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DESCRIPTION

OF THE

NEW HOSPITAL WINGS

AT

JAMES MURRAY'S ROYAL ASYLUM, PERTH,

BY

A. R. URQUHART, M.D.,

AND

A. HEITON, F.R.I.B.A.

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Description of the New Hospital Wings of James Murray's Royal Asylum, Perth. By A. R. URQUHART, M.D., Physician Superintendent; and A. HENDERSON, F.R.I.B.A., Architect.

It is now sixty-two years since James Murray's Royal Asylum was opened for the reception of patients; and, in the course of its history, many changes have been made in the architectural arrangements. The original directors were actuated by motives of the purest philanthropy, and laid down, in their first annual report, principles of action from which their successors have never deviated. These principles of action, however, were not and could not be carried out in practice in those days, when modern ideas were but nascent; and the most eminent Scottish architect of his day, guided by the most mature medical experience of the times, could not design such buildings as are now held as requisite for the treatment of mental diseases. The alterations and improvements found to be necessary, in order to maintain this institution in the front rank, were inaugurated some five-and-twenty years ago by the conversion of the dark and winding central staircase into a cheerful galleried hall. The light and air thus admitted, and the feeling of freedom thus installed, proved the keynote to the successive changes that have been wrought from year to year since that time. Hardly any part of the establishment has escaped the modernizing and re-arranging deemed necessary for effective care and treatment. The year 1887, however, found existing wards well-adapted for the chronic and quiet classes, but unsuitable for acute and infirm cases. It was, therefore, decided to add such accommodation as was found necessary, and this paper is intended to describe the leading features of the buildings designed for that purpose.

The asylum is arranged in two blocks connected by a central administrative building. In the south block there are six wards, three male and three female. These form three floors. The lowest was formerly used for excited patients; but the day-rooms were required for stores, and it was found to be best adapted for sleeping accommodation only. Above this, on the level of the principal floor, are the

wards for chronic patients, over which are the wards for convalescents and those of orderly habits. Reference to the plan will show how these galleries have been altered from the archaic type of central corridor with rooms on either side.

The north block on the principal and upper floors is arranged in suites of private rooms. On the ground floor are galleries M. 4 and F. 4, occupied by excited patients. These were built for epileptics and idiots, and for many years were used for sick and infirm cases. It was with the view of improving the accommodation for these patients, of providing comforts and conveniences unthought of when this asylum was planned, that the Directors decided to build. It was not so much to gain additional beds; although, by the erection of the new wings, the number of patients resident in the main asylum may be increased from 95 to 126, and ample accommodation is found for attendants, nurses, domestic servants, housekeeper's and other stores, as well as space for a complete series of medical baths.

The first question to be decided was whether these hospitals should be detached from the main building. Inasmuch as the asylum is of small size, with a proportionately small staff, it was thought advisable to concentrate the whole as much as possible. It has been a ruling idea here, first inculcated by the late Dr. Lander Lindsay, that any enlargement should be by means of succursal villas rather than by additions to the central asylum. The difficulties of the site, occupying as it does an elevated slope commanding extensive views, had also to be considered; and special care in design was necessary in order to preserve existing amenity. It was, therefore, evident that it must be a low building conformable to the exigencies of the original institution. In consequence of this, it became necessary to follow the classical style of the first plan, only departing from it in such details as were architecturally permissible: for instance, by substituting for the bluish-black local whinstone white sandstone coursers with red sandstone facings, by enlarging the window spaces, by introducing pediments over the principal windows and similar expedients. Thus a prevailing effect of harmony, warmth, and domestic comfort has been attained.

On reference to the accompanying plan it will be seen that these buildings extend east and west from the north block of the old asylum, beginning from the dayrooms for excited

patients (M. 4 and F. 4). Taking the male side first, it will be observed that the fire-proof termination of M. 4 is separated from the hospital (M. 5) by an INTERMEDIATE CORRIDOR designed for the treatment of acute excited cases. The architect here has so disposed of the doors and windows to minimize any noise and disturbance to other patients in as far as possible. A specially valuable feature of this arrangement is that, from M. 4 on one hand, and M. 5 on the other, it is possible to immediately concentrate upon a resisting patient an ample force of attendants. The bay window may be curtained off from the corridor and used as a sitting-room. This intermediate gallery is provided with a fire-place and water-closet, and is also conveniently placed for exercise either in the well-lighted corridor or adjacent airing terrace, which is on the same level.

