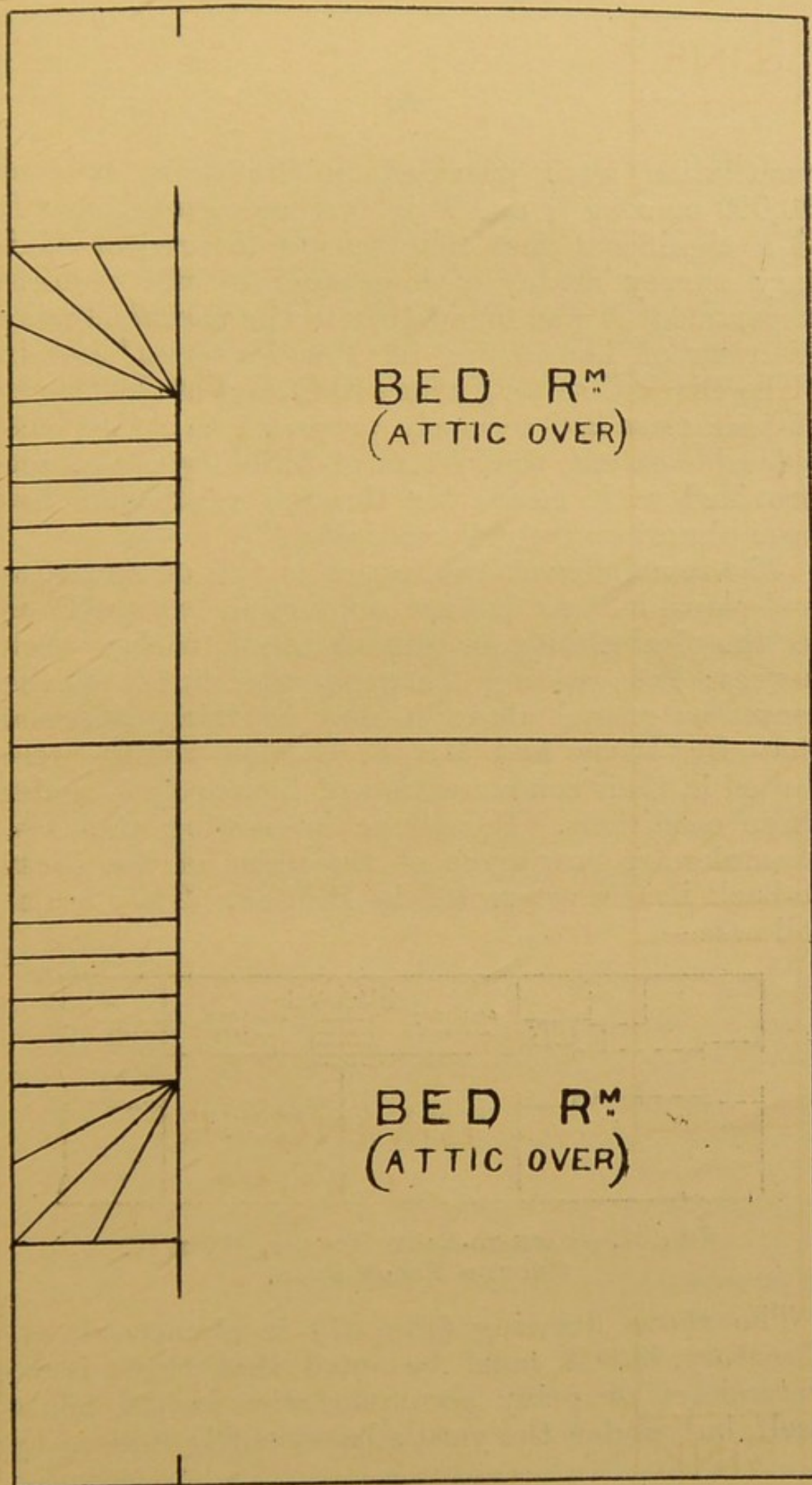


FIG. 36.—BACK-TO-BACK HOUSES, CHESTERFIELD.
FIRST FLOOR PLAN.

ventilation were provided in Bradford for over 20,000 persons"; and it is further stated that "It is a significant fact that during the recent sanitary survey made by inspectors of the medical department it was found that in the manufacturing districts of Lancashire, in 'The Potteries,' and in 'The Black Country,' where dwellings of the 'back-to-back class had formerly prevailed to a very considerable extent, the system of building houses unprovided with means for through ventilation has been almost entirely discontinued."

