St. Marylebone Infirmary, Notting Hill, London, W. : description of the hospital for the sick poor of this parish / by H. Saxon Snell.

St. Marylebone Infirmary

NOTTING HILL, LONDON, W.

DESCRIPTION OF THE HOSPITAL FOR THE SICK POOR OF THIS PARISH

BY

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ILLUSTRATED WITH TWO PLATES AND A WOODCUT

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H. Saxon Snell. del.

Preface.

SINCE the opening of this Establishment by H.R.H. The Prince of Wales, many applications have been made to the Architects for detailed information as to various points in the design construction and management of the building, and it has been found difficult to comply in all cases with the requests, except at great inconvenience. Consequently, it has been decided to publish the following short description, embracing the information generally asked for by the correspondence referred to, and stating where more detailed particulars may be obtained.

HOSPITAL FOR THE SICK POOR OF THE PARISH OF ST. MARYLEBONE.

THIS BUILDING has been erected for the accommodation of 760 Sick Poor of the Parish of St. Marylebone, and was opened by His Royal Highness THE PRINCE OF WALES on the 29th June 1881. The foundation stone was laid, July 7th 1879, by Edmund Boulnois, Esq., M.A., J.P., Chairman of the St. Marylebone Board of Guardians.

The land upon which the Nurses' Home stands, and the road between it and the Main Building, did not originally form part of the site, but have since been purchased. This additional Building was opened by Her Royal Highness THE PRINCESS CHRISTIAN, July 22nd 1884.

The Buildings were designed and their erection superintended by the Guardians' Architects, Messrs. H. Saxon Snell and Son. The builders were Messrs. Wall Brothers, and the sub-contractors for sanitary, heating, cooking, and gas works, the machinery and furnaces, and electric bells, Messrs. Benham & Sons, Berry & Sons, Potter & Sons, Bradford & Co., Bolding & Sons, Mr. Edward Howard,

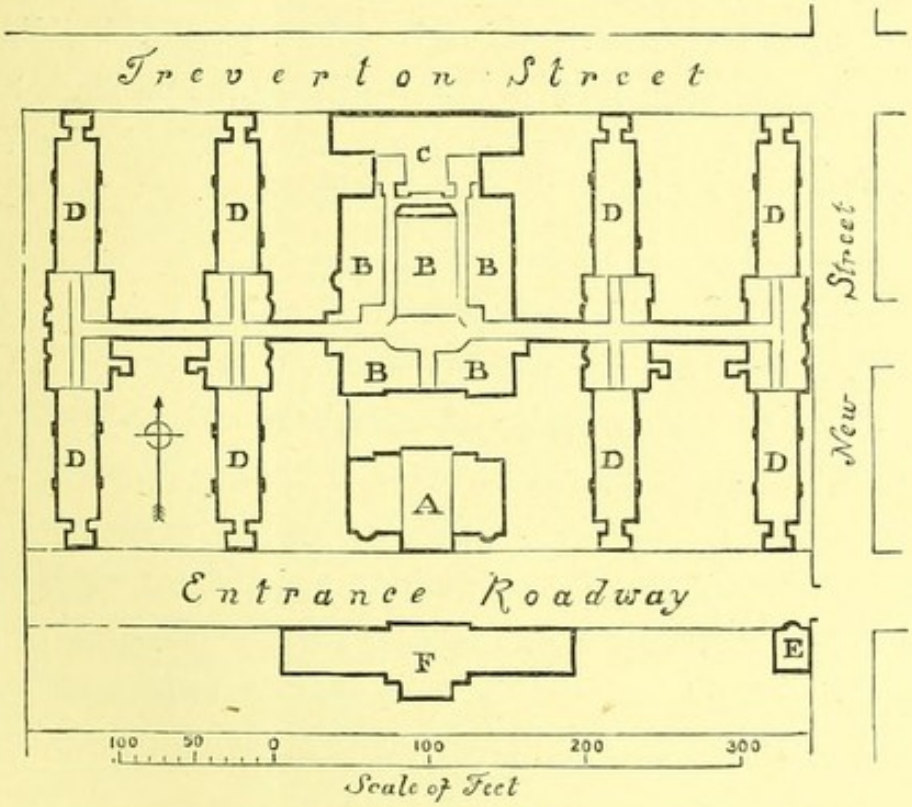
and Mr. Brown. The administration of the building is under the control of Mr. John R. Lunn, F.R.C.S., Medical Superintendent; Miss Vincent is Lady Superintendent; Mr. Herbert Larder, Assistant Medical Officer; Mr. John Merchant, Steward; and Mr. T. A. Clifford, Dispenser, all acting under the supervision of a Committee of the Guardian Board, of which Mr. Joseph Bedford is the Clerk.

