

THE DOMINION
SANITARY JOURNAL

DEVOTED TO THE
PUBLIC HEALTH

AND KINDRED SCIENCES.

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*BEAUTIFUL HEALTHY HOMES,
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[No. 1.

OUR HOMES.

Home is a dear, good old English word, suggestive to almost every one of the dearest place on earth—suggestive usually, or ought to be, of the sweetest associations and recollections of early and of later life. One's own abiding place. The place wherein the most of one's life is spent. The making of such a place, such a structure, be it ever so humble, should certainly receive the greatest consideration and attention. Too often too little thought and care are given to it; too often it is not the cheerful and comfortable, the bright and attractive place that it ever should be, and might easily be made to be; too often it is the lurking place of stealthy disease, the abode of wearying, costly sickness; too often, alas! it is the battling place with, the conqueror death.

In the September number of this JOURNAL, in a communication from Mr. Wm. Tebbs, F. R. G. S., St. James', London (Eng.), we learn that in the improved sanitary dwellings for the industrial classes erected in London by companies and associations there, the death-rate had been only about one-half what it was in adjoining and surrounding houses. One would hardly suppose that through the proper construction of dwellings alone, so vast a difference could be produced, so great a reduction could be caused, in the mortality of the inhabitants. But such has proved

to be the fact, year after year, and amongst over 25,000 persons inhabiting those houses. The sickness-rate doubtless would be as low proportionately as the death-rate in these houses, and in all probability if correct statistics as to this could be obtained, much less than half the sickness would be found in them that would be found in the surrounding houses.

The facts there given by Mr. Tebb show most clearly the importance of healthy homes. In every community or neighborhood, urban or rural, it is found that some families suffer a great deal more from disease of one sort or another and from deaths, too, with all the consequent costs and terrors, than other families do—perhaps five or ten times as much. Careful investigation would often show the cause of this to be in the faulty locality and construction of the dwellings alone—as in their relation to drainage, sewerage or the disposal of waste matters, plumbing, ventilation, water supply, etc.; hence a perfectly preventable cause.

The following interesting remarks bearing upon the home are from an abstract of the recent address at Saratoga of the chairman in the department of health of the Social Science Association, Dr. Ezra M. Hunt, secretary of the New Jersey State board of health (in *Sanit. Engineer*).

How to choose a proper locality, how to drain land, how to build a healthy house, how to feed, air and clothe the

inmates, how to remove all *debris* beyond the reach of those who cannot appropriate it with the same advantage as can the grasses and the grains, these are known as definitely as most facts in science and most of the experiences of applied art. Yet the threatening fact remains that the breach of sanitary law is constant, is progressive, and that social economy ought to attack it with all the vehemence and decision with which such a heroic principle would lay siege at the gate of a city whose name is Destruction. Here and there we have grand intimations that the thing can be done. Glasgow, with some serious disadvantages, has realized the problem and has grappled with it grandly, so that with all its poor, its toiling labor, its concentrated industries and idlenesses, it meets the issues and can point to work and to results that prove there are adjustments and co-operations that can make parts of the city and theoretically the whole of a city healthy.

Social science must begin its work in this behalf with household life. The house and one family are the sanitary unit, and the domicile the great care of sanitary administration. This is at once the hope and the discouragement; the hope, because if the parts can be made right, the whole is sure to follow; the discouragement, because house-building or the construction and appointment of a home as a place favorable to the full physical scope of life is so foreign to the thought of most men as a primal design in this age. The housekeeping, "the practical knowledge of which," says Richardson, "is the principal glory of a woman," is lightly esteemed in urban life.

So long as homes are at the mercy of the architect, the contractor, the plumber, and the keeping is controlled in the interests of the servants, the boarder and the guests, so long shall we have a section left out of the back-bone of our American civilization, and our refinement will put up with a great deal of noxious stuff and consequent invalidity. Add to this the giving over of questions of the most important character as to sanitary construction to a control too political to be either

economical or orderly, and we have complications the first relief from which must come from their realization.

The practical art, as well as the great science of hygiene, takes a good turn when it resolves to address itself to the relief of these conditions, when it attempts to infuse into society the idea of homes, to give them separateness even when in the same building, to insist that they be healthful in the sense in which the best art and experience define them as capable of being, and then seeks by administration to secure their *keeping* in a sanitary way. As there is lack here—lack of knowledge, lack of training, sometimes lack of will, we are compelled to supplement. It is for this reason that the inspector of buildings and the health inspector, not to name others, become necessities, and should be sustained on a basis of civil service reform and as a social necessity. This means that these services should be appreciated, that officers who can pass examination as to competency, and have the tact and behaviour which are requisite, should be chosen, and thus a sustained foundation for intelligent oversight and aid be secured.

For all this effort at improving the condition of society by looking after the welfare of households there are great encouragements not to be overlooked. One who attempts to-day to glean in this harvest finds an area or ascertained truth broad enough for any intellectual vision, and a positive enunciation of principles and rules as definite as those of any of the applied arts.

Healthy houses, and how to make them, how to adjust life within them, how to feed, clothe, ventilate and exercise, are not the enigmas that some would lead us to believe.

The sanitary requisition of our dwelling-places includes within its sphere most important questions of civil and domestic life. While at this session we only attempt to introduce it, we trust that we shall draw such attention thereto as will lead to a closer study of all locations, of structural conditions, of the embarrassment or impediment to healthy household life, whether in hamlet, summer resort, city home,

or boarding and hotel caravansaries. As to it we have had abundant generalization and advertising of evils.

What we now need is the specific enunciation of safeguards, many of which are known. Still more we need to know how by skilled aid to secure the doing of what we do know, that thus the vigor of life may be maintained and that it may be converted into such force and productivity as will tell upon human progress and the promotion of human happiness and usefulness.

Great errors in household conditions have their origin in the use of undrained ground, in imperfect material and structure of buildings, in the modes of inducing the various conduits or pipe systems which now are a part of the habitation, and that want of sanitary inspection during construction which will prevent the covering up of unskilled work. The social compact and its welfare are so concerned in this matter that good government not less than good health requires an oversight at the beginning, instead of a constant activity without insight or a tinkering with evil results.

So sure as the reign of law is the grand fidelity and constancy that pervades the universe of God and forms the nexus of which all human law, called government, is but a copy or an attribute, so sure is it that we must find out and follow out in the individual and social life those laws of health which pertain to the compact not less than to the individual.

Only so shall we avoid penalties which are as sure in the physical as in the normal government of the Creator, and come to know for the nation, by knowing for the man, the woman and the child how integral and essential to social and civic existence is the full realization and meaning of these words, *to be* and *to be well*, which our good mother-tongue has joined with a hyphen and made grandly strong in that word of profitable thought and enormous meaning which it calls *well-being*.

LOCALITY OF THE HOME.

In the selection of a home the first point to consider is the locality. This should

be so situated as to permit of perfect drainage. There is the most reliable evidence upon record that thorough drainage of the soil contributes to the healthy development and growth of both vegetable and animal products, including man, and that thorough underdraining of the soil "pays." The Registrar-General's records show that in England and Scotland the life of the people gains from 20 to 25 per cent. in years, and suffers less than half the average sickness and disability in the well drained districts. Dr. Wm. Farr's essay on Vital Statistics and new Life Tables, based upon sixty-three of the healthy districts of England, in which the mathematical demonstration is complete, lead to the same natural conclusions; and upon the same grounds the districts themselves give the names of the best breed of horses, cattle, sheep and fowls in the Kingdom. Industry and the army, says Dr. Farr, receive the best recruits from this population, while they get their worst from the low parts of sickly towns. In the preparations for a home, altogether too little attention is paid to this point of underdraining. There should be a law to prevent any one building a house on or near ground that has not been thoroughly underdrained.

THE CONSTRUCTION OF THE HOME.

The house should be built of such material as would retain in its walls as little dampness as possible, and the walls should be so constructed that any dampness in them could not escape into the rooms and render the air inside more humid than that outside the house. Hence hollow walls are indispensable to health. The foundation particularly should be so made as to prevent dampness ascending the walls. Every room should be so arranged and constructed as to receive

abundance of sunlight and a constant change of air. Window glass must therefore be used liberally, and special means for ventilating must be provided. A few large airy rooms are better than more smaller ones. On future occasions these points will be treated of more in detail, and the methods of furnishing and beautifying the home will be discussed.

THE SURROUNDINGS OF HOME

Must not be overlooked, as they are of great importance in regard to health and comfort, and to physical, mental and moral well-being. In future numbers of this JOURNAL this subject also will receive attention, more than in the past. By associated effort most can be done in beautifying homes, especially in villages and towns, and we will conclude with the following extract from "*Indoors and Outdoors*," on rural improvement societies.

There are 170 towns and villages in the Union which have sanitary or rural improvement societies—in New York, Brooklyn, Newport, Lynn, Stamford, Savannah, New Orleans, Orange, Stockbridge, West Ewing, Katonah, Providence, not to name other places. As a result of their efforts vast returns have been effected. On the one hand trees have been planted, streets graded, sidewalks laid, fences removed or repaired, parks laid out, the surroundings of schools, cemeteries, railroad depots and houses beautified, and nuisances and eyesores abolished. At the same time sanitary regulations have been enforced, low lands have been drained, school hygiene studied, contagious diseases reported and quarantined and house plumbing inspected. In large cities the houses of the poor have been improved, laws regulating plumbing and building have been secured and stench nuisances and food adulteration have been legislated upon.

These societies are found in all parts of the country. They originated in New England, like many other good things, but they are now to be found in the West and

South, but notably in Massachusetts, Connecticut, New York, New Jersey, Michigan, Illinois and Western Virginia. The Rural Improvement Associations are mostly in small communities, while the sanitary societies are found in small places as well as in large cities, some of the most flourishing being in mere villages, like West Ewing, N. J. They meet a positive public need and they should and can be multiplied everywhere.

OUR FIRESIDES.

The old-time prejudice in favor of the open fireplace, such as the grate, will probably soon give place to a tolerance of more economical and practical methods of warming and ventilating rooms. An English scientist, Professor W. M. Williams, has been expressing himself, and very strongly, though in a humorous way, in opposition to open fireplaces. He says (in *The Metal Worker*), "One of the grossest of our national manifestations of conservative stupidity is our senseless, idolatrous worship of that domestic fetich,

THE ENGLISHMAN'S FIRESIDE.

We sacrifice health and comfort, we begrime our towns and all they contain with sooty foulness; we expend an amount far exceeding the interest of the national debt, and discount our future prospects of national prosperity, in order that we may do, what? Enjoy the favorite recreation of idiots. It is a well-known physiological fact that an absolute idiot, with a cranium measuring 16 inches in circumference, will sit and stare at a blazing fire for hours and hours continuously, all the day long, except when feeding, and that this propensity varies with the degree of mental vacuity. Few sights are more melancholy than the contemplation of a party of English fire-worshippers seated in a semi-circle round the family fetich on a keen, frosty pay. They huddle together, roast their knees and grill their faces, in order to escape the chilling blast that is brought in from all the chinks of leaky doors and

windows by the very agent they employ, at so much cost, for the purpose of keeping the cold away. The bigger the fire, the greater the draft; the hotter their faces, the colder their backs; the greater the consumption of coal, the more abundant the crop of chilblains, rheumatism, catarrh and other well-deserved miseries. The most ridiculous element of such an exhibition is the complacent self-delusion of the victims. They believe that their idol bestows upon them an amount of comfort unknown to other people, that it affords the most perfect and salubrious ventilation, and, above all, that it is a "cheerful" institution. The "cheerfulness" is, perhaps, the broadest part of the whole caricature, especially when we consider that, according to this theory of the cheerfulness of fire-gazing, the 16-inch idiot must be the most cheerful of all human beings."