The remainder of the report is full of statistics and plans, but no further opinion is expressed as to the desirability or otherwise of back-to-back houses; but reading between the lines of the sentences quoted above, it may be fairly assumed that Dr. Barry and Mr. P. Gordon Smith were united in their condemnation of houses built under these conditions. It will be interesting if a few examples are now given of the plans of the back-to-back houses as erected in Halifax. They are as follows:—

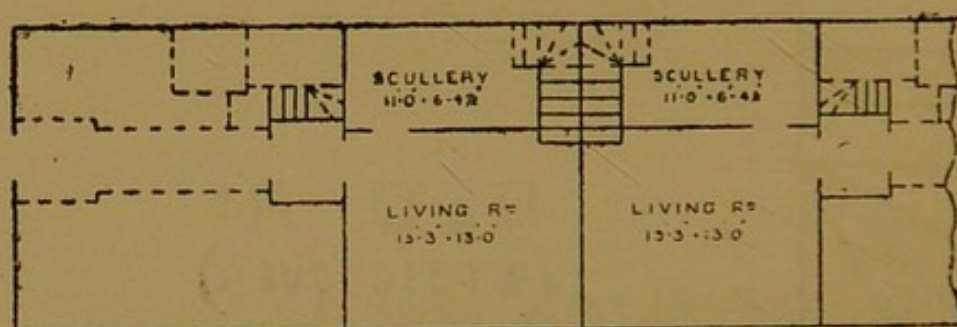


FIG. 37.—BACK-TO-BACK HOUSES, HALIFAX.
GROUND FLOOR PLAN.

The above drawing (Fig. 37) is almost self-explanatory, but it must be noted that there is no watercloset or privy accommodation in the house itself, but under the yard a basement is entered by

means of steps, and in this basement a closet or privy is provided. It may also be mentioned in reference to the report from which the above extracts have been made that it is stated that the attic storeys are dependent for light and ventilation upon skylights alone instead of windows. Another description of back-to-back house in Halifax is as follows :—

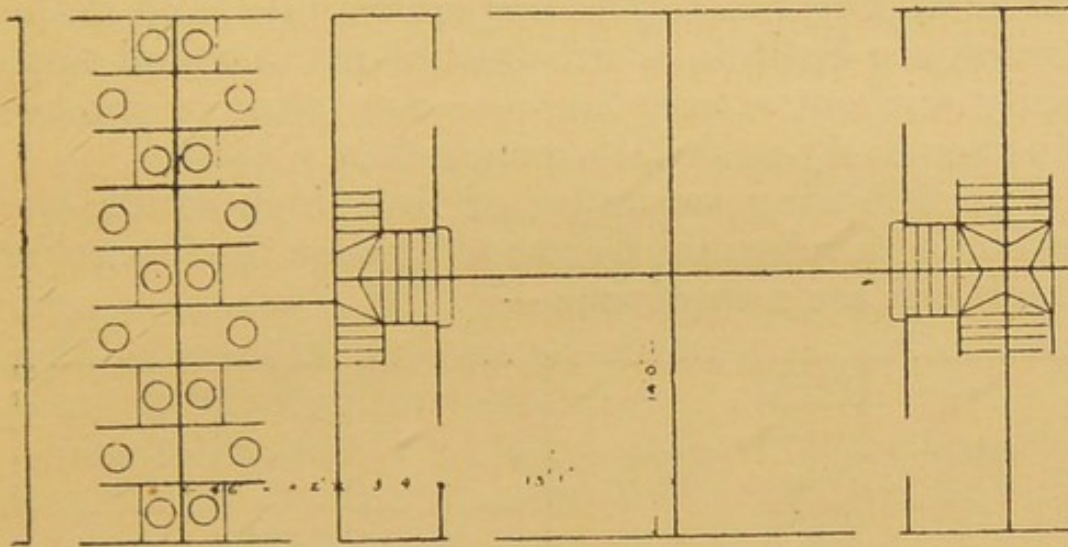


FIG. 38.—BACK-TO-BACK HOUSES, HALIFAX.
GROUND FLOOR PLAN.

No comments are needed with regard to the above type of back-to-back house (Fig. 38), except that it will be seen that a whole row of them are provided with dust-bins and waterclosets or pail closets at the ends of the row, thus necessitating the occupiers passing through the open street to reach the accommodation—a proceeding which it is unnecessary to discuss. So much for back-to-back houses—the least said about them the better, and to produce any more examples in this pamphlet would serve no useful purpose. The question of housing the labouring classes in suitable tenements at low rentals is no doubt a difficult problem, but the system of back-to-back houses, although in-

tended in some measure to solve this problem, has miserably failed. It is well to repeat that the difficulty of the problem is to provide healthy, substantially-built dwellings at such a cost as will allow them to be let at a rental of, on the average, 1s. per room per week. This, the author believes, can be carried out provided the land on which they are erected can be acquired at a reasonable price, say not exceeding 12s. to 15s. per square yard, and if the houses are built in a substantial manner and sanitarily, without attempting ornamentation or the use of expensively-prohibitive materials.

