

GOOD HEALTH



March, 1904

The Home Healthful,
Out-door Exercise in the Coun-
try — *Illustrated*.

Moving Day Problems.

A Sanitary Cellar — *Illustrated*.

Homes of the World — *Illus.*

A Model Home — *Illustrated*.

Home-Making.

Natural Remedies in the Treat-
ment of Pneumonia — *Illus.*

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CHAUTAQUA SCHOOL OF
HEALTH: Digestive Action of
the Saliva; Practical Home
Nursing (*Illustrated*); Funda-
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Wet Mitten Friction (*Illus-
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Editorial.



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NEIGHBORLY KINDNESS

GOOD HEALTH

A Journal of Hygiene

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No. 3

NEIGHBORLY KINDNESS

BY E. E. ADAMS

How little deemed the Good Samaritan,
Alighting to assist a stranger's needs,
His name henceforth would signify to man
All helpful kindness and unselfish deeds.

Right in his pathway lay the wounded one,
Bleeding, half-dead. How could he leave
him there
Alone to perish, while he hastened on
Regardless of his brother's sad despair?

Would he not thus be guilty of the blood
He might have staunched? robber of the
relief
He might have given for his neighbor's good?
Accomplice of the murderer and the thief?

He could not pass upon the other side,
Though at the sick man's service he must
place
Himself, his time, his goods; he would provide
All that was needed for the helpless case.

Many to-day are fallen among thieves!
Lust, Avarice, Intemperance, or Crime,
Strips them of manhood, robs of health, and
leaves
Them joyless and half-dead before their
prime.

The oil of joy we in their wounds may pour,
With tender care the gaping gash may close,
With wine of love the feeble pulse restore,
And bear them where a stream of blessing
flows.

In every pathway of this world to-day
The stricken, suffering, bruised, and dying
lie:
And we the "Good Samaritan" must play,
Or, with their blood upon our souls, pass by.

THE HOME HEALTHFUL

BY J. H. KELLOGG, M. D.

THE home is the nursery of the nation; and unless its inmates are provided with the conditions requisite for health, the nation, as well as its constituent families, must languish and deteriorate in physical stamina.

The essentials of a healthy home are:

1. A salubrious location as regards the surrounding country.
2. A healthful site as regards position, soil and environment.
3. A properly constructed house, with proper arrangements for heating, ventilation and admission of sunlight.
4. A copious and pure water supply.

The questions usually arising in connection with the selection of a location for a home are those which relate to convenience or pecuniary profit, rather than health. The first question should be, Is this a healthful location? Are there in connection with this spot, either immediate or remote, any serious causes of illness or disease? If the location is known to be especially malarious in character, this alone should be sufficient to condemn it, as this poison is one of those which produce not only serious but often fatal disease.

If circumstances compel the selection of a home in a malarious locality, care should be taken to ascertain the probable source of the poison, also the direction of the prevailing wind. These two points having been satisfactorily settled, let the spot selected for building be located in such a manner that it shall be between the source of malaria and the prevailing wind. As the wind does not always blow from the same direction, it is important to take the further precaution of so situating the home as to have between it and any source of malaria a considerable space covered by a dense growth of trees, as it has been found that forests intercept, and to some degree destroy, the malarial poison.

After the immediate locality has been determined, the selection of the very spot upon which to place the house is still a matter of much import.

It is essential that there should be good surface drainage in the vicinity of a dwelling, not only to afford easy means of disposing of the waste water of the dwelling, but to carry away quickly the water which falls in heavy rains in excess of the ability of the soil to absorb, and the melted snow of spring, which the frozen ground can not take up. No opportunity for stagnant water should be allowed about a dwelling. It is evident then, that the center of a knoll or gentle rise of ground from which the surface slopes in every direction is a most desirable spot for a dwelling house.

A south hill-side gives not only good drainage, but protection from north winds in winter and a greater amount of sunlight. A dwelling house should always front the east or south so that each of the chief rooms of the house may receive a flood of sunlight at some time during the day.

A porous soil possesses great advantages over any other. The least salubrious are the clay and other soils which hold water in great quantities.

All soils, not excepting the most compact, are pervious to both air and water in some degree; a loose gravelly soil admits both in very large quantities. This air in the soil is termed "ground air." Both ground air and ground water are at best more or less impure and dangerous to health. Carbonic acid gas is present in very considerable quantities. These impurities result from the decomposition of the large amount of animal and vegetable matter which is constantly undergoing decay upon the surface of the ground during the warm months of the year, and which is washed down into the soil by the rains, where the same processes of decay continue, being favored by the constant moisture and comparatively uniform temperature existing just below the surface in most soils. Every rain washes down into the ground water some of the products of decay, and brings other decomposing and decomposable substances to deposit in the soil. It is impossible entirely to avoid contact with either the ground air or water, but it is important to protect the dwelling from contamination thereby as fully as possible.

One of the most essential of all conditions requisite for a healthy home is an abundant supply of pure water. The ordinary well is frequently so situated as to be the receptacle for the surface drainage from every source of filth around. Many persons who throw slops upon the back yard imagine that what goes into the ground is destroyed. The filth which has disappeared from the surface is out of sight, but not out of existence. It is present in the soil, and even more active for evil than if it were

still on the surface. The water which we derive from our wells comes from the soil. If the soil is filled with filth the water will necessarily be contaminated. Whatever filth is deposited upon the surface in the vicinity of a well, may sooner or later find its way into it. Every rain washes it a little deeper down, until it reaches either the well itself or the under ground veins of water by which the well is fed.

So great is the danger from impure drinking water, so likely is the water of an ordinary well to be contaminated by cess-pools, vaults, barnyards and other

sources of filth in its remote or immediate neighborhood, that it is much safer to make the well in such a manner that it will be practically safe from contamination from sources of this kind under all circumstances. This may be accomplished by making what is commonly termed a "driven" well. If an iron pipe is driven into the ground until it penetrates some distance of dense rock or clay reaching what is termed the second water, the protection may be considered practically perfect against impurities derived from the surface.

OUTDOOR EXERCISE IN THE COUNTRY

BY ROSE WOOD-ALLEN CHAPMAN

STRANGE as it may seem, ordinarily it is much more difficult for the woman living in the country to get outdoor exercise than it is for her city sister.

In the metropolis the streets are kept cleared, and the woman with long skirts can, even in snowy weather, don her wraps and go to make a call upon her friend some squares away. Marketing takes her out of doors almost daily, and shopping calls for frequent longer excursions. Of course, there is generally the temptation of the car to interfere with the proper amount of exercise, but the woman who appreciates her physical needs can resist the temptation and get the invigoration that results from a rapid walk in the open air.

But the woman in the country, trailing equally long skirts behind her, is at an infinitely greater disadvantage. There are no walks cleared for her: to venture beyond her doorstep means to return with wet skirts clinging about her ankles and presaging a hard cold.

If paths are made for her convenience in the performance of her tasks, she hurries across the open space in the pursuance of her duties, and gets but a gasp of that air which should have access to her lungs for a half hour or more.

Even if she realizes her necessity, she cannot get the needed exercise in such limited space. Moreover, exercise, to be most beneficial, should be interesting, enjoyable; and what woman could find pleasant enjoyment in one short little path, leading to no place of interest? Five minutes out of doors would be all she could endure away from the work needing to be done.

It was because she realized how difficult it was for her to take the needed outdoor exercise that the little woman of whom I write determined to so fit herself for outdoor life that no possible excuse could be found for remaining within doors. Health was worth a small investment of money, was her decision.

She went to the local dealer, and asked if he could get her a pair of shoes

with tops clear up to the knees. Such shoes were not carried in stock, but he could order such a pair made to her measurement and the cost would be seven dollars and a half. The price made her gasp, but she remained true to her principles and ordered the shoes.

While waiting for their arrival, she took her rainy-day skirt and cut it off so



CLEARING A PATH THROUGH THE WOOD.

short that it came about three inches below the knee, just showing beneath the bottom of her warm overcoat. A warm, loose-fitting waist, a cap and mittens completed her outfit.

The shoes came, and were a great success. She felt so trim and neat when they were on that her short skirt did not trouble her consciousness at all as she had feared it would; and as for "folks," she could now reap one of the benefits of comparative solitude, for there were no "folks" near at hand to comment and criticize.

When the deep snow came she found it necessary to add to her outfit one pair of three-buckle overshoes, just like the men's, coming up over her ankles. Now she was equipped; but what should be her form of exercise?

Some distance from the house was a patch of woods that skirted the shore of the lake. Why not clear a path through that, suggested her husband, who forthwith provided her with a light axe, duly sharpened.

Armed with her weapon, she started forth. To be sure there was much internal quaking over the problem of how to use that sharp axe and the disaster that might result from its misuse, but with a determination to "do or die" she went on her way. She must get her money's worth out of those shoes!

She had used an axe before, of course, and was surprised to find how readily she could swing it now. Whack! Whack! with every blow her enjoyment increased. This was life indeed, out here in the cold, invigorating air, with the blue sky above, the white snow beneath, and one's blood tingling in one's veins so joyously. By the time her first tree was down (it was only a small one, of course) her coat was off and hanging on a near-by branch, and she was at her task in earnest.

So fascinating did she find her outdoor play that, even though tired,

muscles complained, she could not bear to give in. Day after day found her spending from an hour to an hour and a half in the open air, growing stronger and more rosy-cheeked as the winter progressed, instead of paler from indoor confinement as heretofore.

Then, for variety's sake, she would shovel paths, and when one day her husband brought her a sled, she laughed until the tears came.

"Yes," she said, "I'm renewing my youth. I will now take to sliding down hill."

Does any one think that only children enjoy the exhilaration of a swift rush through the air on an obedient sled? If so, let him or her go out on a bright wintry day and try it two or

three times, and see if joy doesn't course through the veins as surely as it did in earlier days.

Exercise in the outdoor air, a requisite of health; joyful exercise in the outdoor air, essential to the healthiest, happiest, most useful life.

As I have seen the effects of such outdoor enjoyment in the life of this one woman living in the country, I have wished that more might follow in her footsteps. No work can be so important as to prevent such life-giving enjoyment. Every woman owes it to her family as well as to herself to keep the buoyancy of youth, and this is the only sure way. Throw aside all duties and insist on outdoor, joyous exercise every day. Try it, and be convinced.

MOVING DAY PROBLEMS

BY MRS. E. E. KELLOGG

AT the beginning of spring, every year hundreds of families somewhere in the land change their habitations. The mass of people who as tenants make their homes under hired shelter and amid environments over which, perhaps, they can exercise little or no control, greatly augments the problem of public health. In multitudes of instances, circumstances beyond which there is no choice, determine the boundaries of the new home, and all one can do is to make the best of it. There ought to be a law compelling all landlords to see, before tenants are permitted to take possession, that the conditions existing in and about houses for rent, are such as will not endanger the life and health of their occupants.

Whenever there is option of selection, the house-seeker should first subject the new quarters to a test regarding

all points of hygiene. See if the water supply is pure, the cellar, if there be one, dry and well provided with light and means for ventilation. Examine the closets and clutter places, woodshed and back yard, to see that there are no unwholesome lurking-places for disease germs. Make sure that the drainage and plumbing, if there be any such, have no faulty connections, no leakages where foul gases may escape into the dwelling. Observe all out-buildings with an eye to sanitary criticism and reform. Choose the place with plenty of windows and ample provision for indoor as well as outdoor sunshine, rather than the house embowered with trees if thereby the genial sun rays are largely excluded.

See that the inner walls are not decorated with several thicknesses of paper covering a reeking mass of mold and germs, and that the windows are

provided with such arrangements as will allow of their being opened when desirable.

It should be ascertained whether or not the previous occupants were afflicted with tuberculosis or any other germ disease. It is always well, under any circumstances, to have the new quarters thoroughly disinfected, as well as cleaned with soap and water, before moving in, and this is absolutely essential in case the former occupants had suffered with any communicable disease.

The most effective method of house disinfection is fumigation with sulphur or with formaldehyde, the liquid gas of formalin. The latter is preferable where there is anything to be disinfected which might be injured or discolored with sulphur fumes. In using either agent, it is necessary first to seal securely all windows, doors and cracks through which the gas might escape, by strips of paper made to adhere to the woodwork with ordinary starch paste.

To insure the more thorough disinfection, the room should be well saturated with steam by boiling large dishes of water over a kerosene or other portable stove, the water being afterward removed from the room before beginning disinfection.

A special apparatus, placed just outside of the apartment and connected with it by a tube passed through the keyhole, through which the gas as generated is discharged into the sealed room, is the most effectual arrangement for the use of formalin. This can usually be obtained at the pharmacy when purchasing the formalin.

The quantity of formalin required is five ounces for every one thousand cubic feet of air space. The space for each room can be easily determined by dividing its cubic contents (that is, the product of its length, breadth and

height) by one thousand. To illustrate, suppose the cubic contents of a room to be 2,592 cubic feet, allowing five ounces for each one thousand cubic feet, the amount of formalin needed would be so near fifteen ounces that this amount should be used.

The family is a fortunate one which can move into renovated apartments with walls and floors redressed and freshened. Though there be few, comparatively, who can thus "turn over a fresh leaf and begin anew," it lies within the province of all to see that no dust and dirt be transported from the old home to the new, and that this new one is at least as clean as soap and water can make it.

It is well to begin some time before the advent of the day decided upon for moving, to sort over and pack such things as are not in constant use, preparatory to the change of location. With the very best of facilities, the matter of moving from one home and settling in another is no light task, and for the sake of the health and comfort of all concerned should be undertaken in the best planned, most systematic manner possible. Head work should supercede and supplement hand work at each end of the road. Circumstances are seldom the same in different families; hence nothing more can be laid down than general principles, which each one must work out according to existing conditions.

At the outset of the work, it is a wise plan to gather together and put in a basket to be kept in some place easily accessible, a supply of dust-cloths, pins, needles, scissors, twine, thread, tacks, hammer, wrapping-paper, and other needful articles sure to be in demand up to the last moment in the old home, and needed among the first in the new one.

It greatly lessens the labor of moving, as it does of the semi-annual house-cleaning, to do the work by degrees. Begin with the storage rooms, dust and pack in trunks or boxes everything that is to be moved, at the same time sorting out all cast off articles which may be of service to others, and putting them in some convenient place (a large box, or barrel is most suitable) to be disposed of as occasion may offer. All small articles, bric-a-brac, ornaments, the wall pictures, and extra china, carefully packed among the bed blankets or wrapped securely in papers, may be early packed in boxes and barrels and set aside. Granose boxes do very well for packing, but the boxes having slots in the side for handling, such as are used by market men for fruits and vegetables, are especially convenient and are obtainable at merely nominal cost. Such boxes, lined with paper so as to keep out the dust, are particularly nice for books, which need to be packed carefully, and those from each shelf or case separately and in order.

It should be a rule in the packing of all articles, to keep everything together in such a way that the unpacking and settling in the new quarters shall be attended with the least possible disorder and confusion. Where boxes are filled with miscellaneous articles, it is desirable to make a sort of general list of the contents, to be placed in the top of the box for reference when the destination is reached. All boxes and trunks and barrels should be labeled as packed, that the contents of such as are not immediately needed may be left undisturbed upon the arrival at the new home, until convenient to unpack. Bureau and other drawers packed in an orderly way with such articles as will not be harmed by the handling, may be locked or removed from the cases, covered securely

and packed one above another to await the moving. It saves much time and trouble at the other end of the route if things are kept where they belong as far as possible. Clothes-baskets of ample size are excellent for carrying the wearing apparel.

After disposing of the merely ornamental and least used articles, the draperies, curtains, rugs and carpets may be cleaned and gotten in readiness for the new home, and the bedding sunned and washed. If one may be allowed the privilege, it is far preferable that at least some of these should be put in place in the new apartments before the furniture is moved, and especially so if the carpet is to be laid and tacked to the floor.

It is desirable to keep one room of the old home for storage during the packing for moving, and it is likewise a great convenience to use one room of the new home for the same purpose during the settling. It is so much easier to collect the things needed from one than from every place about the house.

When moving day arrives, the articles most in demand should be first moved and as early in the day as practicable, in order that at least some portions of the house may be set in order before night. The wise woman will have calculated beforehand and packed such [bedding, towels, dish-towels, table linen and cooking utensils as will be first needed where they will be at once in readiness for use. She will also have made provision for the first few meals in the new home so that no great amount of time will be required for their preparation, in order that both time and strength may be husbanded for the duties awaiting her in the arrangement of the home. Like the preparation for moving, the task of settling should be accomplished

by easy stages. If the packing is done with forethought and system, this will not be a difficult matter. If the new house is one which has been for some time unoccupied, it should first be

well aired and heated. As to the old home, for the sake of the neighbor who may in turn succeed in it, it should, before leaving, be at least swept of all dust and rubbish.

PHYSICAL REFINEMENT

Let thy mind's sweetness have its operation
Upon thy body, clothes, and habitation.—*Herbert.*

A SANITARY CELLAR

BY H. S. WOOD

I WANT to construct an ideal sanitary cellar. All are familiar with the unsanitary kind, damp, dark, and mysterious, with bad odors from decaying vegetables and other refuse, and with walls covered with mold.

In the ground, whatever its character, we find two enemies which must be carefully excluded from the cellar. These are soil moisture and ground air.

then, must be excluded, not only by making the cellar walls and floor impermeable, but by some method of subsoil drainage.

Subsoil drainage is usually accomplished by laying porous earthenware pipes, through which the water will filter, end to end without sockets or joints, but wrapped at their junction by cotton cloth or tarred paper to prevent the entrance of foreign matter which might clog them. They should be one and one-half to two inches in diameter, and laid in parallel lines, the distance from each other depending on the amount of drainage needed. They should be collected into one main drain about two inches in diameter or larger, if a large amount of water is to be removed. It is better, when possible, to carry this drain to some lower level, where the water can be discharged into a ditch or stream. The outlet should be supported by masonry and covered with a grating, to keep out vermin and matter which might clog the drain; and, if there is any danger of a backward flow of water, a tidal flap or ball valve should be added. In the city this drain must connect with the sewer, but it should never connect directly, or it would give free entrance to sewer gas. This disconnection may be effected by

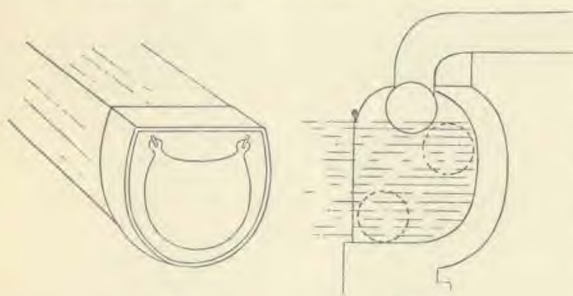


FIG. 1.

FIG. 2.

There is always a certain amount of moisture in the soil; and, if this moisture gain entrance to the cellar, it not only lowers the temperature by evaporation, but furnishes the proper conditions for the development of bacteria and mold. Doctors also agree that such conditions will give rise to such diseases as pneumonia, consumption, bronchitis, pleurisy, rheumatism, and malaria, while other diseases are rendered more violent. This moisture,

a trap with a very deep seal that will not easily evaporate. Illustration No. 3 shows rather an elaborate arrangement of this kind; No. 4, a simpler one.

The cold-air box is often made of wood full of cracks, through which this air may enter, and, after being heated, be delivered to all parts of the house.

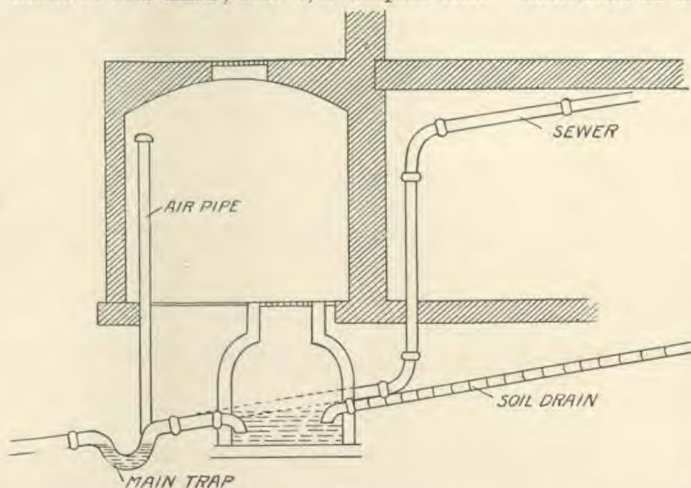


FIG. 3.

