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Utah Agricultural College
EXPERIMENT STATION

CIRCULAR No. **67**
EXTENSION DIVISION



Useful Kitchen Utensils.

**Labor Saving Devices For
The Farm Home**

BY
LEAH D. WIDTSOE

JUNE, 1912.

Lehi Publishing Company
Lehi, Utah

Utah Agricultural Experiment Station

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 - b. Must be trained to be master; to see all advantages.
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 - a. Overworked at certain seasons, only.
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 - f. Has aid of more labor saving devices.
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 - a. Woman's work the most glorious profession on earth.
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 - g. Too conservative.
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 - a. As bread winner feels justified.
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 - a. Cheerful, happy home is worth more than money.
 - b. Closer co-operation necessary.
 - c. Make headway more slowly and enjoy every day.
 - d. Vacuum cleaners cheaper than funeral bills.
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 - a. Money in home labor saving devices \$63.00.
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 - a. Money invested, \$4,085.00
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- b. Change as circumstances indicate.
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- 1. For home machines as well as farm machines.
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 - b. Home laundry.
 - c. Brick oven.

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- 1. Desirability and feasibility.
 - a. Why not means for experimenting on improvement of human race as well as chickens and hogs?
 - b. Why not improve home conditions as well as more perfect and sanitary barns.
- 2. A possible perfected dishwasher.

INTRODUCTION.

This paper was written for and read before the first International Congress of Farm Women held at Colorado Springs, October 17th to 21st, 1911. A few changes have been made in the manuscript and some illustrations added.

The name indicates that it is written for the progressive farmers of some means—since all labor saving devices cost more or less money. The farm home which finds it difficult to keep flour in the barrel, naturally will not be interested in \$125.00 water systems—except as an ideal they may attain to some day, and ideals are always helpful. To find ways and means of helping this class of farm home has our deepest interest, but is entirely another story. The wise woman in any condition can, by using her wits and the means at her command, do much toward making her work simpler and save steps in the performance of it.

The purpose in writing this paper has been two-fold: To stimulate thought on the part of the home-workers—the women; and to induce a spirit of interested co-operation on the part of home providers—the men. An intelligent, active interest in the subject with some good head work thrown in is the best asset any woman can have in her work. Coupled with the wife's determination must be the husband's willing help; for, since the home is shared by both and made for both, no woman can make much advance if she has to "go it alone." So, in spite of the fact that "comparisons are odious," they have been frequently drawn between man's and woman's work on the farm with their respective facilities for work. This has been done not at all to make it appear that men are all at fault and women down-trodden; but to make them both feel that absolute co-operation is necessary in order to realize the possibilities of the joyous freedom of farm life. This condition must hold in all home life as well.

Many of the illustrations used have been furnished by the firms handling the appliances spoken of. It is not intended to advertise any firm or factory in these pages. There are many places where such goods may be obtained, and interested readers are advised to get all possible information before making any purchases. However, it must be stated that any

firm herein spoken of is known to be reliable. The desire has been to give a little practical help, rather than theoretical information so prices and definite information has been given wherever possible. Further, it has been the desire to quote local firms handling goods spoken of wherever possible. We believe in keeping our money at home and patronizing those firms which are progressive enough to handle the newest and best the market affords. Still when the local firms do not handle the goods, the address of Eastern firms is given.

The position that is maintained throughout these pages is stated in brief in the words of a great man, and I trust he will not object to having them introduce this little paper:

“Above all, the condition of farm life must be shaped with a view to the welfare of the farmer’s wife, and the farm laborer’s wife quite as much as the welfare of the farm laborer. To have the woman a mere drudge is at least quite as bad as to have the man a mere drudge. It is every whit as important to introduce new machinery to economize her labor within the house, as to introduce machinery to increase the effectiveness of his labor outside of the house.”—Theodore Roosevelt.

Labor Saving Devices For The Farm Home

By LEAH D. WIDTSOE.

FARM LIFE THE MOST DESIRABLE FOR MEN AND WOMEN.