The following examples of dwellings which the author believes could be erected under the foregoing conditions are now given:—

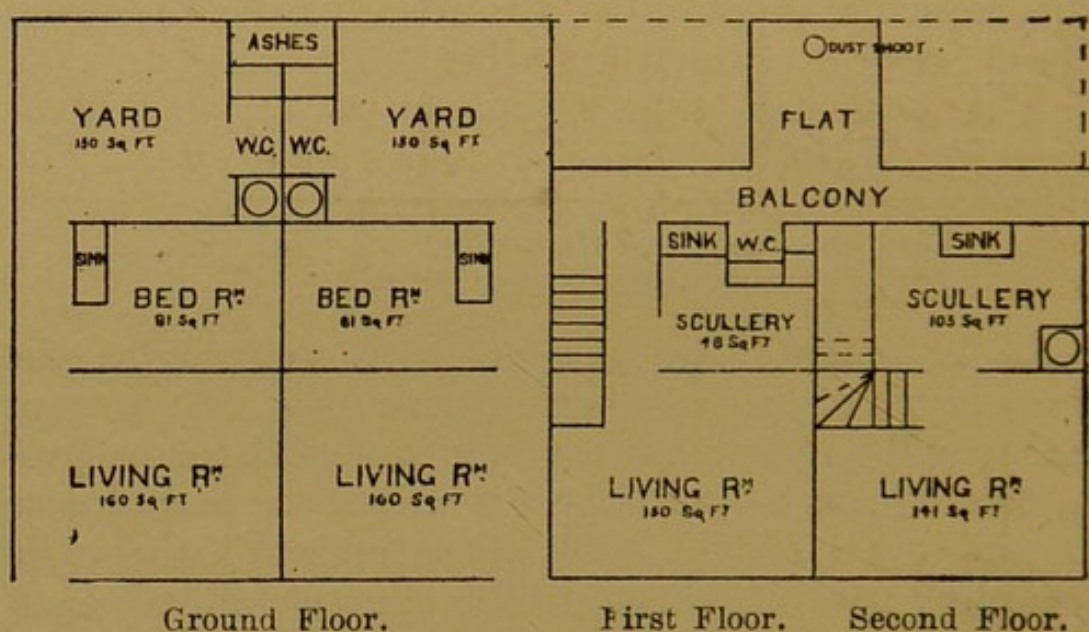


FIG. 39.

The proposal would be to arrange these houses in blocks of three storeys in height, each house containing a tenement of two rooms on every one of three floors.

The ground storey tenements would be entered from the street, and the upper tenements from a

common balcony running along the rear of the houses at the level of the first floor, and be approached by stairs at one end of the row of houses. The frontage of each house would be 15 ft. and the depth 21 ft.; there would be an open yard on the ground level, to be used by the occupants of the ground storey, and also a small yard at the level of the first floor. The waterclosets would be used in common by the occupants of the first and second floor storeys, where two waterclosets would be erected.

If the price paid for the site was about 15s. per square yard, the author estimates that with the ground floor rooms letting at 1s. 6d. per room and the remainder at 1s. per room per week and allowing for the usual deductions, a return of over 5 per cent. could be secured for the outlay.

The following (Fig. 40) is another style of house somewhat similar to the above-mentioned, only better as regards financial results :—