AS A MEANS OF VENTILATION.

Mr. Williams' views on ventilation are precisely those which have always been advocated in this JOURNAL: "The notion that our common fireplaces and chimneys afford an efficient means of ventilation is almost too absurd for serious discussion. Everybody who has thought at all on the subject is aware that in cold weather the exhalations of the skin and lungs, the products of gas-burning, etc., are so much heated when given off that they rise to the upper part of the room (especially if any cold outer air is admitted), and should be removed from there before they cool again and descend. Now, our fireplace openings are just where they ought not to be for ventilation; they are at the lower part of the room, and thus their action consists in creating a current of cold air or "draft" from doors and windows, which cold current at once descends, and then runs along the floor, chilling our toes and provoking chilblains. This cold, fresh air, having done its worst in the way of making us uncomfortable, passes directly up the chimney without doing us any service for purposes of respiration. Our mouths are usually above the level of the chimney opening, and thus we only breathe

the vitiated atmosphere which it fails to remove. Not only does the fire-opening fail to purify the air we breathe, but it actually prevents the leakage of the upper part of the windows and doors from assisting in the removal of the upper stratum of vitiated air, for the strong up-draft of the chimney causes these openings to be fully occupied by an inflowing current of cold air, which at once descends, and then proceeds, as before stated, to the chimney."

Without special provision for ventilation—openings for fresh air to enter and foul air to escape—the open fireplace is unquestionably better than the ordinary stove, but with such provision for changing the air, and with a properly constructed and properly managed stove, the objections to stoves disappear.

RUSSIAN AND OTHER STOVES.

After referring to the British prejudice against German stoves, Williams continues: "The true cause of the headaches and other mischief which such stoves [over-heated English box stoves] unquestionably induce is very little understood in this country. It has been falsely attributed to over-drying of the atmosphere, and accordingly evaporating pans and other contrivances have been attached to such stoves, but with little or no advantage. Other explanations are given, but the true one is that iron, when red-hot, is permeable by carbonic oxide. This was proved by the researches of Prof. Graham, who showed that this gas not only can pass through red-hot iron with singular facility, but actually does so whenever there is atmospheric air on one side and carbonic oxide on the other.

"For the benefit of my non-chemical readers I may explain that when any of our ordinary fuel is burned there are two products of carbon combustion, one the result of complete combustion, the other of semi-combustion—carbonic acid and carbonic oxide. The former, though suffocating when breathed alone or in large proportion, is not otherwise poisonous,

and has no disagreeable odor ; it is, in fact, rather agreeable in small quantities, being the material of champagne bubbles and of those of other effervescing drinks. Carbonic oxide, the product of semi-combustion, is quite different. Breathed only in small quantities it acts as a direct poison, producing peculiarly oppressive headaches. Besides this, it has a disagreeable odor. It thus resembles many other products of imperfect combustion, such as those which are familiar to everybody who has ever blown out a tallow candle and left the red wick to its own devices. On this account alone any kind of iron stove capable of becoming red-hot should be utterly condemned. If Englishmen did their traveling in North Europe in the winter, their self-conceit respecting the comfort of English houses would be cruelly lacerated, and none such would perpetuate the absurdity of applying the name of "German stove" to the iron fire-pots that are sold as stoves by English ironmongers. As the Germans use so great a variety of stoves, it is scarcely correct to apply the title of "German" to any kind of stove unless we limit ourselves to North Germany. There, and in Sweden, Denmark, Norway and Russia, the construction of stoves becomes a specialty.

"The Russian stove is perhaps the most instructive to us, as it affords the greatest contrast to our barbarous device of a hole in the wall into which fuel is shoveled and allowed to expend nine-tenths of its energies in heating the clouds, while only the residual ten per cent. does anything toward warming the room. With the thermometer outside below zero, a house in Moscow or St. Petersburg is kept incomparably more warm and comfortable, and is better ventilated (though perhaps not so *much* ventilated) than a corresponding class of houses in England, where the outside temperature is twenty or thirty degrees higher, and this with the consumption of about one-fourth of the fuel which is required for the production of British bronchitis. This is done by, first of all, sacrificing the idiotic recreation of fire-gazing ; then by admitting no

air into the chimney but that which is used for the combustion of the fuel ; thirdly, by sending as little as possible of the heat up the chimney ; fourthly, by storing the heat obtained from the fuel in a suitable reservoir, and then allowing it gradually and steadily to radiate into the apartment from a large but not over-heated surface.

"The Russian stove by which these conditions are fulfilled is usually an ornamental, often a highly artistic, handsome article of furniture, made of fire-resisting porcelain, glazed and otherwise decorated outside. Internally it is divided by thick fire-clay walls into several upright chambers or flues, usually six. Some dry fire-wood is lighted in a suitable fireplace, and is supplied with only sufficient air to effect combustion, all of which enters below and passes fairly through the fuel. The products of combustion being thus undiluted with unnecessary cold air are very highly heated, and in this state pass up compartment or flue No. 1 ; they are then deflected, and pass down No. 2 ; then up No. 3, then down No. 4, then up No. 5, then down No. 6. At the end of this long journey they have given up most of their heat to the twenty-four heat-absorbing surfaces of the fire-clay walls of the six flues. When the interior of the stove is thus sufficiently heated, the fire-door and the communication with the chimney are closed, and the fire is at once extinguished, having now done its day's work ; the interior of the stove has bottled up its calorific force, and holds it ready for emission into the apartment. This is effected by the natural properties of the walls of the earthenware reservoir. They are bad conductors and good radiators. The heat slowly passes through to the outside of the stove, is radiated into the apartment from a large and moderately heated surface, which affords a genial and well-diffused temperature throughout. There is no scorching in one little red-hot hole, or corner, or box, and freezing in the other parts of the room. There are no drafts, as the chimney is quite closed as soon as the heat reservoir is supplied. If one of the heat reservoirs is placed in

the hall, where it may form a noble ornament and can easily communicate with an underground flue, it warms every part of the house, and enables the Russian to enjoy a luxurious temperate climate indoors in spite of the arctic winter outside.

"In a house thus warmed and free from drafts or blasts of cold air, ventilation becomes the simplest of problems. Nothing more is required than to provide an inlet and outlet in suitable places and of suitable dimensions, when the difference between the specific gravity of the cold air without and warm air within does all the rest. Nothing is easier to arrange than to cause all the entering air to be warmed on its way by the hall stove, and to regulate the supply which each apartment shall receive from this general or main stream by adjusting its own upper outlet. In our English houses, with open chimneys, all such systematic, scientific ventilation is impossible, on account of the dominating, interfering, useless and comfort-destroying currents produced by these wasteful air shafts. I should add that the Russian porcelain reservoirs may be constructed for a heat supply of a few hours or for a whole day, and I need say nothing further in refutation of the common British prejudice which confounds so admirable and truly scientific a contrivance with the iron fire-pot above referred to.

"Of course these stoves of our northern neighbors are costly—maybe very costly when highly ornamental. The stove of a Norwegian "bonder" or peasant proprietor, costs nearly half as much as the two-roomed wooden house in which it is erected, but the saving it effects renders it a good investment. It would cost £100 or £200 to fit up an English mansion with suitable porcelain stoves of the Russian pattern, but a saving of £20 a year in fuel would yield a good return as regards mere cost, while the gain in comfort and healthfulness would be so great that, once enjoyed and understood, such outlay would be willingly made by all who could afford it, even if no money saving were effected."

THE MOST RECENT big thing is a public park of 3573 acres in Wyoming.

GERMS OF INFECTIOUS DISEASE.

In the July and August numbers of this JOURNAL was a brief history of some forms of bacteria, as the bacillus of consumption, of splenic fever and others—minute rod-like bodies, less than $\frac{1}{1000}$ of an inch in length, which are most intimately associated with the decomposition of organic matter, such as the yeast plant, and which indeed are said to live upon decaying organic matter. Their peculiar manner of sporing, by which they are reproduced and multiplied with such marvelous rapidity, as observed by Koch under the microscope, was described, and the great heat and intense cold to which the spores might be exposed and yet retain their vitality, were referred to. The following extracts from a long but practical article by the chief health officer of Detroit, Dr. O. W. Wright, in late numbers of the *Sanitarian*, will form a fitting continuation of this subject. The paper had reference to cholera, but the following is equally applicable to typhoid fever, diphtheria and other infectious diseases; though while the infection of cholera and of typhoid fever most commonly enters the blood through the stomach, that of diphtheria, of scarlet fever and of smallpox, probably most frequently enters by way of the lungs—being inhaled with the air.

All around us, in air, earth and water, are living things, vegetable and animal, too small to be seen by the unaided eye. They are invisible, in the ordinary sense of the word. The microscope has revealed much, but there is unquestionably an immeasurable realm of the "infinitely small" which no instruments can make known to us, yet the mind and the imagination can penetrate beyond the region of the senses. The unseen plants and animals live and die, as the visible plants and animals live and die. Only their propagation, growth, maturity and decay are rapid in propor-

tion to their minuteness. In the little, as in the great, nothing grows but from seed. Where the seed comes from in the beginning, no man knoweth. Each produces after its own kind. In the little, as in the great, animals live upon plants, or upon one another; and plants live upon the decaying remains of animals, or upon the rotting debris of other plants. Everywhere life and death are strangely intermingled. Every breath we draw we take into the lungs invisible animals and plants. Every swallow of water contains living things, both from the animal and vegetable kingdoms. For the most part, these things are harmless, or we should all speedily die. Sometimes poisonous invisible plants or animals come and cause disease, each after its kind.

In our own times, many diseases before inexplicable, have been distinctly traced to their living causes. Within this century, the common itch has been found to be the result of an insect barely visible to a sharp eye, looking very like a mud turtle under a magnifying glass, which creeps from person to person and flourishes best in the midst of filth and negligence. Within the memory of the living the deadly little trichina worm has been discovered with the aid of the microscope, its wonderful life habits have been traced; 80,000 of them have been counted by a patient German scientist in a single cubic inch of flesh. The minute plant, causing the deadly splenic fever, killing great numbers of domestic animals as well as human beings, has been discovered quite recently, and the laws of its growth have been fully ascertained. M. Pasteur has studied all its habits, and Prof. Tyndall has ascertained what degrees of heat will kill both the plant and its seeds. By the aid of powerful microscopes, the minute plant that gets in the body of man and causes malaria fever, has been discovered and successful experiments have been made with it on the lower animals. The Bacterium, causing diphtheria, a low organism, so minute as to be on the very borders of the visible, has been recently studied out by very skilled microscopists, both in Germany and in this country.

Within a year or two, Koch has startled the world by discovering and describing the minute organism that causes consumption.

THE CHOLERA GERM.