On entering the GALLERY M. 5, from the intermediate corridor, we find, to the south, a small lavatory and cloak-room, and an entrance porch laid with Mosaic tiles. To the north runs the main corridor, the length of which is broken up by pilasters and arches. It gives off single rooms to the east and a large windowed bay to the west. This bay contains a fire-place, and is peculiarly suitable for infirm patients, as it induces them, while enjoying the warmth of the fire, to come within the influence of the sunlight. The single rooms are fitted with fire-places, and special care has been bestowed upon the position of the bedsteads in order that they may be out of possible draughts and under instant observation from the doorway. Two of these rooms communicate, and may be used as two bedrooms, or as a parlour and bedroom, as may be desired. When a patient is *in extremis*, we usually have the friends resident here, and it is found useful in practice to devote the outer room to the friends and the inner to the patient. The privacy thus obtained is a matter of no small moment.

The DAYROOM is entered directly from the corridor, and to the east of it the dormitory is attached, with the lavatories, &c., beyond. This plan affords facilities for constant supervision of the patients, as the principal doors are panelled with plate-glass, and the attendant moving about the day-room is able to observe at a glance the entire length of the corridor to the entrance at the one end and the dormitory and water-closets at the other.

The SERVICE ROOM is also under observation from the day-room and dormitory, and *vice versâ*. The idea was taken

from the old English bar parlours. By projecting a bow window filled with leaded cathedral glass into the principal rooms, the attendants can serve the meals expeditiously and with neatness; and, while engaged at household duties there, they have immediate knowledge of what is going on amongst the patients. This room is lined with pitch pine, with fitments of Californian red wood, and communicates by telephone with the centre of the asylum. In the bow window a steel cistern table is placed, which is filled with hot water from the ordinary supply before meals. The plates are thus heated and the food kept warm while being carved. A teak sink is supported on iron brackets on the outer wall, so that accumulations of dirt are impossible. The medicine cupboards, knife boxes, &c., are designed to fit the recesses formed in the walls. By means of spring bolts the doors open and shut with a single turn of the key, even when the doors are double, and the escutcheon plates of the keyholes are countersunk. These minor details are of importance in securing a quick and accurate service.

The Cubicles shown as opening off the dayroom have been found most convenient for patients requiring constant care and nursing. They give value to the larger room by permitting its arrangement of irregular shape. The great west window forms a bay out of the current of the general life in the rest of the room, and gets away from the usual institutional type of apartment.

The Dormitory, being provided with cross ventilation and having ample floor space, is always fresh and airy. It will be remarked that the disposition of the fire-place here, as elsewhere, is peculiar. By placing it in the corner the floor space is not so much broken into, and there is more room for beds and furniture.

The Water-Closets and Lavatories and the attendant's room are disconnected from the dormitory by a cross passage of ample size. In it are placed the linen cupboards, steps for access to cisterns, and fire escape. These cupboards are carried up to the ceiling to prevent the accumulation of dust and make the most of the space at disposal.

The bath is fitted with indiarubber-tired wheels, so that it may be moved easily to the bedside of any patient. The pipes are of ample size, and the tap is so made as to deliver the water at any required temperature. It is impossible to turn on the hot water without first turning on the cold, or to turn off the cold water without first turning off the

hot. The lavatory basins are so put in that they may be removed singly from underneath without disturbing the fittings. By the use of combined stop-cocks and cleansers risks from frost are prevented and the discharged water flows to the outside by an open conductor.

The water-closets are fitted with white enamelled iron of the usual flush out pattern where rough usage is expected. Otherwise they are of stone-ware, and of the same description. The ventilation is separate for each closet, as hereafter to be explained.

The whole of the BASEMENT, which is on a level with the ground outside, was covered with Briggs' asphalte as a preventative against damp and vermin. On this half battens and flooring were laid without fear of deterioration. Underneath the principal rooms of Gallery M. 5 are the baths, the ceiling of which is formed of fireproof concrete of unusual thickness. The shampooing-room and hot-room adjacent are under the dayroom, while the dressing-room and swimming bath are under the dormitory. These are at present used as a temporary chapel. The rest of this floor is divided into rooms for the night attendants, a dormitory for wet and dirty patients (who may easily be reached by the service staircase indicated on the plan), and the head attendants' stores.