Therefore we must look to our cellar walls and floor. The materials used for the walls of a cellar are usually sandstone or brick, and as these both absorb more or less moisture, some other material must be used to seal the cellar. For this, concrete is about the best substance; and it not only forms the floor, but is often used as a foundation for the walls

The air under ground not only contains a larger proportion of CO_2 than the air above the surface, but it is apt to contain foul gases from decaying organic matter, disease germs, and a large percentage of moisture. If there should be a break in a gas main, this would also be found in the air in that vicinity. Unless a house be sealed against this, it will act just like a chimney, the warmed air of the house constantly rising, and this damp, unhealthy ground air taking its place. And this air which is taken into the cellar is not confined to the lower stories. To test this, open a bottle of peppermint or ether in the cellar, and then go to the top floor of a dwelling, and you will soon be convinced of the extent of the draft from below upward. Another means by which the cellar air may reach the rest of the house is through the furnace.

as well. To prevent the water rising in the walls by capillary attraction, a "damp-proof course" is necessary. This is usually of asphalt, but sometimes of slate, imbedded in cement; or of glazed stoneware slabs. The asphalt makes the best protection,

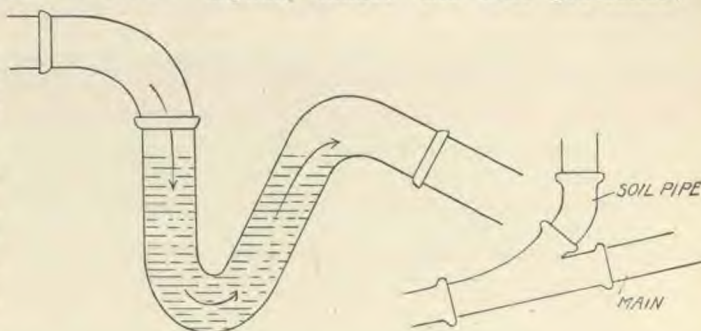


FIG. 4.

and may be extended down the inside of the wall to meet the concrete of the floor, or the concrete may be continued up the sides of the walls to meet the damp-proof course, which should be placed a little distance above the ground outside, to allow for splashing. It is best also to pave the ground outside

the walls to a distance of two or three feet.

Another precaution sometimes taken is in building a retaining wall, which holds the soil back from the main wall. This is done, when the basement is placed below the surface level.

The pipes of the cellar include the waste or sewer pipes, which empty into a common main in the cellar, and the

may be necessary to run the drain under the floor. In this case, openings should be left at each juncture of a vertical pipe with the main, at any bends in the pipe, and at the trap. Or the whole length may be made accessible by placing the drain in a trench of bricks, with a concrete bottom.

The concrete should cover the lower half of the pipes. The connection be-

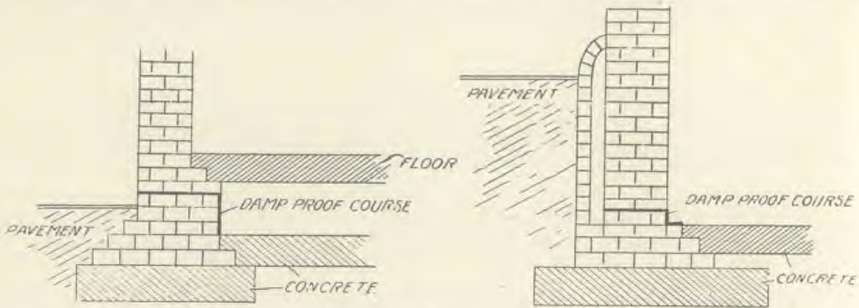


FIG. 5.

gas and water pipes. All these pipes should be in plain sight, and painted some light color, so that a leak, by discoloring the surface, may show immediately.

In an ordinary house the common waste or sewer pipe should not be more than four inches in diameter. The smaller the drain, if large enough to remove the waste, the greater the velocity of the water within, and the more self-cleansing it will be. It should be constructed of iron pipes to about ten feet outside the cellar walls, where vitrified earthen pipes, securely cemented, may be substituted. In made ground it is better to have the entire length of iron, unless the vitrified pipes be laid in concrete.

The sewer should have a fall of not less than one-fourth inch in a foot, preferably one-half inch. It should not be buried under the cellar floor, but carried along the foundation wall or hung from the ceiling by iron hangers. When there are many fixtures in the cellar, it

tween the upright soil pipes and the horizontal drain should be accomplished by curved pipes, as a right-angled connection is sure to cause the accumulation of waste, and clog the pipe. These junctions should be supported by brick piers. This drain must be trapped, either just inside or just outside of the house, in a manhole; and this trap must be supplied with an air pipe on the house side, to provide for an even pressure on the water seal.

A cellar should be divided into three parts. In the largest division the heater and pipes are set; a smaller room, which may be kept cold and used for storing vegetables and fruit; and the third can be fitted as a canned fruit closet.

The heater is usually situated in the center of the cellar, and in a city house the storeroom and preserve closet are back of this. The most common fault in heating is to have the furnace too small, so that, to get sufficient warmth, the air is very highly heated, and the organic particles which it contains are

burnt, thus giving an unpleasant odor. It is better to have a large amount of air warmed to about 120 F.

All furnaces have about the same general plan,—a large stove enclosed in an air chamber. The chamber is supplied with air from outside the house by a cold-air box which should open on the west or north-west side of the house, where it will get the most wind, and a little above the surface of the ground. This opening should be covered by a fine wire gauze, to prevent the entrance of anything but air. This is carried to the bottom of the furnace, and after being warmed passes out at the top and is carried to the different rooms by large circular tin conductors. In most furnaces there is a water box or some arrangement by which the heated air can pass over water, and take some moisture before being delivered to the rooms above. Other sys-

nance ever getting high enough to ignite the fuel.

Ashes should be removed regularly and often. A metal pail with cover is best to keep the ashes in, until they can be removed.

In the cold cellar, bins should be arranged to hold apples and potatoes and any other fruits or vegetables. These should be raised a little from the floor, to allow the air to circulate freely beneath them and prevent the accumulation of mold or dampness. Jars of food may be kept here, and, in the winter, many articles which, in summer, would be relegated to the refrigerator. It is well to have a table or shelf for such things.

A cellar should be ventilated often and thoroughly; and, in order to accomplish this, it should have windows at opposite sides.

It should be swept as often as neces-

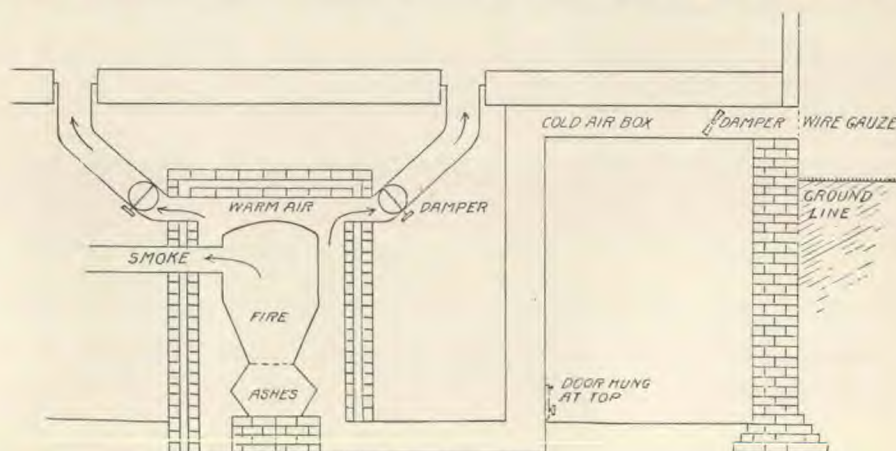


FIG. 6.

tems of heating, such as steam and hot water, do away with the air box, and ventilation must be furnished in some other way.

The coal and wood bins should be situated at a convenient distance from the furnace. There is not much danger of the temperature around the fur-

nace ever getting high enough to ignite the fuel.

Ashes should be removed regularly and often. A metal pail with cover is best to keep the ashes in, until they can be removed.

In the cold cellar, bins should be arranged to hold apples and potatoes and any other fruits or vegetables. These should be raised a little from the floor, to allow the air to circulate freely beneath them and prevent the accumulation of mold or dampness. Jars of food may be kept here, and, in the winter, many articles which, in summer, would be relegated to the refrigerator. It is well to have a table or shelf for such things.

A cellar should be ventilated often and thoroughly; and, in order to accomplish this, it should have windows at opposite sides.

It should be swept as often as neces-

sary, probably once a week, and thoroughly whitewashed twice a year.

No decaying fruits or vegetables should be allowed to remain in the cellar.

If these precautions be observed, we shall not only have a well-constructed cellar, but it will be kept in perfect condition.—*Boston Cooking School Magazine.*



HOMES OF THE WORLD

BY EDITH E. ADAMS

MAN'S first home was doubtless the most healthful, the most beautiful, and the most delightful that could possibly be designed for him. A charming picture of the abode of the first human pair, in a place chosen by the Sovereign Planter when he framed all things for man's use, has been given us by Milton :

" The roof
Of thickest covert was inwoven shade
Laurel and myrtle, and what higher grew
Of firm and fragrant leaf ; on either side
Acanthus, and each odorous bushy shrub,
Fenced up the verdant wall ; each beauteous
flower,
Iris all hues, roses, and jessamine
Reared high their flourished heads between,
and wrought
Mosaic ; underfoot the violet,
Crocus and hyacinth with rich inlay
Broidered the ground, more colored than with
stone
Of costliest emblem."

No dead material of any kind was utilized, but the whole structure was instinct

with life, breathing out fragrance and life and health giving properties into the surrounding air.

The domestic duties of Eve in her "shady lodge," were far other than those which the modern house necessitates ; for to make the bed "the flowery roof showered roses, which the morn repaired," and "raised of grassy turf their table was, and mossy seats had round."

Such was man's ideal home, in every respect perfectly adapted to his needs in the conditions that then existed. And the typical Feast of Tabernacles when the Children of Israel were obliged to dwell in booths made of leafy boughs, indicates the kind of homes that men will again inhabit when those conditions are restored.

In the meantime, the human race, scattered over the face of the marred earth, with its varying and uncertain

climate, has adapted for itself in every clime, the habitation that best meets its necessities, framed of whatever material can best be secured.

The native dwellings of Africa, like those of other hot climates, are constructed mainly of boughs and grass. They are of all shapes,—square, round, dome-shaped, and conical; but they are, for the most part, built upon the same general plan. The accompanying illustration shows the Zulu hut, which very closely resembles that of the Kaffirs also. Long poles are inserted in the ground, and the tops bent over and fastened together with "monkey rope," a vine well suited for the purpose. The strong, basket-like roof thus formed, is covered with long grass confined by small rods bent at the ends and fastened to the net-work underneath. It is customary to ornament the roof with skulls or the horns of oxen.

To the newcomer, these huts bear a striking resemblance to haystacks. They are rain-proof, and so strong

that no beast but the elephant has been known to destroy them. Being situated on a hill-top, they are well drained. The entrance is about two feet high in the middle and three feet wide at the base. Consequently the huts have to be entered in a way somewhat disconcerting to the white man. One such who was compelled to spend some time

in a Zulu hut, requested of the owner permission to insert a door of civilized construction that should be left for the owner's benefit. The answer he received shows the strong hold that ancestral custom has in preventing these people from altering their style of architecture: "My fathers went in on their hands and knees, and I shall continue to do so."

The fire-place is a saucer-like depression in the middle of the floor, with a railing around it to prevent the ashes from being scattered. As there is no chimney, the inside of the hut gets very smoky. It is also likely to be over-crowded. A missionary tells of being shut up in one with eleven persons and seventeen goats. The



A ZULU HUT.

huts are as dark inside as the hold of a ship and unventilated; but as the natives of this hot climate spend much time out in the open air, these evils are partially counteracted.

From the tropics to the Arctic Circle is a far cry; and yet we find the style of the houses identical, the only difference being in the material used. The

same dome-shaped huts with similar low entrances are built by the Esquimaux, but blocks of snow take the place of the tropical grasses of the African huts. The winds and frosts form the snow into such a hardened mass, that solid blocks can easily be cut from it.

In the house building two men usually work together,—one within and one without the house. The fabric

pane of ice, or with a piece of oiled reindeer skin. The tables, seats, beds and even the fire-place are of the same material as the hut. The beds are covered with moss several inches thick, over which skins are thrown.

The cold air is carefully excluded, and the snow hut provides a shelter of such warmth that very little clothing is needed by those within. It is not uncommon for the temperature to be 90°



AN ESQUIMAUX VILLAGE.

rises silently as a dream, with no sound of hammer or of saw; the blocks being adjusted, are soon cemented by the moisture and the frost. When the hut is finished, the man on the inside cuts his way out, and the hole from which he emerges forms the entrance, for which a close-fitting door is made.

The snow blocks are usually not more than a few inches in thickness, and admit sufficient light to make windows unnecessary. If required, a small window is cut and fitted with a

pane of ice, or with a piece of oiled reindeer skin. The tables, seats, beds and even the fire-place are of the same material as the hut. The beds are covered with moss several inches thick, over which skins are thrown. The cold air is carefully excluded, and the snow hut provides a shelter of such warmth that very little clothing is needed by those within. It is not uncommon for the temperature to be 90° above zero within the hut, while it is 50° below without. The absence of any ventilation renders the air exceedingly foul, and the filthy habits of the Esquimaux add to its disgusting condition. The constant filling of their lungs with these impurities has doubtless much to do with the prevalence of consumption among this decaying race.

The question arises, why should human beings stay in a country where the conditions for the greater part of the year are so inimical to life? It may be that Goldsmith's "Traveler" seeking for the "happiest spot," explains the mystery when he says,

"The shuddering tenant of the frigid zone
Boldly proclaims that happiest spot his own,
Extols the treasures of his stormy seas
And his long nights of revelry and ease.
The naked negro, panting at the line,
Boasts of his golden sands and palmy wine,



TENT OF THE GYPSY LAPPS.

Basks in the glare, or stems the tepid wave,
And thanks his gods for all the good they gave.

Such is the patriot's boast where'er we roam ;
His first, best country ever is at home."

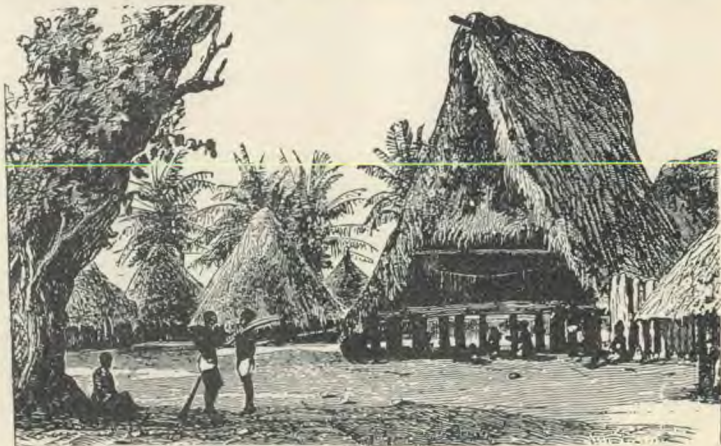
Certain it is that Esquimaux who have been brought south by travelers, have pined for their snow fields, sick with longing, until restored to their native land.

Closely allied with the Esquimaux are the Lapps, — the "Gypsies of the North." The style of dwelling that best suits these nomads, is the small tent of birch boughs, covered with deer skin, as shown in the illustration. When not on the march, they live in small beehive shaped huts, built of birch timber, covered with bark, and then with turf and stones. In his description of the habits of the gypsy Lapps, Thomson says :

"Their reindeer form their riches. These their tents, Their robes, their beds, and all their homely wealth supply."

A traveler tells of entering at Hammerfest a Laplandish tent not more than six feet in diameter,

and finding therein nine Lapps at dinner, a dozen dogs, and an indiscriminate pile of skins, kettles, boxes, provisions, and in the midst of all, a fire. Still smaller tents are used in Iceland, where they may be found only three feet high, five long, and three broad. The lowness of their tents and huts is thought to be one of the causes of the physical defect of bow legs common to nearly all Lapps. Notwithstanding this, however, they are an exceedingly hardy race, for which fact their free, nomadic, open-air life is largely responsible.



A KROOMAN VILLAGE



NEW GUINEA PILE VILLAGE.

There are many savage tribes who for different reasons live in huts elevated upon poles. Such are the dwellings of the Waraus, of South America, made necessary by the annual rising of the Orinoco River, which submerges vast districts. Sometimes the Warau builds in the tree-top from choice, and the flood simply floats his house to some other locality.

The mosquitoes which abound in Venezuela force the Maracaibo Indians to adopt similar pile dwellings. The style of their houses led the Spaniards to give to their country its name,—literally, "Little Venice."

The natives of New Guinea also live in "houses on stilts," of which our illustration gives a good example.

The Kroomen, one of the finest negro races, called the "Scotchmen of Africa," build elevated houses superior to those of other native Africans. Their object is probably to secure protection from the wild beasts and noisome insects of that region.

These pile dwellings, besides being kept free from damp, have the advantage of the free circulation of air beneath them, which insures cleanliness on the outside whatever may be the condition within.

From the standpoint of hygiene, the Japanese houses are well worthy of study. The rooms are divided by sliding screens which run in grooves in the floor. Thus a number of rooms may, if desired, be thrown into one great apartment. The whole side of a house may in this way be flung open to sunlight and air to which every part of the Japanese house is easily accessible.

There are no cellars beneath the house. The floor is raised a foot and a half or two feet above the ground, and the intervening space is often left open, allowing the wind free play beneath the house. While this renders the house somewhat cold, it keeps it free from the contamination of cellar air which so often infests our houses. On this point, E. S. Morse, late Pro-

fessor in the University of Tokio says: "I found the Japanese house in winter extremely cold and uncomfortable; but I question whether their cold rooms in winter are not more conducive to health than are our apartments, with our blistering stoves, hot furnaces or steam heaters; and as to the odors arising from the closet in certain country inns, who does not recall similar offensive features in many of our country inns, at home, with the addition of slovenly yards and reeking piggeries? I question, too, whether these odors are more injurious to the health than is the stifling air from a damp and noisome cellar, which not only filters through our floors, but is often served to us hot through scorching furnaces. Whittier's description of the country house,—

'The best room

Stifling with cellar-damp, shut from the air
In hot midsummer,'—

is only too true of many of our American houses."

There are no dusty carpets in the Japanese houses, but the floor is covered with thick straw mats which represent the bed, chair, table and lounge combined. Wadded comfortables are spread upon the floor for sleeping purposes, and the absence of nearly all furniture makes it possible for the floor to be covered with sleepers if necessary.

The unpainted, unvarnished wood of which the houses are built, fills the rooms with an agreeable perfume; and the absence of the devices of the modern furniture dealer and of "clutter" of all kinds, renders them much more restful, both physically and mentally.

To the European or American, the Japanese house seems light and flimsy, but it is admirably adapted to the needs of its builders. Not being able to build fire-proof dwellings, they go to the



A JAPANESE COTTAGE.

other extreme and construct buildings that can be taken to pieces and carried away in case of a conflagration.

One of the most striking features of the Oriental house is the house-top, which is always flat. Upon these terraces the members of the family sit, in the cool of the evening, to enjoy the refreshing breezes, to converse with each other, and for devotional purposes. The drying of linen and flax, preparing of figs and raisins, and other family offices are performed on the roof. One can pass from end to end of an Eastern city along the house-tops, without descending to the ground.

Before the coming of the Europeans to this country, the native Indians lived in wigwams made of skins or bark, and these primitive dwellings are still con-

structed among the civilized tribes. Some of the wild tribes have imitated the architecture of the white race and construct their dwellings of roughly-hewn cedar boards. These huts do not offer sufficient protection from the cold storms, and thus the Indian race is being rapidly exterminated.

