

Inventions and Appliances

USEFUL INVENTIONS AND HOUSEHOLD HELPS

THE HOUSEWIFE seems to be under due consideration by the inventors at present. She is having all sorts of helps made for her, it only rests with the individual to supply herself with such as her inclination and purse allow. One great comfort is, that many of these devices are so inexpensive very few need do without them.

Dishwashing and Dishwashers.

The little old, dish mop was not all the heart could desire, but it comes out now in a new form with a scraper attached and it can be used for nearly all sorts of dishwashing. Right here, I should like to speak of a "big" help, and that is a dish washer itself. This costs considerable, but for a large family who has running water, and a tank heater to the stove, we believe it would be valuable. We have been considering it for some time, and it is worth thinking about, it certainly does wash the dishes, but pots and pans are, like the poor, with us forever. Still it is something to have a great lot of other dishes washed clean and ready for use, with almost no effort, save to scrape them and put into the washer, turn on the water, wash, and then the rinse water. And lo, a task is done. And dishwashing isn't as disagreeable as some think it, it is just the spirit of the worker which makes either for satisfaction or suffering (?)

Utility Uses for Chafing Dishes.

There are inexpensive chafing dishes, which could be used to get light meals, warm over things, make tea, coffee, and a great variety of things, and one of these would be very valuable where no gas or gasoline range is at hand. These chafing outfits can be had even in granite ware and are worth something for more than mere fudges or midnight lunches.

Racks for Handy Utensils.

There is now on the market a lot of household utensils, which come in a rack to hold them. Knives of various sorts, potato masher, cake turners, spoons, dippers and so on; this handy lot hung near at hand would save many steps and much hunting for mislaid appurtenances.

There is an enamel brush rack which holds brushes for every possible need of house demand. Such a brush rack costs something like a dollar and a quarter, and solves the handy brush problem quickly. A drip rack beneath is of especial utility. Then there are racks of wooden spoons, and these may be had in lots of from six to a dozen spoons, costing perhaps 40 or 50 cents to \$1, according to the number of spoons.

Toasters, Beaters, Etc.

There is a small toaster which can be placed directly over the flame of a gasoline stove and as the wire is fine, it makes the most evenly toasted bread imaginable. These toasters cost 10 cents and are invaluable in a toast loving family. We have a wire spoon or egg beater, which is made of strong wire, a number of wires are spread out to make the spoon part, are collected close for the handle, and we have never found any kind of beater to beat this. It costs 10 cents at a hardware store, and it is very different from the flimsy wire beater we so often see. This has been used for years and is still strong for time to come. It beats up bread dough, it stirs gravies, it beats eggs for angel cakes the finest and best, are above the rotary beater, as eggs for this cake should all be beaten the same way.

We have a perforated pancake turner, which is used for other things more frequently than for its legitimate purpose. It is excellent for taking up fried eggs, as it allows the surplus fat to drain through. Its uses will be apparent to the user. Of course this is a trifling thing, but it helps.

A little biscuit or cookie cutter is made with a handle and turns on a pivot, so one may cut out a whole row of cookies by simply rolling the cutter over the dough. It should be well greased before using else trou-

ble may ensue. These cost from 5 to 10 cents, according to size.

Glass Utensils.

There are a number of things made of glass that are good. The glass towel racks are especially good, as they do not rust, and with the alkali water here, that is quite a point in their favor.

The glass rolling pin, with removable handles which allow filling the rolling pin with ice water for fine pastry, is worth while. Even without the ice water, the glass rolling pin is useful as it is so easily cleaned, and hence sanitary. These rolling pins cost about a quarter or more, according to size, and last practically forever.

We have a small glass lemon squeezer which we like, as the juice is all collected in the lower part of the reamer, and is extracted much more fully than a mere pressure squeezer admits. Besides the acid on the glass does not give an unpleasant taste nor an unhygienic product as some of the metal squeezers do.

A brass wash board or a glass one costs very little more than the old-fashioned kind and lasts a great while.

Potato Ricer.

