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The Kitchen Sink  
Michigan State University Extension Service  
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Issued March 1923  
8 pages

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Figure 1: A sink improperly located with an inadequate method of sewage disposal. It is of little value.

There are thousands of kitchens in Michigan without a sink, and probably an equal number which have sinks but no means, other than a pail, of taking care of the sewage. It is for the benefit of these that this bulletin has been prepared—to give specific information on the installation of this household necessity.

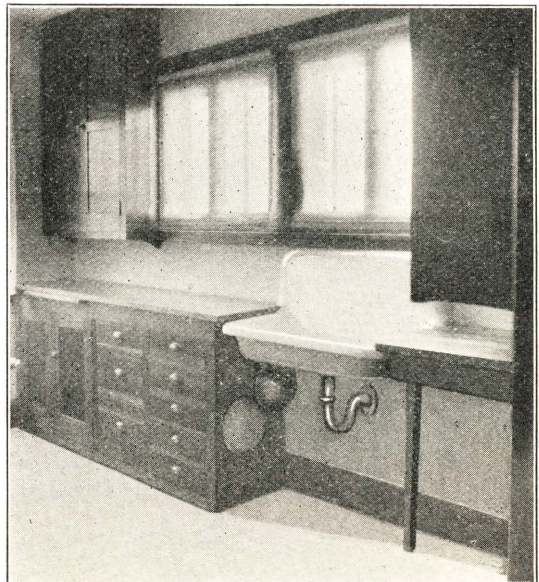


Figure 2: A sink properly located for convenient working.

## THE KITCHEN SINK

O. E. ROBEBY, Extension Specialist

In a great many farm homes the kitchen sink is used merely for washing hands. If properly located and provided with suitable means for carrying away waste water, however, the sink becomes of use in connection with a great many kitchen tasks.

### Location

Before the location of the sink is determined, a careful study should be made of just what work will be done at the sink. Hours of time and much energy can be saved by having the sink where there will be light and where it will be located properly in relation to the dish cupboard, the range, and the dining room. Then again, it should be remembered that a more elaborate water system may be installed later, and this possibility should be considered.

### Height

Perhaps 90 per cent of our kitchen sinks are set too low for comfortable working. They should not be so low as to require stooping. (Fig. 3.) The proper height can best be determined by experiment. The following table is given merely as a guide. It will be found useful in determining the heights, not only of sinks but also of work tables, ironing boards, etc.

Heights for working surfaces.

Height of Woman	Height of Working Surface
4 ft. 10 in.	30 $\frac{3}{4}$ inches
5 ft.	31 $\frac{3}{4}$ inches
5 ft. 5 in.	34 $\frac{1}{2}$ inches
5 ft. 7 in.	35 inches.
5 ft. 10 in.	37 inches

It should be remembered that the heights given above refer to the bottom of the sink. If a sink is set at these heights with working surfaces attached, as in Fig. 2, these surfaces will be too high. In such a case it will be necessary to decide whether it is the more important to have the sink bottom or the table working surface at the proper height. A low sink may be made more convenient to work at by placing a block, pan, or wire frame in the sink under the dish pan.

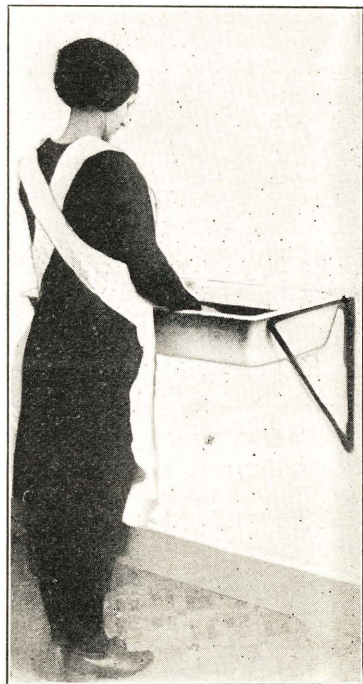


Figure 3: A sink should be high enough to prevent stooping.

### Types

For ordinary kitchen use, sinks of cast iron white enameled are best. Sinks of painted cast iron and also of sheet steel can be obtained. They are not as easily kept clean but may be used in some places. Sinks may be had with a back wall cast in one piece, or a separate back may be secured and attached later.