But enough in the way of preliminary illustration. Prof. Lebert, a very high authority, expresses the convictions of scientific Germany, in regard to the cause of cholera, as follows: "A cholera germ must be accepted—in fact, it is now almost universally accepted—as the very probable cause of the disease. It is easy to understand that a minute, specific and peculiar Indian parasite might develop its action, wherever it is carried, when it finds favorable conditions for prolific reproduction." He thinks this minute vegetable parasite belongs to the protomycetes, the smallest microscopic single-celled plants. This minute parasite, originating only in India, flourishes in the stomach and intestines of man, when planted there, and causes cholera. The poison, whether vegetable or animal, is contained in the discharges from the bowels of cholera patients. Dr. Macnamara says: "Cholera patients cannot, in fact, communicate the affection to others, unless by the means of the discharges which they pass. Persons attending them run no risk of contracting the disease, provided they are protected from swallowing the organic poison passed by the sick; but in badly ventilated rooms, this organic matter having been disseminated in considerable quantities through the atmosphere, may be taken into the system by attendants, and so poison them." Dr. W. Aitken observes that the evidence in favor of the communicability of cholera by means of water or food contaminated with cholera dejecta has since 1854 become almost overwhelming. A volume from great authorities on this point might be cited.

The ways in which food and drink may become contaminated with the excreta of cholera patients are numerous, and obvious enough to skilled investigators. The subject is far from being inviting, but it lies at the very core of any fruitful consideration of the diffusion of cholera. Correlatively, the means of preventing the

disease must be sought in the study of the problem how to escape planting its minute and disgusting germs in the stomach and bowels

HOW DISSEMINATED

Let us go in imagination to the sick-room and closely observe the scene. The attendants on the patient are bewildered, perhaps terrified, by a sudden and dangerous, and, it may be, fatal calamity. They forget, quite likely don't know, that the copious rice-water excreta contain the seeds of cholera, so much to be dreaded. The patient is probably helpless. Bed-clothing and personal clothing are diffusively soiled. The hands of attendants are infected. Bread is broken and eaten with half-washed fingers. Remember it takes but a microscopic particle to inoculate a susceptible person. Drinking cups are handled, and the edges smeared, with dirty fingers; perhaps not visibly dirty, but we are considering a poison that cannot be seen with the naked eye. The soiled clothing is piled in a dark closet where the deadly germs are still further multiplied in the stagnant air and in the recesses of the infected fabrics. When the door is opened the germ-laden air comes in contact with lips and throat, and the invisible poison is swallowed, to germinate in a deadly harvest through the stomach and intestines. Sometimes the atmosphere of the sick chamber becomes so close and foul for the want of ventilation as to produce the same results on the inmates. The dirty linen is especially dangerous to those who wash it. Invisible spores, or germs, of the cholera fungus, rise in the face of the laundress. Pocket-nankerchiefs and towels become easily soiled in the sick-room and are unconsciously, or forgetfully, placed in contact with the lips. The contents of chamber vessels used by patients are not unfrequently thrown out upon the ground, or into vaults, where, under favoring conditions, the germs are multiplied and may find their way through the veins of the earth into wells of drinking water, tens of feet, perhaps hundreds of feet away, thence to be conveyed to the stomach and intestines of many unsuspecting people. Drink-

ing water, polluted in some such way, is the most fertile source of cholera.

THE WATER SUPPLY AND CONTAGIUMS.

In India, foul pilgrims defecate, bathe, wash their clothes in and drink from the same pool. In many Christian cities, sewage empties into the same stream from which the water supply is taken. All over our own enlightened land we find the privy and the well in dangerous proximity. The milkman perhaps washes his utensils, or even dilutes his milk, with infected water, and distributes the death-laden liquid to whole neighborhoods. The excreta thrown upon the ground perhaps dry up, and the germs are blown to the lips of people in the distance.

There is abundant, perhaps even demonstrative, objective evidence of the preponderating influence of polluted drinking water in the dissemination of cholera [and also of many other infectious diseases.—Ed. S. J.]. In 1854, says Dr. Parkes, occurred the celebrated instance of the Broad street pump in London, which was investigated by a committee, whose report, drawn up by John Marshall, of University College, with great logical power, contains the most convincing evidence that, in that instance at any rate, the poison of cholera found its way into the body through the drinking water. In Scotland, Dr. Stevenson Macadam has published very striking coincidences between the abatement of the disease and the introduction of a fresh and pure supply of water. In the city of Rotterdam, during an epidemic of cholera, the introduction of pure water immediately reduced the mortality to one-half. Dr. Aucland relates, as quoted by Dr. Parkes, that two jails were near each other; the one suffered, the other did not; the water was impure in one case from drainage, pure in the other. The jail with bad water having got a fresh supply, the cholera did not appear in the next epidemic. In Haarlem, in Holland, cholera prevailed with great intensity in 1849. In 1866 it returned, and again prevailed as severely in all parts of the town, except one. The part entirely exempted in the second epidemic was inhabited by bleachers, who, between 1849 and 1866, had obtained a

fresh source of pure water. Prof. Foerster has shown that five towns of Silesia (of 5,000 to 12,000 inhabitants) are entirely free from cholera, which never spreads, even when introduced. The only common condition is a water supply from a distance which cannot be contaminated. In Glogau half the water is from a distance and half from wells; those using the former remain free; those using the latter are attacked. Dantzig and Koenigsberg used formerly to suffer equally; Dantzig, having a new water supply, does not suffer; Koenigsberg, with its original supply, continues to do so. In Berlin, in 1866, cholera prevailed much more in the houses supplied with bad water than in houses supplied with good water. Even in India the introduction of better water, in Calcutta and other cities, has greatly diminished the disease.

HYGIENIC MANAGEMENT OF INFANTS.

No part of the subject of hygiene is of greater practical importance than that which relates to the management of infants. It is bad enough that the feeble ones die, though some strangely enough believe it to be better that they should, but too well it is known that while the frailest sometimes live to a good age, the strongest infants, of even good parentage, are often cut off from life by ignorance and mismanagement. The two most important things by all odds in the care of infants is to provide pure air and suitable food. Warm clothing and cleanliness come next. Give them the utmost freedom of limb for exercise, and try them from time to time with little sips of pure cold water from a teaspoon. If they like it do not be afraid to give it to them.

Below are extracts from some good instructions given by Mr. Edmund Owens, F.R.C.S. (Lond., E.) to "out-patients."—(From *N. Y. Med. Jour.*): Mother's

milk is the proper food for babies, and until they are three or four months old they should have nothing else. But if that cannot be got, or be not sufficient, cow's milk fresh two or three times a day, and from the same cow, and not scalded, is the next best food; add a little sugar and a trace of salt. For the first few months there should be more water than milk—perhaps *twice as much water* as milk—and, as the babe thrives, the proportion of milk may be gradually increased. *No other food* should be given before the sixth month; baked flour, arrowroot, and oatmeal cannot be digested, so they cause sickness and diarrhœa.

For the first month a baby should be fed every two hours, and, by gradually increasing the interval, he is in time fed every three, and, eventually, every four hours. He should not be fed because he cries; very likely he is in pain because his stomach is over-loaded. When he is sick after his milk he should be fed for a less time and at shorter intervals, and, if the bottle is being used, a larger proportion of water must be tried; and, if he is a fair sleeper, he should be woken up for his regular meals, and never allowed to over-feed.

The best kind of feeding-bottle is the old-fashioned, long, straight one, with a short India-rubber teat and with no tube at all. The very worst kind is that with the long India-rubber tube. There should be two bottles—one for day and one for night; after being used, the bottle should be thoroughly washed in hot water, in which a little soda has been dissolved, and should then be well rinsed in cold water. Till next wanted it should be kept in a basin of clean cold water. When six months old the baby may be allowed, in addition to milk, boiled bread and milk,

oatmeal, Robb's biscuits or Chapman's wheat flour.

Weaning.—As a rule, when the baby is about nine months old the mother should begin to wean him by giving him less of the breast or bottle, and more of the cow's milk and of the foods just mentioned, and, in addition, a little beef-tea or meat broth and soaked bread. At a year old the child must be entirely weaned, and soon he must have daily a little under-cooked meat pounded up into a pulp, and to which a little gravy and salt are added; some potato finely mashed and covered with gravy; an egg; or a little milk-pudding. On no account should he be allowed any wine, beer, tea, or coffee, though he may have cocoa and milk. He should be given his meals regularly, and no sweet stuff in the intervals. Children flourish best on fresh foods. The worst nourished patients that I see at the hospital for sick children are those reared on Swiss milk and various patent foods. *Rule.*—Do not give a baby food or physic that is advertised.

Babies and little children must be kept always warm. They cannot be "hardened" by scanty clothing or cold baths. Their necks, thighs, legs and arms need to be covered as well as their chests and bodies; they should wear long sleeves and stockings, and, when old enough, cotton or flannel drawers.

Children should be taken out of doors each day that the weather is fine. If they are sent out in a perambulator, care must be taken that the feet and legs are warm to start with, and that they are so well covered throughout the ride that they are warm on the return home. Every day, unless a bitter wind is blowing, or it is foggy, the windows should be opened for a while, for fresh air is as necessary for children as fresh food.

Sleeping.—At night if a child perspires freely or kicks off the bed-clothes, he should wear a flannel bed-gown long enough to be tied below his feet, and the bed-clothes must be securely tucked in. He should not be rocked or patted to make him sleep; sleep should come naturally, and, like the food, at regular intervals.

Bathing.—Morning and night he should be washed all over in warm water, but should not be exposed long enough to feel chilly afterward. A handful of sea-salt, thoroughly dissolved, may be added to the bath. Except in the very warmest weather no little child should be put in a cold bath.

RAPID FIRE EXTINGUISHER.—To supply the necessary means for quickly quenching a fire, Mr. Forster, of Bolton (Eng.), has brought out a portable fire engine, which emits a stream of carbonic acid and water. By this arrangement he is able to keep his apparatus within small limits, the pressure of the carbonic acid being available for propelling the jet, while it is extremely efficacious in stopping combustion. A public trial of Mr. Forster's apparatus (*Engineering Jour.*) was recently made. A wooden house had been built, the upper story of which represented a bedroom. This was saturated with tar and petroleum, and when filled with flame was extinguished by a jet from a one-eighth inch nozzle in one minute. The lower story represented a warehouse filled with boxes saturated with petroleum, and when fairly alight was extinguished in little more than a minute. Other experiments followed, all of which were successful in demonstrating that a small quantity of water impregnated with carbonic acid will put out a fierce fire, especially in confined situations.

A BILL has been introduced in the Spanish cortes providing for a royal council of health.

INSANITY—ITS PREVENTION.

From the terrible nature of insanity the question of preventing the malady is a most momentous one. But little special attention however has been given to this, hardly any more indeed than is involved in general measures for the prevention of sickness. This is perhaps natural enough, too, for after all insanity is but a consequence of physical disease. It is authoritatively stated that there has been a rapid and remarkable increase of insanity in New York, and much consideration is being given there to the treatment of lunatics. On the last day of 1871, there were 1535 insane persons confined in asylums in the city. In the course of eight years the number had doubled, and it has very largely increased since. In seven months there has been an increase of 121 patients in the male asylum on Ward's Island, and of 110 patients in the female asylum on Blackwell's Island. There is one lunatic in every 360 inhabitants in the city, while in the whole nation the average is one to 779 of the population. The increase of insanity in the whole country has been 60 per cent. in ten years, the population having increased only 26 per cent. in the same time. This is partially accounted for by the fact that many lunatics in the neighboring towns, and states, are shipped into New York.

There has been a large increase in the proportion of insane persons in the various asylums in Ontario, as compared with the total population, during the last few years, as we have stated on a previous occasion, but some endeavor to account for this in this way: that now many mild cases are taken to an asylum whereas formerly they were kept at home. We do not believe however that this will account for the increase.

