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THE HOSPITAL WORLD

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The Hospital World

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Vol. VI. TORONTO, SEPTEMBER, 1914 No. 3

Editorials

REALIZE ITS VALUE

THE transactions of the seventh annual meeting of the Canadian Hospital Association have just come to hand; a little delayed, it is true, since the meeting referred to was held in October last. But the contents make instructive reading for hospital workers at any time, and all times.

In our July issue, we referred to the very commendable annual government report of the hospitals and charities of Ontario. This report of hospital conference may be regarded as a supplement in detail, and, taken with the former, indicates the high standing and understanding of the hospital and its allied departments of work, in this portion of Canada.

The Department of Charities, under the administration of the present Provincial Secretary, is one of the most alert and progressive departments of the Ontario Legislature, and it has been quick to perceive the educative value of these conference discussions. It gives them permanent annual record through the government printing bureau, thus placing them without charge in the hands of every Canadian hospital worker. By applying to the Department the furthest off pioneer mission hospital in the mountains or on the prairies may have the benefit of the papers read and discussions carried on by the Canadian hospital workers who are within reach of the place of meeting.

While between the large city hospital and the small temporary building constructed for pioneer needs there is a tremendous stretch, yet it is filled all the way by institutions graded according to local needs. Each of these have certain problems in common, one or more of which are sure to be discussed at every hospital conference. It is a matter of discovery to those who attend such gatherings that what they imagined to be their own particular little problem is

also the problem of one, two, or a dozen other hospitals, who have tried, and found in part at least, some method of solution. And in this lies the great value of the verbatim report.

One of the features of the transactions is the practical nature of the subjects discussed at the conference. With the exception of Dr. Porter's little allegory concerning tuberculosis, in which, however, he conveys and emphasizes a very practical truth, the papers deal chiefly with the simple things of hospital life. Take, for instance, Dr. Howell's paper, "Points for Inexperienced Hospital Superintendents in Purchasing and Receiving Supplies"; many of the suggestions he gives are as useful to the hospital of twenty beds as to one of two hundred beds.

"Sanitary Precautions in Hospitals," by Dr. Amyot, is another paper full of points perhaps even more needed by the smaller and less well-equipped hospitals than by the larger city ones. The fly, the dealing with garbage, the care to be given milk, the transfer of diseases by the hands and mouth—are surely problems often most difficult to deal with in country places.

Miss Ross Green's paper on the care of incurables is provocative of serious thought concerning a sorry problem that harasses both large and small hospitals. And certainly Miss Goodnow's about hospital planning from the woman's point of view should be most helpful to the many women on hospital boards, or who are heads of such institutions.

Miss Aikens, of Detroit, Dr. Bradley, and Dr. Kavannagh, of Brooklyn, take up the subject of nursing in various phases. Miss A. Aikens is so extensively a student and educator in this line of work that every sentence she utters is packed with pregnant truth. Dr. Bradley is associated entirely with the new movement to provide home nursing for the middle classes. While the Brooklyn Hospital superintendent, first giving many good points concerning the business side of hospital administration, turns his batteries on what he aptly terms the principle of trades-unionism, with trade union prices, which at present govern so many able nursing leaders.

Color schemes in hospital wards, by Dr. Wayne Smith, of Detroit; team work in the hospital, by Dr. Hornsby, of Chicago, are two practical papers dealing, respectively, with external and internal hospital matters, and are full of points for inquiring workers.

Mr. Webster, of the government department, epitomizes the regulations concerning Ontario Government grants to hospitals.

Apart from these published papers, Dr. Webster, of the Royal Victoria, Montreal, and Dr. John N. E. Brown, of Detroit General Hospital, broke the oral routine by showing and explaining lantern slide views of hospital appliances, and of English and German hospitals in construction, respectively.

The Secretary, Dr. Dobbie, and the executive generally, are to be congratulated on the programme presented. To quote Dr. Boyce, in his presidential address: "It is very short-sighted policy on the part of

Canadian hospital boards not to insist upon its superintendent attending the meeting of the association. Many thousands of the people's money have been saved in this way."

When the absolute dollar-and-cent truth of this statement is realized by hospital authorities, it will be made an imperative condition by trustee boards, if not by the government department, that each hospital should be represented at these annual conferences. Until then it is next best and equally imperative that a copy of this government issued report should be applied for by every hospital in Canada.

GREATER CARE IN OUT-PATIENT WORK

As time goes on, the slap-dash methods of examining out-patients and the prescribing of "shot gun" prescriptions will become less frequent. Such methods have brought the medical profession more or less into disrepute and enlarged the army of christian scientists and other quacks.

To make a diagnosis takes time. No man can properly handle forty cases in the out-clinic hour, nor thirty, nor twenty, nor ten. If he does four or five or even fewer average cases he does enough. Such intensive study is good both for the patient and for the physician.

In every large out-patient dispensary it would be well to have a differentiating examining physician—a man of experience, discerning, tactful and kindly.

In doubtful cases, he might refer the patients to one department after another until the correct diagnosis was made. Some such case might require a stomach analysis, a blood examination, a skiagraph, a special examination of the eyes, etc. Between each examination the case would report to the differentiating officer or his assistant, who would collate the findings and give direction as to the final department to which the patient would go for treatment.

The time has passed when out-patients pass like dumb-driven sheep in and out of a pen, with only cursory professional attention. The scientific, humane element must obtain in future. Skill plus kindness must supersede pretence plus routinism.

A very limited number of out-patient departments only are doing the right sort of work. The more one hears of the work of the average out-clinic, the less occasion he has for gratification at the quality of work done.

One must not omit to mention the thousand-fold improvement in the out-patient work in New York City, as relates to the division of the work among the various out-door agencies, the standardization of the treatment, the social service movement, which followed the serious study of conditions there. But the wholesale methods of examination and treatment to too great an extent still prevails.

Original Contributions

*PRESIDENT'S ADDRESS

By Dr. Thos. Howell, Supt. New York Hospital, New York City.

Members of the American Hospital Association:

Ladies and Gentlemen,—At the Boston meeting it was voted to admit into the Association as associate members hospital physicians, surgeons, pathologists and superintendents of training schools for nurses.

It affords me much pleasure to announce that a goodly number of these have availed themselves of the opportunity to become members.

Their presence at these meetings will operate undoubtedly to bring about a spirit of helpful co-operation and to enlarge the sphere of the Association's activities. This means increased efficiency for American hospitals. We now have, I believe, the largest and most influential hospital organization in the world.

On behalf of the old members, I wish to extend a most cordial welcome to the new ones. We hope that they will take an active part in the discussions, for we feel that there is much to be learned from them.

I have heard the criticism made that our programmes deal too largely with theoretical subjects to the neglect of the practical every-day ones.

Originally, only superintendents were eligible to membership in the Association and the papers and discussions were strictly along the lines in which they were particularly interested. But, as the Association grew and other hospital workers were invited to become members, it became necessary to arrange programmes that would appeal to the various classes represented in the membership.

The great American Hospital Association of to-day bears but slight resemblance to the little association of hospital superintendents of fifteen years ago, and it owes greater obligations to

*Read at the Meeting of the American Hospital Association, St. Paul, Minn. August, 1914

the public. It is no longer an association solely for superintendents, and I do not believe that many of us want it to be. We are proud of its development along broader lines.

As I view it this Association should deal with the broad, exceptional or involved problems, leaving the simpler and commoner subjects to smaller organizations such as the Round Table of Boston, and the Hospital Conference of the City of New York.

Undoubtedly there is a field for these small, informal associations, and I strongly urge superintendents throughout the country to thus get together in groups for mutual improvement through the interchange of ideas and experiences.

At almost every meeting of the Association there have come up for discussion, in one form or another, questions as to the best plan of organization for general hospitals. A number of excellent papers on this subject have been read, and have elicited much discussion. But so far we, as a body, have taken no decisive action.

This is a question which has many sides and angles, and one which deserves most careful study. New hospitals are being founded constantly and old ones are being reorganized, and their trustees and officers are asking, "What is the best plan of organization for us to adopt?" Unquestionably this Association, representing trustees, physicians, superintendents and directresses of nurses, is the one best qualified to give an authoritative answer to this question. It would appear that this is a matter that might well be referred to a committee for investigation and report.

The Committee on Development in 1908 recommended that the Association should consider the practicability of conducting its business through a Council or House of Delegates.

The desirability of making this change in our method of government becomes more apparent and urgent each successive year. The organization has grown rapidly of late and has now reached a point in its growth where it has become unwieldy in respect to the conducting of its business meetings.

Just as the town meeting is a satisfactory method for governing a village, but is too cumbersome to be employed when the village becomes a city, so with organizations like this—the time comes when primitive methods of government must give way to others more practicable and efficient, even if less democratic.

The rank and file of the members attend the meetings to hear the papers and discussions, to extend their acquaintanceship, to visit institutions, and are not particularly interested in the purely business affairs. Would they not derive more benefit and satisfaction, if they could refer the routine business matters to a representative council of their own choosing?

This would render it possible to present better programmes, as the business meetings now consume time that could be more profitably utilized. It was necessary this year to decline several excellent papers, for the reason that no place could be found for them on the programme.

It would appear that such a council would ensure the stability of the Association by giving it a continuity of administration which it now lacks by reason of the fact that comparatively few persons attend the conventions regularly year after year and participate in the business routine. A study of the lists of those registering at the various conferences shows that the attendance is influenced largely by the geographical location of the convention city.

I would suggest that only those who are qualified by years of experience in the affairs of the Association should be chosen as councillors. They should be elected, not appointed, and should serve for several years with partial retirement each year.

It has been suggested that the membership of the Association should be composed of hospitals rather than of individuals representing hospitals.

The inquiry which suggests itself is whether any considerable number of the institutions not represented at present would unite with the Association if the suggested change were made.

Many hospitals now have from two to eight members in the Association. Would the number of new members be sufficient to offset the loss of the old ones?

It would appear that a hospital which is so small, or which lives its life so far apart from other institutions that its superintendent, at least, is not interested in the Association, is not likely to become interested in its corporate capacity.

As to the expense of membership in attending meetings, is it at all probable that hospitals which are not represented at present would be likely to make such appropriations?

One objection to corporate membership is that it destroys any real test of fitness for membership. If a hospital can become a member, it follows that any person connected with it, no matter how unfitted to occupy the place, can become a component part of the Association with the right to office, to vote upon important questions, and even to use the machinery of the organization for selfish purposes.

It may be stated as a general rule, that we appreciate association membership which we gain by individual merit, and have little regard for honors and opportunities which come to us through outside influences.

