

APPENDIX.

Diseases of Children.

WE have not space in this volume for an extended treatise on the disorders of infancy and childhood, and can only consider in the briefest manner possible the simple measures of treatment which are adapted to home use in the most common of the various maladies incident to the earliest years of life.

Hints about the Diet of Children.—As most of the disorders specially common to infancy arise from bad feeding, it is appropriate to commence this section with a few hints respecting the dietary of young children. We may begin by saying that nearly all the advice generally given by “old nurses” is wrong. There is no department of the nursing art in which so little common sense is usually displayed as in this. The suggestions offered below are chiefly quoted from the “Home Hand-Book,” a larger work in which this whole subject is considered at length.

As a general rule, an infant should be fed once in two or three hours during the day-time, and once at night until one month old. After this time it should not be fed at night, and it should take its food no more frequently than once in three hours during the day-time until four months of age. Between four and eight months, the intervals should be gradually prolonged to four hours. After this time the fourth meal should be gradually dropped off, so that at twelve months the child will take its food but three times a day.

In order to break children of the habit of eating in the night, when mothers have been in the habit of nursing them at all

hours of the night as well as in the day-time, a little warm water may be given in the nursing bottle instead of allowing food. This will often satisfy the child's cravings so that it will go to sleep.

Milk is the natural and proper food for children from infancy to the age of twelve or eighteen months. Starchy foods cannot be digested, owing to the fact that the digestive element of the salivary secretion is not formed in sufficient quantity during the first few months of life to render the child able to digest farinaceous foods, such as potatoes, rice, fine-flour bread, and the like.

If the child is deprived of its natural food, a healthy wet-nurse should, if possible, be secured, at least until the child is two or three months old. When a suitable wet-nurse cannot be secured, milk from a healthy cow constitutes the best food. Care should be taken in the selection of cow's milk, that being preferred which is obtained from a cow which has calved two or three months previously. The health and care of the cow, particularly the character of her food, are matters of importance which should receive attention. Cow's milk should be diluted at first to one-half, the proportion being gradually increased as the child's stomach is strong enough to bear it. Pure water, lime-water, barley-water, and thin well-boiled and strained oatmeal gruel, may be used to dilute the milk.

Cow's milk, or other fluid food, is best given to an infant with a proper nursing bottle. The best forms of nursing bottles are those which are furnished with rubber caps. The cap should be removed and well cleansed with warm water in which soda or saleratus has been dissolved in proportion of a teaspoonful to a pint, each time the bottle is used. Both the nursing bottle and the rubber nipple should be kept immersed in a weak solution of soda when not in use. They should also be cleansed the second time just before the child is fed. Neglect to observe this precaution is one of the most common causes of stomach disturbances.

The diet of the mother while nursing is of very great importance, as anything that will disturb the system of the mother will affect that of the nursing infant more or less. Her food

should be nourishing, simple, and wholesome. Stimulants of all kinds, whether in the form of alcoholic drinks or irritable condiments, should be carefully avoided.

Children should never be given sugar-teats, candies, sweet-meats, cheese, nor pastry. The habit many nurses have of feeding an infant sugar and water every hour or two during the first one or two days of its life, is a practice which cannot be condemned too strongly.

Overfeeding is a much more frequent error than the opposite. Very frequently children are allowed to take too much at a time. This is the most common cause of vomiting in infants. Fortunately, their stomachs are so constructed that the surplus food may be easily expelled ; but sometimes this is not the case, and often very serious disorders of digestion result. The child should be removed from the breast when its hunger has been appeased, and should not be urged to take more when it is evidently satisfied.

The child should never be allowed to sleep at the breast, or with a nursing bottle to its mouth.

The child should never be put to the breast to stop its crying. Children cry in consequence of disturbances of the stomach much more often than from hunger.

Special care must be taken in the warm season of the year of children that have been weaned or that have been raised on the bottle, to avoid feeding sour milk or milk that has become slightly changed by standing.

Many mothers have sacrificed their children by attempting to rear them upon the various patented foods sold in the stores. A majority of these foods are starchy preparations which contain little or no nourishment valuable for infants. Some of them are useful, but not more so than well-boiled oatmeal or graham gruel with the addition of cow's milk.

The proper time for weaning a healthy infant is at about one year of age. Very weakly children sometimes require longer nursing. The custom practiced by some women of prolonging the nursing period to two years or more is injurious to both mother and child.

The process of weaning should be conducted gradually. At

the age of eight or ten months the child may be fed bread and milk, or oatmeal porridge once a day, this article being substituted for mother's milk.

Convulsions.—This is one of the most alarming of the diseases of infancy, but is not often fatal. The treatment should be prompt and energetic. Plunge the child as quickly as possible into a hot bath, pouring cool water upon the head and chest. When the convulsion is the result of indigestion, the child should be made to vomit, if possible, by drinking warm water or half a glass of water into which a teaspoonful of mustard or powdered alum has been stirred. When constipation and flatulence are the cause, give an enema of soap-suds. When the fontanel is prominent or bulging, the cold applications to the head should be very vigorous; ice may be used. When there is considerable fever, cool sponging of the body should be employed, together with cold injections into the bowels. When the fontanel is depressed, showing lack of blood in the brain, the convulsion may sometimes be relieved by inverting the child; that is, turning its head downward. This is often recommended indiscriminately for convulsions, which is a grave error, as it might produce a fatal result in convulsions produced by congestion. The application of hot fomentations to the head is also useful in these cases. "Inward fits" are relieved by fomentations to the bowels, hot enemas, or giving the child a few teaspoonfuls of water containing a drop or two of peppermint essence.

Night Terrors.—Give a hot bath, with cold to the head, an enema of soap-suds or warm water, an emetic when the stomach is loaded with undigested food, and fomentations to the bowels when distended by gas. A teaspoonful of powdered alum or mustard in half a glass of water will produce prompt emetic effects, if the child can be made to take it. Avoidance of excitement, simple food, out-of-door life, and gentle treatment are important as preventives.

Pain in the Bowels.—Very common in young infants, the symptoms being, moaning cries, corners of mouth drawn down, twitching of face during sleep, bloated abdomen. Regulate diet carefully, keep limbs and extremities warm and bowels open by resort to enema when necessary, and apply hot fomentations to

bowels three or four times a day. A drop or two of peppermint essence or anise in a little hot water will often give relief.

Worms.—Thousands of children are injured for life, and many killed by constant dosing for worms when the difficulty is of an entirely different character. In the great majority of cases the symptoms which are supposed to be those of worms are really nothing more than symptoms which will only be aggravated by the use of the various worm medicines generally employed in such cases. When there is any suspicion that the child is troubled with worms, the bowel discharges should be carefully examined daily, for several days in succession. If no worms or segments of worms are found in the stools, it may be safely concluded that the symptoms observed arise from some other cause. At any rate, a physician should be consulted before any active measures of treatment are adopted. Too often, however, we are sorry to say, physicians are in the habit of adopting the suggestions of mothers and nurses, consenting to treat infant patients for worms without sufficient grounds for so doing.

The various popular worm nostrums should never be administered. No drug of sufficient potency to destroy worms should be given without the advice of a physician.

"Pin worms" may be cured by large enemas of quassia tea. Make a decoction of a large handful of quassia chips boiled for an hour or two in a gallon of water. After emptying the bowels well by means of a warm water enema containing a little castile soap, inject as large a quantity as possible of the quassia tea. This remedy rarely fails, but should be repeated two or three times on successive days to insure success.

Vomiting.—A very common affection in children. It is usually the result of overeating, or of eating too fast. It is frequently occasioned by sickness which results from rocking in the cradle or tossing in the arms, both bad practices. Acidity of the stomach also frequently occasions vomiting. In these cases, the curds thrown up are sometimes very large, especially when cows' milk is used without dilution. Sudden vomiting without preceding nausea is a grave symptom, indicating brain disease.

Vomiting may usually be checked by regulating the quantity and quality of food. If it comes from sour stomach, a little

lime-water should be used after each meal, one or two teaspoonfuls being taken in double the quantity of milk. When the child seems to suffer considerable distress, hot fomentations or a hot flannel should be applied over the stomach.

Eruptions.—Various eruptions are common in children. A variety most peculiar to small children is that known as *strophulus*, the two varieties of which are termed red-gum and white-gum respectively. Nettle-rash is another very common form of eruption in children. Most of these arise from indigestion, and are readily cured by improving the digestion. For temporary relief, bathe the affected parts with a solution of bi-carbonate of soda, a teaspoonful to a pint of water. This generally relieves the intense burning. In severe cases, the parts affected may be covered with cloths wrung out of the solution. Salt and water will sometimes give prompt relief.

Mumps.—This disease is attended with little danger, cases of *metastasis* being very rare. At the outset, apply cold or ice compresses to the neck. When the cold becomes unpleasant, apply a hot fomentation for a few minutes. A warm sitz bath once or twice a day gives relief by diverting the blood from the affected gland. When there is much fever, give tepid or cool sponge baths. Keep bowels open by enema of warm or tepid water. The diet should consist of gruels, and well-cooked fruits and grains. No animal food, with the exception of milk, should be taken during the existence of the disease.

Measles.—In mild cases, very little treatment is required except such as is necessary to make the patient comfortable. Good nursing is much more important than medicine. If the eruption is slow in making its appearance, or is repelled after having once appeared, the patient should be given a warm blanket pack. The cold pack is most commonly used in Germany, but we have obtained equally good effects from the warm pack, and it is much more comfortable for the patient.

When the fever rises high, it should be subdued by tepid sponging, cool compresses to the abdomen, renewed as frequently as they become warm, and the cold enema. Cold packs and affusions, although in no degree dangerous, and highly recommended by many eminent physicians, are rarely required.

The patient should be allowed cooling drinks, as much as de-

sired. During the disease, a simple but nutritious diet should be allowed, but stimulants of all kinds should be prohibited. Milk, fruits, and grains may be taken in sufficient quantity to satisfy the patient's appetite, but meat should be prohibited. Good ventilation of the sick-room should be maintained throughout the disease, and care should be taken to prevent, so far as possible, the contraction of the disease by those who have never had it.

German Measles.—This disease so closely resembles the preceding in character that the treatment is essentially the same.

Whooping-Cough.—When the disease is prevalent, special care should be taken to prevent children from taking cold, as this is the most active predisposing cause. Good ventilation with uniform temperature, are essential conditions, but not easy to secure in all cases. Fomentations to the chest, hot and cold applications to the spine, and a warm blanket pack three or four times a week are among the most useful measures of treatment. The inhalation of warm steam is also useful. Nothing is needed in the line of medicine more than a little saleratus water prepared as follows :—

Saleratus, half a teaspoonful; water, a large cupful; flavor with a little sugar and cinnamon or wintergreen essence. Take three or four times daily. The child should be urged to restrain the cough as much as possible.

Diphtheria.—This disease appears in three forms : catarrhal, croupous, and malignant. The symptoms of the first form are so slight that the disease may be easily mistaken for an ordinary sore throat, and, indeed, in some cases it may be impossible to distinguish readily between this form of the disease and a simple inflammation. The symptoms are as follows : slight fever; malaise; dryness in the throat, with slight pain in swallowing; glands of throat swollen; mucous membrane red and covered with small grayish-white or whitish-yellow spots; frequently nausea and vomiting. When an epidemic of diphtheria is prevalent, many cases present the above symptoms with none more serious, making a good recovery within a few days; but it should be recollected that a mild case may give rise to a more serious form of the disease, or may develop, in time, symptoms of a more serious character.

The most prominent symptoms of the croupous form are as follows : all the symptoms of the simple or catarrhal form intensified ; more severe fever ; great heat in the head ; confusion of mind ; intense pain in the throat ; one or more whitish patches to be seen on the mucous membrane of the throat, adhering so tenaciously that when torn off the surface bleeds ; a peculiar, offensive odor of the breath ; tongue heavily coated. The membrane which appears in this form of the disease may extend over the whole throat, and even into the nasal cavity and larynx. It has appeared upon the mucous membrane of the eyes, and upon portions of the body where the skin has been denuded, as well as over the whole intestinal tract. When the larynx is affected, the symptoms of true croup are added to those of diphtheria.

In the malignant form, we have added to the foregoing symptoms, an extreme degree of prostration ; weak and slow pulse ; sodden face ; neck greatly swollen, with its skin shiny ; exceedingly offensive breath ; extensive false membrane ; and an almost irresistible fatal tendency. When the malignant form is assumed, the disease progresses so rapidly that death often occurs within a few hours from the beginning of the attack. The whole system seems to be invaded by the germs which give rise to the malady, and there is no time for anything to be accomplished by remedies. As just intimated, the disease is believed to be due to the invasion of the system by certain poisonous germs, the character of which has been the subject of much careful study.

TREATMENT : The increasing prevalence of this disease and its alarming fatality make it important that every mother should know something of its nature and the best way to manage it. Give simple diet, preferably milk and gruels. Control the fever by cool sponging. At the outset of the disease, apply ice to the throat, and give the patient small bits of ice to swallow very often. When the membrane begins to loosen, use steam inhalations, and hot fomentations to the throat. Solutions of carbolic acid and chlorate of potash, and the solution of chlorinated soda, are also useful remedies which may be used with the atomizer. Lime-water and vinegar may be used with benefit to aid in dissolving the membrane.

Prescriptions for several excellent lotions to be used in the

treatment of this malady, may be found under the head of "Miscellaneous Remedies and Prescriptions."

We ought to add that this disease is of so serious a nature that a competent physician ought to be called in every case as soon as the nature of the malady is recognized, or where there is doubt as to its character. Attention should also be called to the fact that the disease is extremely contagious, and consequently that the greatest precaution should be taken to prevent its extension to other members of the family, or to other persons in the neighborhood. The patient should be placed in a room secluded from the rest of the house, and should be visited only by the nurse and physician. The case should be promptly reported to the health officer of the city or district, so that the public may be properly warned. Disinfectants should be used for the purpose of destroying the infectious character of the discharges of the patient. They are best applied by being placed in the vessel in which the discharges are received, so that the latter may be rendered harmless at once. After the patient has recovered, the same measures of disinfection mentioned in connection with the treatment of scarlet fever should be employed. Several disinfectant lotions are mentioned in the section to which the reader has already been referred for prescriptions used in this disease. More complete directions for treating this disease will be found in our larger medical work. *

Scarlet Fever—Scarlatina.—Mild cases require only a simple diet, thorough ventilation, the use of tepid sponge baths, and cool compresses to the bowels or wet sheet packs, and perhaps cool enemas, and other measures for reducing the temperature, together with good nursing. If the eruption is a little slow in making its appearance, or shows a tendency to recede after it has appeared, a warm full bath and sponging of the skin with hot water or hot and cold sponging, together with warm drinks, are the measures to be employed. When the other symptoms are very severe, ice compresses should be applied to the throat if possible, and the patient should be given pieces of ice to hold in the mouth. When the breath is very foul, a solu-

* "The Home Hand-Book of Domestic Hygiene and Rational Medicine."

tion of chlorate of potash, two or three drams to the pint, or permanganate of potash, half a teaspoonful to the pint of water, may be used as a gargle. Severe cases, and all cases in which complications occur, should be placed under the care of a skillful physician.

During the illness, the greatest pains should be taken to prevent the communication of the disease. After recovery, everything in and about the sick-room should be burned or thoroughly disinfected. Burning sulphur, used for bleaching purposes, is the best disinfectant for use. To disinfect the room, place a few shovelfuls of wet sand on the floor in the middle of the room. Place in the sand near together several bricks, and on the bricks two or three hot stove-covers, bottom upward. Put the sulphur on these, and there will be no danger of fire. A hot iron kettle answers equally well. Use two ounces of sulphur to each one hundred cubic feet of air to be disinfected. Close the room tightly for twenty-four hours, then ventilate for two days, and scrub and repair the walls.

Chicken-Pox.—This disease is so rarely fatal that little more than good nursing is required. The child should be kept quiet, and when the fever is high, the body should be cooled by tepid sponging or cool compresses applied over the bowels and changed frequently. The diet should be light until the fever is entirely subdued.

Infantile Dyspepsia.—The symptoms of dyspepsia, or indigestion, in infants are: vomiting; diarrhea; constipation; alternate constipation and looseness of the bowels; green or clay-colored stools; sour or fetid stools; curds in the stools; emaciation; irritability; moaning cry; feverishness; capricious appetite; and various symptoms which are usually attributed to worms.

A great share of the various illnesses from which children suffer are due to disorders of digestion. Indeed, a great share of the fatality during the first five years of life may be fairly attributed to derangement of the digestive organs, either directly or indirectly. Of the various symptoms mentioned as indicating disorder of digestion in a young child, vomiting is the most common. When the contents of the stomach are acid in consequence of fermentation, the vomited matters are sour. This

condition may usually be traced to the use of sugar, confectionery, or starchy food. As elsewhere remarked, infants are unable to digest farinaceous or starchy food until after the teeth are developed, and hence such food is pretty sure to induce acid fermentation of the contents of the stomach, and also to cause disturbances in the bowels, with green and offensive discharges. These discharges are often preceded by stools containing lumps of curd, indicative of imperfect digestion. The imperfectly digested food remaining in the bowels, causes irritation and frequently inflammation. Clay-colored stools indicate an inactive state of the liver or obstruction of the bile-ducts, which is frequently the result of the extension of the stomach, or intestinal catarrh, into the biliary passages. Long-continued disturbance of digestion gives rise to marked evidences of wasting. The child becomes thin and wrinkled, weak and peevish. The countenance assumes an old look. Often the weakened condition of the child gives rise to a morbid condition of the nervous system, and convulsions make their appearance, which may terminate fatally, or the child may die of exhaustion. Sometimes persistent vomiting is the most serious feature of the case, continuing until even water will not be retained upon the stomach. The principal cause of deranged digestion in children is inattention to the rules for diet which have been laid down elsewhere in this work. Sometimes the disorder is the result of indigestion or some other functional disturbance in the mother. Nervous disturbances in the mother are particularly productive of indigestion in nursing infants. All of these causes should of course receive careful attention; and if they are of such a nature that they cannot be removed, a healthy wet-nurse should be employed. Nursing bottles, especially those with long tubes, are a frequent cause of indigestion in children, owing to the fact that they are seldom properly cleansed. It is, in fact, next to impossible to cleanse a long rubber tube so thoroughly that it may not be a means of communicating the germs of fermentation to the milk taken by the child. Milk from unhealthy cows or from farrow cows is another frequent cause. Inattention to the cleansing of milk-pans, or the use of milk which has stood so long as to be slightly changed, must be mentioned as a not infrequent cause of indigestion in children.

TREATMENT: The child should be fed at regular intervals, the length of which should be determined by its age. It should be fed a proper quantity, and at proper times. The habit of feeding children as frequently during the night as during the day is a mistaken and injurious one.

When the child shows symptoms of indigestion, careful inquiry should be made respecting the nature of its food, the manner of feeding, etc. If the cause is ascertained to be in the mother, either a healthy wet-nurse, whose child is about the same age as that of the patient, should be employed, or, when this cannot be done, as is often the case, cow's milk should be used. The milk should be taken as fresh as possible. It ought not to be more than two or three hours old, or fresher if it can be obtained. Attention should also be given to the length of time since the cow has calved. The milk of cows, being richer in caseine and fat than human milk, should be diluted with pure water, or, as we prefer, with barley-water, or thin oatmeal gruel, well boiled and strained through a coarse cloth. For a very young child, milk should be diluted one-half. As the child grows older, and its digestive powers increase in strength, the quantity of water may be diminished.