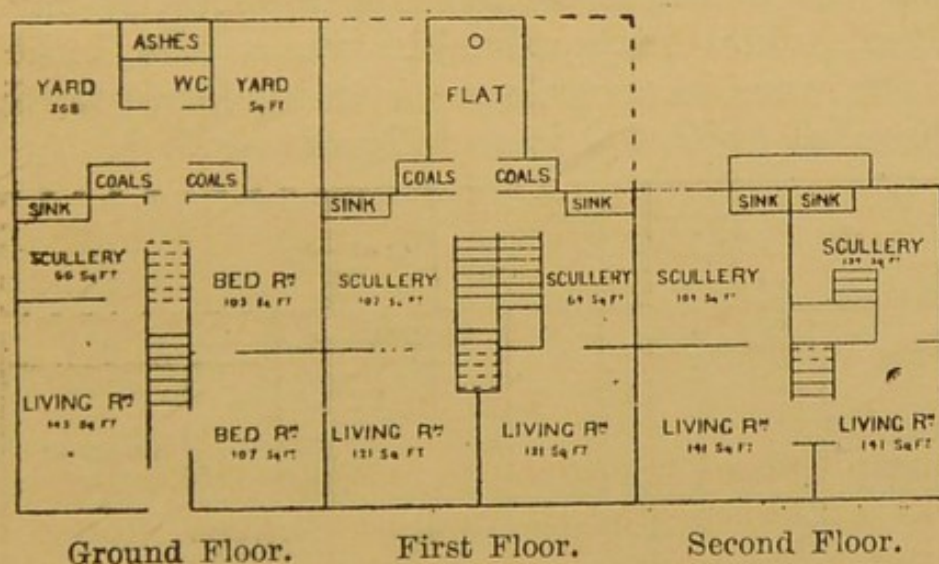


FIG. 40.

From this plan it will be seen that the houses are arranged in blocks three storeys in height, the

ground storey containing a tenement of four rooms, whilst each of the two upper storeys contains two tenements of two rooms each. The ground-floor dwelling is entered from the street, and the upper dwellings by a common stair, entering by the same doorway as the ground floor dwelling. The frontage of each of these houses would be 23 ft. 6 in. and the depth 24 ft. There would be an open yard on the ground level, to be used only by the occupants of the lower dwelling; there would be a small yard on the first-floor level, as in the former case, to be used in common by the occupants of the four tenements on the upper floors.

On the ground level is an independent out-door watercloset, and there are two out-door waterclosets on the first floor level, each of which would be used by the occupants of the two tenements.

If the rooms were let at 1s. per room per week, and in one or two cases at 1s. 3d. per room, the return would be about $5\frac{1}{4}$ per cent. on the outlay.

The last example is one for a specially-narrow site, but would be applicable where the building bye-laws were in accordance with modern practice.

The plan (Fig. 41) is as follows :—

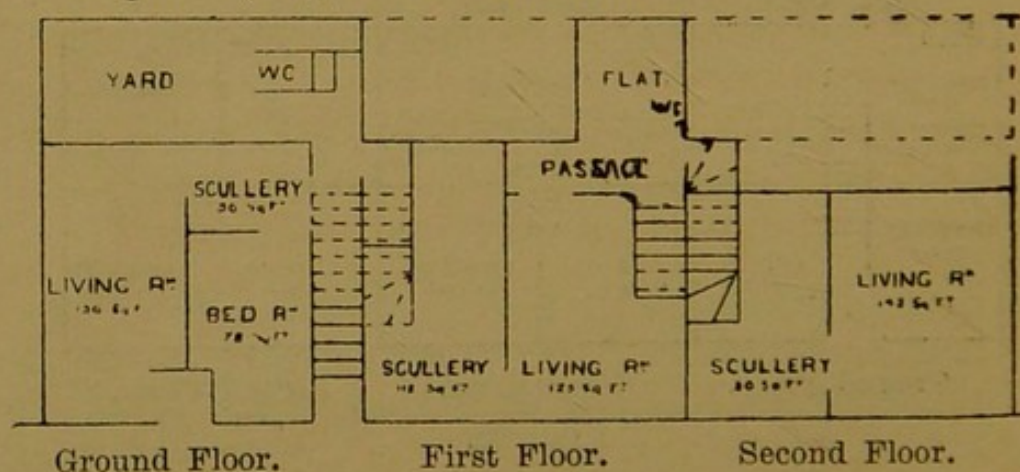


FIG. 41.

From the above plan it will be seen that the pro-

posed houses would be arranged in blocks of three storeys in height, the ground storey containing a tenement of three rooms, whilst each of the two upper storeys would contain two rooms.

The frontage of each house is 20 ft. and the depth 18 ft. There would be yards on both storeys, as in the former cases.

The nett return on the outlay for such a class of house as this would be about about $5\frac{1}{2}$ per cent.

It will thus be seen that there is no occasion to build back-to-back houses for the purpose of housing the labouring classes; and the author ventures also to believe that those who have carefully perused this pamphlet and looked into the plans that have been given will come to the conclusion that it is also unnecessary to house people in large blocks of buildings; but that the aim should be to provide self-contained, cheap, sanitary and cheerful houses at reasonable rentals, and that the labouring populations of our large towns should be induced by cheap means of locomotion to spread themselves rather than to crowd together in large over-populated centres.

The whole problem is undoubtedly a difficult one, but if two or three main principles are kept in view the author believes it is capable of solution.

The principles that he sets out are as follows:—

1. Through ventilation for all dwellings.
2. Ease of access to the tenements.
3. Simple sanitary arrangements close to the tenements and not in common with blocks of dwellings.
4. Rental at about 1s. per room per week.
5. Substantial and sanitary, but cheap, construction.
6. Privacy and the abolition of communism.