The potato ricer comes in handy for a good many things, and we should not want to do without it. These ricers are inexpensive, price according to size.—Mrs. A. M. Edmunds, South Dakota.

A Flying machine with flapping wings—An arrangement of planes for a flying machine is one of the most novel that has been proposed. Attached to a journal at each side of the main frame is a gliding plane which may be turned to take the air currents at any angle. The flapping wing, which is operated by the motor, is carried on a shaft that runs diagonally across the gliding plane and is provided with hinged panels which are closed on the downward stroke and open on the upward stroke of the plane.

Straps for adjusting length of skirt—These straps, or tabs, are designed to permit the skirt to be worn shortened when desired, without any alteration in the garment. The tops of the straps are permanently fastened to the garment, which is shortened by hooking the lower ends of the straps over but.

Glove heated by electricity—In this glove the fingers are kept warm in the coldest weather by small electrical conductors which serve as heating bodies, and which are distributed around the lining of the finger stalls.

REMEDY FOR MINOR ILLS.

BICARBONATE of soda is one of the most useful articles that can be kept on hand. For simple burns and scalds a paste made of it and spread over the affected surface will prove most soothing. Indigestion and a sour taste may be relieved by a teaspoonful dissolved in a cup of hot water taken three times a day. For itching of the skin one teaspoonful dissolved in a pint of hot water and used freely when cooled will prove a most cooling lotion. A paste made of it will be found useful to relieve the stinging caused by the bites of insects; it takes the soreness out of mosquito bites. For sunburn there is nothing better than a paste of it spread over the painful localities. It is a good thing to have in the medicine chest at any time.

PROTECTION AGAINST LUNG TROUBLES.

ONE of the speakers at a convention called recently to discuss methods of combating the White Plague suggested that systematic deep breathing, if practiced persistently, acted as a very efficient prophylactic against consumption, and other lung diseases. The method he suggests is simple, requires only a few minutes each day, and does not interfere with any form of occupation. Moreover, it has the additional merit of being a most rational, common-sense procedure.

Health and Sanitation

SEWAGE DISPOSAL.

THE HEALTH of the family, of the community and even of the neighboring city, depends largely on the drinking water of the farm. Every baby in the city is dependent on milk from the farm. Where water, contaminated from cesspools and outhouses, is used to wash the milk cans and to cool the milk, bacteria cannot help but gain entrance to the milk in greater or less quantities. To milk contaminated by sewage on the farm most of the cases of typhoid and dysentery are traceable. Yearly hundreds, yes, thousands of babies lose their lives due to this well nigh criminal negligence towards sewage disposal on the farm.

But more universal than the harm done by milk contamination is the injury to the farmer's own family through the contamination of their drinking water, says P. B. Paxon. Not so long ago people thought that running the sewage into a cesspool prevented the fouling of their drinking water. This is not the case, the contamination still goes on but is not so readily apparent and consequently gives less concern to the unthinking. The only protection yet devised is a disposal plant in which the bacteria of the soil purify and render the sewage harmless.

Sewage Disposal.

There are three systems for its disposal, the sub-surface and the surface irrigation systems, and the filter bed type. In the first two systems the benefit of the sewage as a fertilizer is obtained, in the last it is not. However the principle of purification is the same.

If the organic matter in the sewage is deposited in the upper few feet of soil and if air is not precluded, the bacteria will be killed. To accomplish this the bacteria in the soil must be surrounded by an abundance of air. This means that the soil cannot become water-logged, but must be open and porous. In order to prevent continual soaking of the soil, an intermittent flow of sewage is necessary. This is obtained by storing it in a receptacle for 18 or 24 hours before sending to the filter beds, thus giving the bacteria time to oxidize the sewage previously deposited on the field or filter bed.

The house drain of cast iron pipe, should extend at least five feet outside of the foundation wall. From here to the septic tank vitrified tile with cemented joints is used. A fall of from one foot in 100 to one foot in 40 is most effective. The tile must be laid below the frost line. A careful joint can be made by putting a piece of packed oakum between the tile ends, then covering joint with a mortar of one part of Portland cement to one part of sand. Inspection and cleaning holes should be left every 50 feet.