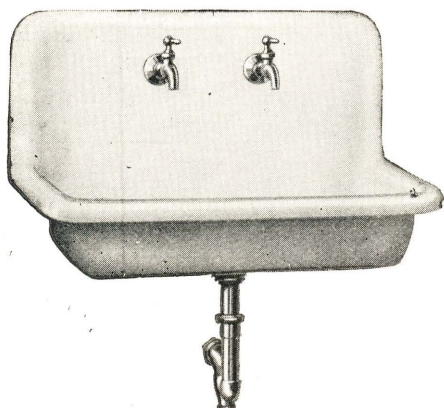


Figure 4: A cast iron white enameled sink with back attached.

### Size

A sink should be large enough to receive the dish pan, at least 20 inches wide. A 20" x 30", or 20" x 36", is a very convenient size.

## DISPOSING OF THE WASTE WATER

Sink water should not be merely run out on the surface. It soon becomes unsightly, ill-smelling, and a harbor for flies.

Since the sink water does not contain much solid matter, it can usually be disposed of very readily by fairly simple methods. Owing to the grease which is generally present in waste water, it should not be run directly into a tile drain, whether this line leads into the farm drainage system or is merely a short line running away from the house.

If the waste water is first run through an easily constructed grease trap, the grease will be separated so that the water can pass out into a tile system without danger of clogging.

### MATERIALS REQUIRED

For the average installation the following materials will be required.

1	White enameled sink, 20" x 30".....	\$6.00 to	\$14.00
1	pr. sink brackets or sink yoke.....	.50 to	2.50
12	Feet of 1½" lead pipe.....	2.50 to	2.50
¼	Lb. of putty.....	.10 to	.10
50	Feet 4" drain tile.....	2.00 to	2.00
2	Sacks cement.....	1.50 to	1.50
1	Yd. of gravel.....	.25 to	.25
		\$12.85	\$22.85

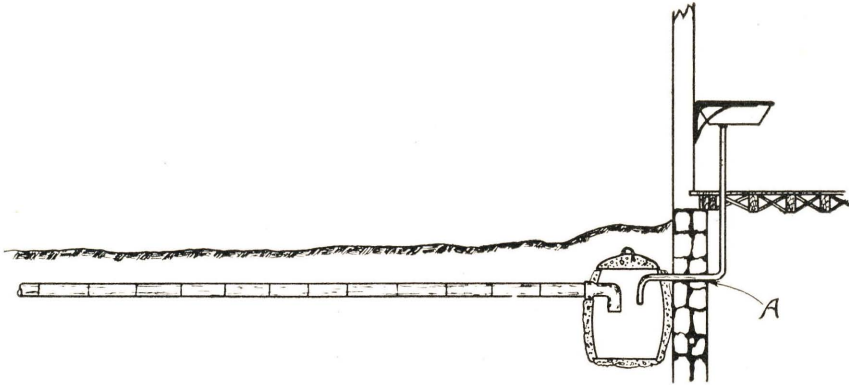


Figure 5: A complete sink and grease trap.

### INSTALLING THE SINK

The installation of a sink and grease trap is so simple that it can be done with very few tools and at a very small expenditure of time.

First, after the location of the sink has been decided upon, measure up from the floor the proper height for the sink according to table 1; then add five inches for the depth of the sink. Draw a level line on the wall at this point.

A sink may be attached to the wall either with sink brackets or a sink yoke or frame. The yoke is stronger and more easily put up although more expensive. The brackets or yoke should be attached to the wall with their top edge even with the line and spaced far enough apart to receive the rim of the sink. If the sink has a back attached, special brackets are sometimes provided for attaching to the wall.

### Piping

Either lead or iron piping may be used to carry the waste water. When ordering sinks, fittings can be secured for attaching either lead or iron pipe. For a simple installation like that shown in Fig. 5, lead pipe should be used, as practically no special tools are required.

Secure a piece of  $1\frac{1}{2}$  inch lead pipe long enough to reach from the sink to the floor and through the wall into the grease trap, as shown in Fig. 5. The pipe can be bent readily to the proper shape. If the bends are sharp, the pipe should be filled with fine sand to prevent flattening and heated slightly on the side that will be stretched.

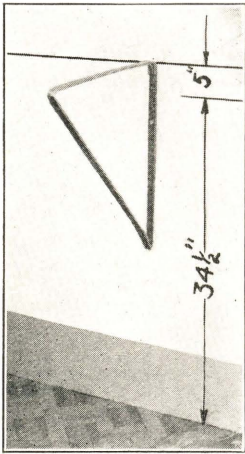


Figure 6: Sink brackets should be attached five inches higher than height of required working surface.