The author trusts, in conclusion, that the few remarks he has made, and especially the diagrams he has given, will help to throw a little more light upon the difficulties which surround the great and pressing problem of suitably housing the labouring populations of our great centres.



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 - (b) Ready admission of cumbersome articles of furniture.
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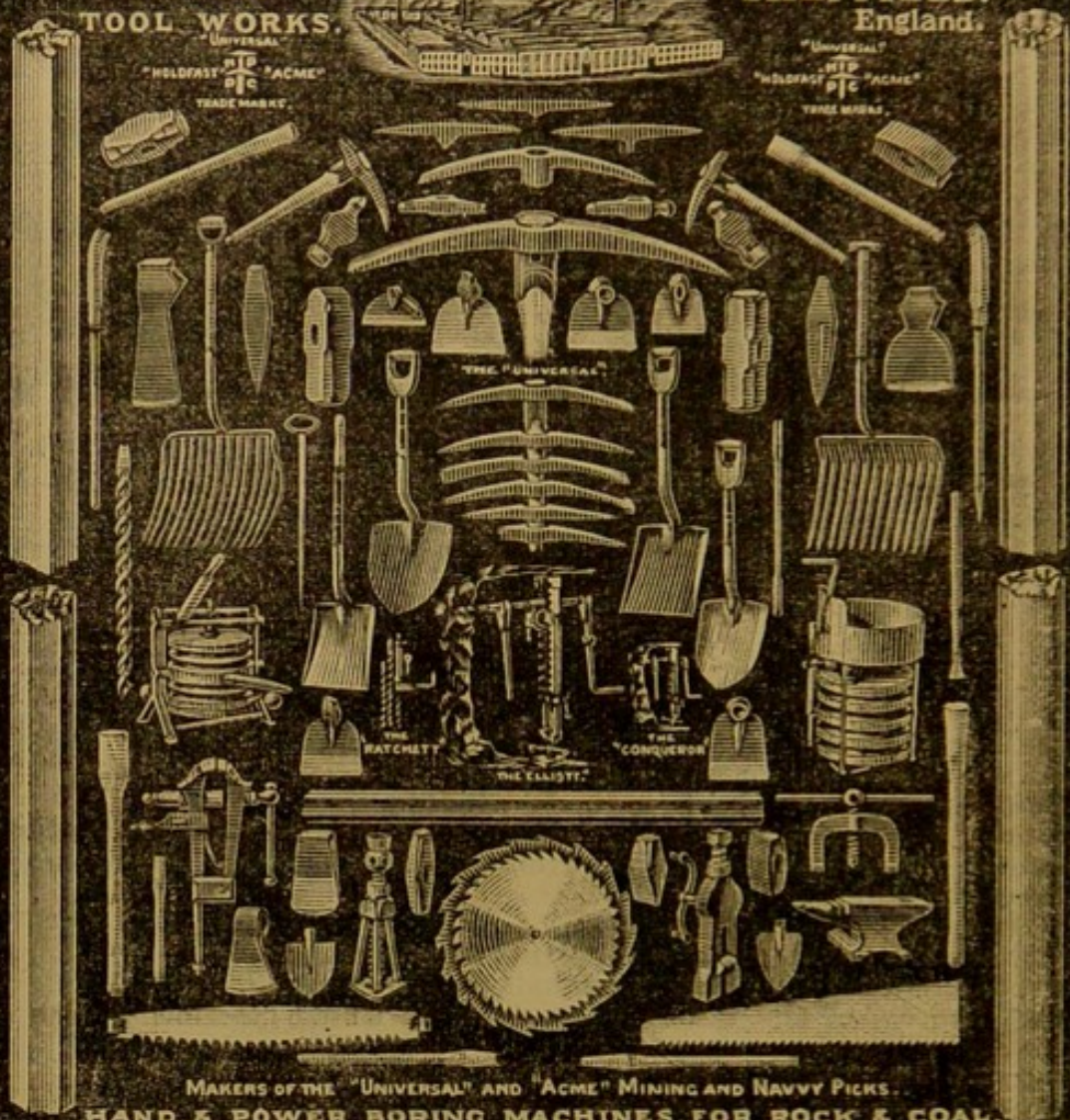
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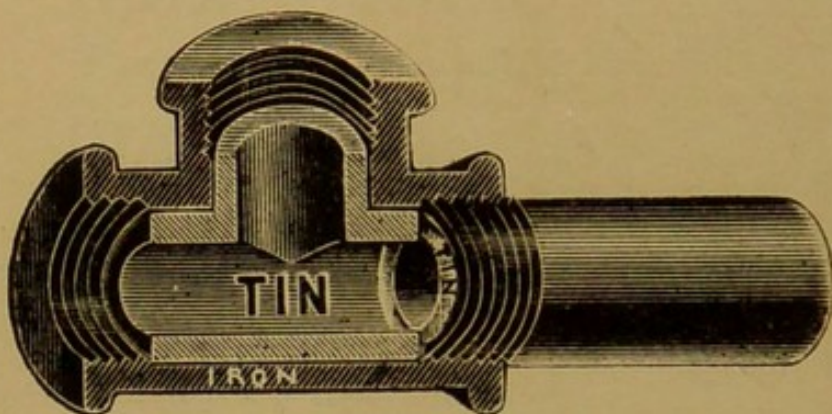
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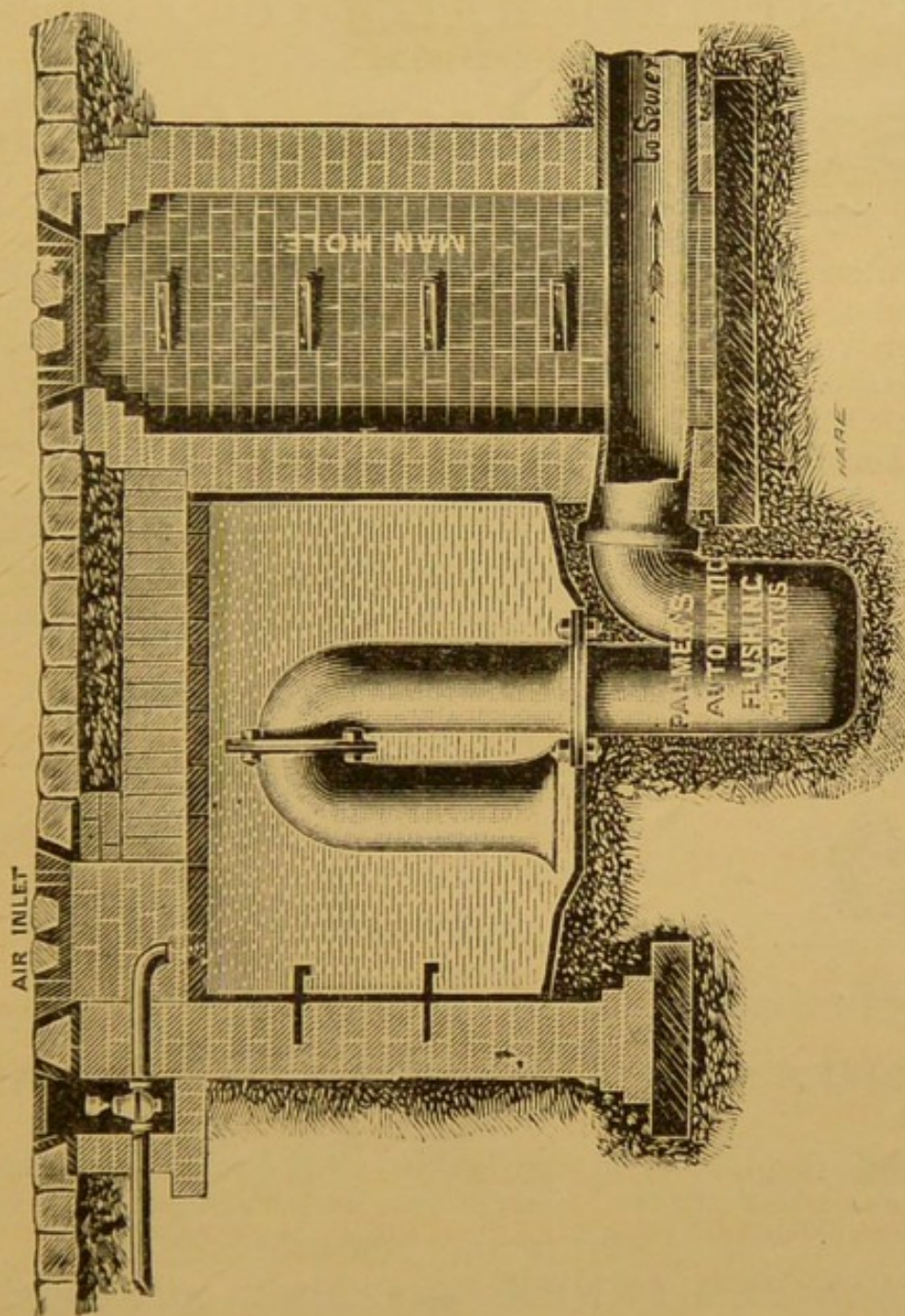