It will be observed that a direct communication from the administrative centre of the asylum is formed by a glazed VERANDAH, which obviates the necessity of passing through the gallery for excited patients in order to reach the hospital ward, and enables the staff to complete a round of the institution without retracing their steps. This is also an advantage to visitors waiting on sick and recent cases. It is proposed to fit up part of the verandah as a bowling alley.

Similar arrangements have been adopted on the FEMALE SIDE. It will be noticed that the dayroom and corridor of F. 5 are placed to take advantage of the western exposure in so far as possible. Underneath this gallery is the accommodation for domestic servants, night nurses, matron's stores, and the dormitory for wet and dirty patients.

The HEATING of these new wings is an extension of the system previously adopted. It has not been the subject of objectionable remark, nor has it been followed by costly or disastrous consequences. Steam is delivered from the boilers at a pressure of 20lbs., which is reduced in transit to 5lbs. on the square inch. Some years ago the boiler power was in-

creased and a tunnel was formed between the boiler house and the kitchen. In this tunnel are conveyed the steam, water and gas pipes, which are therefore accessible at all times. To secure an even distribution of the heat the steam pipe (mostly 2in. diameter, cast-iron with rust joints) runs round the whole block behind the skirting of the outer walls. These tracks were designed in the following manner :—A continuous recess at the level of the floor was left by the masons when building. The roof of this recess was formed of an extra strong bond-timber 1½in. thick. The flooring boards go hard up to the masonry, and the recess between the lower front edge of the bond-timber and the upper edge of the flooring was rendered with a concave coating of cement. The pipe having been adjusted and tested, an open work cast-iron skirting, surmounted by a moulding of the same design as the skirting elsewhere, was screwed to the face of the bond-timber and dowelled into the floor. Thus the pipes are easily got at when desired, and are neither unsightly nor accessible to the patients. The large window space necessarily permits much loss of heat; and, as these corridors may be likened to a greenhouse, it was thought that a similar plan of equable distribution of the heat along the outer chilled walls would best be obtained by a continuous pipe. All these heating and cooking pipes return by the tunnel to the boiler house and are fitted with Royle's Syphonia Traps. These permit the air and water to escape and obviate the sounds of knocking and the disasters of bursting that have been complained of by the opponents of steam heating. An economy of fuel and water is also effected by Royle's return Steam Trap, which lifts the condensed water from the open drip pipes into the boiler.

The Ventilation is also designed on an original plan, and has been as successful as any natural (non-forced) system can be. Each room and each section of corridor has its own distinct and independent supply of fresh air and its own distinct and independent exhaust. This has been attained in the following manner :—First, *Inlet*—Between two flooring joists, in a suitable position, a channel was formed of polished cement. One end of this channel communicates with the open air by a valved grating. The other end is brought up to deliver the fresh air through a similar grating in the skirting. The valves in the inside gratings are all adjustable and removable so that the channels may be

cleansed thoroughly by water if necessary. Second, *Exhaust*—From the centre of the ceiling of each room or section of corridor, where an adjustable valved grating is placed, a 12in. square zinc tube was led to the ridge of the roof to terminate in an exhaust fixed ventilator. The action of this ventilator is assisted by the gas pendant from the ornamental grating in the ceiling; and, in the case of the principal rooms (over which the hot-water cisterns are placed), the exhaust tubes are led through the cistern chamber with the view of rarefying the contents of the tubes. It has been found in practice that this works very well except on still, cold, foggy nights, when the exhaust valves must be closed to prevent a downpour of raw air into the rooms or corridors not lighted by gas, or not having exhausts passing through the cistern chamber. There is an extra ventilator over the door of each room which can be opened if the outer air be too cold for direct admission. By this means warmed fresh air is drawn from the corridors. Dr. Findlay, late assistant medical officer here, favours us with the results of his investigations into the heating and ventilation, and his observations are appended, together with a sheet of drawings showing these arrangements in detail.