In cases in which there is much acidity, and the discharges from the bowels are green or fetid in character, lime-water may often be used with advantage, one part lime-water being added to three or four parts of milk. In some cases it is sufficient to give the infant one or two teaspoonfuls of lime-water in double the quantity of milk after other food has been taken. In severe cases in which the digestive organs of the child seem to be unable to digest milk in any form, strong beef tea, white of egg dissolved in water, barley-water, or thin oatmeal gruel may be employed, either separately or combined. We have succeeded in cases which seemed utterly hopeless, in restoring children by beginning with egg water, made by dissolving the white of an egg in a glass of tepid water, and gradually adding a little milk, oatmeal gruel, beef tea, or other food, as the child became able to bear it. In many cases, it is necessary to give food in very small quantities, sometimes not more than a tablespoonful or two at a time, and at intervals of an hour or two. When there is evidence that

the nursing-bottle is at fault, and the evidence may be considered good whenever the nursing-bottle is employed, the bottle should be discarded at once, and the child should be fed with a spoon. Nursing-bottles with long tubes should be avoided as in the highest degree dangerous. We have never yet found one which was not in a condition unfit for use. In extreme cases, in which the stomach rejects food altogether, it should be allowed to rest for a time, the child being nourished in the meantime by means of nutritive enemata of beef tea, egg and milk, and other preparations suitable for such use. Whey is an article of food which may be serviceably employed in cases of extreme feebleness of digestion. It should be made by adding a small quantity of infusion of rennet to a sufficient quantity of new milk or skim milk according to the requirements of the case; milk from which at least a portion of the cream has been removed being preferable in some cases. When the child is too weak to take food, it may be fed with a feather as well as by means of the nutritive enema, or food may be squirted into the back part of the mouth by means of a dropping tube. The last-mentioned method of feeding is especially serviceable in cases of extreme weakness from indigestion with sore mouth. Children that cannot be induced to take other food, may sometimes be nourished by means of thin strips of lean, juicy steak, which should be placed in the mouth for the infant to suck. The scraped pulp of rare steak may also be used advantageously in some cases. We ought perhaps to add that special attention should be given to the maintenance of the animal heat in the care of young children, especially those that are feeble or exhausted by wasting disease of any form. The stomach and bowels of those whose digestion is feeble must be kept warm by extra coverings of flannel. The position of the child during feeding should also receive attention. Infants should never be fed while lying down, but should be held in a half upright position. The more feeble the infant, the more important this suggestion.

When constipation is present it should be relieved if possible by the employment of massage to the bowels two or three times a day. The enema should be used in preference to physic; and when necessary, a little glycerine, castile soap, brown sugar, or

common salt should be added to the water, as directed under the Miscellaneous Prescriptions. An enema of sweet-oil is also effective.

In addition to the above measures of treatment, all useful means for improving the general health, such as saline baths, general massage, sun baths, inunctions, exercise in the open air, etc., should be carefully employed.

Diarrhea.—This is by far the most common of all the ailments of infants and small children ; and during the months of July, August, and September, it is responsible for a very large proportion of all the cases of death among this class. The bowels naturally move much more frequently in infants than adults, the number of daily movements varying from three to six. The stools should be deep yellow in color, of the consistency of thick gruel, and nearly or quite odorless. Any great departure from these characteristics should be considered abnormal and demanding of attention. While the teeth are coming, there will often be a slight tendency to diarrhea, which need not give rise to alarm, as it is productive of no injury.

The symptoms of diarrhea in young children are, in addition to increased frequency of stools, solid, curdy, green, bilious, mucous, or bad-smelling stools ; pain, as shown by the drawing up of the legs ; in chronic cases, pale, haggard countenance, emaciation, enlarged and tender abdomen, red and glazed tongue, pasty stools.

TREATMENT : Errors in diet should be carefully sought for and removed. Sometimes it is necessary to substitute farinaceous food for milk for a few days. This is especially the case when the motions contain many undigested curds with mucus, showing intestinal irritation. Of farinaceous foods, the best is well-boiled oatmeal gruel, carefully strained through a cloth. Sometimes graham gruel, prepared in the same way, is preferable. Broths, soups, beef tea, and similar foods must be strictly forbidden. The persistent use of beef tea is often productive of diarrhea. When the discharges are very sour and frothy, the use of lean, raw meat may be resorted to with benefit. The meat should be prepared by scraping out the pulp of a piece of tender steak with a table knife. When thus used, meat

should be relied upon as the sole article of diet. It should be given about once in three or four hours in such quantities as can be retained. Meat usually renders the stools very offensive,—a fact which should be borne in mind as unnecessary alarm might be experienced at this symptom. The exclusive meat diet should not be long continued, but the original diet of milk or oatmeal gruel and milk should be restored as soon as possible. The yolk of egg, beaten, either with or without milk, is of service in these cases, as also the use of lime-water with milk, in the proportion of one or two tablespoonfuls to the glass of milk. Equal portions of milk and lime-water may be used when the motions are very sour and green. The green color acquired by yellow stools by exposure to the air and the action of urine, is not significant.

Most cases of diarrhea in children require nothing more than a proper regulation of the diet to secure quite prompt recovery. Other simple treatment may be given with advantage, however, but we are acquainted with no remedy which acts with so much promptness and certainty in checking the discharges and relieving pain as the hot enema. The enema may be given as often as every two or three hours for a few days, and the temperature should be as hot as can be borne without discomfort, say 105° to 115° F. The quantity should be as large as possible without increasing the pain. Fomentations to the bowels are to be used in all cases in which there is pain or griping in the bowels, as shown by a disposition to draw up the legs. When the food passes through unchanged, measures which build up the general health, such as salt-water baths, gentle massage, daily inunction with olive or cocoanut oil, abundance of fresh air and sunshine, which are essential in all cases of chronic diarrhea, must be chiefly depended upon. The intertrigo, or irritation of the skin, of the thighs and buttocks, which often occurs in cases of diarrhea attended by acrid discharges, is best treated by carefully cleansing the parts several times a day with warm water, and then applying lycopodium powder.

The use of opium, so commonly prescribed in cases of diarrhea, is in our opinion productive of much harm, and should be avoided. There are a few simple remedies which prove

useful in obstinate cases ; but it is much better that these should be used only when prescribed by a physician, as much harm comes from the perpetual dosing, even with simple remedies, to which so many babies are subjected.

Dysentery.—The first symptoms are vomiting and purging, the action of the bowels being almost constant. The motions are at first natural, but soon become slimy and streaked with blood. The stools are passed with much straining and tenesmus. The desire to move the bowels becomes almost constant, and is not relieved by a passage. The pain increases ; the abdomen becomes swollen and tender ; the mouth becomes sore ; there is much restlessness, fever, and rapid emaciation ; the discharges become offensive ; and complications of the lungs or brain may occur. This disease is a grave one in small children, especially when epidemic, as is often the case. Its causes are foul air, sewer gas, impure water, bad feeding, insufficient clothing, and perhaps we should add excessive heat, dampness, and dentition, although we do not think the latter causes sufficient in themselves to occasion the disease in the absence of all the other causes mentioned. Feeding children unripe fruit, pastry, and foods to which their digestive organs are not adapted, must be regarded as among the most frequent exciting causes of the disease when there is no epidemic influence to which to attribute it.

TREATMENT : Warm baths, fomentations or large poultices to the bowels, and the hot or cold enema are the best measures of treatment to be suggested. The remarks about diet, etc., made in connection with treatment of diarrhea, apply, for the most part, to this disease as well. When other articles of diet fail, the use of meat juice should be resorted to. If the child does not begin to mend speedily, a careful and competent physician should be called.

Prolapsus Ani.—Prolapsus of the rectum is a not uncommon condition in small children. The condition is usually the result of habitual constipation of the bowels or severe attacks of dysentery or diarrhea, the child being neglected and allowed to strain for a long time. The use of purgative medicines is also a very common cause.

TREATMENT : The diet must be so regulated as to produce loose

movements of the bowels. Graham flour, cracked wheat, oatmeal, and a plentiful supply of fruit, particularly apples, figs, and prunes, should enter very largely into the dietary. The child should be made to relieve its bowels while lying upon its back, and each time the anus protrudes it should be bathed with cold water and pressed back with the oiled finger. When the prolapsed bowel does not return readily, the child may be held for a moment with the head downward. The bowels should be kneaded daily to encourage loose movement, and the general health of the child should be improved by a tepid sponging over the surface of the body. It is sometimes necessary to keep the child in bed with its feet raised upon a pillow for several weeks. After the anus has been once prolapsed, great care should be taken to prevent a recurrence of the condition. Chronic and severe cases sometimes require a surgical operation.

Incontinence of Urine, or Wetting the Bed.—The most common causes of this affection in children are the excessive use of liquids, lying on the back during sleep, loaded bowels, general debility, and the practice of self-abuse. It is sometimes also associated with other serious diseases, as gravel, and various diseases of the kidneys.

TREATMENT: The cause should be sought for and removed. When other causes have been removed, the quantity of fluid should be carefully restricted, especially during the latter part of the day, and the child should be prevented from lying upon the back by tying a roll of cotton or something of similar character over the spine in such a manner as to prevent the child from turning upon its back. In occasional instances the child may have fallen into the habit from carelessness or laziness. In such cases the proper remedy is, of course, correction.

Colds.—Young children are very subject to colds for several reasons. First, their skins are unusually active and vascular, containing a much larger proportion of blood than those of adults; second, they are usually improperly clad, the middle portion of the body being so clothed as to induce perspiration, while the arms and legs are left bare; third, they are rendered susceptible to cold air or draughts by being kept in too warm an atmosphere and not sufficiently exposed to out-of-door air. This suscepti-

bility to taking cold may be greatly diminished by accustoming the child to a daily bath at a temperature of about 75° to 80°. A little salt added to the water has a tonic effect upon the skin. The idea that such a bath is weakening has been proven fallacious in thousands of instances by sensible mothers who have adopted this plan of protecting their children from one of the greatest causes of fatal disease between the ages of two and five years. The habit of breathing through the mouth, which children are very apt to contract, may also be regarded as a frequent cause of taking cold, especially during the winter months. Children should be taught to inhale through the nose, the natural channel for the inspired air, as by passing over the large mucous surface the air is warmed before entering the lungs, thus preventing congestion, which might give rise to serious inflammation of the air passages, or to pneumonia.

TREATMENT: When a cold has been contracted, the child should be at once placed in a hot blanket pack, directions for which are found in this appendix. If the little one is restless, one or both arms may be left out, but should be well covered with a dry blanket. After twenty or thirty minutes, the patient should be taken from the pack, placed between dry blankets, covered warm to continue perspiration, and allowed to go to sleep. The inhalation of the vapor of warm water is very soothing to irritated mucous surfaces. If the throat is the part particularly affected, a local pack should be applied, which may consist of a towel wrung out of hot water until it will not drip, and then applied to the throat and covered with dry flannels of sufficient thickness to retain the heat. A pack should be applied to the chest in a similar way, when the cold seems to have settled upon the lungs. When the child has a hard, dry cough which is somewhat persistent, the blanket pack may be applied once a day for several days, and fomentations may be applied to the chest several times a day, the surface being rubbed with tepid water when the hot cloths are removed. Hot drinks of various sorts are useful to induce a perspiration during the pack, and also to encourage secretion of the pulmonary mucous membranes.

Nasal Catarrh.—This disease is the result of frequently neglected colds. It is most likely to make its appearance in an

aggravated form in scrofulous or rachitic children, in whom the ichorous discharge from the nasal cavities produces an irritation of the skin of the upper lip, which ultimately results in thickening of the lip, producing one of the characteristic facial indications of scrofula in children. The disease is often neglected with the idea that the child will outgrow it, which is a very mistaken notion, as the malady is very seldom outgrown, though it passes through various stages, ultimately becoming in some cases less noticeable and offensive than when attended by a profuse discharge. Among the unfortunate results of this affection are, caries of some of the bones which project into the nasal cavity, deformity of the nose resulting from the division of the septum, extension of the disease into the throat and larynx, producing serious impairment or entire loss of the voice, and extension to the ears through the eustachian tubes, causing deafness. It ought to be mentioned in this connection that deafness is more frequently produced in this way than in any other.

TREATMENT: Contrary to the general opinion respecting this disease, it is among the most readily cured maladies, provided the patient can be placed under proper conditions, and can receive proper treatment. Among the necessary conditions, we mention as of the greatest importance, warm clothing, which should be carefully regulated according to the season of the year. As a general rule, flannel should be worn next the skin both summer and winter. The skin must be kept active and vigorous by tepid or cool baths or saline baths. The general health must be improved by a simple but nourishing diet, proper exercise, sufficient sleep, and attention to all matters pertaining to health. It is also of special importance that the diet should be of an unstimulating and unclogging character. Animal food should not be taken too largely, and condiments and rich food should be avoided altogether. The bowels should be kept loose and regular by the abundant use of fruits and coarse grains. The patient should be protected as much as possible from sudden changes of temperature. This is best accomplished not by keeping the patient in-doors, but by hardening the skin and accustoming it to daily out-of-door exercise at all seasons of the year.

In addition to the above measures, much can be done toward

effecting a cure by the use of proper local applications. When there is an abundant discharge, a cleansing lotion, followed by a lotion of an astringent character, should be used daily by means of the air atomizer. When the discharge is offensive, a disinfecting lotion should be used in addition to the cleansing and astringent lotions. When there is dryness of the membrane and scabs are formed, cleansing and stimulating lotions should be employed. A number of excellent preparations to be used in various forms of catarrh, are given in this appendix under the proper heading.

Earache.—This affection, so frequent in infancy and childhood, is by no means so trivial as is generally supposed. Children often cry for hours from the intense pain of earache, without the cause being discovered; and when the discovery is made, they continue to suffer for many hours longer for want of the application of the proper means for relief. Severe pain in the ear is generally due to inflammation of the middle ear, or eardrum, and when neglected, is likely to give rise to incurable deafness; hence the importance of giving prompt attention to the matter, and employing such measures as will prevent the frequent recurrence of the affection. One of the most ready means of affording relief is the application of heat. Either dry or moist heat may be applied, sometimes one and sometimes the other being the most efficient. The ear may be syringed gently with warm water with advantage. If the inflammation does not readily yield to this simple means, an ear specialist should be consulted. When a specialist cannot be obtained, the best physician near at hand should be summoned. Among the various domestic remedies, steaming the ear, poulticing with onions, or dropping into it a few drops of laudanum, are the most efficient. We noticed in Germany that acute inflammation of the middle ear is usually treated with excellent results by the application of ice to the ear. Ice controls inflammation, and fomentations relieve the pain. They may be used alternately with advantage, ice being applied most of the time, and fomentations once in an hour or two.

Discharge from the Ear.—A chronic discharge from the ear is usually found to be the result of acute inflammation ac-

companying scarlet fever, measles, and diphtheria, or of a cold. A discharge of this kind is almost always indicative of disease of the middle ear, with rupture of the ear-drum.

TREATMENT: The ear should be thoroughly washed each day with soap and water, or a solution of carbonate of soda in water, two teaspoonfuls to the pint, which should be carefully introduced into the ear by means of a syringe, the syringe having attached to its nozzle a short piece of rubber tubing so as to prevent any possibility of injury to the ear. The temperature of the water should be about 100°. After washing, powdered boracic acid should be blown into the ear with a rubber tube.

Sore Eyes.—The mucous membrane is red and swollen, and covered with a viscid secretion by which the lids are stuck closely together in the morning or when the child awakens from a long sleep. The white of the eye is very greatly congested, and the mucous lining of the lids has a velvety appearance.

TREATMENT: The eye should be protected from bright lights, and should be given as perfect rest as possible. A spray of tepid water should be used several times a day by means of the fountain douche. Small compresses wet in cold water and changed every few minutes, should be used when the inflammation is quite severe; and should it be very intense, the cloths should be cooled by laying them on blocks of ice. A solution of alum, one or two grains to the ounce, may be dropped into the eye once or twice a day with advantage.

Croup.—This very fatal malady is far less common than is generally supposed. It is perhaps slightly contagious, and rarely recurs in the same individual. It attacks most frequently children in their second year, rarely occurring after the fifth year. The leading symptoms are, during the first twenty-four hours those of an ordinary cold with slight sore throat; on the second day the cough becomes "brassy" or "clangey;" breathing is hard and prolonged, accompanied by a characteristic sound, of a crowing character; fever; great and constant distress for breath; eyes glassy and lips livid; inability to speak in a natural tone, voice being very hoarse or husky, or entirely absent. No attempt should be made to treat a case of this kind, without the aid of an experienced physician.

False or Spasmodic Croup.—This disease closely resembles the preceding in many points, and is often mistaken for it. Its chief points of difference are, little or no fever, spasmodic difficulty in breathing, with intervals of entire relief from the croupy symptoms, sudden appearance of the affection, usually at night, and as sudden disappearance. It generally begins with a slight cold.

TREATMENT: Hot and cold applications or fomentations to the throat, and hot and cold applications to the upper part of the spine. A sponge wrung out of hot water is a ready means of fomenting the throat. In the absence of hot water, the moist sponge may be heated by placing it upon a hot stove. An emetic of salt water or a half teaspoonful of powdered alum given in syrup or honey will sometimes aid in cutting short an attack.

Sore Mouth.—Of the several varieties of sore mouth to which young children are subject, thrush and aphthæ are the most common. The former is a parasitic disease, due to the growth upon the membrane of a vegetable fungus, appearing as small white spots scattered over the mucous membrane. Aphthæ appears, first as small blisters, which soon become small ulcers and show no tendency to heal. Thrush is most common in infants during the first six weeks of life. Aphthæ may occur at any period of life. The most common cause is disturbance of digestion by the use of sweets.

TREATMENT: Avoidance of causes, cleansing the mouth thoroughly by means of a moist rag after each feeding, and applying three or four times a day with a soft rag or a camel's-hair brush a solution of chlorate of potash, one-half dram to the ounce, or better still, a solution of borax in glycerine, one-half dram to the ounce. Attention should also be given to the general health.

Sore Throat.—The ordinary sore throat with which children are so apt to suffer as the result of taking cold, may be readily cured in most cases by the employment of hot fomentations or hot and cold applications to the throat two or three times a day, a warm bath, and a cold pack to the throat at night. The throat should be bathed in cool water in the morning, and should be well protected during the day. If taken in time, most attacks of sore throat will be cut short in a few hours when thus treated.

APPLICATIONS OF WATER AND ELECTRICITY.

Water, applied in the various modes in which it may be, is one of the most potent of remedies. Wrongly applied, it may be productive of great harm. The following are a few general rules which should always govern its use :—

1. Never bathe when exhausted or within three hours after eating, unless the bath be confined to a very small portion of the body.

2. Never bathe when cooling off after profuse sweating, as reaction will then often be deficient.

3. Always wet the head before taking any form of bath, to prevent determination of blood to the head.

4. If the bath be a warm one, always conclude it with an application of water which is a few degrees cooler than the bodily temperature.

5. Be careful to thoroughly dry the patient after his bath, rubbing vigorously, to prevent chilling.

6. The most favorable time for taking a bath is between the hours of ten and twelve in the forenoon.

7. The temperature of the room should be at about 85° or 90° F.

8. Baths should usually be of a temperature which will be the most agreeable to the patient. Cold baths are seldom required. Too much hot bathing is debilitating.

The Sponge or Hand Bath.—Soft water, a soft sponge, or a linen or cotton cloth, and one or two soft towels, or a sheet, are the requisites. The hand may be used in the absence of a cloth or a sponge for applying the water.

The temperature of the bath should not be above 95°, and 90° is generally better. Most people can habitually employ a temperature of 75° or 80° without injury, and some receive most benefit from a still lower temperature. The use of a much lower temperature is not commonly advisable, however, and is often productive of great injury.

Begin the bath, as usual, by wetting the head, saturating the

hair well. Wash the face, then the neck, chest, shoulders, arms, trunk, and back. Rub vigorously until the skin is red, to prevent chilling; for even when the temperature of the room is nearly equal to that of the body, the rapid evaporation of water from the surface will lower the external temperature very rapidly unless a vigorous circulation is maintained.

After thoroughly bathing the upper portion of the body, turn the attention to the lower portion, continuing the rubbing of the upper parts at brief intervals to prevent chilliness. As soon as the bathing is concluded, envelop the body in a sheet and rub dry, or dry the skin with a towel. When the surface is nearly or quite dried, rub the whole vigorously with the bare hand.

The bath should not be prolonged more than ten or fifteen minutes. Five minutes is sufficient to secure all the benefits of the bath, and even three minutes will suffice for a very good bath.

Persons who chill easily will find it better to bathe only a portion of the body before drying it. Some will even find it necessary to retain a portion of the clothing upon the lower part of the body while bathing and drying the upper part.

Weakly patients may receive this bath with very little disturbance, even in bed. Only a small portion of the body should be uncovered at a time, being bathed, dried, rubbed, and then covered while another part is treated in a similar manner.

