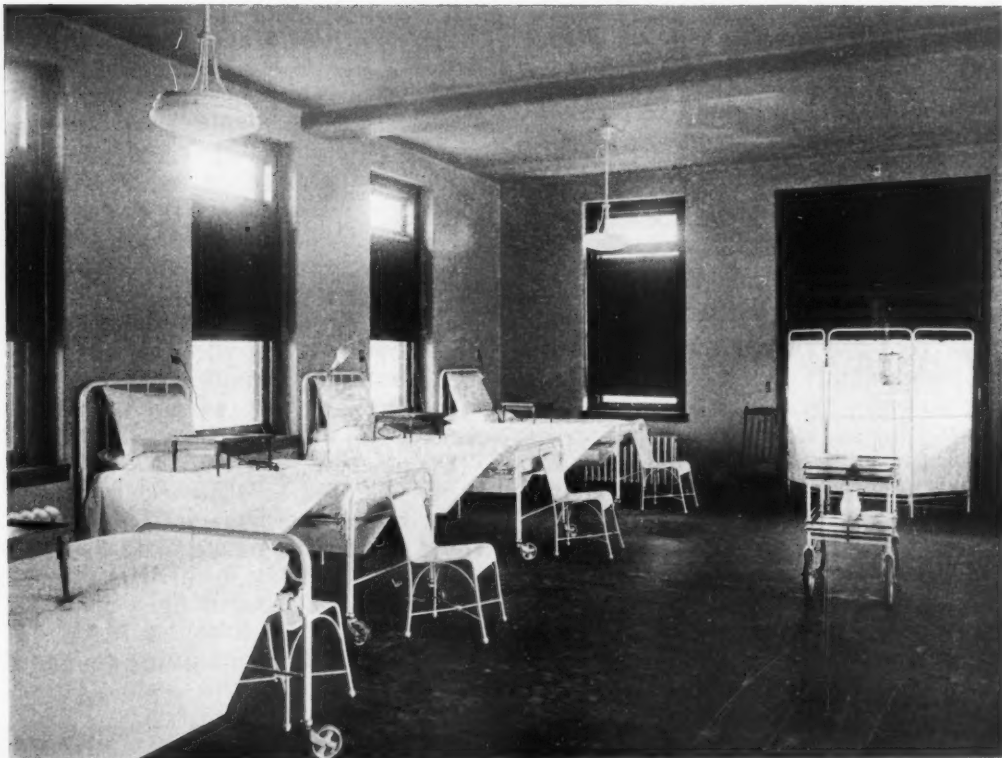


THE AMERICAN ARCHITECT

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WEDNESDAY, AUGUST 23, 1916

NUMBER 2122



PART OF AN EIGHT-BED WARD

COLUMBIA HOSPITAL FOR WOMEN, WASHINGTON, D. C.

MR. NATHAN C. WYETH, *Architect*

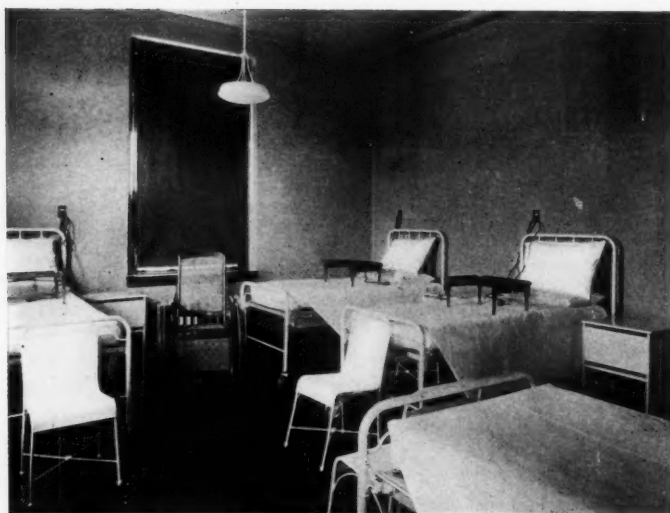
By MECHLIN & STARR, Architectural Engineers, Washington, D. C.

IN the spring of 1913 it was determined to build a modern fireproof hospital building to replace the present main building of the Columbia Hospital for Women and Lying-In Asylum at Washington, D. C., the construction to be under the direction and supervision of Elliott Woods, superintendent United States capitol building and grounds. In accordance with this conclusion, plans were prepared by Nathan C. Wyeth, architect,

the engineering features and mechanical equipment being designed by the authors.

The proposed building was to be devoted entirely to maternity cases and to the treatment of diseases peculiar to women. It was to accommodate approximately 130 patients, as well as administration and service portions, which would be of sufficient capacity to permit future additions of such size as to double the number of patients. The contemplated build-

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FOUR-BED WARD

ing was to have two distinct divisions, gynecological and obstetrical, and each service was to provide for both free and pay patients, as well as have separate quarters for white and colored patients. Provision was also to be made for a complete dispensary, but separate from the main service of the hospital. The building was to be heated by its own plant, but electric current was to be purchased.

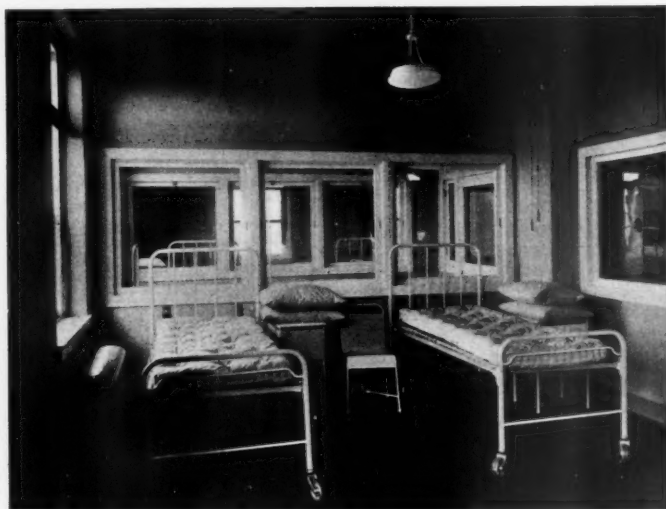
It was found feasible, by moving a few small wooden structures to the rear, to locate the new building on the center of the lot without interfering with the operation of the present plant, and to face the building to the south, the desirable exposure. The design finally selected shows the main portion of the building a rectangle 176 ft. long by 44 ft. wide, running east and west, with Y-shaped wings at each end of the front, each wing being 31 by 42 ft. A glance at the elevation will show that the surface of the lot was above the sidewalk level, the terrace ranging from 3 to 10 ft. The building is so located, however, that patients can be received directly at the first

floor level on the west, while at the same time a separate dispensary entrance is provided at street level on the east. By providing areaways and gently sloping banks away from them, ample light is obtained in the basement rooms.

The accompanying plans will best describe the arrangement of rooms. In the east wing of the basement is the dispensary department, where are also the hospital pharmacy and engineer's quarters. In the center of the basement are the boiler and machinery rooms, main switchboard, and laundry, while at the west are serv-

ants' rooms, records, patients' clothing, and autopsy and disinfecting rooms. Separate entrance is provided near the service elevator for tradesmen and employees.

In general, the east wing of the building is devoted to obstetrical service and the west to gynecological. The first floor is for colored free patients, the second for white free, while the third is for private patients. The fourth floor contains the operating and delivery suites, and the fifth the kitchens and dining rooms. With



RECOVERY ROOM

separate elevators and stairways at each end of the building, this arrangement gives the desired relation of departments.

The wards are of 8-, 4-, and 2-bed capacity—that is, comparatively small rather than large. The main 8-bed wards are, however, located in pairs in the form of a Y, thus insuring a maximum amount of sunlight, with a central location for the attending nurse. Each wing is provided with a quiet or isolation room for extreme cases, as well as a 2- or 4-bed ward, and the necessary utility, toilet, and linen rooms and serving pantry. A room for examinations and cystoscopic work is also provided on each ward floor. On the obstetrical side, on each of the first, second, and third floors, is a large nursery and a baby's bath.

The administration rooms, consisting of offices, information booth, and reception, consultation, board of directors', and medical staff's rooms, are centrally located near the front entrance. The wings of the second floor are practically a duplicate of the first floor. In the center are the resident staff and x-ray suites. On the private room floor are the office, living quarters, and supply room of the superintendent of nurses, and also a retiring room for special nurses.

The fourth floor is the operating floor of the hospital, being divided into the maternity and surgical services. The former consists of three delivery rooms, separated by sterilizing room and obstetricians' washup. There are also con-



SURGEONS' WASHUP AND SHOWER

nected with this service a 4-bed ward for first stages of labor, an obstetricians' waiting room, and nurses' washup.

The surgical portion of this floor consists of a comparatively large operating room and a smaller one, with a sterilizing room between the two. Directly across the corridor is the anesthetizing room, with the nurses' washup on one side, and head operating nurse's office and supply room, and surgeons' washup and waiting rooms on the other. Of special interest in connection with the surgical suite are two 4-bed and one single-bed recovery rooms, which are separated from each other and the nurse's station by glass partitions.

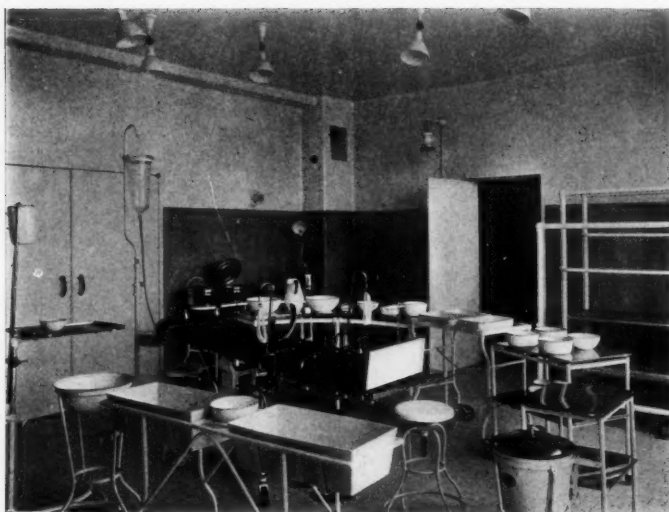
The fifth floor is given up to the kitchens and dining rooms. The main kitchen serves all dining rooms on the same floor and all pantries on lower floors by means of electric dumbwaiters, except the third floor private room pantry, which is served by dumbwaiters from the special diet kitchen. On the roof is the air washing and fan room and the roof garden.