The construction of the Windows must also be described in connection with the ventilation. In order to obtain the full benefit of the sunshine, the proportionate window space was increased to what was believed to be the utmost limit of propriety. It now appears that the proportion of window to wall space in corridors is 1 to 13, and in the principal rooms 1 to 10. The sashes are designed with a deep bottom rail, and the soffit splayed upwards and inwards, so that a current of air can be introduced at the sash check, having a proper direction towards the ceiling. As each window in the corridors and dayrooms is fitted with a cushioned seat, this arrangement is specially valuable. In the principal rooms, where the windows have been carried up in pediments to the full height of the ceilings, the upper sash light is of small tinted panes hinged on the under rail to open inwards. This is moved by a gearing motion behind the architrave, and can only be put in action by the use of the attendant's key. These high fanlights, therefore, remain fixed at a suitable inclination in the windiest weather, irrespective of the interference of patients. The design of the window sashes is varied in the

intermediate corridor, the hospital corridor, and the principal rooms. In the first the panes are comparatively small, the sash being divided by two vertical and four horizontal astragals, giving fifteen panes each, $12 \times 12\frac{1}{2}$ inches. In the second there are one vertical and two horizontal astragals, giving six panes of strong plate glass, each $18\frac{1}{2} \times 22$ inches. In the third, under the tinted fanlights, there are one large horizontal pane and two large vertical panes of strong plate glass. These last measure 23×40 inches.

The Shutters generally slide up in one piece from boxes underneath the window-sills. This is the best system where it can be applied, as any desired amount of air and light can be admitted irrespective of the interference of patients. Where the fireproof flooring interfered with this design the sides of the window recesses were sufficiently splayed to allow of half the shutter folding back on each side, where it can be secured by a simple French casement lock.

The Doors are designed with ornamental pediments, in the frieze of which is the valved ventilator previously referred to. The hinges are constructed to come in with the mouldings of the architrave, which offers no sharp corners or obstacle to the door opening fully back to the wall. The lockplate is of polished ornamented brass and the inside handles are finished flush, where suicidal patients may be sleeping. In order to combine strength with the advantages of thin inner walls, the door posts were carried up from the floor sleepers to the ceiling joists before the brickwork was built.

No asylum Floor can be considered satisfactory unless it is thoroughly sound and water-tight. With this in view, the pitch-pine used for that purpose was purchased and dried at the asylum so soon as the contracts were settled. It was laid down with red-lead between each board and thoroughly cramped together under stringent supervision.

The Wall Spaces have been treated as variously as possible. In the intermediate corridors the lower part of the walls, to a height of six feet, are lined with moulded pitch-pine. The hospital corridors are fitted with a chair-belting and a picture moulding connecting the door caps forming a dado and frieze respectively. The wall space of the day-room between the chair-belting and the picture moulding is laid out in panels formed with Keene's cement mouldings and filled in with Japanese leather paper. The ceiling is coved

and panelled in ornamental squares. This treatment lends itself to rich decorative effects without extravagant cost. The dado of the dormitory is lined with ornamental glazed tiles, and is otherwise plainly finished. The lavatory and water-closets, together with the adjacent passage, are also lined with glazed tiles to a suitable height. In those rooms for cases of the gravest nature, the Keene's cement and joiner work is finished in quarter-circles, so that there may be no angles in which dirt or dust may accumulate. The facings of doorways and windows are rounded and finished flush with the cement, the joints being covered in by bands of half-round polished brass.

In addition to the Steam Heating, open Fireplaces are placed in the rooms and corridors. These are fitted with slow combustion grates, such as were originally introduced by Messrs. Barnards, Bishop, and Co. Rough-glazed tiled hearths are surrounded by Curb Fenders, under which the steam pipe is concealed as it passes round the building. The overmantels are of stained pine or mahogany, with mirrors and ornamental embossed tiles inserted as panels; or of panelled red sandstone jambs and lintels, sloped back in overlapped stonework.

The Painter Work has been executed entirely by the asylum artisans. In endeavouring, by the use of divers stains and varying wall papers and stencils, to give a bright domestic impression, sanitary principles were not lost sight of. But in such an establishment as this a sparing use of shiny paints and varnishes is preferable. The conductors and rhones exposed to weather in trying situations were painted to correspond with the stone-work, and the red sandstone was broken to powder and dusted on the wet paint. This makes a very enduring coating.