Equal parts of alcohol and water or vinegar and water may be used when slight stimulation is required.

Wet Sheet Pack.—Two or three comfortables or thick blankets, one woolen blanket, and a large linen or cotton sheet, are the articles necessary. It is important to be certain that the sheet is sufficiently large to extend twice around the patient's body. More blankets are required in cool weather and by weak patients. Spread upon a bed or straight lounge the comfortables, one by one, making them even at the top. Over them spread the woolen blanket, allowing its upper edge to fall an inch or two below that of the last comfortable. Wet the sheet in water of the proper temperature, having gathered the end so that it can be quickly spread out. Wring so that it will not drip much, place its upper end even with the woolen blanket, and spread it

out on each side of the middle sufficiently to allow the patient to lie down upon his back, which he should quickly do, letting his ears come just above the upper border of the sheet, and extending his limbs near together. Wrap the patient carefully first with the sheet and afterward with the blanket, taking care to exclude air.

For a hot pack a blanket should be used wrung from water hot as can be readily borne.

Sitz or Hip Bath.—For this bath a common tub may be used, by placing a support under one edge to elevate it two or three inches ; but it is better to use a tub made for the purpose, which should have the back raised eight or ten inches higher than the front, to support the back, the sides sloping gradually so as to support the arms of the bather. The bottom should be elevated two or three inches. The depth in front should be about the same as that of a common wash-tub.

Enough water is required to cover the hips and extend a little way up the body. Four to six gallons is about the proper quantity.

A very good plan for administering the bath, and one which will be applicable to most cases, is this : Begin the bath at 92° or 93°. If a thermometer is not at hand, pour into the bath-tub three gallons of fresh well or spring water, and then add one gallon of *boiling* water. This will give the desired temperature. After the patient has been in the bath ten minutes, cool it down to 85°, which may be done by adding a gallon of well water. Continue the bath five minutes longer, then administer a pail douche or spray, at about 85°, and wipe dry, as directed after a hand bath.

Foot Bath.—Any vessel sufficiently large to receive the feet, and enough water to cover them to the ankles, is suitable for this bath. The temperature should usually be 100° to 105° F. If the water is cold, it should not be more than one-fourth of an inch deep.

The alternate hot and cold foot bath is a very valuable remedy for cold feet. It is given thus : Place the feet in hot water—100° to 110°—two or three minutes. Then withdraw them and plunge them quickly into a bath of cold water 60° or less.

After two or three minutes, restore them to the hot bath. Thus alternate three or four times, and conclude by dipping the feet quickly into cold water and wiping dry. This bath produces most powerful reaction.

The foot bath is applicable in the treatment of headache, neuralgia, toothache, catarrh, congestion of abdominal and pelvic organs, colds, and cold feet. It is very useful as a preparatory for other baths, and as an accompaniment of other local applications.

Wet Girdle.—This was a favorite remedy with the early German hydropathists, and it is a very useful appliance when properly employed, though it has been much abused by excessive use. To apply it well, a coarse towel about three yards long is the most convenient for use. Wet one-half of this in tepid water, wring until it will not drip, and apply it to the abdomen, placing one end at the side, and bringing it across the front first, so that two thicknesses of the wet portion will cover the abdomen. After winding the whole tightly around the body, fasten the end securely with pins or with tapes attached for the purpose. Cover all with several folds of flannel. This is especially useful for obstinate constipation and nearly all forms of pelvic disease. If irritation of the skin is produced, omit the bandage for a few days occasionally.

The Vaginal Douche.—The fountain or syphon syringe is much to be preferred as a means of administering this treatment. The force of the stream should not be so great as to occasion the slightest discomfort. The syphon syringe should be elevated not more than three or four feet above the patient; in very sensitive cases, less. The position of the patient should be horizontal, with the hips elevated. The tube should be introduced as far as possible, and should be directed backward, so as to direct the stream of water behind the neck of the womb. The length of time occupied in the bath and the amount of water used, will depend upon the condition of the patient. In general, we may say that one to four or five gallons should be used. The temperature of the water must also depend upon the special conditions requiring treatment. In the majority of cases it should be from

100° to 105° F. In special cases a higher temperature is required. Cold water is rarely indicated.

In occasional instances, disagreeable sensations will follow the first use of the hot douche, but this may be avoided by employing water of a moderate heat, and gradually increasing the temperature.

The patient should lie in a horizontal position across the bed, with the hips elevated upon a pillow and drawn to the edge of the bed, each foot being supported in a chair. The water may be conducted into a pail beside the bed by means of a rubber cloth the upper edge of which is placed under the patient, the lower being folded so as to direct the water properly. It is important that the attitude of the patient should be comfortable as possible, as the position must be retained for some time, fifteen to twenty-five minutes, usually, and the remedy must be employed a long time. A special table with an opening in the center may be constructed for taking the douche, or a simple frame may be made to set into a full bath tub, folding back out of the way when not in use. One of the most convenient appliances for the purpose is a bed-pan so constructed that the water is conveyed away to a pail by the bedside by means of a rubber tube, the body being comfortably supported by an air cushion. An ordinary bed-pan can be used by attaching a tube for carrying away the water or by frequent emptying.

The Enema.—An enema is best administered by means of the syphon or fountain syringe. The patient should lie upon the back or side. Warm water should be used when the object is to soften hard, fecal masses; a small, cool enema when the object is to stimulate action in the lower bowel; and a large, hot enema when it is desired to relieve pelvic inflammation. Cold enemata are useful in fevers.

Fomentations.—Fold a soft flannel twice, so as to make four thicknesses. Dip in very hot water, lifting out by the corner and placing in the middle of a towel. Roll up quickly lengthwise of the towel, and wring nearly as dry as possible by twisting the ends of the towel. In this way the fomentation can be wrung out much hotter than with the hands. Of course it will be too hot to apply to the bare flesh; but do not waste heat by

letting it cool. Protect the skin by one or more thicknesses of flannel and apply at once, covering with another dry flannel. Renew when the heat begins to moderate very perceptibly, and continue as long as necessary.

Compresses.—The compress is a wet cloth or bandage applied to a part. The object may be to cool the part under treatment, or to retain the heat. The compress may be used with equal success for either purpose. When the part is to be cooled, a compress composed of several folds should be wet in cool, cold, or iced water, as required, and placed upon the part after being wrung so it will not drip. It should be changed as often as *every five minutes*. This is often neglected, to the injury of the patient. A very cold compress may be prepared by placing snow or pounded ice between the folds of the compress. This will not need renewal so frequently; but its effects must be carefully watched, as injury may be done by neglect.

The Oil Bath, or Inunction.—Inunction was greatly practiced by the ancients in connection with the Roman and Turkish baths. It consists in rubbing the skin very thoroughly with some unctuous substance. Olive-oil may be employed, but cosmoline and vaseline, refined products of coal-oil, are much preferable. Olive-oil cannot be obtained pure except at almost fabulous prices. That sold in the drug-stores as olive-oil is usually cotton-seed oil and mixtures of lard with various other vegetable oils. We have found pure refined cocoanut-oil to be the best of all oils for this purpose.

A warm full or sponge bath should first be administered. Then dry the patient as usual, and apply the unguent, taking care to rub it in thoroughly. Simply greasing the surface is not the object sought. The skin and flesh should be worked, rubbed, and kneaded until the oil nearly disappears from the surface. The skin should then be wiped clean with a soft cloth.

Heat and Cold to Spine.—Alternate fomentations and cold compresses may be applied, or alternate hot and cold sponging may be preferred, the alternations being made every half minute, or once in one to three minutes. Water as hot and as cold as can be borne should be used. In some cases it is necessary to employ ice in order to obtain the desired effect.

Electricity.—The most suitable form of electricity for use at home is that known as the faradic current. The most generally useful mode of application is that termed general faradization. In making this application, place the patient on an ordinary stool with the face toward the battery and the feet on a sheet of copper to which the conducting cord connected with the negative pole is attached. Patients who through paralysis or for any other reason are unable to sit up, may receive the treatment while lying in a bed or on a lounge, the sheet of copper being supported against the feet by means of a pillow or cushion. Except in cases where there is a special indication for the application of electricity to the lower limbs, the negative pole may be applied to the lower end of the spine instead of the feet. This plan is a better one with infants, with whom difficulty may be experienced in keeping the feet upon a metallic plate. The right hand of the operator should be placed upon the forehead of the patient, while with the left he touches the sponge of the positive pole of the battery. The sponge should not be grasped at first, but simply touched with the tip of one finger. Then, if the patient does not feel the current as desired, it may be taken in the hand and pressed with sufficient firmness to obtain as much strength of current as is needed.

After applying the current to the head for a minute or two, the positive sponge should be passed slowly down the spine a few times, then over the back, chest, abdomen, arms, and legs, passing over every part of the body.

In applications to the spine, the negative pole is placed at the lower end, and the positive is passed slowly down the spine twenty-five or thirty times. In applications to the chest, stomach, womb, or other internal organs, the positive pole is held upon the spine opposite the organ and the negative placed over it. The time required is usually five to fifteen minutes. In cases of vomiting during pregnancy, this means is sometimes invaluable, and the current may be employed several hours at a time.

Galvanism is especially useful in cases of "nerve-tire," and for relief of neuralgia of the ovaries, spinal irritation, and deficient development of the womb and ovaries.

For quite complete directions for the use of electricity, the reader is respectfully referred to the "Home Hand-Book," a work by the author.

Hot Air or Vapor Bath.—An effective vapor bath may be improvised in a number of ways. A very convenient method is the following: Place the patient in an old chair (a new chair would be damaged) over the seat of which a towel has been spread. Place under the chair a tin pan or basin with about a quarter of an inch of water in the bottom. Place in the center of the pan a sauce dish containing three or four tablespoonfuls of alcohol. Wrap a woolen blanket about the patient, covering him completely, with the exception of the head, and making it tight around the neck. Outside of the blanket place one or two comfortables so as to retain the heat. Then raise the coverings back of the chair and light the alcohol. The heat generated will be sufficient to give the patient an excellent hot-air bath.

For a vapor bath the arrangements are the same, excepting that the pan and dish containing the alcohol are replaced by a pail of hot water, into which hot bricks, to which wires have been attached, are one by one carefully lowered into the water, thus generating the desired quantity of steam. Care should be taken not to *drop* the brick into the water, as the amount of steam thus generated might be sufficient to burn the patient.

Many variations of these baths may be devised. After the vapor bath, the patient should be quickly sponged all over with cold water, or, standing up, should have a pailful of water, 75° to 85°, poured over him. A shower bath is preferable when available.

The Bladder Douche.—The administration of the bladder douche is so essential, and is also so simple that we shall describe the operation, although it is one usually left to the physician. We think it important that patients requiring the use of this measure of treatment should understand how to administer it properly themselves, so as not to be dependent upon the daily visits of a physician. An intelligent nurse can be instructed to give it properly without difficulty.

The patient should lie upon the back, the fountain or syphon syringe having been made ready for use (no others are suitable for the purpose). The solution should also be ready and in the syringe, the temperature being from 105° to 110° F. The tem-

perature must be such as will be most agreeable at first, being gradually increased. We have found that a temperature of 120° will be tolerated well after a few weeks. After introducing the catheter, empty the bladder and then connect the syringe tube, first being careful to see that all air has been excluded and allowing the fluid to run until the stream is of the same temperature as the contents of the syringe. Let the bladder fill very slowly, by regulating the height of the syringe. In case the bladder has become contracted, the reservoir must be raised higher from day to day, and the patient must be instructed to retain the contents of the bladder as long as possible.

Various medicaments should be added to the water used in the douche, according to the conditions present. An irritable bladder requires soothing remedies. If there is much mucus in the urine, astringents and alternatives are required. If the urine is acid, alkaline lotions must be used. The injections should never be strong enough to give pain, and should be introduced with great care. For ordinary cleansing, use a solution of common salt in the proportion of a dram of salt to the pint of water.

POSTURAL TREATMENT AND MASSAGE.

These two measures of treatment are invaluable as means of effecting a permanent cure of the numerous maladies which afflict womankind. By postural treatment we designate certain forms of exercise in which the body is placed in special positions or attitudes. We shall not attempt to describe all of the various modifications of special exercises which can be taken with benefit, but only such as we deem most important. The special object of these exercises is to strengthen the abdominal muscles and natural supports of the womb and to facilitate the restoration of the displaced womb or ovaries to their proper position.

To Strengthen the Muscles of the Trunk.—1. The patient should lie upon the floor or a hard couch or mattress. The feet should be placed together and the arms extended by the side. Now raise one arm to a vertical position. The motion should be made slowly, a deep inspiration being made at the same time, the arm returning to its position by the side as the lungs are

emptied. After repeating the motion half a dozen times, do the same with the other arm. Now raise both arms at once to a vertical position in the same way, repeating several times. Fig. 1, Plate M. Returning to the first arm, raise it to a vertical position and beyond until it lies upon a level with the body, stretched above the head in the axis of the body. Repeat half a dozen times, and do the same with the other arm, then raise both together in the same way. This simple movement calls into action a large number of the muscles of the trunk, and especially those of the abdomen.

2. Make similar movements with each leg, then both together, repeating six times as with the arms, then raising both together. Fig. 2. This is a much more vigorous movement.

3. The patient should sit upon a stool of suitable height place the arms as shown in Fig. 3, and then alternately turn the body from side to side as far as possible. This strengthens all the muscles of the trunk.

4. Let the patient place herself upon a smooth and moderately hard surface. A soft, springy bed is not suitable for the purpose. A hard sofa will answer very well. The feet should be drawn up as close to the body as possible. Let the patient now lift the lower part of the body so that the hips and lower portion of the trunk will not touch the surface, the body being wholly supported by the feet and shoulders. The body should be held steadily in this position for a minute or two, or as long as possible without any considerable fatigue to the muscles, when the body should be lowered to its original position. After a few minutes' rest, the same exercise should be repeated. This exercise may be continued twenty or thirty minutes, according to the patient's strength. By elevation of the hips in the manner described, the contents of the lower portion of the abdomen will, by the force of gravitation, be drawn from their abnormal position into their original place. The effect of position may be greatly increased by the aid of an attendant, who, while supporting the hips partially with one hand, should with the other gently manipulate the bowels in such a manner as to aid in drawing the contents of the pelvis toward the stomach.

Prompt relief very often follows the employment of this

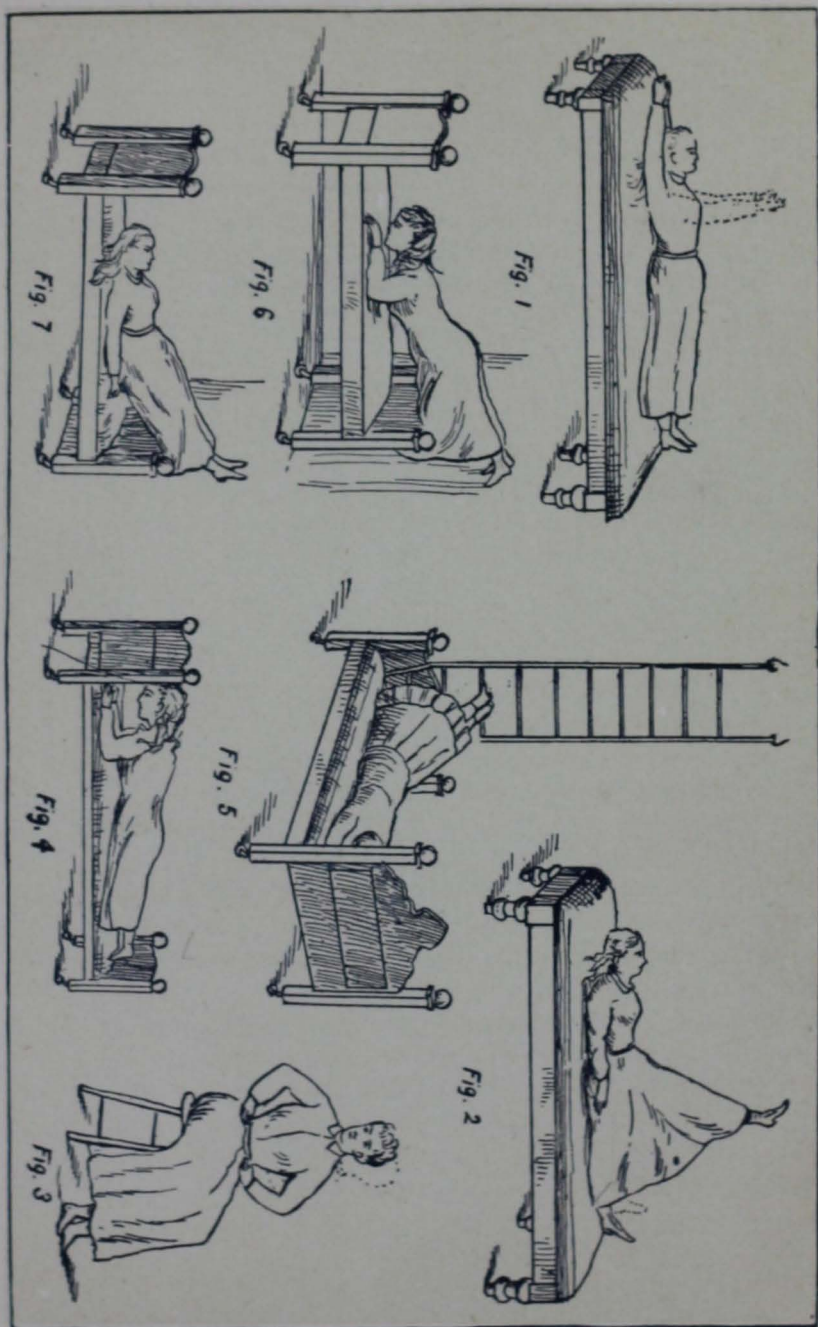


PLATE M.

measure, even the very first time it is applied ; and if it is continued daily, and two or three times a day when the patient is sufficiently strong, very excellent results may be looked for.

This movement not only strengthens the muscles of the trunk, but aids replacement.

5. Another movement which is very effective for the same purpose, consists in supporting the body upon the toes and elbows with the face downward, the hips being raised so as to make the body horizontal, as shown in Fig. 4.

6. Still more thorough exercises may be taken by the aid of an assistant. One of the best of this sort consists in elevation of the lower extremities by means of an assistant, while the patient lies upon the face, supporting the body by the chest and keeping the limbs rigid while the feet are elevated by the assistant. While the hips are elevated in movements of this sort, the intestines fall forward in the abdominal cavity, dragging the prolapsed womb after them.

7. Practically the same result may be accomplished by climbing a ladder by means of the feet, as shown in Fig. 5. The ladder may be constructed by means of two hanging ropes attached to rings in the ceiling and connected by round wooden bars, or by straps suspended and connected in a similar manner. In the absence of a ladder the patient may climb up the wall beside the bed in a similar fashion. Fig. 6.

Another mode of accomplishing the same result, in part at least, is resting the head and chest or shoulders upon the floor while the thighs are supported upon the bed. These exercises are, of course, especially useful in prolapsus and retroversion.

8. A reverse form of exercise may be obtained by climbing the ladder or the wall with the face upward, as shown in Fig. 7. This is especially applicable to cases of ante flexion or anteversion.

To Restore Displaced Organs to Position.—The discovery of the advantages to be derived from the "knee-chest" position was a great advance in the treatment of the diseases of women, especially retroversion and prolapsus. The exact posture to be assumed and the advantages to be gained by it are clearly shown by the three figures on Plate XII. By the aid of gravity, a woman by this means can do more for herself than the best phy-

sician could do with all his appliances a quarter of a century ago. By assuming the knee-chest position, the full weight of the abdominal organs drags upon the pelvic organs, to lift them into place; but so long as no air is admitted into the vagina, the effect is small, as will be seen by reference to Fig. 2, Plate XII, which shows the womb retroverted. The moment air is admitted to the vagina, however, the advantage of the position appears. The vagina expands to the pelvic walls, the uterus tips forward, and the intestines fall forward and downward, completely emptying the pelvis. Not only is the pelvis emptied of its visceral contents, but the blood-vessels are also drained, two most important objects being thus accomplished at the same time.

In order to allow air to enter the vagina, a glass tube should be introduced before the knee-chest position is assumed. An ordinary enema tube answers the purpose perfectly.