Taking everything into consideration, it would appear that it would be better to devise other means for increasing the membership of this organization. One way would be to make it so practical and useful that all institutional people would be compelled to recognize the desirability of becoming members.

Most of you have heard about the Hospital Bureau of Standards and Supplies of New York. This Bureau is an association of hospitals and charitable institutions, maintained by annual dues. It was established under an agreement to which at the present time thirty-four institutions are parties. Having been in existence for over five years, it has passed the experimental stage and may be regarded as a success. The business of this association is transacted by an executive committee composed of hospital superintendents and a purchasing agent. The executive committee, which meets monthly, gives the purchasing agent such suggestions and advice as may be of assistance to him in preparing suitable specifications, and in negotiating advantageous agreements with dealers.

My purpose in mentioning the bureau is to call your attention to the fact that it is a success; and to advise that hospitals, whose geographical location renders impracticable their affiliation with the present association, should carefully investigate the question of co-operative purchasing with reference to the establishing of similar organizations in various sections of the country remote from New York. Such organizations will, I believe, prove not only profitable but educative as well.

"How can we obtain more competent and permanent employees," is a question that hospital officials frequently ask.

To solve this problem is difficult. That hospitals do not pay their employees as generously as business houses pay theirs is well-known, and this undoubtedly operates to the disadvantage of hospitals in securing suitable applicants for positions.

Small wages, long hours and little opportunity for advancement render hospital service unattractive to most persons; and the average employee does not hesitate to sever his connection with the institution at the first opportunity.

This frequent shifting of employees not only seriously handicaps the work of the hospital, but makes it doubly difficult for the permanent force, who in addition to their own duties must be continually training new people for the various positions. It is indeed fortunate that there are in every hospital a few fairly permanent employees. It is their faithfulness that makes possible the operation of institutions. Without them there would be chaos. The trouble is that there are not enough of them.

In an endeavor to render hospital employment more attractive, and thereby secure a more permanent and efficient body of workers, the Governors of the Society of the New York Hospitals decided several months ago to establish a pension system in their institutions—the New York Hospital, the Bloomingdale Hospital for Mental Diseases, the House of Relief and the Campbell Convalescent Cottages. The entire expense is borne by the society, the employees not being required to contribute to the pension fund.

While several of the states provide old age pensions for their hospital employees, private hospitals have been reluctant to take up the matter, fearing that questions of legality might be raised, and that the expense entailed would be prohibitive.

At the New York Hospital no legal obstacles were found, and the expense incurred is not excessive.

The plan adopted provides pensions for employees who have reached the age of 65 years, and who have been in the service of the hospital for 15 years; for those who have reached 60 years of age and have been in the service 20 years; for those who have reached 55 years of age, and have been in the service for 25 years; and for those who have completed 30 years of service, regardless of age.

It is provided that the minimum amount to be paid as a pension shall be $15 a month, and the maximum $125 a month.

The pension allowance for any employee to whom a pension is allowed on account of age or length of service is as follows:

For each year of service an allowance of one per cent. of the average monthly pay received for the five years preceding retirement. To illustrate—an employee in the service for thirty years and receiving an average salary of $100 per month for five years preceding retirement would be entitled to 30% of $100, or $30 a month.

The function of a hospital is generally admitted to be fourfold: the expert care of patients; the teaching of medicine to physicians and medical students; the advancement of medical knowledge; and the training of nurses.

Most American hospitals were founded for the purpose of caring for the sick and injured, and not until recent years has there been any general appreciation of their educational responsibilities.

Hospital authorities, in the past, assumed that if they provided liberally for the care of the sick they had discharged their obligations to the community. Conditions have changed gradually, and many trustees now recognize that the educational function of hospitals is a most important one, in fact only secondary to that of caring for the sick.

One factor which has contributed largely to the lowering of the scientific and educational standards of hospitals, is that the attending physicians have been, through no fault of theirs, dilettanti in hospital work. They have given comparatively little time to it. They have been on duty in the hospital for only two or three months annually and the remainder of their time they have devoted to their outside practice. Naturally then on returning to their hospital duties after an absence of nine or ten months they have found themselves unfamiliar with the development of modern hospital methods. It has been impossible with interrupted services for them to thoroughly qualify themselves as hospital physicians, or as teachers of clinical medicine.

It is the recognition of this deplorable condition which has influenced a number of hospital boards to provide continuous services for their attending staffs. In many other hospitals this

question of continuous service is being discussed earnestly; and it seems safe to predict that eventually a majority of hospitals, especially those in the larger cities, will adopt this plan and thereby increase their scientific and educational productiveness.

It is now quite generally conceded that no physician who is not in constant touch with hospital work can hope to reach the highest rank in his profession, and the time will soon come, if indeed it is not already here, when it will be a generally accepted belief that no hospital which adheres to the old plan of rotating service can hope to attain a commanding position in the hospital field.

In changing over from rotating to continuous service some temporary sacrifice on the part of members of the attending staff will be inevitable. But by exercising a little ingenuity in arranging the services and in making the assignments this can be reduced to a minimum, and in the end the patients, the hospital and the staff will be benefited by the change. The patients, not having frequent changes of physicians, will receive better care; there will be more scientific medical work done; and the educational output will be of a much higher order. Hospitals will be held in higher esteem and will be better supported. This may appear to be a mercenary view to take, but it is nevertheless the correct one, as is evidenced by the splendid support given to those hospitals holding high rank as scientific and educational institutions.

The following is an incomplete list of American and Canadian hospitals which have continuous service:

The Columbia Hospital, Pittsburg, Pa.
The University Hospital, Philadelphia, Pa.
The German Hospital, Philadelphia, Pa.
The Medico-Chirurgical Hospital, Philadelphia, Pa.
The Hahnemann Hospital, Philadelphia, Pa.
The Women's College Hospital, Philadelphia, Pa.
The Samaritan Hospital, Philadelphia, Pa.
The Jefferson Hospital, Philadelphia, Pa.
St. Luke's Hospital, New York, N.Y.
The New York Hospital, New York, N.Y.
The Roosevelt Hospital, New York, N.Y.
Bellevue Hospital, New York, N.Y.

The Presbyterian Hospital, New York, N.Y.
Massachusetts General Hospital, Boston, Mass.
Massachusetts Homeopathic Hospital, Boston, Mass.
Peter Bent Brigham Hospital, Boston, Mass.
Carney Hospital, Boston, Mass.
Children's Hospital, Boston, Mass.
St. Vincent's Hospital, Worcester, Mass.
St. Mary's Hospital, Rochester, Minn.
City Hospital, Minneapolis, Minn.
City and County Hospital, St. Paul, Minn.
Lakeside Hospital, Cleveland, Ohio.
The Royal Victoria Hospital, Montreal, Canada.
The Montreal General Hospital, Montreal, Canada.
Hospital for Sick Children, Toronto, Canada.
Toronto General Hospital, Toronto, Canada.
St. Michael's Hospital, Toronto, Canada.
The Western Hospital, Toronto, Canada.
St. Margaret's Hospital, Kansas City, Kan.
Bethany Hospital, Kansas City, Kan.
St. Joseph's Hospital, Kansas City, Mo.
Swedish Hospital, Kansas City, Mo.
German Hospital, Kansas City, Mo.
Mercy Hospital, Kansas City, Mo.
St. Luke's Hospital, Kansas City, Mo.
Kansas City General Hospital, Kansas City, Mo.
The Iowa Methodist Hospital, Des Moines, Iowa.
The Mercy Hospital, Des Moines, Iowa.
The Clarkson Hospital, Omaha, Nebraska.
Omaha General Hospital, Omaha, Nebraska.
Presbyterian Hospital, Omaha, Nebraska.
Wise Memorial Hospital, Omaha, Nebraska.
Methodist Hospital, Omaha, Nebraska.
Johns Hopkins Hospital, Baltimore, Md.
The Charity Hospital, New Orleans, La.
The Touro Infirmary, New Orleans, La.
Harper Hospital, Detroit, Mich.
The Washington University Hospital, St. Louis, Mo.
St. Luke's Hospital, St. Louis, Mo.
Jewish Hospital, St. Louis, Mo.

St. John's Hospital, St. Louis, Mo.
St. Louis Mullanphy Hospital, St. Louis, Mo.
St. Mary's Hospital, St. Louis, Mo.
Missouri Baptist Sanatorium, St. Louis, Mo.
Alexian Bros. Hospital, St. Louis, Mo.
Kingston General Hospital, Kingston, Canada.

There is another important matter, also coupled with the question of education, to which I desire to direct your attention. I refer to the question of autopsies. The physicians of the United States are to-day seriously handicapped in their clinical work by lack of opportunity to study pathological anatomy. They have nothing like the opportunities in this respect that the physicians of Canada, Germany and England enjoy.

Statistics compiled by the Public Health, Hospital and Budget Committee of the New York Academy of Medicine show that of patients dying in seventeen leading American hospitals post-mortem examinations were made on less than twenty per cent.; while three Canadian hospitals reported sixty-seven per cent.; five English hospitals seventy-eight per cent., and eight German hospitals eighty-nine per cent. as coming to autopsy.

The expert care of the sick depends primarily on the last refinements of the science and art of diagnosis. Without this, therapeutics is simply meddling. It is absolutely impossible for even the best trained internist to maintain a high plane of diagnostic medicine without the final test of autopsy on those cases that die. It is natural and proved by experience that without this spur physicians will settle back into slovenly technic and loose processes of thought.

What is the meaning, if not this, of the statistics collected by a Boston physician who noted that a malady not difficult to recognize escaped detection eight times out of ten? And this is but one of his many embarrassing disclosures! No hospital can be sure that it is even efficient as a hospital without the constant stimulus to its physicians of numerous post-mortem examinations.

In no less degree is the autopsy theatre a necessity to the student. Grounded in theory by precept, trained at the bedside by experience in the wards, he carries away with him no single complete or permanent mental picture unless he has seen and

handled organs from a like case in the post-mortem room. Without this first hand knowledge his art and his science are pure theory; he does not really comprehend the disease.

It must not be forgotten that of medical students the majority will go into practice with a certain stock-in-trade in the way of knowledge to which but small addition will be made in the routine of general practice. If their knowledge is to mean anything they must be well-grounded in the principles of medicine founded on morbid anatomy.

To those students who elect to train themselves as teachers, specialists or investigators at present in American hospitals we offer comparatively little opportunity.

As things stand to-day we are not able in American hospitals to train an expert clinician who would rank with the head of a German hospital. This is true mainly because he would find here no adequacy of autopsy material to give him the needed experience as a pathologist. Of the present-day Americans who have established reputations in internal medicine almost every one has been forced to go to Europe for pathology.