The following description of the building and the accompanying block plan are extracted from a report prepared by the Architects, but more detailed particulars, with plans and views of the building, are fully illustrated in the works entitled "Charitable and Parochial Establishments," written by Mr. H. Saxon Snell, and published by Messrs. Batsford; also in "Hospital Construction and Management," written by Dr. F. J. Mouat and Mr. H. Saxon Snell, and published by Messrs. J. & A. Churchill.

GENERAL ARRANGEMENT.

The general arrangement of the establishment is shown upon the accompanying plan. The roadway between the main building and the Nurses' Home was originally a public road, but has lately been enclosed, and entrance gates and a porter's lodge (*see* E on plan) erected facing the end of Rackham Street. The block (A), forming the entrance to the main building, contains the residences of the Medical Superintendent, the Lady Superintendent, and the Assistant Medical Officer, and over the arched carriage way in the centre, is a Chapel capable of accommodating

about 250 people. Immediately opposite this entrance gateway is a block of buildings, standing centrally on the site, and containing (B) the Administrative Offices, and at the rear (C) the Engineer's Shops and the Furnace and Boiler Rooms thereto. Adjacent is a large tower with a furnace chimney in the centre, round which winds a staircase leading to the Laundry, Washhouse and Drying Ground, situated on the upper storeys. The Mortuary and Engineer's House are respectively situated right and left of this rear building. The Entrance Hall and the Reception Wards for both sexes, are placed in front of the Administrative Offices, and from this portion of the building,



PLAN OF SITE.

running right and left, are two corridors, 10 ft. wide, leading on either side to two double pavilions (D) for the reception

of Male and Female Sick respectively. All these double pavilions are three storeys in height, and are similarly arranged; they consist on each floor, of two wards, each 84 ft. long, 24 ft. wide and 13 ft. high, with bath room, w.c.'s, and lavatories leading out of them at the extreme ends, but cut off as it were, by a narrow lobby having windows for cross-ventilation on either side. All these offices are kept warmed to a higher temperature than that of the wards, not only with a view to the better comfort of the patients, but to induce a current of air from the ward through the ventilated lobbies, rather than in a contrary direction.

In the central portion of each of these pavilion buildings there are on each floor a Day Room for the patients, two Nurses' Duty Rooms, and three small Wards for the separation of special cases, also the staircase, both the steps and landing of which are supported by brickwork vaulting, thus rendering these parts of the building perfectly fireproof. The well-holes, round which the stairs wind, are enclosed by brick walls, and contain the hydraulic lifts which ascend from the ground to the upper floors. These lifts are not worked by chains but by hollow iron rams, which descend into wells to a depth corresponding to the height to which the cages are capable of being lifted. This description of hydraulic lift is perfectly free from the dangers that have been found to attend the use of the ordinary hydraulic chain lifts.