The effect of the treatment may be greatly augmented by deep and regular breathing while in the knee-chest position. The vigorous inspiratory effort will not only draw the pelvic organs upward, but will empty the blood-vessels.

We know of no one measure of treatment so valuable in the treatment of prolapsus and retroversion as this.

Massage.—"This is a method of treatment of great value in all cases of anæmia, general debility, and muscular or nervous weakness. Its proper employment is essential to the successful treatment of most cases of chronic uterine or ovarian disease. The treatment consists in a systematic kneading and manipulation of the whole body, the exact details of which are too lengthy for description here, and we shall have to refer our readers to our larger work * in which will be found a complete description of the various passive exercises employed in massage and Swedish Movements."

Massage of the Bowels.—This is one of the most efficient means of relieving chronic constipation of the bowels. The bowels should be kneaded very much after the fashion of kneading dough, care being observed to make the movements tend in the direction of the large intestine, beginning at the lower right side

* "The Home Hand-Book of Domestic Hygiene and Rational Medicine," Modern Medicine Pub. Co., Battle Creek, Mich.

of the abdomen and extending upward to the ribs, across to the opposite side, thence down to a corresponding point upon the left side. Gentle percussion of the bowels, increased as the patient is able to bear it, is a good measure. Percussions may also be applied to the back with benefit. The exercise should be continued for fifteen to thirty minutes, and may be employed with advantage at least twice a day, preferably two hours after breakfast and after retiring at night.

Massage of the Womb.—This new application of massage has won many brilliant successes in the hands of skillful operators. There are three modifications of the treatment; external, internal, and the two combined. Only external massage can be properly employed by untrained persons. The operation consists in grasping the uterus between the two hands, first compressing it and then applying a rolling motion. This should be alternated every minute or two with an upward movement applied with both hands in such a manner as to lift the womb from the pelvis. To facilitate the treatment, the patient should lie with the hips elevated upon a pillow or cushion.

The movements should be applied with care and great gentleness at first, and no violence should ever be employed. The treatment may be continued from ten minutes to half an hour twice a day. The patient should rest in a horizontal position for half an hour after the conclusion of the treatment.

MISCELLANEOUS REMEDIES AND PRESCRIPTIONS,

The following prescriptions for medicated enemata will be found very useful for the purposes suggested, as we have abundantly proven by frequent use:—

Soap and Water Enema.—Make a pretty strong solution of castile soap in warm, soft water. Use one pint to two quarts as may be necessary to secure a movement of the bowels. Useful in obstinate constipation. In very obstinate cases, common soap may be used instead of castile soap, being more powerful.

Camphor Water Enema.—To half a glassful of water, add ten to thirty drops of spirits of camphor, and inject into the rec-

tum half an hour after breakfast,—a most valuable remedy when constipation is the result of want of sensibility of the lower portion of the intestines. In severe cases the same quantity of camphor-water should be injected into the rectum in the evening and retained during the night.

Glycerine Enema.—One to two tablespoonfuls of glycerine should be used, with three or four times as much water. It is of service in the same class of cases as the preceding.

Linseed Tea Enema.—Boil a handful of linseed in a gallon of water. Use as an ordinary enema. Useful in cases of hemorrhoids and fissure of the rectum.

Quassia Enema.—Prepare in the same way as the above. After washing out the bowels thoroughly, inject slowly as much as the bowels will hold. This is the very best remedy for "seat" or "pin" worms.

Starch Enema.—Half a teaspoonful of corn starch; two tablespoonfuls of water; stir until smooth; add half a pint of boiling water. Use two to four tablespoonfuls in administering medicine by enema.

Lotions for Use in Cancer of the Breast.—The following remedies are very useful for the purposes named, in the treatment of cancer of the breast:—

R.	Ex. Bella,	dr. 1.	
	Ex. Stramon.,	dr. 1.	
	Vaseline,	oz. 1.	M.

To be used as an ointment over the affected breast before ulceration has begun. Excellent to relieve pain arising from the rapid growth of the cancer.

R.	Sugar of lead,	gr. 15.	
	Aquæ,	oz. 1.	M.

Apply three or four times a day to the ulcerated surface to relieve pain.

R.	Chloral hydrate,	gr. 5.	
	Vaseline,	oz. 1.	M.

Apply to the ulcerated surface when foul smelling. Will correct the fetor and allay pain.

R.	Iodoform,	dr. 1.	
	Acacia (pulv.),	oz. 1.	M.

Sprinkle over foul discharging surface for same purpose as preceding.

R.	Permanganate of potash,	oz. 1.	
	Aquæ,	pt. $\frac{1}{2}$	M.

Add two tablespoonfuls to a pint of water and use by injections daily in cases of cancer of the womb with foul smelling discharge. Solution will stain linen and skin.

R.	Ac. Carbolic,	f. oz. 1.	
	Glycerine,	f. oz. 4.	
	Aquæ,	f. oz. 10.	M.

Add two tablespoonfuls to a pint of water, mix well, and inject for same purposes as above. Does not stain.

R.	Tannic Acid,	oz. 1.	
	Aquæ,	f. oz. 4.	M.

Inject to relieve hemorrhage in cancer of the womb.

For Sore Nipples.—The following are a few of the most efficient remedies for use in cases of sore or cracked nipples:—

R.	Alum or Borax,	gr. 15.	
	Whisky,	f. oz. 1.	M.

Apply to surface twice a day when tender but not raw, for the purpose of hardening.

R.	Zinc, Sulphas,	gr. 10.	
	Aquæ,	f. oz. 2.	M.

Apply daily when slightly abraded or cracked.

R.	Tannic Acid,	gr. 15.	
	Glycerine,	f. oz. 1.	M.

Apply after cleansing part, twice a day.

R.	Tannic Acid,	dr. 3.	
	Glycerine,	f. dr. 1.	
	Aquæ,	f. dr. 2.	M.

Rub on nipple twice a day, during last month of pregnancy, to harden it and prepare for nursing.

Add to above preparation enough vaseline to make a thick ointment and build up around the nipple when cracked or sore.

Vaginal Lotions.—The following are a few of the most serviceable prescriptions for use by injection into the vagina in the treatment of vaginal and uterine affections:—

R.	Tannic Acid,	oz. 2.	
	Glycerine,	f. oz. 1.	M.

Add a teaspoonful to a pint of cold water, and use daily after hot douche in mild cases of leucorrhœa.

R.	Boracic Acid,	oz. 1.	
	Aquæ,	pts. 2.	M.

Inject one-half pint after hot douche daily, in leucorrhœa, particularly when there is an acid or irritating discharge.

R.	Alum,	dr. 2.	
	Ac. Tannic,	dr. 1.	
	Aquæ,	pt. 1.	M.

Use after hot douche daily, in leucorrhœa or chronic congestion of the womb.

℞.	Alum,	dr. 1.	
	Decoction of oak bark,	pt. 1.	M.

Use daily after hot vaginal douche in leucorrhœa.

℞.	Hops,	oz. 1.	
	Hot water,	pt. 1.	M.

Let stand over night. Inject after hot douche in cases of leucorrhœa in which there is much irritation,

VINEGAR is useful in cases in which there is abrasion, or so-called ulceration of the neck of the womb. Only pure cider vinegar should be used, and it should at first be diluted with an equal quantity of water. Should not be used when the vagina is sensitive from an acrid leucorrhœal discharge.

Vaginal Pledgets.—The cotton tampon or pledget is one of the most useful means of applying medicaments to the womb and vagina. Their object is usually to allay irritation, to disinfect the local discharge, to remove congestion by draining the blood-vessels, to contract relaxed vaginal walls, and to act as a mechanical support for the womb and other parts. The best raw cotton should be selected. Make the cotton into the form of a ball adapted to the size of the vagina, and tie about the center a string of sufficient length to facilitate removal. If the sole object of the application is the introduction of a medicament, or if the parts are very sensitive, the pledget may be quite soft. If support is also required, the ball should be more compact. In many cases a number of small pledgets can be introduced with much greater ease than a single large one. Three or four may be attached to the same string, two or three inches apart, or each may have a separate string. In the latter case, knots should be tied at the free extremity of the several cords, so as to indicate the order in which they are introduced. Care should be taken to saturate the pledgets sufficiently with the preparation used. When two or more pledgets are used, it is not usually necessary to saturate the last one, which should be smeared with vaseline to facilitate removal.

The pledget should be introduced while the patient is in a horizontal position after taking the hot vaginal douche. In cases of retroversion, or prolapsus, the patient should take the knee-chest position after introducing the pledget, and after admitting air to the vagina should crowd the pledget up behind or against the neck of the womb as far as possible. The pledget should be introduced daily, and preferably in the morning, being retained until the patient takes the horizontal position preparatory to the douche on the following day, or just before retiring if two daily douches are taken. In removing it, while one hand draws upon the attached cord, the fore-finger of the other hand should be in-

troduced into the vagina to loosen the pledget and to prevent its withdrawal from dragging the womb down, which is likely to happen if this precaution is not observed.

We should remark just here that the effect of many of the applications made is to produce a profuse watery discharge. This should occasion no alarm, as it is by drawing away the surplus fluid that the congestion is relieved. Care must also be used with some to prevent soiling of the clothing. This is especially true of preparations containing tannin, when there is iron present in the water used for the hot douche.

We frequently supply patients who may need to continue the use of the pledgets after returning to their homes, with a convenient little instrument by means of which the pledgets can be placed much more easily and efficiently than by the finger.

The following are a few of the prescriptions which we have found most useful :—

R. Tannic Acid, oz. 1.
Glycerine, f. oz. 4. M.

Dissolve, use daily, or three times a week, alternating with pure glycerine or vaseline. Useful in cases of subinvolution of the vagina and womb, enlargement of the womb, and profuse leucorrhœal discharge. It will be necessary to dilute the preparation with an equal quantity of glycerine in many cases at first.

R. Ac. Carbolic, dr. 1.
Glycerine, f. oz. 12. M.
Mix thoroughly.

This is useful as an alternate for the preceding, and in all cases in which glycerine is indicated. It may be used instead of the preceding when the vagina is tender, alternating with the vaseline pledget until the parts will bear the tannin preparation. It is a very healing preparation,

R. Iodoform, dr. 2.
Balsam Peru, f. dr. 1.
Glycerine, f. oz. 1. M.

Very useful in cases of ulceration or abrasion of the neck of the womb, and when there is an irritating or offensive vaginal discharge.

R. Iodoform, dr. 1.
Tannic Acid, dr. 2.
Glycerine, f. oz. $1\frac{1}{2}$. M.

Of special service in profuse, excoriating leucorrhœa. Apply daily.

R. Ex. Eucalyptus, f. oz. 2.
Glycerine, f. oz. 2. M.
Apply daily.

This new remedy we have found exceedingly valuable as a means of relieving the harassing neuralgic pains so common in cases of chronic

disease of the womb and ovaries. It is also useful in cases in which there is an offensive leucorrhœal or menstrual discharge.

GLYCERINE is probably the most useful of all single remedies for use in cases of leucorrhœa, catarrh of the womb, congestion, inflammation, and enlargement of the organ. It rarely produces any uneasiness, even when there is much local sensitiveness. Its good effects are produced by its affinity for water, to obtain which it drains the blood-vessels of the surfaces with which it comes in contact. When any irritation arises from its constant use, it may be alternated with vaseline.

VASELINE, used alone or combined with three to five drops of carbolic acid to the ounce, is a very excellent application in cases in which there is great irritability of the vagina. It should always be used to lubricate the cotton pledget when used without other medicaments as a means of supporting the uterus, and should be employed to lubricate the parts before introducing medicated pledgets.

ALUM is very useful as a remedy for leucorrhœa, and for use in uterine hemorrhage from any cause. It may be used in either of the following ways:—

Prepare a cotton pledget in the usual manner, placing in its center about one-fourth of a small teaspoonful of powdered alum.

In cases of severe hemorrhage, or very profuse menstruation, make a small muslin bag, fill with powdered alum, and introduce into the vagina with a string attached, pressing it well up against the cervix.

VINEGAR is also valuable for use with the pledget in cases of severe hemorrhage. In puerperal hemorrhage a large cotton ball should be saturated with vinegar and crowded up into the mouth of the womb. The effect in staying the hemorrhage is almost instantaneous in most cases.

A LEMON, carefully peeled, all the rind being removed so as to bring the juicy surface in contact with the bleeding vessels, is a valuable means for stopping the violent hemorrhage which sometimes follows labor. It should be introduced within the mouth of the womb.

Vaginal Suppositories.—These are medicated cones composed of oleaginous material holding in solution or imbedded in the medicament. The following are a few of the most valuable for use in cases in which there is much local pain and irritability:—

R.	Iodoform,	gr. 20.	
	Sugar,	gr. 4.	
	White Wax,	dr. 1.	
	Cacao Butter,	oz. $\frac{1}{4}$.	M.

Melt and pour into four cones of paper to cool. Introduce one into the vagina at night, and two or three times a day if necessary in cases of severe pain in the womb which is not relieved by fomentations over the abdomen, the hot douche, or the hot enema.

R.	Ex. Bella.,	gr. 4.	
	Sugar,	gr. 4.	
	White Wax,	dr. 1.	
	Cacao Butter,	dr. 4.	M.

Melt and cool in four paper cones. Use as directed for the preceding.

R.	Ex. Bella.,	gr. 4.	
	Tannic Acid,	gr. 12.	
	Sugar,	gr. 4.	
	White wax,	dr. 1.	
	Cacao Butter,	dr. 4.	M.

Melt and cool in four paper cones. Useful in cases in which there is pain accompanied by leucorrhœa. Also excellent for use by the rectum in cases of hemorrhoids. Use daily.

R.	Ex. Bella.,	gr. 4.	
	Iodoform,	gr. 20.	
	White Wax,	dr. 1.	
	Cacao Butter,	dr. 4.	M.

Melt and cool in four paper cones. This is one of the most useful prescriptions for the relief of pain.

For Bladder Douche.—The following are a few of the prescriptions which we have found of greatest service in the treatment of cases requiring the use of the bladder douche:—

R.	Common salt,	dr. 1.	
	Aquæ,	pt. 1.	M.

Excellent for simply cleansing the bladder, or distending it when contracted.

R.	Potass. Chloras,	dr. $\frac{1}{2}$.	
	Aquæ,	pt. 1.	

Useful for the same purpose as the preceding.

R.	Cider Vinegar,	f. dr. 4.	
	Aquæ,	pt. 1.	M.

Use when urine is alkaline, having an ammoniacal odor.

R.	Bi-carbonate of soda,	gr. 16.	
	Aquæ,	pt. 1.	M.

Use when urine is acid, or shows a brick-dust deposit.

R.	Tannic Acid,	gr. 16.	
	Aquæ,	pt. 1.	M.

Use in cases of chronic catarrh of the bladder.

R.	Boracic Acid,	dr. 1.	
	Aquæ,	pt. 1.	M.

Useful as a cleansing injection, and in cases of acute catarrh of the bladder.

R.	Ex. Hydrastis (aqueous),	f. dr. 2.	
	Aquæ,	pt. 1.	M.

Useful in chronic catarrh of the bladder. The strength may be increased by degrees.

For Constipation.—

R.	Brown sugar,	Tablespoonful 1.	
	Water,	pt. 1.	M.

Use when there is want of desire for movement of bowels.

R.	Common salt,	dr. 1.	
	Aquæ,	pt. 1.	M.

Use same as preceding.

For Catarrh.—The following are a few of the many prescriptions which we have found efficacious in the treatment of nasal and pharyngeal catarrh.

R.	Borax,	dr. 1.	
	Bicarbonate of Soda,	dr. 1.	
	Glycerine,	f. oz. $\frac{1}{2}$.	
	Aquæ,	pt. 1.	M.

An excellent cleansing solution, to be used in cases of chronic catarrh as a preparation for the application of other remedies. Use with atomizer.

R.	Chlorate of Potash,	dr. 1.	
	Aquæ,	pt. 1.	M.

Use with atomizer in cases of catarrh with an irritating discharge.

R.	Tannin,	dr. $\frac{1}{2}$.	
	Aquæ,	f. oz. 10.	M.

Use with atomizer after cleansing solution in cases in which there is a profuse discharge.

R.	Oil Eucalyptus	dr. $\frac{1}{2}$.	
	Oil Petrolina,	f. oz. 3.	M.

Use with atomizer in cases of dry catarrh.

R.	Potass. Permanganate,	dr. $\frac{1}{2}$.	
	Aquæ,	f. oz. 12.	M.

Use with spray after cleansing solution in cases of ozena, or nasal catarrh with offensive breath.

R.	Boracic Acid,	dr. 1.	
	Powdered gum acacia,	dr. 2.	M.

Use as a snuff in cases of catarrh with offensive discharges, after cleansing.

For Mouth and Throat.—The following prescriptions we have tested by experience, and know to be of real value in the treatment of the conditions for which they are recommended.

R.	Borax,	dr. $\frac{1}{2}$.	
	Glycerine,	f. oz. 1.	M.

Apply with camel's-hair brush in thrush or aphthæ.

R.	Chlorate of Potash,	dr. 1.	
	Aquæ,	f. oz. 4.	M.

Use as gargle in sore mouth or sore throat.

R.	Acid Carbolic,	dr. $\frac{1}{2}$.	
	Glycerine,	f. oz. 1.	
	Aquæ,	f. oz. 3.	M.

Apply to throat in severe diphtheria with fetid breath, by means of atomizer or swab.

R.	Chlorinated soda solution,	oz. $\frac{1}{2}$.	
	Aquæ,	f. oz. 3.	M.

Use as gargle or with atomizer in diphtheria when the breath is foul.

R.	Acid Tannic,	gr. 10.	
	Glycerine,	f. oz. 1.	M.

Apply to back of throat with brush in cases of chronic sore throat.

R.	Chloride of Sodium (common salt),	dr. $\frac{1}{2}$.	
	Aquæ,	f. oz. 2.	M.

Inhale spray with atomizer three times a day for acute hoarseness from a cold.

R.	Acid Tannic,	gr. 3.	
	Aquæ,	f. oz. 1.	M.

Inhale spray daily for chronic sore throat and hoarseness.

R.	Alum,	gr. 5.	
	Aquæ,	f. oz. 1.	M.

Use for same purpose as the preceding.

Lime-Water.—

R.	Best white quicklime,	lb. 1.	
	Aquæ,	gal. 1.	M.

Let stand in earthen jar 24 hours, shaking occasionally. When settled clear, turn off the clear solution, and keep in a well-stoppered bottle. For use in treatment of infantile dyspepsia and diarrhea, and in diphtheria and croup.

Disinfectant Lotions.—

R.	Copperas,	lb. 2.	
	Water,	gal. 1.	M.

Disinfectant lotion for use with scarlet fever and diphtheria patients, as directed.

R.	Sulphate of zinc,	lb. $\frac{1}{2}$.	
	Aquæ,	gal. 1.	M.

Disinfectant lotion for cleansing cloths used in connection with diphtheria and scarlet fever patients.

R.	Potassium permanganate,	oz. 2.	
	Aquæ,	gal. 1.	M.

Keep in jug or glass bottle. A teacupful should be placed in the vessel which receives the discharges of a diphtheritic or scarlet fever patient.

Miscellaneous.—The following miscellaneous prescriptions include, among others, those which have been referred to in the preceding pages of this work :—

R.	Iodoform,	dr. $\frac{1}{2}$.	
	Vaseline,	dr. $4\frac{1}{4}$.	M.

Useful in cases of painful connection, or vaginismus. The ointment should be applied on a little plug of charpie, which should be gradually increased in size from day to day until the painful contraction is overcome. If the odor is very objectionable, a little Balsam of Peru may be added.

R.	Ex. Bella.,	dr. 2.	
	Vaseline,	oz. 1.	M.

Apply on charpie as directed for the preceding.

R.	Borax,	dr. 1.	
	Aquæ,	oz. 4.	M.

Apply to the vulva when irritable from inflammation, using lint or soft linen cloths for the purpose.

R.	Acid Boracic,	dr. 1.	
	Aquæ,	oz. 4.	M.

Apply same as preceding, and for same purpose.

R.	Ac. Carbolie,	f. dr. 1.	
	Glycerine,	f. oz. 1.	
	Aquæ,	f. oz. 15.	M.

Apply with lint or soft cloths in cases of inflammation of the vulva.

