





Differs from other preparations of the Hypophosphites. Leading Clinicians in all parts of the world have recognized this important fact. HAVEYOU?

TO INSURE RESULTS,

Prescribe the Genuine

B Syr. Hypophos. Comp. FELLOWS'

REJECT Cheap and Inefficient Substitutes Preparations "Just as Good"

Entered according to Act of the Parliament of Canada, in the year one thousand nine hundred and twelve, by the Publishers at the Department of Agriculture. All rights reserved.



LISTERINE

A trustworthy, unirritating solution composed of volatile and non-volatile antiseptics; extensively and satisfactorily employed in dilution up to 25% as a wet dressing for surgical and accidental wounds.

LISTERINE

Suitably diluted, applied by injection, douche or spray, often serves a useful purpose in catarrhs and conditions involving hypersecretion from mucous surfaces. It is an efficient deodorizer.

LISTERINE

On account of its boric and benzoic acid constituents, forms a suitable lotion in dermatitis following vaccination. In various cutaneous disorders, its use allays excessive itching or irritation, and promotes cleanliness while exercising its antiseptic effect.

Descriptive literature on request

Lambert Pharmacal Company Twenty-first and Locust Streets 66 Gerrard Street, E. St. Louis, Mo., U.S.A. Toronto, Ont.



Ether for Anaesthesia HARTZ

AN ETHER SPECIALLY PREPARED AND PURIFIED FOR ANAESTHESIA

By a new process invented by PROF. G. MICHAELIS

This new process enables us to place with the Profession an Ether far superior to any Ether heretofore sold. By it, impurities, which have up to the present been found in small quantities in the best ethers, have been entirely eliminated.

A SIMPLE TEST MAY BE APPLIED TO PROVE THE SUPERIORITY OF OUR ETHER

If 10-CC of our Ether be shaken with 1-CC of Nessler's reagent, the reagent will not show more than a faint opalescence; while if the same test is applied to other ethers the reagent will at once turn dark, due to the impurities which they contain.

We Guarantee the Quality of Our Ether and Solicit Your Trial Order

SPECIAL HOSPITAL PRICES FOR QUANTITY

THE J. F. HARTZ CO., LTD.

Physicians' and Hospital Supplies

TORONTO

CANADA

Dec., 1917

In those Hospitals where the most advanced methods of feeding babies are practised



is used by direction of the eminent Infant Specialists at the head of these institutions.

Among a great number we name a few :

Sick Children's Hospital, Toronto The Infants' Hospital, Boston Babies' Hospital, New York Mt. Sinai Hospital, New York St. Christopher's Hospital for Babies, Brooklyn Children's Hospital, Philadelphia

Johns Hopkins Hospital, Baltimore St. Vincent's Infant Asylum, Baltimore.

St. Mary's Infant Asylum, Buffalo Michael Reese Hospital, Chicago St. Louis Children's Hospital, St. Louis

Agents for Canada :

Harold F. Ritchie & Co., Ltd. TORONTO

Made by Brooks Barley Co., Boston, Mass.

Bellwoods Private Hospital

MRS. M. E. WHITAKER Superintendent

56 BELLWOODS AVENUE TORONTO

This Institution affords the very best of care, under strictly aseptic conditions. The Management are anxious that Physicians, who have had reason to be dissatisfied with any other Institution and the manner in which their patients were handled, should call and see for themselves that BELLWOODS PRIVATE HOSPITAL is in every respect first class.

Prices moderate, consistent with first-class service.

Telephone College 3798

Toronto's Finest Family Hotel HOTEL WAVERLEY TORONTO, CANADA

Situated at Spadina Ave. and College St. Three minutes' walk from the new Toronto General Hospital and in the centre of Toronto's eminent medical specialists.

An ideal hotel for patients coming to Toronto for consultation or for special treatment.

Rates for Rooms

Rooms with private baths, \$1.50 to \$2.50 Rooms with running water, \$1 to \$2 Club breakfasts, luncheons and dinners at popular prices

Free Taxi Service

Our porters meet all trains, and we provide free taxi service from depot to hotel.

Write for illustrated booklet "W."



Dec. 1917

Send for Catalogue "EE." showing a complete variety of DIX-MAKE Uniforms for all purposes.



They are the correct and officially prescribed garments for nurses

ENROLLED INTO SERVICE

HENRY A. DIX & SONS COMPANY Dix Building New York

ESSENTIAL IN A HOSPITAL



How often the Hospital Superintendent or Head Nurse is puzzled over what is best for use as a Floor or Furniture Polish, something that can be rubbed dry easily and for that reason will not catch or retain dust. Such a puzzle is easily solved by employing

Re-Nu-All Wood Polish

It is the most effective preparation of its kind procurable and is *Made in Canada*. Nothing could be more suitable for a Hospital or large Institution, as it is infinitely better than the so-called Dustless Preparations, leaves a pleasant odor, is disinfectant in action. Another essential in an Institution is

Spic and Span

one of the best cleansers procurable for Hospital Sinks, Urinals, Bed Pans, Steel Knives, Bath Tubs, Enamelled Ware, Kettles, Pots, etc. Spic and Span contains no acid or injurious ingredient, will not injure the hands and will not scratch. Samples of either or both of the above preparations on request.

Domestic Specialty Co., Ltd., Hamilton, Ont.

PHYSICIANS WILL FIND that, where cow's milk disagrees with the baby, causing diarrhoea and cramps with intermittent crying during the night, tense abdomen and general fretfulness,





will immediately give satisfaction. The baby will commence to pick up right away and within a few weeks the symptoms of marasmus will commence to disappear. The Medical Profession should remember that PORTER'S FOOD is a scientific preparation, being specially prepared from wheat flour and oatmeal.

Invalids and Nursing Mothers will derive the greatest of benefit from PORTER'S FOOD, as it is most easily digested, nutritious and satisfying. It is a valuable addition to the household economy, being very useful as a gruel where solid food is not advisable. It can also be used for making custards or soups, adding nutriment to any kind of warm beverage.

Porter's Food is a Canadian product and can be obtained all the year round.

PORTER FOOD COMPANY

Originated 1888

Wigston, Leicester, England Winnipeg, Manitoba, Canada Eastern Representative : S. K. PETERSON, 337 King St. W., Toronto, Ontario



Dec. 1917

THE HOSPITAL ELEVATOR SHOULD BE SAFE-foolproof QUIET-smooth running DEPENDABLE — always ready when needed TO INSURE THESE RESULTS INSTALL The Turnbull Elevator Mfg. Co. TORONTO FOR CONSTIPATION" Passenger or Freight Elevators Samples and data free to the medical profession from FRENCH LICK SPRINGS HOTEL CO. French Lick, Indiana **THE FUNCTION** The of a dentifrice is to promote oral health. Hence, there are certain specific qualifications that a real dentifrice must possess. York Theatre 812-816 YONGE ST. POWDER Every Afternoon does more than is generally understood by the term "cleans the teeth." It removes bacterial Every Evening plaques or films, thus minimizing decay. It re-moves the daily accretion of salivary calculus (tartar)—tartar is the principal cause of pyorrhea. COMPLETE CHANGE EVERY DAY It makes the gums hard and firm, increasing their power of resistance against infection, and The feature picture each day is it cleans and polishes the teeth. As an from the studio of one of the auxiliary in the treatment of following well - known producers : PYORRHEA Monday-"Triangle" it aids in repairing soft, bleeding, spongy, re-Tuesday-"Fox" ceding gums-manifestations of intermediate Wednesday-"World" and advanced pyorrhea. Copy of "PYORRHEA" mailed on request. Thursday-"Metro" Friday-"Triangle" The Dentinol & Pyorrhocide Co., Inc. 110-112 West 40th Street, New York Saturday-"Vitagraph"

WHAT THE DOCTOR ORDERED A physician's practice will grow only in proportion to the recommendation of his satisfied patients. In the successful manner with which he has treated consti-pation many a physician has received recommendation that greatly increased his practice. In most of such cases the pleased patient tells all his friends. "My doctor knew what I needed—he prescribed

Dec., 1917



For Hospital use, the Soap par excellence.

For preparing antiseptic solutions (no weighing, measuring or waste).

For sterilizing hands, instruments and site of operation.

For cleansing wounds (bruises, abrasions, ulcers, etc.).

For disinfecting surface lesions.

For lubricating sounds and specula. It does not affect nickel or steel instruments, but acts on silver or aluminum.

Germicidal Soap lends itself to a hundred uses in the Hospital. Our word and reputation are back of its worth.

Sample with descriptive literature sent on request.

PARKE, DAVIS & CO.

WALKERVILLE

ONTARIO

Eastern Depot-118 St. Paul Street W., Montreal, Quebec.



Flint Varnish and Color Works of Canada, Limited

Makers of

FINE VARNISHES, COLOR VARNISHES AND ENAMELS

Especially Adaptable for Hospital Uses

TORONTO - ONTARIO

Flawless Work, With or Without Screen

Why waste time and trouble with two sets of plates when one will do the work?

Diagnostic X-Ray Plates

are equally good whether used for direct or screen work. Diagnostic plates are faster than the fastest hitherto manufactured. Easy to develop. Fix out clear and free from stain.

AMERICAN PHOTO CHEMICAL COMPANY ROCHESTER, N.Y.

FOR SALE BY

White X-Ray Supply Co., Toronto, Ont. B. C. Stevens Co., Vancouver, B.C. National Drug & Chemical Co., Montreal, Canada

Dec., 1917



Illustrated and descriptive catalogue sent upon request.

Battery Be sure of our exact name Electro Surgical Instrument Co. ROCHESTER, N.Y.

When writing advertisers, please mention The Hospital World.

TORONTO

Liston D

ONTARIO

Dec. 1917



Is the greatest boon ever invented for the treatment and relief of pain caused by damp and cold. Thermogene is a scientifically prepared form of absorbent cotton, medically treated, possessing strong curative and heat generating properties.