It is with an unshaken belief in the great advantages of farm life, and also with some little experience of it, that this paper is written.

Farm labor, if performed rightly, gives health to the body freedom and joy to the mind. Boys and girls raised on the farm, with the proper home environment, are very apt to be the strongest morally, mentally and physically of any of our citizens. Farm life gives the greatest independence to the individual, for the farmer acknowledges no man master but God and the elements. These are truisms that all accept, though they fail to convince many people of the superiority of farm life.

DISADVANTAGES OF FARM LIFE.

True, there are many disadvantages to farm life. The average farm is more or less isolated; and humanity being naturally gregarious cannot endure isolation long, whether on or off the farm. The apparent loneliness of the farm however, is partly due to a lack of training on the part of those who live there for the appreciation of the beauties of their surroundings and labors. They have not had their minds or eyes opened to the wonders of Nature; to the beauties she has placed before their minds; or to the mastery possessed by the farmer over the forces of Nature.

There is also on the farm, necessarily, a lack of some of the cultural elements, such as an occasional good theatre, an inspiring lecture, good music, or an art gallery to visit in a spare hour or two. These things are ordinarily absent from the small town, as well as from the farm, and the individual in each case must be trained to use the resources about him to supply this deficiency.

There is something more than this, however, that makes farm life distasteful to many young men and more young women. They object, in substance, to farm life, because "there is too much work on the farm". It is the cry wherever one goes, and all the many advantages are cancelled by its insistence. It is true? Is there too much actual work and drudgery on the farm?

WOMAN VS. MAN ON THE FARM.

As a rule it must be admitted that women on the farm work very hard, and possibly that more women are overworked than men. This should not be so, for farm life, if rightly lived, gives the best opportunity to women for free, healthful and joyous living. It may not be true that in the same space of time women work harder than men, but "Man works from sun to sun, while woman's work is never done". Work of itself is one of the prime necessities of healthy and happy life; it is the greatest blessing, instead of the greatest curse, that God put upon his children. But man, and woman also, must have rest and recreation.

Man's work on the farm is intense while it lasts, and it may cover long hours; but when it is done, it is done, and the man rests while the earth rests. A woman works incessantly while the man does, but she has no period of rest; for busy fingers must use even the evening hours in mending, darning or keeping the clothes in good condition. During the night, also, when the tired body should reinvigorate itself for the morning's toil by sound, unbroken slumber, the woman is more often than not disturbed by a restless, ill, or nursing child. Her daily tasks include cooking, serving, washing dishes, scrubbing, cleaning, sewing, dressmaking, washing, ironing, canning fruit, preserving fruit, vegetables and meats, waiting on the sick; and many women add to this list the feeding of pigs and chickens and making the kitchen garden.

The man usually has his Sunday free; his mind rests as well as his body. He dons his Sunday best in the morning and has most of the day to visit friends, talk about the weather—to recuperate his strength. But he does not recuperate very

much unless there is a fine hot Sunday dinner waiting for him at home! Meanwhile, Sunday is often the hardest day for the woman, and most holidays add heavier burdens instead of lighter ones.

Besides the performance of her usual daily tasks, most women have the keen joy, as well as the great strain of bearing and rearing a family of children. This alone could occupy most of a woman's energy if she did it well; but it must be done in addition to many pressing tasks, and as a result many children "just grow." Most men would think it very bad policy to work their horses or use their cows to the last day before giving birth to young; but how many men think it necessary, that a wife have a month's rest or recreation before that blessed period comes to her life?

In the matter of securing hired help also, man's work on the farm is more easily done than woman's. While at times it may be difficult for men to get all the help they need, still more men than women are available. It is almost an impossibility to get help in the farm home, even if it can be afforded. Girls from the more thickly settled districts do not care to go to the farm—it is too lonely. Girls that are born and reared on the farm, usually have all they can do to help mother, or they prefer to try the city. Of necessity, mother has to do all the work until the girls are big enough to help.