In Santa Fe stands the oldest house in the United States, made of adobe or sun-dried bricks made of sandy loam, the only available building material of the locality. The houses of New Mexico are still many of them made of this material. The average adobe house is dark and ill-ventilated and abounds with vermin, but it is used merely as a sleeping place, the climate rendering the house in the ordinary sense, unnecessary.



HOUSE OF THE QUEEN OF RAIATEA.

A MODEL HOME

BY THE EDITOR

THE accompanying design represents a plan for a simple cottage home of moderate cost. There are seven rooms, exclusive of bath room, closets, pantry, etc. On the first floor is the library or living room, dining room, and kitchen. The second floor has four chambers. No provision is made for superfluous parlors or mere show rooms. All the rooms are for use.

The chambers are all convenient of access from the hall, as is also the closet and bath room. It will be observed that these two necessary conveniences for every healthy and comfortable home are not in one room, but separated. This is a decided improvement over the common, but certainly inconvenient and somewhat indecent, custom of placing the closet and bath room in close proximity.

The cottage is designed to be heated by means of a furnace or jacketed stove. A furnace is much preferable; but if this cannot be afforded, then a large, cast-iron heater should be placed in the basement, and completely inclosed in a sheet-iron jacket, from which two large pipes should run to registers, one in the lower and one in the upper hall. For a house of the size proposed, this pipe should be at least a foot in diameter. The pipe running to the upper hall should be closed during the day, and the lower hall pipe at night. This will supply air at all times to those parts of the house where it is needed, and also a considerable amount of heat. In moderate weather no additional heat will be required, but in severe weather the assistance of stoves will be needed.

In order that each room shall receive its proper supply of air at all times, a

register, or an open transom, should be placed over each door communicating with the halls, with the exception of the door leading to the kitchen.

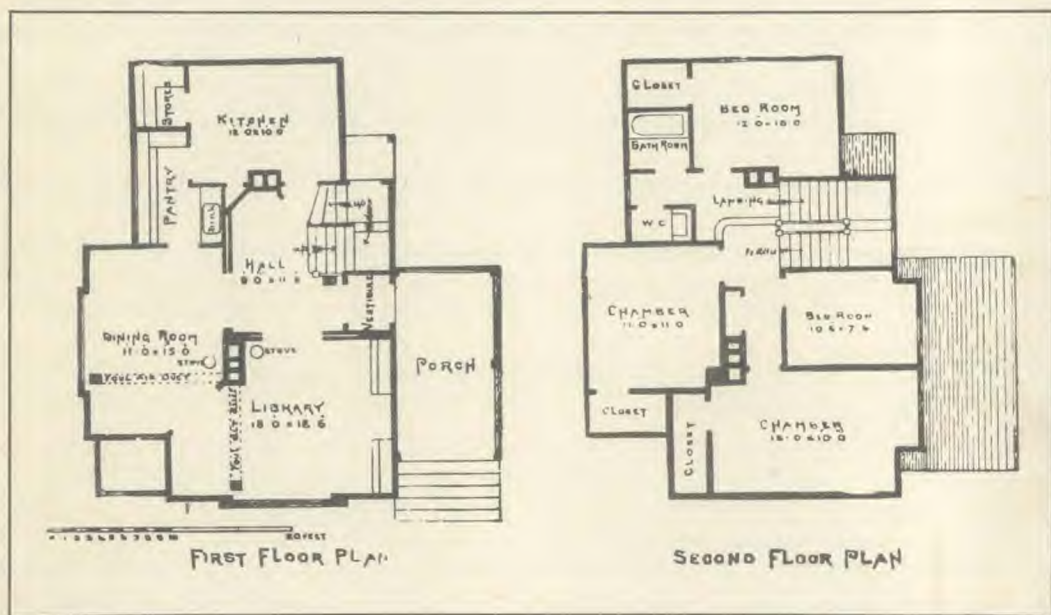
The foul air will be removed by means of register-openings at the floor, placed, when possible, beneath a window upon the most exposed or windy side of a room. These registers in the lower story must communicate with ducts placed beneath the floor, by which the foul air may be carried to the ventilating shaft placed beside the chimney, so as to be warmed by it, thereby accelerating the draft. In the second-story rooms the registers communicate with ducts which run up through the roof at the most convenient place, as it is not so important to have the floor warm in a chamber as in a sitting or dining room. It is desirable, for good effect in the external appearance of the house, that the several small ducts from the chambers should be brought together in the attic in such a manner as to find exit at a common ventilator, which may be placed beside the chimney and ventilating shaft, and built in conformity with them.

The rooms containing the closet and bath tub should have separate ventilating ducts communicating with no others, but going directly out through the roof. The foul-air opening for the ventilation of the closet should be beneath the closet seat. The front of the seat, if closed, should have a register opening in it, so as to allow a good circulation of air beneath the closet. A still better arrangement is to have an opening between the top of the closet bowl and the seat, so that the air can pass over the bowl into the space beneath the seat. This space should be at least one inch.

In the ventilation of the kitchen, an opening for the exit of foul air should be near the ceiling, instead of at the floor. The reason for this is that the kitchen odors, which it is desirable to exclude from the rest of the house, are mostly produced upon the stove and associated with hot vapors, which rise to the ceiling just over the stove; hence, this is the proper place for their removal.

The most satisfactory means of ventilating a kitchen is to have a chimney built larger than usual, the smoke from

sink will of course be connected with the common sewer; if there is no sewer, both may be connected with a watertight cess-pool in the rear of the house. In either case, care should be taken that both the soil-pipe and the drain-pipe from the sink are carried up above the roof of the house. Both closet and sink must also be carefully trapped, and the drain pipe, which connects both with the sewer, should be ventilated outside of the building by means of a pipe running up to the open air above the



DESIGN FOR A MODEL HOME.

the stove or range being carried up to the top through a pipe placed in the center of the chimney, instead of being allowed to enter the chimney itself.

The closets of the second floor should be ventilated into the attic. An opening made through the ceiling of the closet will furnish an outlet, while a register at the bottom of the door of the closet affords an inlet for air.

If the cottage is located in a city provided with sewers, the water-closet and

ground. If a cess-pool is employed, this must also be ventilated. A cess-pool located in an ordinary village lot is always a source of danger if the water supply is obtained from a well upon the same premises. The danger is reduced to a minimum if the water is obtained from a bored, or driven, well, and from what is known as the second water, there being an impermeable stratum between the surface water and the source of supply.

HOME.

SWEET word that spans all space, that knows
no bound,
Yet dwells in narrowest compass; welcome
word!
Dear type of Peace — though sheltered by the
sword;
'Mid Saxon-spreading races only found,
Our earliest recollections all abound
With little notes of thee; our years are stored
With memories of thee; each spot adored
By youth, in age becometh holy ground.
Thou clingest in the hand-grip of the sire;
Thou meltest in the mother's tender kiss;
The wanderer longs to reach thee — Guiding
Star
Of all his thoughts; like Israel's Pillar Fire
By night thou leadest him through childhood's
bliss
To that loved Home he pictures from afar.
—Lord Rosslyn.

HOME-MAKING

BY MARY HEATH

THE other day I overheard something which set me thinking. A group of club women, among them a doctor, a lawyer, and several teachers, were discussing their various professions. At length one of them asked, turning to a motherly-looking woman who had taken little part in the conversation, "What is your vocation, Mrs. B.?"

"Oh," she returned quietly, "I am only a home-maker."

"A home-maker!" The words puzzled and interested me, and I felt that I should like to talk with Mrs. B. on the subject.

Not long afterward I found my opportunity, and when we had chatted awhile about other things I asked her what she had meant by her words. She answered, smiling, "Only that my time is so occupied with domestic duties, that I have little to devote to interests outside of my home."

"Ah, I understand you," I said. "I am in the same position, and I find that it leaves one little opportunity for broader work in the outer world. I often long to be of some use, to move with the great events and to feel that I have some share in them, but I have always been tied too closely to my own fireside. I envy the women who write and teach, the workers who are shoulder to shoulder with the men, doing their part to broaden life."

"So did I, once," she replied. "But, my dear, did you ever consider the power that lies with the home-makers?"

I looked at her in surprise, and she continued, "The back-bone of the nation is the home. The youth of to-day, who is to be the man of to-morrow, needs a loving hand to guide and direct him. If we women only realized the importance of the right home influence! My mother taught me the lesson by her own lovely example. She always made

home the pleasantest place in the world for us, and she sacrificed herself so continually to our interests that I could not help profiting by that example."

She paused, and I asked, humbly, "Will you tell me how you do it?"

"Oh, in a thousand little ways," she answered. "When the children were younger, I encouraged them to have their fun in their own home. I let them have all the company they wanted, and never made them feel in the way. By this means I knew all their companions and friends, and could help them choose the best ones. A mother cannot be too careful about the kind of children her little ones play with. At first I used to worry about the noise and the mussing up; boys' feet will bring in dirt, and sewing for dolls makes a good many snips and threads to be scattered about, but I soon grew used to it, and rejoiced as I recognized how many of the lessons of life can be learned in play time. As they grew older, I tried still harder to make the home attractive to them. Of course, it means trouble and self-denial, but the reward is great. I gave up my spare room because one of the boys took to carpentry and needed a place to build boats in. I dare say some women would be quite horrified at the sight of that room, with its carpenter's bench along one side, tools hung on the walls, paint spilled on the floor, and often shavings and sawdust scattered about. But here my lad is training eye and hand, learning patience and the value of application, and is kept busy and happy under my eye. Once a week he cleans up, according to a solemn compact we made when he got the room for his 'shop,' for I believe that boys should be orderly as well as girls. The nursery has been turned into a gymnasium since my sec-

ond son took to Physical Culture, and while I must admit that I was rather troubled by the noise at first, I am now quite reconciled, as it gives both boys a way to occupy their evenings, and furnishes a safe vent for their superabundant animal spirits. The girls have been 'taking lessons' lately, and the exercise is benefiting all. And here let me whisper a word—encourage the fad for Physical Culture which so often 'crops out' in boys. Give them books to read on the subject, and help them in every possible way, for they will learn to keep minds and bodies clean and well trained, and have a safeguard against the temptations which will beset them later in life.

"Then there are the older members of the household to think of. When they come home tired from business they need rest and amusement, and home ought to seem a very haven to them. We gather often, young and old, to read aloud, play games, or for a family musical. Perhaps my greatest trial is my eldest son's devotion to his violin; but he seems to enjoy his struggles and they form a strong tie between him and his sister, who accompanies him on the piano. I myself have kept up my music enough to play when the girls or boys ask a few friends to spend the evening with us. We have a good deal of company, and enjoy these little gatherings very much. My husband says he feels as though he were in a garden of flowers when the young people are about, and he joins the fun, devises new amusements, and is a boy again with the rest.

"Well," she exclaimed suddenly, "Why didn't you stop me? I have mounted my hobby and pranced about until you must be quite worn out!"

But I confessed to her my desire to have just such a hobby of my own.

OUR HOME JANITOR

A Parable

BY LOUISA A'HMUTY NASH

WHO would not employ a janitor when there is much work to be done? But janitors do not all do their work well. Some do not sweep clean, and sometimes they overheat the house.

You do not think about it, and some do not know it, but we all have a janitor in the house in which we live. This janitor sweeps through with his ever-freshening stream, purifying and giving strength and vigor to everything that he comes in contact with.

Of course, the stream must be clean and pure itself, so, like the old-fashioned diver, and most fishes, it comes up to breathe. We have a wonderful pair of force pumps, that have to be always busy filling themselves with fresh, pure air, night and day, in order that the stream be well aerated, and able to do its work properly.

Just as the school janitor could not get through his duties unless he was well fed, so must our janitor stream be supplied with the right quantity of good wholesome food so as to keep in good working condition. He has to work a double-valved engine, while the engine makes it easy for him to run his own course.

I have known a school janitor to get so flurried when people were cross with him, or the children were too racketty, that his work was not done properly.

We interfere with our home janitor, too, by giving way to hasty temper, by allowing ourselves to get over-excited, by running him too hard, or by being lazy ourselves, thereby persuading him to be lazy too. When we pile up his work on the top story, the effect on him is equally bad. All this is bad policy, for whenever his duties are ill done, the whole house suffers, and a disorganized home is a wretched place. Men are then sent for to tinker and patch and mend, but it is hard and often impossible to get everything into a good state again. The children all know that the janitor does not allow the dirt that he sweeps up to remain on the premises. Trampling on it would make the dust rise worse than before, and many kinds of refuse would poison the air and make the children sick.

Our home janitor has several sewers provided for him, in order to make away with all dirt sweepings. They must not become choked up, for then they would be worse than useless, nothing but poison-centers, even to those tiny vent-pegs on the outside surface of the house. To these we have to lend our own hands, for if we allow them to be choked, they are of no further use to the janitor. Consequently we must flush and clean them from the outside ourselves.

Another Use for the X-rays.—In Japan the X-rays are turned upon the employees of the government who are suspected of having swallowed gold coins. A number of X-ray machines have been ordered in Philadelphia for the purpose of detecting criminals.—*The Medical Examiner.*

If my next door neighbor chooses to have his drains in such a state as to create a poisonous atmosphere, which I breathe at the risk of typhus or diphtheria, he restricts my just freedom to live just as much as if he went about with a pistol threatening my life.—*Prof. Huxley.*

THE SANITARIUM ERA

THE "Sanitarium" is new. It is only a little more than a quarter of a century old. The dictionaries of twenty-five years ago did not contain the word "sanitarium." There was the word "sanatorium" which was defined, in England, as a health resort for invalid soldiers; but the word "sanitarium" had not arrived. It was coined to represent another thing which was first embodied in the Battle Creek Sanitarium, an institution which had for its fundamental idea a return to nature in diet, dress, and all habits of life, and the adoption of natural methods and natural agencies in the treatment of the sick. These ideas were first looked upon as whims and fanaticisms, but to-day they are sustained by the most eminent scientific authorities the world over. Experiments made on a scientific basis in England, Germany, and other European countries, have shown that when man is fed upon natural food there is greater strength, greater endurance, he is a more thoroughly alive man, than when he is fed upon the flesh of animals or

the unnatural and disease-breeding combinations of our modern civilized dietary. Professor Chittenden of Yale is at the present time making very elaborate experiments with a lot of government soldiers, the results of which may be expected to support those which have already been obtained. The experiments of Prof. Chittenden and Mr. Horace Fletcher have clearly shown that we eat too much nitrogen, and these excesses can scarcely be avoided so long as flesh foods are retained in our dietary, as ordinary bread contains all the proteids, or albuminous substances, that the body requires.

The success of the Sanitarium idea has been so great that institutions have sprung up in various parts of the United States and of the world. The last five years have been particularly prolific in the development of new establishments of this sort. In many instances men have been led by mercenary and other motives to attach the name "sanitarium" without the principles which pertain to it. Deserted build-

ings standing on picturesque hillsides, representing the dismal remains of such ventures, may be found all over the country. Quite a different class of sanitariums, modeled on principles after the pattern of the original Battle Creek institution, the first real sanitarium, are also to be





DR. STEWART



MRS. STEWART

found in increasing numbers in different parts of the world, and always flourishing, with constantly widening influence and increasing facilities. These institutions are under the management of doctors and nurses who have been trained at the Battle Creek institution or some of the older branches of this establishment. Every one of these institutions has an interesting history. Not one was begun as a money-making enterprise. Every one is the result of philanthropic effort made by Christian men and women, and represents personal sacrifice and consecrated labor for the uplifting and helping of humanity.

One of the youngest and most promising enterprises of this sort was recently dedicated at Moline, Illinois. The institution is known as

The Tri-City Sanitarium

because of the proximity of the three splendid cities, Rock Island, Davenport, and Moline, which are geographically one city although incorporated as

three. For a good number of years the locality has been sending a steady stream of invalids to the Battle Creek Sanitarium. The improved health and vigor, and especially the new ideas of wholesome living which these patients carried home with them, gradually permeated the community until the time came when there was a need for a local institution.

Faithful men and women, among the first of whom were Dr. and Mrs. Froom, by personal effort and sacrifice, made a beginning, small at first, in rented rooms. The work grew through the splendid results obtained by the faithful application of the principles which underlie it.

Greater facilities were eventually required. Several prominent citizens took an interest in the matter and agitated the question of raising funds for the erection and equipment of a splendid building. Several citizens subscribed liberally, but the thing which made the Sanitarium a possibility was

the magnificent gift of a splendid property, including a fine building which is admirably located on one of the principal streets of the city of Moline. A little more than a year ago this property was placed in the hands of trustees to be used forever as a sanitarium. Considerable outlay of means was required for alterations and equipment. This burden

of this Sanitarium as a memorial gift.

Special mention should also be made of the efforts of Dr. S. P. S. Edwards and his wife, Dr. Maria Edwards, who connected with the institution some months ago, and took charge of the enterprise at a very trying hour in its development,—when to many it appeared as though the effort was to be a failure.



THE DINING ROOM

was also very largely lifted by Mrs. Stewart, though several other citizens contributed. Special mention should be made of Mr. Stevens, the manager of the Moline Plow Works, an old Battle Creek Sanitarium patient; also Judge Gould, another patient of the Battle Creek Sanitarium and a firm friend of the principles which it represents. It is an interesting fact that the husband of Mrs. Stewart, Dr. Jacob Stewart, now for some years deceased, was for many years one of the leading physicians of Moline, a man who took a personal interest in humanitarian enterprises of various sorts; so that his widow has considered it a just and proper thing to devote a large portion of the property left by her husband to the establishment

Largely through the unflinching courage and self-sacrificing and untiring efforts of the Drs. Edwards, the crisis was successfully passed, and today the institution stands complete with an admirable equipment and splendid corps of nurses, and filled almost to its utmost capacity with sick

ones who are rapidly recovering their health.

The institution presents numerous evidences of ability to cope with pioneer difficulties and emergencies. In the treatment-rooms may be seen a splendid electric-light bath which in appearance would do credit to a cabinet-maker's establishment, but was, nevertheless, made by the same hand which writes the prescriptions for its use. A snug little room in the front has been fitted up for show room in which are displayed the thirty or forty varieties of health foods and various other health appliances which are naturally associated with sanitarium work. Here is a show case and fittings which would not appear out of place in a modern Broadway

store, all made by the superintendent in odd minutes that could be spared from other duties. Outside were numerous improvements which usually require the services of skilled mechanics of various sorts which were made without their help,—beautiful stone steps and curbing made of Portland cement, showing no trowel marks or other evidences of clumsiness. Such manual dexterity is the best evidence of natural adaptation to the emergency problems which arise in difficult surgery; while the willingness to adapt one's self to trying situations, and the ability to develop resources out of one's own brain, shows the possession by the management of that sort of ability which is sure to win. We could not understand the reason of so much ingenuity until we recalled the fact that the Doctor was born in Connecticut. Yankee blood is splendid capital in a sanitarium enterprise. The accompanying cuts present a very imperfect idea of the real beauty of this gem among the growing fraternity of sanitariums, and show nothing of the beautiful picturesque surroundings of this interesting spot.

Space forbids us to present a detailed picture, but a few words further must be added by way of description. The building donated by Mrs. Stewart was formerly the residence of one of the leading citizens of Moline. It was beautifully finished with natural wood

panned ceilings, and supplied with every convenience of the modern house. In refitting, a large basement has been supplied with facilities for treatment. Steam-heating has been introduced, and all the needed sanitarium appliances supplied.

The delightful drives and walks afforded by Moline's nicely paved streets and parks and the many places of historical interest connected with the early history of our country, make Moline an ideal place for a sanitarium. The Rock Island Arsenal situated on a government island in the Mississippi River affords an almost endless delight, following out its many-shaded walks and drives. The Arsenal is within fifteen



A COZY CORNER

minutes walk of the Sanitarium. Prospect Park, reached by street car from the door of the Sanitarium, is one of the most beautiful natural parks in the West. Black Hawk's Watch Tower, so named from its having been the camping place of the famous chieftain and his Indian braves, affords one of the most delightful panoramic views of Western Illinois and the Rock River Valley.