Where the sink is attached to the outside wall, and with the grease trap directly outside the house, no trap will be required below the sink, as the immersion of the waste pipe into the liquid in the grease trap prevents the gases from coming back. On long lines of waste pipe a trap is recommended.

If quite a large hole is made in the wall, A—Fig. 5, the pipe may be inserted from the outside and slowly bent to enter a hole made in the floor directly beneath the strainer in the sink. When the pipe is about one foot above the kitchen floor remove the pipe clamp from the sink and slip it over the end of the pipe. With a round stick or ball peen hammer flange over the end of the pipe, as shown in Fig. 7, until it fits the pipe clamp; then cover the flanged end with a layer of putty and bolt to the sink. If the hole through the floor has not been neatly made, a ring or collar can be secured to fit the pipe closely and cover any irregularities.

### Nickel Plated Trimmings

Roll rim sinks with a back attached are usually provided with nickel plated traps, either extending to the floor or to the wall. Extending to the floor is usually better for sinks attached to outside walls. Traps to the wall (see Fig. 4), leave the floor beneath the sink free from piping.

Nickel plated traps may be attached to either lead or iron pipe if the proper fittings are provided. When attached to an iron pipe a slip joint is used. The nickel plated pipe is inserted into the iron pipe; then the slip nut is screwed down onto a rubber gasket. (See Fig. 10.) A nickel plated pipe may be attached to a lead pipe by soldering, or by a union and a short piece of iron pipe, as shown in Fig. 11. The lead pipe is inserted in the lower half of the union and beaded over as in Fig. 9; the nickel plated pipe is then inserted in the iron pipe and the slip nut screwed down as in Fig. 10.

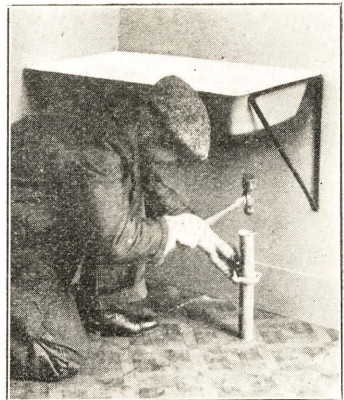


Figure 7: Lead pipe should be flanged to fit the pipe clamp.

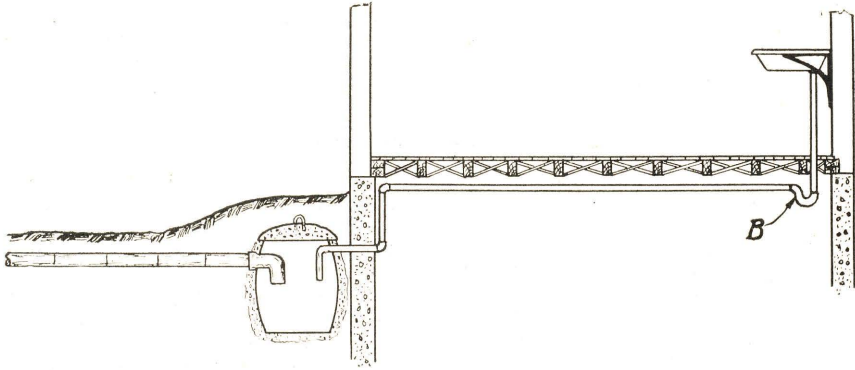


Figure 8: A trap (B) should be placed in sewer line when sink is eight feet or more from outside wall.

### SPECIAL CASES

In some installations it is impossible to have the sink on an outside wall or near an outside wall, as in Fig. 5. In such cases it will be necessary to have a longer waste pipe, and, owing to the accumulation of waste material in the pipe which may cause offensive gases to come back through the sink a trap should be inserted at B (Fig. 8). Traps are usually placed directly beneath the fixture, but since in a great many cases sinks are installed in houses not heated by a furnace, the trap will be less likely to freeze if placed just below the floor line as shown.

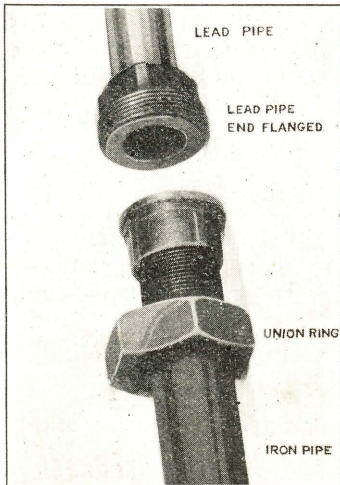


Figure 9: Lead pipe can be attached to iron pipe by an ordinary union.