Septic Tank.

The septic or flush tanks are usually built of brick or concrete and large enough that they need be emptied only once in 18 or 24 hours. A tank 9x12 feet deep is large enough for a family of five.

The house drain enters at one end of the tank. It is best to cover this with a screen, one-inch mesh, to prevent paper and extremely large particles from entering the tank. At the opposite end of the tank a siphon connects with a four-inch tile. The siphon is at such a height that it begins to draw the water out when it is one foot, three inches deep and stops when the tank is empty.

Sub-surface System.

For the sub-surface irrigation system a double tank is advisable. In the first or settling chamber the solid matter settles to the bottom where bacteria immediately wage war upon it until in a few days it is reduced to liquid. A siphon connects two chambers. It carries the liquid to the second chamber where it is stored for about 24 hours. An automatic flush valve connects the second chamber with the tile leading to the field or filter bed. A double chambered tank was built of concrete, the man holes of brick. The cost of the material for the tank,

including siphon and cast iron man-hole covers, was only \$51.61.

From the flushing chamber a four-inch vitrified sewer-pipe, carefully jointed, leads to the field to be irrigated. Here a gate valve is located, making connections with each of two distributing systems.

Connected to the gate valve, two complete distributing systems are installed. These are made from open jointed three-inch drain tile, laid within 10 to 14 inches of the surface and at a very slight slope, not over two inches in 100 feet. If a greater slope is given the tile, the lower end of the field will become flooded and useless. The end of the tile lines should be plugged to prevent animals from entering. The drainage will be more perfect if the tile are surrounded with coarse gravel and then covered with dirt. In a porous soil one foot of tile will dispose of one gallon of sewage a day; in a clay it will require as high as three feet of tile to the gallon.

Usually the gate valve is changed by hand, allowing the sewage to flow into one system for a week, then changing the flow to the other, and so giving the first system a complete rest for a week at a time. The material for two complete systems, 70 feet long, including gate valve, costs about \$46.

Surface Systems.

That is the ideal sewage disposal plant for the farm. The surface irrigation type is less expensive and under favorable conditions just as effective. If any gently sloping grass land is available, the sewage can be piped directly to this from the flush tank. The sewage empties on the surface of the ground and no preparation, other than a small brick platform to prevent washing, is needed. With the surface irrigation system it is advisable to have three different outlets from the tile, thus giving each plot of ground a longer rest. There is no offensive odor from a correctly installed surface irrigation system, as the sewage is diluted to about one pound of solid matter in 120 gallons of water.

Filter Bed.

The filter bed, the third type of disposal plant, is merely a smaller but more active filtering bed than the others. It is a prepared bed of sand, gravel and cinders. Where land is scarce it is the most frequent type. A bed 3 to 5 feet deep and 20 feet square should serve a family of five indefinitely. In fact, a sand filter becomes more effective the longer it is in use. To allow of even distribution of sewage over the surface, it should be run out on the bed in a perforated pipe of some sort, a galvanized roof gutter will do excellently. The bed must be well under drained. Raking over the surface every few days will make the oxidation more complete.

The installation of a complete sewage disposal plant is no more difficult, in fact, is not so difficult as draining a twenty-acre field. But after installing a system in cannot be left entirely alone and be expected to do good work. A slight amount of regular attention is needed. Every part of the system, including the siphon, needs regular inspection and occasional cleaning.

For some time now the farmer has had the privilege of having as modern a water supply system as his city brother. Fifty three per cent of the farmers want this convenience, less than 2 per cent have it.

BE ALWAYS on guard around even the gentlest bull. He may be like the gun that wasn't loaded.

Warts on cattle or horses may be removed by applying castor oil well rubbed in twice a day for a week or two.

Dark stables are frequent causes of weak eyed horses. Let plenty of light into the stables.

Concrete feeding floors for hogs are becoming popular in many sections. There is practically no loss of feed where these are used.

Fattening sheep must be made to eat as much as possible, but must never be made to turn from their food.