The construction of the building is fire-proof, being of steel frame, with terra cotta floors and partitions and brick walls. Besides elevators at each end, there are separate fireproof stairways. The exterior is of tapestry brick, with limestone trimmings. The architectural features of the exterior are an outgrowth of the plan rather than any attempt at ornamental treatment. The elevation is simple in design and interest-



DELIVERY ROOM

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MAIN OPERATING ROOM

Marble wainscoting at right used as "hot panels."

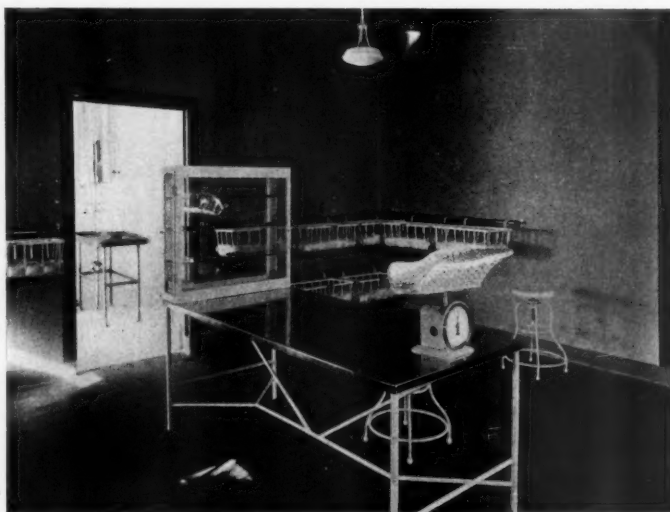
ing in detail, the brick being a golden color, with the plain surfaces broken by patternwork. An added touch of color is given by polychrome terra cotta inserts over the fifth floor windows, while the warm brown-colored roof tile and the Italian treatment of the roof garden as a loggia add much to the interest of the elevation.

The interior trim of the building is wood in general, chestnut where finished natural and birch where painted, but flush metal trim is used in wards, utility rooms, operating and delivery suites, and stairways. The plaster walls in general are painted in a warm gray-green color, the entire operating floor and the toilet and utility rooms throughout being painted white enamel over cotton. The floors of all wards and private rooms are of heavy battleship linoleum, while the operating, delivery, utility, and toilet rooms are tile, and the corridors are terrazzo. With linoleum floor the coved bases are of Keene cement, with tile floor they are of tile, and with terrazzo

floor they are homogeneous with the floor, but everywhere the bases are coved and flush with both the finished plaster and floor. In general, sharp angles and dirt ledges are avoided as much as possible in the detail of the interior finish.

The building is heated by a one-pipe up-feed low-pressure steam system, with air removal. Two 137-hp. all-steel water tube boilers furnish steam for the building, being run at seventy pounds pressure for sterilizers, reduced to twenty pounds for the laundry and kitchen and five pounds for heating.

In general, the radiators are exposed, of plain pattern, with wide spaces between sections, thus increasing not only the efficiency of the radiators, but the facility of cleaning. Radiators are hand-controlled, except in rooms where forced ventilation is provided, and there they are thermostatically controlled. In the main operating room, however, the method of hot panel heating is employed, radiators being placed behind certain panels of the marble wainscoting, thereby making the



NURSERY

THE AMERICAN ARCHITECT

marble the heat medium. By this method the difficulty of keeping exposed radiators clean is obviated. This source of heat is designed to maintain a temperature in the room of 75 deg. and is under thermo-



PRIVATE ROOM EQUIPMENT

static control, the thermostat being in the operating room. In order to maintain an operating temperature of 85 deg., ventilating air is introduced into the room at a temperature of 90 to 95 deg. The vitiated air of the room is, in turn, exhausted by fan. The fresh air for the operating, anesthetizing and delivery rooms is taken in at the northwest corner of the roof and forced by a multiblade fan through tempering coils, washer, and reheater located in the penthouse on the roof. This apparatus is under complete thermostatic control, so designed as to maintain a high percentage of moisture in the rooms supplied. A considerable range of relative humidity is obtainable with this apparatus, but the author's investigation would seem to indicate that a relatively high percentage of moisture in operating and anesthetic rooms is desirable. The supply and exhaust fans and air washer are started and stopped by remote control push-button switches located in the head operating nurse's office.

Fans exhaust the air from all toilet and utility rooms and kitchens, while wards are cross ventilated through transoms. Every room and corridor in the building has outside windows. The autopsy room is ventilated downward through the ped-

estal of the autopsy table and exhausted through a duct by a fan into the stack.

The water supply for the building is taken from either the high or low-pressure city distribution system. The low-pressure system is boosted by a centrifugal pump, with automatic starter and pressure regulator, intended for use only in case of a breakdown of the high-pressure service. The hot water supply is obtained from a heater located in the boiler room, heated by live steam under thermostatic control, which thermostat maintains a temperature of 180 deg. There is also connected to this heater an incinerator, by which means any heat generated by the destruction of waste is utilized in heating the water. The hot water distribution system is what is known as the down-feed circulating, the main supply being carried at once to the roof space, where it is distributed, the system being so designed that hot water can be obtained from any fixture in the building practically instantaneously.

The entire plumbing system was designed with a view to permanency and simplicity, all concealed piping being wrought-iron and exposed piping nickel-plated brass, there being no lead pipe or connections whatever. In the selection

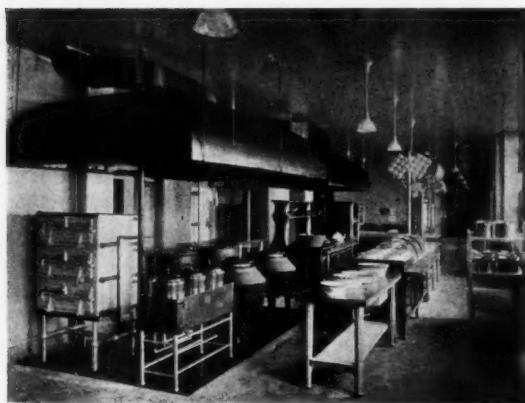


PATHOLOGICAL LABORATORY

and design of the fixtures and brasswork, most of which was specially designed for this building, particular attention was given to the ease with which the fixtures could be kept clean and their durability.

THE AMERICAN ARCHITECT

The exterior of all brasswork was made particularly smooth, eliminating as far as possible all sharp edges and corners where dirt might collect. A few special features which may be mentioned in this connection



MAIN KITCHEN

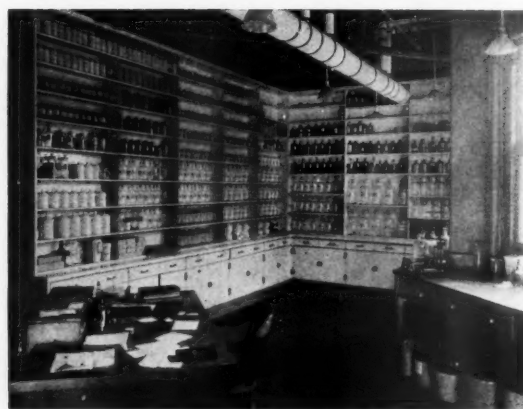
are: stop valves were provided for all fixtures, with smooth bonnets similar to those on the faucets; all bath tubs have standing, removable celluloid wastes, which can be easily cleaned, and also prevent the washing back into the tub of any dirt from concealed piping, which is possible with combination waste and overflow; in the surgeons' lavatory the waste is cast integral with the lavatory, and is large enough to be easily wiped out by removing the perforated china cover; all fixtures are equipped with a special non-siphoning trap so designed that removing the cover exposes the entire trap for cleaning; operating and delivery rooms are provided with flushing floor drains, supplied with both hot and cold water and polished brass air-tight covers with ground joints.

The electric service is obtained from the public service corporation, the current being three-wire, 220-110-volt alternating, the 110-volt being used for lighting and the 220-volt for all motors. In general, the lighting circuits are distributed from two panels on each floor, while all fixtures are controlled by local wall switches, except a sufficient number in the halls and corridors for all-night service, which are directly controlled at the main

basement switchboard. The light fixtures are of the inverted bowl type, the principal illumination being indirect, while the translucent glass bowl is of pleasing appearance. The lighting was so designed that the following average intensities 3 ft. above the floor are obtained:

Wards	.98 foot-candles (general).
Wards	.30 foot-candles (night).
Corridors	.53 foot-candles.
Utility rooms...	8.25 foot-candles.
Private rooms...	1.7 foot-candles, on bureau.
Private rooms...	.14 foot-candles, on pillow.
Private baths...	5. foot-candles.
Operating table...	22.5 foot-candles, field unobstructed.
Operating table...	17.4 foot-candles, field obstructed by
Delivery room...	21.7 foot-candles. [operator's head.

At the head of every bed is a wall receptacle for either small night lamp or high intensity examination standard. All private rooms are supplied with a special reading lamp clamped to the head of the bed. In the operating rooms eight single lamp fixtures with opaque reflectors are located on the ceiling in the form of an ellipse 7 by 12 ft. around the operating table. The axis of each fixture is inclined toward the center of the operating table, thus giving a high illumination of the field of operation regardless of the position of the operator, and eliminating the objectionable heating and possible infection



PHARMACY

from dirt falling from any fixture over the patient.

Large emergency gas lamps are located in each operating and delivery room, and small jets in all corridors, thus providing sufficient illumination to carry on the

THE AMERICAN ARCHITECT

work of the hospital during a temporary breakdown of the electric service.

The 220-volt power service is distributed from the main switchboard to a complete laundry, with individual motor drive, three elevators (two patient and one service), six automatic push-button dumbwaiters, ammonia compressor and brine circulating pump of refrigerating plant, fan and kitchen motors, and transformers for low voltage nurses' call system.