Salt Glow.—The external application of salt by rubbing dry salt upon the skin vigorously is one of the best methods of stimulating the circulation and proper secretion of the skin.



Useful Dietetic Recipes.

BREADS.

Soft Biscuit, or Waffles.—Into one part of cold soft water stir two parts of graham or whole-wheat flour. Sift slowly in with one hand while stirring with the other, thus endeavoring to get in as much air as possible. If flour made from red wheat is used, a little less water will be required. The batter should be thick enough so that it will not settle flat. If it is too thin, the waffles will be flat and blistered; if too thick, they will be tough and heavy. Bake in cast-iron gem-pans, in a very hot oven, though the heat should not be sufficient to brown them in less than fifteen minutes, and they are better to bake twenty-five or thirty minutes; a longer time toughens the crust. They should be baked on the top first, to prevent the escape of air and steam. The pans should be heated very hot before dropping the batter in. To prevent sticking, smear with sweet-oil or fresh butter, and when thoroughly heated, carefully wipe away as much as possible of the oil.

Rice Waffles.—Take one part of boiled rice to three parts of water, and stir in sufficient graham or whole-wheat flour to make a batter a little thicker than when the flour is used alone. Bake the same as described above. Hominy and pearl barley may be used in the same manner.

Oatmeal Breakfast Cake.—Saturate oatmeal of medium fineness with water. Pour the batter into a shallow baking-dish, and shake down level. It should be wet enough so that when this is done a little water will stand on the top. Bake twenty minutes in a quick oven. It may also be baked in fifteen minutes on the top of the stove in a covered dish.

Graham Breakfast Rolls.—Make a stiff batter with cold water, work in as much flour as will knead well, and then knead for twenty minutes or half an hour. Make into rolls one-half inch to two inches in thickness, and bake in a hot oven on a grate or baking-pan dusted with flour, laying them a little distance apart. Excellent rolls may be made by kneading flour into cold graham, cornmeal, or oatmeal pudding.

Rusk.—Bread and crackers may be made into granola by first drying till brown, and then grinding in a coffee or hand mill.

This is a very serviceable article for thickening puddings, soups etc. May be eaten with hot milk.

Graham Crisps.—Mix graham flour and cold water into a very stiff dough. Knead, roll very thin, and bake quickly in a hot oven. Excellent food for dyspeptics.

Oatmeal Crisps.—Into oatmeal mush, or scalded oatmeal, knead a small quantity of graham flour. Roll very thin, prick with a fork, and bake upon a grate. Be careful that they do not burn. They are very tender and crisp when warm. If they are kept several days, place in the oven a few minutes just before they are to be eaten.

Graham and Oatmeal Crackers.—No. 1. Equal parts of graham flour and oatmeal made as directed for graham crackers are very tender.

No. 2. Work graham flour into oatmeal mush, forming a pretty stiff dough, and kneading well. Bake in a moderate oven until nicely brown.

Diabetic Bread.—Make a dough of equal parts of flour and water. (The new-process spring wheat flour, whole-wheat flour, or graham flour should be used.) Let the dough stand three hours, then place on a sieve under a stream of water until all the starch is washed out, which will be indicated by the water running off clear. Add enough coarse middlings so that the dough can be rolled into thin cakes and bake on tins. Salt and a little cream or butter may be added to make it more palatable, if desired.

GRUELS.

Beef Tea and Oatmeal.—Beat two tablespoonfuls of fine oatmeal with two spoonfuls of cold water until very smooth, then add a pint of hot beef tea. Boil together six or eight minutes, stirring constantly. Strain through a fine sieve.

Milk Gruel.—Into a pint of scalding milk stir two tablespoonfuls of fine oatmeal. Add a pint of boiling water, and boil until the meal is thoroughly cooked.

Oatmeal Gruel.—Stir two tablespoonfuls of coarse oatmeal into a quart of boiling water, and let it simmer at least two hours. Strain if preferred.

Rice Gruel.—Soak two tablespoonfuls of fine rice for half an hour in cold water. Pour off the water, add a pint of milk, and let it simmer until the rice is tender. Press through a sieve, and

then dilute with milk. Heat again for a few moments, pour off to cool, and flavor with a little salt or sugar.

Milk Porridge.—Place over the fire equal parts of milk and water. Just before it boils, add a small quantity (a tablespoonful to a pint of water) of graham flour or cornmeal, previously mixed with water, and boil three minutes.

Farina Gruel.—Place a quart of water in a saucepan, stir into it two tablespoonfuls of farina, let it boil until quite thick; add one pint of milk, a pinch of salt, and allow it to boil fifteen or twenty minutes longer. A little sugar may be added when cool, if desired.

Cream Gruel.—Put a pint and a half of water on the stove in a sauce-pan. Take one tablespoonful of flour and the same of cornmeal; mix this with cold water, and as soon as the water in the sauce-pan boils, stir it in slowly. Let it boil slowly about twenty minutes, stirring constantly; then add a little salt and a gill of sweet cream. Do not let it boil after putting in the cream, but turn into a bowl and cover tightly. Serve in a pretty cup and saucer.

JELLIES.

Chicken Jelly.—Take half a raw chicken, tie in a coarse cloth and pound till well mashed, bones and meat together. Place the mass in a covered dish with water sufficient to cover it well. Allow it to simmer slowly till the liquor is reduced about one-half and the meat is thoroughly cooked. Press through a fine sieve or cloth, and salt to taste. Place on the stove to simmer about five minutes. When cold, remove all particles of grease.

Lemon Jelly.—Put an ounce of gelatine in a large bowl with four tablespoonfuls of cold water to soften it. When soft, pour over it just three pints of boiling water, add two and a half cups of granulated sugar and the juice of three large lemons. Stir well, and drain through flannel or a very fine strainer. Pour into cups, and when cold put into the refrigerator until next day. This is very toothsome, but of no value as a food, and hence useful only in cases in which little nourishment is required.

Bread Jelly.—Pour boiling water over bread crumbs, place the mixture on the fire, and let it boil until it is perfectly smooth. Take it off, and after pouring off the water, flavor with something agreeable, as a little raspberry or currant jelly water. Pour into a mold until required for use.

Sago Jelly.—Simmer gently in a pint of water two tablespoonfuls of sago until it thickens, frequently stirring. A little sugar may be added if desired.

DRINKS.

Tapioca Milk.—Put an ounce of best tapioca into a pint and a quarter of fresh milk, and let it simmer gently for two hours and fifteen minutes, stirring frequently. Sweeten to the taste.

Bran Tea.—Take three tablespoonfuls of bran (not very coarse) and put it in a jug. Add to it one quart of boiling water, cover the jug, and allow the mixture to stand for half an hour. Strain and sweeten to the taste.

Rice Water.—Put three ounces of good rice into a quart of boiling water, and let it boil for an hour. Strain, sweeten, and flavor with a little lemon.

Apple and Toast Water.—Peel and quarter a pound of sub-acid apples, bake them, and put them in a jar; add half a pound of sugar, and a piece of bread toasted until it is dark brown; then pour a gallon of boiling water over them, and leave them to cool. When cold, press through a colander. A quarter of a pound of pearl barley added instead of the bread is very good. It should boil for an hour to cook the barley.

Tamarind Water.—Take two ounces of tamarinds and one-fourth of a pound of stoned raisins; boil them in a quart and a half of water for an hour; strain, and when cold it is ready for use.

Currant Water.—Take the juice of one pound of fresh currants and a few raspberries, one-half a pound of granulated sugar and a gallon of cold water; stir till mixed well.

Toast Water.—Brown a few crusts a nice, deep brown, but do not allow to blacken or burn. Break into small pieces, and put into a jar. Pour over the pieces a quart of boiling water; cover the jar and let the mixture remain until cold. When strained, it will be ready for use.

Lemonade.—Mix the slices and juice of two lemons with three spoonfuls of refined sugar, and add a pint of cold or iced water.

Hot Lemonade.—Take two thin slices and the juice of one lemon; mix with two teaspoonfuls of granulated sugar, and add one-half pint of boiling water.

Flaxseed Lemonade.—To four tablespoonfuls of whole flaxseed add a quart of boiling water, and let it steep three hours; then add the juice of two lemons; sweeten to the taste, and thin with cold water. Drink cold.

Barley Water.—Take half a teacupful of good pearl barley. First wash it thoroughly; then boil five or ten minutes in fresh water. Drain off this water and pour on two quarts of boiling water and boil down to one quart. Flavor if desired with a little lemon or sugar. Thin to required consistency with boiling water.

Gum Arabic Water.—Put an ounce of choice gum arabic into a jar with two ounces of refined sugar and a pint of water. Place the jar in a sauce-pan of warm water and stir until dissolved. Add a little lemon to flavor. This is a good drink for consumptives.

Flaxseed Tea.—Take an ounce of whole flaxseed, half an ounce of crushed licorice root, an ounce of refined sugar, and four tablespoonfuls of lemon juice. Pour over these ingredients a quart of boiling water; let this stand near the fire for four hours, and then strain off the liquid. The flaxseed should not be crushed, as the mucilage is in the outer part of the kernel and if bruised the boiling water will extract the oil of the seed and render the decoction nauseous. The tea should be made fresh daily.

Bran or Wheat Coffee.—Mix bran and molasses to a stiff paste, spread on a tin and brown in the oven. Brown wheat in the same way. Be careful not to allow the heat to be sufficient to burn or scorch. Use as other coffee, for which it is a good and unstimulating substitute. Wheat coffee is sometimes sold at the stores in packages.

White of Egg and Milk.—The white of an egg beaten to a stiff froth and stirred very quickly into a glass of milk is a very nourishing food for persons whose digestion is weak, also for children who cannot digest milk alone. The white of egg has a tendency to prevent the formation of hard curds in the stomach.

LIQUID FOODS.

Chicken Broth.—Care should be taken to select a young fowl. Cut it up into small pieces, place it in a stew-pan and boil two hours. Turn off the broth, and after allowing it to cool, carefully skim off all particles of oil.

Beef Tea.—For every quart of tea desired, use one pound of fresh beef from which all fat, bones, and sinews have been carefully removed. Cut the beef into pieces a quarter of an inch square, or grind in a sausage-grinder, and soak over night in a small quantity of water (a pint will do). Take the beef out and let it simmer gently in a larger quantity of water for two or three hours, replacing from time to time the water lost by evaporation. Afterward pour together the boiling liquor and the cold liquid in which the beef was soaked.

ANOTHER METHOD.—Take a pound of fresh beef prepared as above, and mix with a pint of cold water. Let it stand an hour; then pour into a glass fruit-can, or large-mouthed stone jar, and place in a vessel of water; let it heat on the stove another hour, being careful not to allow it to boil. Strain through a fine cloth or filter before using.

Beef Juice.—Cut a pound of lean beef into small pieces, put into a bottle and cork it up; place the bottle in a dish containing a little cold water, and allow it to stand over the fire until it boils.

NUMBER 2.—Select a thick, tender piece of steak, free from fat. Hold over the coals for two or three minutes. Press the juice out with a lemon squeezer. Much more nourishing than beef tea or any variety of "beef extract."

Milk Diet.—There are occasionally cases in which great advantage is gained by the employment of an almost exclusive milk diet. Usually it is necessary to take the milk in moderate quantity, using a little other food at first. In the course of a week all other food may be withdrawn, and the quantity of milk may be gradually increased to four quarts a day. Milk is easily digested, and hence may be taken at more frequent intervals than other food.

Lime-Water and Milk.—In case in which milk sours or forms large curds in the stomach, lime-water may be added in such proportions as may be necessary. A tablespoonful of lime-water to a gobletful of milk is usually enough, but some cases require at least one-fourth as much lime-water as milk.

The lime-water may be made by slacking in a gallon jar a piece of lime of the size of the fist. The jar should be kept covered. After standing over night to settle well, the lime-water is ready to be used. It can be decanted or drawn off with a siphon.

Koumyss.—Dissolve one teaspoonful of yeast and two teaspoonfuls of sugar in three tablespoonfuls of warm (not hot)

water; pour into a quart bottle and add milk sufficient to fill the same. Let it ferment from three to six hours, cork tightly, and tie the cork in. Put in a cool place not above 60°, and let it remain a week, when it will be ready for use. It is much better and smoother to ferment slowly.

PREPARATIONS FOR NUTRITIVE INJECTIONS.

Pancreas and Meat Solution.—Take fresh beef pancreas, carefully remove all fat, cut two ounces (about two heaping tablespoonfuls) into very small pieces. Take of finely scraped or ground beef, also free from fat and sinew, double the quantity of pancreas. Mix with two-thirds of a teacupful of warm (not hot) water. Stir until well broken up. Inject into the rectum through a large tube. About half should be injected at once, and the injection should be made slowly, so as to prevent its discharge before absorption has taken place. If necessary, a napkin should be held against the anus until the disposition of the bowels to move ceases.

Pancreas and Cream.—Chop very fine three ounces of fresh beef pancreas. Add two tablespoonfuls of warm water and a teacupful of sweet cream. Mix thoroughly in a small pail. Cover and place in a pan of water blood-warm. Keep at this temperature for from one-half to three-quarters of an hour, stirring frequently. At the end of this time strain through a coarse colander, rubbing through as much as possible of the pancreas, and inject into the rectum. If the patient will not retain all at first, use half the quantity, keeping the balance in a refrigerator until needed for use. Then warm to the proper temperature and inject as before.

Beef Tea and Egg.—Beat lightly one egg with four tablespoonfuls of strong beef tea. Inject as directed before. This is the most nourishing of any preparation which can be employed for this purpose, and as it is easily prepared should be resorted to whenever a patient cannot be nourished by the stomach.

MISCELLANEOUS.

White of Egg.—Stir the white of an egg into a tumblerful of cool water, or water warm as it can be without coagulating the egg. Give to infants suffering from extreme disorder of digestion and unable to take milk. This simple mixture has saved many an infant's life.

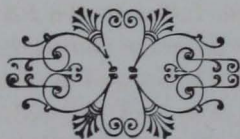
Eggs and Sugar.—Beat the yolks of four eggs with two tablespoonfuls of granulated sugar and the grated rind and juice of a small lemon or orange. Place in a dish in a kettle of boiling water, and cook, stirring constantly. Add to the whites of the eggs a teaspoonful of pulverized sugar and beat until stiff. When the yolks have begun to thicken, stir in the beaten mixture, and when thoroughly mixed put it away to cool.

Slip.—After slightly warming a pint of milk add a teaspoonful of liquid rennet and pour into saucers. In a few minutes, or when cool, the milk will be of the consistence of jelly. If the expected result is not obtained, add two teaspoonfuls of the rennet, as it is sometimes of deficient strength.

Frugolac.—This is a very palatable dish, prepared essentially the same as the preceding, except that an egg is added to the milk and it is to be eaten with fruit juice or jelly.

Rice Milk.—Boil a tablespoonful of rice an hour and a half in a pint of new milk; rub through a fine sieve and sweeten to the taste. Boil a few minutes longer.

To Cook Rice.—Take two cups of rice and one and one-half pints of milk. Place in a covered dish and steam in a kettle of boiling water until it is cooked through; pour into cups and let it stand until cold. Serve with cream.



Antiseptic Midwifery.

WITHIN the last thirty years it has been demonstrated beyond all reasonable doubt that a large share of the gravest complications of childbirth are due to germ infection.

The original source of germ infection may be the physician, the midwife, or the patient. It has not infrequently happened that case after case of puerperal fever has occurred in quick succession in the practice of a physician or a midwife, the infection being evidently carried from one patient to another by the medical attendant. It is known, however, that germs which are capable of producing inflammation, blood poisoning, and even death, are constantly found upon and about the external organs of generation ; they may even be found in the vagina. It is thus evident that infection may occur, even though the medical attendant be free from infectious germs.

The introduction of aseptic and antiseptic midwifery has resulted in the saving of many thousands of lives and of a vast deal of suffering, as not infrequently the inflammations which follow infection during childbirth give rise to pelvic disorders, which, if not immediately fatal, cripple a woman for life, generally rendering her sterile and a constant sufferer. Not infrequently it has fallen to the lot of the writer to be called upon to perform grave surgical operations for the removal of the Fallopian tubes and ovaries as the only means of relieving a patient who had suffered for half a score of years or more as the result of infection at childbirth.

It has been proven again and again in lying-in hospitals, as well as in private practice, that by sufficiently careful attention to the exclusion of germs it is possible to exclude fevers and inflammatory troubles following childbirth almost altogether ; so that in some cases many hundreds of consecutive confinements have been reported without a single death. This great

boon to womankind, however, involves the most scrupulous attention to the nicest details.

We have not here space in this short chapter to enter fully into all these, neither is it necessary, since their carrying out would require the services of a trained nurse. Nevertheless we wish to present a sufficient amount of information to place in the hands of the intelligent expectant mother such knowledge as will enable her to understand what sort of service she may reasonably demand of her obstetric physician and nurse, and to render her capable of intelligently co-operating with her medical attendants in the effort to secure the highest possible degree of safety at the critical period of parturition.

The practice of antiseptic midwifery is based upon the fact that inflammation is due to infection of the blood or tissues by germs. It is a well-known fact that certain precautions may be taken whereby perfect protection against these germs may be secured. These precautions depend upon two things,—cleanliness, and the application of substances capable of destroying germs, known as germicides, or antiseptics.

That the ordinary measures for securing cleanliness,—the application of soap, and the vaginal douche,—are not sufficient, is due to the fact that it is impossible by this means to render the patient absolutely clean. There will always be left some germs which cannot be removed, but which may be destroyed without removal by the employment of the proper measures.

These aseptic and antiseptic measures—in other words, cleanliness and germicides—must be applied to each of the following persons and things: 1. The nurse; 2. The patient; 3. The patient's clothing and bedding; 4. The physician; 5. The child. The substances which may be usefully employed, are—

1. Boiled or Distilled Water.—It is generally not possible to obtain distilled water in sufficient quantity, hence boiled water must be relied upon. Soft water is preferable to hard, for the reason that hard water is likely to destroy or neutralize the

chemical substances used for the antiseptic solution. Water must be boiled thirty minutes. After boiling, it should be put into perfectly clean, new jugs, which have been previously boiled and corked up to be ready for use when wanted. It is better that the water should be freshly boiled; it should not, at any rate, be more than two or three days old.

2. Soap.—With the soap use a new nail-brush, or, if a new nail-brush cannot be obtained, the old one should be thoroughly boiled or soaked for twenty-four hours in a strong antiseptic solution; a 1-2500 solution bichloride of mercury is preferable. Ordinary yellow soap is better than toilet soap, and quite as good as any soap called antiseptic soap, since the amount of antiseptic contained in such soaps is not sufficient to be of any special value.

For applying the soap in shampooing the patient a handful of excelsior which has been boiled and made into a nice wad for the purpose, or a freshly boiled "loofah," should be used in preference to an old shampoo brush.

3. Antiseptic Solutions.—Of these, the best is corrosive sublimate. For use as a vaginal douche, a solution consisting of one part of bichloride of mercury to 5000 parts of water should be used. For external application, a solution of double strength should be used. It should be remembered, however, that this solution is highly poisonous, and never should be placed in contact with the eyes or mouth of the patient, nor introduced into the rectum; and whenever it is used in the vagina, at the conclusion of the application a quantity of boiled water should be introduced to remove it. For a 1-5000 solution, use three grains to the quart. When ordinary boiled water is used, and not distilled water, it is well to add a teaspoonful of salt to each quart to secure prompt and permanent solution. When solutions of corrosive sublimate are made up in advance, in fact, under all circumstances, it is important to add some coloring matter so that the solution, which is colorless, shall not be mistaken for ordinary water, and thus be inadvertently swallowed, as death may easily result from such an error. The best material to

use for coloring is indigo carmine, which makes a deep blue color. Almost any of the blue aniline colors may be used. The red coloring matters should not be used, as they produce a solution having a resemblance to diluted wine or fruit juice. Aniline colors should only be used when the solution is to be employed at once, as they deteriorate the strength of the solution after standing.