What is true of the clinicians is even more true of the pathologists; they all must of necessity go to large European cities to find the material for their training.

The members of this Association can, if they will, be of great assistance in improving these present conditions. It is our duty to educate hospital trustees, legislators, undertakers, and the community as to the desirability of holding autopsies. Only when we are thus thoroughly interested and working together for the common end may we expect to see the removal of this serious obstacle to the proper development of our medical education.

There are those who assert that this Association has failed in its avowed mission: "The promotion of economy and efficiency in hospital management."

To support their assertions these critics point to the increasing expenditures of hospitals during recent years. They ignore the fact that the cost of every kind of enterprise—commercial, philanthropic and religious—has largely increased; and they apparently do not appreciate how much more is done now by hospitals for their patients than was done ten or fifteen years ago.

Fifteen years ago the use of the X-ray as a means of diagnosis was in its infancy; the social service department had not been instituted; nurses were too few; there were not enough internes to attend properly to the clinical work; there were no trained dietitians; very little laboratory work was attempted; and in many instances the business management was so inferior that hospitals were looked upon by patients with much distrust, and by business men with mild derision.

As to the increased cost of commodities with which hospitals to-day have to contend, I find on comparing average prices of 1913 with those of 1906 the following percentage increases: meats, 48%; poultry 21%; butter, 38%; milk, 48%; cream, 45%; absorbent gauze, 22%, and coffee, 42%.

In the face of these facts, I ask, can anyone successfully maintain that we are not doing much more for our patients and for the community than we were a decade ago, or that we are not paying greatly increased prices?

To complete our case, let us now compare the per capita costs of ten years ago with those of to-day. In 1903 the average daily per capita cost of 14 of the representative hospitals of the country was $2.14, as compared with $2.47 in 1913. This is an increase of less than 16%, and it is very much less than the average percentage of increase in the cost of everything which is comprised within the range of hospital business.

I think contributors to hospitals have reason to be pleased with the results which have been obtained with their money in recent years.

The American Hospital Association is not soliciting flattering commendation, nor is it resenting frank and deserved criticism, but it feels justified in claiming no small share in the achievement of these satisfactory results by disseminating throughout the length and breadth of the land information and advice which have helped so materially in improving institutional conditions, and with such an insignificant increase in per capita costs.

"Question Drawer"

A QUESTIONNAIRE

By Phoebe Dody.

On the eleventh of May, 1910, the following letter was sent to the superintendents of some sixty odd hospitals located in towns of 15,000 to 150,000 inhabitants, in the states of New York, Pennsylvania, Connecticut and Massachusetts, the names being taken impartially from *Polk's Medical Register and Directory of North America*:—

Dear Sir,—In planning for a new general hospital which we need and hope to build, we should greatly value the experience of other cities as to the necessary size of a hospital site. We shall be, therefore, very appreciative of your courtesy if you will help us to form a judgment on that point by kindly answering the questions below.

Very Respectfully,

Questions.

1. Capacity of your hospitals, beds.
2. Area of your site.
3. Do you find your site large enough?
4. What would you consider the necessary minimum area for your hospital?
5. Any remarks you may be willing to add.

To this letter fifty-three replies have been received, and they are summarized, wherever definite enough, in the following table, and appended quotations from the remarks made by the superintendents:—

Table.

City.	Beds.	Area of site.	Large enough.	Necessary Minimum.
Albany, N.Y.	360	5 acres.	Yes.	5 acres.
Allentown, Pa.	100	1 2-3 acres.	"Yes for present needs."	
Batavia, N.Y.	45	1 7-8 acres.	Yes.	
Binghamton, N.Y.	64	2 1-2 acres.	Yes.	
Braddock, Pa.	70	1 1-6 acres.	Yes.	"That depends."
Bradford, Pa.	85	6 1-2 acres.	Yes.	6 acres.
Canandaigua, N.Y.	65	1 3-4 acres.	Yes.	7-8 acre.
Columbia, Pa.	60	2 1-3 acres.	Yes.	
Corning, N.Y.	25	1-2 acre.	"Yes for three stories."	
Danbury, Conn.	60	4 acres.	Yes.	
Dobbs Ferry, N.Y.	30	5 1-2 acres.	Yes.	
Easton, Pa.	100	"About a city block."	No.	
Elmira	80	15 acres.	Yes.	8 acres.
Fall River, Mass.	66	12 acres.	Yes.	4 acres.
Fitchburg, Mass.	50	400 acres.	Yes.	10 acres.
Franklin, Pa.	30	5 acres.	Yes.	Has its own garden.
Gloversville, N.Y.	50	4 acres.	Yes.	2 acres.
Jamestown, N.Y.	60	1 1-2 acres.	For present.	"Nothing less."
Lancaster, Pa.	50	1 1-2 acres.	Yes.	1 1-4 acres.
Lawrence, Mass.	100	11 acres.	Yes.	4 acres.
Lock Haven, Pa.	60	3 acres.	Yes.	"1 to 2 acres."
Lynn, Mass.	90	2 acres.	Yes.	
Meriden, Conn.	50	1 1-2 acres.	Yes.	1 acre.
Middletown, N.Y.	37	3-4 acre.	No.	
Mineola, N.Y.	70	"Several acres."		
New Bedford, Mass.	120	4 acres.	Yes.	
Newburyport, Mass.	40	9 acres.	"Yes for present needs."	
New Haven, Conn.	225	8 acres.	Yes.	"Our area is the minimum."
New Rochelle, N.Y.	60	.....	Yes.	
Norristown, Pa.	52	5-8 acre.	No.	
Northampton, Mass.	75	13 acres.	Yes.	
Norwich, Conn.	64	10 acres.	Yes.	
Oil City, Pa.	60	7 acres.	Yes.	5 acres.
Oneonta, N.Y.	25	1 1-10 acres.	Yes.	
Oswego, N.Y.	60	1 1-3 acres.	Yes.	1 acre.
Poughkeepsie, N.Y.	75	15 acres.	Yes.	"1 1-2 to 2 acres in addition to the ground actually covered by the buildings."
Quincy, Mass.	50	4 3-4 acres.	Yes.	2 1-2 acres.
Reading, Pa.	75	1 city block.	Yes.	
Rome, N.Y.	50	In top floor of a city block.		
Sayre, Pa.	55	10 acres.	Yes.	1-2 acre (A R.R. accident hospital.)
Scranton, Pa.	100	1 city block.	Yes.	6 acres.
Springfield, Mass.	150	4 acres.	No.	"Undecided."
Stanford, Conn.	35	12 acres.	Yes.	8 acres.
Syracuse, N.Y.	100	8 acres.	Yes.	
Troy, N.Y.	125	"7 lots."	No.	
Utica, N.Y.	75	4 3-4 acres.	Yes.	
Waltham, Mass.	100	5 1-2 acres.	Yes.	
Warren, Pa.	75	2 1-4 acres.	Yes.	
Watertown, N.Y.	20	20 acres.	Yes.	5 acres.
Wilkesbarre, Pa.	125	1 3-4 acres.	"Yes at present."	
Williamsport, Pa.	162	2 1-2 acres.	Yes.	2 acres.
York, Pa.	70	"We have plenty of ground to build additions."		

REMARKS.

Albany has also 80 acres for tuberculosis hospital.

Columbia: Their site, 2 1-3 acres, is large enough, "but if ours was a large or a rapidly-growing town we would double the ground area." They add, "You should secure ground enough for the hospital buildings, and Nurse's Home, laundry building and an isolation building for contagious diseases which may develop after admission of patients, such as small-pox and measles among children."

Easton: "We would find our site (about a city block) large enough if our grounds were all together and level. As it is, we are situated on the top of a hill and our grounds divided by a street."

Elmira: "Our grounds (15 acres) are unnecessarily extensive, but give plenty of opportunity to expand."

Fitchburg: "Our hospital is located one mile from the centre of the city, and has a farm in connection with it. If you are choosing between a site in the centre of the city and one removed a little as ours is, I should advise you to decide on the one removed. Then you can protect the hospital by cheap land on all sides and free it from noise, and insure a good supply of fresh air."

Gloversville: "The original building had 25 beds, but was not large enough. The average 28 patients for the year. Have a training school of twelve nurses, with one graduate nurse as assistant and a dietitian who helps in the instruction of nurses."

Lynn: "It would be inconvenient to have any smaller site" than their present two acres.

Meriden: "Ample ground room to provide for the future is always desirable."

Middletown: "Our hospital has outgrown its capacity, and our accommodations are entirely inadequate." They plan to enlarge on an adjoining lot now occupied by a cottage.

New Bedford: "We have a good deal of space (4 acres), with lawns, but shouldn't like to reduce it. We bought land on the outskirts of the city about fifteen years ago, and to protect ourselves have bought additional land from time to time, which has proved a wise thing to do, as the city has grown and we have increased our buildings. So many hospitals make the mistake of building in the thickly-settled parts of a town or city. Transportation does not mean very much in these days of rapid transit, automobiles, etc. Get out into the open should be the hospital maxim."

Norristown, finding 5-8 acre too small, advises "as large an area as you can possibly secure and the hospital in the centre. The area of the ground for this hospital is entirely too small; have no room for improvement."

Northampton: "I would not wish to have other buildings within one hundred feet of the hospital buildings."

Norwich: The Backus Hospital "is fortunate in having plenty (10 acres) of room. It would be hard to say what would be the minimum area for any hospital. Get all the room you can—high ground, good drainage, and plenty of sun."

Oil City thinks it "unwise to build a hospital in the crowded portion of a town or city; and there are many times when the need of a separate contagious department is very imperative, also a separate department for maternity work."

In Oswego "the grounds around the buildings are quite large (1 1-3 acres). It would of course be possible to get along with less providing the building should be directly on the street."

Quincy supposes "a hospital might do with less than that amount (2½ acres) in a city. We do not find ours (4¾ acres) too big."

Reading: "In my opinion a hospital with space surrounding is much more desirable."

Rome: The hospital is in the top of an over-big hotel on the main business street—a strange situation, which seems to give very little help to us in Ithaca.

Springfield writes that at "St. Vincent's Hospital in Worcester, which is one of our (Sisters of Mercy) hospitals, we have an entire square, comprising about eight acres, which is a better lot of land for a general hospital than at Springfield," where they have about four acres.

Stamford has just bought its 12-acre site to build, having found its "present hospital very inadequate." It expects to have 125 beds.

Syracuse: "The site should be in open country if practicable. Our site is elevated and practically free on all sides. We have plans drawn for another scarlet fever hospital with five pavilion units for 125 beds. We care for scarlet fever, diphtheria, smallpox, and occasionally for measles and erysipelas if we have room for the latter."