Physicians should bear in mind that Thermogene is now used in a very large number of the principal Hospitals throughout the British Empire, and that it has been found most effective. It has entirely supplanted



the old-fashioned poultice, and, once prescribed, will never be replaced. Any Physician who has not as yet prescribed Thermogene is earnestly requested to give it a trial.

Harold F. Ritchie & Co. 10-12-14 McCaul Street Toronto, Ont.

The attention of Medical Practitioners is called to

Elmhurst Private Hospital

33 St. Vincent Street - **Toronto** This is conducted as a first-class Private Hospital by a Graduate of Toronto General Hospital. Physicians will find that it is in every way fitted for Patients who desire nursing where they can receive all the comforts and privacy of their own homes.

MISS ETHEL A. BAYLY Superintendent Telephone North 5975 I take this opportunity of aunouncing to the Medical Profession of Toronto that I GUARANTEE all of my work in

Plumbing and Heating

to be the best. I am prepared to stand behind it and will be glad to be given the opportunity of proving this. Messages from Physicians will be given immediate attention.



Dec., 1917



Х

Dec. 1917



Nothing More

Suitable for Institutional Use Than

SWEEP CLEAN

The Dustless Sanitary Sweeping Compound

It absorbs dust instead of scattering it. It thoroughly cleans linoleum, wood, tile and cement floors---it keeps dust down and freshens the air of the room where used.

The Advance Oil & Supply Co. 254-256 NIAGARA ST. Toronto



HEALTH TRIUMPHS over disease every time you use Lifebuoy Soap. For its mild, healing and cleansing oils are charged with cleansing properties that make it simply invaluable.

LIFEBUOY HEALTH SOAP Mild and pure enough for Baby's skin therefore eminently suitable for yours. The mild, antiseptic odor vanishes quickly after use. LEVER BROTHERS Limited TORONTO A fall Groces



DESCRIPTION OF DOLL. Over 5 feet tall, made of finely woven stockinet. Is durable, waterproof and sanitary. Has copper Reservoir which has three tubes leading into it, corresponding in location and size to the urethra, vaginal and rectal passages. the stock

The Chase Hospital Doll For Use in Training Schools

Adult size, also infant models, 2, 4 and 12 months, and 4-year-old sizes.

Chase dolls are well made of cloth, jointed, and painted with waterproof paint, with internal reservoirs.

The Value

of this substitute of a living model is found in the many practical lessons which can be taught in the class room, such as handling of patients, administering enema, douching, probing in the ear and nose cavities—in short, the complete care of the patient.



We make dolls withoutreservoir if desired. Send for illustrated booklet giving full particulars.

M. J. CHASE 22 Park Place, Pawtucket, R.I.



Dec. 1917





COWAN'S COCOA IS ABSOLUTELY PURE

As a sick-room beverage Cowan's Cocoa is highly recommended on account of its high quality and absolute purity. It is made of the best selected cocoa beans, scientifically blended, and contains no foreign elements. And it is prepared in a large modern factory where the most sanitary conditions are maintained.

THE COWAN CO., LIMITED

Dec., 1917



EPILEPSY Dragées Gélineau

DRAGEES GELINEAU are an antiner-the most rational type, being an association

the most rational type, being an association of Bromide of Potassium, Arsenic and Picro-toxine. The Bromide diminishes the reflex sensibility of the nervous system and the congestive predisposition of the cerebrum in **EPILEPSY**. The Picrotoxine has its ac-tion on the convulsive and spasmodic ten-dencies of neurotics, and, finally, the arsenic is the repairer of the nerve cells. It is with perfect frankness, and with the utmost sincerity that, without pretending to cure every case of Epilepsy, we recommend to the medical profession **GELINEAU'S DRAGEES**, which have given to their in-ventor the most complete satisfaction for 30 years and have earned for him the grati-tude of numerous sufferers. **GELINEAU'S DRAGEES** offer to the practitioner a su-perior weapon, giving him the possibility of a triumph in ordinary cases, and in all cases the certainty of at least a marked improvement.

General Agents for Canada: ROUGIER FRERES, 63 Notre Dame St. East, MONTREAL.

Chalmers & Oakley 615-616 C. P. R. Building, Toronto BONDS, STOCKS and INVESTMENTS MINING SHARES

Phone Adelaide 5453

Dec. 1917



Doctor :

When consulted by a patient suffering from deafness, please bear in mind

The Mears Ear Phone

This instrument will relieve any degree of deafness, no other one manufactured covering so wide a range. Medical men will find the 8 point (96 tone) adjustment feature of The Mears Ear Phone most unique. It is a positive boon to the deaf and by recommending it to your patients you will do them a real service. Enquiries solicited from the Medical Profession.

THE MEARS COMPANY OF CANADA 310-311 Mappin Bldg., 10 Victoria St. MONTREAL

ARTIFICIAL EYE AID If it were not for the Eyeglass, the Spectacle

and the combination of lenses, Scientists and the world would be laboring in darkness.

TORONTO OPTICIANS, Limited 6 BLOOR STREET EAST - Corner of Yonge Street

PHONE NORTH 2824 TORONTO

Oculists' Prescriptions Filled LENSES GROUND ON THE PREMISES



Dec., 1917

What Every Doctor Knows

The value of whisky as a stimulant is well recognized by all physicians. In former years it was customary to specify brandy, but in view of the difficulty of securing genuine brandy it is no longer safe to do so. Most of the so-called brandies sold at the present time in this country are blended compounds made chiefly from alcohol. Under these circumstances it is advisable for physicians to specify what they know will give as good results as brandy, which is pure Canadian Whisky.

WHAT MOST DOCTORS DO NOT KNOW

Not only physicians, but laymen as well, have very little knowledge of the manufacture of whisky. Those who do know, however, do not hesitate to recommend Ganadian Whisky in preference to imported whiskies, because Ganadian Whiskies are distilled by the most approved methods. In Bond, under the supervision of officers of the Inland Revenue Department, and furthermore, the law requires that these whiskies be held for two years after manufacture. This law originated in Ganada and has been copied by many other countries, including Great Britain, which country has recently taken similar steps to protect the public. Formerly whiskies a few days old could be exported from Great Britain, notwithstanding the fact that they were raw and harsh and contained such deleterious matter as fusel oil and aldehydes. In view of these facts physicians will be prudent and wise in specifying Corby's Special Selected Rye Whisky to their patients. Nothing that we can say is stronger in support of its high quality than the following letter from Dr. Milton Hersey Government Analyst for the Province of Quebec :--

"I hereby certify that I have conducted a careful chemical analysis of a sample of Rye Whisky marked "Corby's Canadian Whisky," distilled and bottled in bond by H. Corby Distillery Company, Limited, Corbyville, Ontario. I find it to be a pure whisky of excellent flavor and can recommend it to those desiring a pure rye whisky."

(Signed) MILTON L. HERSEY, M.Sc., LL.D. Prov. Govt. Analyst.

PURE ALCOHOL

On account of the ease by which alcohol may be diluted with water and still remain unnoticed it is desirable to buy your alcohol in a sealed package; which can be done by ordering Corby's Alcohol in five-gallon cans. These are filled and sealed in our Bottling House at Corbyville, Ont., and are guaranteed to be of full strength (65 O.P. Sykes Hydrometer). They are carefully packed in wooden boxes, which makes a first-class package for shipment. By using these cans, which have a handle and spout, there is no loss such as occurs when pouring from a barrel. We have put this package on the market for the accommodation of hospitals or others needing such quantity, and it can be obtained either direct from us or through :

T. AMBROSE WOODS, 327 Dundas Street, Toronto, Ont. (Vendor for the Province of Outario)

(Mr. Woods also carries a supply of Corby's Special Selected Rye Whisky for the accommodation of hospitals and druggists.)

ALL CORRESPONDENCE SHOULD BE DIRECTED TO

T. AMBROSE WOODS, 327 Dundas Street, Toronto, Ont. OR DIRECT TO

> H. CORBY DISTILLERY COMPANY, Limited 670 Shaughnessy Building, Montreal, Quebec

The Hospital World

(Incorporating The Journal of Preventive Medicine and Sociology)

Toronto, Canada

A Journal published in the interests of Hospitals, Sanatoria, Asylums, and Public Charitable Institutions throughout the British Empire.

Editors :

JOHN N. E. BROWN, M.B. (Tor.), Ex-Sec'y American and Canadian Hospital Asso-ciations. Former Supt. Toronto General and Detroit General Hospitals.

Associate Editors :

" Hospital Maintenance and Finance

C J.C.O. HASTINGS, Medical Health Officer, City of Toronto; HELEN MAC-MURCHY, B.A., M.D., Assistant Inspector of Hospitals, Province of Ontario ; and MR, CONRAD THIES, late Seey., Royal Free Hospital, London, England.

" Hospital Equipment and Appliances

N. A. POWELL. M.D., C.M., Senior Assistant Surgeon in charge Shields' Emerg-ency Hospital, Professor Medical Jurisprudence, Medical Department, University of Toronto.

"Hospitals and Preventive Medicine "

J. W. S. McCULLOUGH, M.D., Chief Officer of Health for the Province of Ontario. J. H. ELLIOTT, M.D., Asst. Medicine and Clinical Medicine, Univ. of Toronto.

P. H. BRYCE, M.D. Chief Medical Officer, Dept. of The Interior, Ottawa.

W. A. YOUNG, M.D., L.R.C P. (London, Eng.), Toronto Ont. Consultant, Toronto Hospital for Incurables.

" Nursing Department "

MISS MARGARET CONROY, Boston, Mass.

"Hospital Construction"

CHRISTIAN R. HOLMES, M.D., Cincin-nati, Ohio; DONALD J. MACKINTOSH, M.D., M.V.O., Medical Superintendent, Western Infirmary, Glasgow.