Bichloride tablets have been prepared, but these are objectionable, as they resemble lozenges, and hence might be swallowed by mistake. A method devised by the writer which seems to be free from the objections of other methods for providing this very poisonous material in convenient and safe form, consists in preparing small masses of cotton lint, which are impregnated with a mixture of corrosive sublimate and chloride of sodium with the proper amount of coloring matter of such strength that each piece contains three grains of bichloride of mercury, or a sufficient amount to give to one quart of water the strength of a 1-5000 solution of bichloride of mercury. When a 1-2500 solution is required, it is only necessary to add two of these pieces. The material held in a dried form in the cotton is very quickly dissolved by contact with hot water, so that a solution is readily made. The cotton does not interfere with its use for any purpose, so can be left in the vessel or can be removed after a few moments. The ordinary solutions, and some of the powders and tablets prepared by druggists, contain tartaric acid. Such solutions should be avoided, for they are much more likely to produce poisonous effects than a solution made by the addition of chloride of sodium, or common salt, with the bichloride of mercury.

It must never be forgotten that bichloride of mercury is a very powerful poison, and its use in obstetrics is always accompanied by more or less danger, safety depending entirely upon the watchfulness and intelligence of the nurse. It is doubtful, on this account, whether it can ever be safely brought into general use except in hospitals or under circumstances in which it can be used under the immediate super-

vision of a physician or a trained nurse. In cases in which there is suspicion of disease of the kidneys, and in cases in which there have been extensive lacerations of the vagina or uterus, its use is accompanied by very great risk. It is also sometimes impossible to obtain this drug, hence it is important to know that there are other substances which can very well replace it. One of the very best of these is that which we shall next mention.

Sulphate of Copper.—This substance, commonly known as blue vitriol, is an excellent substitute for bichloride of mercury, or corrosive sublimate. It must, however, be used in much larger proportion. The quantity required for each quart is seventy-five grains or five drams per gallon. It may be used in the same way as corrosive sublimate, with the exception that it never can be used in connection with soap, with which it forms hard curds which adhere to the skin.

Permanganate of Potash.—This is an excellent germicide, and has the great advantage that it is almost wholly free from poisonous properties. It should be used in the strength of eight grains to the quart. It is preferable to all other substances in cases in which a fetid discharge is present either before or after confinement.

Boric Acid.—This substance has very feeble germicidal properties, but is, nevertheless, of some value, since it prevents the development of germs to a very considerable extent, even though it does not destroy them. It must be used, however, in a very strong solution; one and one third ounces to the quart is the proper strength.

Preparations for an aseptic and antiseptic confinement ought to begin, if possible, at least a few days before the delivery. Everything about the lying-in room should be put in perfect order, and in the most sanitary condition possible.

Dusty carpets, rags, and drapery should be removed. The dust should be removed with moist or damp cloths, not with a duster. The bed should be provided with a freshly renovated mattress, freshly washed bedclothing, and everything should

be scrupulously clean. Old feather beds and straw beds must be removed.

Next comes disinfection. The nurse or attendant must, first of all, be sure that she has omitted no precaution necessary to secure absolute personal cleanliness. A thorough bath, clean clothing, and a thorough cleansing of the hands are requisites. More particular instruction upon further details are important.

Disinfection of the Hands.—Clean the nails as thoroughly as possible with a wooden or quill toothpick or some other suitable and not sharp instrument. Scrub the hands and forearms very thoroughly with hot soap suds, using ordinary yellow washing soap and a thoroughly aseptic brush, as indicated above. The water employed should be as hot as can be borne. Use plenty of soap, and give special attention to the nails, which should be cut short preparatory to the scrubbing.

After the hands have been thoroughly cleansed in this way, pour over them a small quantity of saturated solution of borax and carbonate of ammonia, rubbing in the solution well. Dip in boiled water for a second, then immerse in a hot 1-2500 bichloride of mercury solution for two minutes. In the absence of bichloride of mercury, use a permanganate of potash solution, eight grains to the quart. The forearms as well as the hands must be covered with the solution. A permanganate of potash solution will color the skin brown. If the brown color is uniform, it is an indication that the scrubbing has been well done and that all fat has been removed from the skin. If the skin appears mottled, the brown color not being uniform, the scrubbing should be renewed and the disinfection repeated as before. After the delivery is completed and the patient cared for, the brown color of the skin may be easily removed by bathing the hands and arms with a hot solution of oxalic acid.

The physician before examining the patient should cleanse his hands in precisely the same manner, and the nurse should renew the cleansing of the hands whenever they become soiled by contact with infected materials.

Disinfection of the Patient.—The patient should have a thorough soap and water bath a few hours before delivery. This can be administered in bed if necessary. Special attention should be given to the thorough shampooing of the vulva, or external parts, the region about the anus, the groins, the abdomen, and the upper thighs, especially the inside of the thighs. The cleansing of these parts is greatly facilitated by cutting off the hair. Hot, strong soapsuds should be used and a 1-2500 bichloride of mercury solution afterward, or, if corrosive sublimate is not employed, a sulphate of copper solution, five drams to the gallon (seventy-five grains to the quart), may be used. It must be remembered, however, that the parts must be rinsed several times with boiled water so as to remove every particle of soap before the copper solution is applied. It should be applied hot and the parts should be thoroughly scrubbed with it, pains being taken to reach every portion of the surface, leaving nothing secreted behind folds of skin or in the creases of the body.

Before shampooing, the bladder should be emptied, if necessary by the use of a catheter, and the bowels should also be thoroughly evacuated by means of an enema. The enema should be administered with the patient lying on the right side, turned as much as possible upon the face, and with the knees well drawn up. Two or three quarts of warm water should be introduced. It is well to introduce a pint or two of cold water at the end, to stimulate vigorous peristaltic movement, as many women are subject to constipation during pregnancy, and fecal accumulations are very likely to be present on this account, as well as from the pressure of the enlarged uterus. Be sure that the water employed for the enema is thoroughly evacuated, and the parts very carefully cleansed afterward.

After thoroughly cleansing the external parts, a disinfecting douche should be administered. This may consist of a bichloride of mercury solution, one part to five or ten thousand, or half a grain to three grains to a quart of water, or the copper solution may be used. The copper solution is

quite astringent, however, and should be employed only in cases in which it is known that the patient is suffering from disease of the kidneys or is especially susceptible to the influence of mercury. Before the disinfecting douche is administered, the vagina should be thoroughly washed out with a hot soap and water douche. Strong soap suds is made with three or four quarts of water, employing yellow soap. Pains must be taken to turn the douche tube in various directions, and, if necessary, to wash the vagina out by using one or two fingers, as there is very frequently a considerable amount of accumulated mucus hidden in the folds of the relaxed vagina, which will not be reached otherwise. Employ the antiseptic douche, which should consist of not less than two quarts of water, and should be at least 105° in temperature,—and in most cases 110° to 112° F.

The only precaution necessary in the use of the douche is to avoid the employment of too much force. A high degree of force might stimulate uterine contractions prematurely. This precaution is, of course, not necessary when the douche is used after the beginning of labor, and may even prove useful in stimulating the uterus to activity when the labor pains are not sufficiently vigorous. To avoid employing too much force, it is only necessary to take care to place the fountain (the syphon or fountain syringe should always be used in preference to any other, in these cases) at a distance not to exceed a foot and a half to two feet above the patient. To ensure safety in this respect, it is well to insist upon the use of a rubber conducting tube of not more than two feet in length. If the labor is prolonged, the antiseptic douche should be repeated at least once in four hours until delivery takes place.

Carbolic acid may be used in the proportion of four drams to the quart, or one part in sixty, as a substitute for a sulphate of copper or corrosive sublimate solution, when necessary to do so.

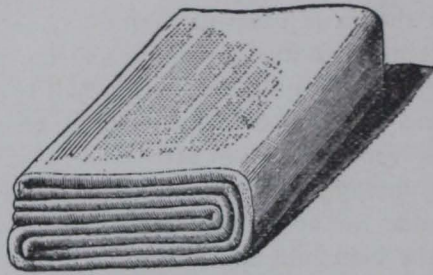
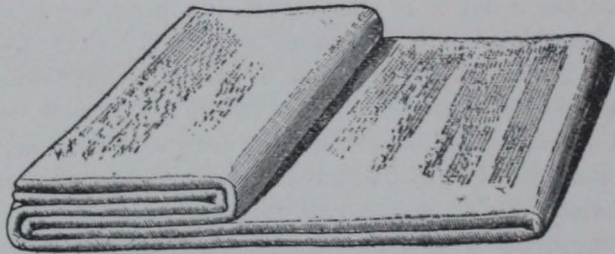
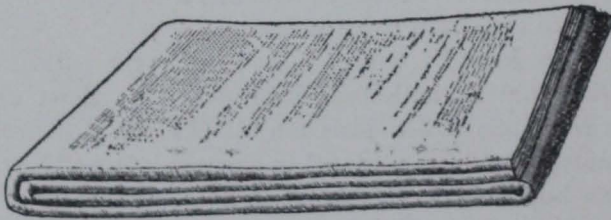
During labor the vulva should often be bathed in an antiseptic solution, employing either the bichloride or the copper

solution. After delivery, administer first a douche of hot boiled water to remove fragments, to stimulate uterine contraction, and then a solution of permanganate of potash or sulphate of copper. Both the copper and the permanganate of potash solutions are quite astringent, and hence are useful to some extent in correcting the relaxed condition of the vagina, which is always present after labor.

In administering the vaginal douche after labor, it is especially important to remember that there is danger of introducing the fluid into the uterus. This danger will be obviated, however, by taking the precaution to employ the fountain syringe only and to place the fountain not more than one foot above the patient, or just high enough to cause the water to flow through the tube. Administered in this way, the douche is devoid of danger, and is a great aid to comfort and cleanliness.

The permanganate of potash solution is especially useful in cases in which the patient has, before confinement, suffered from an irritating or offensive leucorrhœal discharge. In such cases the lochial discharge is likely to become irritating and offensive also, hence requiring the disinfectant and deodorant properties of the permanganate solution. In case the discharge is slightly bloody in appearance, the sulphate of copper solution is especially valuable on account of its astringent properties. This is especially true when the bloody discharge is bright red in color, indicating a bleeding surface at the neck of the womb, from laceration.

A large sheet of rubber placed under the patient is an important aid to antisepsis after delivery. Three or four dozen antiseptic cotton pads are also useful. These should be prepared in advance, placed in a cotton bag, and boiled for half an hour in a 1-2500 solution of bichloride of mercury or a 5-1000 solution (five drams to the gallon) of sulphate of copper. These pads should be about half a yard long and five inches wide when folded. They should be of different thicknesses. Those to be employed for the first days should be quite large and thick. After the first two or three days,

*Fig. 1.**Fig. 2.**Fig. 3.*

TARNIER'S OBSTETRIC CLOTH.

smaller ones may be used. They are placed under the patient in such a manner as to receive the discharges, being changed as often as soiled, and afterward burned.

Tarnier's obstetric cloth is a very convenient device ; it is shown in the accompanying cuts. It consists of a large cloth folded in such a way as to give the appearance shown in Fig. 1. This is placed under the patient during labor. It raises the hips and facilitates examination, and thus is a decided aid to the physician in his examinations and in the delivery of the child. At the beginning of delivery the first fold is brought down, as shown in Fig. 2. After delivery, while the patient is being cleansed, the second fold is brought down, giving the pad the shape shown in Fig. 3. By this means the highest degree of cleanliness is secured in the most convenient manner possible. This device is very popular in France, but has not yet been very extensively introduced into this country.

A few words must be said respecting the antiseptic treatment of the nipples. If sore, the nipples should be treated twice daily with a hot 1-5000 solution of bichloride of mercury, or a saturated solution of boracic acid, and dusted with subnitrate of bismuth or zinc oxide.

Intestinal Antisepsis.—Still another measure of great importance in securing immunity from unfortunate complications during childbirth, is intestinal antisepsis. This requires careful attention to the patient's condition and regimen for at least a number of days prior to confinement. A matter of the first importance in intestinal antisepsis is the dietary. This will exclude all such articles as meat, cheese, fish, oysters, pastry, pickles, coarse vegetables, and everything of an unwholesome or indigestible nature. The only flesh food at all allowable is a small amount of the white flesh of fowl. It is best to omit even this for at least a few days prior to the confinement. The most suitable articles of food are fruits of all kinds, grains simply prepared, ripe fruit of all sorts, either fresh or simply cooked, grains of all kinds, prepared in a simple and wholesome manner, purées of pease, beans, and other legumes, vegetable broths, eggs, buttermilk, kumyss, cottage

cheese, bread of all kinds, granola, granose, gluten preparations, and other of the excellent health foods produced by the Sanitarium Health Food Company, Battle Creek, Mich. Granose is especially to be recommended for cases of this sort, on account of its value in the cure of constipation, and in the relief of dyspeptic symptoms. It is also a very delicious and palatable article of food. It may be used with advantage during the entire period of pregnancy.

Water should be taken freely in quantities of from two to four pints daily. Tea and coffee must be carefully avoided. Ordinary butter is also unwholesome. Beer and all kinds of alcoholic liquors are exceedingly detrimental. Cases in which the tongue is coated and in which there is a tendency to flatulence, acid stomach, diarrhea, biliousness, sick headache, or in which similar conditions exist, charcoal may be advantageously taken after each meal as an intestinal disinfectant. The antiseptic charcoal tablets made from the author's formula by the Modern Medicine Company, of Battle Creek, Mich., have proven to be especially valuable in these cases, particularly as a means of combating constipation and biliousness. In cases in which the stomach is very much disordered, lavage or stomach washing by means of the stomach-tube may be advantageously practiced.

The importance of intestinal antisepsis in these cases was very forcibly impressed upon the writer by a case seen in consultation a number of years ago, in which the patient died of sepsis a week after confinement, but without giving any symptom whatever of inflammation or sepsis in connection with the uterus or pelvic viscera. The sepsis was evidently due to a hearty meat dinner. Enemas which were administered brought away large quantities of extremely purulent material. The patient, an unusually strong and vigorous woman, thinking herself beyond any danger of injury, transgressed the strict dietetic orders given her by her physician, and died in consequence. The suggestions respecting intestinal antisepsis should be carefully followed for at least a few weeks prior to confinement and for two or three weeks after-

ward. It is, in fact, far better that the same measures should be continued during the entire pregnancy and nursing period, and women who wish to attain the highest standard of health and vigor at all times, will find it advantageous to adopt, as their habitual diet, the simple antiseptic dietary described.

A word should be said with reference to the application of antiseptics to the care of the infant. This relates especially to the care of the cord. The cord having been properly tied, is thoroughly cleansed, first with soap and water, and then with an antiseptic solution, the bichloride solution, 1-10,000, or the sulphate of copper solution, 1-5000, being employed for the purpose. The solution should be as hot as can be applied safely. After drying, without rinsing off the antiseptic solution, absorbent cotton, which has previously been boiled in a 1-10,000 solution of corrosive sublimate or 1-5000 solution of sulphate of copper, and afterward carefully dried, is applied about the cord in such a manner as to thoroughly protect it. A good method of making the application is to make an opening through the center of a properly prepared layer of antiseptic cotton, large enough to lay over the cord. Slip this over the cord, then fold up the edges around the cord, lay flat upon the abdomen, and cover with a proper bandage. When treated in this manner, the stump of the cord will usually separate in four or five days, and the resulting raw surface will quickly heal. The old method of treatment often involved an ugly suppurating ulcer, which was not infrequently very troublesome to heal.

Many women, especially women of feeble muscular development, and hence most women in civilized countries who are not accustomed to active muscular pursuits, suffer, after confinement, from a relaxed condition of the abdominal muscles, and in consequence, prolapse of the bowels, stomach, and often liver and kidneys. A great variety of nervous troubles and other disorders, such as constipation, indigestion, headache, and still more serious maladies, as Bright's disease and consumption, are the outgrowth of this prolapse of the

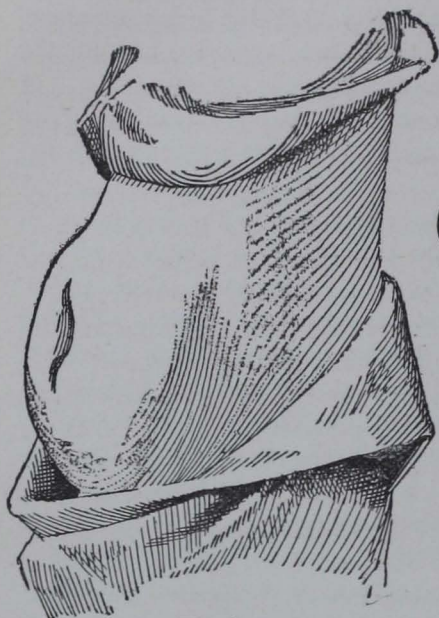


Fig. 4.

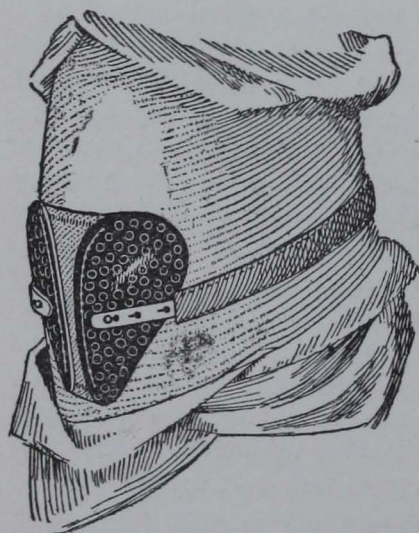
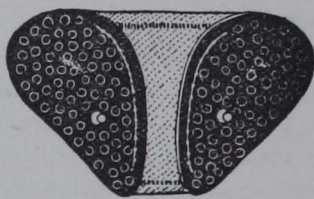
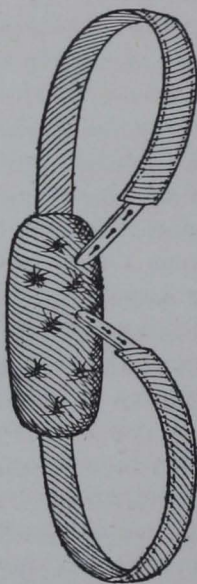


Fig. 5



A



B

Fig. 6.

THE NATURAL ABDOMINAL SUPPORTER.

viscera. Backache, from which so many women complain, is more commonly due to this cause than to any derangement of the pelvic organs, although displacements of the womb and ovaries and inflammation of these organs are very likely to follow displacement of the abdominal viscera.

As a precaution against this unfortunate consequence of the long-continued stretching of the abdominal muscles during pregnancy, and the inability of the undeveloped muscles to at once contract after childbirth so as to properly support the internal organs, it is important that artificial means should be employed for a time after confinement, to support the abdominal contents in place. Various abdominal supporters have been recommended for this purpose, but few have been found satisfactory. Supporters which are applied to the whole abdominal wall are unsatisfactory for the reason that the lower anterior portion of the abdomen is the only point where the support is really required.

The Natural Abdominal Supporter.—This instrument, well shown in the accompanying cuts, has been devised for the purpose of supporting the contents of the abdomen in a natural way, when prolapsed, by a means as nearly natural as possible. Patients have often said to the writer, "When I am on my feet, I feel that I must hold myself up with my hands," at the same moment placing the hands across the lower abdomen and making pressure upward. Taking a hint from this, we have prepared the supporter which is herewith shown, and which consists of two hard rubber pieces connected by an elastic webbing, which rest against the lower abdomen, being carefully shaped so as to make a uniform pressure, and second, a set of steel springs attached to a back piece and so adjusted as to make pressure upon the hard rubber plates simultaneously backward and upward. The action of the supporter is almost a perfect imitation of the hands in lifting the prolapsed abdominal contents. After trying every form of supporter offered in the market, we have found "The Natural Abdominal Supporter" more satisfactory than any other, and have employed it in a very

large number of cases. It is manufactured and sold by the Modern Medicine Co., Battle Creek, Mich.

The measures outlined in this chapter are presented in addition to the directions elsewhere given in this volume for the proper care of the lying-in woman.

GLOSSARY.

Abnormal, unnatural, unhealthy.
Absinthe, a narcotic and intoxicating drink. Made from wormwood, and much used in France.

Accoucher, obstetrician.

Amanitine, the poisonous principle of a certain kind of fungi.

Amnion, the membrane surrounding the foetus before birth.