Utica: "The grounds we have (4¾ acres) are considered none too large. A hospital should be so situated that it would have plenty of air and light on all sides."

Waltham: "Our plant includes (on 5½ acres), besides the general hospital, contagious wards and a nurses' home. As the contagious has to be quite separated from the general, it is difficult to answer No. 4. Two acres would be a minimum area for the general hospital."

The Ithaca City Hospital has 35 beds, and its site is a little less than 30,000 square feet, or approximately two-thirds of an acre.

Hospital Equipment

APPEARANCE, STRENGTH AND CONVENIENCE

BY H. F. BLANCHARD, ESQ., TORONTO.

In conceiving and carrying on the construction of modern public buildings there should be, and when handled by competent architects and engineers there are, three main items for consideration:

1st. Appearance or Design.
2nd. Strength and Durability of Construction.
3rd. Convenience and Protection of Occupants.

The infinite matters of detail which must be met before the construction of a building can be complete may all safely be said to come under one of these heads, each of which, but more particularly the third, we shall discuss briefly.

APPEARANCE OR DESIGN.

This phase of the matter gives room for much activity and originality, and must be considered largely in conjunction with the second subdivision.

STRENGTH AND DURABILITY OF CONSTRUCTION.

No building of size or importance is now designed without the best shell construction. Steel framework, combined with brick, concrete or terra-cotta, forms the basis of nearly every structure of importance, producing a building physically and usually artistically correct, durable, and because of detail, arranged for the

CONVENIENCE AND PROTECTION OF FUTURE OCCUPANTS.

Considering these three matters jointly, we have a building arranged to meet all the purposes for which it has been built, sufficiently strong to withstand all stress or strain, and to endure against natural wear and tear and action of the elements. We have a building combining all these features with beauty of design and finish, but we have not gone far enough until we have

combined these features still further in our protection of future occupants and taken advantage of every means within reach to make that protection absolute.

The base of any operation is of supreme importance, and in steel frame, concrete, brick and terra-cotta construction we have the best, but again we have not gone far enough.

We have got to apply every known method to every item in the scheme, suiting them all to the imposed conditions of design, duration, convenience and protection and making each one above all else fireproof.

There is not one consideration in the art of building which deserves so much attention as the subject of fireproofing, and modern building now demands this attention on a more comprehensive basis than ever before.

Too often the main items such as framework, etc., are studied and made fireproof, and matters of detail which are entirely as important entirely neglected.

Too often this framework is made fireproof, and even the subdividing partitions within the framework fireproof, only to have the connecting links between the subdivisions caused by the framework or walls and the partitions, in other words the doors and windows, installed in inflammable materials, utterly destroying the advantages gained by fireproof shell construction, simply because that construction does not in itself go far enough.

Fireproof materials can never prevent fire from occurring within spaces which they enclose, but fireproof materials, if they are used rightly, absolutely will prevent fire from spreading to any other space, and that is the sole object of their use. Fire which cannot spread has no terror, nor is it any longer a menace to life or property.

Lose it, or make insufficient effort to retard it, and it immediately becomes the most destructive agent ever known.

In hospitals, perhaps more than in any other building, is absolute fireproof construction necessary, and the lack of it practically criminal, all for reasons which are entirely obvious, and at the same time this construction must be devised so that it will harmonize with the general design, so that it will, if possible, add to the beauty of the building instead of detracting from it. It must be designed structurally to meet all imposed conditions, and

it must suit the convenience of future occupants of the building —in all these considerations affording them the utmost protection.

Until a comparatively recent time the manufacture of fireproof interior and exterior finish has not been carried on in a way to meet all of these conditions.

Fireproof windows have been of galvanized iron construction, with heavy members and a lack of any variance in design. Fireproof doors have been tin-covered, with no consideration of beauty or range in detail, or they have been iron or copper-covered, paneled and moulded, but because of the very nature of the product often uneven in surfaces and given to swelling and warping.

Under these conditions there has been a natural prejudice against a wide-spread use of such products in spite of the protection which they would have given, but present-day methods have overcome every disadvantage, and there is no longer any excuse, from an artistic standpoint, for the omission in any interior or exterior openings, of absolutely fireproof materials, nor for the construction of any members of finish, such as base, wire cornice, or chair rail, except in a similar manner.

In the treatment of hospitals as fireproof buildings, the question of sanitation must also be considered, all surfaces being kept flat or rounded, doing away with crevices or indentations in which dust will so easily collect.

To perfect products which meet all of these requirements has not been the work of a day, but through long experience and careful study the desired result has been obtained, and, without question or doubt, the standards so derived demand the attention, consideration and finally their use by every owner, architect or builder interested in modern construction.

To outline these products, hollow steel alone is invariably used for all interior work, and bronze alloy, 80 per cent. copper, drawn over wood cores by means of machined dies, performs a similar service for all exterior members, the elimination of other materials having been caused alone by the superiority of the two mentioned.

Interior doors and trim members, in detail—doors to stairs, doors from corridors to rooms and between adjoining rooms, base,

chair rail, picture moulding, wire cornice, interior window trim, in fact every member of interior finish, may and should be constructed in hollow steel, the doors completely lined and insulated with asbestos board on all sides of stiles and rails, and in the panels. For hospital usage these doors are made with absolutely flush panels, no moulded surfaces occurring at any point, all trim members and jambs entirely smooth, with rounded edges where edges must occur—as a whole—fireproof beyond a doubt, and in this connection it is interesting to know that doors such as these, in pairs, five feet wide, have been tested by the fire underwriters at their laboratories and have withstood for an hour a forced temperature of over 2000° on the fire side of the opening in which they were installed, with a corresponding increase of 20° on the opposite side, or a radiation of less than 1 per cent.

This data is accurate and a matter of record which can be verified at the laboratories at any time. Products such as this surely demand recognition.

In finish the most beautiful effects imaginable are obtained. The most intricate grains of every kind of wood are matched so perfectly that it is impossible to tell that the product is not wood. It has every good quality of the wood in its appearance, and yet it lacks that one unpardonable feature which invariably attends the latter, in that it will not burn. These finishes are produced by six coats of enamel, each one of which is baked in an oven at a temperature of 300° Fahrenheit. At completion all surfaces are rubbed to a dull eggshell gloss, and because of having been baked the enamel is hardened and will withstand the most severe wear and rough usage without chipping or becoming in any way disfigured.

In hospitals a beautiful white finish is generally used, to the exclusion of all others, and can be produced as effectually and as serviceably as the wood grains.

Bronze or copper finishes are produced, and frequently entirely flat colors, such as green or maroon, in fact any finish imaginable may be transferred to the steel, and all by means of several applications of the baked enamelling process.

For exterior use, in detail, for all exterior doors, entrance and vestibule doors and all exterior windows there is absolutely

nothing which can compare with bronze, and, as so often imagined, the cost of such products is not comparatively high. Sheet bronze is used of a gauge entirely sufficient to be durable beyond question. These sheets are cut to size and applied to the wood cores which form each separate member of a door or window, the application being under high pressure through machined dies, ensuring surfaces absolutely smooth, mouldings as sharp and true as if themselves machined—altogether a construction which when finished is simply without fault.

All joints are made either invisible or of what is known as the "hair line" type. In other words, the appearance of the surfaces of these bronze-covered products is the best that can be produced by any kind of manufacture, and the cost at the same time far below that of cast or plate construction.

Bronze-covered windows, glazed with wire glass, are absolutely fireproof, and for economy and convenience of upkeep they have no equal.

Bronze finishes are perhaps more beautiful than any others known, the expense for upkeep is negligible—never any painting or re-finishing—and no fear of decomposition of any kind.

All recent constructions of world-wide fame have given their absolute stamp of approval to interior steel finish and exterior bronze-covered windows and doors, and in this they must be followed by every future meritable construction, and so by every architect, engineer and owner who stands for what is right and best.

The pioneers in the production of steel trim, bronze-covered windows and doors may well point with pride to such monuments of their ingenuity, combined with the ingenuity of those who have worked out the science of fireproofing in its other branches, and have made possible and safe and sane:

The Woolworth Building, the Metropolitan Tower, the Municipal Building, the Vanderbilt Hotel, the McAlpin Hotel, the Ritz-Carlton Hotel, all located in New York City; the Winnipeg Electric Chambers, the L. C. Smith & Hoag Buildings, in Seattle; the Los Angeles Hall of Records; the Rockefeller Building in Cleveland; the North-Western Mutual Life Building in Milwaukee; and last, but not least, the Dominion Bank Building of Toronto.

In hospital construction particularly their efforts must be acknowledged. They have made absolute safety possible, and they have materially added in effecting more perfect sanitation and modern convenience.

Such structures as the New German-American Hospital in New York bear out this statement to the full.

Every exterior opening in this building has been filled in bronze-covered materials, and all interior finish is hollow steel throughout, all doors flush panel and baked enamelled in mahogany, an inserted strip of "Holly" completely lining each side of every door several inches back from the edges, giving enough contrast to create a finish sufficiently beautiful for any location or usage imaginable.

The Cook County Hospital, in Chicago, Ill., one of the largest hospitals in the world, is another fine example of the same treatment.

The hollow steel flush panel doors contained therein are finished in pure white baked enamel—sanitary, absolutely fireproof, and in complete harmony with the surroundings.

To combine these three qualities otherwise would not be an easy, if a possible, test.

TORONTO GENERAL HOSPITAL

THE Hydro-Therapeutic Department is now completed and in charge of competent officials who are capable of giving Electric Light, Vapor, Nauheim, continuous Baths and Massage, etc.

The charges for these treatments are moderate.

Appointments can be made for patients, non-resident in the hospital, by phoning Toronto General Hospital, Adelaide 2800.

Maintenance and Finance

REPORT ON HOSPITAL FINANCES AND COST ACCOUNTING

BY WM. O. MANN, M.D.,
Superintendent Massachusetts Homeopathic Hospital,
Boston, Mass.

THE subject of hospital finances and cost accounting has been so thoroughly covered at previous meetings of this Association that I feel that very little can be added to what has already been written.

The New York hospitals, a number of years ago, adopted a system of financial accounting which has been copied by numerous other institutions, so that there is now an opportunity among the larger hospitals to make a comparison between the costs of different departments.

Some institutions have attempted to ascertain the detailed cost of each department; for instance, the cost per 100 pieces in the laundry; the cost of feeding a nurse as compared with one of the help; the cost of feeding a private patient as compared with a ward patient. I can see that this may be a good thing for the individual hospital to check up the detailed cost from month to month and from year to year, but I do not believe that it follows that because one hospital can do a certain thing at a certain cost that the one across the street from it can do the same thing.