The nurses' call system is supplied with 10-volt current from transformers in the basement, and consists in the wards of a flush wall receptacle, with pear push-button extension, a light over the ward door, and a flush metal flashlight, annunciator in the attending nurse's office, while in the private rooms is a similar installation, with the exception that there is no light by the patient's bed. This system operates in the following manner: when the patient presses the button of the pear push, lamps light at the head of the bed, over the door or ward, and back of the designating room letter or number in the annunciator, and at the same time a buzzer sounds in the annunciator, which buzzer operates only while the patient pushes the button, though the lights remain on until the nurse resets the call at the patient's bed. Some of the advantages of the system are that only ten volts are carried to the patient's bed, all contacts being made mechanically and not through relays, and that the buzzer can be cut in or out as desired by a switch in the annunciator box.

For the sake of economy it was deemed advisable to have two separate telephone systems in the building, both with switchboard exchange—one to take care of the intercommunicating hospital requirements and the other for outside service. A hospital phone is located in all administration and service rooms, as well as in each nurse's station, and an outside telephone is located in each of the more important administration rooms and certain private patients' rooms.

The steam sterilizing equipment of the hospital is unusually complete. The sterilizing set for the operating rooms consists

of large size water, dressing, utensil and instrument sterilizers, which same equipment is duplicated for the delivery suite. The utility rooms throughout the entire building have a utensil sterilizer sufficiently large to accommodate bed-pans, as well as small water and instrument sterilizers and blanket and bed-pan warmers. Each examination room has a small electric instrument sterilizer. The disinfecting apparatus, located in the basement, is of the vacuum formaldehyde type, cylindrical in shape, and large enough to accommodate six mattresses at one time.

In order to take care of the garbage and waste of the hospital, there were installed three incinerators—one in the kitchen and one in each wing of the basement.

We have described the more important architectural and engineering features of the new Columbia Hospital, but, since the hospital was also completely furnished, and under the same direction as the construction, with all furniture, instruments, and miscellaneous equipment ready for occupancy, a few words on this equipment may be of interest. The wood furniture was specially designed for its particular use, and was uniformly of the best possible construction, being mahogany in the board room, natural oak in the office, fumed mission oak, with Spanish leather upholstery, in medical staff and living rooms, and gum walnut finish in private rooms. With the exception of the private rooms, all rooms occupied by patients are finished entirely in aseptic metal furniture, some of the special features of which might be mentioned, all joints are electrically welded, giving specially smooth connections; all beds are equipped with frame springs instead of adjustable back rests, and have 5-in. rubber-tired wheels, with 10-inch extension stems for adjusting the height of the beds, only the foot wheels being swiveled, the head wheels thus acting as bumpers against the wall; and all table tops and shelves (except on bedside tables), counter shelves of medicine and supply cabinets, and tops of nurses' desks, are made of 14-gage polished monel metal on account of its great



AUTOPSY ROOM

durability and highly noncorrosive character. All mattresses are filled with pure South American hair, not only because they are more comfortable for the patient, but because this is the only material that can be properly disinfected without injury.

Considerable care was given to the selection of a complete equipment of surgical instruments, operating and examination tables, and obstetrical beds, as well as laboratory and pharmacy apparatus.

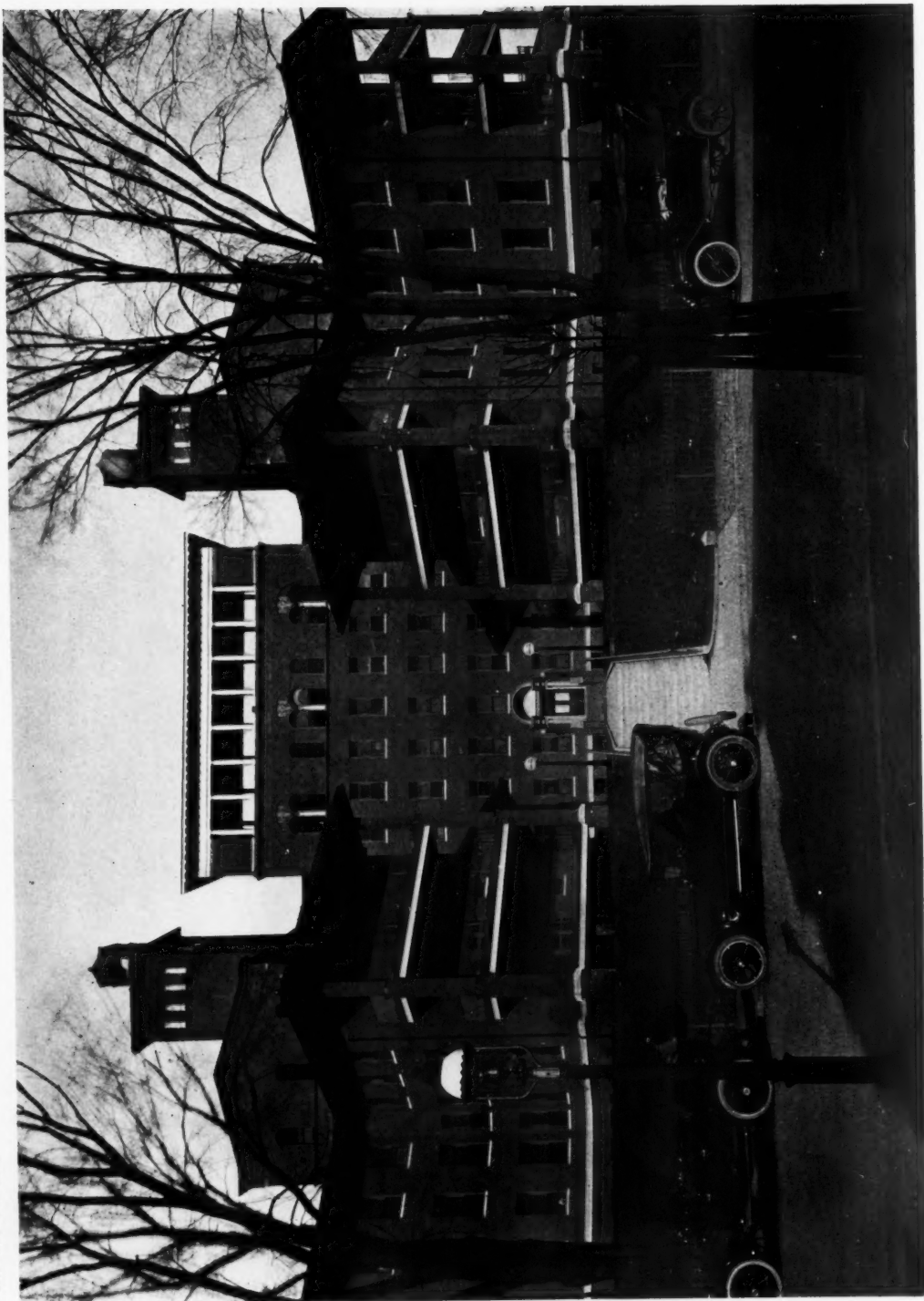
Possibly the most interesting feature of this hospital is its comparatively low cost in spite of its standard of construction and equipment. The hospital cost 29 cents per cubic foot, including the mechanical equipment noted below, and 39 cents per cubic foot completely furnished ready for occupancy, including all ex-

penses, or \$2,180 and \$2,950 per bed on similar comparisons. While the cost of hospitals is usually considered per cubic foot or per bed, it is difficult to get a strictly fair comparison on account of the different methods of cubing the building and of the variance in number of items of equipment included. In cubing this building the height was taken from the bottom of the footings to the high point of the roof, and porches and loggia were included at one-fourth their cube. The mechanical equipment included in the cost of 29 cents a cubic foot comprised all fixed items, such as heating and ventilating and refrigeration plants, refrigerators, electric conduits, wiring and fixtures, plumbing, vacuum cleaner, elevators and dumbwaiters, sterilizers, laundry and kitchen equipment.

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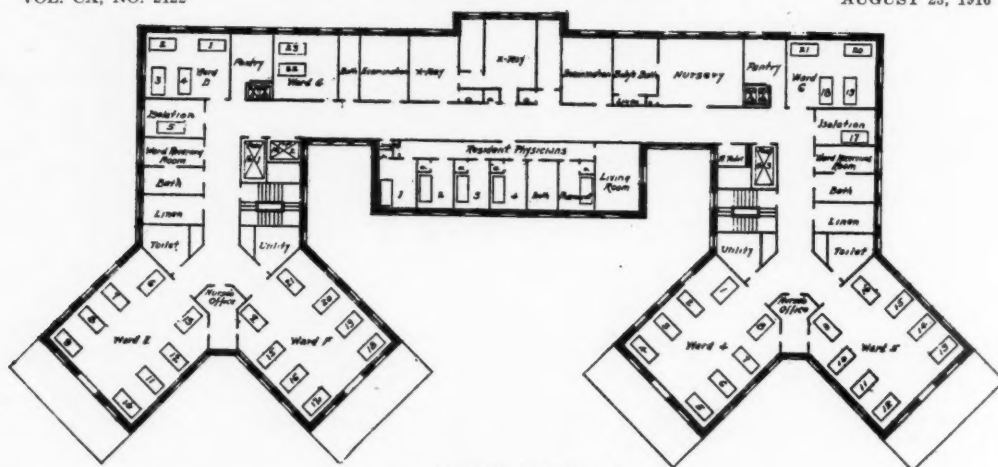
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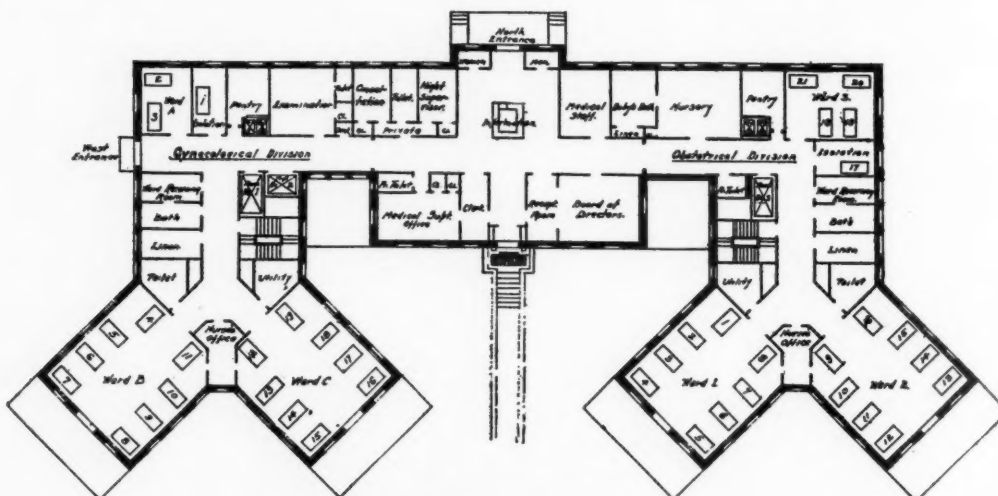