On the prevention of insanity, Dr.

Nathan Allen, of Lowell, Mass., a sanitarian of considerable eminence, has written an instructive pamphlet in which are the following truths in reference to the causes of insanity:

"The leading factors are 'dissipation in its various forms, overwork, meager fare, lack of ventilation, and neglect of moral culture.' It will be seen that each one of these covers a great deal of ground. Passing by the last point—neglect of moral culture—the other four constitute the chief sources of disease of all kinds, some of which terminate in mental derangement. But nearly all these great agencies, productive of so much disease of body and mind, are subject to human control, and can be more or less checked, if not entirely prevented.

"The first named, dissipation, is a fruitful source of insanity. This may consist in drinking habits, in the use of tobacco and opiates, or in the abuse of the sexual organs, by licentiousness and solitary vice. These evils are all the results of voluntary acts, the work of a free agent; and so can be prevented.

"Overwork of body or mind not infrequently brings on mental derangement.

"Meager fare and bad air are evils which multitudes of poor people cannot always escape. Neglect of moral culture is an evil directly connected with the choice of individuals, and the state of public morals. It is a sin or an evil which can be corrected, wherever the fault may be, and there certainly can be no necessity or justification for any neglect."

"Almost any amount of money has been expended in building and managing lunatic hospitals, but nothing to prevent insanity. If one-tenth, or even one-hundredth of the means now so lavishly bestowed upon the unfortunate class in large institutions were expended in different ways to *prevent insanity*, in cutting off its supplies, what a difference it might make in diminishing the number of the insane and reducing the amount of suffering! How long will it take the public, and legislative bodies particularly, to learn the truth of the proverb, 'An ounce of prevention is worth a pound of cure!'"

THE CORN DENTIST AND THE
PLUMBER.

The lady of the house had been grumbling about a corn on her foot for months and her husband had tried in vain to get her to consent to have a regularly ordained "corn dentist" come up and remove it, but she was afraid it would hurt, and she was nervous about having a horrid man touch her bare foot, and she suffered along until Tuesday, when, in a moment of agony, she told the old man to send up his corn dentist as quick as he had a mind to. He went down to his office and ordered the corn man to go up. He had already ordered a plumber to go to the house and mend some gas fixtures, and the plumber got there first. The girl told him to go up to the lady's room, and the man went up. He had a roll of cloth with tools in it, and as he put it down on the floor to unroll the tools, the lady took off her slipper and removed her stocking and placed her foot on a hassock. She looked at the plumber's tools on the floor and almost fainted. There was a big pair of pincers and two files and a lot of iron things that looked big enough to remove the corns from an elephant. The man was sorting out the tools and didn't notice the woman's fright until she asked, "Is this going to hurt much? if it is I had rather suffer the annoyance." "Oh, no," said the man, looking up at the gas bracket by the window, which had a rag wound around the joint which leaked. "I can screw the cap onto the joint so the gas cannot escape," and seeing the woman's bare feet so near him he opened his eyes in wonder and blushed like a girl. She looked at him and wondered why he did not go to work on her foot. He was a great big muscular fellow, and he looked as little like the way she supposed a corn doctor would look as possible. Taking up a big pair of pincers, and taking a match to light a small candle which he carried to test leaky gas fixtures, he said: "Where does it seem to be the worst?" "There," said the little woman, bending over and placing her finger on the next to the little toe. "Right between those two

toes. It is a soft corn and sometimes it makes me wild. Now, do be careful, won't you?" as the man dropped his pincers and stood back as though he had been struck by lightning. Then he laughed out aloud and said: "Madame, I have been in the plumbing business twenty-two years, but this is the first time I was ever called to repair a broken joint on a woman's toe. Excuse me," and he began to roll up his tools. "Heavens and earth!" said the woman, as she tried to put on her stocking wrong end first, and blushing so she looked as pretty as though she never had a corn, "I thought you was a corn doctor. There is the gas fixture you are to putty up," and she went out of the room in her stocking feet to blow up the girl for sending a plumber to plumb a corn. The corn doctor arrived soon and did his work.

OVER-CROWDING AND TYPHUS IN CANADA.—There have been repeatedly in this JOURNAL warnings relating to the possibility and every probability of outbreaks of typhus fever from the over-crowded state of some of the cheap lodging houses in Toronto and other cities in Canada. Over-crowding in the backwoods may produce typhus just as surely as over-crowding in cities or in ships. Dr. McDonald, medical health officer of the Londonderry (Nova Scotia) iron works, reports that, "Last winter a family in very destitute circumstances came to the place, one of them suffering from symptoms which at first were a little puzzling. Within a few days seven of them were down with the same disease and the progress of the cases left no doubt whatever as to their nature. The disease was typhus fever. This family had been living in a log house in the backwoods, ill-fed, badly clad, and ten of them sleeping in one apartment less than twelve feet square."

THE Municipal Council of Paris propose to establish crematories in three of the principal cemeteries of Paris, which, in anticipation of cremation becoming legal are to be used in case of a cholera epidemic breaking out.

SANITARY SUPERVISION OF THE PUBLIC SCHOOLS.

The system of sanitary supervision of schools has been in operation in Brussels, Belgium, since 1873, under the supervision of the Bureau of Public Health. (So writes Dr. L. W. Baker, Baldwinville, Mass., in *Mass. Four. of Education*). Five physicians devote their entire time to the medical inspection of schools. From their report it appears that the objects for which the sanitary supervision is undertaken are :

I. To secure the uniform observance of hygienic laws with regard to cleanliness of buildings, water-closets, ventilators, etc., and to call immediate attention to any violation thereof, or to unhygienic conditions in or about the building.

II. To prevent the spread of infectious diseases in and by means of the schools.

III. To determine beforehand what children are liable to suffer injury, by reason of some constitutional tendency, from the course of study and discipline that others might bear without harm, and to make such pupils the objects of special care, in order to build them up physically.

IV. To assure to the pupils proper sanitary instruction, so that the schools shall become a means of diffusing, by precept and example, information with regard to sanitary laws among the people.

By means of suitable blanks, to be kept in every school-room, and filled out by the teacher or by the inspector, the latter is kept fully informed of the history and physical condition of each pupil under his care, and he is to favor, by every means in his power, the physical education of the child, and to see that the mental powers are not overtasked. Feeble children must be the special objects of the inspector's attention, and, when required, the child is at once prescribed for, or referred to the family physician, who must see that the proper preventive or remedial measures are taken. In the event of contagious disease, it is quickly detected, the child is removed, and not allowed to return until perfectly recovered. So suc-

cessful in this respect has the supervision been, that for six years no one of the infectious diseases has reached the height of an epidemic in Brussels, although the other cities of Belgium and Europe have suffered severely.

This, in briefest outline, continues Dr. Baker, is the method adopted by the city of Brussels for the physical care of her school children. Is it not worthy of introduction into this country and every other country ?

FIRE-PROOF PAINT.

The latest fire-proof paint is the invention of Mr. A. Mountford, of Birmingham. It consists of asbestos ground and reground in water, aluminate of potash or soda, and silicite of potash and soda. When it is to be exposed to weather, it is combined with oil, dryers, gummy matters and other substances. A public trial was lately made with it before fifty gentlemen. "Two wooden huts, one of plain timber and one painted with three coats of asbestos paint, were filled with shavings and simultaneously ignited. The first caught fire at once, driving the spectators backward by its heat and the extent of its flame, while in the second the shavings, after a hearty blaze that scorched and blistered the paint, fell into a heap of red embers. Half a bucketful of petroleum flung in the hut filled the inside with a fierce flame that belched forth in a solid body and curved on to the roof, and for a few minutes it was the opinion of the on-lookers that the confidence of the inventor had overleapt itself. But gradually the petroleum vapor became exhausted and little flame remained beyond that of the gas driven out of the cracks of the wood by the intense heat. The structure was intact, and it needed no special skill to see that a slight building filled with combustible material would, if painted with asbestos paint, be able to retain the fire within itself for sufficient time to allow of the arrival of the firemen. But the reputation of the paint does not rest upon an

isolated experiment; not only in London, but also in Birmingham, Manchester and Liverpool has it been severely tested, and every time successfully. Asbestos has established its character as a fire resisting material, and a grave responsibility will attach to all that have the management of buildings in which special risks are run, such as theatres, music halls, carpenters' and packing-case makers' shops, and the like, if they fail to avail themselves of it in some form or other."

FISH AS FOOD.—Sir Henry Thompson recently delivered a lecture on "Fish as Food." (*Lancet*.) It was an able summary of the known facts about fish, but Sir Henry went too far in his denunciation of the notion that fish eating increases brain power as a "complete fallacy." It has long been perfectly well known to physiologists that the phosphorus theory must be discarded, but it is a fact beyond dispute that fish is a form of food which is easily digested, and proves specially nutritive to the bodies of brain workers. Sir Henry Thompson thinks that the only way it acts is by putting a man's body into proper relation with the work he has to do. This may be quite true, and doubtless is so, but the brain is an integral part of the body. Moreover, it comprehends a considerable number of the most important centres of the nervous system, whence the body as a whole derives its power. Therefore, in putting a man's body in proper relation with his work, fish may chiefly act by supplying his nervous system with specially available nutriment.

THE "NATIONAL DRESS ASSOCIATION" of London, with which some highly influential women are connected, gives medals of distinction and money prizes for valuable inventions in dress. The conditions under consideration are, 1. Freedom of movements. 2. Absence of pressure over any part of the body. 3. Lightness, and even distribution of weight. 4. Grace and beauty, combined with comfort and convenience. 5. Not too conspicuous a departure from fashion.

CAR VENTILATION.—A test has been made of the Fennerty patent ventilator for cars, says the *Memphis Appeal*. The principal is described as simple and easily understood. It is made of zinc, standing up from the centre of the roof of the car like the letter T. The upright is about eight inches in diameter, and a foot in height. The horizontal piece is not quite three feet in length and eight inches in diameter. One end is slightly flared and the other has a zinc wing on either side, sloping gradually out from the centre. A piece of zinc is so arranged on the inside of the horizontal cylinder as to close the lower half, and curves over the mouth of the upright to a point about two inches beyond its edge. Thus air blown through the flared end creates a partial vacuum between the top of the upright tube and the under side of this curved piece of zinc into which rushes the hot and foul air confined in the interior of the car. The ventilator is on a pivot, and moves with the wind, like the weather cock. When the car is in swift motion the vacuum made by the rushing wind is almost complete, rapidly ridding the coach of foul air.

HYGIENIC WATERPROOFING.—The Belgian War Department, according to the *Sanatarian*, N. Y., has recently concluded a series of experiments on the waterproofing of soldiers' uniforms by the use of acetate of alumina. The articles of dress treated permit the perspiration to pass off freely, and chemical analysis has shown that the preparation used in no way injures the material, or destroys the color, or is injurious to the health of the wearer. The materials, re-dressed two or three times over, notwithstanding the rinsing and washing to which they have been subjected, after having been soiled, and after constant wear, remained perfectly waterproof. The only drawback appears to be, that it is not very economical. Acetate of alumina in solution is prepared and the materials to be waterproofed are soaked in this, and withdrawn and dried in the air without being wrung.

ISOLATION HOSPITALS.