" Medical Organization "

HERBERT A. BRUCE, M.D., F.R.S.C., Surgeon, Toronto General Hospital. Toronto; H. A. BOYCE, M.D., Kingston, Ont.; H. E. WEBSTER, Esq., Superintendent the Royal Victoria Hospital, Montreal, P.Q.; W. A. YOUNG, M.D., L.R.C.P., London, Consultant, Toronto Hospital for Incurables. Toronto.

" Sociology "

J. T. GILMOUR, M.D., Warden, Central Prison, Guelph, Ont.

" Tuberculosis Sanatoria "

GEORGE D. PORTER. M.D., Toronto; J. H. HOLBROOK, M.B., Physician-in-Chief, Mountain Sanatorium, Hamilton, Ont.

All Communications, Correspondence, and Matter regarding Subscriptions and Advertisements TO BE ADDRESSED TO "THE HOSPITAL WORLD," 145 COLLEGE ST., TORONTO, ONT.

Reprints, including Half-tones, etc., Supplied Authors at Net Cost.

Vol. XII.

TORONTO, DECEMBER, 1917

No. 6

Editorials

TORONTO GENERAL HOSPITAL

IN a recent issue, reference was made to the resignation of Dr. C. K. Clarke, as Medical Superintendent of Toronto General Hospital. The report, published a week or two ago in the lay press, seemed to be one pre-H.W.-2

Dec., 1917

pared probably by the Board, and handed out for publication. We desire to say a word regarding the change in Superintendents, and also in respect to the report.

146

Dr. Clarke handed in his resignation some months ago, and it has been regretfully accepted. Under Dr. Clarke's administration, the hospital had been economically run as compared with some eight or nine other large Institutions on the Continent; that is to say, if the per capita per day cost is any criterion.

The Board, in getting pointers from the other hospitals mentioned, apparently were not influenced particularly by one important point-that all the hospitals named, bar one, are superintended by a medical man, not by a layman. In appointing a layman as head of a large institution for the care of the sick, wherein the all-important work is done by doctors and nurses, we are of opinion, other things being equal, that a medical man should be chosen. In saying this, we are not reflecting on the character or capacity of the new incumbent. The work of the steward, accountant, purchasing agent, and of the "hirer and the firer" can be as readily supervised as can the work of the principal departments-the medical and nursing. And the supervision of these latter is pre-eminently the job for a doctor. An assistant to the medical head could look after the subsidiary departments mentioned above, and be responsible to him for their proper running. The medical director should not be made subsidiary to a lay superintendent.

Dr. Clarke has had an arduous experience in a difficult post to fill, and the Board is fortunate in finding him willing to continue in charge of the medical staff and—we presume—the nurses.

As to the report. Is it not about time that the press were allowed to secure admission to the Board meetings, and given more frequent opportunity of inspecting the hospital? The Toronto General Hospital is not a private corporation, but a public institution, supported heavily by the city, less so by the province, by rentals from lands given by the province, and by voluntary contributions. We maintain the hospital would come more into the affection of the public and be better supported if the lid were lifted and the reporters allowed in the Board meetings. We did not always think so; but we do now.

147

THE ROCKEFELLER INSTITUTE

FROM NOTES TAKEN BY DR. J. N. E. BROWN.

DR SIMON FLEXNER, administrator of the Rockefeller Institute, delivered an address on the above subject in Convocation Hall, University of Toronto, on October 25th, in the presence of His Excellency, the Governor-General, His Honor the Lieutenant-Governor, and a goodly number of university people and their friends. Dr. Flexner said in part:—

"One of the members of the staff, Dr. Alex. Carrell, was in France at the outbreak of the war. Dr. Carrell has been connected with the Institute for many years. It was his custom to return to France every summer. He was there on those fateful August days of 1914; and at once offered his services to his country. He was given a small hospital at Campeigne; and it was in connection with that hospital that the Rockefeller activities began.

"The Institute provided Dr. Carrell with laboratory facilities, as he did not feel like asking the French Government to supply them. The Institute also provided him in part with a partial staff.

"He became associated with Dr. Dakin, an English chemist; and they together perfected a treatment for infected wounds which is now playing a considerable part in the surgery of the war. Out of this beginning many of the Rockefeller activities have grown.

"Surgery received a great revolutionary shock at the time of the discovery by Pasteur that bacteria are the cause of fermentation, and the practical application made by Lister—that these bacteria caused suppuration in wounds and that certain chemicals would kill these micro-organisms, stop the suppuration and allow the wounds to heal. During the fifty years which have intervened since their discoveries the practise of surgery has completely changed. From having to do with wounds which were characterized almost without exception with infection, surgery became almost free of infection. During this period the practise of surgery underwent very material change. From

Dec., 1917 THE HOSPITAL WORLD.

being antiseptic—the method introduced by Lister—surgery became aseptic. The object of the surgeon is to prevent infection; and so perfectly is this system now worked out that it is the exception for infection to occur.

"Under war conditions such as arose after the Germans were defeated at the Marne, infection of wounds became very common. The character of the fight was such, the nature of the soil was such, that almost every wound almost immediately became infected and the character of the infection was often very severe.

"Therefore the problems which had to be met were similar to those of half a century ago, rather than those of the immediate past.

"France and Belgium for centuries have been in the highest state of cultivation. The cultivation of the soil is made possible by fertilization. The materials which are used for fertilization carry with them a very large number of bacteria and these bacteria are capable of producing resisting spores which are able to survive a considerable time, so that when the bacteria are carried into the wounds and not neutralized the tissues of the body become developing places for them; they multiply very rapidly and destroy the tissues.

"You have become familiar with the term gaseous gangrene—due to a class of organism developing under circumstances in which rapid death to the tissues ensues. This death of the tissues is associated with rapid multiplication of bacteria which grow in the absence of air, with the result that they disorganize the tissues. Numbers accumulate in the tissues, burrow further, and as they push their way along they carry more bacteria to new parts and in turn subject these to the same character of destructive circumstances.

"Gaseous gangrene was not wholly a new condition. It had been known before. It was a rare consequence of wounds in civil life unless under conditions in which soil containing this particular micro-organism happened to be carred into the wound.

"The discovery of this organism dates from 1892. Up to 1914 some 200 cases of infection due to this micro-organism were reported in literature. In other words we were familiar only with a particular organism which caused this infection.

Dec., 1917

We knew also about the source. We know more about sources now. It has been traced to the intestinal canal of human beings and of animals. It is one of the most common inhabitants of the interior of animals. These soils so highly fertilized and cultivated contained large numbers of the gas bacilli. The clothing even carries spores of the gas bacillus. One would suppose the process through which wool is put through with dyes and chemicals that all living matter would be destroyed. But it is proven to be otherwise. Uniforms that have even been sterilized will contain spores of these bacilli. It is therefore almost omnipresent. The sheep roam over the fields, deposit their excreta on the ground. They lie down in these fields and the wool becomes contaminated. The process through which the wool is put doesn't destroy the organisms. It is therefore possible for men found wounded by shot or shell to become infected through fragments of clothing carried in. Hundreds and thousands of such cases have developed. These bacilli being so wide-spread easily explains the large number of cases which occur. These bacilli are not always of the same degree of intensity. In certain instances the cases are easily remedied by proper measures. In others-numerous instances-the character of the microorganism is of a type which develops with great rapidity and is very destructive in its effect, bringing about a serious form of gangrene leading to amputations and sometimes causing death in a very short period of time.

"Dr. Carrell interested himself in the study of this form of infection of wounds. He made little progress until in association with Dr. Dakin he began to test out chemical antiseptics. Latterly chemical antiseptics were not being used in surgery. Here was a condition in which there was an abundant growth of bacteria—including others besides the gas bacillus—in which no other measure was adequate.

"Chemical antiseptics act deleteriously not only on the micro-organism but also upon the tissues themselves. The microorganisms are protoplasm, precisely as the tissues are. The problem of surgical antiseptics resolves itself into one in which we are to find a chemical that will not harm the tissues but will destroy the micro-organism causing the infection.

"A great many chemicals were tested. Long ago a particular

150

chemical had been used but had been discarded. This was chlorine. Chlorine is the gas which the German gas battalions used with such disastrous consequences. But the chlorine there employed was used in a manner different from that proposed for the tissues subject to wounds. For the purpose of modifying this form of infection by the gas bacillus, many years ago chlorine was used in the form of Lavaret's solution. But its effects were so caustic its use was accompanied by great damage. But chlorine in the hands of Carrell and Dakin was found to be one effective means of controlling gas infection. It would kill the bacteria but would not hurt the tissues. The chlorine was combined with boracic acid. The boracic acid is not used on account of its antiseptic qualities-which are but slight-but to neutralize the alkaline form in which the chlorine was used. This is known as Dakin's Solution.

"To perfect the method and make it applicable and successful in surgical work it required a modification of the ordinary method of surgical procedure. Chlorine has such a great affinity for protoplasm that it attaches itself almost immediately to this substance. Methods had to be found by which this material could be brought into most intimate relationship with all the interstices of the wound, so that every part should be brought under the influence of the compound. The method had also to be further modified so that the solution could be renewed sufficiently often without disturbing the wound. For this Carrell devised a system of tubes connected with a reservoir containing the solution. Pressing a small cock would permit of the escape of the chlorine solution into all parts of the wound, the excess running into the dressing. In this way control of the infection is brought about.

"Gaseous gangrene is a condition in which these microorganisms from the soil grow in the wound and bring about a rapid destruction of the tissues. These tissues are a favorite growing place for bacteria. The bacteria proceed to increase enormously. These tissues dissolve away much as a piece of skin would artificially under the action of gastric juice. The dissolving away of that dead tissue exposes the bacteria to the influence of the solution.

"This new method of treating made a great difference in the morbidity and mortality among the troops.