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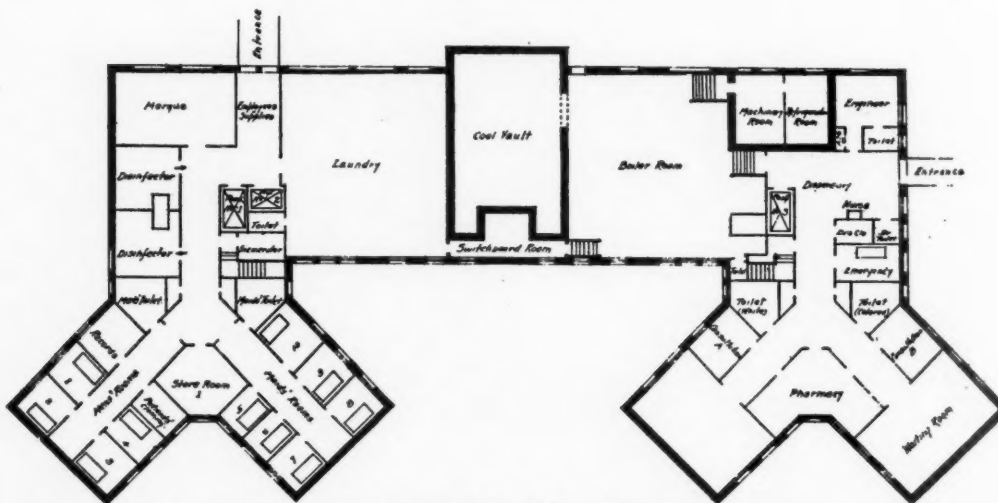
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SECOND FLOOR PLAN



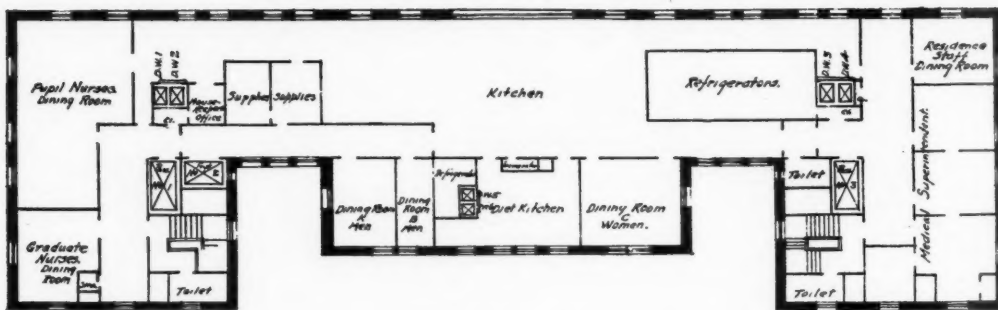
FIRST FLOOR PLAN



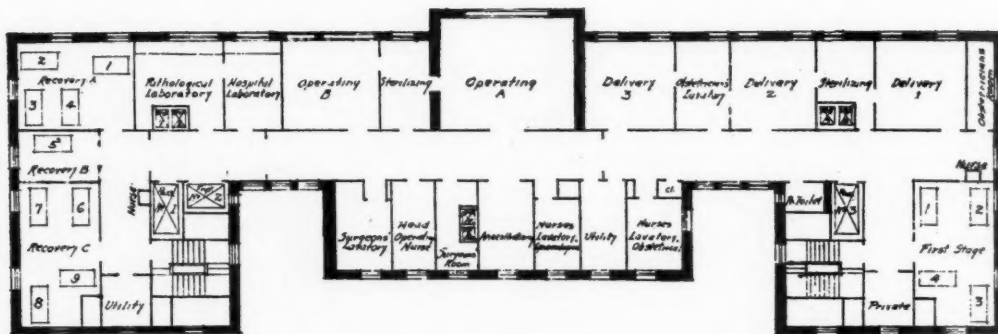
BASEMENT FLOOR PLAN

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FIFTH FLOOR PLAN



FOURTH FLOOR PLAN



THIRD FLOOR PLAN

COLUMBIA HOSPITAL FOR WOMEN, WASHINGTON, D. C.

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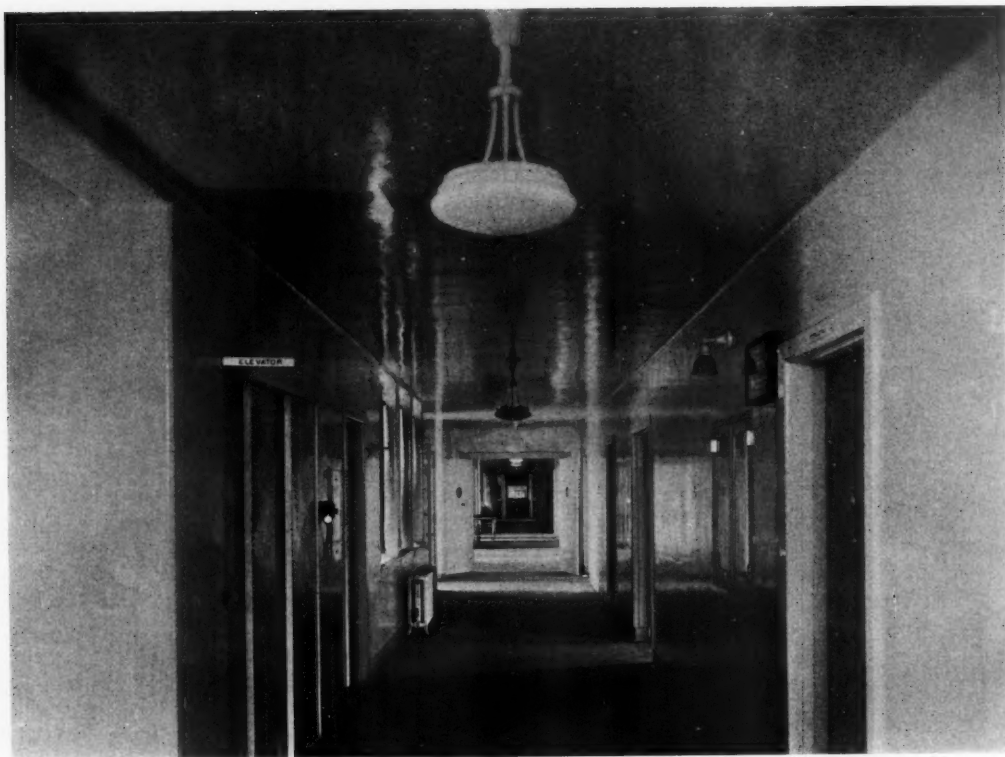
BOARD OF DIRECTORS ROOM



NURSE'S OFFICE BETWEEN TWO EIGHT-BED WARDS

COLUMBIA HOSPITAL FOR WOMEN, WASHINGTON, D. C.