Moline is a prosperous manufacturing city of about twenty-five thousand inhabitants. It is justly noted for its fine schools and churches, and during the past week a sixty thousand dollar library has been opened to the public, through the generosity of Mr. Carnegie and several of Moline's public-spirited citizens.

Though one of the youngest and one of the smallest of the many branches of the parent institution in Battle Creek, the Tri-City Sanitarium makes bold to boast of its building, its equipment, its location, and, last and best, of its principles. A beautifully finished and furnished building, a very complete equipment for giving all kinds of medical and surgical care to sick people, a healthful and attractive location, and the great principles of rational medicine and

health reform are the attractive features of the institution.

Dr. and Mrs. Edwards have long been known to the fraternity of sanitarium physicians, and are recognized among the ablest exponents of the principles of temperance and dietetic reform. Mrs. Edwards is president of the W. C. T. U. of Moline. Dr. and Mrs. Edwards have enjoyed unusual advantages in preparation for the work which they have undertaken in Moline, and the great success which they have so readily achieved is not a surprise to those who are acquainted with their abilities and their previous career.

Those who desire further information concerning the Tri-City Sanitarium may receive an attractive little booklet by sending their address to The Tri-City Sanitarium, Moline, Ill.

NATURAL REMEDIES IN THE TREATMENT OF PNEUMONIA

THIS very grave disease requires prompt and thorough-going treatment. The inflammation is commonly confined to one side, the location generally being indicated by pain in the affected part. It is not absolutely necessary, however, to know which lung or which portion may be the seat of the inflammatory process; for the treatment should be applied to the entire lungs.

The general treatment required is the following: For the relief of pain, apply a hot fomentation (see February number) over the entire chest, front and back, for fifteen minutes, repeating every two or three hours, as may be necessary to make the patient comfortable. On removing the fomentation, a cold compress consisting of several thicknesses of cheese cloth or other soft cotton or linen material large enough

to cover the chest, wrung out of cold water sufficiently dry so as not to drip, should be applied to both the front and back of the chest. The compress applied to the back should be allowed to



THE CHEST PACK: FIRST STEP.

remain until the next fomentation is applied or until it becomes thoroughly heated. The compress applied to the front of the chest should be changed every fifteen minutes, or as soon as it

becomes warm. The application of continuous cold is not wise.

The general temperature may be best controlled by the wet sheet pack. This is administered in the same manner as the hot blanket pack, described in the January number, using a sheet wrung as dry as possible out of cold water (60°) in place of the hot blanket, and without the application of hot water bags, except in instances when the patient's feet are inclined to be cold; then they may be left out of the pack and a hot water bag placed near them between the folds of the blanket. The patient should remain in the pack long enough so that very thorough reaction may



SECOND STEP.

take place, filling the skin with blood. This is important and is a precaution against incurring pulmonary congestion which is sure to result from prolonged chilling of the general surface. Most excellent results follow the sweating pack when sweating can be produced by prolonging the application of the wet sheet. To promote reaction after the application of the wet sheet, the patient's skin may be previously heated by a fomentation to the back of the trunk or by a general hot blanket pack (see January number).

The cold enema may be used, if necessary, as an additional means of lowering temperature. The cold mitten friction (see p. 147) should be em-

ployed two or three times a day as a means of encouraging the vital resistance promoting general circulation.



THIRD STEP.

Fomentations generally exercise a favorable influence upon the cough. Sipping hot water is also an excellent measure for the cough.

The hot hip and leg pack (administered the same as the hot blanket pack to the hips and legs only) is an excellent means of relieving the congestion of the lungs when this becomes extreme, as indicated by the blueness of the lips and labored breathing. In such cases an ice bag should always be placed over the heart. Hot applications to the legs may be repeated as often as necessary, and the effect may be prolonged by means of a heating compress applied to the legs.

As soon as the acute symptoms which accompany an attack of pneumonia begin to subside, a general heating compress should be employed, the cold compress being no longer necessary.



FOURTH STEP.

The purpose now is not to lessen the inflammatory process, but to remove



THE CHEST PACK COMPLETE.

its results by promoting absorption. The towel chest pack may be employed

for this purpose. A strip of linen cloth or cheesecloth, four to six thicknesses, eight to ten inches wide and six or eight feet long, with a flannel bandage two inches wider and ten or fifteen inches longer, are necessary for this application.

The pack should be changed every few hours, a fomentation being applied to the whole chest ten or fifteen minutes at each change.

The insomnia and delirium present in very severe cases is generally greatly relieved by the wet sheet pack.

J. H. K.

SIMPLE HOME GOWNS

BY MRS. G. S. SMITH

TO live in harmony with Nature in the fullest and truest sense is to live in harmony with God; and to live in divine harmony is to be happy." This is no less true when we think of the living temple, — our bodies. God has given each one a natural form, differing from every other, an individuality of body. As we look about us in nature and see this is as our Maker would have it, we are led to meditate on the divine plan, and wish we could express in words that would burn into the minds and hearts of all true-minded, nature-loving and God-serving people, what it means to do anything to deform and destroy that which our Creator intended to be built up in a natural way. How can we conscientiously wear corsets, girdles, tight bands, choking collars, tight shoes, or anything that could in any way shut off the free use of mind and body, bringing misery to ourselves and those around us?

Of all the bright spots on earth, home should be the brightest; and one of the things which makes home bright is to

see each one comfortably and becomingly clad. It is a wrong idea to suppose that "anything is good enough to wear at home."

We sometimes think it extravagant to lay aside half-worn street gowns, but there are many ways in which these can be used. Very often they can be "made over" for younger members of the family, or some one can always be found who would greatly appreciate them.

We have been trying to bring our readers to see and appreciate the beauty of the natural lines of the body, and have shown some ways in which they could be maintained. This month we have a pretty little home dress of brown, a seven-gored skirt with panel front, and folds of goods extending from front panel to box-pleated back; a bodice to match design of skirt, the waist and skirt being attached together at the waist line with short aluminum bars sewed on to the waist, commencing at the back; then three inches and seven inches from the back. In this way the



FIG. 1.



FIG. 2.

weight of the skirt, to which are sewed broad hooks to correspond with the bars on the waist, is evenly distributed around the body, and the whole

weight is supported from the shoulders.

In our next article we will give some designs for morning and maternity gowns.

OLD-FASHIONED PHILOSOPHY

SCORN not the homely virtues. We are prone
To search through all the world for something
new:

And yet sometimes old-fashioned things are
best —

Old-fashioned work, old-fashioned rectitude,
Old-fashioned honor and old-fashioned prayer,
Old-fashioned patience that can bide its time,
Old-fashioned firesides sacred from the world,
Old-fashioned satisfaction with enough,
Old-fashioned candor and simplicity,
Old-fashioned folks that practice what they
preach.

—*J. A. Edgerton, in National Magazine.*

Chautauqua School of Health

DIGESTIVE ACTION OF THE SALIVA

BY J. H. KELLOGG, M. D.

DIGESTION is the wonderful process by which food stuffs are changed into blood and then into living tissues. Although foods may contain all the elements which are found or needed in the body, these elements cannot be directly appropriated. The food substances must be rendered fluid before they can be taken into the blood and circulated to the tissues. Then by the tissues the liquid food conveyed to them by the blood is again transformed into solid and semi-solid substances.

Nothing in all the realm of nature is more remarkable than the transformation which takes place in the several food elements under the influence of the five digestive fluids, the saliva, the gastric juice, the bile, the pancreatic juice and the intestinal juice. This wonderful alchemy begins with the action of the saliva.

If a hard bread crust is chewed for some length of time it becomes decidedly sweeter than when introduced into the mouth. This is due to the digestive action of the saliva which possesses the remarkable power of converting tasteless starch into sugar. To demonstrate this it is only necessary to add a teaspoonful of saliva to a teaspoonful of paste prepared from cornstarch. Thoroughly mingling the saliva with the starch paste one at first observes no

change; but if the mass is kept at a temperature of about blood heat, but a few minutes elapse before the thick paste has become almost as thin as water, and within a very short time a sweet taste may be readily detected.

It is the business of the saliva to digest starch by converting it into sugar. This sugar is of the variety known as maltose, which is also found in malt, and is the result of the digestive action of diastase, a substance which, like the saliva, is capable of changing starch into sugar.

The process of starch digestion is not confined to animals. In many plants there are digestive principles capable of transforming starch into sugar. This change always takes place in the ripening of fruits, transforming the starch of the green apple, for example, into the sweet, wholesome flavors found in the ripe fruit. By a similar process, the starch stored up in the roots of the maple tree in the fall is in the spring converted into sugar, and carried up in sap to furnish material for the production of new buds and leaves, so setting in operation the vital processes of the plant. It is in this way also that the honey of plants is formed, to be deposited in the flower cups from which it is collected by the industry of the bee.

The digestive action of the saliva.

differs from that of vegetable diastase, however, in the fact that it is capable of acting only upon dextrin or cooked starch, whereas vegetable diastase acts upon raw starch, though much less rapidly than upon starch which has been cooked. This fact has an important bearing upon the hygiene of digestion.

The action of saliva begins in the mouth, and continues while the food substances are retained in the mouth, and may proceed for thirty to forty minutes after the food is swallowed into the stomach, or until a considerable quantity of acid gastric juice is formed. The saliva being a naturally alkaline fluid, its activity is checked by the presence of acid substances; hence the digestive action of the saliva in the stomach ceases as soon as the gastric juice is secreted in sufficient quantity to render the saliva acid.

The amount of saliva formed depends upon the character of the food. Dry and highly flavored foods cause the salivary glands to pour out an abundance of saliva, whereas moist and liquid foods excite the activity of the salivary glands very slightly or not at all.

To insure an abundant outflow of saliva, it is, then, highly important that food containing starch shall be eaten dry, and that it shall be thoroughly chewed, being retained in the mouth for a sufficient length of time to secure the secretion and the admixture of a sufficient amount of saliva to do the work required of this important digestive fluid. If the mastication continues long enough, some portion of the starch is converted into sugar while it is still in the mouth.

APPETITE JUICE.

The taking of food into the mouth is a signal to all the digestive organs to

prepare for work. Even the sight and odor of food may cause an outflow of saliva, and at the same time the gastric juice pours into the stomach.

Pawlow, of St. Petersburg, in experiments upon a dog, observed that when food was introduced into the animal's stomach through an opening made for the purpose, no digestive activity followed; the gastric juice was not poured out, and the stomach apparently remained inert for nearly half an hour. On the other hand, when the animal was allowed to see and smell of the food, the saliva and the gastric juice poured forth abundantly, even though the animal did not actually taste a morsel. It is important that the food should be retained in the mouth for a sufficient length of time to make the proper impression upon the nerves of taste, so that the entire digestive apparatus shall be thoroughly prepared to carry the food substances through the successive steps of the digestive process. Food should remain in the mouth, being constantly chewed, until reduced to a fluid that will mix readily with the gastric juice and other digestive fluids. The stomach is not capable of grinding and reducing the food. Mouth digestion is the first of a series of changes which constitute the digestive process. If the first of the series of changes is performed in an imperfect manner, all the succeeding changes are likewise more or less defective; that is, stomach digestion cannot be well performed, unless mouth digestion has been well done.

The thorough chewing of the food produces an abundance of what Pawlow calls "Appetite juice," which is the best and most important juice formed by the stomach. Hence food must be well relished, and eaten with attention.

PRACTICAL NURSING IN THE HOME

Changes

BY LENNA F. COOPER

THERE is nothing so restful to the sick one as frequent changes, either mental or physical, especially after convalescence has been established. Indeed, a tactful nurse will be continually devising something new and interesting, even if it be only a change of position, a fresh bouquet of flowers or a pretty little story to read. Care must be taken, however, not to excite the patient in any way by these changes. Let them be done quietly and unostentatiously.

If one is confined to bed for some length of time, a change of beds is desirable, as it both rests the patient and gives the bed a chance to air. If a second bed cannot be conveniently spared, a cot may be used. The change can easily be made by either slipping a sheet folded lengthwise under the patient, with one person at the head carrying by the two corners, and one at the foot likewise carrying by the two corners, or, by two or three persons lifting the patient. The latter way is

the better, as the patient feels more secure. If the patient is very heavy or feeble it is better that three persons should do this. Have the second bed or cot placed with the head at the foot of the first bed. Those lifting should all stand on the same side of the bed. Have the patient fold the arms across the chest, and cover with a sheet or blanket to avoid exposure to cold or drafts. One person may carry the head and shoulders, by placing one arm under the head and neck, and the other under the shoulders. The second person places one arm under the waist and the other below the hips; the third person places one arm under the knees and with the other supports the feet. It is necessary that the arm should be placed well under the patient both for the safety of the patient and the ease of those lifting. To relieve the back of the strain of lifting, the nurses should maintain a strong inward curve of the spinal column. All should lift at the same time, and keep the body of the

patient on a level to avoid straining any part. The patient may be carried for some distance in this way without discomfort. If there are only two persons to lift, it may be done in the same way except that the weight is divided between the two instead of three.

To turn the patient in bed, use the draw-sheet. Loosen it at both sides, pull gently, at the same time raising



the sheet; be sure to turn the patient far enough so that there will be no strain upon any part of the body.

If the patient is to be moved from one side of the bed to the other, this may be done by simply pulling the draw-sheet with the patient on it to the required position.

Bed rests, which are quite necessary when the patient begins to convalesce, are seldom *

found in the ordinary home; but one may be improvised by using a chair turned upward toward the head of the bed, and covering the back of it with pillows. Place a pillow or two under the patient's knees to keep them from slipping down.

Pillows are an almost indispensable



TURNING PATIENT.

article in the sick room, especially a number of small ones, as they may be tucked in at the side, under the back, or under the knees, to change the position somewhat. They may also be used as a support for the bed clothes, in the case of an injured part of the body, by placing the pillows on either side of it.

FUNDAMENTALS IN DRESS

BY CAROLYN GEISEL, M. D.

IN the fundamentals of things as well as in ornamentation, the trend of the times is toward perversion. Whether in that dim day-dawn when all things were pronounced good, it was the purpose of the Master-mind that his highest creation should take so much thought of the where-with-all to clothe itself, we possibly may not know. But taking the matter of dress as we find it in the now, we conclude that the fundamental reason for clothing the body can only be protection,—protection from cold in winter and excessive heat in summer, from wind and rain and all untoward weathers, from the invasion of disease and discomfort by any means, at all times and in any seasons.

Each garment in my wardrobe must answer me two questions: "What are you for?" and, "Are you the very best thing for that purpose?"

All things that be, must give to the powers higher than themselves a reason for being—an excuse for existence, if you will—lest they become encumbrances to life, useless baggage that weights and hinders him who lives, and living, must journey just once the difficult way from earth to higher things. Keep your baggage light, good friend; you will climb more easily if you carry no excess.

There are some articles of clothing commonly named among us and worn by the majority of folk, that have no

excuse for existence except that they are upon the market,—are named and worn. The elimination of these super-numeraries will help us to simplify our baggage, and leave us a cash margin with which to ornament the really useful.

First, then, among the fundamentals of right dressing must be counted usefulness. If in purchasing or making, we will keep well in mind the purpose of the garment, and the times and seasons in which it is to be worn, we shall eventually find ourselves, as Irving puts it, quite "technically dressed," and shall not so often be hampered or made conspicuous by the lack of fitness of our attire to the business or pleasure of the hour.

The more complex our clothing in its construction and arrangement, the more difficult it becomes to keep the body first in our thought and the clothing subject to the body's needs. Because of the many perversions from their prime purposes, we must be very alert in the construction of some garments lest they do injury to the wondrous structure they were meant to protect. As an artist studies anatomy that brush and pencil may be true to nature's lines and curves, so a dressmaker or tailor should know the body, lest by bands and buttons, he inflict bruises on delicate parts, or stays and weights displace some im-

portant organ, and a lifetime of suffering be the consequence of ignorance.

Over and over again it is shown that grave displacements of visceral organs are the consequence of efforts to beautify, *not* to protect, the body by clothing. An attire that is not useful but would-be artistic, loses for the wearer the normal beauty of this physical temple. Crossed eyes, large necks (goiter), square shoulders, prom-

inent hips, protruding abdomen, flat insteps,—these and numerous other deformities are thrust upon us to offend the vision of our neighbor, produce suffering and doctor's bills, and shorten the life of the nation.

Nothing can be more beautiful than the normal body of a little child before it has been moulded and shaped to fit its clothing.

Come with me back to the normal; take up again that God-given dower of beauty; make simplicity the watch-

word in all that pertains to dress; and with each returning season cry in a chorus to the modiste—Simplify, Simplify!

There are then two cardinal points in right dressing, utility and harmlessness. Ornamentation must be secondary to usefulness, and simplicity should characterize ornamentation. This is from the view points of art and beauty, as truly as of economy and utility.



THE COLD WET MITTEN FRICTION

THIS procedure consists in the application of cold water to the surface by means of a mitt made of some moderately rough, firm fabric. Hair cloth or mohair answers fairly well for the purpose, but a Turkish

fabric closely resembling mohair, but somewhat firmer and more durable, is preferable. The mitt is slipped over the hand and held by separating the thumb and finger while being rubbed over the surface. The patient with all clothing removed is wrapped in a sheet, preferably a Turkish sheet, and covered with a

blanket. A large bowl or pail filled with cold water is placed by the bedside. The colder the water, the more vigorous the effect; that above 70° has very little effect. Two or three large, soft towels are needed. Make sure the patient is warm and that the feet are not cold. Slip the edge of a towel under whatever portion of the body is receiving the application. After cooling the scalp and neck, dip the mitt in the cold water and apply successively

to the chest, arms, abdomen, legs and back, accompanying each application of water by vigorous rubbing of the skin. The rubbing is made with a to and fro movement, the stroke short and

quick, great care being taken to secure complete reaction in each part before proceeding to another part, and all parts should be covered except that undergoing treatment. After rubbing a part with the mitt, it should be carefully dried with a towel, then rubbed and spatted with the bare hand until warm and red.



THE FRICTION MITT.

The vigor of the treatment may be graduated by the amount of water carried by the mitt, which may be simply dipped, saturated, or filled with water, and by the number of dippings. Ordinarily the mitt is dipped two or three times while rubbing each part.

The cold mitten friction should be employed only when strong stimulation is required. It is a most excellent tonic measure, especially for very feeble persons who can not well endure the



contact of cold water. The vigorous stimulation set up by the friction secures immediate reaction. This procedure is enjoyed by persons with dark, thick skins. Some care must be exer-

cised when it is employed with persons with fair complexions and thin skins. As a tonic measure it may be used twice or even three times daily.

J. H. K.

MEASURING AND COMBINING INGREDIENTS IN HYGIENIC COOKERY

BY MRS. E. E. KELLOGG

GOOD cooking can not be done in a haphazard way. The combination of materials for the production of dishes to serve the purposes of nutriment in body building and health preservation demands the utmost painstaking and care. A most important principle underlying success in cookery is *accuracy of measurements*. Many an excellent recipe proves a failure simply from carelessness in this respect.

Measures, although not quite so accurate as weights, are generally more convenient, and are more commonly used. The ordinary kitchen cup, holding one-half pint, is usually taken as the standard. If any other size is used, the ingredients for the entire recipe should be measured by the same utensil or another of equal size. The tin or glass measuring cups with divisions indicating the half, third and fourth parts of a cupful (see illustration) are in every way preferable and are now very generally used.

The teaspoons and tablespoons used in measuring are the standard size silver table ware. A very convenient utensil with which a half and a fourth of a teaspoonful may be measured, is shown in the illustration.

Unless otherwise stated, a cupful, tablespoonful or teaspoonful of either liquid or dry material means the utensil filled to the brim, level over the top. In the measuring of flour, sugar or other

dry materials, the exact amount is obtained by levelling the top with a knife, as shown in the illustration.

Any material like flour, sugar, salt, that has been packed, should first either be sifted or stirred up lightly, and should not be packed down in measuring.