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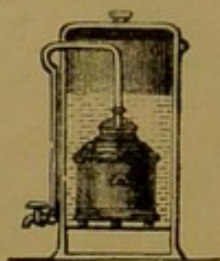
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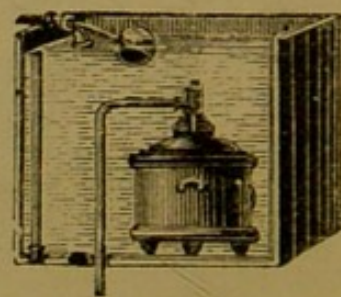
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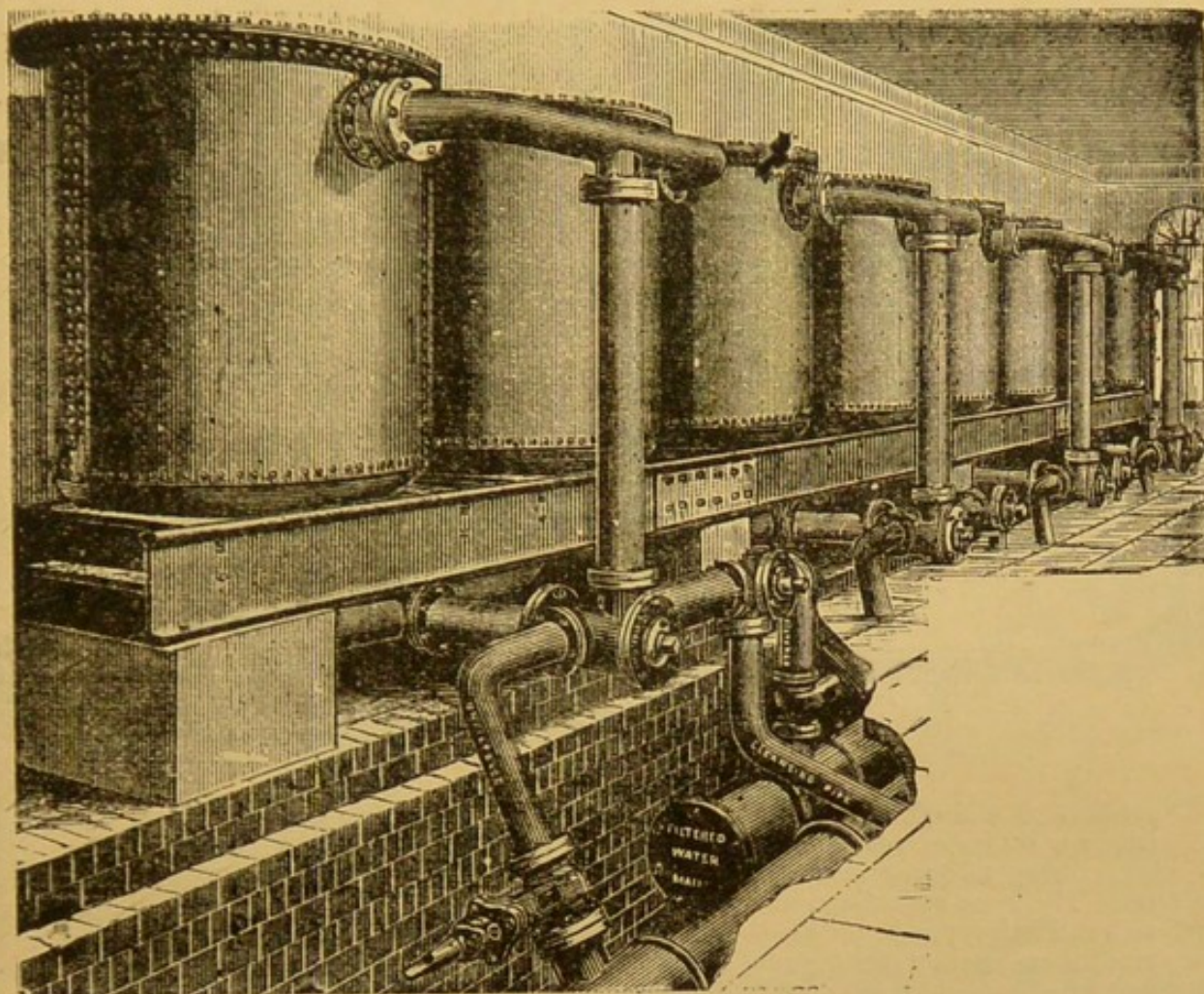
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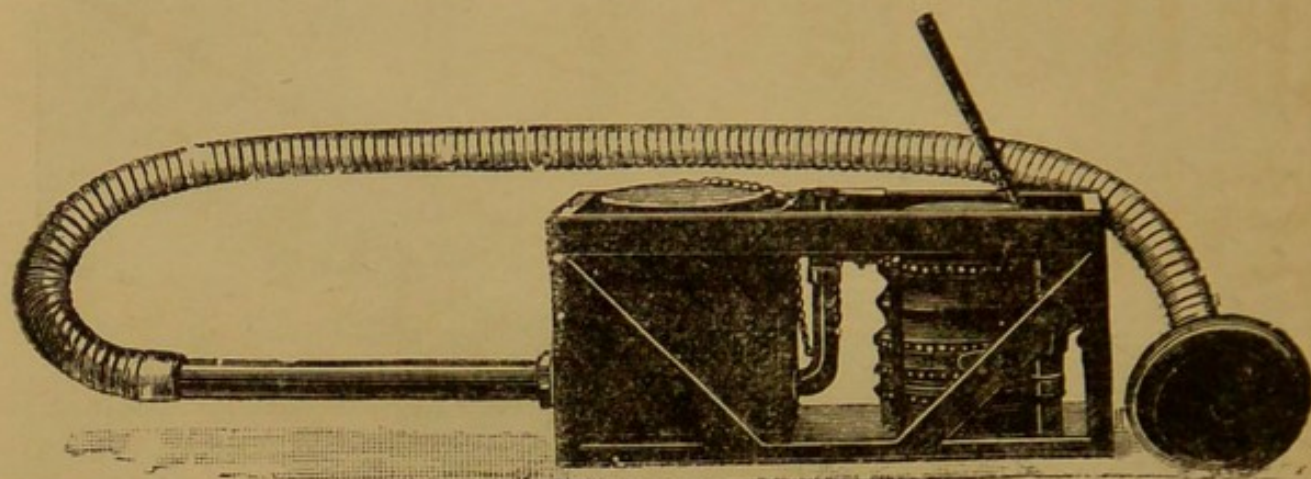