Anæmic, a condition characterized by poor and deficient blood.

Anæsthesia, absence of natural sensibility.

Aneurism, a disease of a blood-vessel, characterized by dilatation.

Anodyne, a remedy used for the relief of pain.

Ante-natal, before birth.

Aorta, the great artery of the body.

Atrophy, wasting, diminution in size.

Auricle, one of the upper cavities of the heart.

Axilla, the armpit.

Caseine, the coagulable part of milk.

Catamenial, pertaining to the menstrual flow.

Cellulose, the material composing the walls of vegetable cells.

Chorion, transparent membrane surrounding the foetus.

Cilia, delicate hairs.

Coccyx, a number of small bones forming the end of the spinal column.

Cuticle, the skin.

Cutaneous, pertaining to the skin.

Decoction, an extract prepared by boiling vegetable substances in water.

Defecation, the act of voiding excrement from the body.

Depilatories, substances having the power to remove hair and make bald or bare.

Diaphragm, the muscle separating the thorax from the abdomen.

Diagnosis, the determination of disease.

Enemata, plural of enema.

Eliminative, a remedy having the power to expel or throw off, or cause to disappear from the body.

Emollient, an external application to allay irritation, swelling, etc.

Emulsion, a soft, liquid substance

- of the consistency of milk, composed of fine oil globules in suspension.
- Excretory*, having the power of throwing off waste matter.
- Farinaceous*, pertaining to meal or flour, starchy.
- Flatulence*, a condition in which there is an accumulation of gas in the stomach or intestines.
- Follicle*, a small sac or gland.
- Fusiform*, shaped like a spindle.
- Gynecologist*, a specialist in diseases peculiar to women.
- Hashish*, a narcotic drug prepared from Indian Hemp.
- Hypertrophied*, abnormally increased in size.
- Laxative*, a remedy that relaxes or loosens the bowels.
- Mammalia*, that class of animals whose females suckle their young.
- Meconium*, the substance which first passes the bowels of infants.
- Molecular*, consisting of or pertaining to molecules.
- Morphologically*, pertaining to the science which describes the ideal forms of organs in plants and animals.
- Nitrogenous*, containing nitrogen.
- Obstetrics*, the art of midwifery.
- Oleaginous*, oily or fatty.
- Ossification*, the state of being changed into a bony substance.
- Parturition*, the act of childbirth ; delivery.
- Pedicle*, support, stalk.
- Periphery*, the circumference of a circle, the outer boundary of an object.
- Peristaltic*, contracting movements of the alimentary canal whereby its contents are forced onward.
- Plethora*, overfullness.
- Polypus*, a tumor with a narrow base resembling a pear.
- Post-mortem*, after death.
- Pupillary*, pertaining to the pupil of the eye.
- Purgative*, a medicine that loosens the bowels.
- Pyriiform*, having the form of a pear.
- Saponification*, the chemical change which takes place when fatty substances and alkalies are mingled together.
- Sciatica*, neuralgia of the large nerve of the hip.
- Sebaceous*, affording a fatty secretion.
- Sinus*, a cavity wider at the bottom than at the entrance.
- Sphincter*, a circular muscle that contracts or shuts the opening of a hollow organ.
- Syncope*, fainting or swooning.
- Tendinous*, full of tendons ; sinewy.
- Varicose*, enlarged condition of the veins.
- Vascular*, pertaining to the blood-vessels, abounding in blood-vessels.
- Ventricle*, one of the lower cavities of the heart.
- Viscera*, the contents of the great cavities of the body, as abdomen, thorax, etc.

EXPLANATION OF PLATES.

PLATE I.—Low Forms of Life. **Fig. 1.** The *Protococcus*, a form of microscopic vegetable life. a. The usual form; b. A stage in which long filaments are formed, by means of which it moves about in the water like an animal.

Fig. 2. The *Amœba*, one of the most lowly forms of animal life. a. The common pond amœba; b. The human amœba, or white blood-corpuscle; c. Shows four white blood-corpuscles among a large number of red ones; d. An amœba taking food; e. An amœba putting out a foot in the act of locomotion.

Fig. 3. a to c, union of two of the forms shown in Fig. 1, prior to multiplication; d to g, multiplication by division; h to j, reproduction of amœbæ.

PLATE II.—The Pelvis. **Fig. 1.** Human male pelvis. **Fig. 2.** Human female pelvis. **Fig. 3.** Canal of female pelvis. **Fig. 4.** Pelvis of Guinea pig. **Fig. 5.** Pelvis of Guinea pig showing expansion to facilitate parturition.

PLATE III.—Fig. 1. Shows a flower with its sexual apparatus and special provision for fertilization by insects. **Figs. 2 to 5.** The Pollen or fertilizing element of different species of plants. **Fig. 6.** Pollen case bursting and discharging its contents. **Fig. 9.** a. anthers, laden with pollen, closely applied to the ends of b, the pistils in the act of fertilization; c. the ovules, which develop, after fertilization, into seeds.

PLATE IV.—Fig. 1. The Ovum after fecundation, showing spermatozoon within its envelope. **Figs. 2 to 6** illustrate the segmentation of the ovum. **Fig. 7.** A, Spermatozoon of frog; B, Spermatozoon of triton; C, Spermatozoon of finch; D, Spermatozoon of field mouse; E, Spermatozoon of hedgehog; F, Spermatozoon of sheep; G, Human Spermatozoa. **Fig. 8.** A, Ovum from foetus; B, Immature ovum of pigeon; C, Immature ovum of rabbit; D, Ovum of parasitic worm.

PLATE V.—Fig. 1. W, Womb, partly covered by the peritoneal membrane; N, Neck of womb; F, F, Fallopian tubes; V, V, Vagina, slit open so as to show interior; O, O, Ovaries. **Fig. 2.** Double uterus—a very rare condition. **Fig. 3.** A diagram showing the interior of the womb; C, cavity of the body of the womb; I, Internal os; E, External os.

PLATE VI.—Figs. 1-5. Illustrate the development of the ovum from the moment of conception until the after-birth is formed.

PLATE VII.—Fig. 1. The Siamese Twins, showing the relation of the internal organs of the two brothers, and the structure of the connecting band. **Fig. 2.** The Primitive Trace. **Figs. 3 to 5** illustrate peculiarities of the primitive trace which give rise to double-headed and four-legged monsters.

PLATE VIII.—Fig. 1. The Breast, showing at the lower portion the cut lobules of the gland with the milk ducts. **Fig. 2.** The areola of pregnancy.

PLATE IX.—Fig. 1. Shows natural position of the child in the womb. **Fig. 2.** The sexual apparatus of the Tape-worm. **Fig. 3.** An ovary divided so as to show the ova in various stages of development; a, a, the corpus luteum of pregnancy. **Fig. 4.** Ovary discharging ovum.

PLATE X.—A Grecian Model of the female form as illustrated by the celebrated statue, Venus of Milo. B, Parisian belle. C, View of internal organs of a woman addicted to tight-lacing, showing deformity and displacement of stomach and liver; D and E, Livers deformed by tight-lacing.

PLATE XI.—Light Gymnastics. Illustrates some of the simpler forms of free-hand, trunk, dumb-bell, Indian-club, and wand exercises.

PLATE XII.—Postural Treatment for prolapsus and retroversion.

PLATE XIII.—**Fig. 1.** Shows the womb in a state of partial prolapsus. **Fig. 2.** Shows the womb prolapsed so as to appear externally, having dragged down with it the posterior wall of the vagina.

PLATE XIV.—**Fig. 1.** Anteversion of the womb with partial flexion, showing bladder compressed. **Fig. 2.** Anteflexion of the womb.

PLATE XV.—**Fig. 1.** Retroversion of the womb. **Fig. 2.** Retroflexion of the womb.

PLATE XVI.—**Fig. 1.** Partial laceration or rupture of the perinaeum resulting in rectocele, **C**; Cystocele, **B**; and anteversion of the womb, **A**. **Fig. 2.** Complete rupture of the perinaeum, with retroversion of the womb.

PLATE XVII.—**Fig. 1.** Side profile of a German peasant woman, twenty-nine years of age. Until twenty years of age she was accustomed to carry heavy weights upon her head, often carrying a weight of ninety pounds upon the head two or three miles without stopping to rest. Never had trained in gymnastics. It is a perfectly natural figure, and doubtless represents very nearly the ideal female form. **Fig. 2.** Side profile of a woman of the same age, who through neglect of muscular exercise, and by corset wearing and the wearing of tight bands and heavy skirts, had acquired the weak and deformed figure shown.

PLATE XVIII.—**Fig. 1.** Outline of a well-developed man. **Fig. 2.** Outline of a well-developed woman of twenty-six years, whose figure had once been deformed by a corset, but had been restored to symmetry by physical exercise. **Fig. 3.** A bronze Venus. **Fig. 4.** Outline obtained by the author from a young Italian peasant woman, an artist's model in Paris.

PLATE XIX.—**Fig. 1.** A natural figure, showing the stomach, liver, and other organs of the abdomen in normal position. This figure is copied from a drawing by the celebrated German anatomist, Ziemssen. **Fig. 2.** A figure which has been deformed by tight lacing; the stomach, liver, kidneys, bowels, and other organs of the abdomen are crowded several inches out of position. This is not an imaginary sketch, but represents exactly the condition of a young woman who claimed she had never laced tightly, but had worn the ordinary conventional dress.

PLATE XX.—**Fig. 1.** Outline of a woman of forty-two years, who, when a young woman, had compressed the waist for the purpose of getting rid of an enlarged spleen, which was finally crowded down below the waist line, and, finding itself cut loose from its moorings, wandered about in all parts of the abdominal cavity. When first examined, the spleen—four or five times its normal size—lay between the uterus and the bladder, and was mistaken for a fibroid tumor. I discovered my error the next day, when I found the spleen lying several inches distant from its position of the day before. **Fig. 2.** Is a front-view outline of the same patient. The solid lines *S* and *L* indicate the position in which the stomach and liver are found.

PLATE XXI.—**Fig. 1.** The outline of a young woman who supposed she had always dressed healthfully, having worn a health corset and suspended her clothing from her shoulders. The so-called health corset was tight and rigid with stays, and the skirt bands were also tight and the skirts heavy. In consequence the bowels and stomach were prolapsed, the lower border of the stomach reaching three inches below the umbilicus. **Fig. 2.** The solid lines within the figure indicate the position of the stomach, liver, and right kidney. The dotted lines indicate the lower borders of these organs when in normal position. The young woman was in most wretched health. She had suffered for many years from nervous dyspepsia, and also from pelvis congestion and displacement of the uterus and ovaries.

Fig. 3. Outline of a young woman whose figure had not been spoiled by tight-lacing or tight skirt-bands. The dotted lines show the change in her figure occasioned by normal respiration. **Fig. 4.** Shows the result of corset-wearing, tight skirt-bands, and heavy skirts. The dotted lines indicate the change in the figure produced by the artificial mode of respiration commonly termed clavicular respiration, the so-called "female type" of respiration induced by constriction of the waist.

PLATE A.—Fig. 1. F, Fundus, or body, of womb; Cu, Cavity of uterus or womb; Cr, Cervix, or neck of womb; Cn, Canal of cervix; S, Sacrum; V, Vagina; R, Rectum; P, Perinaeum; A, Anus; M V, Mons veneris; S, Symphysis pubis; B, Bladder; Cl, Clitoris; U, Urethra; N, Nymphæ, or labia minora; L, Labia majora. **Fig. 2.** Vascular tumor of the urethra. **Fig. 3.** Inflammation of urethral glands.

PLATE B.—A, Erosion, or so-called ulceration of the neck of the womb; B, C, D, E, F, different forms of laceration or rupture of the womb; D, A case of rupture somewhat resembling cancer; F, Slight rupture with cystic degeneration.

PLATE C.—A, Rupture of the neck of the womb on one side only; B, Appearance of os in health; C, Cancer of the neck of the womb; D, Polypus tumor of the womb.

PLATE D.—A, shows the appearance of the breast at the beginning of cancer, a, indicating the retracted condition of the nipple; B, Cancer of the breast in an advanced stage.

PLATE E.—Figs. 1 and 3. Embryos of Dog. **Figs. 2 and 4.** Human Embryos at corresponding periods of development.

PLATE F.—Figs. 1. and 4. Incorrect positions in sitting; **Fig. 2.** Correct position in sitting. **Figs. 3 and 5.** Incorrect positions in lying.

PLATE G.—Figs. 1 and 3. Natural female form. **Figs. 2. and 4.** Female figure deformed by tight-lacing.

PLATE H.—Different modes of deforming the body practiced by various nations.

PLATE J.—Grecian and Hawaiian styles of dress. Foot of Chinese lady deformed by bandaging, and slipper worn by aristocratic Chinese ladies.

PLATE K.—Four outline figures, showing the relations of healthful and unhealthful dress to deformities of the figure. **Fig. 1.** Copied from a fashion plate. **Fig. 2.** A healthfully dressed woman. **Fig. 3.** An unnatural woman attempting to conceal defects. **Fig. 4.** A natural woman whose figure requires no appendages.

PLATE L.—Illustrates the methods of employing "expression" and "turning," the proper use of which greatly lessens the pains of childbirth.

PLATE M.—Various exercises for the treatment of uterine displacements.

PLATE N.—Fig. 1. The uterus, U, in normal position, showing the left round ligament at R. **Fig. 2.** The uterus, U, retroverted, showing left round ligament stretched and tense.

PLATE O.—Fig. 1. Pneumographic tracings of natural and unnatural breathing.

FIGS. 1, 2, 3.—Tarnier's Obstetric Cloth.

FIGS. 4, 5, 6.—Natural Abdominal Supporter.

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Something Good to Eat, and Easy to Digest

~ GRANOSE, ~

A new cereal preparation made from the choicest wheat, by a process which retains all the elements of the grain. By combining the processes of digestion, cooking, and roasting, by the use of special machinery, the wheat is brought into the form of delicate flakes, in which the bran is thoroughly disintegrated, and the starch largely converted into dextrine, and thus made ready for solution by the digestive juice and for prompt assimilation.

~ GRANOSE ~

Is crisp, delicious, appetizing, and digests quicker than any other cereal preparation. It clears off the tongue, rids the stomach of germs, and cures constipation.

It is unique; an incomparable food. Babies thrive upon it.

BATTLE CREEK SANITARIUM HEALTH FOOD CO.,
Battle Creek, Mich.

Antiseptic Charcoal Tablets.

These Tablets consist of a newly produced form of vegetable charcoal, which has been shown by experience to be possessed of superior qualities, with which are combined vegetable digestive agents and intestinal antiseptics and antiferments. In these Tablets charcoal is for the first time presented in agreeable form.

When to be Used.

The use of these Tablets is indicated in all cases of **Stomach and Intestinal Indigestion**, and especially in cases in which the following symptoms are present: **Sour Stomach, or Acid Fermentation, Bloating of the Stomach or Bowels, Flatulence, Eructations of Gas, Foul Tongue, Bad Breath, Unpleasant Taste in the Mouth, Biliousness, Sick Headache, Nervous Headache, and Constipation.**

Dose: One to four Tablets after each meal.

SANITAS FOOD CO., Battle Creek, Mich.

Nut Meal.

This preparation is made from carefully selected and prepared nuts. It represents one of the most nourishing and digestible of all the food products of the vegetable kingdom. It is especially adapted for patients who have difficulty in digesting starch, and for those who need to make a rapid gain in flesh. It agrees well with the most delicate stomachs, and will often be digested when the stomach will tolerate nothing else.

Nut Meal may be eaten dry, or combined with other foods, or mixed with a little hot water, when, with the addition of a little salt, it makes a delicious soup or puree.

Nut Butter.

A capital substitute for animal fats of all sorts in the seasoning or shortening of foods, in the preparation of gravies, sauces, etc. Thoroughly cooked and emulsified, so it dissolves readily in water; has a rich nutty flavor; is exceedingly palatable and digestible, keeps well, is thoroughly sterilized, and free from all objections which can be urged against animal fats. It gives a meaty flavor to soups.

Almond Meal.

This is simply a fine meal prepared from the choicest blanched almonds, especially designed for diabetics and invalids who cannot digest starch. It is highly nutritious, exceedingly delicate and palatable, and an admirable food for those who need to make a gain in flesh.

Malted Gluten

furnishes the farinaceous food elements in a state of complete digestion, **READY FOR IMMEDIATE ABSORPTION.** The gluten which it contains has been subjected to malt digestion, and is in a state of fine division, so that it is promptly acted upon by the digestive fluids. Gluten is of all food elements the only one which is capable of sustaining life indefinitely. It will thus be seen that **MALTED GLUTEN IS A PERFECT BLOOD AND FLESH-MAKING FOOD.** It is free from the unpleasant flavor of the various meat peptones, and is especially adapted to those cases requiring perfect intestinal asepsis, in which meat peptones and meat preparations of every description are contra-indicated. It has proved a sovereign remedy in cases of nervous headache, sick headache, obstinate nausea, and vomiting, and numerous cases in which all other food substances were rejected by the stomach.

Bromose.

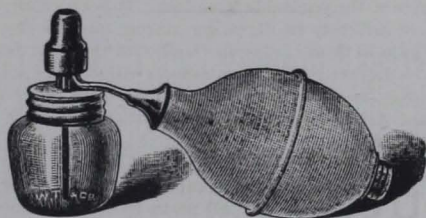
Are you thin? Have you hollow cheeks, hollow eyes, and a general emaciated appearance? **WOULD YOU LIKE TO BE FAT? We will tell you how: EAT BROMOSE!**

BROMOSE, an exceedingly palatable food preparation, consists of cereals and nuts, in which the starch is completely digested, the nuts perfectly cooked, and their fat emulsified. It is thus ready for immediate assimilation. It is the most easily digested and most fattening of all foods, and at the same time rich in proteids, and hence **UNEQUALED AS A TISSUE BUILDER.**

BROMOSE makes fat and blood more rapidly than any other food. It is the food par excellence for blood, brain, and nerves. Invalids whose troubles are due to the fact that they cannot digest the starch of cereals and vegetables, find in **BROMOSE A PANACEA.** Bromose is rich in salts, as well as proteids and food elements. It is excellent for weak, emaciated invalids, and feeble children.

SANITAS FOOD COMPANY, Battle Creek, Mich.

A-1 ATOMIZER.



THIS instrument is admirably adapted to the application of medicated solutions in either oil or water to the nose and throat. It is simple, convenient in use, always acts efficiently, never gets out of order, and gives a large, strong spray. In connection with the **PERFECTION VAPORIZER** it constitutes a complete outfit for the home treatment of catarrhal diseases of the nose and throat. It is packed in a neat box.

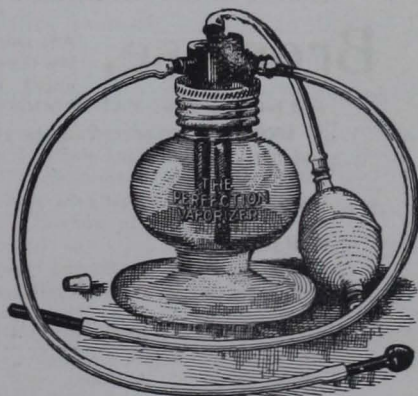
Price, \$1.50; Postage, 10c.

The Perfection Vaporizer.

**THE ONLY PERFECT INSTRUMENT FOR TREATING
THE NOSE, THROAT, AND LUNGS.**

IS especially adapted to the treatment of diseases of the nose, throat, ear, bronchial tubes, and lungs, both acute and chronic. Many severe spells of sickness can be avoided by its early use. Is especially recommended in "La Grippe," when affecting the air passages, hay fever, and asthma.

Full directions and formulæ with each instrument.

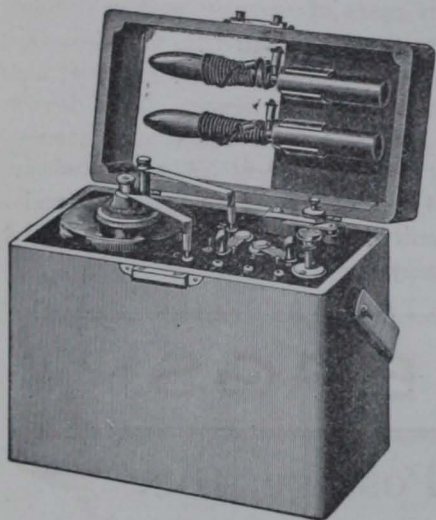


**PRICE, BY EXPRESS, \$3.
POSTAGE, 35C., AT PURCHASER'S RISK.**

MODERN MEDICINE CO., BATTLE CREEK, MICH.