A rounded spoonful is one which above the edge of the spoon presents the same convex appearance that the level spoonful would if turned bottom upward; in short, when fully rounded it is twice the proportion of a level spoonful. A heaping spoonful is all that can be lifted on the spoon without falling off. Such measurements are likely to be less accurate than the level measure and are less commonly used.

With liquids, it is always desirable to hold a cup in a saucer and a spoon over a dish while measuring, to prevent spilling the liquid upon the floor or table.

COMPARATIVE TABLE OF WEIGHTS AND MEASURES.

LIQUIDS.

Four full tablespoonfuls are one-half gill.
 Eight full tablespoonfuls are one gill.
 Sixteen full tablespoonfuls are one-half pint.
 Three teaspoonfuls make one tablespoonful.
 One pint of liquid weighs one pound.
 One full tablespoonful weighs one-half ounce.

DRY MATERIALS

One heaping tablespoonful of sugar weighs one ounce.
 Four tablespoonfuls of flour weigh one ounce.
 Two tablespoonfuls of butter weigh one ounce.
 Seven heaping tablespoonfuls of sugar equal one cupful.
 Two cupfuls of dry or liquid material equal one pint.
 Four cupfuls of dry or liquid material equal one quart.
 Two cupfuls of granulated sugar weigh one pound.
 Two and two-thirds cupfuls of cornmeal weigh one pound.
 Four cupfuls of sifted flour (white) weigh one pound.
 Three and seven-eighths cupfuls of entire wheat flour weigh one pound.
 Four and one-half cupfuls of graham or rye flour weigh one pound.
 One pint of oatmeal, cracked wheat, or other coarse grain products weighs about one pound.
 One and seven-eighths cupfuls of rice equal one pound.
 Two cupfuls of stale bread crumbs equal one pound.
 Ten small eggs or nine large ones weigh about one pound.
 Two cupfuls of raisins (packed) weigh one pound.

When desiring to divide a recipe calling for three eggs, take one whole egg and the yolk or white of another.

Much care needs also to be exercised as to the manner of mingling together the different ingredients called for in compounding recipes after the materials have been accurately measured. This is a point which is often overlooked, and which is the cause of many a failure. There are four special ways in which

this is accomplished: *stirring, beating, kneading, cutting and folding.*

By stirring is meant a continuous motion round and round with a spoon, without lifting it from the mixture except to scrape occasionally from the sides of the dish any portion of the materials that may cling to it. It is not altogether necessary that the stirring should be all in one direction as some cooks suppose. The object of stirring is to thoroughly blend the ingredients, and this may be accomplished by stirring in one direction as well as in another. The blending of flour and water only, can be more easily accomplished, and the two more smoothly blended, with an egg-beater than with a spoon.

Beating is for the purpose of incorporating as much air into the mixture as possible. It should be done by dipping the spoon in and out, cutting clear through and lifting from the bottom with each stroke so as to bring the under part to the surface. The process must be a continuous one, and must never be interspersed with any stirring if it is desired to retain the air within the mixture.

Cutting and folding is a combination of two motions. The first a vertical chopping or cutting through the mixture completed by bringing the bowl of the spoon in contact with the bottom of the dish, thus turning the ingredients over and over so as to bring the under portion to the surface each time.

These three procedures are adapted for the commingling of ingredients in the form of batters.

Kneading is the mode by which materials already in the form of a dough are more thoroughly blended together; it also serves to incorporate air. This may be most easily accomplished by using the tips of the fingers, gathering up the dough from the edges, turning and pressing it with a sort of rocking motion.



MARCH MENUS

BY LUCY WINEGAR

A CAREFUL observer of human needs and the way in which they are supplied must be impressed with the absolute science which people follow unknowingly when their wants are best supplied.

With the colder weather comes the demand for heartier foods, that is, foods which supply energy and heat in greater abundance than was needed during the warmer weather. A thorough-going practical knowledge of food elements prepares one to meet the demands for the daily menu with an assurance of success which carries conviction to the family purveyor when bills must be settled. It is not so much variety that is required, as "sufficiency." This is often secured where not more than three foods are chosen, and is just as often entirely wanting where the menu runs a gamut of ten different foods.

In our breakfast menu, Oregon toast, a combination of grains, fruits, and nuts, is in itself a perfect breakfast, and many a time the writer has found it all she desired as a preparation for a hard day's work of physical and mental effort.

In the following menus many dishes are types, and suggest possibilities

which insure variety while, at the same time, they require elements easily secured at this season :

Breakfast.

Bananas	Oregon Toast
Protose Hash on Toast Tips	
Rice Gems	Nut Butter
"No Coffee" Beverage	

Luncheon

Fruit Soup	Sugared Croutons
	Olive Sandwiches
Cocoanut Apple	Walnut Wafers
Health Cocoa	

Dinner

"No. 1" Bean Soup	Cream Sticks
Nut Cutlets	Apple Jelly
Protosed Potatoes	Green Peas
Nestled Cheese Salad	
Whole-wheat Bread	Butter
Orange Compote	
Apple Juice	Health Bon-Bons

RECIPES

Oregon Toast.—Take one pint of fresh huckleberries (canned) ; reheat and add a half teaspoonful of cornstarch ; let boil up and serve at once on crisp toast with a tablespoonful of pecan nuts on top. (Enough for three orders.) Any fruit may be used. Pecan meats are valuable for both fat and proteid.

Protose Hash.—Mix together one pound of protose and two cups of potato, both chopped; season with salt and one small onion grated. Spread thinly on a baking dish, moisten the top with cream and brown well in the oven.

Rice Gems.—Two-thirds cup of milk; one-third cup of cream; two small eggs; one-third teaspoonful salt; two-thirds cup rice flour; one-half cup white flour. Place milk, cream, and yolks of eggs in a crock, beat until smooth, add the flour quickly and beat ten minutes. Fold in the beaten whites of the eggs, put in hot irons, and bake twenty or twenty-five minutes.

Sugared Croutons.—Take a rather stale loaf of white bread, cut in small cubes. Oil a baking pan lightly with olive oil and sprinkle slightly with sugar; place the croutons in the pan and place in a warm oven. Shake the pan often so as to brown evenly.

Olive Sandwiches.—Choose thirty nice ripe olives. Freshen and mince fine. Spread nut butter on thin slices of bread and sprinkle thickly with the minced olives. Mayonnaise added to olives improves them. Cress sandwiches prepared by clipping cress fine, and seasoning with salt and lemon juice, are relished by many.

Cocoanut Apples.—Select six nice medium-sized apples (Northern Spies), peel, remove core, place in baking pan and sprinkle slightly with sugar, place in moderate oven and bake thirty minutes. Remove and fill the center with powdered desiccated cocoanut, sprinkle a little over the apples, return to oven and leave until the cocoanut is slightly browned.

Walnut Wafers.—Take two eggs beaten stiff, to which has been added a pinch of salt. Into these sift one-half cupful sugar, three teaspoonfuls flour, and lastly two-thirds cupful nut meats. Drop in small spoonfuls on oiled pans and bake a nice brown.

"No. 1" Bean Soup.—One-half pint kidney beans, one-half pint navy beans. Cooked beans, either baked or boiled, may be used. Press the beans through a colander, and add one cupful strained tomato, two-thirds quart hot water, one-half teaspoonful salt. Heat and serve with sliced lemon and shelled nuts.

Protosed Potato.—Pare medium-sized potatoes and put in cold water while you prepare the following: One pound protose, one-half pound nuttolene, one-half teaspoonful salt, one-third teaspoonful sage; mix thoroughly after having minced the protose and nuttolene. Remove the potatoes from water and make a hole through each one with an apple corer. Then fill with the protose and nuttolene mixture, place in baking pan, brush each one



1. Toast. 2. Oregon Toast. 3. Cocoanut Apple. 4. Nestled Cottage Cheese. 5. Orange Compote.

lightly with olive oil, pour hot water over and bake, basting very frequently.

Nestled Cheese Salad.—Take one quart (canned) spinach, and put it through a fine colander; add to it one tablespoonful olive oil and two tablespoonfuls lemon juice; mix, and form in shape of nest on individual salad plates. Take one cupful cottage cheese, form in little balls, roll in chopped nuts, and place in the nests and serve. (One can of spinach makes ten dishes.)

Orange Compote.—Peel six nice oranges, slice thin, being careful to avoid all seeds. Sprinkle slightly with sugar, let them stand one-half hour, drain off the juice, and to it add the juice of one lemon and boil ten minutes. Cool, and, when ready to serve, arrange in individual dishes alternate layers of oranges and finely powdered desiccated cocoanut; pour over juice, and serve.

SCHOOL OF HEALTH SEARCH QUESTIONS

DIGESTIVE ACTION OF SALIVA

1. Name the five digestive fluids.
2. What remarkable power does the saliva possess ?
3. How may this be demonstrated ?
4. Where does the action of saliva begin, and how long does it continue ?
5. What substances check the action of saliva, and why ?
6. How may an abundant outflow of saliva be ensured ?
7. How long should food remain in the mouth ?
8. Which is the most important juice formed by the stomach ?
9. Upon what does the formation of this juice depend ?

PRACTICAL NURSING IN THE HOME

1. In what way may the tedium of convalescence be relieved ?
2. What is desirable when the invalid is confined to bed for some time ?
3. What are the advantages gained by a change of beds ?
4. Describe two ways in which an invalid may be safely and comfortably conveyed from one bed to another.
5. Which is the better way ? Give reason.
6. How may the back be relieved of the strain of lifting ?
7. What should be used in changing the patient's position in bed ?
8. How may a bed rest be improvised ?

THE COLD WET MITTEN FRICTION

1. What articles are needed in order to give a cold wet mitten friction ?
2. What is the best fabric for the friction mitt ?
3. What should be the temperature of the water ?
4. In what condition should the patient be when commencing the treatment ?
5. Name the order in which the application should be made to the different parts of the body.
6. Describe the movement with which the rubbing is made ?
7. How may the vigour of this treatment be graduated ?
8. What is its effect ?

FUNDAMENTALS IN DRESS

1. What is the primary purpose of dress ?
2. What two questions should be asked with reference to each garment ?
3. What are the two cardinal points in right dressing ?
4. What study is therefore necessary to the dressmaker or tailor ?
5. Mention some of the deformities produced by a perversion of the object of clothing ?
6. Where do we find the normal body in its perfection ?

MEASURING AND COMBINING INGREDIENTS

1. Name one of the most important principles underlying success in cookery ?
2. What is usually taken as the standard of measurement ?
3. What should be done with packed material such as flour, sugar, etc., before measuring ?
4. How many tablespoonfuls of liquid make one gill ?
5. How much does one pint of liquid weigh ?
6. Name the four methods by which ingredients may be combined.
7. Describe what is meant by "cutting and folding."

MARCH MENUS

1. What is the best indicator of the needs of the body ?
2. In cold weather what class of foods are especially required ?
3. In preparing the daily menu, what should be aimed at rather than variety ?
4. Name one dish given in the breakfast menu which provides a sufficiency of all the necessary food elements.
5. How is this dish prepared ?

Hundred Year Club

ONE HUNDRED YEARS IN A DAY

WHAT would be the sensations, impressions, and experiences of one who should sleep for a hundred years, and then suddenly awake to the century's advance, especially in this progressive age of the world, has often been a subject of conjecture. Some such event actually occurred in July, 1902, when Mrs. Cynthia Hendrix, who had spent the most of her life of one hundred years in a quiet little hamlet, was persuaded to take a trip to New York City. Born in the East, Mrs. Hendrix went to West Munroe when a young girl. After her century's rest she awoke, so to speak, in the world's most active and enterprising metropolis, where perhaps more progress has been made during the past few decades than in any other part of the world.

From the time when she drove to West Munroe on her wedding trip in 1824, Mrs. Hendrix had never left the quiet hamlet until she made this famous trip seventy-eight years later. She had never seen a train of cars, a trolley car, a steamboat, an automobile, telephone, electric light, nor any other of the many wonders of the last half century. Though her life had been that of the hard physical toil of the farmer's wife, the years had passed so lightly over her head that they had merely silvered her hair, and left her seemingly no older than a woman of eighty. Her hearing was fairly good,

her sight keen, her voice strong and full, and she was in every way well able to appreciate the marvelous experiences of her trip. The keen sense of humor lurking in her bright eyes, which had doubtless contributed its share toward keeping her heart youthful, gave zest to all that she saw] or did during that memorable time.

The attention of a New York publisher was attracted to the centenarian by the newspaper accounts of the celebration of her hundredth birthday; and Mrs. Hendrix was offered a free trip to the great city and entertainment for as long as she wished to remain there. Her friends, fearing that the shock of the first view of nineteenth century wonders would cause her death, endeavored in vain to dissuade her. She merely stipulated that her children — a son aged seventy-six, and his wife, a few years younger — should accompany her, and started off with seemingly no other anxiety than the fear that her beloved petunia beds might get weedy during her absence.

After her first train ride, traveling at the rate of over a mile a minute, and thirty-six hours spent in New York, during which time she was driven all over the city and shown all its wonderful sights, the irrepressible old lady returned to her home without having shown a trace of nervousness, nor admitted that she was tired. The fact

that all these things were new to her, which was what caused the anxiety of her friends, was doubtless the very reason why she stood the journey much better than would the average woman of seventy, accustomed to just such experiences for the greater part of her life. Her simple life, spent "far from the madding crowd" and in blissful ignorance of the nerve-racking devices of modern civilization, had kept nervousness altogether beyond her ken.

During the drive to the station the brisk little centenarian entertained her companions with a lively account of the birthday celebration given in her honor a fortnight before, recounting the gifts brought to the farmhouse by each of her two hundred guests, all of which seemed to be firmly fixed in her mind. When the express train steamed into the station, she was more impressed with its noise than with anything else. But after she had recovered from the surprise of seeing the familiar landscape apparently rushing past her, and gratified her curiosity in a number of other directions, she found to her own astonishment that she could sleep in the midst of the rush and roar just as she could amid the crowing of the chanticleers, the lowing of the kine, and other familiar sounds of West Munroe.

One of Mrs. Hendrix's first surprises, after reaching New York, was to find that it was "all floored over." This was her first experience of driving over a pavement. The next surprise was the flying lights as they rode down Broadway. The explanation of this astonishing phenomenon failed to explain, and the old lady left the city still under the impression that by some contrivance the lights were really kept in constant motion. But the thing about Broadway which most arrested her attention was what she considered the

large number of children abroad at that late hour (about nine in the evening).

One of the finest suites of rooms in the Waldorf Astoria, where every luxury would be at her command, had been reserved for her accommodation. So little impressed was she with the grandeur of the exterior of this famous building that she spent the few minutes of waiting before it calmly discussing the price of butter. On entering the roomy elevator, she loosened her bonnet-strings and gave other indications of settling down, thinking that she was in "a little bedroom." When she finally reached her own apartments she seemed a little depressed, but not otherwise affected, by the grandeur surrounding her.

The supper that was served in her room was disposed of with the appetite of youth, and only a little dubiousness as to whether it would "set as well as Johnny cake and potatoes."

Some of the simplest and commonest household conveniences — the electric light, and the hot-water faucet in the bathroom, for instance — interested and impressed her far more than had Broadway, or her first sight of the steam engine. She watched in solemn breathlessness while the turning on and off of the electric light was explained to her. A light that suddenly appeared in response to the touching of a button was too amazing and too suggestive of magic to be altogether canny. But the hot-water faucet met with her unqualified approval as a labor-saving device.

After a day that would have exhausted the average experienced traveler of half her age, she was left in her room at night quietly reading, without glasses, a chapter from the Bible which she had found there. When some one knocked gently at her door at ten o'clock the next morning, wondering

if she were yet awake, she was found standing at the window with her bonnet on, having been up since four o'clock. "Sleep," she said, "is a waste of time, anyway, but I couldn't sleep to-day."

When shown over the hotel, she observed that the ladies who passed were "all dressed up" as if "they were going to church." This seemed to suggest to her for the first time that her own black bombazine, which had been laid away for the past fifty years, was not quite in keeping with her surroundings. "I don't look very dressy," she said; "this dress was real tasty when it was made, in '40, but it's gone out some since." This defect in her costume she afterward remedied by donning a clean white apron over the black skirt, in honor of the occasion.


The first sight of Fifth Avenue, with its frantic rush of people, suggested to her nothing so much as "a lot of chickens with their heads cut off, flying in all directions." In one of the busy thoroughfares of New York she could see at a glance more people than she had thought the world contained.

Her farmyard supplied her with another simile later in the day, when she saw a crowd of ladies five deep at a bargain counter, "like a yard full o' chickens 'round a plate o' cornmeal." Of course she could only compare the unfamiliar things she saw with the familiar things she knew. In this establishment an electric fan arrested her attention, and on its use being explained to her, she exclaimed, "Why, they go to more pains now to make themselves just comfortable than they used to take to get a grist to mill."

At one part of her drive the old countrywoman remarked, "It's New York, but I'd rather die than live down here; I'd rather be in my grave." She could hardly be persuaded that she had seen the Bowery, but insisted on looking for "some sort of a garden," or other leafy retreat suggested by the name. The Battery was also something of a disappointment, soldiers, cannons, forts, flying flags, etc., not being so much in evidence as she expected. The sight of Trinity Church and St. Paul's Chapel gave her the most enjoyment of anything in New York, and her most enthusiastic remarks were made over the graves of the ancient dead.

Reaching the hotel again a little after midday, Mrs. Hendrix summed up the morning's experiences: "Only a little after one o'clock, and I've seen more wonderful things already than I ever did in my whole hundred years!" The experience of the century's progress had been compressed into those few brief hours.

After lunching and resting, though she repeatedly declared that she had not time to be tired, the old lady was taken for a drive in the Park. The houses on Upper Fifth Avenue lost immensely by comparison with her own advantages: "Beautiful places," she said, "only I should think they'd all die without a front yard." To her the Park, which seemed like a great wilderness, neither orchard nor forest, could not begin to compensate for the awfulness of "all having to have the same yard!" Dearer to her, and more to be desired, were her petunia beds, and the sense of ownership of her own garden plot, than all the glories of Fifth Avenue or Central Park.



.. *By the Editor* ..

APPETITE JUICE

PROFESSOR PAWLOW, the eminent St. Petersburg physiologist, has made a remarkable discovery in relation to digestion. He was enabled to make this discovery by the invention of a new method of studying the process of digestion in dogs. He devised a plan by which the dog's stomach could be divided into two distinct stomachs, a greater stomach and a lesser stomach. The lesser stomach, known as Pawlow's pouch, was connected with an opening into the abdominal wall. A tube was passed through this opening into the stomach, allowing the inspection of its interior. There being no communication between the two stomachs, the dog was able to eat, passing food into the greater stomach and thus maintaining its nutrition, while the lesser stomach, Pawlow's pouch, remained entirely empty with the exception of the gastric juice which was found to flow freely while digestion was in process in the greater stomach.

The accompanying diagram, showing the ingenious arrangement referred to, we copied from Pawlow's work.

Pawlow has twenty-five or thirty dogs in his laboratory which have been prepared in the manner suggested and upon whom he is constantly making experiments. The thousands of experiments which have been made upon these dogs have developed some new and very interesting facts. For example, it has been shown that the simple chewing of food is sufficient to cause an abundant outflow of gastric juice. In collecting specimens, this gastric juice was found to be exceed-

ingly active in character. Indeed, the juice produced by the simple taste of food in the mouth was discovered to be more active, that is, possessed of higher digestive power, than that formed after the food enters the stomach.

It was further shown that the mere sight and smell of food before it enters the mouth may give rise to an abundant flow of powerful gastric juice. Juice produced in this way Pawlow calls "appetite juice," and his observations show clearly enough the importance of presenting food in a form attractive not only to the eye but to all the senses concerned in the act of eating. The more appetizing the food, the larger the quantity of juice produced. Says Pawlow, "Appetite is juice." One who eats without appetite, then, cannot expect to have good digestion, and we see a still larger meaning in the poetical adage, "Let good digestion wait on appetite."