The Sanitary arrangements were subjected to the scrutiny of the engineer of the Dundee Sanitary Association. It was laid down as an absolute rule that no pipe was to be covered up behind plaster, or placed in any inaccessible position. Fixed iron ladders were placed in suitable cupboards, to give access at all times to the cisterns where water is stored or heated, and where pipes are numerous. These cisterns are under the control of the attendants, the water being rapidly and economically heated by a silent steam injector. When sufficiently hot the valves are closed, so that a great quantity of hot water is locally available at

all times of the day and night. As in other parts of the establishment, in order to economise the heat, non-conducting cement (composed of clay and jute waste) with slag wool is largely used to cover hot water pipes and cisterns. By thus placing it in the power of the attendants to create and retain a hot water supply, warm baths are ready at all hours of the day and night. The pipes, where visible, are coloured in accordance with their contents, whether steam, gas, hot or cold water.

The Fire Mains are provided with suitable hydrants on each staircase, the hose being kept lapped down (*not coiled*), ready for immediate use. A gauge registers the varying pressure on the main.

The extension of the Drainage System, which this new building entailed, has been carried out on lines formerly indicated. Where troublesome patients are likely to block up a drain from the water-closet, the soil pipe is led into a white glazed brick chamber, in which is a wire-work cage. Insoluble contents are removed daily by one of the gardeners. At each junction and bend a man-hole has been formed, permitting easy inspection. Where the main drain opens upon the farm a branched disconnecting chamber is placed. This gives facility for sending the sewage in any required direction.

The time did not seem ripe for the introduction of electricity, and the system of ventilation adopted appeared to lend itself to the employment of Gas. The supply is led first of all to the service room, where a T piece gives off branches to all the burners used in the new wing. Thus the attendant has absolute control over the lighting, and may have a brilliant flame, or, by means of a bye-pass, a small flicker, as may be desired. In the principal rooms the Wenham lamps have been found to act best, but small Bower lamps are used in the single rooms for quiet patients. Where patients are apt to be destructive Dr. Needham's plan has been adopted. The open flame burns in the wall, protected by very heavy plate-glass, and provided with an extract flue. Ordinary burners have the tap so formed that it shuts itself automatically should it work loose.

The Furnishings have been selected with a view to domestic comfort and artistic effects. The use of Fitments, as recommended by Colonel Edis, F.R.I.B.A., has been found convenient and appropriate. For instance, the recesses of the

windows in the dormitories have been filled in with low cupboards of dark mahogany, and surmounted by ferneries and aquaria. Each bed is hung with French dimity curtains, giving a quasi-privacy to the occupant, and so on.

It is, of course, quite impossible to complete a work of this magnitude without regrets. The concrete stairs leading to the verandah are already dangerously slippery, and the want of an additional room in corridor M. 5 is sometimes felt. On the whole, however, the design may be safely recommended as compassing the wants of this asylum. It is a comfortable, healthy hospital for the patients, and it is worked with facility and pleasure by the staff.

In conclusion, it may be added that this extension set free apartments in the central block for stores, as shown on the plan. Suitable parlours for the attendants' and nurses' exclusive use have also been formed in the neighbourhood of galleries M. 3 and F. 3. The old chapel has also been converted into a dining-room, with service-room and still-room attached, so that the value of these alterations must be taken into account in estimating the total cost. Exclusive of such undertakings, the money paid to the contractors amounted to £6,313. The accounts for furnishings, painting, etc., are not yet completed.

It still remains to add a larger recreation-room and a chapel to the main asylum. When that is done it may be considered as fully equipped for its work, and efficient as a central hospital for the treatment of the acute, infirm, and troublesome classes of the insane, while milder cases are relegated to such separate homes as Kincarrathie.

Observations on the Ventilation and Heating. By Dr. Findlay.

M. 5 Dayroom (new building) contains about 5,636 cub. ft., after making deductions for furniture, etc. The floor area is 484 sq. ft., and the window area 144 sq. ft. The average heat in the month of November was fairly constant at 60° to 62° Fah. The inlet for fresh air is protected by a grating, 14in. × 7in., and the exhaust shaft measures 12in. × 12in. The smoke test showed a good current of air when the windows and doors were closed.

M. 5 Dormitory has a cubic capacity of 6,000 ft., after deductions for furniture, etc. It contains five beds, giving

1,200 cub. ft. per bed, with a floor space for each of 100 sq. ft. The window area is 144 sq. ft. The temperature was maintained at 60° during the night, when the minimum temperature of the outer air was 41° Fah. In this room the inlet shaft opens by a grating, 14in. × 14in., in the middle of the floor, otherwise the ventilating arrangements are the same as in the dayroom. The chemical examination of the air showed that the carbonic acid measured ·586 per thousand cubic feet at 11 p.m. (temp. 62°), and ·617 per thousand at 5.30 a.m. (temp. 62°). Relative humidity 66 (saturation being 100). The smoke test showed that the ventilating apparatus was working efficiently.