Dec., 1917

"When it looked as though the United States would be at war with Germany, a demonstration hospital was built on the grounds of the Rockefeller Institute and was modelled after the military hospitals on the Western Front. This hospital shows the people of the United States, particularly in New York, what goes to comprise a military hospital; but it is intended especially to train American medical men in this treatment of wounds. The hospital is made up of unit parts that can be taken down and set up again in any place. It is built on an English plan changed merely to make it more suitable to be built in American shops.

"Once in every two weeks sixteen surgeons come to the hospital, sent by the Surgeon-General to learn under the teaching of Dr. Carrell and French surgeons, brought from France, the proper method of treating these forms of wound infection. They spend time in learning the principles on which the method is based, see cases treated, then try themselves, and note results. Nearly one-half of that time is spent by these men in the laboratory in which they test these chemicals, precisely as was done when the method was worked out. If they understand the principles they will apply the methods more intelligently and more efficiently than if they learned in any other way.

"The gas bacillus was discovered in 1892 by Prof Welch. of Johns Hopkins, and bears his name, though he never gave it that name. I was a pupil of his then; was present when it was first discovered—taking part in the investigation extending through several years. In due time I became interested in other things. It seemed desirable recently, however, to resume our study of the bacteriological aspects of some gas infection of wounds. So about a year ago we obtained from the Western Front a number of cultures made directly from smears taken from infected wounds in soldiers. We had already discovered. that of the various lower animals subject to infection by the gas bacillus, the pigeon was found to be a subject in which the action of the bacillus bore a closer resemblance to that in man than any other. A number of domestic animals are subject to this infection, with varying degrees of susceptibility. Those that have a high degree of susceptibility are not suited for a study of this problem, because they do not approximate human

152

beings who have but a relatively high degree of susceptibility. The pigeon having proved that it did possess a degree of resistance exhibited by human beings promised to be a useful object from which to reconsider the subject. The cultures obtained from the western front were highly infective. We determined to learn precisely how it was that these gas bacilli brought about destruction of tissue and then grew so rapidly as to produce disorganization and gas. If we could explain its action in the pigeon we could explain it in the human being. If we could control its action in the pigeon we could control its action in the human being. Our studies on the pigeon were facilitated by reason of the fact that the bacillus acted very rapidly in the pigeon, causing death in twenty-four hours. So we were able to make a very large number of observations. Having determined that these cultures were active we tried to find what particular property of this bacteria was responsible for the destruction of tissue. The bacilli did not act primarily through their own presence, but after they lodge they secrete a toxic poisonous substance which acts on the tissues, bringing about their death and destruction. The products of growth make it possible for the bacteria to grow rapidly. We determined that the poisonous effect was not due to the living micro-organisms themselves.

"The problem, then, was to obtain this material from the bacteria and attempt to understand its action. By reproducing conditions in the test tube artificially we hoped to obtain this toxin in sufficient quantities to work with. After the production of these toxic elements in artificial cultures in the test tubes and glass containers a certain time must be allowed to elapse in order that the toxic material may accumulate. In the case of diphtheria the cultivation must cover a number of In the case of the gas bacillus, instead of testing for the davs. toxin at the end of several days, we began to test at the end of a few hours, and found the maximum of production to be at the end of about twenty-four hours! Then there was a considerable diminution in the activity of the material for several days or weeks, when the action was lost.

"Having secured the toxin, the next step was to ascertain if its effects were the same as those produced by the bacilli themselves. We found that it has all the effects save one—it does not produce gas. But it does destroy the tissues, poisons the animal, and changes the blood, producing anemia.

"Extremely minimum quantities of the toxin brought about death in a pigeon.

"The next question was whether animals could be immunized to the toxin; and whether animals, if immunized, did not possess a substance like an antitoxin. Both of these proved to be the case.

"So the situation at present is this: It is possible to produce from the gas bacillus an antitoxin which is as effective as the tetanus antitoxin is. It can be used to immunize. So we can eliminate gas bacillus infection. It is perfectly successful in animals: whether in man will be found out among our troops at the front. Our soldiers infected will be treated with this antitoxin.

"We cannot draw conclusions, of course, from a few specific instances. In a small number of instances, however, a very severely infected wound almost in a state of hopelessness, an application of the antitoxin brought a very rapid and striking amelioration of symptoms, attended by recovery.

"We have now accumulated a considerable quantity of antitoxin. Dr. Bull, one of our staff, will go abroad and take a sufficient quantity to make actual tests on the western front among the soldiers, using it both to prevent and to cure gas infection. It is to be hoped he will work among all the troops. He will first be sent to England, and meet the men there in charge of medical research for the English armies in France, and in touch with the American forces. He will show what has already been accomplished. He will meet British bacteriologists and show them how to prepare the material and how to apply it. He will make an ocular demonstration. will happen will depend on their interest in the matter. What the subject develops, it may be that the tetanus antitoxin Tf and this gas antitoxin may be injected into every man, where necessary, at one and the same time. Every patient who is potentially a subject to tetanus is also potentially a subject to Both bacilli live in the soil. They resemble each other -growing and developing in absence of air. Both are conDec., 1917

tained in the intestinal canal of animals. The tetanus bacillus, however, is not found in the clothing.

"If this treatment is successful, what with the surgical treatment introduced by Drs. Carrell and Dakin, we shall have solved one of the most serious and costly surgical problems of the war."

Dr. Flexner then showed some pictures of the sample military hospital on the Rockefeller Institute grounds—a complete hospital built in some three weeks and also some microphotographs showing the presence of gas bacilli in the tissues.

Dr. Flexner's address was listened to with great attention, not only by the laity but also by the profession; and, in addition to the frequent applause, he was given a very hearty vote of thanks for his effort.

The thirty-two United States military hospitals that are being built will cost \$14,500,000. By fall there will be accommodation for 5 per cent. of the army, while in France there is to be accommodation for 20 per cent. of the army.

ANNOUNCEMENT has been made that besides applying the income from the \$100,000,000 given the Foundation by John D. Rockefeller to war relief work, the principal will be drawn upon this year to the extent of \$10,000,000. Already appropriations aggregating \$6,425,873 have been made from this draft upon the Foundation's investments. They include \$5,000,000 given the Red Cross, \$340,000 for work about the training camps for American soldiers, \$402,500 for medical research in the mobile hospital in France, to the National Committee on Mental Hygiene, and to the Rockefeller Institute for Medical Research. A fund of \$300,000 was also set aside to build and equip the hospital, under the control of Dr. Carrell, to teach new methods of war surgery. A number of relief associations have also received large sums.

Dec., 1917

Society Proceedings

AMERICAN HOSPITAL ASSOCIATION

THE nineteenth convention of the American Hospital Association at Cleveland is now a matter of history. Dr. Robert J. Wilson, of the Willard Parker and allied hospitals, New York City, filled the chair with unqualified success. His place is to be taken next year—at Baltimore or Washington—by Dr. A. B. Aucker, the veteran surgeon superintendent, of St. Paul's, Minn. Dr. Andrew Warner, of Cleveland, Mr. E. S. Gilmore, of Chicago, and Miss Grace Fairley, of Montreal, are the vice-presidents; Dr. Wm. H. Walsh, of Philadelphia, Pa., is secretary; Mr. Asa Bacon is treasurer; while Mr. Richard P. Borden, Miss Mary L. Keith and Dr. Winford Smith are trustees.

There were present: 263 active members, 27 associate, 78 guests, 80 exhibitors, 3 prospective members, 2 applicants for membership and 3 life members. The secretary in his report states that there are, in good standing, 1,149 members, of whom 870 are active, 264 associate, 10 honorary and 5 life.

The following Canucks were there: Dr. C. Black, Isolation Hospital, Toronto; E.G.C.Giffen, Wellesley Hospital, Toronto; Thos. Heard and Mrs. Heard, of Victoria Hospital, London; Jenny Leitch, Toronto; Dr. M. T. McEachern, General Hospital, Vancouver; Miss F. Mace and Mrs. T. Milne, Welland County Hospital, Welland; Miss Florence Potts, Children's Hospital, Toronto; Dr. Geo. Wm. Sinclair, General Hospital, Winnipeg; H. E. Webster, Victoria Hospital, Montreal.

The secretary in his report says that it is his invariable rule of replying to all communications received within 24 hours —"a rule that has created a most favorable impression upon many who have in former years offtimes waited a whole month for a reply to an inquiry"!! (The italics and exclamation marks are ours.)

Nuggets from the Secretary's report:-The year 1917 has been marked by the appointment of a full-time secretary with

Dec., 1917

permanent headquarters * * * The membership has been slightly increased * * * The Bureau of Information and Registration is established. * * * A new accounting system has been installed. * * *. In spite of almost insurmountable difficulties the preparations for the 1917 convention were carried to a most successful termination. (Italics ours).

The Board of Trustees, beside appointing a secretary, decided: (1) To have the Association incorporated; (2) to appoint district censors to scrutinize applicants for membership; (3) took no action on the question of making *The Modern Hospital* the official organ of the Association; (4) decided to assist and encourage the organization of geographic units; (5) established life memberships; (6) decided to impose a penalty of 10 per cent. on members in arrears; (7) favored a "whirlwind campaign" for increasing the membership.

The Board of Trustees were glad to announce that the receipts from the commercial exhibit enabled the Association to employ a full-time secretary.

The gist of President Wilson's address was that in order that the public may be best served, hospitals should be controlled and inspected by the Government. The Association ought to aid in establishing such a control. Statistical records of hospitals should be kept on file at Government headquarters. The Association should also favor laws for the compulsory treatment and control of infectious diseases, especially tuberculosis and syphilis.

Dr. W. G. Stimpson, Assistant Surgeon-General, Washington, D. C., spoke on the necessity of safeguarding the health of the civilian population of the States while the country was at war.

Secretary Walsh condemned "Medical Coddling." Especially was such a practice to be condemned during war time.