Some hospitals cater to a large number of paying and private patients, while others cater to only the free class, as in a municipal hospital. It stands to reason that the food cost in the smaller, semi-private hospital is larger than in the free hospital; that the nursing cost per day will also be larger, because the paying patient and private room patient demand and receive more than the free ward patient.

I believe in a system whereby one can know the monthly cost per patient and the monthly cost of food per inmate. If this is

done, one can check up with the preceding months and preceding years and make comparisons with his neighbors.

It is well to make a check on the laundry, because if one finds that it costs $2.50 per 100 to do the laundry in the institution, while it can be done outside for $1.50 per 100, it seems poor business policy to continue to maintain a laundry. The large commercial plants now have the laundry business down to a science and are in a position to do it fully as cheaply as an institution can do it.

At the Massachusetts Homeopathic Hospital we try to check up the cost of different articles by months and years, and we use what we call a comparative expense book for that purpose, an illustration of which is before you. This book has a column for practically every item that is purchased. Each column shows the months of the year and has a space for four years opposite each month. You thus have the comparative cost or comparative amounts of supplies before you for four years. It means about an hour's work for two people once a month to analyze the bills. The per capita cost is figured every month and the food cost per inmate is also figured monthly and placed in this comparative expense book, where it is easily available.

We consider this book a valuable one, as we are able from year to year to compare the cost of the different supplies and to know whether or not we are becoming more wasteful or more economical.

We also have simplified charging supplies to the different outside departments and to the wards. One requisition weekly is originally made out by the head nurse, or the one in charge of a department. You will notice by the illustrations before you that there is a column for quantity, one for the name of the article and a dollar and cent column. These requisitions are approved by the superintendent and sent to the proper department to be filled. After they are filled, they are returned to the office, where a clerk prices up the articles and totals them at the bottom. They are then filed and at the end of a month, the totals are added together and each department or ward is charged with what has been furnished. This system saves a great deal of duplicate writing, and we find it very simple and requiring no extra labor.

During the past summer, we have been able to figure the cost of our laundry, and we find that by including the wages of employees, the board of employees, electricity, gas, steam, water, insurance and depreciation, that the cost per 100 pieces is $1.34.

At the Massachusetts General Hospital, the cost of the laundry is $1.29 per 100.

At the Massachusetts Homeopathic Hospital, we have for a number of years used voucher checks in paying our bills, which means that we do not require receipted bills from the firms we deal with and this system is being adopted very generally by other hospitals, I understand.

We have also found that by discounting the bills on a ten days' basis we have made a saving in the year 1912 of over $800.

At the Presbyterian Hospital, in the City of New York, they have adopted a system of order requisitions, receipts for supplies and material, and storeroom requisitions, which are along the line that I have mentioned that has been carried on for some time at the Massachusetts Homeopathic Hospital.

From Dr. W. H. Smith, of the Johns Hopkins Hospital, I have received the following:

"We are installing a cost clerk, who will be located with the chief storekeeper, and by whom all requisitions will be charged up against the various departments of the hospital, including food. That is, the raw material, such as eggs, milk, etc., which is sent directly to the wards and other departments. Meats and other foods sent to the main kitchen will be charged up pro rata. The nurses' home, having its own kitchen, will be charged directly for everything it gets. I feel that by this system of charging directly to each department, everything except the cooked food, and charging each department pro rata for the number of people in that department, either employees or patients, we will have eliminated as much of the guess-work as is possible, and that we have brought down the question of cost accounting to a practical basis without carrying it too far, which I think would happen if we attempted to gauge the prices of the various cuts of meat going to the different departments and to weigh out the vegetables, etc., from the main kitchen."

Dr. Howland, at the Massachusetts General Hospital, writes as follows:

"*Bills Payable.*—Bills are paid as heretofore at various intervals during the month, in order to take advantage of the discount offered by dealers for prompt payment. In the past, a recapitulation of all bills paid each dealer each month was made on a form of voucher, and this voucher sent to the dealer at the end of the month to be receipted and returned, after which it was filed with the bills as evidence of payment.

These vouchers were frequently held by the dealers, and this made it necessary to write for them in order to complete the files. Preparing and mailing these vouchers, together with checking their return, consumed considerable time, and also cost the hospital about $5 a month for postage. These vouchers have now been abolished as entirely unnecessary, thus making a saving in labor and about $60 a year in postage. The cancelled cheque is now considered by the leading business houses as sufficient receipt.

BILLS RECEIVABLE, PATIENTS' AND DOCTORS' ACCOUNTS.

All money, from whatever source, passes through the hands of the Cashier, and by her is distributed on a daily sheet to the various departments to which it belongs. This sheet is balanced each day and a bank deposit slip to correspond in amount with the daily sheet is made.

A petty cash fund is carried by the Cashier, from which are paid all small cash bills which are presented at the office. This fund, when depleted, is made good by cheque and entered in voucher register as any other bill. This method reduced the petty cash entries from 100 to 125, down to 4 or 5. A receipt is now taken for every cent paid out, and these are filed with the bills.

Pay Roll.—This was formerly handed in on the morning of the 27th of the month by the heads of departments, who anticipated that everyone would work the remaining three or four days. In the event of anyone being absent after the payroll was handed in, a slip was sent to the office stating that the employee had lost time, beginning at a certain time. If this employee returned to work again before the first of the month, another slip was handed in, showing the time of returning to work.

The names of employees were all copied from the sheets received from departments on to another sheet, on which was entered the total wages due, and this sheet was signed by the employee.

Our new sheets are filled in by the department heads, showing the name, position, days lost, days employed, and rate. The total wages are figured in the office and entered directly on to the sheets received from the departments. This saves copying over 400 names, which in itself takes considerable time. The payroll is now handed in the last day of the month, which does away with the numerous slips concerning lost time.

The information contained on this sheet regarding days lost and employed, deductions, etc., is of much assistance to the paymaster, as he can readily make explanations to any employee who believes that his wages are incorrect, where formerly it was necessary to send them to the office for explanation.

Journal and Ledger Accounts.—The journal entries have been abolished as serving no useful purpose. Ledger accounts, which were kept with the various items shown on the financial statement, and which are used solely for the purpose of getting a trial balance every quarter, have been discontinued, and in place of these a recapitulation is made in the back of the debit cash book and voucher register."

At the Massachusetts Homeopathic Hospital we have also come to the conclusion that these journal and ledger accounts are of no use, and we have done away with them.

It is well for every hospital to adopt a simple form of cost accounting or comparison of costs of different articles purchased, in order that they may know just how much they are spending for each item, and in order that they may compare the cost of these items with what other hospitals are doing. If one hospital finds, for instance, that the medical and surgical supplies per patient are costing more than at several other hospitals, it is wise to find out whether the buying is not being done at a disadvantage, or whether the supplies are not being used too generously. This is a comparison that should be made, I believe, by every hospital, annually, in order that they may know just what they are doing.

One can readily see that the cost of heat and light will vary according to the construction of the individual hospital. A hospital on the pavilion plan will cost more to heat than a hospital built on the block plan, but with the medical and surgical supplies, laundry, housekeeping supplies, etc., a comparison can easily be made.

For anyone who is interested in the detailed accounting of each department, I wish to refer to a book published during the year 1913, "Cost Accounting for Institutions," by William Morse Cole, assistant professor of accounting in Harvard University. This book goes into detail, and shows a very elaborate system of cost accounting. Personally, I do not believe that it is necessary or wise to go into this detail, because the results obtained do not offset the extra cost of the bookkeeping and clerical hire.

THE CANADIAN HOSPITAL ASSOCIATION MEETING

We would again urge every reader of The Hospital World to do his or her utmost to keep free the dates of the Canadian Hospital Association meeting, to be held in the King Edward Hotel, Toronto, on October 20th, 21st and 22nd.

President E. H. Young, of Rockwood Hospital for the Insane, as also Secretary H. A. Boyce, of Kingston General Hospital, are doing their utmost to make the 1914 meeting a banner one. The King Edward Hotel management have assured the Association that everything in their power will be done to cater to the convenience and comfort of the members. We hope to publish the programme in full in our next issue, when our readers will see that it covers a very wide range of subjects to hospital administration.

We trust that any reader of The Hospital World not already a member of the Canadian Hospital Association, will at once register with Dr. H. A. Boyce, Kingston, Ont.

Selected Articles

KING'S COLLEGE HOSPITAL

(Continued from the July issue.)

Description of the Engineering Plant.

It was decided to use Diesel oil engines for driving the electric generators; and Lancashire boilers, working at 80 lbs. pressure, for the heating and hot water services. One factor determining this combination was the fact that if a well should have to be sunk to provide water for the hospital, in the event of the water rates becoming excessive, the hardness of the well water would be detrimental to the boilers if the large quantity of make-up feed required for steam engines were used without previous softening.

For heating it was decided to employ a low pressure steam heating system by radiators. For the sterilizer, dispensary and for vapor baths, kitchen and other services requiring high pressure steam, a special heating main is provided, so as to give any required pressure up to 30 lbs. per square inch.

Hot water is supplied by calorifiers placed in the engine room, heated by steam at 50 lbs. pressure, the condensed water being returned to the feed tank. The heat discharged to the circulating water from the Diesel engines is utilized in working up the supply to the calorifiers for the hot water service, instead of being, as is nominally the case, run to waste. To ensure a positive circulation an accelerator is provided.

The boiler rooms and engine rooms are capacious. Suitable provision has been made at a convenient place for the refrigerating plant.

At the back of the boiler is a Green's economizer of 120 tubes, with electrically driven scrapers, and a destructor furnace for destroying the refuse. The coal is delivered direct to the stoking level. A weighbridge is placed convenient in which to weigh the coal. Hot air furnace fans are provided and a steam blast

is ready as a reserve. Normally the boilers will provide sufficient steam by the use of the natural draft alone.

The electrical supply is at 100 volts. The switchboard is divided into seven panels, one for each generator set, one distributing panel, and two for booster and battery. The battery of 50 cells has a capacity of 840 ampere hours.

The store is placed so that the ice blocks can be delivered from the refrigerating tank direct to the store by overhead trolley; and from a door at the other side of the store, from the same trolley, can be dropped on to trucks, in which it is distributed throughout the hospital.

Four calorifiers are provided of 850 gallons storage capacity, and each capable of providing 3,000 gallons of water per hour at a temperature of 180° F.