The Nurses' Home (F) is used as a training school for nurses, and is interesting as being the first of its kind attached to a Poor Law Infirmary, and also that it is

carried on under the direction of the "Nightingale" as well as the Infirmary Committee. The building is three storeys in height, and the accommodation on the various floors consists of 40 rooms, each 14 ft. long and 10 ft. wide, but one of them on the first floor is fitted up as a kitchen, and will be found useful in cases of sickness. At the ends of the corridors giving access to the various rooms, bath rooms are provided, and water-closets and slop sinks are placed in the corner towers, but they are cut off from connection with the building by means of cross-ventilated lobbies. Immediately fronting the entrance to the building, and leading out of the vestibule, is a class room, 33 ft. long and 25 ft. wide, and on either side are the apartments of the superintendent. Each of the nurses' rooms has a fire-place, and in addition, the corridors can be warmed by hot-water pipes which run along one of the side walls.

VENTILATION.

The ventilation of the Wards is effected by purely natural means, and is dependent therefore, upon the very simple and well-known fact that *(cæteris paribus)* heated air will always rise to a point higher than that of the colder air surrounding it, and that in its passage it will carry away the noxious gases and other deleterious matters which would otherwise, by reason of their greater density, remain stationary or descend to the floor level. If any pair of beds be moved forward into the room it will be seen that, next the wall there is a skirting box with a panelled front, and that the panels immediately under

the heads of the beds are formed of perforated zinc. This box is easily lifted out of its position for the purpose of cleaning, but when in its place it covers an aperture in the floor from which a ventilating pipe descends in a slanting direction to the outside of the wall, and through this pipe the external fresh air is admitted, first into the skirting box and then out of it through the perforated zinc panels (situated under the heads of the beds) into the room. Looking upwards, it will be found that the ceiling directly over each pair of beds has a perforated zinc panel running the whole width of the ward, and, on lifting a portion of this panel next the wall, it will be seen that the perforated zinc covers a channel the full depth (12 inches) of the floor, and that this channel communicates with a large shaft running up the wall like an ordinary chimney flue. In the case of the top floors, the arrangements are similar, but the air channel runs horizontally down the centre of the ward. Now returning to the skirting box, it will be obvious that a greater part of the fresh air passing into the room through the perforated front of this box, and immediately under the head of the bed, would be drawn upwards, and passing through the perforated zinc of the ceiling panel, be conveyed through the upright flue and find an exit at its termination. It should be observed that the air in thus passing upwards from the skirting box to the ceiling, must encircle as it were, the space surrounding the head of the sick patient, and carry away with it his or her foul emanations. Thus therefore, each pair of beds is provided with its own separate system of ventilation, while the general ventilation of the wards is supplemented

by the central stoves, described below, and also by upcast shafts in the side walls.

FIRES.

The fire-grates standing in the centres of the wards are the invention of the Author. They consist of open fires at front and back, and the flues from them descend and pass right and left under the floors to the outer walls in which they are continued to the chimney shafts above the roof. The novelty of their construction however, consists of the sides back and top of the fires, being surrounded by wrought iron casing containing water, and at the sides of the stove there are two upright coils of pipes, through which this water, when heated by the fires, circulates. Thus the whole products of combustion are utilized for heating purposes, and it will be seen that as the water cannot attain a temperature higher than 212° Fahr., the iron over which the air passes cannot, as is the case with the ordinary air body stoves, be so heated as to burn the air impinging against its surface. Another advantage offered by this plan of heating is that a vase on the top of the stove contains water which (when it is expanded by the heat of the fire) rises from the lower part, and, that in consequence of this water being warmed, a slight vapour arises from the vase, which serves to moisten the air of the wards. It should not be forgotten also to add, that a channel runs under the floor to each side wall, and communicates with the outer air, thus forming a passage way for fresh air to pass from the outside round the stove and the heated coils of pipes into the room. These fire-places,