Still another very important deduction may be drawn from this interesting observation; namely, the necessity for long and thorough chewing of the food. The longer the food is held in the mouth, the greater the impression made on the nerves of taste. Through these nerves the appetite center is stimulated and from this center are sent out to the stomach powerful nervous impulses by which the glands are excited to activity whereby powerful appetite juice is produced. When food is swallowed quickly, its various flavors are very little appreciated and the excitation produced must be very small; hence, the amount of juice

produced will be small in the mouth ; whereas, if the food is retained in the mouth and masticated until every parti-

self and since upon thousands of others, respecting the importance of prolonged mastication, or what is now termed

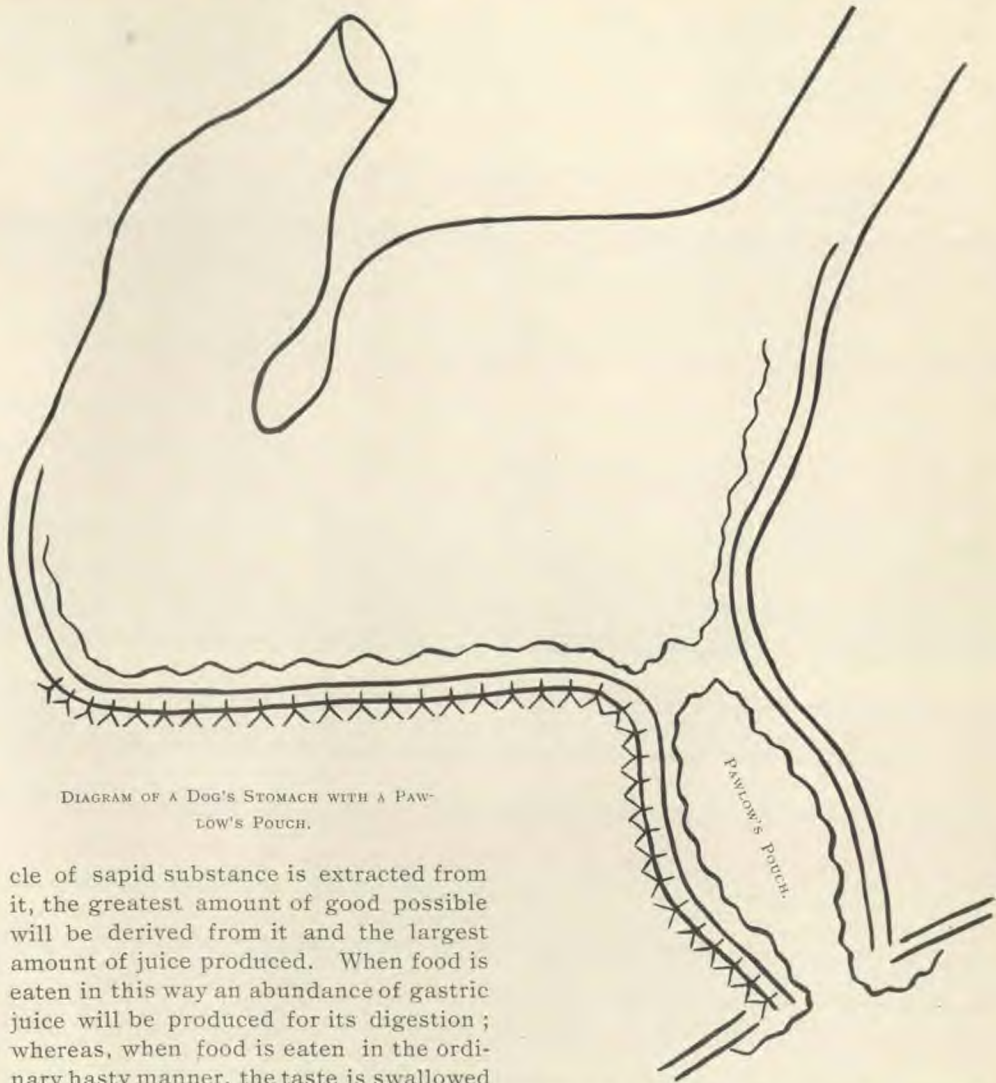


DIAGRAM OF A DOG'S STOMACH WITH A PAWLOW'S POUCH.

cle of sapid substance is extracted from it, the greatest amount of good possible will be derived from it and the largest amount of juice produced. When food is eaten in this way an abundance of gastric juice will be produced for its digestion ; whereas, when food is eaten in the ordinary hasty manner, the taste is swallowed with it, the palate is stimulated only to a moderate extent, very little appetite juice is produced, and digestion fails in consequence.

These observations of Pawlow emphasize in a most emphatic manner the remarkably interesting experiments made by Mr. Horace Fletcher, first upon him-

“ Fletcherizing.” The experience of the hundreds of patients, nurses, and others who have adopted “ Fletcherizing ” at the Battle Creek Sanitarium, is wholly in harmony with the claim set forth by Mr. Fletcher and others who recognize the importance which attaches to thorough mastication of food.

THE DAILY RATION

NUMEROUS experiments have been made by Bolt for the purpose of determining the amount of food required for daily sustenance. The amount generally agreed upon by scientific authorities has been about one and one-half pounds of actual nutriment, indigestible substances and water being excluded. The proportions of the several food elements, carbohydrates (starch and sugar), proteids, and fats, has been a subject of considerable controversy. Some required a larger proportion of proteids; others, less.

In an extensive experiment conducted at the Battle Creek Sanitarium several years ago, it was ascertained that the amount of food habitually taken by several hundred doctors and nurses was about twenty ounces, consisting of sixteen ounces of starch, three ounces of proteids, and one and two-tenths ounces of fat. The recent experiments of Mr. Horace Fletcher have shown that a great economy may be effected by taking care to thoroughly masticate the food.

A physician connected with the Battle Creek Sanitarium, whose duties are very exacting, requiring many hours of both mental and physical effort daily, has recently taken pains to carefully observe the amount of food taken at each meal during thirty days, with the following results:

The total amount of carbohydrates,	220.3 oz.
Proteids,	54. oz.
Fats (taken in the form of nuts);	63.2 oz.

Dividing these quantities by thirty we find the amount of each class of food elements consumed daily to be as follows:

Carbohydrates,	7.97 oz.
Proteids,	1.9 oz.
Fats,	2.1 oz.

making a total weight of dry food stuff of 11.97 oz., or a little more than one-half the average above mentioned, and considerably less than half that given by most authorities as necessary to meet the requirements of the body for energy in the form of work and heat.

The weight of the subject was 140 lbs.

at the beginning of the experiment, and 141 lbs. at the end. The usual health and vigor were well maintained during the period covered by the experiment.

The amount of food eaten, especially the amount of proteids, was quite likely larger than necessary, as the pressure of duties was often so great as to make the temptation to chew less time than is profitable too strong to be resisted. It is more than probable that the quantity of food could be reduced to ten ounces of water free food easily, as the amount of food taken at each meal was quite sufficient to satisfy the demands of appetite. Longer chewing would have satisfied the appetite with less food.

The experience of Cornaro, who lived for sixty years or more on less than twelve ounces of dry food daily, is conclusive evidence of the possibility of maintaining life and vigor on a much smaller amount of food than has generally been believed to be necessary.

The saving in money cost represents only in a very meagre way the actual saving; for the great economy is in the lessened expenditure of energy which the body is required to make in the digestion and disposal of surplus material taken as food. If but one-half the usual quantity of food is sufficient, there is not only the saving of energy required for the digestion of an equal amount of food stuffs; but also the greater expenditure in the disposal of material which must clog the vital machinery and interfere with the performance of its functions.

This subject which has been so forcibly brought to the attention of the medical profession as well as of the public by Mr. Horace Fletcher in various ways, and especially in his admirable book, "The A. B.-Z. of Our Own Nutrition" (a review of which appears in another column), is one highly worthy of the most serious consideration. We would recommend everybody to get Mr. Fletcher's books, published by Frederick A. Stokes Company, New York, N. Y.

HEALTH FOODS AND ENDURANCE

MR. GEORGE ALLEN, an English pedestrian who holds the record for the long-distance walk from Leicester to London (97 $\frac{3}{4}$ miles in twenty hours, twenty-two minutes, and twenty-five seconds), is a strict abstainer from flesh foods of all kinds.

We had the pleasure of meeting Mr. Allen when in London in 1902, and learned from him very many interesting facts in relation to his personal history. He is a man rather below the average size, and would not at all impress one as a man of extraordinary physique. He stated to the writer that when a boy he was the subject of a very distressing and disabling nervous disorder which is hereditary in his family. When sixteen he was a puny, weazened chap whom nobody expected to amount to anything. He set about the task of making a man of himself; he abandoned the use of flesh meats, and began regular systematic out-of-door exercise, and in the course of a few years there was such a wonderful change that many of his most intimate friends who had not seen him in that time did not recognize him. He became a sprinter

and won many races. He is now upward of thirty years of age, and one of the most plucky pedestrians in the world.

The feat accomplished by Mr. Allen is certainly a remarkable one, and those who are not familiar with the strength-promoting properties of a non-flesh dietary will be surprised to learn that the task was accomplished by Mr. Allen without the aid of beefsteak, beef tea, beef extract, or meat extract of any sort, the only food taken during this tremendous outlay of energy being the following:—

- 2 melons
- $\frac{1}{4}$ pound grapes
- 2 bromose tablets
- $\frac{1}{4}$ pound protose
- $\frac{1}{4}$ pound oatmeal biscuits
- 1 $\frac{1}{2}$ pounds pears
- 1 $\frac{1}{2}$ pints cold water
- 2 breakfast cups of cocoa

The exploits of Mr. Allen and Mr. Karl Mann, the German pedestrian, are attracting the attention of athletes the world over, since they have demonstrated so clearly the superiority of a non-flesh diet as a means of performing feats requiring endurance.

THREE REMARKABLE BOOKS

MR. HORACE FLETCHER'S publishers, Frederick A. Stokes Company, New York, have recently issued a remarkable new book by his pen, "The A. B.-Z. of Our Own Nutrition," together with new and revised editions of two other books, "The New Menticulture or the A-B-C of True Living" and "The New Glutton or Epicure." Mr. Fletcher always writes in a most charming and lucid way, and, most important of all, has something important to say. His book on "Menticulture" was revolutionary, calling attention to those depressing emotions, worry and anger. The later work on "The New Glutton," sets forth the wonderful advantages which may be attained by the thorough mastication, or "Fletcheriz-

ing," of each morsel of food. The justice of Mr. Fletcher's claims have been abundantly proved by experiments made by him and his accomplished son-in-law, Professor Van Someren, under the supervision of Sir Michael Foster, Professor Chittenden, Professor H. P. Bowditch, Dr. Anderson, and other scientific men recognized as authorities and thoroughly competent observers.

In his new book, "The A. B.-Z. of Our Own Nutrition," Mr. Fletcher presents the results of some of these remarkable researches which have shown the marvelous increase in power of endurance, and the great economy as regards the amount of food and expenditure of energy in digestion, which are the result of thorough

chewing. The work also contains a most admirable résumé of Pawlow's remarkably interesting work, experiments by Dr. Cannon and others, together with a summary of some experiments carried out in the laboratory of the American Medical Missionary College. Mr. Fletcher's books ought to be in every library. No student of health and social progress can afford to be without these beautiful volumes. They are published at \$1.00 each, and can be had of the publishers, or the Good Health Publishing Company.

The Deteriorating Influence of Child Labor in Factories.

The physician in attendance at the municipal lodging house in Chicago has within the past year been making a careful inquiry into the history of the tramps who have become the city's guests. He has found that a large proportion of the tramps give a history of having been employed in factories or in other debilitating occupations in boyhood. Our artificial modern life is making human wrecks, one class of whom is represented by the homeless, friendless, disheartened men known as tramps. Fortunately, indeed, are the boys and girls who live in country homes and have the opportunity of growing up in contact with nature.

Schools of Health.

For the last ten years the Battle Creek Sanitarium has been sending out trained physicians and nurses to present in a public way the principles of natural and healthful living which are advocated at the Battle Creek Sanitarium. Recently a new educational campaign of this sort has been inaugurated under the supervision of Doctors Morse and Geisel, both of whom have taken the field in company with a number of competent assistants. Dr. Morse and Dr. Geisel are both able and effective speakers, and great enthusiasm has been shown wherever they

have been. Very successful schools have recently been held in Charlotte, Hillsdale, and Jackson, leading Michigan cities, and numerous calls are coming in from other cities. In each of these places the largest church in the city was filled almost to overflowing on the opening night, and hundreds have been in daily attendance during the four days' session of the school. These schools are made exceedingly practical in character. Instruction is given not only in diet, in methods of cookery, and healthful dress, but also in the use of simple, natural remedies, particularly practical hydrotherapy for the home. Any who are interested in this matter may address the editor.

Cause and Cure of Gastric Catarrh.

Chronic congestion of the stomach, known as gastric catarrh, is usually caused by one of the following errors, or by all of them put together: eating too much or too fast; swallowing food insufficiently masticated; the use of such coarse foods as cabbage, greens, etc.; mustard, peppersauce, ginger, and other condiments and spices; pastry containing animal fats; free fats, which lodge in the stomach and remain there a long time; pork, griddle cakes, and burned fats; — these are the things that produce gastric catarrh.

The first and most necessary step in the treatment of this disease is to remove the cause of the trouble. We may induce activity of the skin by hot applications followed by cold — a hot bath followed by a very short application of cold; fomentations followed by a short cold application to the stomach. These treatments are useful, but the most important factor is the regulation of the diet. A fruit diet is best, for the reason that in gastric catarrh there is a great accumulation of germs, which are destroyed by fruit juice. A well-prepared diet of toasted bread, zwieback, granose biscuit, etc., is also useful in these cases.

... Question Box ...

10,022. Vegetables—Nuts—Salted Peanuts—Yeast Bread.—Miss J. B., Indiana: "1. You seem to recommend only grains, nuts, and fruit. Are not properly prepared vegetables perfectly wholesome? 2. Are not nuts such as pecans, almonds, and walnuts, fit to be used just as they come from the shell? 3. What is your opinion of salted peanuts? 4. Do you think yeast bread unwholesome if eaten stale?"

Ans.—1. Both the Irish potato and the sweet potato are excellent foods. They are about the only vegetables which have any considerable nutritive value. Spinach is useful on account of the iron and salts which it contains. There are few other vegetables which are worth eating.

2. Yes.

3. Very indigestible.

4. It is not objectionable if toasted until browned through. Even without toasting, stale, dry bread cannot be regarded as otherwise than wholesome, at least for the great majority of persons.

10,023. Nettle Rash—Nasal Catarrh—Enamel of Teeth—Fly Poison.—W. S. W., Mississippi: "1. Please give cause of and cure for nettle rash. 2. Can a person have nasal catarrh and be insensible of it? 3. The enamel of my teeth is very thin and soft. Will it become thick and hard through adherence to a hygienic diet? 4. Is it wrong for us to eat fish when Christ did so after his resurrection? 5. Can you recommend a sure fly poison?"

Ans.—Nettle rash is due to indigestion. For immediate relief, washing the stomach and bathing the surface with hot soda water, a teaspoonful to the pint, or a neutral bath 92° to 94° are useful measures.

2. Yes.

3. There should be improvement.

4. There is nothing in the Bible which explicitly condemns the use of fish as a food unless it be the law forbidding the eating of things strangled. Fish ordinarily furnished in the market have died of strangulation when

taken out of the water, hence contain blood, the use of which is very positively forbidden.

5. We do not deal in poisons.

10,024. Fellow's Hypophosphite—Black Discharge from the Nose.—W. E. G. asks:

"1. Is there any virtue in Fellow's Hypophosphite as a tonic for one who is run down? 2. What does a black discharge from one nostril indicate?"

Ans.—1. We have no confidence in tonics of this sort.

2. Nasal catarrh, probably with ulceration.

10,025. Dislocated Knee.—Mrs. V. O. W., Washington: "1. What can be done for a knee dislocated about two years ago, and replaced immediately, but which still at times is so swollen and painful that patient can hardly walk? 2. Would a rubber bandage be good?"

Ans.—1. Fomentations morning and night. A heating compress should be applied during the night. Rest until the painful symptoms disappear. Massage of the whole limb may also be used with advantage.

2. An elastic knee-cap may, perhaps, be worn with advantage. These are supplied by surgical instrument makers.

10,026. Paralysis—Noises in the Head—Cataract.—M. J. H., Oregon: "1. Is there any help for a man eighty-four years old, whose lower limbs have been partially paralyzed for ten years through a fall? 2. He is deaf, and has distressing noises in the head. Is there any remedy? 3. The same person has been almost blind for nearly a year through cataract. What would you advise?"

Ans.—1. Probably not.

2. Probably not, though some relief might be obtained by massage of the ears, or possibly by inflation of the eustachian tubes.

3. It is probable the blindness may be overcome by the removal of the cataracts. This operation can be performed to-day without

pain and without risk to life, through the use of cocaine.

10,027. Unfermented Bread.—C. L. R., Illinois, wishes to know how to make light bread without yeast.

Ans.—There are several ways. One very good way is to make a very stiff dough of flour and liquid, mixed together in proper proportions. Knead very thoroughly for a long time. Cut into strips, roll slightly, and bake until slightly brown in a quick oven. Directions for making many unleavened breads will be found in a book published by the Good Health Pub. Co., entitled "Science in the Kitchen."

10,028. Retroversion and Prolapsus of Uterus—Horseback Riding.—"1. Is there any cure for retroversion and prolapsus of uterus? 2. Is horseback riding injurious in such a case?"

Ans.—1. Yes; such cases are almost always curable.

2. Yes, if there is much jolting or exertion involved.

10,029. Hives.—D. E. W. asks (1) what causes hives; (2) best diet for this trouble; (3) remedy.

Ans.—See answer to W. S. W., No. 10,023.

10,030. Hyperpepsia—Chronic Inflammation of Stomach.—A. B. M., Canada: Please prescribe treatment to be followed in a case of (1) excess of acid in the stomach; (2) Chronic inflammation of stomach, accompanied by constipation, irregular heart action, partial insomnia, and various other minor and concomitant symptoms.

Ans.—1. Avoid the use of meat, sugar, condiments, and all stimulating foods. Avoid over-eating. Food should be rather plain, small in quantity, and should be very thoroughly masticated. Half a glass of hot water may be taken half an hour before each meal. When there is considerable pain after eating, short, hot applications may be made over the stomach, but long hot applications should be avoided. General sweating baths an hour or two before meals lessen the acidity.

2. Fomentation over the stomach daily. Moist abdominal bandage should be worn at night. Very simple, unstimulating food, chewed with very great care. A neutral bath, 92° to 94°, at night for fifteen to twenty minutes. See directions in the Dec. (1903) number.

10,031. Facial Massage—Skin Foods—Beauty Doctors.—G. F., New York: "1. To what extent has the improvement of the complexion by massage, unguents, electricity, and other means been investigated by rational medicine? 2. Do you recommend any of the skin foods at present on the market?"

Ans.—1. Massage, and hot and cold applications to the face have been shown to be beneficial.

2. No.

10,032. Redness of Nose—Fruit—Olive Oil—Underclothing.—E. M., Minnesota: "1. I am twenty-three, five feet eight inches tall, weigh one hundred and twenty pounds. Until seven years ago had plenty of fresh air and exercise in the country. Then entered the dry goods business. For twelve years have had redness of the nose. Do not drink or smoke. Eyes become watery when in the wind. Vitality is low; knees often feel weak; circulation poor; appetite poor. Eat three meals daily. Diet is oatmeal, brown bread, milk, fruit, vegetables, and some eggs. Fruit disagrees. Will its discontinuance, for a time, strengthen the stomach? 2. Is olive oil good in my case, and how much should be used daily? 3. What underclothing is best?"

Ans.—1. Fruit seldom disagrees when taken alone—often, in combination. Thorough mastication of food, and care to avoid combining acid fruits with starchy foods will obviate the difficulty.

2. Olive oil is not easily digestible. Being a clear fat, it lessens the production of hydrochloric acid in the stomach, and so frequently interferes with digestion. It is far better to take fats in the form of nuts. The daily requirement of fat is one to two ounces.