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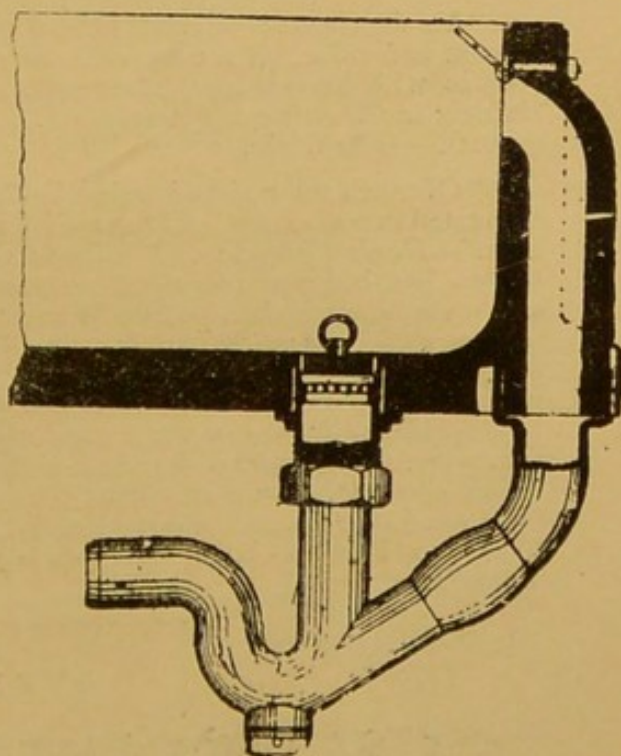


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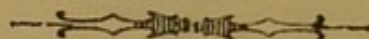
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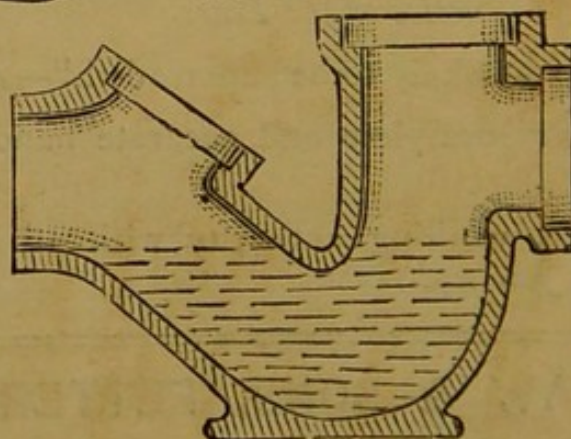
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