Dr. John A. Hornsby advised the placing of the civilian hospitals on a war footing. The public could assist in winning the war by not demanding as many home visits from doctors. Civilians should forego medical attention, except when really necessary.

Mr. Michael Davis, of Boston, advised that "operations of convenience" should be postponed until after the war. Dr. Thomas Howell and Katherine Buckley, of the New York Hospital, presented a paper on "Hospitals and Workmen's Compensation."

There was no question that Workmen's Compensation had come to stay. The cost of caring for accidents is charged into the cost of production. The hospital is paid for its work; the employer is covered by insurance and has no fear of damage suits; the injured employee demands and receives, as his right, proper surgical and other attention; and, if he is incapacitated beyond two weeks, gets two-thirds of his regular wages.

Although factories now are establishing first-aid stations, hospitals will have plenty to do, with over one-half a million accidents yearly. Under the new regime doctors are paid for their services to these cases admitted to hospitals.

The New York Act seems more satisfactory than those of some of the other states.

On the subject of "publicity" Mr. Frederick Greene, Secretary of the United Sunday Hospital Fund, of New York City, spoke. He emphasized the importance of the assistance of newspapers to hospitals. The refusal on the part of a hospital to give out news is an admission that there is something wrong. Hospitals maintained by taxation or by voluntary gifts are public institutions and under moral obligation to give an account of their stewardship. Newspaper men are public spirited and sympathetic and can be trusted. Hospital superintendents should cultivate the reporter's "nose for news." Hospital statistics should be clothed with flesh and blood and made to pulsate with heart throbs.

Major Winford Smith, of the Medical Reserve Corps, and Superintendent of Johns Hopkins Hospital, in his address on "The Organization of Civilian Hospitals for War," summed up his paper as follows:—

The duty of the American hospitals is: (1) To release the largest possible number of medical staff members for service in the Medical Reserve Corps of the army and to make good their loss by the addition of other men in civil life in the community who are ineligible for military service and who can render good service to the sick in the several branches of medicine. 2. To arrange for the release of the largest possible number of internes compatible with the maintenance of good service to the civilian population.

3. To release the largest possible number of trained nurses and to fill their places in the hospitals by bringing in untrained young women as pupil nurses.

4. To release the largest possible number of scientifically trained heads of the various hospital departments for war service and to fill their places by bringing in other and partially trained men and women to get the continuance of their training in the hospitals.

5. To release the largest possible number of trained orderlies and other hospital help for war purposes and to bring in and train others who are not now trained.

6. To perfect the organization of the civilian hospitals to the highest possible point in order to take care of a larger percentage of the civilian population, in order that the time and energy of doctors and nurses may be concentrated in the handling of large numbers of patients in groups instead of singly and at their homes.

7. To improvise the necessary number of additional beds to take care of this larger percentage of the civilian population.

8. To bring down the per capita costs of hospital maintenance to the lowest possible figure commensurate with the highest possible order of scientific service, in order to release more and more funds for the benefit of the sick and wounded of the war.

9. To conserve supplies and hospital commodities in order to leave that much more for the purposes of the War Department.

10. To buy whatever supplies and commodities may be necessary in the most judicious manner possible in order to interfere as little as possible with the needs of the army and navy.

In brief, these are the duties of the civilian hospitals for this war, as indicated by Major Smith in his address at Cleveland, under the inspiration of the War Department. The message of the Surgeon-General to the civilian hospitals of the country, as transmitted by Major Smith, was so clear and concise that every civilian hospital, its superintendent, its board of trustees, and its financial supporters may know just exactly what to do, how to do it, and the result that may be expected. If not one other thing was done at Cleveland, this message was more than justification for the great gathering of hospital people there.

Dr. T. N. McEachern, of Vancouver, B.C., gave a live paper on "Annual Reports," in which he recommended that these "dry bones" should be made to live; that the statistical and scientific information should give a complete review of the hospital for the-year.

CANADIAN ASSOCIATION FOR THE PRE-VENTION OF TUBERCULOSIS

THE seventeenth annual meeting of the Canadian Association for the Prevention of Tuberculosis was held in Ottawa on September 26th, with Senator J. W. Daniel, of St. John, N.B., as president, and Dr. Geo. D. Porter, of Toronto, as secretary.

At the first session, Dr. Porter gave a report of the year's progress, and was able to show a very large increase in accommodation in practically all the established sanatoria. Practically every sanatorium has been enlarged by pavilions or otherwise for the accommodation of soldiers, while some of the institutions have been taken over entirely for their use.

Tribute was paid by him to "the magnificent work of the Imperial Order of the Daughters of the Empire," and to the part played by the Victorian Order of Nurses.

But while much has been done for the soldiers, Dr. Porter emphasized the fact that "our silent enemy—tuberculosis—is taking off as many Canadian lives every year of the war as are the German guns at the front."

Senator Daniel gave his presidential address at the evening session. This also was very interesting, supplementing the secretary's address and touching upon the soldier problem. He also showed that the work of the Association had amply justified itself in that while the death rate from tuberculosis, at the time the Association was organized, was 149 per 100,000.

Dec., 1917 THE HOSPITAL WORLD.

it stands to-day at 91 per 100,000, and conditions, as a result of the war, were well in hand, while in France, where there was no organization previous to the war, and where tuberculosis was not recognized as a communicable or preventable disease, conditions had become very bad. He stated that 150,000 soldiers with active tuberculosis had been discharged from the army, that there was an appalling number of cases in the warridden regions of Northern France, and that a great proportion of the French refugees and prisoners and travellers being returned from exile in Germany were tuberculous. In conclusion, Hon. Mr. Daniel stated that " in Canada the profession has done its duty; it remains for the public to see that the work and advice of the profession should be properly appreciated and acted upon."

An interesting feature of this meeting was the presence, for the first time in several years, of some of the men active in anti-tuberculosis work from Western Canada. Among these were Dr. Vrooman, of the Provincial Sanatorium at Tranquille, B.C., and Dr. Stewart, of the Manitoba Provincial Sanatorium at Ninette. Dr. Stewart read a paper on Tuberculosis and Maternity, and in it laid stress on the fact that infection with tuberculosis is usually an event of childhood, and that the disease, as we see it in the adult, is not a new infection, but is rightly called a breakdown, resulting from the old more or less healed process. As an illustration, he stated that the soldiers did not acquire a new infection, but that they broke down under stress of the heavy training, this leading to a lowering of resistance or of immunity that allowed the old disease to light up again. Similarly the tuberculous mother suffered a breakdown as a result of the stress of childbirth. Dr. Stewart had collected valuable statistics from his cases, and made it very clear that the tuberculous mother ran grave risk of a breakdown or extension of trouble, showing that the mortality in this class of cases was much higher than the average. He estimated that in the Dominion, the number of tuberculous mothers giving birth to children each year was 2,400, and stated that the causes ot breakdown in civilians must be stopped if the spread of tuberculosis was to be prevented.

Two eminent veterans in public health work, Sir James

Dec., 1917

Grant and Dr. Adam Wright, took part in the very interesting discussion of this paper.

At the morning session, Dr. O. Leclerc gave an interesting description of recent progress in Quebec City, and Dr. F. S. Minns described the school work against tuberculosis in Toronto, while a paper prepared by Dr. D. A. Craig was read by Dr. Hill on the organization in the city of London.

The afternoon session was given up to the discussion of different phases of the tuberculosis problem in the army. The subject was introduced by Dr. J. H. Elliott in a paper on "Tuberculosis in the Canadian Forces." While not minimizing the seriousness of the problem, he drew the conclusion that the prevalence of the disease was not higher than among the civilian population.

Dr. W. B. Kendall gave an encouraging paper on results of treatment of soldiers, and Dr. R. R. Byers described the use made of vocational training, and laid stress upon the better results in treatment where the men are kept properly occupied under medical direction.

In the absence of Lieut.-Colonel Thompson, his paper on what the Hospital Commission is doing for the tuberculous soldier was read by Capt. May. The papers of the afternoon made it very clear that the Canadian Association for the Prevention of Tuberculosis, through its members, is working hand in hand with the Military Hospitals Commission in combating the tuberculosis problem among our soldiers, and showed the need for some such national organization as the Military Hospitals Commission to carry on preventive measures among our youths after this war is over, as a military measure, that no future war should find us handicapped by such a serious tuberculosis problem among young men of military age.

At the evening session Dr. W. A. Evans, of Chicago, gave a most eloquent address that should be read in its entirety. He explained the United States method of examining recruits for tuberculosis and then brought out the fact that any great improvement in the tuberculosis problem could only be brought about by a country wide revolution, through a recognition of the situation by the people at large. He also pointed out that while soldiers are compelled to take treatment for tuberculosis

162
Dec., 1917 THE HOSPITAL WORLD.

in both their own interest and that of the world at large, nothing has yet been done to regulate civilians in the same manner and that if progress were to be made, such a course would be necessary.

At the concluding session the following resolutions were brought in and accepted:

- 1. Urging the establishment of tuberculosis clinics in Canadian cities where none exist.
- 2. That the anti-tuberculosis movement be extended to the training and for the protection of the youth of Canada.
- 3. That the Department of Militia and Defence be urged to have all new recruits carefully examined by chest specialists before acceptance to the army.
- 4. Urging the pasteurization of all milk and cream used in the manufacture of butter and cheese, and that this measure be made compulsory.

Among the new officers elected are Mr. J. A. Machado, of Ottawa, as President, and Sir John M. Gibson, of Hamilton, as Vice-President. Hamilton was chosen as the next place of meeting.

THE FORTY-THIRD ANNUAL MEETING OF THE TORONTO HOSPITAL FOR INCURABLES

THE forty-third annual meeting of the Toronto Hospital for Incurables and the graduating exercises of the Training School for Nurses were held at the Hospital on Friday afternoon, October 26th.