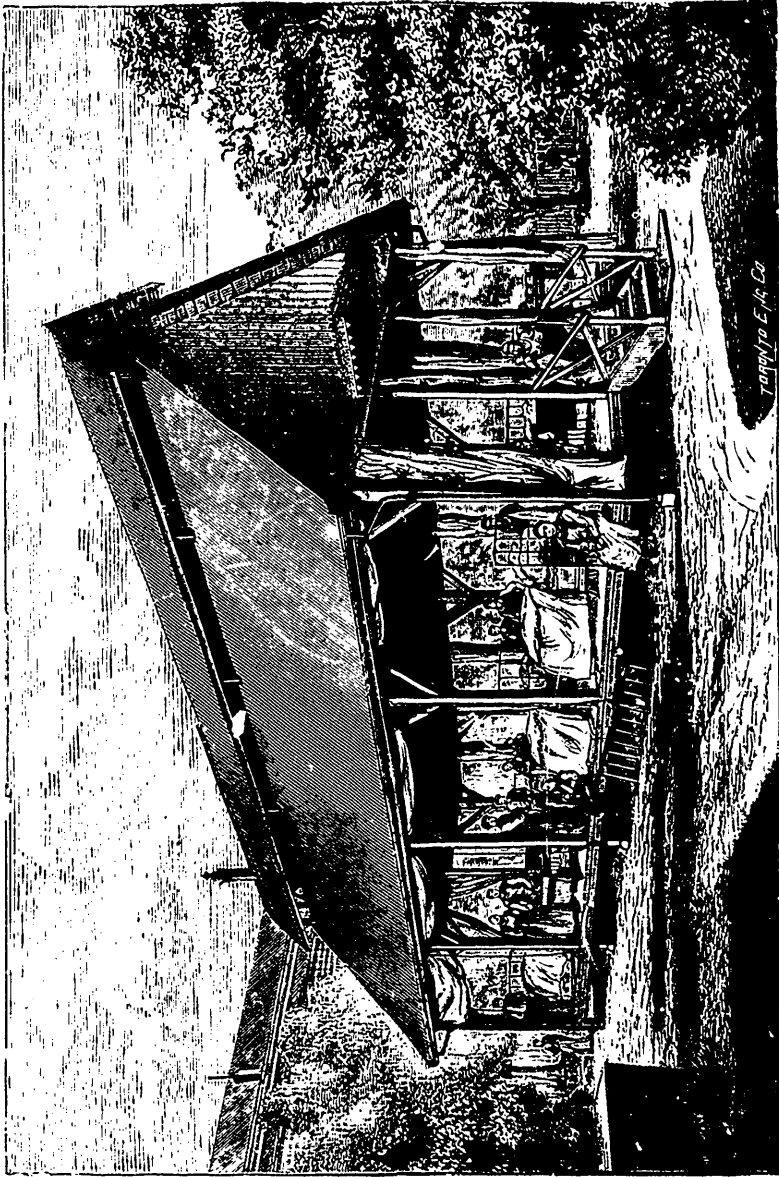
The one great, and the most perfect preventive of the spread of infectious diseases is complete isolation, so that there shall be no communication between the well and the sick. If every one were to avoid, or be prevented, going near any one having an infectious disease, the disease could not spread. Hence it is of the first importance for all municipalities to be provided with some ready means of isolation in case of outbreak of cholera, smallpox, diphtheria, scarlet fever, or such like disease.

At the Toronto Industrial Exhibition last month a portable structure was exhibited by the Provincial Board of Health as a model for an Isolation Hospital. It was one of the direct outcomes of the visit of the delegate of the provincial board, Dr. C. W. Covernton, of Toronto, to the International Sanitary Congress held last year at Geneva. At Geneva was a hospital after the plan above illustrated. The hospital as exhibited in Toronto by the provincial board is we consider a great improvement on that of Geneva. The sail-cloth for closing in the sides, instead of being so arranged as to be folded up when not required for closing the sides, as in the Geneva hospital, are, in the Toronto one, stretched on frames revolving on horizontal pivots. These frames can be more readily and closely adjusted to the posts of the main framework than loose sail-cloth in the form of curtains, and they may be utilized as sloping shades to protect from sun and rain, without closing the openings at the sides. The frame should be made of light pine, in size about 2 inches by 6 inches, or even 8 inches, and a double layer of sail-cloth could be nailed on them, one outside and one inside. This would form a sort of hollow

wall, which would largely overcome one objection urged against the hospital for winter use. We have had a number of enquiries in reference to this point—the suitability of the structure for cold weather. In reference to it, Professor Jullard, in a paper read by him at the Geneva Conference on this form of hospital, and translated by Dr. Covernton, said, "Experience has taught us that this fancied objection is not a real one, as I have never noticed any bad results." Constructed with double wall as above indicated and with provision for closing the apertures in the roof, it could be made sufficiently warm with a suitable stove for winter use in this country. It is reported that during the civil war in the United States about twenty years ago, patients suffering from inflammation of the lungs even and other diseases, were treated in the open air, with snow on the ground, and with a lower mortality than prevailed in hospital.

The hospital should have a well-made floor, as tight as possible, and well oiled and waxed. As explained by Prof. Jullard, these hospital tents offer, among others, the following advantages:—1st. They supply a very superior aëration to that which the most perfected system of ventilation can yield. When the sail-cloths are raised, the patients, as I have said, are in the open air, sheltered from the sun by the roof; when they are lowered, the air penetrates through the meshes of the cloth and escapes by the apertures in the roof. The patients thus breathe always a pure and vivifying air, and the hospital smell, which prevails more or less in every other hospital, is never perceived. * * * 2nd. The abode in these tents is very agreeable, and the patients are more cheerful and happy than in the wards of the hospital."

The length of the hospital exhibited by the board is 20 ft., width, 16 ft., height of walls, 11 ft., and from floor to ridge, 16 ft. It is portable, the several parts being bolted together, the roof and floor dividing lengthwise in the centre. The floor is of maple, tongued and grooved, and oiled, and is supported on posts, 2 ft. 6 in. above ground. Near the roof in the ends is lat-



Hospital at Geneva visited by the delegates to the International Congress. Engraved from a photograph contained in the Official Report brought over by Dr. Covernton, of Toronto, delegate of the Provincial Board of Health to the Congress.

The sleepers and frame generally are of wood, 49 ft. 2 in. in length, 22 ft. 9 in. in breadth; the floor is 2 ft. 5 in. above ground, of hardwood-tongued and grooved, oiled and waxed; lateral walls are formed of sail-cloth, roof extensively open its whole length. It is large enough for eight beds. During the night, or when rain falls or the wind is high, the sail-cloths are lowered. During the day they are raised, and the patients are thus surrounded by fresh air.

tice work provided with shutters, and in the roof are Venetian louveres which can be closed when necessary. The cost is about \$300.

Much practical good ought to result from the introduction into this country of this plan of constructing portable isolation hospitals. Dr. Covernton has manifested a wise forethought in introducing the plan,

and the board, in constructing the model. It is to be hoped that many municipalities or groups of municipalities will avail themselves of it and have such an inexpensive structure *ready* to meet any outbreak of infectious disease, and not *wait* to construct it after an outbreak appears and after many lives have been sacrificed by the spread of the disease.

FLESH OR FAT—WHICH.

Many people do not distinguish the difference between flesh and fat in the construction of their body. They want to get fat, and think they will thereby necessarily become strong. This is a mistake. Let us notice the wide difference between flesh and fat.

Flesh consists of muscle; therefore flesh and muscle are one and the same thing. The muscles constitute the great bulk of the body, and bestow upon it form and symmetry. The 'round' of beef and the leg of lamb are nearly all muscle. It consists of fine thread-like filaments or *fibres*, arranged in small bundles, a number of which united together with connective tissue form a muscle. Every movement of the body is produced directly by the muscles shortening themselves, in response to the nervous influence of nerve fibres permeating them, and so drawing on the bones to which they are attached.

Fat consists of minute cells or sacs of fat, held together with soft, delicate threads and bands of connective tissue. It is found chiefly beneath the skin and walls of the belly, around the kidneys and heart, and in spaces between organs. It contributes to symmetry, facilitates motion, and constitutes a reserve supply of fuel—combustible food, for burning, or *oxidation*, and is the first tissue to disappear for this purpose in those who are poorly fed. Any increases of it to more than enough for these purposes is useless and burdensome.

With abundance of exercise and plain nutritious solid food—flesh, bread, a moderate allowance of vegetables, and simple puddings, with milk and tea and coffee in moderation, the muscles, if not firm and strong, usually increases in size, firmness and strength, and the whole body

in weight. With little exercise, excess of starchy, vegetable, fatty and liquid foods, the fat accumulates, though the strength may not increase, but may even decrease, and will, with any great accumulation of fat.

It should not therefore be an object with any one to become "fat," but to secure firm, strong muscles, with the whole made plump and round by a moderate proportion of fat.

HEALTH AT THE BOARDING SCHOOL.

Parents in selecting a school about this season of the year for their daughters and sons are too apt to think only of their mental training, their probable associates and of the competency of the teachers. Enquiries may be made regarding the rooms and food, and perhaps the locality of the school as relates to its healthfulness, but few, however, will look into the ventilation of the bed-rooms or class-rooms, and, as the *Sanitary Engineer* has it, "no questions will be asked about the house drainage or the water supply. If parents and guardians did give some attention to these points, and asked some questions about them, it would not be long before we should see in the educational advertisements, which about this time are such a considerable source of revenue to the daily and weekly press, some such items as these—"No cesspools on the premises." "House drainage in thorough order and ventilated in accordance with the rules of the — City Board of Health." "Water supply from a well absolutely free from danger of contamination." "Every room ventilated." "The school is inspected by a competent physician every month." "Study and recitation rooms specially arranged with reference to light," etc.

Parents, as you wish to have your loved ones return to you, and, too, in good health, look well into these matters before you send your children to any school.

THE WASTE FORCE IN GYMNASISTICS.

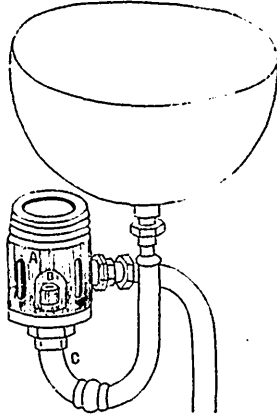
In this practical age, when every one desires to utilize everything—that the most shall be made out of everything and that nothing shall be lost—when the necessities of life have become so multiplied, and are often far from easily obtained, is it not somewhat strange that some one of those who have given much time and thought to the invention of new forms of gymnastic exercise has not invented something whereby the muscles could be exercised in the most complete and scientific manner and yet, in the exercise, produce some useful articles? There is a great deal of lost or waste force in gymnastics. Not that we mean to imply that these exercises are not very beneficial to health, for they are, but if the force used in them could be utilized in the production of something that could be made available in the struggle for bread and butter and raiment, they would be still much more beneficial and ought to be even still more interesting and attractive. Who will invent a machine with which boots and shoes, or even the materials for a fashionable hat or bonnet, could be made by the force of gymnastic exercise? Perhaps after all there is no better gymnasium than the wood-shed, however prosaic and matter of fact it may be to some—no better gymnastic apparatus than the wood or 'buck' saw, an axe—it ought not to be a sharp one—and some good hard wood. But it is not every one who has wood to be cut.

TO PREVENT "TAKING COLD" the best thing by all odds is to bathe the face, throat and chest freely every morning with cool or, after a little use, cold water. This renders the skin less susceptible to sudden changes of temperature.