And so I make this statement advisedly that in most cases, a woman's work is never done. She has very few real holidays throughout her life. That makes one of two things necessary; either the average woman must have ways and means of performing her work with as little expenditure of energy as possible, or else she is going to wear out completely, and the man will have to get a new wife as he gets a new mowing machine.

From every point of view it is clear that woman should be enabled to do her work in the easiest possible way. It makes for the health and happiness of the entire family.

WOMEN TOO CONSERVATIVE.

It may be granted that as a rule, women do not use in the

best way all their advantages—that they lack special training for their labor; also, that they fail to use the system and intelligence which makes joyous work. They may also lack that certain progressiveness which enables men constantly to use their brains in thinking out devices for saving energy. If men would do the housekeeping for a few years, we would have as fine dishwashing machines and cookers, as we have hay derricks and harvesters. It ought to be quite as easy to invent a dishwashing machine, as one which cuts, threshes and sacks the grain with one turn of the wheel. Women's very conservatism and content is often her worst enemy.

In one respect, that of money, woman cannot help herself, because in most cases the man holds the purse strings. Most farm women make their living out of their chickens and dairy, and ready cash is a thing they seldom see. Any help or labor saving device that costs money, is for that reason forbidden. Now this is the case, not because men as a class are stingy, nor because they do not want to help their wives, but because they do not think about it, and the women do not make them think.

THE ACCUMULATION OF MONEY NOT THE AIM OF EXISTENCE.

This is the day of labor saving devices in the home, as well as on the farm. Scarcely any man would deny their place on the farm, because he sees in their use the saving to him in dollars and cents, and that always makes a strong appeal, since upon his success depends the welfare of the entire family. If a sixty dollar mowing machine will enable him to cut as much grass in one hour, as his father cut in one day with a scythe, the argument is complete, and he will have the machine if he has to mortgage the farm to get it. But if a sixty dollar vacuum cleaner would enable his wife to do as much cleaning in one hour as her mother did in one day, he would doubtless spend many months thinking about the expenditure of the sixty dollars. Again, this is not necessarily because the man is hard-hearted, unfeeling, or stingy, but because, if he thought of it at all, he would feel that man is the

bread-winner; through his labors the money and the where-withal of life come into the home, and any expenditure is justified therefore. But is money the end of existence? What good is a large bank account to any man if he has the consciousness of a wornout, ill-tempered wife and a cheerless home to greet him when his day's work is done? And no woman whose energy is taxed to the breaking point by the ceaseless daily, and often nightly grind of toil, can be cheerful and companionable for any length of time. Is there a money equivalent for the cheerful smile and life companionship of the woman who was once the best on earth? Can money pay for the lack of things? Sometimes money does pay—it often pays coffin bills and undertaker's fees; and many a man has found that one hospital bill or doctor's fee would have bought many a vacuum cleaner. Is it not better to practice the ounce of prevention method? The farmer who understands that there are things in life worth infinitely more than dollars and cents, will use every spark of intelligence and some hard cash as well, in making the most perfect possible home.

It is taken for granted then, that money must be spent for labor saving devices on the farm; bread and dinner, and a comfortable home depends on it. It is conceded that the first outlay of money must be to facilitate man's work, for upon his success depends the possibility of getting the comforts desired in the home. If only he will not postpone too long providing the means to make the partner's life endurable. Would it not be better to accumulate money a little more slowly, and get some joy out of each passing day? Therefore, it should be equally conceded that a certain amount of money be spent in the same way for the farm home—joy and restful companionship depend on it.

POSSIBLE FARM MACHINERY.

Below is a partial list of labor saving machinery which may be used on the farm, with the approximate cost of each article. This list does not include any of the farm necessities

such as horses, harness, wagons, and the ordinary farm implements used for the erection of shops, granaries, barns, sheds. These are put in the list of necessities. The list of labor saving devices includes simply those implements that man has invented to make one hour's work do the work of ten—strictly **labor saving devices**.