It was good news to the directors and those intimately connected with the work at the Hospital for Incurables when President Ambrose Kent announced that the city was going to increase the per diem grant of sixty cents a patient. The discrimination between the allowance of the institution and that of \$1.25 to the General Hospital was adversely commented upon by several speakers and the promise of an increase was especially comforting in the face of a deficit of over \$9,000 shown on this year's balance sheet, almost entirely on account of increased maintenance charges.

Dec., 1917

Despite the deficit, however, there was not a despondent note in all the reports. While on the one hand the food bill was \$3,000 more than last year because of the high cost of living and the increased price of coal accounted for another \$3,700, these and other extra items of expenditure were partly met by increased donations and the most rigid economy that could be practised without impairing the efficiency of the management of the institution.

The hospital itself is neat and clean under the efficient control of Miss Cook, the superintendent, and Miss Grout, secretary-treasurer. It is not the dull place one would imagine the abode of the unfortunate inmates suffering from incurable maladies would be. There is surprising cheerfulness everywhere, the secret of it, as Mr. Kent explained, being the good relationship existing between the nurses and the patients. "The institution has all the advantages of an hospital, combined with the comforts of a home," declared Mr. Kent, "and within its walls is carried on a Christian-like work that merits the most generous support that the community can give."

To these sentiments Sir John Hendrie, Lieutenant-Governor; Rev. Newton Powell, J. K. Macdonald, John Firstbrook, Dr. Allen Davies and others, heartily subscribed, paying high tributes to the management of the hospital and recommending its claims upon the generosity of the public.

The report of Dr. F. C. Harrison on behalf of the medical board showed that on October 1, 1916, there were 222 patients in the hospital and during the year 102 admissions were registered. There were 74 deaths, seventeen patients left for various reasons, leaving 233 patients in the institution at present. In all 324 patients were cared for during the year. The report directed attention to the large number of cancer patients. "This disease is on the increase and the maintenance of such patients is a problem in itself," said Dr. Harrison. "The general health of the patients in the hospital is good and the absence of contagious disease speaks well for the sanitary and ventilation arrangements."

During the afternoon four graduate nurses were presented with their diplomas. A gold medal given by President Kent

164

Dec., 1917 THE HOSPITAL WORLD.

for general proficiency and the highest standing in the final examination was won by Miss Anna M. Tookey, who also won a prize presented by Mrs. R. B. Hamilton for neatness of room and person. A silver medal, given by the Examining Board, for second place in the examination, was won by Miss Eva Le Quyer. The other graduates were Miss Wannamaker and Miss McLean.

ANNUAL MEETING OF THE AGED PEOPLE'S HOMES

The year's history of three important institutions was concentrated into one annual meeting in Toronto on October 24th, when a large number of interested people gathered in the Aged Women's Home on Belmont Street to hear the reports of that institution, the Aged Men's Home and the Industrial Refuge. The President, Miss Caven, made a plea for a home in the country to which the girls of the Industrial Refuge could be taken, a group at a time, for a summer outing. Mr. J. B. Laidlaw occupied the chair. Mrs. R. C. Tibb, the secretary, gave a report which told most interesting things about the wartime activities of all three institutions.

Following a settlement of the contest of the will of Mr. Brady, who died last February, leaving a large share of his \$3,000,000 estate to charity, plans have been announced for the James Buchanan Foundation of Urology, which is to be established in connection with the New York Hospital. The work of the Foundation will be carried on temporarily in the laboratories of the hospital, but the trustees plan to erect a new building in the near future, costing about \$500,000, in which there will be chemical, physical, pathological and bacteriological departments. The Foundation will be under the direction of Dr. Oswald S. Lowsley.

Canadian Hospitals

WOMEN'S COLLEGE HOSPITAL, TORONTO, ASK FOR GRANT

An application for a grant of \$33,000 toward the building of the Women's College Hospital and Dispensary at 12 Rusholme Road, Toronto, was made on October 10th by a deputation of ladies to the Board of Control. The deputation said that this was the only hospital in Canada where women were attended in public wards by women physicians, that the hospital had been in operation since July, 1915, and that the extension wing, now being built, was absolutely necessary, bringing the total number of beds up to thirty-three. The matter was referred to Dr. C. J. C. O. Hastings and Finance Commissioner Bradshaw.

BALFOUR SANATORIUM

BALFOUR Sanatorium, the former C.P.R. tourist hotel on Kootenay Lake, now operated by the Military Hospitals Commission for the care of soldiers affected by tuberculosis, is justifying its selection for that purpose. In the first four months of its operation, during which the number of patients never exceeded 73, the aggregate weight gain of the patients was between 1,300 and 1,400 pounds, according to the records kept by Captain B. H. Olson, the medical superintendent. Gain of weight, the superintendent explains, is one of the most conspicuous symptoms of improvement in the progress to recovery of a patient. The healthy out-door life centred half way up the mountain side is given as one reason for the splendid results being achieved. Golf, croquet, and bowling are among the principal recreations, while a cable car belonging to the institution renders access to the lake easy.

There are about a dozen motor launches at the hospital in which the boys take a great deal of pleasure. Seven launches Dec., 1917

THE HOSPITAL WORLD.

War Hospitals

GUELPH CONVALESCENT HOME

FIFTY or more returned soldiers reached the Guelph Military Convalescent Home from the London Military Hospital on October 19th last. The coming of these men meant the start of a new era at the old Ontario Reformatory, which is now a magnificent institution, fitted up in such a manner that returned soldiers may, through a period of convalescence and vocational training, prepare themselves to again enter civil life. Although the old Reformatory had a world-wide reputation as a modern building, to-day there is not a vestige remaining that would lead anyone to believe that it had once been used as a place of detention. Two wings have been added which have been erected on the standardized Military Hospital basis. Very shortly the building will accommodate the full quota of 850 men, for whom the Hospitals Commission is now making provision. Capt. Urie, who recently returned from Mesopotamia, has been appointed resident House Surgeon. Dr. H. O. Howitt, of Guelph, has also been appointed to the staff. Everyone of the officers who will be in charge of the Guelph Military Convalescent Hospital are veterans of the first contingent.

P.E.I. INSTITUTIONS ENLARGED BY M.H.C.

THE facilities in Prince Edward Island for the care of convalescent soldiers returned from overseas to the Military Hospitals Commission for treatment and re-education have been increased.

The Provincial Government House at Charlottetown, which was taken over for a convalescent home, has been made a 250bed institution by the addition of a standard 150-bed wing.

The Sir Charles Dalton Sanatorium in North Wiltshire, in which returned men suffering from tuberculosis are treated, has been arranged so as to care for 75 men.

Dec., 1917

NEW HOSPITAL OPENED

THE Camphill Military Hospital has been opened at Halifax, with a 300-bed equipment. This will be increased to 600 when the other two wings are completed.

LIEUT. KENNEDY ASSUMES COMMAND OF FLEMING HOME

A CHANGE was recently made in the staff of Sir Sandford Fleming Convalescent Home, Ottawa. Lieut. S. A. Kennedy, who has been the officer commanding for a year past, has been given the post of assistant vocational secretary for C unit, Military Hospitals Commission command. He has been replaced in command of the home by Major J. A. MacPherson, who served overseas with the 38th Battalion, and returned from the front early this year.

COL. CASGRAIN IN CHARGE OF CANADIAN HOSPITAL IN FRANCE

WORD was received on October 17th, by Joseph P. Casgrain, assistant postmaster at Windsor, that his brother, Surgeon-Col. H. R. Casgrain, had been appointed to the command of No. 8 Canadian General Hospital in France.

Col. Casgrain left Windsor three years ago in charge of No. 3 Stationary Hospital. During the Dardanelles campaign his unit was located on Lemnos Island, in the Aegean Sea. After recovering from a serious illness, he was sent to England, and was given command of the convalescent hospital at Bushey Park.

CAPT. W. E. OGDEN, medical officer at Spadina Military Hospital, has been granted new stereoscopic X-ray illuminating boxes, which are used for the purpose of better interpreting chest and other internal conditions of the patients.

170

Dec., 1917 THE HOSPITAL WORLD.

MAJ. SAMUEL H. McCov, C.A.M.C., of St. Catharines, Ont., has been recommended for the D.S.O.

MAJ. CHARLES SAINT PIERRE, C.A.M.C., is attached to the Laval Hospital, at Troyes, France.

LT.-COL. GEORGE BOURGEOIS, C.A.M.C., is on duty at the Saint Cloud Hospital. Lt.-Col. Bourgeois left Montreal in command of the Laval Military Hospital.

LT.-COL. T. C. BEDELL, C.A.M.C., is acting officer commanding[•] the Canadian Convalescent Hospital at Epsom, during the absence on leave of Lt.-Col. Irving, C.A.M.C.

MAJ. J. G. JOHNSON is senior surgeon and Maj. R. N. Sutherland is senior medical officer to No. 1 Canadian Stationary Hospital at Salonika, under the command of Lt.-Col. E. J. Williams, C.A.M.C.

BOOK REVIEW

Orthopedic Surgery. By RÖYAL WHITMAN, M.D., M.R.C.S., F.A.C.S. Fifth edition; revised and enlarged. There are 24 chapters and 906 pages, with 704 engravings. Lea & Febiger, Philadelphia and New York.

The subject matter is well arranged, well proportioned, well indexed and beautifully illustrated. On account of the war there is probably at the present moment more thought devoted to the advancement of orthopedic and plastic surgery than to any other department of the healing art. This new and up-todate edition, by such an authority as Whitman, is just what the busy, progressive practitioner needs. The subject is presented objectively and very acceptably. The methods advised are given in detail, and are those that have stood the acid test of personal experience. This edition should be in the hands of all workers in this especial field; and every general surgeon would profit by perusing the volume.