MR. NATHAN C. WYETH, ARCHITECT



OPERATING FLOOR CORRIDOR



INFORMATION BOOTH

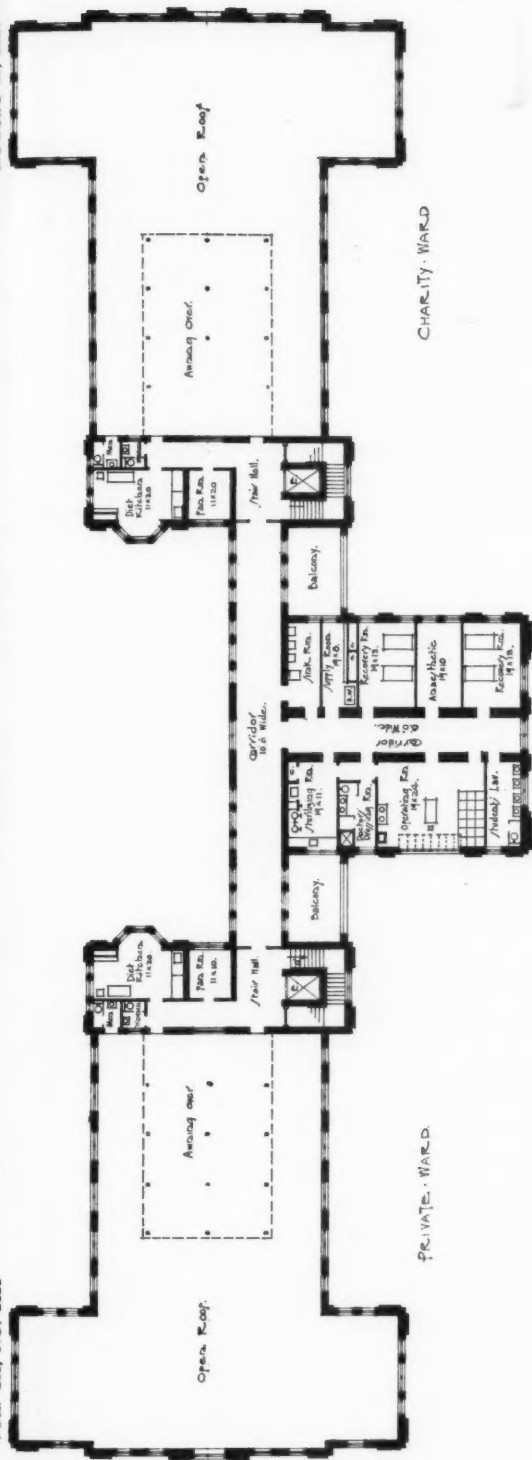
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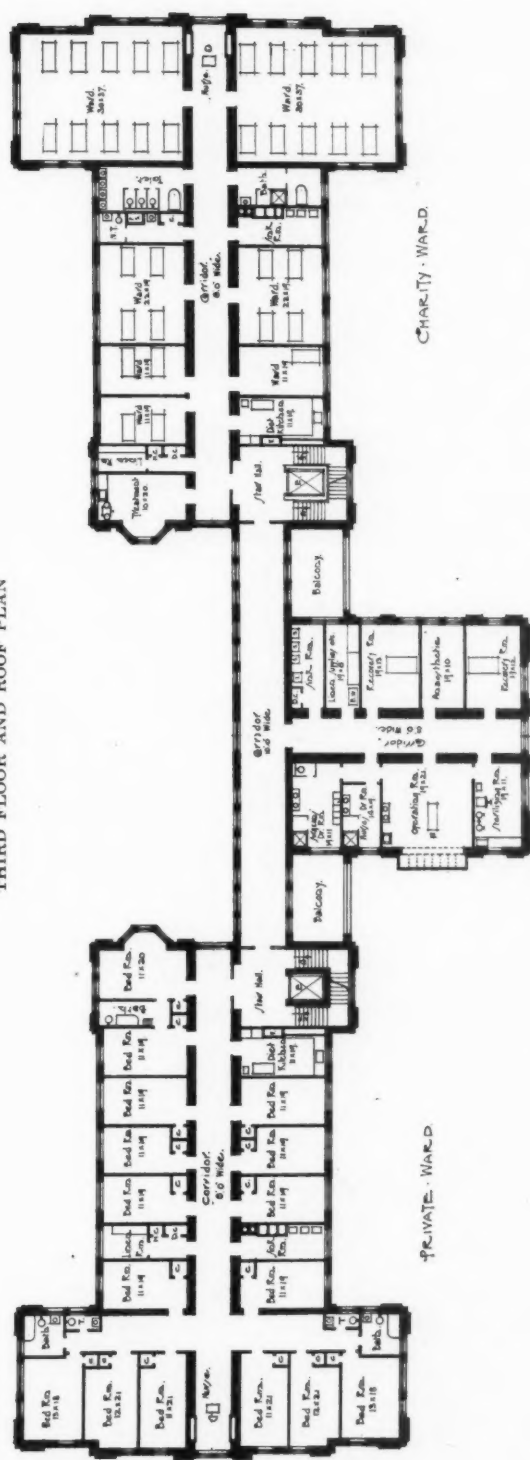


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OPERATING PAVILION
THIRD FLOOR AND ROOF PLAN



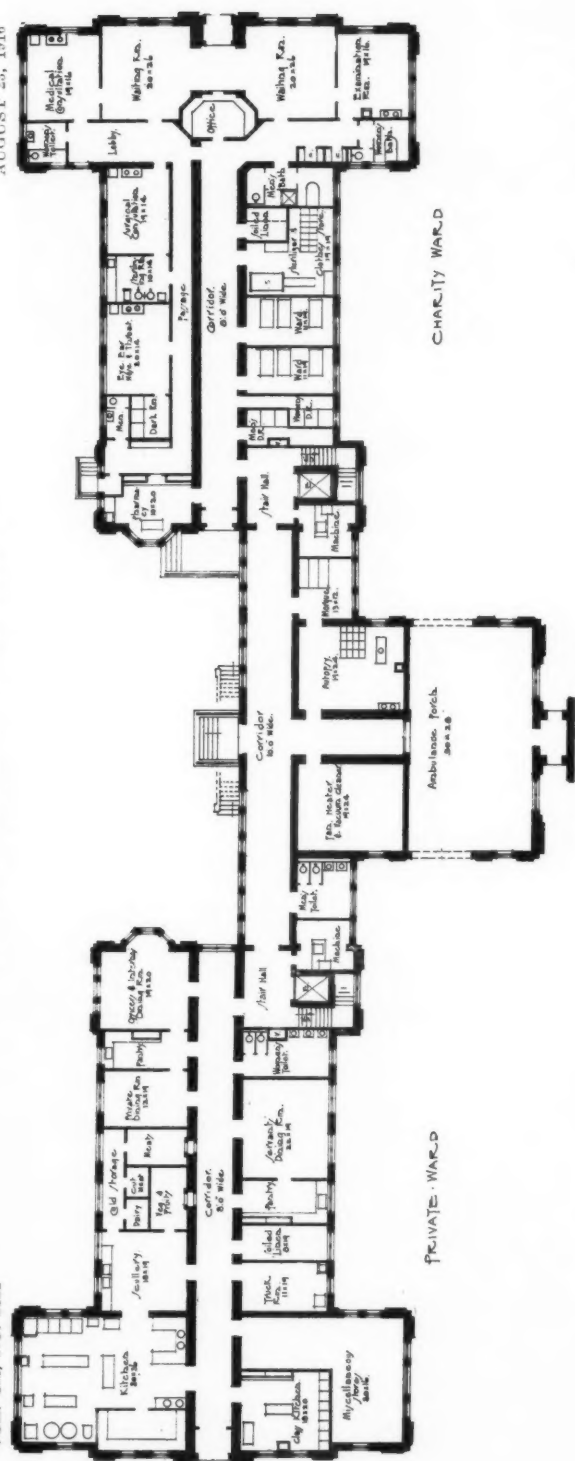
SECOND FLOOR PLAN
OPERATING PAVILION, GALLAWAY MEMORIAL HOSPITAL, NASHVILLE, TENN.
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DOCUMENT

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AUGUST 23, 1916

OPERATING PAVILION
BASEMENT PLAN

FIRST FLOOR PLAN

OPERATING PAVILION, GALLAWAY MEMORIAL HOSPITAL, NASHVILLE, TENN.

MESSRS. SAMUEL HANNAFORD & SONS, ARCHITECTS



VIEW FROM SOUTHWEST

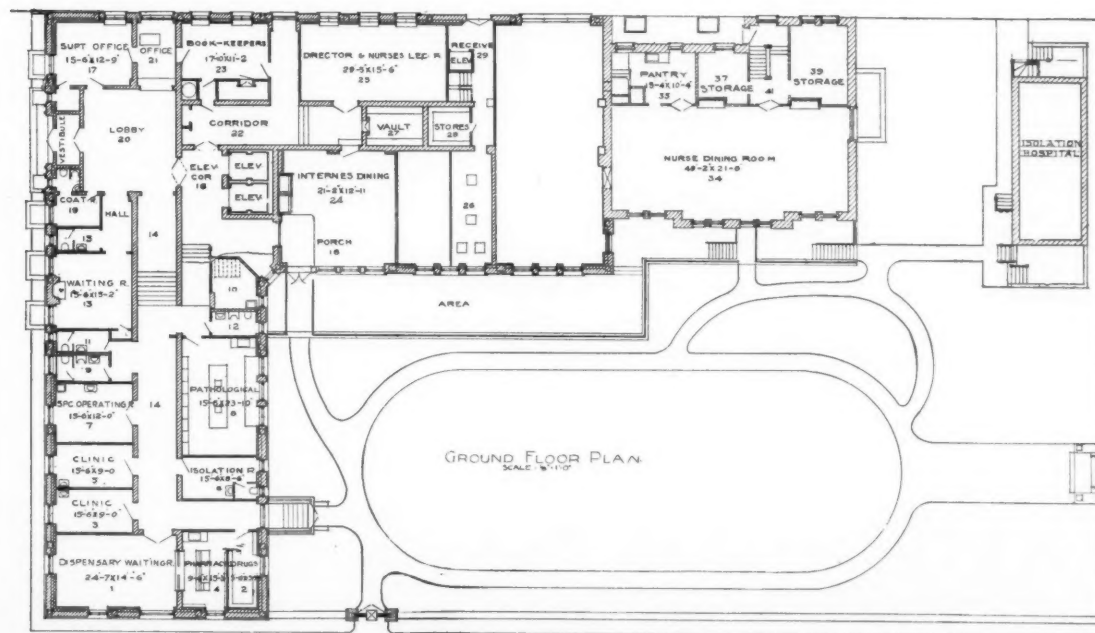
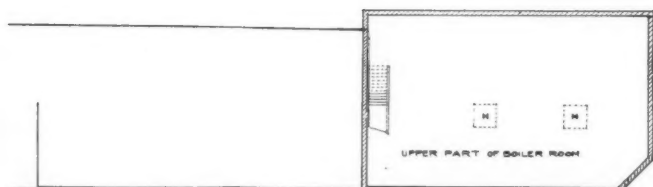


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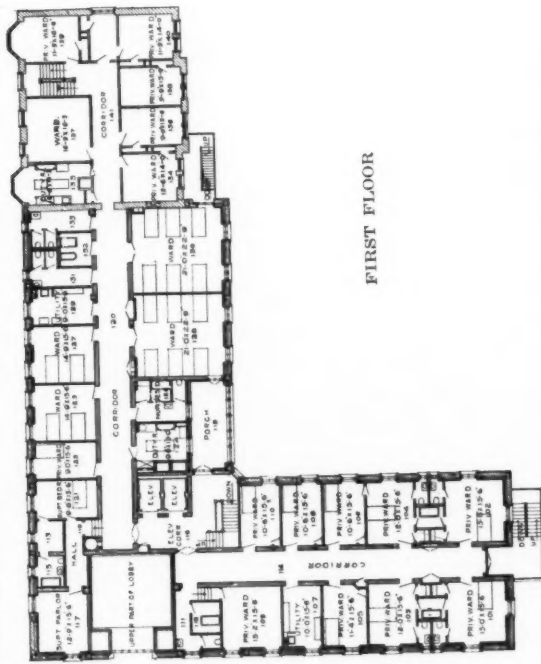