Two electrically driven vacuum pumps are provided to withdraw the water and air from the steam pipes through a condenser, and delivered into the feed tanks. From these feed tanks two feed pumps (electric) deliver the water as required to the boilers.

The main engines are placed on a reinforced concrete bed made in one solid block and insulated by ashes from the surrounding soil. Special pains were taken in constructing the engines to avoid vibration or sound from the engine plant, which, when running, might penetrate into the adjacent wards.

An automatic local inter-communicating telephone system is used. There is also an electrically controlled clock system throughout the hospital—120 clocks being provided. The master clock is in the telephone exchange room. The same battery controls the telephones, clocks, electric bells, and ten automatic indicators. These indicators show, at convenient places throughout the hospital, the arrival and departure of the members of the staff. They are operated from the porter's lodge at the entrance hall.

The gong in each corridor of the nurses' home is operated from the matron's office. There are two sets of push buttons. On pressing one push the lamp corresponding to it is lighted and so remains until the second push is pressed to stop the bell. Thus complete control is given to the matron, enabling her to ensure that every nurse has adequate notice of the time to get up.

The foul washing house is provided with disinfecting rooms. In this house are steeping tanks for disinfecting and purifying the foul linen brought straight from the wards in solid receptacles. A steam jet is used for sterilizing and purifying these receptacles. This method of dealing with foul linen by steeping tanks was required by the medical staff of the hospital in preference to the rotary steam foul washing machines which are preferred at other hospitals.

A steam disinfector is used for mattresses and larger goods.

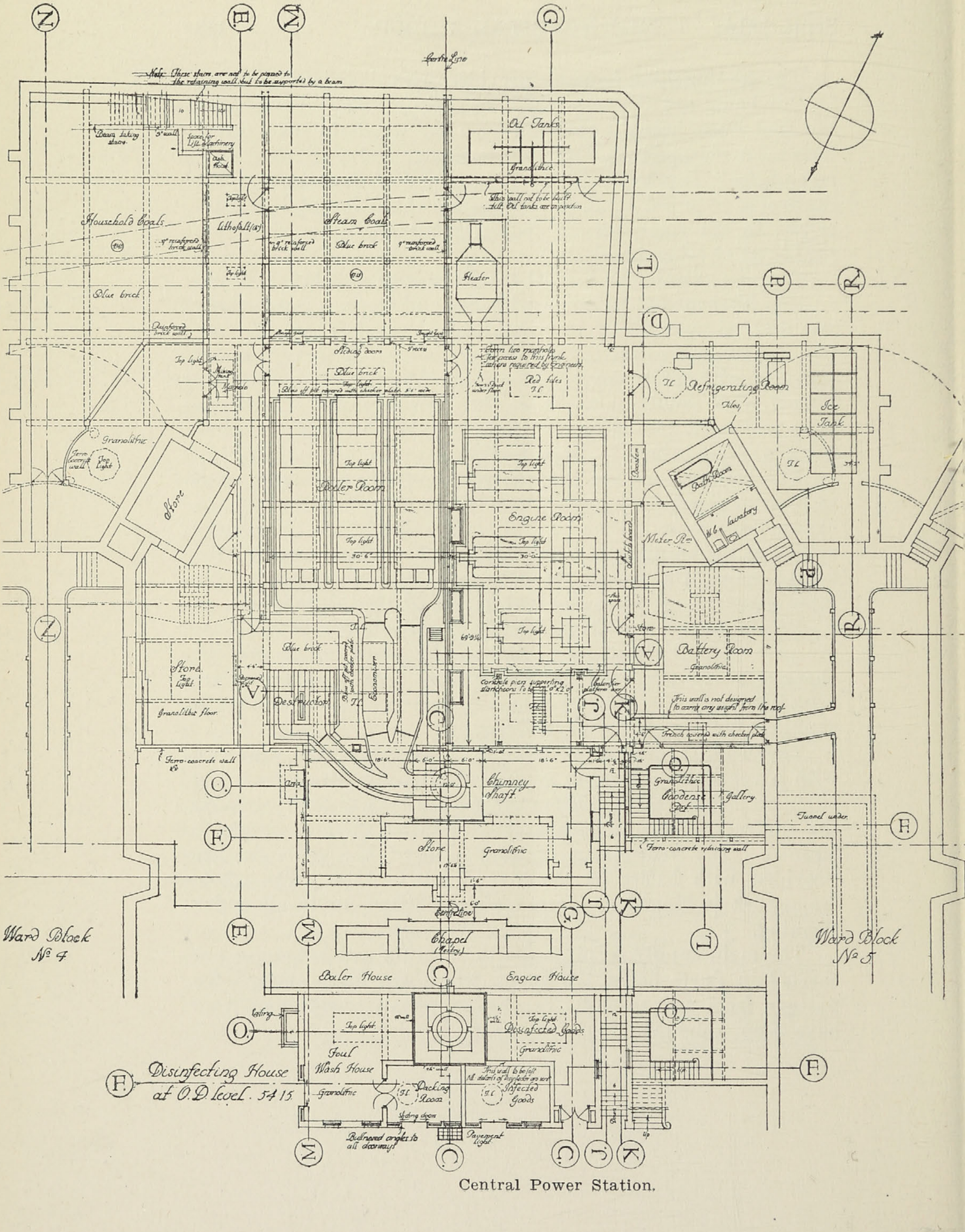
The kitchens are supplied with gas and steam. Gas cooking was decided upon for ovens and grills. It was felt that the time had hardly arrived for the use of electricity. The gas ovens are provided with safety devices, the tops being provided in two, and hinged with counterbalances, so that any explosion inside the oven will open the covers to allow the escape of the exploded gases without injury to those in attendance.

The boiling pans are fixed on cantilevers in the walls, so as to free the floors from obstruction. By a special device the discharge from these boiling pans is carried direct into the heating system of the hospital, and any condensed water escapes into the return main. But this is not the case with the potato and vegetable steamers, owing to the foul nature of the discharge.

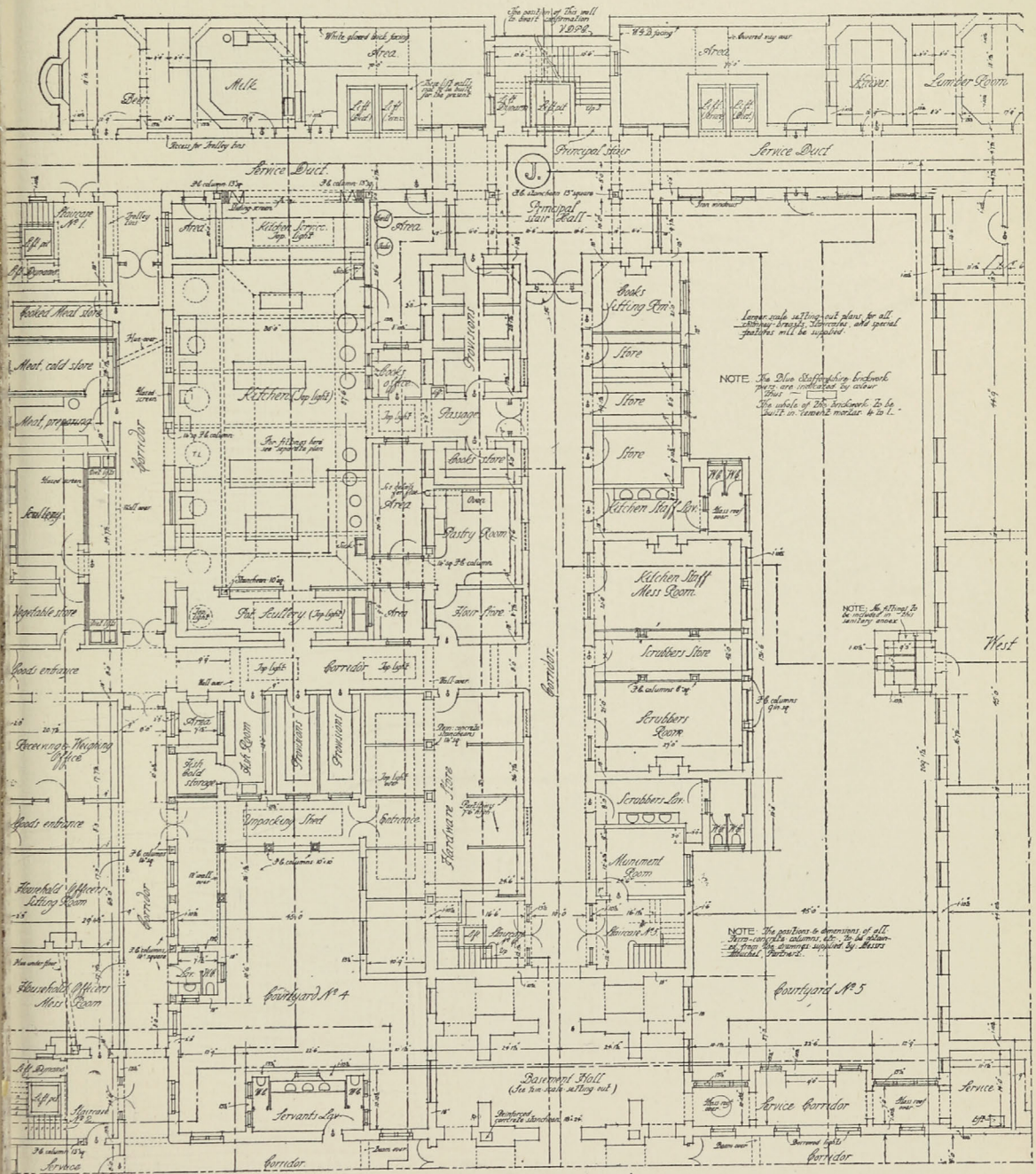
Potato paring machines, a knife machine and a bacon slicer are provided. Extract fans draw off the odors, which are discharged above the level of the hospital. The gas ovens are ventilated into the same system. A pasteurizing apparatus is supplied for the children's building.

The heating ventilators have been placed in the windows, with a ventilating opening supplying fresh air direct from the outer air behind them. There are no projections or recesses on the surfaces of the radiators, thus allowing them to be easily cleaned. The ventilating openings behind the radiators are provided with baffles of the hinged louvre type. The whole framework is hinged and can easily be lifted up to allow for cleaning.