3. Cotton or linen should be worn next the skin, with an extra suit of woolen over it in cold weather.

10,033. Sage Tea.—E. B. R., Minn.: "1. Is sage tea a good substitute for tea and coffee? 2. Is it constipating or otherwise?"

Ans.—1. There are no good substitutes for tea and coffee. The taking of liquids at meals is not conducive to good digestion.

2. Sage is somewhat astringent, and its use on this account is in some degree constipating.

10,034. Cataract.—D. C., Canada: "An elderly lady has undergone successful operation for cataract, but cataract is now returning. What should the treatment be?"

Ans.—It is not possible for a cataract to return. An oculist should be consulted.

10,035. Abdominal Supporter—Lifelessness in Children.—C. O. K., Kansas: "1. Would you advise the use of an abdominal supporter during pregnancy, when there is anteversion of uterus and movement causes considerable pain? 2. If so, what kind? 3. What is the cause of spells of weakness and lifelessness in a girl aged 3½ years?"

Ans.—1. Yes.

2. Any good supporter will answer the purpose. A strong flannel or muslin bandage will, perhaps, be sufficient.

3. It is probably indigestion.

10,036. Poor Circulation—Lack of Appetite—Nervousness.—L. C., Kansas: "1. Suggest remedy for constant coldness of hands, feet and legs, even in warm weather. 2. I have no appetite, am very nervous, and easily excited. Can you tell me how to regain my health?"

Ans.—1. Difficulty is due to irritation of the vasomotor centers causing contraction of the arteries of the extremities. A frequent cause is enteroptosis, or prolapse of the stomach and bowels. This causes dragging upon the sympathetic nerves and irritation of the vasomotor centers. Indigestion is another cause.

2. Live out of doors. Eat simple food. Masticate four or five times as long as usual. Take a cold bath every morning. Wear a moist abdominal bandage at night around the body—a so-called wet girdle or "umschlag"—and open wide the windows of your sleeping room.

10,037. Cleft Palate.—E. D. F., N. D.: "1. If a child is born with the palate in two parts and an opening about half an inch long in the soft palate, can it be cured, or remedied by operation? 2. At what age should the child be operated on? 3. What causes the defect? 4. Will it affect the speech much as it is?"

Ans.—1. It can be greatly helped by an operation; perhaps entirely cured.

2. It is just as well to wait until the child is six or eight years of age.

3. Deficient development.

4. Yes.

10,038. Buttermilk—Almond Butter—Massage—Sweet Cider—Soups.—H. K., Pa.: "1. Is buttermilk harmful to one whose digestion is not good? 2. Should it be used with fruits? 3. Is almond butter made the same as peanut butter? 4. Should the almonds be cooked first? 5. Have you a book giving analysis of all wholesome food-stuffs, and recipes for preparing them, with brain and body

foods separate. 6. If so, state price of this, and of the little book on "The Stomach." 7. In giving massage can the movements be given in any way, or should they be all up and down? 8. Is sweet cider harmful? 9. Are soups, especially those containing meat, good for one whose digestion is weak?"

Ans.—1. No. Buttermilk is quite useful in certain cases of indigestion, particularly gastric catarrh.

2. This combination is not particularly objectionable, providing the fruit is cooked, or if raw thoroughly ripe and well masticated.

3. No.

4. No.

5. The brain is a part of the body. There is no such thing as "brain foods" and "body foods."

6. "Science in the Kitchen" is, perhaps, the best book for you. Good Health Pub. Co. also furnish various other little booklets on cookery. The price of "The Stomach" is \$1.50. Address Good Health Pub. Co.

7. No. Simple rubbing is not massage. The manipulations must be given in a scientific manner according to directions given in reliable works on the subject. See "Art of Massage," published by Modern Medicine Pub. Co., Battle Creek, Mich.

8. Unfermented apple juice is exceedingly wholesome. The agreeable acid flavor is due to malic acid, which is an excellent antiseptic or disinfectant for the stomach and bowels. It is an exceedingly valuable remedy in gastric and intestinal catarrh, so-called biliousness, jaundice, constipation, and in all cases in which the kidneys and the liver are disordered; in emaciation, loss of appetite, and general malnutrition. It can be taken in quantities of one quart daily with advantage. The best times for taking it are one-half hour before each meal and just before retiring at night.

9. Soups properly made are wholesome, but soups made from meats are unwholesome under all circumstances. Such preparations contain a large proportion of uric acid which, as shown by Dr. Haig and others, is very damaging. In taking soups, however, one should remember that liquids, as well as solids, require mastication. Each spoonful should be held in the mouth while movements of the tongue and the jaws are made, as in mastication, until it is so far diluted by the addition of saliva that the taste has largely disappeared. When taken in this way, soups are among the most digestible of all food preparations.

LITERARY NOTES

ON a par with the beautiful cover design in colors and the exquisite photographs of American mothers and children, are the reading pages of the February number of **Good Housekeeping**. A Reform in Bed-Making is wittily discussed by Martha McCulloch-Williams, and William McAndrew has some incisive things to say of Kindergarten Nonsense. In "Good Health Discoveries" a Physician's Wife writes:

"Cellaritis" is the very descriptive term which some physicians apply to a condition of the body when it is debilitated as the result of living in a house in which there is an unclean or improperly cared for cellar. This word may be neither good Greek nor Latin, but it carries to all housewives, in its very sound, a hint as to what causes the illness, and in many cases this is all that is required to bring about a different condition in the health of a family, by the renovation of the cellar, and the removal of the cause of illness.

EXCEEDINGLY sane and Christian is the position taken by Dr. Pierson in the February number of the **Missionary Review of the World** on the subject of "The Needless Sacrifice of Life in Mission Work." Four Laws of Health are emphasized which are worthy of adoption by workers both at home and abroad. There are some valuable articles on China by able writers.

THE February number of the **New England Magazine** shows a striking and appropriate cover design — The Father of His Country mounted on a white charger. As one turns the pages, the fineness of the illustrations — in which this journal is latterly so strong — at once attracts the attention. Especially is this true of the opening feature, a timely and interesting account of "Recent Developments in American Park Systems," by Frederic W. Coburn, who writes from an intimate knowledge of his subject. Those who read the optimistic paper on "Immigration" in the December issue will read with equal interest its sequel in the February number, written by Philip Edmund Sherman, who takes a negative view of the question. There is an unpublished Whittier poem called "The Vestal," a fine example of Whittier's youthful style.

"A GREAT raging battle-field is hell *en fete*." So says Frank H. Schell in the February **McClure's**. And he brings home the infernality of one awful death-grip of the Civil War in his breathlessly real account of "Sketching Under Fire at Antietam." This number also contains a stirring article by Ray Stannard Baker on the labor situation in San Francisco; Miss Tarbell's third chapter of her "History of the Standard Oil Company," Part Two; "One Hundred Master-pieces of Painting," by John La Farge. An old farmer's pursuit of "The Elusive Ten-Dollar Bill" through the mazes of departmental red tape is comically told by Elliott Flower.

THE February number of **The Life Boat** is a special anti-tobacco number, in which the tobacco question is studied from all standpoints. The leading article, on the Effects of Tobacco on the Human System, is by Dr. N. S. Davis. The president of The Anti-Cigarette League, in a stirring article entitled, "To the Rescue," proves the deadly cigarette to be the greatest destroyer of the minds and bodies of our boys; and yet no great public efforts are put forth to prevent its manufacture and sale. Other articles contributed to this most valuable number are, "Leading Strings to the Cigarette," dealing with the causes that result in the tobacco habit; "A Call to Arms," by Lucy Gaston Page; "The Opinion of a Noted Educator;" "Cigarettes and Nicotine."

Supplied in any quantity at two cents per copy. Address, The Life Boat, 28, 33rd. Place, Chicago.

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J. H. KELLOGG, M. D., EDITOR

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CHAUTAUQUA SCHOOL OF HEALTH.

FOR a dozen years or more the managers of the Battle Creek Sanitarium and the publishers of *GOOD HEALTH* have co-operated in conducting schools of health, in connection with Chautauqua's, in various parts of the United States. Physicians and nurses who have been trained in connection with the Battle Creek Sanitarium have been kept in the field during the Chautauqua season, giving instruction in rational dietetics, hygienic dress, home gymnastics, and kindred topics of live and practical interest. The cordial welcome which has always been accorded these gospel of health evangelists has encouraged the publishers to organize a Chautauqua school of health department for this journal. This will be conducted in connection with the field work which is being energetically pushed under the able supervision of Dr. John F. Morse and Dr.

Carolyn Geisel, of the Battle Creek Sanitarium staff.

Each month a series of search questions will be published on the topics discussed. These are specially intended for use by Chautauqua Circles after the usual Chautauqua method. Good health circles for the study of health principles will be organized in connection with the field work wherever schools of health are conducted. We shall have more to say on this subject in future numbers.

GOOD HEALTH CLUBS.

WE are just beginning a campaign for the organization of good health clubs. The purpose of these clubs will be the study of health and the improvement of the health of the members.

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5. Annual membership in the Good Health Association of America. Further particulars of this Association will be given later, and we shall be glad to hear from all who are interested.

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OLD Dr. Grimm got sick a-bed, as doctors sometimes will ;
 His brother doctors were called in, for he was very ill.
 All looking wise, they felt his pulse and squinted at his tongue ;
 Auscultated, felt, and thumped around his liver, heart, and lung ;
 And when they read his temperature each solemnly shook his head,
 As if to say, " His time is short ; Old Grimm will soon be dead. "

Leaving behind powders and pills, liquids of every hue,
 They all stalked out with solemn air — as doctors often do.
 Then Dr. Grimm winked both his eyes, and chuckled through his beard —
 But right on time, and dose on dose, those nostrums disappeared !
 Now, day by day, these medics came, unsmiling and sedate,
 And day by day it seemed that death would seal their patient's fate ;
 And day by day they changed their drugs, the color and the style ;
 Directing how to take the stuff, they solemnly out would file.

And weaker, weaker, Grimm would wink and chuckle through his beard —
 But right on time, and dose on dose, those nostrums disappeared !
 One day there came a happy change, old Grimm much better grew ;
 The modest doctors took the praise — as doctors sometimes do.
 When last they went Grimm winked his eyes and chuckled loud and long,
 As looking at the table near he viewed its bottle throng.
 One by one he emptied them, nor left a single drop ;
 Then, smilidg, watched the bitter stuff slow mingle with the slop ;
 And lifting up his pillow with mysterious sort of air,
 Raked from his bed, powders and pills that he had hidden there.
 " Ain't this a measly mess of stuff ? " unto himself he said ;
 " If this had got inside of me, I'd, ten to one be dead !
 When I began to dose and drug, this motto I did make :
 ' Although the books may say to give, discretion says, Don't take ! ' "

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A BIG COMBI- NATION OFFER

Ten dollar's worth of Battle Creek Sanitarium foods and a Rapid Steam Cooker worth \$5.70 (\$15.70 worth in all) will be shipped Freight Paid to any point in the United States east of Colorado for \$13.50 until March 1, 1904. This means a saving to you of \$2.20 besides what freight on the cooker would amount to if it were shipped alone as it regularly sells f. o. b. Battle Creek.

Description of Cooker.—Diameter, 11 inches; height, 16 inches; capacity, 5 gallons; seamless nickel-plated copper boiler; aluminum cap and shelves.

The material used is the very best and absolutely rust proof.

TESTIMONIALS.

Battle Creek, Mich., Jan. 9, 1903.

ROTARY STEAM COOKER Co.,
Battle Creek, Mich.

Gentlemen:—The Steam Cooker was received and has been given a fair trial. I am pleased to say that I think it is the most convenient Steam Cooker I have ever used, and I can recommend it to any one who is desirous of purchasing any article of this sort.

Thanking you for your courtesy, I remain,

Very truly yours,
MRS. E. E. KELLOGG.

Battle Creek, Mich., Dec. 12, 1903.

ROTARY STEAM COOKER Co.,
Battle Creek, Mich.

Gentlemen:—I am pleased to say the Rapid Steam Cooker is more than the manufacturers, claim for it. I have used it in my kitchen and find it does the work satisfactory

Yours very truly,
H. BROADY.

Chef. B. C. Sanitarium.

Battle Creek
Sanitarium Co.

LTD.
Battle Creek, Mich.

Gentlemen:—

CUT ALONG THIS LINE

I enclose \$13.50 for the Rapid Steam Cooker advertised in January Good Health, also for \$10 worth (or more) of Battle Creek Sanitarium Foods. I have deducted \$2.20 from the list price of the goods ordered, according to the terms of your offer. As I live east of Colorado you agree to pre pay the freight.

I understand this price is conditional on my order reaching you before March 1, 1904,

Name.....

Street.....

City and State.....

Dept. 65

If you are unacquainted with Battle Creek Sanitarium Foods write Dept. 65 for Descriptive printed matter.



SHORT LINE
FLORIDA AND NEW ORLEANS

STOP
QUEEN & CRESCENT
ROUTE

CHICAGO & FLORIDA SPECIAL AND FLORIDA LIMITED
SOUTHERN RAILWAY

Through Pullman service from CHICAGO, Big Four, and Monon Routes; CLEVELAND, Big Four Route; DETROIT and TOLEDO, M. C. R. R. and C. H. & D. Ry.; LOUISVILLE, Southern Ry., to

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Solid trains Cincinnati to CHATTANOOGA, ATLANTA, BIRMINGHAM, SHREVEPORT, NEW ORLEANS, JACKSONVILLE and ST. AUGUSTINE.

Also through Pullman service to KNOXVILLE, ASHEVILLE, SAVANNAH, and CHARLESTON.

Dining and Observation Cars on all through trains.

Winter Tourist Tickets on sale at reduced rates. For information, address

W. A. Decker, N. P. A. W. A. Garrett, G. M. W. C. Rinearson, G. P. A.
Chicago Cincinnati

NOTICE!

Reduction in price of GOOD HEALTH BATH CABINETS (see advertisement). We have a new proposition for agents. Write for particulars. Address

GOOD HEALTH PUB. CO., 115 Washington Ave., N., Battle Creek, Mich.

Vrooman Sanitary Sink Strainer



"THE FAVORITE ONE"

Keeps scraps out of the sink. Keeps the sink pipe from stopping up. Keeps the scraps and grease together so that they may be thrown out. Keeps grease from collecting in the sink.

It Can Be Used in Any
Sink with Stand . . .



Bear in mind the VROOMAN STRAINER positively has no equal, as it is the ONLY PERFECT ONE MADE, hence it is "The Favorite One." Always highly appreciated, always well recommended, which accounts for the fact of its popularity. If you desire the best one on the market buy the VROOMAN STRAINER AND STAND from your dealer.

Write for descriptive booklet free.

F. H. & E. B. Vrooman

225 Dearborn St.,

CHICAGO, ILL., U. S. A.

THESE OFFERS

CAN NOT BE EXCELLED

	Publisher's Price	Our Price
Good Health and Vick's Magazine.....	\$1 50	\$1 00
" " " " and Housekeeper.....	2 10	1 15
" " " Inter Ocean (weekly)	2 00	1 00
" " " Save the Boys	1 30	1 00
" " " Farm and Fireside.....	1 50	1 00
" " " Green's Fruit Grower	1 50	1 00
" " " Farm, Field, and Fireside.....	2 00	1 25
" " " Womans' Home Companion	2 00	1 25
" " " Bookkeeper	2 00	1 50
" " " Physical Culture	2 00	1 50
" " " Beauty and Health.....	1 50	1 00
" " " Health Culture.....	2 00	1 50
" " " Pearson's Magazine.....	2 00	1 50
" " " Pilgrim.....	2 00	1 50
" " Housekeeper and Leslie's Monthly.....	2 50	1 75
" " Woman's Home Companion, and Cosmo- politan.....	3 00	1 75
" " Harper's Bazaar, and Cosmopolitan.....	3 00	1 75
" " and New Voice.....	2 00	1 50
" " " Modern Medicine.....	2 00	1 25
" " " American Boy	2 00	1 25
" " " Country Gentleman	2 50	1 75

All of the above may be new or renewed and the following as noted.

Good Health, Housekeeper and Little Folks (New Subscriptions only to Little Folks).....	3 00	1 75
Good Health and Youth's Companion (New Subscription only to Youth Companion. We will forward renewed Subscription for above for \$2.35)	2 75	1 75
Good Health and Ram's Horn. (Eight Months \$1 25 Four Months \$0.75. Please add 15c if the subscription to Ram's Horn is a renewal).....	2 50	1 75

We will also combine GOOD HEALTH with any other magazine not mentioned in our various offers, with Bibles, books, health literature, invalid supplies, rubber goods, Good Health Adjustable Waists and Bath Cabinets, and other supplies that we may handle. Name the article you wish to obtain and we will give you our price thereof.

Good Health Pub. Co.,

BATTLE CREEK, MICH.

**THE
NORTH-WESTERN
LINE**

\$33
California
Oregon and
Washington

with similarly low rates to Utah, Idaho, Wyoming and Montana points, from Chicago daily during March and April. Corresponding low rates from other points.

Daily and Personally Conducted Excursions in Pullman tourist sleeping cars to San Francisco, Los Angeles and Portland without change; **Double Berth only \$7.** Fast through trains.

Choice of Routes.

Rates and full information on application to S. A. Hutchison, Manager,

**North Western-
Union Pacific Excursions**

212 CLARK STREET



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Study Music We teach Piano, Organ, Singing, Harmony, Counterpoint, etc. We teach beginners as well as advanced pupils. We can teach you more in three months with an hour's study each day than you can learn in a year under ordinary methods. Our courses are particularly valuable to music teachers. Send today for year book and test blank.



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Mus. Doc., Ph. D.

Chicago Correspondence School of Music
825 Royal Insurance Building, Chicago

ON CREDIT.

\$22⁹⁰



Free
Catalogue

Century Steel Range, No. 80-A-18
Has six 8-inch lids, oven 17x21x12, splendid reservoir and warming closet, lined throughout with asbestos, burns anything, best bakers and roasters on Earth. Guaranteed 10 years. Weight 475 lbs. Only \$22.90. Terms \$8.00 cash, balance payable \$3.00 a month, no interest. Shipped immediately on receipt of \$8.00 cash payment. We trust honest people located in all parts of the World. Cash discount \$1.50 on Range. Freight averages \$1.25 for each 600 miles. Send for free catalogue, but this is the greatest bargain ever offered. We refer to Southern Illinois National Bank.

CENTURY • MANUFACTURING • CO.
Dept. 1107 East St. Louis, Ill.

A NEW INVENTION! BIG MONEY MAKER



\$200 PER MONTH Write for Special offer to Men and Women, at home or traveling, all or part time, showing, taking orders and appointing agents for **HARRISON'S BLUE FLAME WICKLESS OIL-GAS STOVES**, with or without **Radiator** attachment for heating. Wonderful Invention. Just out. Nothing else like it. Great Seller. Beautiful Blue Gas Flame. Hottest fire. Quick meals. We want Agents, Salesmen, and Managers in every State. Biggest money maker ever offered. Enormous demand year round, in every city, town, village and among farmers. Customers delighted. Write for catalogue—Most wonderful stove invented.

A SPOONFUL OF OIL MAKES A HOGSHEAD OF FUEL GAS
Generates its own Oil-Gas Fuel from kerosene or common coal oil. No wick, dirt, kindling, ashes. Splendid for baking. Makes fine Heating Stove for rooms, stores, offices, with **Radiator** attachment. Over 32,000 generators already sold. Sales last month enormous. Factory rushed.

CHEAPEST—CLEANEST—SAFEST FUEL.
10c to 20c a week should furnish oil gas fuel for small family for cooking. A gallon of kerosene oil costing 8c to 10c will furnish oil gas fuel for a constant blue gas flame, hottest fire, for about eighteen hours.

NO MORE BIG COAL BILLS Expensive, dirty coal and wood stoves, smoky oil wick stoves, dangerous gasoline stoves, etc. Our stoves are a delight—absolutely safe—will not explode. Simple, easily operated. Handsomely made of sheet steel, finely finished—last for years. All sizes. **PRICES, \$2.00 UP.** Write today for **CATALOGUE FREE.** **ALSO FOR SPECIAL OFFER, NEW PLAN, ETC.** Address,

WORLD MANUFACTURING COMPANY, 5684 WORLD BUILDING, CINCINNATI, OHIO.
In replying to advertisements please mention GOOD HEALTH.