LOBBY

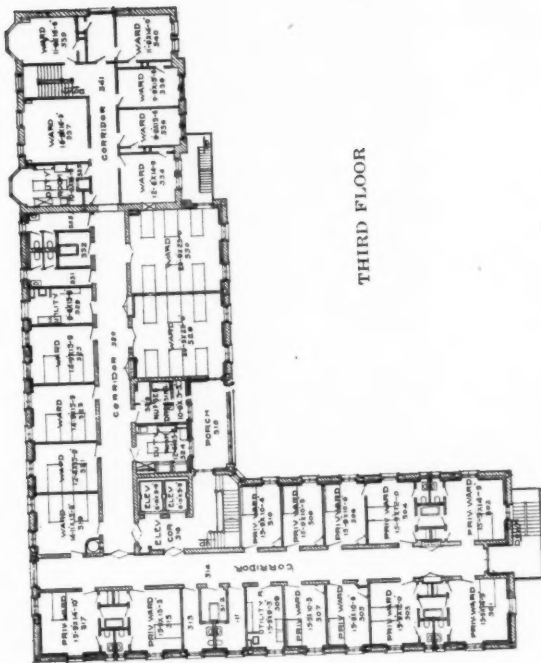


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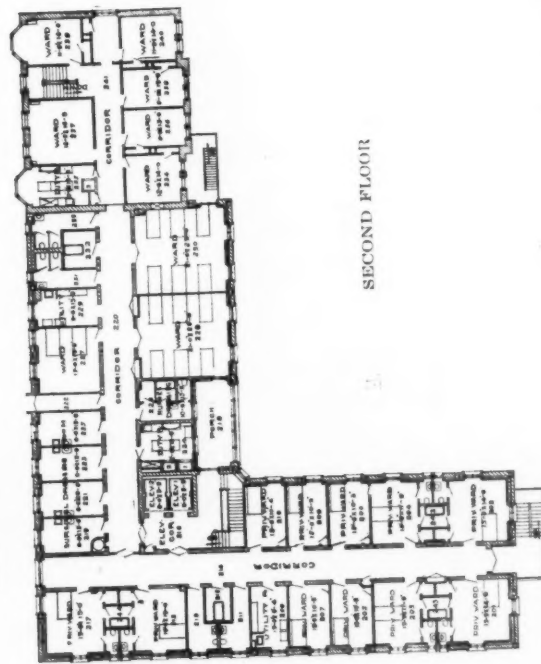
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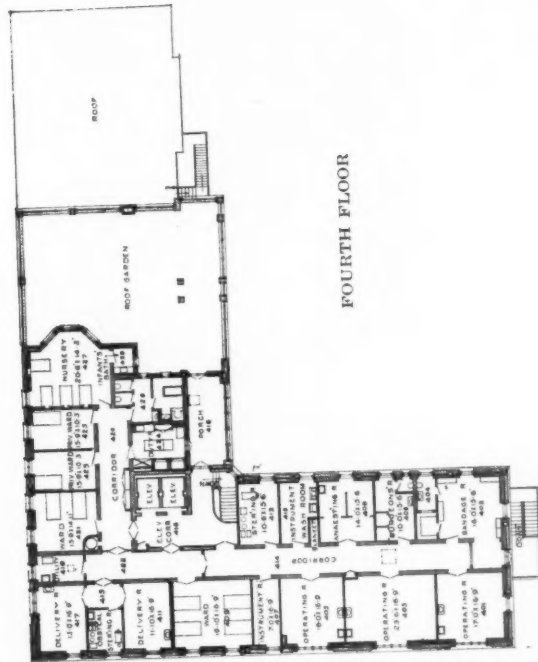
FIRST FLOOR



THIRD FLOOR

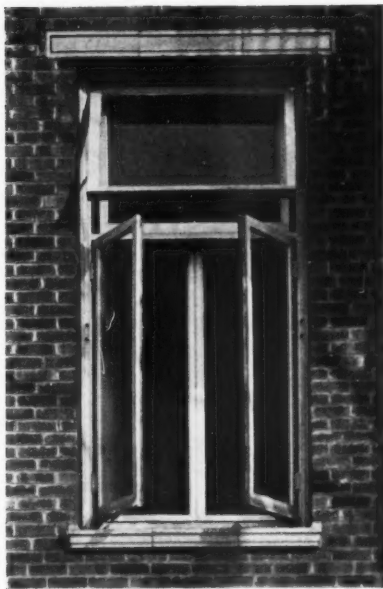


SECOND FLOOR



FOURTH FLOOR

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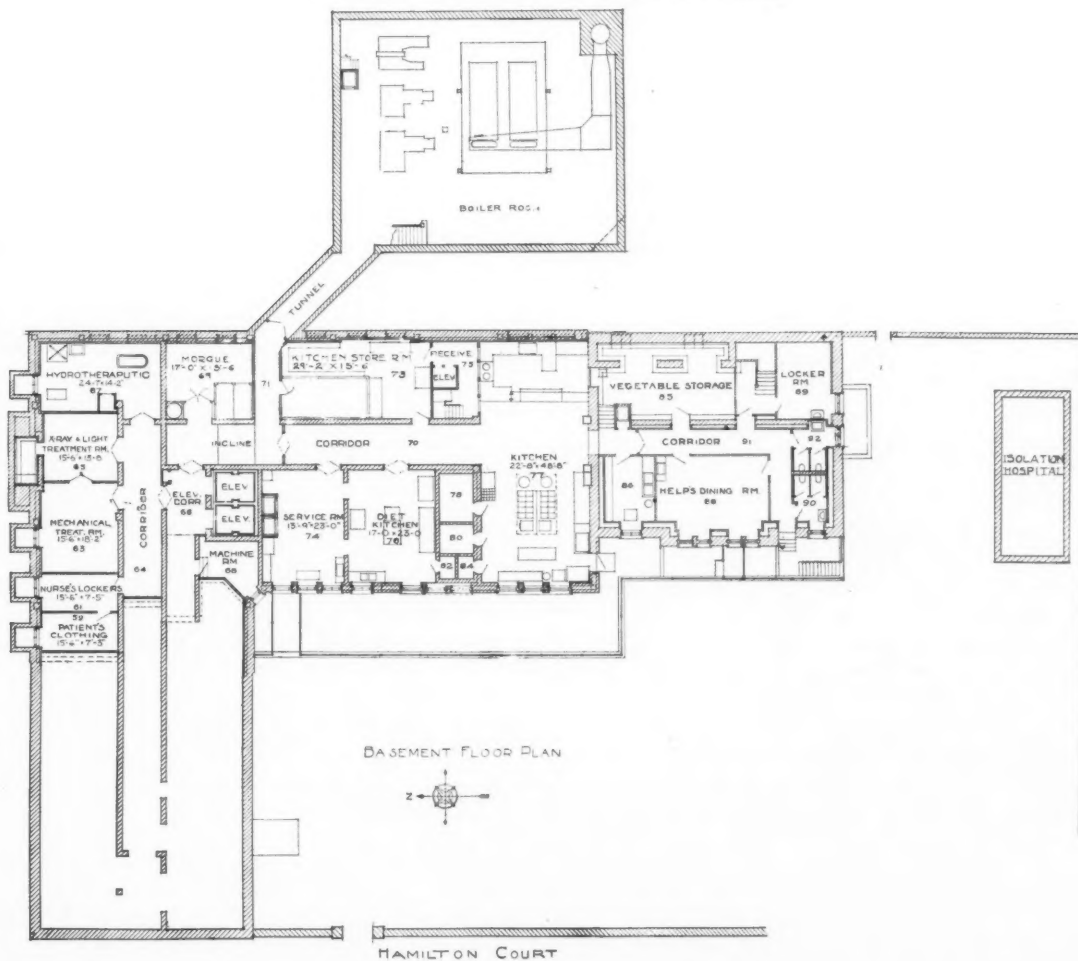


Open



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CASEMENT WINDOWS AND DOUBLE TRANSOMS



GERMAN HOSPITAL, CHICAGO, ILL.

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THE AMERICAN ARCHITECT

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Matter

VOL. CX AUGUST 23, 1916 No. 2122

PLAN TO INVADE PARK DEFEATED

IN our issue of February 16th of this year, attention was directed to the proposed erection of a gate house or pumping station in Morningside Park, New York City, as an integral part of the water supply system and tunnel being constructed beneath Manhattan Island. The engineers and officials of the Board of Water Supply gave positive assurance at that time that no plan could be devised by which encroachment on Morningside Park with a structure some forty feet high by eighty feet in length could be avoided. They declared most emphatically that insuperable obstacles of a technical nature existed which made acceptance of the suggestion that the station be built underground impossible. In other words, these employees of the city practically confessed inability to devise an acceptable solution of the problem presented, and so far from being disturbed by the situation, actually attempted to justify the confiscation of a portion of the park area and the erection thereon of a structure that was foreign

to the locality and out of harmony with its environment, and therefore could only be considered as a blot on the park landscape.

Fortunately, the public did not accept as final and conclusive the statements of the water board engineers, and as a result of the efforts put forth by artists, engineers and others interested in the conservation of our park spaces and the artistic development of the city, it is now definitely determined that what was considered impossible a matter of eight months ago is, after all, entirely feasible and will be undertaken.

The Board of Estimate, which but recently took action to insure proper future development of the city by adopting the "zone plan" which restricts the erection of future buildings of various classes to designated districts, has, by adopting the report of its sub-committee recommending that the pumping station in Morningside Park be put underground, given further evidence of its peculiar fitness to safeguard the city's interests. This action was based on the report of eminent engineers employed independently to investigate the subject, and the practical admission of the chief engineer of the Board of Water Supply that an underground system could be maintained, although in his opinion at not as high a degree of efficiency as one constructed upon the plan originally devised by his department. Apparently this contention was not regarded seriously, especially in view of the fact that it is generally conceded by engineers that a pumping station, although needed in the general location selected, might not be used once in twenty years and perhaps would never be required. Under these circumstances, even though as great a degree of efficiency might not be expected of the underground plant, a slight loss in this respect is obviously much overbalanced by avoiding a blemish to the beauty of the park which a station built in accordance with original plans would undeniably constitute.

The case under consideration becomes, then, another instance in which engineers of repute have gone on record in statements to the effect that certain things could not be done and have afterward

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been obliged by weight of public opinion to acknowledge their feasibility.