Single Rooms.—The north cubicle contains, after the usual deductions, 850 cub. ft., with a floor area of 82·5 sq. ft. The south cubicle similarly contains 950 cub. ft., with a floor space of 100 sq. ft. These showed similar results to those obtained in the larger rooms. Single rooms opening off gallery M. 5 measure as follows:—

	Cub. ft.		Sq. ft.
Parlour	1,509 ...	floor space ...	133
White room ...	1,410 ...	floor space ...	130

Those opening off the intermediate corridor —

Strong room ...	1,555 ...	floor space ...	136
— ...	1,530 ...	floor space ...	137

Window area in all these single rooms 19

M. 4 Dormitory (old building), ventilated by disused hot air flue and revolving Archemedian ventilator, contains four beds. After the usual deductions there is a cubic capacity of 3,068 ft.—that is, 767 cub. ft. per patient, with a floor space of 66·5 sq. ft. The window area is 19 sq. ft. In this room the amount of carbonic acid in the air at 11 p.m. was ·703 per thousand cubic feet (temp. 57°), and at 5.30 a.m. it stood at ·903 per thousand (temp. 61°). At the same time the average quantity of carbonic acid in the external air was found to be ·393 per thousand cubic feet.

In the new wing sterilized glass plates, on which had been poured a film of Koch's sterilized peptone beef jelly, were exposed on many different occasions on the floor of M. 5 dormitory and day-room for two hours, from 5.30 to 7.30 p.m. The plates were then placed in a moist chamber, and incubated for 5 to 6 days, when they were examined. On

the male side it was found that about ten colonies of micro-organisms on the average had formed on every square inch of jelly thus exposed. Of these there was an average of one mould on each square inch, generally Pencillium glaucum; in two cases it was Aspergillus nigrescens; about four colonies per square inch of pink Torula, and the same of Bacterium termo. A few colonies of Bacillus subtilis were found. The rest were Micrococci, such as is generally found in pus when examined under the microscope. On the observations made on the female side the average number of colonies per square inch was six. The various kinds were similar to those found on the male side, except that there was a marked absence of colonies of pink Torula. This may be explained by the presence of a paralytic case suffering from bed-sore on the male side.

Table showing Results of Observations of Ventilation and Heating, by Dr. Findlay.

	Name of room and locality.	Cubic capacity after deductions.	Floor area in square feet.	Cubic capacity per person.	Floor area per person.	Average Results.				
						Time of observation.	Carbonic acid per thousand.	Temperature of room.	Temperature of outer air.	Carbonic acid in outer air.
New Building.	M. 5 dayroom ...	5,636	484	469	43					
	M. 5 dormitory with five beds	6,000	500	1,200	100	11 p.m. 5.30a.m.	·586 ·617	62 deg. 62 deg.	41 dg.	·393
	M. 5 N. cubicule	850	82							
	M. 5 S. cubicule	950	100							
	M. 5 single room	1,509	133							
	M. 5 single room	1,410	130							
	Strong room Int.	1,555	136							
Old Buildg.	M. 4 dormitory with four beds	3,068	265	767	66	11 p.m. 5.30a.m.	·703 ·903	57 deg. 61 deg.	41 dg.	·393
	M. 5 single rooms	810	80							
	M. 1 single rooms	850	80							

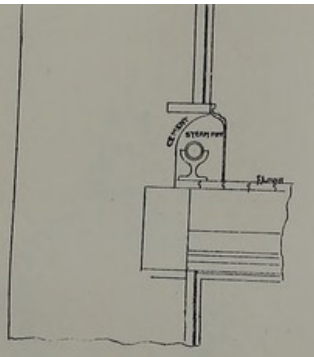
JAMES MURRAY'S ROYAL ASYLUM.