Health Cocoa

Another Scientific Discovery Quarter Pound Box FREE

The cocoa bean from which chocolate and cocoa are prepared contains a poison known as theo-bromin.

Physicians condemn ordinary cocoa and chocolate because their use tends to cause rheumatism, nervousness, and other disorders.

Haven't you found it hard to do without it? Don't deny yourself any longer.

Our chemists have recently discovered a way of removing the theo-bromin, so that you can now get cocoa that is perfectly healthful.

Health Cocoa is packed in two sizes:—

Half Pounds, 35 cents
Quarter Pounds, 20 cents

Battle Creek
Sanitarium Co.
LTD.
Battle Creek, Mich.

Gentlemen:—

You will find my order enclosed for Five Dollar's worth (or more) of your foods. As I live in the United States, north of Tennessee and east of Nebraska, you agree to send me a quarter-pound box of Sanitas Health Cocoa Free, and to Prepay Express on the shipment

~ ~ ~

I understand that this coupon is void if it reaches you after Feb. 29, 1904.

Name

Street

City and State

Dept. 66

TO OUR MAIL ORDER CUSTOMERS

We will send a quarter-pound box of cocoa free to every one whose order for five dollars worth of foods reaches us before March 1, 1904, if order is accompanied by the adjoining coupon.

We always pay express on consumers orders shipped to states north of Tennessee and east of Nebraska.

DIRECTORY

Sanitariums

THE following institutions are conducted under the same general management as the Sanitarium at Battle Creek, Mich., which has long been known as the most thoroughly equipped sanitary establishment in the United States. The same rational and physiological principles relative to the treatment of diseases are recognized at these institutions as at the Battle Creek Sanitarium. Both medical and surgical cases are received at all of them.

- BATTLE CREEK SANITARIUM**, Battle Creek, Mich.
 J. H. KELLOGG, M. D., Superintendent.
COLORADO SANITARIUM, Boulder, Colo.
ST. HELENA SANITARIUM, Sanitarium, Napa Co., Cal.
NEBRASKA SANITARIUM, College View, Lincoln, Neb.
PORTLAND SANITARIUM, Mt. Tabor, Ore.
 W. R. SIMMONS, M. D., Superintendent.
NEW ENGLAND SANITARIUM, Melrose, Mass.
 C. C. NICOLA, M. D., Superintendent.
CHICAGO BRANCH SANITARIUM, 28 33d Place, Chicago, Ill.
 DAVID PAULSON, M. D., Superintendent.
IOWA SANITARIUM, 603 E. 12th St., Des Moines, Iowa.
 J. D. SHIVELY, M. D., Superintendent.
TRI-CITY SANITARIUM, 1213 15th St., Moline, Ill.

- GARDEN CITY SANITARIUM**, San Jose, Cal.
 LEWIS J. BELKNAP, M. D., Superintendent.
GUADALAJARA SANITARIUM, Apartado 138, Guadalajara, State of Jalisco, Mexico.
 J. W. ERKENBECK, M. D., Superintendent.
INSTITUT SANITAIRE, Basle, Switzerland.
 P. DE FOREST, M. D., Superintendent.
SKODSBORG SANITARIUM, Skodsborg, Denmark.
 CARL OTTOSON, M. D., Superintendent.
NEWFOUNDLAND HEALTH INSTITUTE, 282 Duckworth St., St. Johns, Newfoundland.
 A. E. LEMON, M. D., Superintendent.
SYDNEY SANITARIUM, Wahroonga, N. S. W., Australia.
 D. H. KRESS, M. D., Superintendent.
FRIEDENSAU SANITARIUM, Post Grabow, Bez. Magdeburg, Germany.
 A. J. HOENES, M. D. Superintendent.
MADISON SANITARIUM, Madison, Wis.
 C. P. FARNSWORTH, M. D. Superintendent.
MOUNT VIEW SANITARIUM, Spokane, Wash.
 SLAS YARNELL, M. D., Superintendent.
DETROIT BRANCH SANITARIUM, 54 Farrar St., Detroit, Mich.
 H. B. FARNSWORTH, M. D., Superintendent.
KEENE SANITARIUM, Keene, Texas.
 P. F. HASKELL, M. D., Superintendent.
LOS ANGELES SANITARIUM, 315 W. 3d St., Los Angeles, Cal.
INSTITUTE OF PHYSIOLOGICAL THERAPEUTICS, 1809 Wallace St., Philadelphia, Pa.
 A. J. READ, M. D. Superintendent.
SURREY HILLS HYDROPATHIC INSTITUTE, Caterham, Surrey, England.
 A. B. OLSEN, M. D., Superintendent.
CALCUTTA SANITARIUM, 51 Park St., Calcutta, India.
CHRISTCHURCH SANITARIUM, Papanui, Christchurch, New Zealand.
TREATMENT ROOMS, Suite 219 Meriam Block, Council Bluffs, Iowa.
TREATMENT PARLORS, 164 Wisconsin St., Milwaukee, Wis.

- TREATMENT ROOMS**, 320 North Tejon St., Colorado Springs, Colo.
TREATMENT ROOMS, 201-4, Granby Block, Cedar Rapids, Iowa.
 R. L. MANTZ, M. D., Superintendent.
BUFFALO BRANCH SANITARIUM, 922 Niagara St., Buffalo, N. Y.
 A. R. SATTERLEE, M. D., Superintendent.
NASHVILLE SANITARIUM, corner Church and Vine Sts., Nashville, Tenn.
INSTITUTE OF PHYSIOLOGICAL THERAPEUTICS, Rooms 230-232 Temple Court Building, Denver, Colo.
 H. C. MENKEL, Superintendent.
KOBE SANITARIUM, 42 Yamamoto-dori, Nichome, Kobe, Japan
 S. A. LOCKWOOD, M. D., Superintendent.
CLEVELAND TREATMENT ROOMS, 230 Euclid Ave., Cleveland, Ohio.

Vegetarian Cafes and Restaurants

EATING-HOUSES where food prepared in accordance with the principles of rational dietetics and scientific cookery may be obtained, are now open in the following places.

- The Laurel**, 11 W. 18th St., New York City.
J. B. Stow, 105 E. 3d St., Jamestown, N. Y.
W. L. Winner, 1017 Walnut St., Philadelphia, Pa.
Sanitarium Rooms, 1809 Wallace St., Philadelphia, Pa.
Hygienic Company, 1209 G St., N. W., Washington, D. C.
Sanitarium Rooms, 324 E. Broadway, Louisville, Ky.
Sanitarium Dining Room, corner Church and Vine Sts., Nashville, Tenn.
Restaurant, 305 St. Charles St., New Orleans, La.
Ellen V. Vance, 307 Madison St., Fairmount, W. Va.
Hygeia Dining Room, 54 Farrar St., Detroit, Mich.
North Mich. Tract Society Rooms, Petoskey, Mich.
Hygeia Dining Rooms, 5759 Drexel Ave., Chicago, Ill.
Hygienic Cafe, 426 State St., Madison, Wis.
Hygienic Cafe, 164 Wisconsin St., Milwaukee, Wis.
Pure Food Cafe, 607 Locust Street, Des Moines, Iowa.
Pure Food Cafe, 410 E. 12th St., Kansas City, Mo.
Good Health Cafe, 145 S. 13th St., Lincoln, Neb.
Nebraska Sanitarium Food Co., College View Neb.
Pure Food Store, 2129 Farnum St., Omaha, Neb.
Vegetarian Cafe, 322½ N. Tejon St., Colo. Springs, Colo.
Vegetarian Cafe, 1543 Glenarm St., Denver, Colo.
Hygienic Restaurant, Sheridan, Wyoming.
Vegetarian Cafe, 4th and C Sts., San Diego, Cal.
The Vegetarian, 1482 Market St., San Francisco, Cal.
Vegetarian Dining Rooms, 317 W. 3d St., Los Angeles, Cal.
Portland Sanitarium Rooms, Mt. Tabor, Ore.
Good Health Restaurant, 616 3d St. Seattle, Wash.
White Rose Restaurant, W. H. Nelson, Proprietor, 36 W. 18th St., New York City.
Health Restaurant, Alexander Martin, 555 Boylston St. Boston, Mass.
VEGETARIAN CAFE, S. 170 Howard St., Spokane, Wash.



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GOOD HEALTH
Adjustable
... Waist

For Health, Comfort, Grace, and Economy
 outrivals its competitors

OUR prices may seem high when compared with the old style corset which of course can be purchased cheaper together with all the ills to which flesh is heir, but we sell an article that benefits and restores health, which if gained and retained is cheap at any cost. The waist is adjustable and can be made larger or smaller by adjusting the shoulder straps and oval elastic in either side. By making the former longer or shorter the length of the skirt may be regulated. We sell two qualities, a light weight jean twilled material and a heavier weight sateen. Drab and white jean, bust measure 30 to 38, price \$1.25. White and drab sateen, bust measure 30 to 38, price \$1.75; 40, \$2; 42, \$2.25. Black sateen 25c additional. No odd numbered sizes in either quality.

When sending in orders for waists take the bust, hip, and waist measures snugly over the undergarments. We have long and short waists. The latter ends at the waist-line and the former five inches below as per cut. When ordering state which is desired.

For a limited time we will combine one year's subscription to GOOD HEALTH with the jean waists for \$1.60 and with the white and drab sateen, sizes 30 to 38, \$2; 40, \$2.25; 42, \$2.50. Add 25c extra for black sateen.

DRESS DEPARTMENT

**Good Health Pub.
 Company**

BATTLE CREEK, - MICH.



LONG WAIST

OBESITY belts are used to advantage by corpulent people, both ladies and gentlemen, to reduce corpulency and give shape to a pendulous or relaxed abdomen. The



use of these belts reduce the size and leave no room for superfluous fat to accumulate.

ELASTIC STOCKINGS



for enlarged veins, weak or swollen joints, or where there is tenderness, itching, or burning, are the recognized relief and cure for these ailments.

Literature gratis. Correspondence invited.

Sharp & Smith

92 Wabash Avenue, Chicago, Illinois
2 DOORS N. OF WASHINGTON ST.

MANUFACTURERS OF
High Grade Surgical Instruments, Hospital Supplies,
Invalid Comforts, Trusses, Crutches, etc.



The Superior Quality of this Powder makes it one of the best for the treatment of—

**Prickly Heat
Nettle-Rash
Chafed Skin
etc., etc.**

It is an excellent remedy for **PER-SPIRING FEET** and is especially adapted—

**FOR
INFANTS**

Delightful After Shaving.

Price, postpaid, 25c per box.

Agents wanted.



The
Pasteur Water Filter

ABSOLUTELY GERM PROOF

THE Pasteur Water Filters are made in many styles and sizes to meet every requirement.

Particular attention is paid to its construction. It is so constructed that the water can not be contaminated after filtration.

We would be pleased to send you catalogue and recommend the style best adapted to meet your requirements.

THE PASTEUR-CHAMBERLAND FILTER CO.,

Dayton, Ohio

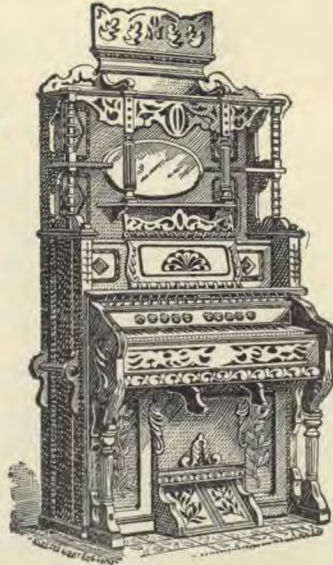
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We make the Wing Organs and sell them ourselves. They go direct from **Factory to Home.**

We do not employ agents or salesmen. When you buy a Wing Organ, you pay the actual cost of making it and our small wholesale profit. This profit that we charge is very small because of the large number of organs we sell. A single agent or dealer sells very few organs in a year and has to charge a large profit.

You save from \$50. to \$150.

by buying an organ direct from the factory.



Sent on Trial. We Pay Freight. No Money in Advance.

We will send a Wing Organ to any part of the United States on trial. We pay all freight charges in advance. We deliver the organ to your railroad depot free of expense to you. We do not ask for any advance payment or deposit. You can try the organ right in your home for 30 days, and if not satisfactory to you we will take it back entirely at our expense. You pay us nothing unless you keep the organ. There is absolutely no risk or expense to you.

EASY MONTHLY PAYMENTS. Thirty-four years' experience enables us to guarantee every Wing Organ for twelve years against any defect in tone, action, workmanship, or material. Wing Organs need absolutely no tuning. They have a sweet tone, easy action, very handsome case.

CATALOGUE.—A beautiful catalogue of Wing Organs containing handsome half-tone pictures will be sent free if you write.

WING & SON, 350-370 W. 13th Street, **NEW YORK**
1868—35th year—1903.

WING PIANOS are sold direct from the factory at a saving of from \$100 to \$200. They are sold on easy monthly payments. Sent on trial without any advance payment or deposit. Over 36,000 have been sold in the last 35 years. A book of information, containing 116 pages, sent free, if you will write to **WING & SON,** at the above address.

"All roads lead to Rome."

And all business in New York seems to tend toward

Grand Central Station.

This great building, which covers the space of four city blocks, beginning at the corner of 4th Avenue and 42d Street, is the Metropolitan terminus of the

NEW YORK CENTRAL LINES

and is the center of the hotel, residence, club and theater district of the second city of the world. To reach it, see that your ticket reads by the **NEW YORK CENTRAL.**

A copy of the 40-page Illustrated Catalogue of the "Four-Track Series," New York Central's books of travel and education, will be sent free, post-paid, to any address on receipt of a postage stamp, by George H. Daniels, General Passenger Agent, New York Central & Hudson River Railroad, Grand Central Station, New York.



LEMONADE FILTERED
Will Still be Lemonade

which proves that filtering does not purify water. The Enc. Britannica says that the only way to obtain pure water is by distilling it. Impure water causes more sickness than all other causes.

The Sanitary Still

will supply you with plenty of delicious, pure, aerated water at a trifling expense. It is easy to use, scientifically correct, and every still is guaranteed perfect. Do not confuse "THE SANITARY STILL" with cheap unreliable imitations. It received highest award at Paris Exposition.

Justice David J. Brewer of the U. S. Supreme Court Says:

"I take pleasure in recommending "THE SANITARY STILL" to all who desire pure water. The still is simple and easy to operate."

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Reliable Agts. Wanted

A. H. PEIRCE MFG. CO.
(Successor to)
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156 N. Green Street, Chicago



THE NEW ENGLAND SANITARIUM

MELROSE, MASSACHUSETTS, Formerly located at South Lancaster, Massachusetts



Has secured for its permanent location one of the most desirable spots in all New England for Sanitarium purposes, located in the midst of the famous Middlesex Fells, a natural park of 3,500 acres reserved by the State on account of the diversity and beauty of the scenery.

The New England Sanitarium is the Eastern branch of the Battle Creek Sanitarium, and follows the same rational principles as to diet, treatment, and health culture. It is thoroughly equipped with every modern convenience and the best medical appliances. It is only six miles from Boston, with both train and trolley service. *It is an ideal place to spend a vacation, either in summer or winter.*

Particulars with reference to accommodations, methods, etc., may be had by addressing

NEW ENGLAND SANITARIUM, Melrose, Mass.

or **C. C. NICOLA, M. D.,**
Superintendent.

In replying to advertisements please mention **GOOD HEALTH.**

OUR NEW MAGAZINE CLUBBING OFFERS

For the Season of 1903-'04

Our offers for the season of 1903-'04 are the best, in many respects, which we have ever been able to make. There is associated with us this year a most brilliant galaxy of magazines, all of which are offered *without restriction as to new or renewed subscriptions.*

Read This List

	Regular Price		Regular Price
Good Health	\$1 00		
Success	1 00		
CLASS A			
Frank Leslie's Popular Monthly	1 00	The Review of Reviews	\$2 50
The Cosmopolitan	1 00	The World's Work	3 00
Woman's Home Companion	1 00	Outing	3 00
Good Housekeeping	1 00	Country Life in America	3 00
Pearson's Magazine	1 00	Lippincott's Magazine	2 50
		The Independent	2 00
		Current Literature	3 00

Our Prices

	Regular Price	Price to the Public
Good Health with Success	\$2 00	\$1 50
Any 1 Magazine in Class A with Good Health and Success	3 00	2 10
" 2 Magazines " A " " " " " " " " " " " "	4 00	2 60
" 3 " " " " " " " " " " " " " " " "	5 00	3 10
" 1 Magazine " B " " " " " " " " " " " "	5 00	3 10
" 2 Magazines " B " " " " " " " " " " " "	8 00	4 60
" 3 " " " B " " " " " " " " " " " "	11 00	6 10
" 1 Magazine " A and 1 of Class B with Good Health and Success	6 00	3 60
" 2 Magazines " A " 1 " B " " " " " " " " " "	7 00	4 10
" 3 " " " A " 1 " B " " " " " " " " " "	8 00	4 60
" 1 Magazine " A " 2 " B " " " " " " " " " "	9 00	5 10
" 2 Magazines " A " 2 " B " " " " " " " " " "	10 00	5 60
" 3 " " " A " 2 " B " " " " " " " " " "	11 00	6 10
" 1 Magazine " A " 3 " B " " " " " " " " " "	12 00	6 60
" 2 Magazines " A " 3 " B " " " " " " " " " "	13 00	7 10
" 3 " " " A " 3 " B " " " " " " " " " "	14 00	7 60

Magazines ordered by subscribers may be sent to different addresses. Subscriptions will commence with issues requested whenever possible to furnish copies; otherwise, with issues of the month following the date on which the subscription is received.

Order at Once

GOOD HEALTH PUB. CO.,

115 Washington Ave., N.

Battle Creek, Michigan

THE
**Mexican Central
Railway Co., Ltd.,**

CALLS ATTENTION TO THE FACT THAT

IT IS THE ONLY Standard Gauge Route from the United States Frontier to Mexico City.

IT IS THE ONLY Line in Mexico that can offer the Traveling Public the conveniences and comforts of Standard Gauge Pullman Drawing Room Sleepers, lighted by Pintsch Gas.

IT IS THE ONLY Line by which you can travel *without change* from St. Louis, Mo., to Mexico City.

IT IS THE ONLY Line from El Paso, Texas, to Mexico City.

IT IS THE SHORT Line from San Francisco and Pacific Coast points to Mexico City.

The Lines of the Mexican Central Railway pass through 15 of the 27 States of the Republic. Eight million of the thirteen million inhabitants of Mexico are settled contiguous to them.

The principal Mining regions receive their supplies and export their product over it. Chihuahua, Sierra Mojada, Mapimi, Fresnillo, Parral, Guanacevi, Durango, Zacatecas, Guajuato, Sombretete, Pachuca, etc., etc.

WHEN YOU TRAVEL FOR BUSINESS, GO WHERE BUSINESS IS DONE.

There are only five cities of over 35,000 inhabitants in the Republic of Mexico that are not reached by the Mexican Central Line.

The following ten cities are reached only by the Mexican Central Railway.

Chihuahua, 30,008 inhabitants; Parral, 16,382; Zacatecas, 34,438; Guajuato, 40,580; Leon, 63,263; Guadalajara, 101,208; Queretaro, 38,016; Zamora, 12,533; Aguascalientes, 37,810; Tlapuato, 19,640.

It also reaches the cities of Torreón, 13,845; San Luis Potosí, 60,858; Tampico (Mexican Gulf Port), 16,313; Celaya, 25,565; Pachuca, 37,487; City of Mexico, 368,777.


Daily Pullman service between St. Louis, Mo., and Mexico City, also between El Paso, Texas, and Mexico City, and vice versa.

A. V. TEMPLE, Industrial Agent,
Mexico City.

D. MURDOCK, G. P. A.
Mexico City.

T. R. RYAN, Gen. Agt., 323 Marquette Bldg., Chicago.

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
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