Dec., 1917

STRIKING INNOVATION IN NURSES' TRAINING INTRODUCED IN NEW YORK

It will be interesting to note just what effect a recent innovation of the Mayor's Committee of Women on National Defence in New York will have on the training of nurses. For this committee is now urging young girls, recent graduates of private and high schools, to take up nursing as a profession, hoping in this way to fill the unusual demand and release graduate nurses for work in the thick of the European fray, leaving the less experienced at home. The committee is sending out letters to young women of New York city presenting to them the advantages and requirements of this profession, and referring them to various schools of good standing, where they may study.

The rules of these training schools until recently have required all nurses to reside under one roof, have kept them working long hours, and have adhered to a system of chaperonage which does not prevail in other occupations. The long hours of work and many restrictions upon their liberty doubtless have kept from this field many women who might be glad to enter it if the conditions were less difficult.

In recognition of this fact, a number of hospitals have revised their rules so as to make them conform more to the ideas of the modern college or school graduate. Bellevue Hospital heads the list by the establishment of a course for non-resident students, probably the first of its kind in the United States. The schedule for attendance in this course will be arranged on a basis of forty-eight hours' work a week. The first course will open December 1, 1917. No tuition will be charged, but nonresidents must bear all their own expenses exclusive of uniforms and text-books.

The Presbyterian Hospital Training School for Nurses has admitted twenty-two more pupil nurses than usual for the courses opening this autumn. Fifty per cent. of the applicants for this course are college graduates. Some of these young women will live in houses loaned for the purpose by publicspirited citizens.

The Post Graduate Hospital has admitted twelve more students than in other years.

172

Dec., 1917 THE HOSPITAL WORLD.

Saint Luke's Hospital expects to train twenty additional nurses. In order to make room for these students, it has been arranged that some of the graduate nurses will room outside the hospital, for which purpose an extra allowance is to be given them.

TORONTO NURSES HONORED

The official *Gazette*, announcing decorations to Canadian nurses, includes the names of Nursing Sister Beatrice Blewett, of 180 Rushton Road, Toronto, and Miss Gertrude Muldrew, daughter of Mr. John Muldrew, of Toronto, who have been made Associate of the Royal Red Cross of the Second Class. Miss Blewett, who is a graduate of Nicholl's Hospital, Peterborough, has seen service at the Dardanelles and in France.

Miss Muldrew went overseas first with the University Hospital staff. For a time she nursed in France, in a British military hospital in Rouen.

When the University Hospital unit left for Saloniki, Miss Muldrew, with the other nurses of the staff, were recalled from France to see service in the east. For a time she was at Malta and Sulva Bay, Gallipoli. Later she returned to the hospital at Saloniki, where she served until she was taken seriously ill. Eventually she returned home to Toronto for a few months' convalescence. Early last spring she left again for England. Since then she has been engaged principally in organizing hospitals. She organized the Crowborough and the Liverpool Military Hospitals. At present she is having a much-needed rest in Scotland.

Miss Muldrew was a graduate of the Johns Hopkins Hospital in Baltimore. After completing her course, she was night superintendent, and later first assistant superintendent at Johns Hopkins. She left there to be superintendent of the Pittsburg General Hospital.

Miss Pauline Ivey (now Mrs. D. E. Robertson), another of the nurses honored with the Red Cross medal, has been serving overseas since the arrival of the first contingent. She is a London nurse and was formerly attached to a hospital at Le Touquet.

THE FIELD OF FRANCE

A THRILLING account of the work of the Medical Corps and the Red Cross in the war zone, is that of Captain Julia Henshaw, in an address which she delivered a short time ago in Montreal under the auspices of the Daughters of the Empire.

Speaking from practical experience and knowledge of the work in the "Field of France," Mrs. Henshaw states that not even in the finest city hospitals are the men better cared for than in the hospitals right in the field. In her address she pictures the journey of the wounded Canadian from the time he limped or was carried back from the trenches, through the advance dressing stations, and by stretcher, ambulance and hospital train, to the marvellously equipped and manned hospitals, where he is nursed back to health, away from the awful roar of battle.

Mrs. Henshaw's comment on the use of tobacco is an important part of her address. "Don't think of cigarettes merely as a luxury, or even a comfort; they are an absolute necessity," she says, and in speaking of the Red Cross supplies sent forward to the advance dressing stations, she further states: "There are plenty of cases of even serious operations when the patient has nothing to ease the pain and shock of operation but a cigarette."

In thus recording her convictions as to the good which the cigarette does, Mrs. Henshaw confirms what has already been written on the subject. Under the title, "They Simply Have to Have It," in a recent issue of *Every Week*, Alex. McD. Stoddart writes: "Soldiers ask first for tobacco when they start out; and when wounded their first request is for the consolation that comes from the puff of a cigarette. The reason is obvious: with the soldier's system in a ceaseless state of tension from danger and excitement, tobacco becomes a real solace and joy, when he can find the time for this well-earned indulgence."

Life at the front puts many things to the proof; in that fierce crucible they are tried and tested to the utmost and must indeed be worthy, to gain commendation. The cigarette has proved its worth and is rightly regarded as a boon and a blessing to men.

Registered Trade-Mark

"Seal Brand" means a certain, definite blend of high-grade coffee—uniform in quality and always delicious.

Don't take any chancesalways insist on having "SEAL BRAND" COFFEE.

In ½, 1 and 2 pound tins. Whole—ground—pulverized—also fine ground for Percolators. Never sold in bulk. 188 CHASE & SANBORN, MONTREAL.

To make a good cup of cocoa Begin Right Choose "BAKER'S"

Prepare it carefully, following the directions on the package, and you will find that every member of the family will thoroughly enjoy this delicious and wholesome beverage. Its healthfulness is assured by its purity and high quality.

Maae only by WALTER BAKER & CO. Limited MONTREAL, CAN. DORCHESTER, MASS.

Pyorrhocide Powder*

PHYSICIANS know that there is nothing so important as the proper care of the teeth, and without such care serious systemic infection may occur. There are a vast number of so-called dentifrices on the market, many however being worthless from a therapeutic standpoint. One, however, that has deservedly received recognition is Pyorrhocide. If used as it should be, Pyorrhocide thoroughly cleanses the mouth, removes and renders innocuous bacterial growth and thus minimizes decay. The profession can make no mistake in recommending it to their patients.

Seal Brand Coffee *

To most people Seal Brand Coffee needs no introduction, as it has been the standard in many homes and institutions for nearly a lifetime. It is a blend adapted to the palate of most lovers of good coffee and has won its great popularity through its continuity of fine flavor and high quality. The manufacturers have never permitted Seal Brand Coffee to deviate from the high standard set for its quality and it is never sold in bulk, but in half, one pound and two pound tin cans. After exhaustive experiments by many coffee experts in various methods of coffeemaking, it has been established beyond question that the "filtration" process is the best, no matter from what angle it is viewed. This method has been followed by many institutions, including hospitals, that are famed far and near for the coffee they serve their convalescent patients. Recently the Tricolator has been placed upon the market, which makes it possible for any good housekeeper, who takes pride in serving everything of the best, to equal the production of some of the most famous chefs. The Tricolator has been adopted by a number of new hospitals, particularly a large institution in Ottawa, and it is suggested that those institutions that have not already purchased one should do so, in order to prove the theory that the filtration process is at least one of the most successful in the preparation of coffee.

Hospital Necessities*

WHEN purchasing agents are in need of hospital sheeting, ice bags, ice caps, syringes, atomizers, hot-water bottles, catheters, breast pumps, rubber tubing, invalid cushions, operating cushions or urinals, in fact anything in rubber sundries, they should remember that The Canadian Consolidated Rubber Co., Ltd., Montreal, make a specialty of such articles, and can supply them at once at most attractive prices.

* Publisher's Department.

Dec. 1917



When writing advertisers, please mention The Hospital World. H.W.-4

xix

Antiphlogistine in Foreign Lands *

"I TAKE pleasure in informing you that both in the garrison Infirmaries where I was stationed, as well as when I was with the troops in the interior, I have had every reason to congratulate myself with respect to the good effects derived from Antiphlogistine. I regret that my time is so occupied that I am unable to jot down a few succinct abbreviations, but I can assure you that I have obtained excellent results in cases of contusions and sprains, as well as in certain ulcerations and wounds affecting the lower limbs during the marches. To sum up—I have obtained good results in every case in which a permanent warm dressing was indicated."—Dr. CHAMPNOIS, First Assistant Physician, First Battalion Zouaves, Charon Garrison, Algiers.

The Sole of Perfection *

THE attention of the readers of THE HOSPITAL WORLD is called to "Acme" soles, for use by hospital employees, particularly nurses. It is a well-known fact that a great many nurses, after but a few months of service, suffer from broken arches, which in many cases means that they are unable to continue on duty without frequent periods of rest. Anything, therefore, that affords greater comfort to the feet, in view of the long hours that most hospital officials are on duty, will be welcome. "Acme" soles will be found to give, not only increased wear, but utmost pliability and resilience, free from squeaking and slipping. They are ideal for use in institutions, and have already been adopted in quite a number throughout Ontario.

A Good Intestinal Eliminant

In those cases of dyspepsia and gastric indigestion, based on constipation, the use of a good intestinal eliminant will often give relief.

An over-filled colon frequently gives rise to anorexia and to distress and formulation in the stomach after meals.

A wineglassful of Pluto water taken in a tumblerful of hot water half an hour before breakfast is an efficient remedy and worthy of trial.

The French Lick Springs Hotel Company will cheerfully furnish samples—diet lists if you desire—for use in your practice, and believe your experience with Pluto water will justify its continued use.

* Publisher's Department.

Pneumonia– Prognosis-

Osler regards a slight or complete absence of leucocytosis as a very unfavorable sign in pneumonia.

Heart weakness due to the specific action of the poison, to the prolonged fever or to the over-extension of the right chambers, is the important prognostic feature of the disease.



increases leucocytosis; it relieves the heart by increasing the capillary circulation, it hastens the elimination of toxins, reduces the fever and relieves the dyspnoea and cyanosis. The use of Antiphlogistine in pneumonia is a most rational procedure; it is logical; it is reasonable and it is scientific.