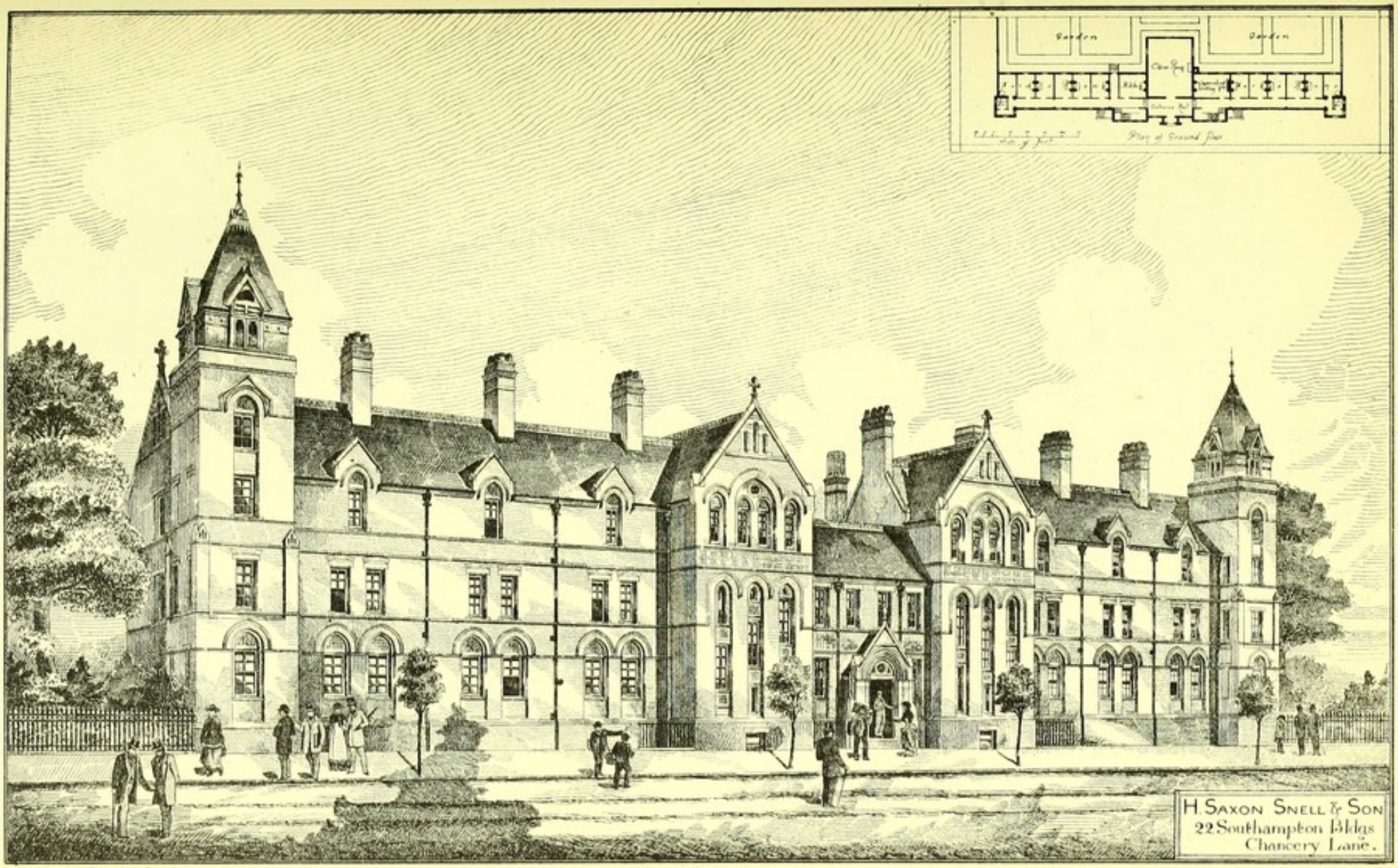
known by the name of "Thermhydric Grates," are manufactured by Messrs. Potter & Sons, 44 South Molton Street, London, W.

LIGHTING.

The whole of the building is lighted by gas, and the burners in the wards are placed under inverted enamelled iron basins, from the upper part of which pipes 3 inches diameter are carried along the ventilating ceiling channels into upright flues in the side walls, and thus the whole of the products of combustion are carried into the outer air.

WATER SUPPLY.