A HYGIENIC COLONY.—Who will project a hygienic colony for the North-West? There is a temperance colony, and certain religious bodies it appears have their colonies: why not a colony on a strictly public health basis? It would involve the selection of a salubrious site, perfect drainage of the soil, the construction of houses, whether small or large, only on the most approved sanitary principles, perfect sewerage and scavenging and a pure water supply. It would be necessary for all the individuals of the colony to conform to individual or personal health laws. To use only good, wholesome food, and to observe temperance in all things; in dress, to regard health as of the first consideration, and to regard the bath, regular exercise and rest as essential to health. The result fifty or one hundred years hence of the carrying out of such a project would be looked forward to with a good deal of interest by those who would be likely to live to witness it.

"POISONED BY MISTAKE."—Such really terrible words are quite too often found as a heading to "news items." Altogether too little care—or too much carelessness, is manifested in the sale of poisons, especially by druggists or their clerks, and some severe "example" we fear will have to be made to thoroughly arouse greater care on their part. As the *Canadian Practitioner* has it, "Druggists should be compelled to put all drugs which are poisonous in large doses in a separate place, and at the same time in receptacles with distinguishing characters of colour and shape. They might, for instance, be kept in red triangular shaped bottles in a closed cabinet while no other drugs were put in similar bottles. Will some of our medical men in the Legislature attend to this matter?" They should be required too to dispense or sell all poisons in peculiar shaped bottles, in order to attract the attention of, and suggest danger to, those using these drugs.

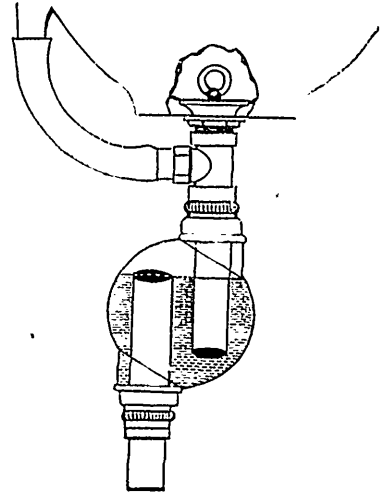
THE MERCURY SEAL TRAP as represented below has been well spoken of. It is claimed that a trace of mercurial salt becomes diffused in the water and acts as a disinfectant in the soil-pipe and drain.



The water, when discharged from the basin, enters the reservoir *A*, and the inverted glass cup *B* is raised nearly to the top, allowing free egress to the water. As the water recedes, the cup falls back into the mercury surrounding the end of the inlet pipe, *C*, thus making a perfectly air-tight joint, which cannot be broken nor unsealed by evaporation or syphonage.

KEEP THE WINDOWS OPEN.—Begin not too early as the weather becomes cooler to keep windows closed. Keep them open, little or much, as long as possible—indeed all winter, unless there are other provisions—other inlets, for fresh air. Better to burn a little extra coal than be made ill by rebreathing breathed air—one of the most poisonous of substances, causing consumption and other scrofulous diseases.

CONTAMINATION OF THE WATER-SUPPLY recently caused the death of a Mr. Lewis, of Philadelphia, who was spending the summer at Rye Beach, New Hampshire. The well was located at the base of a hill, upon which further up was a cesspool. The water is now very offensive. Two persons have died, and another is fatally ill.



THE GLASS GLOBE TRAP as shown above has many advantages. It gives a plain view of the condition of the inside and certainly is not easily unsealed.

CAMPING OUT.—In no other thing directly concerning health is there such a manifestation of inconsistency and downright ignorance as in that relating to night air and drafts of air—certainly more than is manifested in relation to those draughts of darkness, potions or “drinks” of ardent spirits. There are very few men or women either who would not unhesitatingly enjoy a few weeks’ camping out in an open tent on a Muskoka island or on one of the “Thousand Islands,” yet very few who will dare to sleep a night except in very warm weather with an open window on the opposite side of even a fairly large bedroom. Why this is so would be a nice little question for one to give out and solicit answers to. And it just occurs to us here at this moment that as our time is now otherwise much occupied and space is somewhat limited, we will stop writing about it here, and to the one sending the best explanation of the inconsistency referred to, before the first day of November, we will send the SANITARY JOURNAL free one year.

Matters Recent and Current.

VOLUME SIX.—With this number the SANITARY JOURNAL commences its sixth volume. It has accomplished a good work. It has much yet to accomplish. Every one who subscribes will promote not only the health of his own family but also that of the public. Accounts will be sent out with this number, we trust those in arrears will kindly remit at once. Subscription price now when paid in *advance* (no account to be sent out) only \$1.50 a year; \$2 now will pay from this time to January, 1885; \$1 for 8 months' trial.

INCREASE OF TYPHOID FEVER IN PARIS.

—Dr. Bertillon has just communicated to the Commission for the Sanitary Improvement of Paris the annual number of deaths from typhoid fever which have occurred in Paris during the years 1865-82 (with the exclusion of the abnormal years 1870 and 1871). There were in 1865, 1,161 or 64.5 per 100,000 inhabitants. In each of the following years there were the following number of deaths, respectively, per each 100,000 inhabitants:—53, 50, 53, 57, 54, 54, 43, 53, 102, 59, 41, 52, 97, 96, 150. This last number in the year 1882, when there was a total of 3,403 deaths, nearly three times as many as in 1865.

DR. JAMES KERR who had been for some time medical health officer, Winnipeg, Man., has been appointed superintendent of health for the province of Manitoba, under the new health act. Dr. Kerr has given much attention to sanitary matters, and he is doubtless "the right man in the right place." He will, we believe, be fully alive to the importance of the great work before him. We congratulate the doctor, and also the province over the health of which he presides.

IMPROVING TOWNS AND VILLAGES.—

Two hundred and sixteen of the 325 towns in Massachusetts report the existence of twenty-eight village improvement societies, having a membership of 495. In Williamstown a hundred streets have been put in order, trees planted and the village lighted. In Danvers, the village common has been fenced and many trees planted. The society in Shelburn has made sidewalks, planted trees and lighted the streets. In Longmeadow tree culture has been encouraged, borders cut and trimmed and sidewalks repaired. In Westfield a street six rods wide and over three miles long has been laid out and lined with trees. In Carlisle the cemetery has been beautified. The "Field and Garden Club," of Lexington, has fenced many vacant lots. In Stow 180 maple trees have been planted. In Pepperel trees have been planted, lights put up and courses of lectures have been delivered.

LANDLORDS, TENANTS AND NUISANCES.

—Landlords are often very unjust to their tenants in regard to nuisances, and tenants are sometimes unjust toward landlords in creating nuisances about their dwellings. Legislation, which should be strictly enforced, is required in relation to this matter. We know of instances in this city in which landlords have threatened to force tenants to leave their houses if the tenants did not conceal or try to conceal from

THE INSPECTING POLICE, now going about inspecting premises, certain nuisances on the premises, such as foul cisterns, etc. Such is a most foul, contemptible thing to do, but landlords exist who have done it. We would suggest that the inspectors look closely with their own eyes and smell closely with their own noses into the condition of the premises they are inspecting and take few men's words at par, for there may be a good many tenants under threats such as above referred to.

PRIVY VAULTS AND SANITATION.—In *The Sanitarian*, N. Y., we find the following: "Privy vaults and cesspools—if they cannot be done without—should at least be constructed in such wise as to deprive them of being a perpetual source of danger." Such words but encourage these most abominable sources of disease; no health journal should give one word of toleration of such relics of barbarism. They can easily "be done without." They cannot be so constructed as not to be a perpetual source of danger. There is mother earth, or coal ashes, or both, every where, and no privy vault nor cesspool, however constructed, should be tolerated in any community or by any family.

A NEW AUTOMATIC, VENTILATING SAFETY, WATER CLOSET is the invention of Mr. D. S. Keith, of Toronto, patented in Canada, United States and Great Britain. It is being exhibited in the latter country. The basin, ball cistern, trap, and safety overflow, are all made in one piece, of white earthenware, and provision is made for ventilating *separately* the drain, the safety overflow trap, the surface of the water in the basin, and the plunger chamber. The basin is entirely separate from the ball chamber, and the water in both compartments is changed every time the closet is used.

CREMATION.—There appears to be a change taking place in popular sentiment with regard to cremation as a means of disposal of the dead. A crematory has been established in Rome, one is about to be erected in Paris, and one is proposed for New York. "The furnace of Dr. Le Moyne, at Washington, in this State," says the *Philadelphia (Pa.) Med. Times*, "established a few years ago, has so many applications from all parts of the country that the demand for its service is rapidly growing beyond its power to fill."

DRAIN PIPES.—F. H. Noot, London, Eng., has invented an improved construction of drain pipes, whereby they are rendered more easily accessible for the inspection or clearing of the drain, or in case of breakage, than is the case with the present system of pipes. Both ends of each length of drain pipe are constructed with a flange or faucet in lieu of with a whole flange or faucet at one end, as at present. The parts are so arranged that the alternate pipe at any part of the drain can be directly lifted out and replaced or renewed without difficulty. The invention is equally applicable to pipes composed of earthenware, iron, or any other material.

PROFESSOR E. Fazio has been making notes in Ischia as to the impressions, etc., made upon the victims. In general those who were excavated alive were stupefied, their organic functions paralysed, their sight weakened or altogether suspended for some time; most had felt extreme thirst while under the masonry, but all asserted that they had never lost the hope of being saved.

IT WAS RECENTLY STATED by Sir Charles Dilke, the President of the Local Government Board of Health, Great Britain, that no competent engineer was satisfied with any plan that had as yet been proposed for the accomplishment of the better ventilation of the sewers of the metropolis.

FOLLOWING THE CONSTRUCTION of railways in Italy is the usual increase and greater virulence of malaria, ascribed to the necessary earth cuttings. There are some railway lines where the workmen and officials all suffer from fever, and changes in the staff are frequent.

J. B. RUMFORD, Bakersfield, Kern Co., California, U. S., his wife and son (17 years of age) lived on $1\frac{1}{2}$ lbs. grain and 8 lbs. of fruit per day for a long time and was cured of dyspepsia, and enjoyed good health otherwise.

A SHIP FROM CALCUTTA which had twenty-one deaths from cholera during the first part of the voyage, has been disinfected by the San Francisco board of health, by having all the cavities and rooms in the ship injected with steam, and afterwards by the use of chlorine. The clothing and bedding of the ship were disinfected by immersion in a disinfecting solution.

A SELF-ADJUSTING VENTILATOR for carrying fresh air to any part of a building has been patented. It combines a receiving funnel with a vane attached, which turns with the wind, and directs the air into the room. Combined with this fan and vane are safety valves for relieving the apparatus of surplus pressure during a heavy wind.

A NEW VEGETABLE PARASITE (*Haploccoccus reticulatus*) has been recently discovered in pork by Dr. Zopf. It occurs in from 30 to 40 per cent. of the animals examined. Would it not be well, asks an exchange, if we paid more attention to the sanitary legislation of Moses?

A NEW AND IMPROVED portable fire escape has been patented, which may be quickly and easily put in position for use, which will afford safe and easy descent from the window of a burning building, and which will occupy small space when not in use.

STREET NOISES.—The Town Council of Luton have passed a by-law to prohibit, under a fine of 40s., "shouting, singing, howling, or playing upon any drum, tambourine, trumpet, cornet, or other noisy instrument, whether in procession or otherwise."

THE PAPER AGE.—Many things in use in common life are now made of paper. We are to have paper railroads, while many towns have been made of paper.