It is simply screwed onto the pipe and bolted to the sink.

Occasionally a lead trap is used beneath the sink, and sometimes this is attached to an iron waste pipe. This connection can be made with an ordinary cast union\* (a union with a brass seat

In cases where a long waste pipe is necessary, as in Fig. 8, it will be best to use 1½ inch iron pipe with threaded fittings. The trap used is a half S cast trap provided with a cleanout plug at the bottom, for use in case it becomes clogged. Elbows, tees, etc., used in connecting the waste pipe should be special drainage fittings if they can be secured.

It will be necessary to have a special fitting to attach an iron pipe to the sink. This fitting is similar to the one shown in Fig. 7, but is threaded. It is

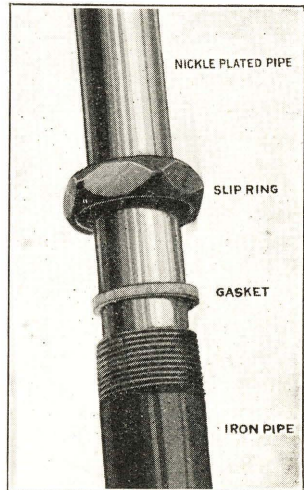


Figure 10: Nickel plated pipe is attached to iron pipe by means of a slip joint.

\*Special unions are also made for this purpose.



is better). Screw the lead pipe into the half of the union having the brass seat until it projects through about  $\frac{3}{8}$  of an inch; then flange over as shown in Fig. 9. The flange on the lead pipe will serve as a gasket.

### THE GREASE TRAP

The best location for the grease trap is close to the cellar wall, as shown in Fig. 8. This location reduces to a minimum the possibility of clogging in the sewer.

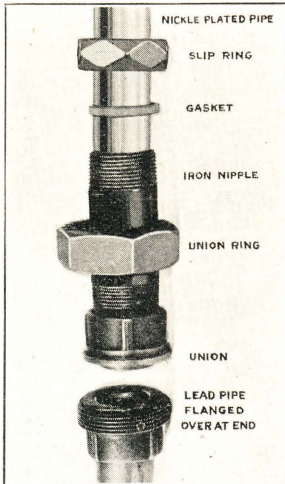


Figure 11: Nickel pipe may be attached to lead pipe in this manner, if soldering is not possible.

Procure a barrel of large size; it need not be perfectly tight. Dig a hole in the ground close to the wall at the point where the waste pipe comes through. This hole should be about 8 inches larger than the diameter of the barrel and about 15 inches deeper than the barrel is high.

Put about 3 inches of concrete in the bottom of the hole and tamp down. About 16 inches of the lead waste pipe should extend into the hole. It need not be bent downward until after the barrel has been removed. Place the barrel in the center of the hole, letting the waste pipe rest on top of the barrel; then fill around the outside with concrete. When nearly full, remove the upper hoop of the barrel and cut a notch deep enough to receive the waste pipe. At the point where the tile drain is to be attached, leave a notch deep enough for the outlet tile elbow.

Remove the barrel when the concrete has set, bend down the waste pipe as shown in Fig. 12, and the outfit is ready for the drain and elbow to be attached.

### The Tile Drain

The tile from the grease trap may be run directly into the farm drainage system if convenient, or, if the soil is sand or gravel, about 75 feet of ordinary drain tile can be attached to the trap. If the soil is clay, it may be necessary to put six inches of gravel in the trench before putting in the tile.

#### OTHER BULLETINS ON RELATED SUBJECTS:

"The Farm Kitchen as a Workshop," Farmer's Bulletin No. 607, U. S. Dept. of Agr'l.

"Six Simple Water Systems," Extension Bulletin, Michigan Agr'l College.

"Farm Home Conveniences," Farmer's Bulletin No. 927, U. S. Dept. of Agr'l.

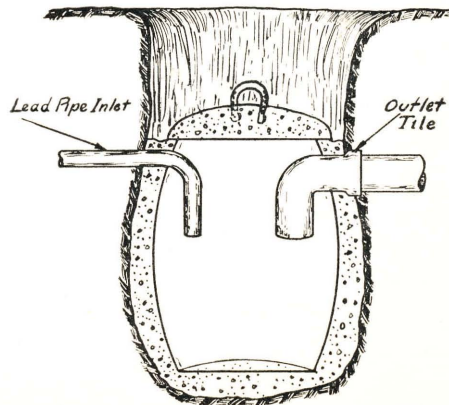


Figure 12: A grease trap made with a barrel used as a form.