The successful outcome of this case from the viewpoint of the objectors to park invasion encourages the hope that a similar result may finally be achieved in the matter of the lighting and power plant proposed to serve certain public buildings in Washington, for which a tentative site has been chosen on the banks of the Potomac. The contemplated building which it appears would utterly destroy a beautiful vista now obtained from the White House and constitute an ineffaceable blot on the landscape of our principal city is no more necessary in the location selected than was the pumping station in Morningside Park. The methods by which such a commanding site was chosen for a utilitarian building without the knowledge of any of the societies or bodies who have the artistic well-being of Washington at heart are similar to those by which the pumping station was located in one of the parks of this city, and are doubtless equally indefensible.

It is a matter of record that vigorous objections have already been voiced by practically every organization making pretense to taste and culture in this country, in addition to protests registered by hundreds of individuals, so there can be no doubt concerning the public mind. All that appears to be necessary now is a continuation of efforts already put forth to make known and enforce the public will. With the success that has attended similar efforts in New York City, it cannot be doubted that they will likewise result in ultimate victory for the cause of art in Washington.

INVESTIGATION OF WATERPROOFING METHODS AND MATERIALS

IT would seem that the action of the United States Bureau of Standards in coöperating with manufacturers of waterproofing compounds and with technical societies interested in the problem of waterproofing concrete is in every way commendable. Practical prob-

lems of this kind are continually encountered by architects and engineers in their every-day practice, and authoritative information, such as it may be expected will eventually be made available by the Bureau as a result of the experimental work now being undertaken, is of incalculable value.

It appears that a questionnaire has recently been addressed to more than eight hundred architects, engineers and contractors, requesting information on certain phases of this subject, and a report of individual experiences with various compounds. The replies will be tabulated and made a part of the information which is being compiled. A feature of the investigation of particular importance is the project for experimental concrete tanks arranged along the river front in the city of Washington. It is apparent that work of this nature might be profitably undertaken by the government in connection with a great many materials of construction, concerning the nature of which imperfect knowledge now exists in the minds of those called upon from time to time to use them in their practice.

The demand for dependable information along these lines is indicated by the formation during recent years of certain private corporations whose avowed object it is to compile and furnish, for a consideration, exactly the kind of data desired by architects and engineers, relative to building materials, accessories and equipment. The value of this information obviously depends upon methods employed to secure it, the personnel and abilities of the investigators, the integrity of the organization performing the service, and the basic or underlying plan of the enterprise. In the case of investigations made under government direction, there would probably be no question in regard to the majority of these factors, and the highest degree of dependence might therefore be placed in them. Further than that, the published results of investigations would then be made available to all persons interested.

THE GALLOWAY MEMORIAL HOSPITAL AT NASHVILLE, TENN.*

MESSRS. SAMUEL HANNAFORD & SONS, *Architects*

THE original scheme for Galloway Memorial Hospital contemplated a group of three buildings, as shown in the bird's-eye view.

The front building is designed to accommodate the administrative officers, staff, resident physicians and interns, and to contain several large suites of rooms for private patients. The second building is intended for private patients, and also contains the operating rooms. The third building is to be used for charity patients, and its central wing is to be the service building for the entire group.

As funds were not available to carry out the work for all the buildings planned, it was decided to proceed first with the erection of the second building. In doing this, it was necessary to use a part of the basement for the out-patients, and the rest of the space for kitchen, storage and similar uses, thus making the one building a complete and self-contained hospital. This arrangement, however, is only temporary, and the building is constructed in such a way that the space thus occupied can be readily put to other uses when the three buildings are finally completed. At the present time, the building is under roof, enclosed and ready for finishing.

In plan it consists of a central pavilion and two wings, one on the north and one on the south of the central portion. The north wing, above the basement, is given over entirely to private patients. The south wing is divided into wards for charity patients, while the central pavilion contains the offices, operating rooms and the like.

The basement of the building is entirely out of the ground, with the three stories above it. The north wing of the basement contains the general kitchen, with its cold storage rooms and pantries. Here also are the dining rooms for officers, interns and servants, all conven-

iently arranged for easy service from the kitchen. A special diet and training kitchen is also arranged for near the main kitchen. The north part of the basement is thus being temporarily used as a service department for the hospital.

In the basement of the central pavilion is located a large enclosed ambulance porch which opens into a central corridor connecting with the main staircases and elevators. Near this porch, the morgue, autopsy room, and so forth, are located, and a portion of this space is taken up by a room containing ventilating fans, vacuum cleaners and other machinery.

The south wing of the basement is used as a receiving and discharging department, and also, for the time being, for out-patients. Here is located an office with waiting rooms for men and women, doctors' examination rooms, special treatment room, bath rooms, the pharmacy and small detention wards. Arrangements have also been made for the sterilizing of patients' clothing and for its storage.

The first and second floors of the north wing are given over entirely to rooms for private patients. Each floor has sixteen of these rooms, or a total of thirty-two rooms, for the accommodation of patients of this class. Diet kitchens, sink rooms, linen, bath and toilet rooms are provided, and are conveniently arranged for the service of this department.

In the south wing the first and second floors are arranged as wards for the care of charity patients, each floor having two thirteen-bed wards, two six-bed wards, two three-bed wards and one two-bed ward, making the total number of beds for both floors ninety-two. On each floor there is a kitchen, sink room, treatment room, linen room, and so forth, with a liberal provision of bath and toilet rooms.

In the central pavilion the first floor is given up to the general and private offices, staff rooms, head nurse's offices, public waiting room, and, in general, the

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administrative department. On the second floor the operating room with its proper dependencies for the use of private patients is located, and a similar operating department is directly over it on the third floor for the use of charity patients.

The third floor over the north and south wings is arranged as two open-air wards for the service of the patients of each department below. Each of these open-air wards is served by separate and independent staircases and elevators, and each is provided with separate kitchens and toilets. A study of the plan will show that the two classes of patients, while in the same building and on the same floor levels, are absolutely separated, and each is provided with independent service.

This building is thoroughly fireproof throughout. The walls are of brick with hollow brick furring on all outside walls. The external walls are faced with an impervious brick and the trimmings are of Bedford stone. The foundations, floor and roof construction are of reinforced concrete. Partitions are of hollow fire clay blocks.

The roof wards are paved and finished with a vitrified red quarry tile and all of the interior floors are finished with a vitrified white tile with bases and borders of terrazzo. The staircases are of terrazzo treads and risers carried on steel strings. Door frames are of steel. Elevators and stair halls are cut off with metal-covered fireproof doors, and the use of wood throughout the entire building has been reduced to a minimum.

Heating is done by means of hot water, circulated through radiators located underneath the windows. The heating boilers are located in the present power house, now on the south campus, and the steam and hot water are delivered from this power house to the new hospital building through underground tunnels.

All rooms are supplied with fresh air from a motor-driven fan located in the basement, the action of which is supplemented by a vent fan placed in the attic. Six air changes an hour are provided for all wards.

The plumbing is of the best and most modern type. Supply lines throughout

are of brass and all are readily accessible. All fixtures are of vitreous ware, and faucets and trimmings are of solid metal.

A complete telephone and signal system will be installed, communicating with and connecting all parts of the hospital.

All the architectural details have been worked out with care, so that there are no spaces left for the accumulation of dirt or vermin; all parts of the building are designed so as to be readily accessible and cleanable.

Modern conveniences of all kinds have been installed, such as clothes chutes, incinerators and appliances for the cooking and handling of food and for the proper storage and care of supplies.

Hospitals and Esthetics

THE generic function of architecture is, of course, the proper housing of the human race, in sickness as well as health, and I venture to say that there is to-day no greater field of prophylaxis against disease. It is fast becoming so recognized in all civilized countries. The point I make is, that if the art and science, the esthetics and mechanics, of architecture are useful in the prevention of disease, so also may they be of service in its cure, and that this involves more the art than the science of architecture. For the profession may properly be thus defined, theoretically, as of two departments, after the fashion of medicine and surgery. No less, unfortunately, is it largely practised as one to the exclusion of the other, nowhere more regrettably than in the case of the hospital, where too often the science has entered to the exclusion of the art. So it has happened that among all the new hospital conditions that have combined to make the radical advances since the days of Bedlam and the old "Hôtel Dieu," one looks usually in vain for the esthetic element—a consideration of the sense of beauty. With rare exceptions, the only real esthetic touch in our great hospitals is an accidental one—the trained nurse in her cap and gown. And I venture to say that, considered merely as a

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piece of decoration, she has done more than any other one thing to counteract the blight of the institutional atmosphere.

The Æsculapian temples of healing were shrines of beauty. Should we then consider the modern hospital as nothing more than a huge shelter provided for the surgeon's, doctor's and nurse's work, as an aseptic workshop furnished with power and machinery, the latest tools and the most perfect equipment and scientific aids to research and clinical efficiency, merely a complex of conveniences and apparatus? Or can we consider it not merely a great mechanism, but a silent agent in the art of healing?

Is this utopian? Is there healing virtue in sunny climates, in the scent of pine woods, in the stimulating sight of lofty mountain peaks? And is the value of such things found only in direct physical results? Is environment powerful only in aspects of nature? Does our sense of sight react less powerfully to walls of cheerless, glaring plaster than of sunlit foliage? Must the patient make the effort to shut out the one while he welcomes the other? And is an invalid less sensible to such things than the well man? Is the sense of beauty measured altogether by a man's strength and vitality any more than by the degree of his so-called culture?

Am I wrong in thinking that, after all, the most perfect hospital is the one which most nearly satisfies the requirements of that master of all consultants, Dame Nature, and that diagnosis, operation, treatment, research, are all but a seeking to find the way of least resistance through which Nature shall work? And if this is so can we afford to neglect the least helpful thing even though we believe others more important? Can we yet say through which door of the bodily senses this healing spirit is most apt to come and go? Above all, should we neglect the sense of sight? Or is it mere poetic license that calls the eye "the window of the soul," thus rating vision, psychically, as our master sense? Is it right that the sense of beauty should receive full communion in God's cathedral of Notre Dame and a

block away be cast out like some dreaded heretic from the Hôtel Dieu?

That a profession whose great minds hail medicine and surgery as inseparable would wittingly call in the architect to serve as master builder but exclude him as the artist, I am indeed loath to believe.