A ST. LOUIS (Mo.) physician was arrested recently for failure to report a case of contagious disease to the health commissioner, and was fined \$20 and costs.

A CORRESPONDENT ASKS *The Medical Times and Gazette* (Lond., E.): "If dampness is the sole cause of the unhealthiness of new houses, why are not tents unhealthy in wet weather? I have," he adds, "seen a good deal of tent life, and always found it agree with me." The walls of new houses retain so much moisture that the air in them is damper than the outer atmosphere, whereas the air in the canvas tent would not be appreciably damper than that outside.

TRAPPING SEWERS AND DRAINS.—An apparatus has been invented for use in branch sewers connecting the houses with the sewers. It has for its purpose to allow the matters or liquids entering the main sewers but prevent them re-entering the branch sewers, when by flood or any other cause the level in the main sewer rises and causes the matters to run back into the houses.

AFTER THE SANITARY CONVENTION recently held in Muskegon, Mich., by the state board of health, a sanitary association was formed of influential citizens. We trust such a result will follow the conventions to be held in London and Ottawa under the management of the Ontario Board of Health.

MARRIAGE OF FIRST COUSINS.—It is reported that the Society of Friends in England have just repealed the prohibition of the marriage of first cousins, which has been in force in that body for nearly two hundred years.

CAPITALISTS are already engaged it is stated in taking the preliminary steps for the formation of a financial corporation to supply London, Eng., with water from one pure source, and at rates much under the present charges.

CREMATION.—Dr. Cameron has given notice in the House of Commons of his intention on an early day next session to introduce a Bill legalising cremation.

AN ENERGETIC HEALTH OFFICER in Elgin, Ill., has just prosecuted a main tainer of a nuisance, and succeeded in having a fine of \$200 levied on him.

VALUE OF SANITARY ASSOCIATIONS.—

New Orleans, though it has been the very home of pestilences, has had an auxiliary sanitary association in which merchants and physicians and jurists and clergymen joined hands and have done marvelous things in reducing the sick-rate and adding to sound comfort. Take a single instance. In 1879, the Auxiliary Association of New Orleans placed a powerful pump on the levee in front of the infected district which encircled with fresh water from the river the entire rectangle of three by five squares, to which area the fever was successfully confined. The fever did not cross that boundary line. It was a *cordon sanitaire* better than a shot-gun quarantine.

FOUR PRIZES, amounting to more than \$2,000, were given to the successful four of nineteen competitors submitting to the Berlin hygienic exposition the best plans and suggestions to attain safety and health in the construction of theaters.

FOR WRITER'S CRAMP a penholder or "bracelet" has been invented by a Mr. Nusslaum. It consists of vulcanite bands so arranged that the pen is guided by the extensor and abductor muscles instead of the flexors and abductors.

THE ITALIAN MINISTER of foreign affairs proposes a conference in Rome to draw up sanitary regulations against the cholera. Several of the "powers" have assented to the proposal.

A MISTAKE OF TWO INCHES in the grade made by the city engineer's department. Chicago (*Sanitary News*), has necessitated the tearing up of 100 feet of new granite pavement.

NARROW ESCAPES.—The published report of a benevolent society says: "Notwithstanding the large amount paid for medicine and medical attendance, very few deaths occurred during the year."

FLOUR it has been proven by numerous experiments cannot bear the action of the sun. A change takes place in the gluten. Experimenters advise the storing of flour in a cool, dark place.

IT IS REPORTED (*Sanitary News*) that thirty head of valuable cattle detained at the government quarantine near Salem, U. S., were severely poisoned by being pastured on ground formerly used as a potato field, and strongly impregnated with Paris green. There may be a mistake as to the cause of sickness, but the question should be investigated.

ENGLAND, with 27,000,000 inhabitants, has 140,000 residents of foreign birth; Germany, with 45,000,000, has 270,000; while France, with 37,400,000, has more than a million. In France there has been an increase of 200,000 in the last five years.

CHEMICAL EXPERTS have estimated that the cost of London's winter smoke and fog is £5,000,000 annually. That is to say, constituents of coal to this value escape unconsumed, and assist in forming the sooty vapour.

THE CROWN PRINCE AND PRINCESS of Germany have set aside for sanitary and benevolent objects, the sum of 830,000 marks, which has been subscribed by the people as a present to them at their silver wedding.

IN NEW YORK CITY the board of health has been having trouble in endeavoring to prevent a lady beating her carpets on her own premises, and it appears she is likely to beat the board.

THE BERLIN HYGIENE EXHIBITION up to the beginning of August had been visited by about half a million persons, and the receipts had exceeded 350,000 marks.

A CORRESPONDENT in *The Scientific American* recommends a portable paper commode for travelers and for the sick room that can be rolled tightly at the open end after using and instantly thrown away.

PROF. BINZ, of Bonn, has combined ozone with air in such quantities as to produce sleep when inhaled, without irritation of the air-passages.

MR. COMMISSIONER KERR remarked the other day that "a jury is at all times the most incompetent tribunal known to the law of England."

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SAMPLES.

WE furnish Samples free upon request; but as a single Season's Stock usually embraces more than One Thousand Different Lots of Clothing, it is obvious that only a fractional part of Goods on hand can be represented by Sample: An indefinite request gives us no clue to your wants, and a Catalogue is sent to enable you to determine with precision what is desired. We should know the style of garment and the kind and color of material preferred, and whether the clothing is for Dress or ordinary wear, also about the Price you wish to pay. If Boy's clothing is desired, we should by all means have the boy's age. And even for Adults, it is an advantage to know whether the person ordering is a young or an old Gentleman, that we may be governed in our choice of grave or gay Patterns. If the person is an extra large size (over 42 inches Breast measure), it should also be mentioned. If you cannot wait for the return of Samples and are willing to trust the selection of Garments to us, we will undertake to please you, with the understanding that goods not Satisfactory are returnable at our expense.

P. JAMIESON,

THE CLOTHIER,

PALACE CLOTHING HOUSE,

Cor. Yonge and Queen Sts., Toronto.

THE PUBLIC HEALTH—SEPTEMBER.

OTTAWA—Dr. Robillard, health officer, reports the public health to have been good there, "the public enjoying comparative immunity from zymotic disease, and diarrhoeal disorders, so prevalent during the summer months had very much diminished" by the end of the month. A few cases of typhoid fever of a mild type. Mortality for the month about 20 per 1,000 of population.

BROCKVILLE—Dr. V. H. Moore reports some cholera infantum and diarrhoea, a few cases of typhoid fever, mild in character—decreasing; pneumonia and bronchitis on the wane; dysentery and diarrhoea nearly absent; whooping-cough, epidemic in July, still fast disappearing, together with remittent fever. Diphtheria increasing, the type being catarrhal rapidly becoming gangrenous, and in almost every case terminating fatally. General mortality low.

KINGSTON—Dr. Saunders reports considerable diarrhoea—decreasing. The chief ailments during the month were typhoid and remittent fever, of which there have been altogether a good many cases, though he thinks not more than is usual at such time of year. Mortality from typhoid appeared to be slightly larger than usual. General mortality low.

BELLEVILLE—Dr. H. James reports considerable diarrhoea and cholera infantum, and more dysentery; diphtheria, typhoid and scarlet fever had increased; a good deal of bronchitis, acute lung disease and malarial fevers—increasing, cases severe. There were a good many cases of consumption.

PORT HOPE—Dr. Hamilton reports the general health "average." Still some cases of cholera infantum and diarrhoea, but no diphtheria, dysentery, measles nor scarlet fever; a few cases of typhoid fever—mild; epidemic of whooping-cough "decidedly declining"; more cases of bronchitis than usual at the season; a few cases of croup, lung congestion and remittent fever, of a mild type.

HAMILTON—Dr. Ryal, health officer, reports a case of cerebro-spinal meningitis,—a few cases of diarrhoea, cholera infantum, dysentery, diphtheria and typhoid fever; no scarlet fever, measles nor whooping-cough; some bronchitis, acute lung disease, remittent fever, and acute rheumatism. Mortality low.

LONDON—Dr. E. G. Edwards reports a good many cases of diarrhoea and scarlet fever, but on the whole the Dr. writes the city was remarkably healthy during September, there having been less intestinal trouble than usual for the time of year. A few cases of typhoid and some scarlet fever, but no epidemic; general mortality low. The month of September, the Dr. writes, "will be remembered by our citizens by a case of four living children at one birth—two boys and two girls—all alive and now (1st Oct.) nearly three weeks old." Dr. Edwards was himself the accoucheur on this interesting occasion.

CHATHAM—Dr. Bray reports about the same number of cases of cholera infantum and diarrhoea as in previous month; no measles; increase in dysentery, typhoid and remittent fever; still some scarlet fever. "No epidemic. Mortality low in all diseases—generally very healthy and likely to remain so. One of the healthiest seasons for years, owing as before remarked to the low temperature and large rainfall."

ST. CATHARINES—Dr. Greenwood writes that September was a healthy month in that city. No epidemic of any sort; a decrease in both diarrhoeal disease and in bronchitis; a few mild cases of typhoid. There was a case of cerebro-spinal meningitis, which terminated fatally.

BARRIE—Dr. McCarthy reports no diphtheria nor measles, though the latter was epidemic three months ago; whooping-cough, almost gone in August, had increased a good deal; less cholera infantum and diarrhoea, with increase of bronchitis and lung troubles. On the whole the health of the neighborhood was good, with a low mortality.

STRATFORD—Dr. D. M. Fraser reports the general health as having been very good in Stratford. No epidemic. No diphtheria, measles nor scarlet fever; some typhoid; increase in remittent fever.

CLINTON—Dr. Worthington writes that September was by far the healthiest month of the year in that neighborhood. No epidemic of any sort. A decrease in diarrhoea and an increase in typhoid fever and bronchitis.

TORONTO—There is no particular epidemic in Toronto, but there is doubtless more sickness in proportion to the population here than

in any other city in Ontario, if not in Canada. There are more physicians, proportionately, it is said—for the most part doing a large and lucrative practice, than in any other place in Canada. This is not at all surprising; there is no cause without an effect, and causes of sickness are abundant, everywhere throughout the city. Where the decomposing organic filth is there will the disease bacteria be gathered together. The Council, lavish enough in some things—penny wise and pound foolish, suffer from a brief but severe attack of economy when a provision is required for the promotion of health. They are too stingy to pay the medical health officer half a fair salary, but he is doing what he can with tied hands. The commissioner too doubtless does the best he can with the means at his disposal. Miles of badly paved streets are being laid down to become in the not very distant future huge hot-beds of pestilence. The people have the remedy in their own hands, and when they elect only intelligent, honest men (they have many now but a minority seems to rule) to manage municipal matters, they may hope for a better state of things, but not before.

NOTICES OF BOOKS, ETC., RECEIVED.

DIRECTIONS FOR PREVENTING THE SPREAD OF ASIATIC CHOLERA.—In view of the possibility of an epidemic of Asiatic Cholera in this Province, the Provincial Board of Health had this pamphlet prepared, containing brief, practical rules for preventing the spread of cholera, for free distribution. It appears it was delayed for completion till the meeting of the board, when the danger of an epidemic of cholera this year having disappeared, only a small edition was struck off. It will be ready for next year should cholera appear here or threaten to do so.