The building is supplied by water from an artesian well, having iron cylinders 6 feet diameter sunk firmly into the upper stratum of London clay so as to stop out all surface water, and continued downwards with a brick shaft 5 feet diameter to a depth of 235 feet below the surface; from thence cast-iron pipes 12 inches in diameter are carried down to the level of the chalk, found at a depth of 289 feet below the surface, and then a bore hole is sunk to a further depth of 213 feet: the total depth of this well is therefore 502 feet. Provision is made that in case of fire or during the necessary periodical stoppage of the well pumps for repairs, the supply can be supplemented from a pipe connected with the mains of the Grand Junction Waterworks Company, and these pipes are continued to all the principal staircases and to other parts of



J. Akerman, Photo-lith. London.

NURSES HOME · ST MARYLEBONE INFIRMARY.

the buildings where hydrants are placed for protection from fire. The upper part of the large main tower contains cisterns for the storage of from two to three days' supply. This tower also forms a chimney shaft for conveying away the smoke from the furnaces of the steam boilers, cooking apparatus, &c. Fire mains are carried through every part of the building, and hydrants are placed on each landing of the staircases of the pavilion wards, and also at various other parts of the building.

DRAINAGE.

The drainage of the building is effected by means of glazed earthenware socketted pipes, laid to a fall of not less than 1½ inches to 10 feet, and carried into the newly constructed sewer running down the centre of the roadway fronting the building. Disconnecting chambers and manholes are provided at convenient distances. All soil pipes and drains generally are well ventilated.

NUMBERS AND AREAS.

The number of sick for which accommodation is provided is 744.

The number of resident officers and servants employed by the Institution is 86.

The number of non-resident officers employed, including washerwomen, scrubbers, &c., is 82.

The total number of patients and officers is therefore 912.

The area of the site is 196,416 superficial feet, or 4 acres 8 perches = $4\frac{1}{20}$ acres.

The area covered by buildings is 68,250 superficial feet, or 1 acre 2 roods 1 perch = $1\frac{1}{2}$ acres nearly.

The area of gardens, yards, roads, &c. = 128,166 superficial feet, or 2 acres 3 roods 31 perches = about one-third of the whole site.

COST.

The cost of the buildings, including the Nurses' Home lately erected, and all sanitary appliances fittings and fixtures of every description, also gas water and blinds, and professional fees, amounted to £130,000, or about £175 per bed; the land, including the additional ground acquired for the Nurses' Home, Lodge, &c., cost £13,000; so that the total expenditure upon both land and buildings has been at the rate of about £193 per bed.

This building has been allowed by some of the most eminent authorities to be "the most perfect of its kind," and it may therefore, be interesting to compare the above figures with the following table shewing the corresponding cost of some of the principal Hospitals in this Kingdom and abroad; but in making a comparison of the relative cost of buildings, as shewn by this summary, it should always be observed what are the dates of erection, because the prices of building materials and labor, in all cases, until the year 1880, advanced in every country 20 to 30 per cent. within the preceding 20 or 30 years. The buildings of the Herbert Hospital for example, cost twenty

years ago, £330 per bed, but if erected now, they would, in all probability cost between £400 and £450 per bed. Again, the Berlin Civil Hospital authorities state, that the average rise of prices during the six years their building took to erect was 54 per cent.

TABLE SHEWING THE COST OF VARIOUS HOSPITALS ERECTED ON THE ISOLATED PAVILION PRINCIPLE.

NAME OF HOSPITAL.	Date of Erection.	Cost of Buildings per Bed.	Cost of Land and Buildings per Bed.
		£	£
Hôtel Dieu	1866-76	1,215	2,487
Johns Hopkins, U.S.A. ...	1875	866	—
St. Thomas	1868-71	777	969
Genoa *	—	654	794
Edinburgh †	1870-79	477	587
Lariboisière	1853	436	644
Menilmontant, Paris	1872-78	419	506
Berlin (Civil)	1868-74	351	—
Halle*	1876	333	374
Herbert (Military)	1860-4	330	340
Leeds	1864-69	298	326
Blackburn	1858-65	286	307

* Not completed. † Not entirely a new building.