Sanitarium Medical Battery.

THE ADVANTAGES CLAIMED FOR THIS BATTERY ARE



Efficiency, Durability,

Simplicity of Construction,

Ease of Management,

Cleanliness, and lastly,

Small Cost of Maintenance.

THE CELLS HAVE THE FOLLOWING ADVANTAGES.

The elements are zinc and carbon.

The excitant is a solution of muriate of ammonia (sal ammoniac) and water.

There are no fumes nor strong acids to corrode battery parts.

They will run for medical purposes many months without the slightest attention.

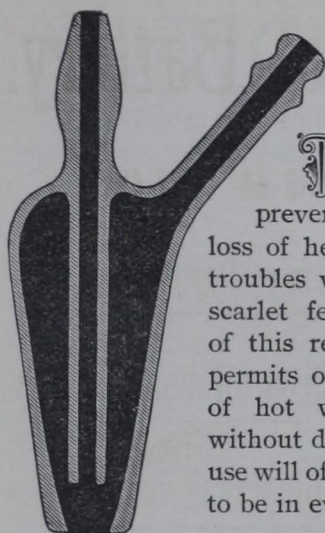
There is no consumption of the zinc element when battery is at rest.

They are perfectly sealed, so that evaporation is impossible.

High electro-motive force. Small internal resistance. Great power of recuperation.

PRICE, WITH ELECTRODES, COMPLETE, \$10.00.

MODERN MEDICINE CO., Battle Creek, Mich.

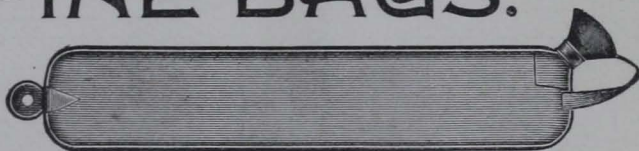


EAR DOUCHE.

THE continuous application of hot water to the ear is a most valuable means of preventing the destructive inflammation and loss of hearing in cases of earache, and in the ear troubles which accompany diphtheria, measles, and scarlet fever. The objection to the employment of this remedy is its inconvenience. This device permits of the application of a continuous stream of hot water with the patient in any position without danger of wetting the clothing. Its timely use will often save life-long inconvenience. It ought to be in every family.

SPINE BAGS.

RUBBER
SPINE
BAGS.

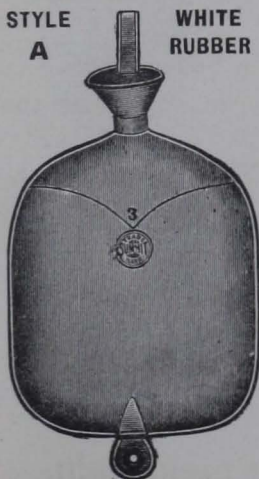


Very strong and durable ; essential in the treatment of some forms of Dyspepsia, Spinal Irritation, and many nervous diseases.

PRICE, 20 inch, post-paid, - - - \$1.40
26 inch, post-paid, - - - 1.65

STYLE
A

WHITE
RUBBER



HOT-WATER BAG.

As a foot-warmer, or for applications of either moist or dry heat, this bag is invaluable. For moist heat, wring a flannel cloth from hot water and lay on the bag. It is a durable article, and one not willingly dispensed with after once using.

Price, post-paid, \$1.50.

MODERN MEDICINE CO.,

Battle Creek, Mich.



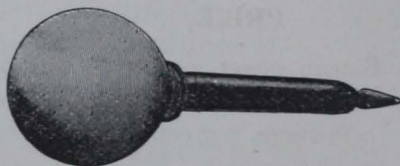
Safety Syringe.

This Syringe (full size in cut) has special merits and advantages for making medicated applications, especially when traveling.

PRICE, 40 cts.; postage, 2 cts.

Ear Syringe.

PRICE, post-paid, = 20 cents.

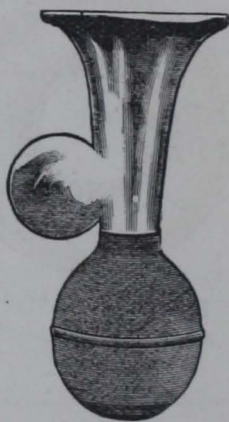


BREAST PUMP.

PRICE, complete, = = 60 cents.

Extra Rubber Bulbs, = = 25 "

Postage, 4 cents.



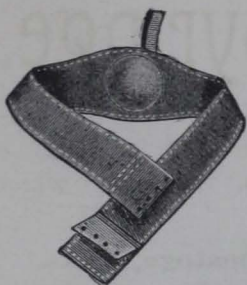
Politzer's Air Bag.



An invaluable means for treating the ear, especially useful in catarrhal deafness. It has been the means of aiding thousands to the recovery of their hearing.

PRICE, postpaid, = = \$1.25.

MODERN MEDICINE CO., BATTLE CREEK, MICH.



Umbilical Belts.

Made to order of any size desired.

PRICE, \$1.50. Postage, 4 cents.

Air Pillows.

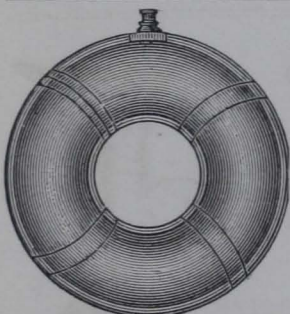
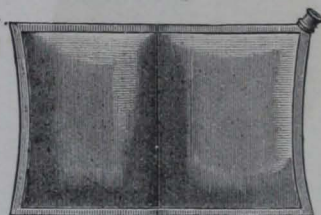
Air Pillows are always cool and restful. They can be adjusted at will. Just the thing for camping out or traveling. Can be packed in small space by letting the air out.

PRICE,

No. 1, Sateen cover, 9 x 13, \$1.60

No. 3, " " 12 x 18, 2.50

Postage, 15 cents.



Invalid Air Cushions.

These cushions are unsurpassed in the comfort they afford to very thin persons in sitting, and are also essential as a means of preventing the formation of bed-sores.

PRICE,

9 inches in diameter (postage, 10 cents),	-	\$1.60
12 " " " 15 " - -	-	1.85
15 " " " 22 " - -	-	2.25

Exhalation Tube for Lung Development.



The Exhalation Tube is one of the most effective means for lung development. It can be carried in the pocket, and can be used at any time without interfering with other occupations, and can thus be made to act continuously in developing the lungs, expanding the air-cells, and deepening the respiratory movements. It is worth many times its weight in gold to a consumptive, or to any other person whose lungs are weak.

MODERN MEDICINE CO., Battle Creek, Mich.

COMBINATION *Water Bottle and Fountain Syringe.*



This is a first-class Fountain Syringe, which may be quickly changed to a Water Bottle by detaching the tubing and substituting the metal cap.

This combination was first arranged by us a number of years ago, and we have had hundreds manufactured for us. We have recently arranged for the manufacture, for our special trade, of this convenient combination in an improved form. It consists of a substantial water bottle with funnel neck, a safe and durable cap, and six feet of fine improved tubing, with suitable attachments for connecting with the bag. An outfit of the usual syringe tubes is supplied with the syringe, and the whole is packed in a neat and substantial wooden box.

PRICE, complete, - - - - \$2.00.

Postage, 25 cents.

MODERN MEDICINE CO., BATTLE CREEK, MICH.

THE NATURAL ABDOMINAL SUPPORTER.



FIG. 1.

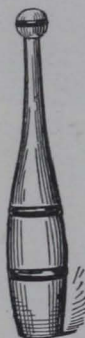
Ought to be worn by every woman who has the shape of Fig. 1.

Cures backache, headache, dragging sensation, and many other discomforts.



FIG. 2.

PRICE, POSTPAID, \$5.00.



Clubs and Dumb-Bells.

By the use of these the muscles can be exercised and developed, giving vigor, appetite, and cheerfulness to the user.

SIZES: 1-2, 3-4, 1, 1 1-2, 2, 2 1-2, 3, and 4 lbs.

The $\frac{1}{2}$ lb. is adapted to the use of children from 2 to 4 years of age. The $\frac{3}{4}$, from 4 to 8 years of age. Prices given on application.

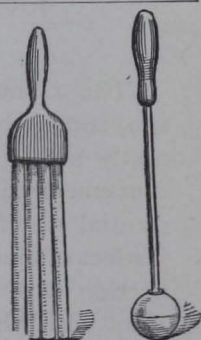
We furnish outfits for home gymnasiums at various prices from \$10.00 upwards. One of these outfits ought to be in every home.

SEND FOR CIRCULAR AND PRICES.

MUSCLE BEATERS.

Simple, cheap, and efficient instruments for securing some of the effects of massage. By their habitual use one can obtain most beneficial results without the aid of an expert.

Price of Ball Beater, postpaid, - \$1.40
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Common Sense Nipples.

White,.....2½ cents each.
 Black,.....3 cents each.
 Maroon,3 cents each.

Postage, 1 cent.

FINGER COTS.

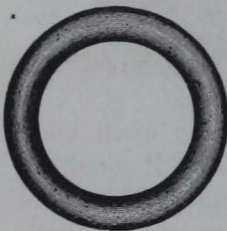
Four Sizes of each Style.

White, Assorted, Light,30 cents per doz.
 White, Assorted, Heavy,35 cents per doz.
 Black, Assorted, Light,35 cents per doz.
 Black, Assorted, Heavy,38 cents per doz.

Postage, 5 cents per doz.



Moulded Teething Rings.



White, Small Size,30 cents per doz.
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 Black, Small Size,40 cents per doz.
 Black, Large Size,42 cents per doz.

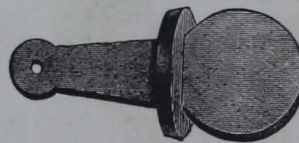
Fractions of a doz. sold.

Postage, 6 cents per doz.

ENGLISH TEETHING PADS.

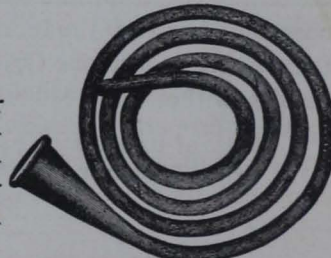
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Stomach Tubes.

These tubes are for use in Lavage, or washing the stomach. They are indispensable for treating many cases of dyspepsia. They are a perfect substitute for the old-fashioned "Stomach Pump," and are used with very little inconvenience.

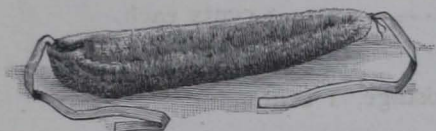


PRICE, postpaid,

\$1.60.

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A Natural Flesh Brush.



THIS is the product of an Egyptian plant called the Loofah, or dish rag gourd, which grows along the Nile. It excels every other

natural or artificial product for use as a flesh brush. Conveniently arranged with tapes, as shown in the cut, it can be applied to every part of the body. It will last indefinitely.

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CANNON BALLS are effective in combating certain forms of disease, as well as in destroying

life. An eminent German physician discovered a few years ago that by means of a cannon ball covered with

leather a patient suffering from inactive bowels may often effect a cure by the regular use of the cannon ball, rolling it along the course of the colon, beginning low down at the right side. This remedy has been in successful use for many years at the Battle Creek Sanitarium.



PRICE, by express, = \$1.75.

THE WET GIRDLE.

One of the most useful inventions of Dr. Priessnitz, the father of modern hydropathy, was the wet girdle, or umschlag, as it is sometimes called by the Germans. There is no better remedy for indigestion, inactive bowels, or sleeplessness, than this simple measure, when properly applied. The umschlag consists of a properly adjusted bandage, moistened and worn about the body at night, to be replaced by a dry bandage during the day.

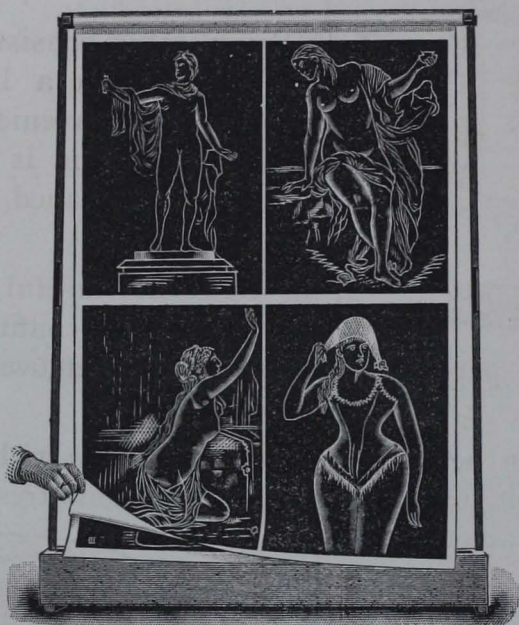
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OUTLINE STUDIES OF THE HUMAN FIGURE.

The accompanying cut represents these outline Charts mounted on a convenient Exhibitor, which is so arranged that both the Charts and the Exhibitor can be snugly packed in a compact case.

30 CHARTS
36 by 50 inches.



PRICES:
In Sheets, on heavy coated manila paper, \$6.00
Mounted on Roller, with Exhibitor and Case, \$10.00

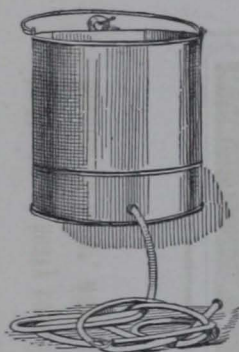
THE following expression regarding the value of Dr. Kellogg's "Outline Studies of the Human Body," is from Jay W. Seaver, A. M., M. D., President of the Chautauqua School of Physical Education, and Medical Director of the Yale University Gymnasium:—

"Dr. Kellogg's 'Outline Studies' I am sure will prove to be very helpful to any person who is studying the human body, or who is teaching personal hygiene. These outlines should be widely introduced into public schools, where their mere presence on the walls would be a constant object lesson."

MODERN MEDICINE PUBLISHING CO.,
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PERFECTION

DOUCHE APPARATUS

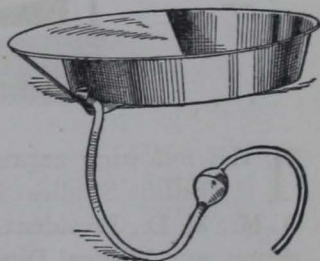


THIS apparatus consists of a pail for water, with a long rubber tube, and a convenient bed-pan. It is made of tin, and is light, durable, and easily cleaned and disinfected.

It is especially useful for giving douches in cases of confinement, and to feeble patients who cannot be removed from the bed.

It can be adjusted under the hips without moving the patient, on any form of bed or mattress.

Any amount of water can be used, the water running out as fast as it runs in. To start the water running, close the rubber tube by folding it below the bulb, and then squeeze the bulb, which will at once fill with water when released. Then open the tube, and the stream will continue to flow till the pan is empty.



PRICE,

Complete, \$2.25.

Douche Pan, without fountain or tubes, . . . 1.25.

Sent by express.

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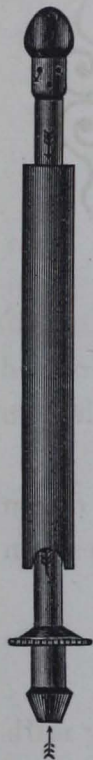
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RECTAL IRRIGATOR.

THE great prevalence of diseases of the rectum, and the recognized advantages of hot water in the treatment of diseases of mucous membranes, led, several years ago, to the invention of the hard rubber rectal irrigator, of which the inventor speaks as follows:—

“The virtue of hot water as an agent in removing the thickenings and indurations which result from chronic congestions and inflammations of mucous surfaces and contiguous parts, has long been recognized. In the treatment of pelvic indurations resulting from cellulitis, no agent is so potent as the hot water vaginal douche. Dr. Emmett states that he regards this one agent as more valuable than all other local measures combined. The value of hot water in the treatment of rectal diseases seems to have been less appreciated by the profession, though recently it has been used by various specialists, and with excellent results.



“For some years I have used hot water by means of the continuous enema, and with most excellent results; but feeling the need of some better mode of applying hot water to this part of the body, I have experimented with various forms of instruments for the purpose. All the instruments I found in use were too large to be used without discomfort, in most cases, and all were made of metal, which is wholly unfit for this purpose on account of its great conductivity of heat. The mucous membrane is much more tolerant of heat than is the skin. When a metallic instrument is used, the heat transmitted to the very sensitive surface at the junction of the skin and mucous membrane becomes unbearable before the temperature is high enough to make the application of much value. I have had made an instrument, which I believe embodies the excellencies of instruments previously made, and several additional advantages, chiefly the following:—

“1. It is made of hard rubber, a poor conductor of heat, which allows the use of water as hot as the mucous membrane will tolerate.

“2. The instrument is of such size that it can be easily used even in those cases in which there is unnatural contraction of the sphincter muscles from the irritation of a rectal ulcer or fissure, the class of cases in which an instrument of this sort is of greatest service, and in which other instruments can seldom be used, never with water of proper temperature.

“3. The sleeve of the instrument is notched at its outer extremity so as to prevent obstruction to the return flow when the inner tube is pushed in as far as is allowed by the stop.

“I have used this instrument in the treatment of hundreds of cases of rectal diseases of various sorts, and have found it a most satisfactory and effective aid in the management of this class of diseases.”

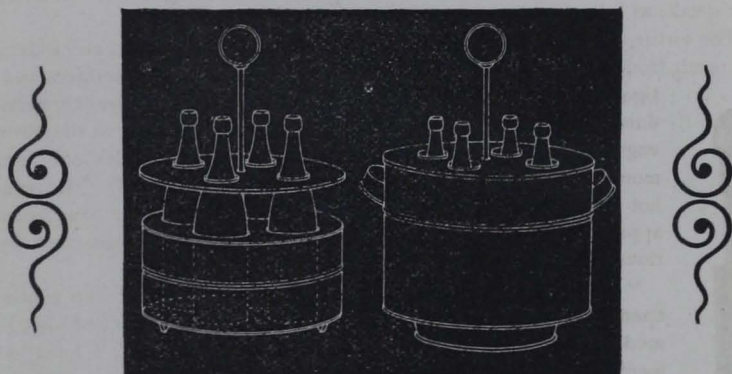
CAN BE USED WITH ANY SYRINGE.

Directions for use accompany each instrument.

PRICE, postage paid, \$1.00. With Universal Syphon Syringe, \$2.25; postage 15 cts. additional.

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THE SANITARIUM MILK STERILIZER.



With the above apparatus, milk can be sterilized so that it will keep for years, when tightly sealed in a bottle or can.

This apparatus complete, including one half dozen bottles, with full directions, will be sent by express on receipt of

•—————\$5.00—————•

The ordinary methods employed for sterilizing milk will not preserve it against fermentation for more than three or four days. By this method

IT WILL KEEP INDEFINITELY.

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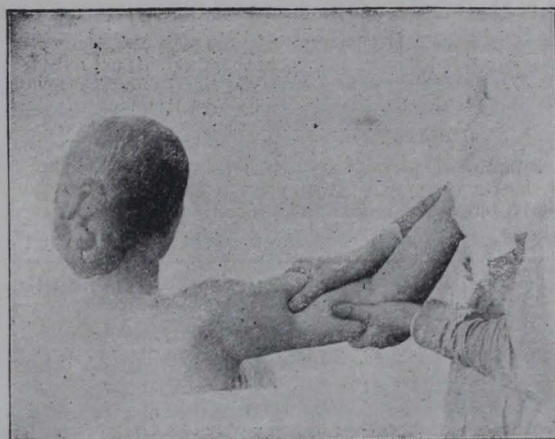
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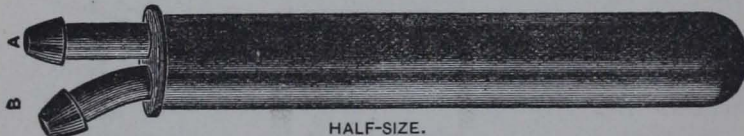
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