THE NEW HOMEWOOD RETREAT, of Guelph, Ont., for insane persons and inebriates, will be ready, it is expected, for occupation in November. Dr. Stephen Lett, Assistant Medical Supt. for 13 years of the London and Toronto Lunatic Asylums, will be Superintendent of this new institution.

THE POWER AND DUTIES OF LOCAL BOARDS OF HEALTH, a circular issued to health boards and health officers by the State Board of Health of Wisconsin. Democrat Print Co., Madison, Wis.

THE WORK OF HEALTH OFFICERS, AND OF LOCAL BOARDS OF HEALTH IN MICHIGAN, including duties under laws amended and passed in 1883. Issued by the Michigan State Board of Health, Lansing, Mich.

MANITOBA CROP BULLETIN, for September, issued by the Department of Agriculture, Statistics and Health, Winnipeg.

Questions and Answers.

We will again in this volume as in a former one devote a certain amount of space to questions and answers of correspondents on all subjects pertaining to health. Any question relating to health addressed to this JOURNAL will be answered as satisfactorily as possible.

THANKFUL.—Mrs. Trebilcock writes to Wm. Sparling, Esq., Sec.-Manager Dominion Mutual Benefit Society: "I hereby acknowledge having received the payment of the amount to which I am entitled from your society upon the death of my son, the late W. H. Trebilcock, with thanks, for the courtesy and promptness displayed by yourself and the trustees."

IN HER 123RD YEAR.—The Paris *Temps (Med. Times and Gaz.)* asserts that there is a woman living in the village of Auberiren-Royans, in the department of the Isère, who was born on March 18, 1761, and is consequently in her 123rd year. Her name is Marie Durand, she was born at St. Just-de-Claire, was married on December 30, 1783, to Claude Girard, who was born in 1749, and she has been a widow for ninety-six years.

TOBACCO SMOKING NATIONS.—A statistical comparison recently published, showing the relative extent to which various nations are addicted to the use of tobacco, gives the proportions as follows:—For England, France, and Russia, 5; for Italy, 7; for Cuba, 11; for Austria, 14; for Germany and North America, 15; for Belgium, 24; and for Holland, 28.

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A Concentrated Powdered Extract of Beef Partially Digested and Combined with an Equal Portion of Gluten.

We have pleasure in presenting, for the consideration of the Medical Profession, "BEEF PEPTONOIDS." We consider this product the most valuable that ever emanated from our Laboratory, and we feel confident it will be welcomed by the Profession in all parts of the world.

BEEF PEPTONOIDS contains *only* the *nutritious portions* of the beef. It contains *no water* and *no inert matter* of any kind. We combine the dr. Extract of Beef with an equal *portion* of Gluten to prevent a tendency to deliquescence, and in order to present the preparation in a powdered and portable form. It is well known that Gluten is the most nutritious substance found in the Vegetable Kingdom, and in nutritive elements is closely allied to Beef.

Four ounces of BEEF PEPTONOIDS represents as much nutritive and stimulant properties as forty-eight ounces of the best lean Beef.

Four ounces of BEEF PEPTONOIDS contains more nutritive elements than ten pounds of any extract made by Liebig's formula, and from four to six times more Albuminoids and Fibrinoids than any Beef Extract ever offered to the Medical Profession.

Our machinery and process for the production of BEEF PEPTONOIDS are perfectly adapted to the *elimination* of all inert portions of the Beef, and the *retention* of all the nutritive constituents.

BEEF PEPTONOIDS *is much less expensive than any other preparation in the market, as it contains neither water nor inert matter.*

The favor our preparation of BEEF PEPTONOIDS received at the hands of Drs. AGNEW, HAMILTON, BLISS, REYBURN, WOODWARD, BARNES, etc., the corps of eminent physicians, who employed the preparation with so much advantage in the treatment of the late PRESIDENT GARFIELD, proves conclusively its great value as a food.

Great care is exercised in selecting the Beeves, and none except the most healthy and suitable are employed in making our BEEF PEPTONOIDS.

DIRECTIONS FOR USE.

FOR AN ADULT.—*From a teaspoonful to a dessert-spoonful, added to a cupful of boiling water, and salt to the taste. Children in proportion.*

It may be given as often as required, say three to six times a day. If preferred, may be added to soups or other liquid food. In the event of the patient's stomach being in a weak condition a larger quantity of water should be added to the BEEF PEPTONOIDS, and administered in teaspoonful doses.

For further particulars, please address our Canadian Branch.

Very respectfully,

REED & CARRICK,

NEW YORK.

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Manufactured under 3 U. S.
Patents.

2 Patents, Dec. 20th, 1881.

1 Patent Jan. 16th, 1883.

Canadian Patent, March 20th, 1883.

HEWLETT BROS.,

152 King St. West,

TORONTO, ONT.,

Manufacturers of the GENUINE

Beenholt's Metallic

FOLDING

SPRING · MATTRESS,

BEST IN THE WORLD,

Sent on Trial Free of Charge, and Guaranteed against Breakage
for Five Years.

THE only Chain Top Folding Spring Mattress with one Spring, set on a rigid foundation, which holds them firm, and prevents the outside rows from tipping out of position; and, being set in line, the Bedding is thereby prevented from dropping at the head and foot, while the network of diagonal chains gives an even yielding support to the Springs and produces more elasticity, and is vermin proof.

DED FOR WANT OF BRETH.

THE ORIGIN of the following poem is not known. It is not new but very suggestive.

* * * * * "O Sexton!
 You shet 500 men, women and children
 Speshilly the latter, up in a tite place,
 Sum has bad breths, none of em aint too sweet,
 Sum is fevery, sum is scroflus, sum has bad teeth,
 And sum haint none, and sum aint over clean ;
 But evry one of em breathes in and out and out
 and in
 Say 50 times a minnet, or 1 million and a half
 breths an hour ;
 Now how long will a church full of are last at
 that rate ?
 I ask you ; say fifteen minnits, and then what's
 to be did ?
 * * * * * I put it to your kon-
 shens,
 Are is the same to us as milk to babies,
 Or water is to fish, or pendlums to clox,
 Or roots and airbs unto an Injun doctor,
 Or little pills unto an omeopath,
 Or Boize to gurls. Are is for us to brethe.
 What signifies who preaches ef I cant brethe ?
 Whats Pol? What Pollus to sinngers who are ded ?
 Ded for want of breth ?"

"THE GENU-PECTORAL POSITION."—
 "Bare-faced" writes a funny letter to the
Medica! Times and Gazette, (London, Eng.)
 on this remedy, the "all-fours" posture,
 for certain derangements of women, which
 is becoming "fashionable" with the
 "mechanical school of gynæcologists" of
 "our relatives in America." "Indeed,"
 he writes, "the frequency with which these
 disorders are met with in the highest
 evolved members of the race, according to
 the best accounts, threatens its extinction
 by insuring general sterility, and in this
 way to verify the old adage, 'Vaulting
 ambition, etc.' The re-discovery, however,
 of the knee-elbow position, which can
 only be the recurrence of an ancestral
 idea, if carried into practice generally and
 without delay, may save the race from
 such an extinction. Avoidance of the erect
 posture, and an immediate and universal
 return to a more primitive mode of progres-
 sion—all-fours—might, and I believe would,
 not only preserve the race, but also insure
 a healthy state of the generative organs."

LILY WHITE,
 PERFECTION,
 and QUEEN'S OWN



Stand Unrivalled for Purity, Healthfulness, and Superior
 Washing Qualities.

Made on strictly scientific principles, they are a perfect guarantee against the possibility of
 injury or discoloration of the finest fabrics. Manufactured only by

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Superior Toilet Soaps, Fulling Soaps, Washing Crystal, Aniline
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 148 OLD HEADQUARTERS

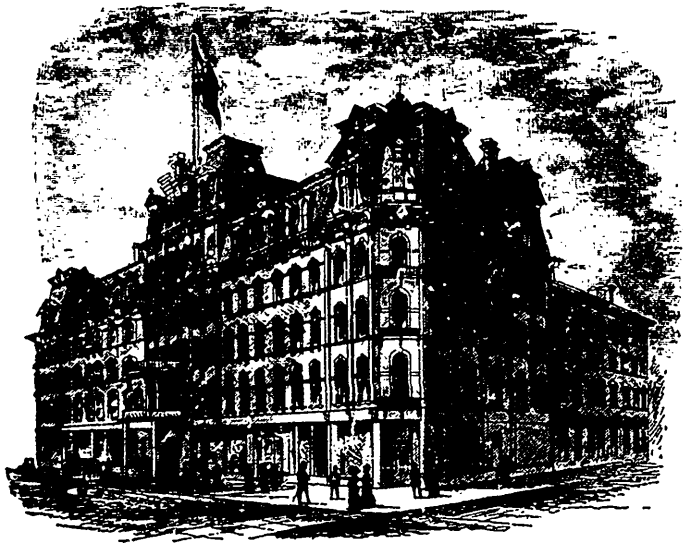
146 NEW LADIES' PARLOR



THE
 Great and Only One Price Cash
 BOOT AND SHOE HOUSE IN TORONTO

DIPHTHERIA AND SORE THROAT.—Investigators in outbreaks of diphtheria report to the Government Board, Great Britain, that they were struck, and independently of one another, by the apparently different ability of the disease in different instances to extend itself in families invaded. Not infrequently severe and fatal diphtheria appeared well-nigh destitute of power to infect other children living along with it, while, on the other hand, cases of very trivial sore-throat or "cold," that were perhaps only heard of by close questioning, often preceded, and were seemingly responsible for, after occurrences of true and fatal diphtheria in the family. Especially was this apparent potency of mere sore-throat for breeding malignant diphtheria noticeable in regard of families comprising many young children.

WHISKEY, TOBACCO AND PHYSICIANS.—Dr. C. W. Wodlen, Randallman, N. Carolina, U. S., in reply to the question (from chairman of Sec. on State Med., Am. Med. Assoc.), How can medical men *best* promote sanitary progress? replied: First, by denouncing the use of *whiskey* and *tobacco* in *toto*, together with many other vicious habits indulged in by the people. The family physician can do much, perhaps more than other persons, to improve the habits of the younger members of families he visits, as a physician, by calling their attention to those vicious habits which he may observe in any of them, that they may be corrected at once before the habit is fully formed. Explain to them the terrible consequences that must necessarily follow the continued use of these dreadful poisons.



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THE PALACE HOTEL OF CANADA,
Near the Parliament Buildings.

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JAS. A. GOUIN, Proprietor.

SHOULD WOMEN RIDE LIKE MEN.—
 This subject having created considerable discussion in the English newspapers, the *Lancet* takes it up and concludes that it would be as well to leave the determination of the question to those whom it principally concerns "No deformity necessarily follows the use of the side saddle if the precaution be taken with growing girls to change sides on alternate days, riding on the left side one day and the right on the next. The purpose of this change is to counteract the tendency to lean over to the side opposite that on which the leg is swung."

AT THE FISHERIES CONFERENCES, in London, Professor Huxley presented facts substantiating his statement that in fishing districts an acre of sea was more profuse in food production than an acre of land. He believed that the cod, herring, pilchard, mackerel, and similar fisheries were inexhaustible, and were entirely beyond the control of man, either to appreciably diminish the number of fish or to increase them by cultivation. But there were sea fisheries capable of being cultivated and controlled, in part at least, by man.

FEMALE PHYSICIANS.—According to a statistical return there are no less than 2432 female physicians in the United States.

TO ADVERTISERS.

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WM. SPARLING, *Secretary and Manager.*