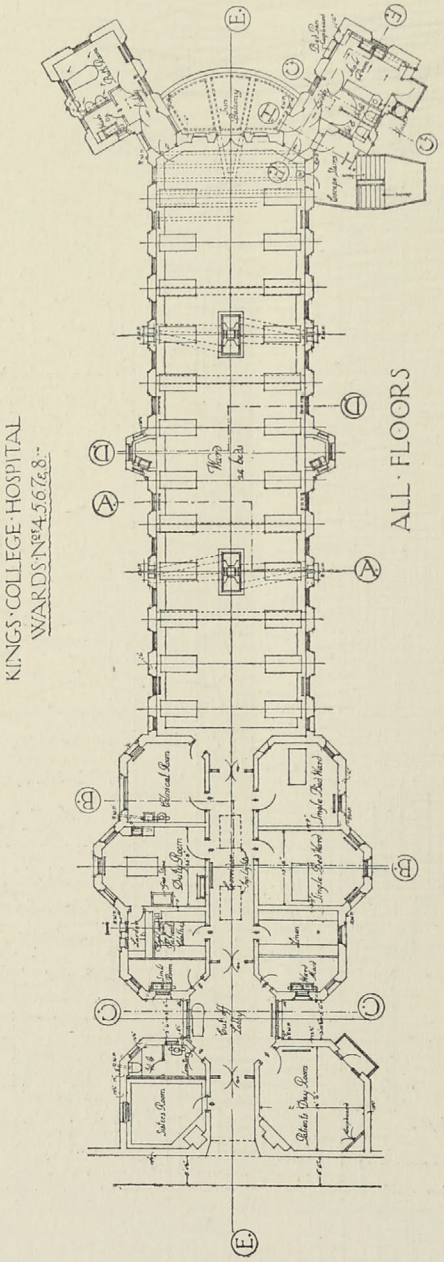
The main supply of pipes for the heating and hot water are carried in ducts below the floors, which are large enough for passage from end to end. In shallow places removable covers have been provided.



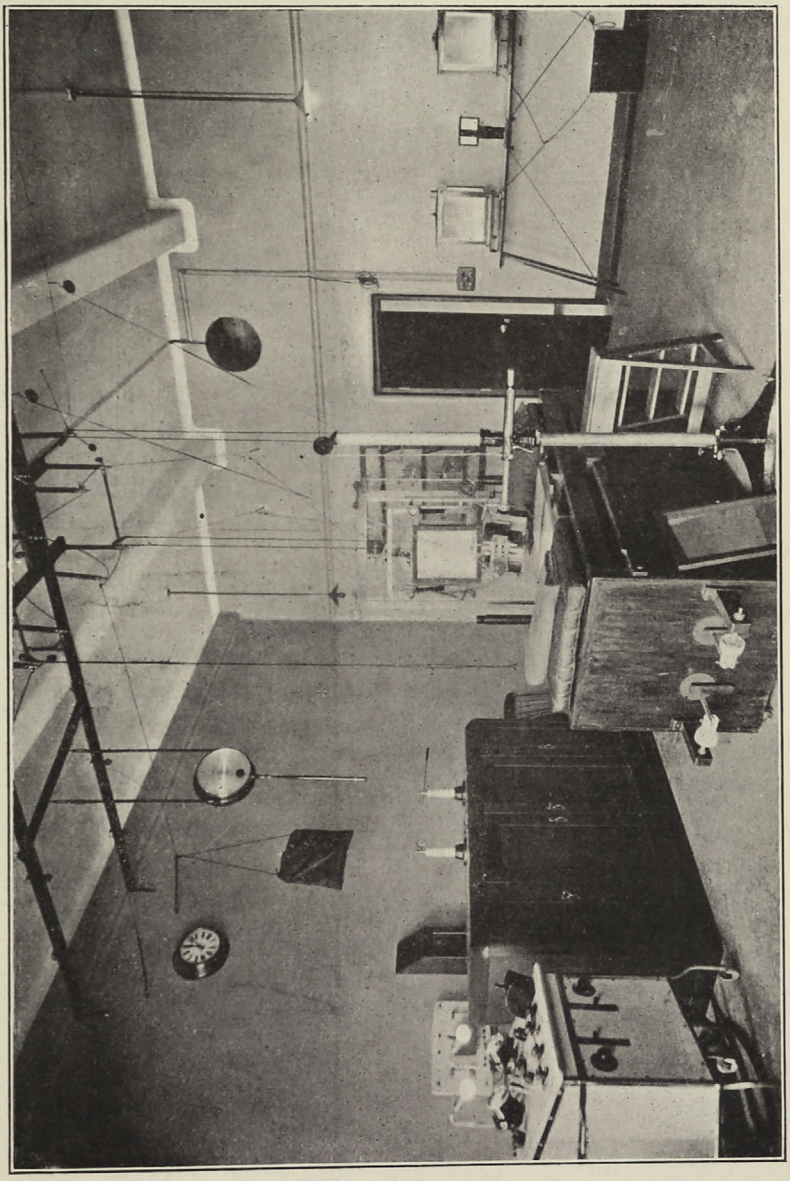
Central Power Station.



Kitchen and Stores Department.



Ward Block.



Radiographic Room.

To avoid vertical pipes showing on the face of the walls, the pipes (in the administration block) run outside of the walls, special care having been taken with the covering of the pipes. In the ward blocks the windows jams have been used, by making vertical splays hollow. The outside face of these splays has been made by removable concrete blocks fitted with rings and lifting devices, so that access can be obtained to any portion of these vertical pipes if required; workmen fixing the pipes need not enter the wards.

All radiators have been provided with special relief valves and dirt pockets; the use of traps has been avoided throughout.

In the basement and laboratories radiators are dispensed with and uncovered pipes are carried round near the ceilings. Thus, no radiators interfere with the comfort of the workers, who sit at desks in front of the windows and along the walls. A distiller is placed in the laboratory, and also apparatus for the preparation of drugs. Steam is supplied direct from the boiler, and the machines are driven by electricity.

When the main heat is cut off in summer a special main is utilized which runs to a calorifier in the basement of one of the operation blocks. From this calorifier hot water pipes connect with special panelling. Steam pipes are sunk in the plaster of the walls and ceiling, so that there is no visible or projecting heating surface upon which dust can lodge. The walls and ceilings over the heated areas are composed of Durato, which has an expansive co-efficient similar to that of hot pipes. The heating is arranged in sections, which can be cut off individually so as to regulate the temperature. There is an auxiliary battery of radiators placed in chambers under each theatre. The ventilated air passed through these batteries, after cleansing, enters the theatre near the floor, and the foul air is drawn up into spaces surrounding the coving of the theatre roof, and ejected by fans. The controlling valves are outside the operating rooms. Any temperature can be quickly secured.

In the wards the main heat and ventilating is provided by open-hearth stoves placed in the middle of the floor towards each end of the ward. Radiators have been provided as supplementary heating in especially cold weather. Sterilizers and water stills are heated by steam from a special steam main.

The hot water is arranged on the drip-pipe system, being led from the calorifiers direct to tanks in the roofs of the ward blocks, whence it drips down to the various services, the pipes being collected in the basement and returned to the calorifiers.

In all bath rooms of the administration building hot water is supplied to baths through waste preventer tanks, which are kept constantly hot by a circulating coil from the hot water system passing through the tanks. Thus sufficient hot water is supplied by a single pull. This makes for economy.

The hot serving closets, the linen rooms, the patients' clothes rooms, the towel and blanket rails, and the bed pan racks in the wards of the operating theatres are heated from the hot water system in summer time, thus allowing the steam heat mains to be closed through this season.

An electric tea-making and egg-boiling apparatus of special design is provided in the duty rooms of the wards, the supply of hot water being kept on hand to avoid waste of current resulting from boiling water up from the cold.

In the electrical plant the power load, for measuring purposes, is separated from the lighting load. There is a separate main for the control of the pilot lights and of the external lighting. All pendants and brackets throughout the hospital have been designed as to allow of the minimum of projection. The pendants are of plain tubing. There is a light for every bed, and under each bracket is a plug socket. The instrument sterilizers are of the electric type, as are also the bronchitis kettles. A special operating fitting has been designed for the operating department. In the out-patient department the fitting can be lowered. In the main operating rooms the simple swing arm type has been employed. Plugs are provided for cauteries, cystoscopes and other special fittings.

The projection mirror light is supplied in the gynecological theatre, so that the beam may be projected on any required part of the patient. The beam can be concentrated or diffused by the arrangement of mirrors.

Special attention has been given to making the elevators foolproof—absence of projections, special locks, inability to open the door unless the bottom of the cage is on a level with the outside floor. The lifts adjoin the staircases At some distance

are the service lifts. Diet lifts are also provided. Separate lifts are provided in the nurses' quarters and in the out-patient department.

The ventilation, as far as possible, has been by natural means. In the main waiting hall of the out-patient department fresh air inlets have been provided under the floor and led through gratings and baffles past the radiators. A further supply has been brought into the centre of the room through heaters placed in enclosures in the refreshment buffet. Exhaust fans in the roof draw the foul air from the hall.

In the surrounding buildings the air is admitted through roof ducts by positive fans and is carried to the individual rooms requiring ventilation. The switches for starting the fans are accessible from the corridors and rooms, but the speeding is controlled from the engineering plant.

In the lecture theatre of the medical school air is admitted through screens and a battery of heaters placed in the roof and through openings in the upper part of the room. The used air is then drawn out through openings under the seats of the auditorium and discharged by a positive propeller.

In the X-ray room and other departments special light-tight ventilators have been provided, admitting air from the outer atmosphere, but excluding all light.

(*Condensed from The Hospital Gazette.*)

Akron, Ohio, is to have a People's Hospital.

The Twin-City Hospital, of Winston-Salem, N.C., has been completed.

An East Side Hospital is projected for Cleveland.

A new City and County Hospital is planned for Milwaukee.

Book Reviews

The Home Nurse. By E. B. Lowry, M.D., Author of "Herself," "Confidences," "Truths," etc. Chicago: Forbes & Company. 1914.

We congratulate Dr. Lowry upon this most useful book. We say "useful," as almost all books on this subject seem to overlook the importance of nursing in the home, when frequently, of necessity, that duty devolves upon some member of the family with little or no experience in the care of the sick. Dr. Lowry's volume should find its way, and we hope it will, into many households, where it should prove of invaluable aid in facilitating many situations that otherwise are most difficult.

Costruzione Degli Ospedali-Ospizi E Stabilimenti Affini pel Dott. C. M. Belli, of the University of Padova. With 252 illustrations. Published by Ulrico Hopeli, of Milan, Italy. 1913.

Ordinamento del Servizi Negli Ospedali ed Institutioni Affini pel Dot. C. M. Belli, Doctor of Hygiene, University of Padova. With 167 illustrations. Printed by Ulrico Hopeli, Milan, Italy. 1914.