"Having torches they passed them on, one to the other." And should it not be to-day—and always—as it was in the days of the torch race? In his address in surgery on the "Realignment in Greater Medicine," Cushing pleads for the wider coöperation of medicine and surgery and their allied sciences; which, as he quotes from Huxley, "are independent in proportion as they are imperfect." And so he speaks hopefully of the closer copartnership into which the men of medicine, surgery and scientific research are now entering. But must we stop there? Is it presumptuous to suggest that in this business of healing the sick in hospitals, the art of architecture be included as a kind of special partner? Are there not times when in the brotherhood of all the arts and sciences one profession should take the torch from another, as did those Greek runners, proud to be its bearer if only for a moment, eager to advance it toward the goal; content if only it be none the dimmer for his carrying, and ready to yield it in turn to some fresh runner in the race of human progress?

So, while as an architect speaking of things medical I have some fear lest parts of this paper appear to be rather superficial criticism of things beyond the scope of my profession, from a broader point of view I make no apologies. For to my thinking the universality of art, both in extent and intent, enfranchises the craftsman in every domain of human activity in which he renders service—gives each profession a brevet in the ranks of every other. So I feel that in a large sense, even as it is, I speak among confreres.

In such a spirit at all events, encouraged, be it said, by some of those who are to-day the acknowledged torch-bearers of greater medicine, I have thus ventured into its kingdom, asking "safe conduct"

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for the sake of the Art whose passports I carry.—GROSVENOR A. HERBURY, in *Building Review*.

RECENT LEGAL DECISIONS

TERRA COTTA CONTRACT CONSTRUED BY COURT

New York.—In the recent case of *Sherry vs. Federal Terra Cotta Company* the New York Supreme Court was confronted with the duty of determining upon whom to place the responsibility for the breach of a building contract.

In the year 1910 the plaintiff contemplated the erection of a house and to that end employed an architect whom he authorized to contract in his behalf for the terra cotta trim or ornamentation to be used in the construction of said building. The architect thereupon made a contract with defendant for the furnishing of said terra cotta. This contract consisted of a written proposal by defendant, and an acceptance thereof by the architect, in behalf of plaintiff. By this contract defendant agreed to furnish the terra cotta for the price of \$3,500. This agreement was made on April 14, 1910. On April 27, 1911, the architect, although, so far as appears, no work had been done under the contract, and no material had been delivered, gave a certificate that the contractors were "entitled to the first payment, amounting to \$1,500," and on the faith of this certificate plaintiff paid defendant the said sum of \$1,500. It is that sum which plaintiff sought to recover through this suit.

The defense was that plaintiff had ordered certain changes in the material which would enhance the cost, that plaintiff had expressly stated that he would not consent to paying any additional amount. The evidence introduced in the case tended to show that the changes desired would decrease the cost rather than increase it.

The question then was, had plaintiff broken the contract by demanding changes and refusing to pay additional amounts for such changes or had defend-

ant breached the contract by refusing to deliver the material as changed at the original price.

The Supreme Court held that plaintiff was entitled to the return of the \$1,500. The court held that had delivery been made as contemplated in the contract, that is, directly after its consummation, the terra cotta would have been in plaintiff's hands before any thoughts of changes had come into his mind. The court held this to be the original breach though plaintiff himself later created a breach by demanding changes at the original price.—*Sherry vs. Federal Terra Cotta Co.*, 158 N. Y. S. 243.

DISCHARGE OF SURETY

(*Arkansas.*)—Where a construction contract, upon which the bond was based, required plain, straight front windows, and thereafter the contract was altered to require a double arcade, and it was further altered to require a wooden basement floor instead of concrete, both changes being at additional expense and neither being possible of completion independent of the principal contract, the changes were a material alteration of the contract such as to discharge the surety in the absence of his consent. (*S. W. Surety Ins. Co. v. Terry*, 184 S. W., 54.)

Old London Building

Age is, after all, but a relative term. In America we point with something of veneration to a building erected one hundred years ago, but in England such a structure might almost be considered "a modern example." An instance of the age to which buildings attain abroad is furnished by a recent issue of *The Architects and Builders' Journal* of London in describing the Red Cross fête in connection with France's day. It seems that the exercises were held in Middle Temple Hall, concerning which it is stated:

"It was here that 'Twelfth Night' was first performed; the Hall, which is a hundred feet long, having been built in 1562-

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72. It has housed many masques, the last of them on Candlemas Day, 1733. Ben Jonson, in writing that 'painting and carpentry are the soul of masque,' resented bitterly the masterfulness of Inigo Jones, who designed the scenic effects for which Ben Jonson wrote the book of the words; but Jonson's chief grievance apparently was that he got no more money for his poetry than that 'Assinego Jones,' as he called him, received for his stage architecture. It was a very pretty quarrel. The open-timber roof of the hall is a highly respectable example of Elizabethan carpentry. Inigo Jones, who had been a joiner, would admire it; and for James Burbage, Shakespeare's partner, it must have had exactly the same interest, for he also had pushed a plane; but Jonson, having been bred a bricklayer, would naturally regard it with a jealous eye."

Standardizing Massachusetts' State Buildings

At a protracted "hearing"—that has extended over a period of more than three weeks—held in Boston by the Fire Prevention Commission, it transpires that every architect who has appeared before the commission has emphatically expressed disapproval of any plan looking toward the standardizing of either the architecture or the construction methods of state buildings. It is significant of the usual attitude of members of legislative bodies that a plan of standardization has been warmly urged by members of the State Legislature.

It has been logically contended by the architects who have appeared before the Commission that every locality presents a separate and distinct problem, and that any attempt at standardization would be defeated at the outset by the physical features of site.

The result of this hearing will be the drafting of a proposed measure, and it will be interesting to learn just how far the views of men eminently qualified to pass judgment on the questions involved will be incorporated into the bill.

Personal

Messrs. Morgan & White, architects and engineers, have opened an office in Johnson, Tenn., for the practice of their professions, and would be glad to receive manufacturers' samples and catalogues.

Mr. Albert Simons of Charleston has entered into partnership with Messrs. Todd & Todd, architects of that city. The new firm will be known as Todd, Simons & Todd, with offices at 63 Broad Street.

Messrs. Mahurin & Mahurin, architects, Fort Wayne, Indiana, have removed their offices from the Swinney Block to the Riegel Building, 124 West Jefferson Street in that city.

INDUSTRIAL INFORMATION

Ja-Nar

This device is manufactured by the Fulton Company, Knoxville, Tenn., and distributed by the Annex Company, Knoxville, Tenn. In a catalogue recently issued it is claimed that the Ja-Nar is the only device known which can be installed on one or many radiators, on new work or old, and one which works absolutely automatically, furnishing its own operating power without the use of compressed air batteries, clocks, motors or other outside means. In this respect, it is stated that Ja-Nar is not a system, it is an individual temperature controller, entailing no operating expense. Ja-Nar is, in effect, a thoroughly insulated covering or jacket made of furniture steel which fits over the radiator. It is fitted with a grill, back of which are located louvres which are opened or closed automatically by the Sylphon Regulator, which responds to the slightest change in temperature of the air circulating over and around it. This regulator is said to be so arranged that it is exposed to the room air, causing the opening and closing of the louvres in the Ja-Nar, thereby increasing or decreasing the circulation of

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air over the radiator, so that the temperature of the room is held practically constant.

Copy of this catalogue, which contains many cuts illustrating the device and much data concerning it, will be sent upon request.

Metal Weather Strips

The Monarch Metal Weather Strip Company, St. Louis, Mo., has recently issued a book compiled especially for architects, engineers and builders. The purpose of the book is to show the details of construction and installation of Monarch Metal Weather Strips. On the title page it is stated that brevity and conciseness have been deemed more important than long descriptions, and drawings have been depended upon largely to tell the story to minds already trained on technical subjects.

The drawings referred to are made to large scale. They include practically every type of window and door frame and show the application of these metal weather strips in a manner designed to make the openings weather-proof. With each type of window or door opening is given a specification which with the drawing completes the story.

Tables to assist in estimating are included and an index to the contents of the book is published on the inside of back cover.

Copy of the book will be sent to architects upon request, and should prove of both interest and value.

Specifications for Waterproofing

The Ceresit Waterproofing Company, 110 South Dearborn Street, Chicago, Ill., has issued a book of specifications for waterproofing, dampproofing, floor hardening, etc.

This company manufactures six principal products, as follows:

Ceresit Waterproofing Compound, a plastic paste to be mixed with the water used to temper concrete, cement mortar or cement stucco; Ceresitol, a liquid to be applied with a brush for dampproofing

brick, cement blocks and porous stone of any kind; Dampproofing Plaster Bond, a permanent dampproof protective and bonding material to be applied to the interiors of exposed walls before the application of plaster; Dampproofing Coating, a heavy black asphaltic material to be applied to outside foundation walls for protection against dampness; Floor Hardener, a ground metallic material to give concrete floors a permanent wearing surface and to prevent dusting; Stone Backing, an asphaltic paint to be applied to building stone for protection against dampness and staining.

It is for the proper use of these materials that the book on specifications has been issued. In each specification are drawings illustrating the manner of applying the material.

Copy of the book will be sent upon request.

Marsh Valves

The Marsh Valve Company, with general offices in Erie, Pennsylvania, has issued catalogue and pricelist No. 5, illustrating and describing Marsh Union Bonnet Double Seat Valves.

It is stated that in the manufacture of these valves much time and energy have been expended. It is claimed that the best features known to the art of valve making have been combined and to them have been added the Marsh Upper Seat, which is described as an improvement in valve construction distinctive and exclusive with this line.

All valves made by this company are guaranteed to be steam-tight for pressures claimed, and free from defects in material or workmanship.

The catalogue contains roughing-in dimensions of the various types of valves illustrated.

A product described in this catalogue of more than usual interest is the Marsh Reinforced Packless Modulated Valve, which contains five special features to which particular attention is directed. Copy of this catalogue or any desired information concerning the line of valves manufactured by this company will be furnished upon application.

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A RENAISSANCE HOUSE, WITH SURVIVAL OF GOTHIC DETAIL IN THE WINDOWS
ANDRIA, ITALY—(PROBABLY 16TH CENTURY)

III—1