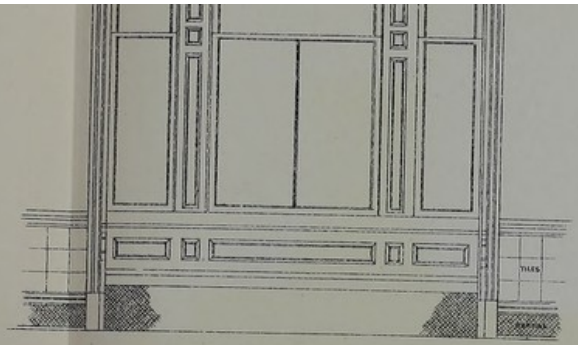
Table showing Accommodation for Patients, Attendants, and Servants.

Classification.	Gallery No.	Male.								Female.								Arrangement of patients by day.	
		Single rooms.		Private rooms.		Dormitories.		Total.		Single rooms.		Private rooms.		Dormitories.		Total.			
		Pat.	Att.	Pat.	Att.	Pat.	Att.	Pat.	Att.	Pat.	Att.	Pat.	Att.	Pat.	Att.	Pat.	Att.	M.	F.
Convalescent	1	8	1	1	1	0	0	9	2	9	1	1	1	0	0	10	2	14	14
Chronic	2	9	1	1	1	3	1	13	3	9	1	1	1	3	1	13	3	14	15
Excited — Sleeping Gallery ...	3	10	1	0	0	0	0	10	1	10	1	0	0	0	0	10	1		
Excited — Day Gallery	4	0	0	0	0	12	4	12	4	0	0	0	0	12	4	12	4	20	21
Excited — Intermediate	Int.	3	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0		
Hospital — Day Gallery	5	4	1	?	0	5	0	9	1	5	1	?	0	5	0	10	1	12	12
Hospital — Sleeping Gallery ...	6	0	1	0	0	4	2	4	3	0	1	0	0	4	2	4	3	0	0
Totals	...	34	5	2	2	24	7	60	14	36	5	2	2	24	7	62	14	60	62

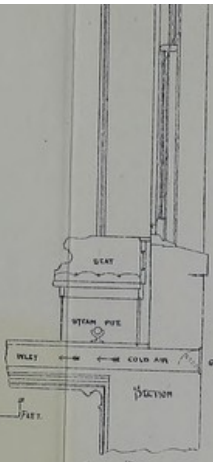
OTHERWISE.

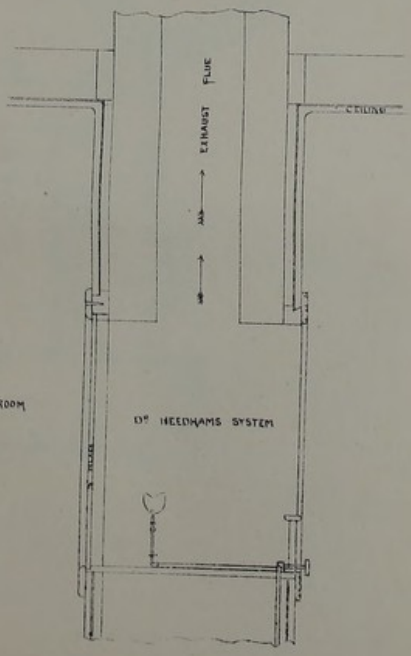
Patients ... Single rooms, 70; private rooms, 4; dormitories, 48; total, 122.
Attendants... ,, 10; ,, 4; ,, 14; ,, 28.
Servants ... ,, 2; ,, 0; ,, 10; ,, 12.
Add north and south private rooms—Patients, four beds; attendant, one bed.





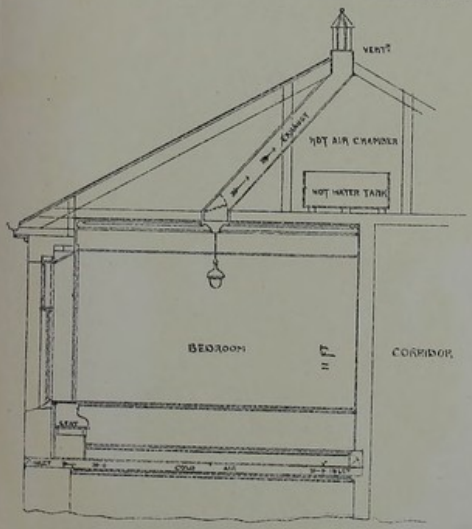
WINDOW IN DAY-ROOM
ELEVATION





STRAW ROOM

Dr HEEDHAMS SYSTEM



SECTION THRO' SINGLE ROOMS

COMBINATION - TAP.