The two above-mentioned books on the construction and management of hospitals and allied institutions are written in Italian. Every hospital worker would gain some profit from looking through these manuals, although, perhaps, only able to appreciate the illustrations they contain. They may know enough Latin and Greek to gain a clue of what is in the text. If he can read Italian, so much the better. In such case he ought to buy these interesting and up-to-date books.

The Psychoneuroses and Their Treatment by Psychotherapy. By Professor J. Dejerine, Professor of Nervous Diseases of the Faculty of Medicine, University of Paris. Translated by Smith Ely Jelliffe, M.D., Ph.D., Adjunct Professor of Diseases of the Mind and Nervous System, Post-Graduate Medical School, New York.

Jelliffe says he has been led to do the translation of this work because he has noted the immense number of minor psychic disturbances which render numerous individuals unhappy, ill, unable to hold their own in their miliew; even making confirmed invalids of many.

Dejerine prefatorily remarks that he was struck with the slight use of medicines in the treatment of hysteria and neurasthenia, and was led to depart from the usual therapeutic methods, and seek the cause of these diseases, outside of the objective symptoms they presented. After briefly reviewing the subject he concludes that in the "moral sphere the bare idea produces no effect, unless it is accompanied by an emotional appeal which makes it acceptable to the consciousness and thus brings about conviction." "It is the faith that saves or cures."

This volume contains 385 pages and comprises 27 chapters. It is divided into three parts: 1, a study of symptoms; 2, a study of the general mechanism of the foundation of the psychoneuroses and their variation; and 3, a setting forth of the therapeutic proceedings and helps.

Every practitioner who has to deal with functional nervous troubles will read this work with much interest and profit.

Die Heilwirkung Des Radiums. Nach einen Vortrage, gehalten vor der Roentgen Society in London, von Dr. Siegm. Sauberman, Berlin, Vienna. To be had by applying to Radium, Limited, U.S.A., 25 W. 45th St., New York City.

This pamphlet, consisting of 40 pages, with 36 illustrations, is the latest publication on the subject of Radium Emanation Therapy. It is of the greatest importance and interest to the physician desirous of using radium emanation in treating those diseases which it influences, on account of its thorough but still concise discussion.

The 36 illustrations contained are, in all probability, the first of their kind ever shown in this country, and demonstrate clearly the effects of the rays and emanation of radium.

NEW HOSPITAL APPLIANCES, PHARMACEUTICAL PREPARATIONS, ETC.*

The Capsheaf Safety Pin

Hospital nurses, of necessity, must be given opportunity of saving time. One way to do so is to use The Capsheaf Safety Pin, *that will not pull out.* It is so made that it *cannot catch in the fabric,* so commonly occurring with other pins. The Capsheaf is strong and coilless and will not bend. A postal card to The Conover Co., 105 Franklin St., New York, will bring you a sample free.

Porcelain Enamel Furniture

It is admitted that the operating room of Shield's Emergency Hospital, Toronto, is the last word in hospital furniture. This and adjoining rooms were equipped by a firm whose name, in porcelain enamel furniture and sterilizing apparatus, is almost a household word. We refer to Scanlan Morris Company of Madison, Wisconsin. The operating table is perhaps the finest in any hospital in America. It is known as the Toronto General Pattern of the B3 Minnesota operating table, having certain new features suggested by Dr. N. A. Powell, of Toronto. The special Bartlett "Noshado Lite" in the operating room is also the work of the same firm, as also the sterilizers and other apparatus.

Paragon X-Ray Plates

Work that approaches the limit of endurance, whether in men or machines, is destructive. This is especially true with X-Ray tubes.

In Radiography, profitable returns depend upon maximum efficiency. Therefore, radiographers have promptly adopted Paragon X-Ray Plates, because they find their tube expense greatly reduced, due to the fact that with Paragon Plates exposures of only one-third to one-fourth the time formerly required produce perfect radiographs. Shorter exposures eliminate the destructive overwork of the tube, and consequently effect an economy.

But the greatest advantage to the science of radiography is not in the reduced *cost* that Paragon Plates have produced, but in the superior *results* they make possible.

Because of their phenomenal speed, the most difficult radiographs are made with ease. Their remarkable detail, sensitiveness to the slightest variation in density of tissues, instantaneous work on gastric and other moving tissues, and great brilliancy of contrast, combine to make Paragon Plates all that their name implies.

* Publishers' Department.

When they had been on the market less than nine months, ninety per cent. of the plates exhibited at two conventions at about that time were Paragon Plates—a remarkable record for a new product—a sure indication that the merits of the plates are in *themselves* and not merely in their *advertising*—and proof that radiographers are alive to their opportunities.

The Keith Fan

Sheldons, Limited, of Galt, Ontario, recently published what they called Keith Fan Catalogue Number 55. It is undoubtedly one of the handsomest and most complete catalogues of the kind that has reached this office in years, and is a credit not only to the printer who got it out, but an undoubted credit to the firm themselves. This catalogue gives a few of the principal points wherein this fan differs from other multiblade wheels. It also gives engineers and architects full information and data regarding what the Keith Fan will and can do. Send for a copy.

Ice Chopper or Shaver a Necessity in a Hospital

Is there anything so comforting to a fevered patient as a cold drink? In a private ward, does not the esthetic appeal to the convalescing patient? If you want to leave a lasting impression on the minds of your private patients when they leave your institution, cater to their appetite and serve, for instance, their iced drinks daintily by using an ice cuber, which cuts the ice in 1½ to 2½ inch cubes. It makes the drink so much more effective. Communicate with W. H. Martin & Co., 59 Front St. E., Toronto, who handle not only all lines of institutional supplies, but hand ice choppers, shavers and cubers. They are a real necessity in any up-to-date institution.

Hospital Call System

One of the most complete Hospital Call Systems recently introduced into any Canadian hospital is that installed in the new surgical wing at St. Michael's Hospital, Toronto. It is a work of art and worthy of the attention of hospital superintendents, especially those contemplating installing some such equipment in their institution. Perhaps the most satisfactory way to do would be to communicate with or call upon The Lintz Porter Co., 27 Yonge St. Arcade, Toronto, who did the work alluded to. This firm are telephone experts, beside hospital work, instal and repair private telephone systems for physicians.

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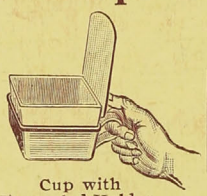
Meinecke

"Simplex Sanitary" Paper Sputum Cup and Holders

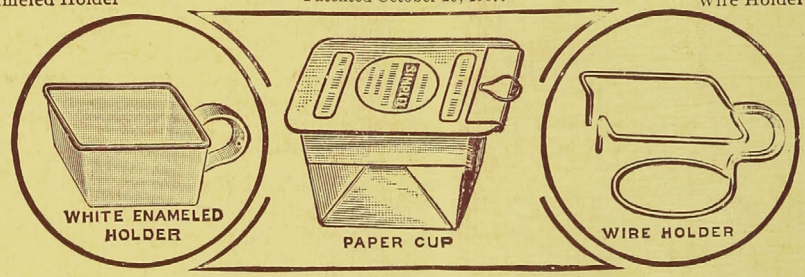


Cup with Enameled Holder

Automatically Closing Cover
Wide Opening
No Unsanitary Flanges

Cup with Wire Holder

Patented October 29, 1907.



The Most Practical Cup, either for Tuberculosis Sanatoriums or General Hospital Use

Seven Reasons Why

1.—It is already folded into shape for immediate use.
2.—Each Cup has a cardboard Cover, attached with a paper hinge, and both Cup and Cover are burned after being in use a day.
3.—The Cover is easily and quickly raised, and closes automatically. This automatically closing cover prevents flies and other insects from coming in contact with the germ-infected sputum.
4.—The wide opening and absence of flanges allow free entrance of sputum.
5—It is made of heavy manila, waterproof paper, which, being light in color, facilitates ready examination of the sputum.
6.—It can be used either with the Wire Holder or the White Enameled Holder. Both these Holders are neat, easily cleansed, and very practical. The White Enameled Holder, being much heavier, is particularly useful on the porches and verandas of Sanatoriums and Hospitals, as it cannot be blown over by the wind.
7.—It is the only Cup that can be used without a holder.

Flat or Knocked-Down "Simplex Sanitary"

For the convenience of Tuberculosis Sanatoriums and Hospitals using large quantities of Sputum Cups, we are prepared to furnish the

"Simplex Sanitary" Paper Cup Flat with Folding Creases

so that they can readily be put together by Assistants or Patients.

When furnished Flat, these Cups are put up 100 in a Box, and 2,000 in a Case, and in this way they take up very little space in the Store-Room.

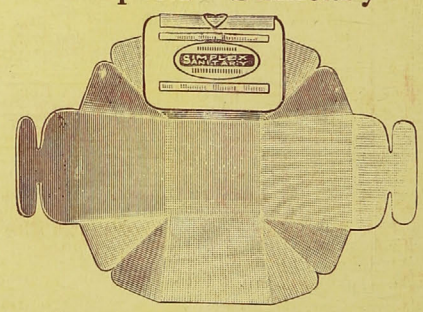


Illustration of Knocked-Down "Simplex Sanitary" Cup with Cover Attached

Free Samples Sent on Request to Sanatoriums and Hospitals

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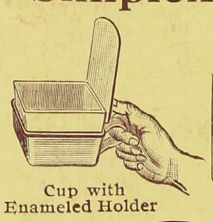

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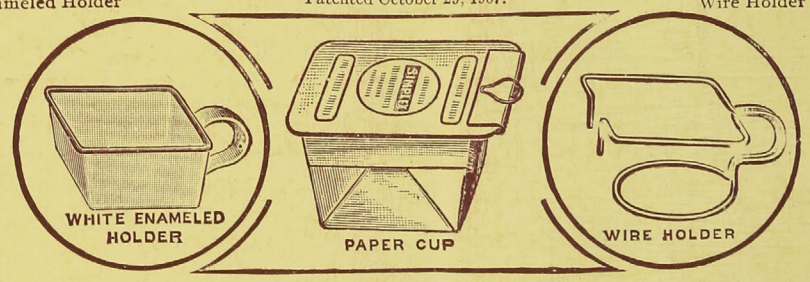

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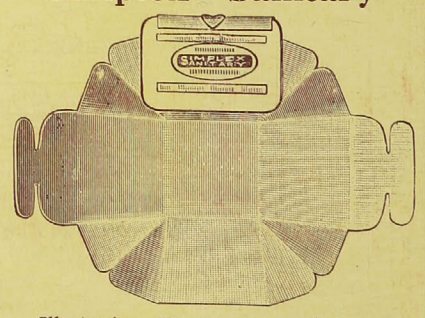

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