MAIN OFFICE AND LABORATORIES

THE DENVER CHEMICAL MFG. COMPANY MONTREAL

When Prescribing for the Sick

THE MEDICAL PROFESSION SHOULD BEAR IN MIND THAT

OUR MAIL ORDER SERVICE IS UNEQUALLED

Every order, no matter how small, receives immediate attention, and is shipped out by express the same evening, and delivered in Toronto early next forenoon. We prepay express to all points south and east of Lake Huron, including North Bay. Our goods are the finest obtainable, and therefore will meet with the immediate approval of Physicians.

ASSORTED HAMPERS

\$8.00 (4 BOTTLES)

- 1 Brandy (Hennessy 3 Star)
- 1 Port (Finest Invalid)

1 Gin (J.D.K. Quart)

1 Scotch (Kilmarnock Black Label)

\$11.00 (6 BOTTLES)

- 1 Brandy (Hennessy 3 Star)
- 1 Gin (J.D.K. Quart)
- 1 Scotch (Dewar's Extra Special Liqueur)
- 1 Irish (Burke's 3 Star Quart)
- 1 Port (Commendor)
- 1 Rye or Malt (Walker's Best)

Write for the "Ontario Mail Order Guide"

The Wine & Spirit Vaults Limited MONTREAL, P.Q.

Thos. F. Hannan, President, late of 834 Yonge St., Toronto

When writing advertisers, please mention The Hospital World.

xxii

xxiii





RELIEVES

Metatarsalagia

Painful Morton's Toe

Severe Cramping and Pains Through Ball of Foot

Callosities, Etc.

This appliance is peculiarly shaped to fit the heads of the Metatarsals, having a wide bearing point and dome-like curvatures between the first and fifth Metatarsals. The plate is nearly full length from a point $\frac{3}{2}$ inch back of the Metatarso-Phalangeal Articulation, extending back to the heel. This Arch supports both the Anterior-Transverse and Longitudinal Arches, and should not be confused with Supports made solely for Longitudinal Arch trouble.

Descriptive Literature and Dr. Scholl's Book "Foot Weakness and Correction for the Physician" mailed promptly upon request.

The Scholl Mfg. Co., Ltd.

112 Adelaide St. East, Toronto

1-4 Giltspur Street, London, E.C.

Individual

Designs Cheerfully Submitted



Dec. 1917

HOSPITAL EFFICIENCY



Heating and Ventilating cannot be made an entire success in the Hospital unless the efficient "Keith Fan" is used.

This Fan is made to meet the severest requirements of operation, producing a constant temperature and varied air volume according to your needs. It is built and constructed under the latest and most approved plan and in addition commends itself to the economical on account of its service and durability.

See our new Catalogue No. 55.

Sheldons Limited, Galt, Ont. TORONTO OFFICE, 609 KENT BUILDING

AGENTS: Messrs. Ross & Greig, 412 St. James St., Montreal, Que. Messrs. Walkers Ltd., 261 Stanley St., Winnipeg, Man. Messrs. Gorman, Clancey & Grindley Ltd., Calgary and Edmonton, Alta. Messrs. Robt. Hamilton & Co., Ltd., Vancouver B.C., (Bank of Ottawa Bidg.)

Essentially Sanitary

As scientists, physicians should know of a recent advance along sanitary lines. This firm is now manufacturing a staple commercial article of the utmost interest to Doctors, Hospi-Paper Container, suitable for food products of any kind. The paper is specially prepared and, after the container is completed, it is dipped in absolutely pure paraffine, thus render-ing it air and water tight. Doctors know well how dangerous to health the old finished tin containers can be. All this is now a thing of the past, and we ask the Medical Profession to ascertain for themselves the scientific advantages of our product, and recommend it as occasion may present itself. Remember that these containers are germ proof, air proof and will hold liquids indefinitely. Once used, they will never be substituted. Full particulars obtainable from

Hygienic Containers Limited 12-14 Sheppard Street Phone Adelaide 1869 TORONTO



The soothing effect, the freedom from excitement, and the quiet of this House, which caters only to the best and cleanest Film Productions, will quiet the nerves, produce natural sleep, relieve the chronic headaches of neurasthenia and lower the blood pressure, so common in the business man.

We invite the co-operation of the Medical Profession in such cases.

Why Spend Thousands in Sanitary Fixtures and Neglect the Utensils?

VORTEX SANITARY SERVICE FOR HOT AND COLD DRINKS AND LIQUID FOODS IS A. NECESSARY PART OF THE EQUIPMENT FOR EVERY HOSPITAL

Write for Price List

Canadian Wm. A. Rogers Limited 570 KING ST. WEST



High-Grade Hospital Lavatories

These fixtures are uniformly excellent in material and construction. The principle on which eachpiece is built is a most modern and thoroughly approved one. Send for our Catalogue describing Hospital Fixtures.

EMPIRE MFG. CO., Limited

Dec. 1917



DOCTOR

In those cases where it is so necessary that the temperature of the sick room be kept equable, you will be consulting the best interests of your patient in suggesting that they have installed a

Clark Temperature Booster

It can be readily installed on any Hot Water Heating System, New or Old.

It will increase heat with no additional fuel consumption.

STOUT

It will hold a more even temperature in the room. It is low in cost. Durable in construction. Cannot wear out or rust ou'. Fully guaranteed. Made only by

W. E. Clark Limited, Toronto ALL RELIABLE STEAMFITTERS HANDLE IT

COSGRAVES



A CONTRACT OF A

MAIL YOUR ORDERS TO EXPORTERS LIMITED 489 St. Paul St. West, Montreal

PRICE LIST F.O.B. Toronto

A Case (Two dozen pints) \$3.00 A Case (Two dozen quarts) \$4.00

PRICE LIST FOR THE BEST KNOWN BRANDIES, WHISKEYS, GIN, ETC., FOR MEDICINAL OR OTHER PURPOSES MAILED ON APPLICATION.

BIG BEN Light, Strong and a Wonder Worker Electric Vacuum Cleaner

This is the one machine to-day that embodies all the newest improvements, is big enough and powerful enough to use in **hospitals and** *large institutions*, as well as in the home, and yet is light in weight and moderate in price.



Write for booklet.

Clements Mfg. Co., Limited 78 Duchess Street - Dept. A - Toronto



LIABILITY of

PHYSICIANS, SURGEONS, DENTISTS and DRUGGISTS

LIABILITY on account of Automobile Accidents

involving injury to PERSONS or PROPERTY (including Owner's)

INSURANCE for LOSS OF INCOME by reason of ACCIDENT and SICKNESS

UNDERTAKEN BY

The General Accident Assurance Company of Canada Continental Life Building, Toronto, Ontario Represented in all important parts of Canada. Enquiries respectfully solicited JOHN J. DURANCE, Manager

Two Essentials in a Hospital

THE FIRST IS The Brantford Meat Slicer

This is the only Slicer made in Canada. It will cut all kinds of boneless meat to the last slice. There are no ends left, so that it costs money to be without, and saves money to use, a Brantford Slicer. Every slice is uniform and the machine can be so adjusted as to cut any desired thickness. The Brantford slicer is built to stand the wear and tear of any institution. It has ball bearings and crucible steel gears. It can be operated and cleaned with the greatest of ease, has automatic feed and is self-sharpening.





THE SECOND ESSENTIAL IS THE Brantford Vegetable Peeler

This machine is especially designed for peeling potatoes, and can be used to peel carrots, turnips, and onions. Its use will save from 25% to 30% of the potato and therefore pays for itself almost at once. Our twenty-six inch power machine will peel one bushel a minute, and will do the work better and quicker than 10 girls. The smallest potato can be peeled just as well as the largest. Hospital, Sanatorium and Asylum Superintendents should buy now and save both time and money.

We make also a *Hand Machine Potato Peeler*, which Institutions will find will save in time and waste far more than the initial cost.

The Brantford Computing Scale Company BRANTFORD, ONTARIO Toronto Office, 482 College St.

Peptoglycerophos An Ethical Pharmaceutical

EACH FLUID OUNCE CONTAINS :

| Lime Glycerophosphate 8 | grs. |
|--------------------------------|------|
| Soda Glycerophosphate16 | grs. |
| Iron Glycerophosphate1½ | |
| Manganese Glycerophosphate1 | |
| Quinine Glycerophosphate1/2 | |
| Strychnia Glycerophosphate 1/1 | |
| Beef Peptone16 | grs. |

DOSE : ONE OR TWO TEASPOON-FULS AS DIRECTED

The formula designates the every-day use you have for such a preparation.

FRANK W. HORNER, Limited MONTREAL

USE VACCINES IN ACUTE INFECTIONS

The early administration of Sherman's Bacterial Vaccines will reduce the average course of acute infections like Pneumonia, Broncho-pneumonia, Sepsis, Erysipelas, Mastoiditis, Rheumatic Fever, Colds, Bronchitis, etc., to less than one-third the usual course of such infectious diseases, with a proportionate reduction of the mortality rate.

> Sherman's Bacterial Vaccines are prepared in our specially constructed Laboratories, devoted exclusively to the manufacture of these preparations and are marketed in standardized suspensions.

MANUFACTURER HERMAN ACTERIAL VACCINES



PHILLIPS' MILK OF MAGNESIA

" The Perfect Antacid"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc. Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid Feeding.

Phillips' Phospho-Muriate of Quinine COMPOUND

Non-Alcoholic Tonic and Reconstructive

With Marked Beneficial Action upon the Nervous System. To be relied upon where a deficiency of the Phosphates is evident.

THE CHAS. H. PHILLIPS CHEMICAL CO. LONDON · NEW YORK

Canadian Representatives: The Wingate Chemical Co., Ltd., 545 Notre Dame W., Montreal, who will be pleased to send samples upon request.