Following is the list for hay, grain or beet farms:

Mowing Machine	\$60.00 to \$70.00
Rake	35.00
Push Rake	50.00
Gang Plow	85.00
Sulky Plow	55.00
Hand Plow	18.00
Drag Harrow	20.00
Disc Harrow	50.00
Drill, 14 Hole	145.00
Hay Derrick	100.00
Threshing Machine	\$1,200.00 to \$5,000.00
Header	275.00
Reaper	100.00
Combined Harvester	2,500.00
Steam Plow	3,500.00
Steam Plow inc. Header and Thresher.....	5,300.00
Alfalfa Buncher	17.00
Hay Tedder	75.00
Hay Loader	100.00
Self Binder	175.00
Beet Puller	25.00
Hay Fork	40.00
Beet Drill	100.00
Beet Cultivator	50.00

\$14,075.00 to \$17,885.00

There are many other kinds of machines in use on different farms, but the list is complete enough to make the point that there are many such machines and that they quickly run into money.

This list was given me by the leading implement dealers of our town, and ratified by some of our best farmers.

POSSIBLE LABOR SAVING DEVICES FOR THE FARM HOME.

The term labor saving devices in the farm home, does not apply to the necessities such as stoves, cupboards, pump, dishes, tubs and ordinary furniture of the home; but to those which have been invented to accomplish the daily tasks in less time, or with less expenditure of energy than is ordinarily consumed. This list includes:

Complete water system including bath tub, sink, pipes, pressure tank and all fixtures, without labor.....	\$125.00	
Heating system complete for an eight-room two-story house.....	200.00	to \$600.00
Lighting system including pipes, fittings and fixtures for an eight-room house, without labor	100.00	to 200.00
Vacuum Cleaner (hand)	8.00	to 25.00
Refrigerator	15.00	to 100.00
Sewing Machine	20.00	to 75.00
Washing Machine	5.00	to 10.00
Wringer	3.00	to 5.00
Dish Washing Machine	15.00	to 25.00
Cold Mangle	6.00	
Alcohol Iron	5.00	
Carpet Sweeper	3.00	to 5.00
Bread Mixer	3.00	
Cake Mixer	1.50	
Meat and Vegetable Mill.....	1.50	
Fireless Cooker—depending on size.....	10.00	to 20.00
Steam Cooker	8.00	
Coal Oil Stove—depending on size.....	5.00	to 15.00
Dinner Wagon (see illustration)	5.00	to 10.00
Ash Chute for range (see illustration).....	10.00	
Cement Walks (13c. sq. ft. average size		

cottage)	25.00
Kitchen tools about	20.00 up
	\$593.00 to \$1,288.00

This does not include any of the fixtures or machinery run by electric power or gas. Many villages are now connected with such power, but the majority are not, so they are not mentioned. It does include the countless inexpensive but useful articles which many women deny themselves, such as egg beaters, potato slicers, flour sifters, paper towels, dustless dusters, paper bags for cooking, meat saw and chopper, balances, lid holder, coal box and window cleaner, and the many small utensils shown as a group in illustrations Nos. 1, 2 and 3. It shows, also, however, that there are many labor saving devices for the home, and that they are very much lower in cost than the implements used by the man on the farm. The first three items given in the above list, also the next to the last one are really part of the house construction and should be listed as necessities. They would be luxuries in most farm homes, however, and are so listed here.

A PERFECTLY EQUIPPED FARM HOME.

It is possible to have on the farm any and all labor saving devices used in the large cities where electricity and gas are provided, if the man of the house is sufficiently interested and can afford the expense. Such houses are found occasionally. One such house is in Fielding, Utah; it belongs to Mr. W. S. Hansen, a type of the best farmer, who boasts that all he has accumulated has come from the soil. The house contains all the labor saving, comfort-giving devices possible in any city home. The house is a twelve room, four story, modern brick mansion, and the family large, so that the equipment is larger and consequently more expensive than would be necessary for the average home. The house contains the following labor saving devices:

Hot water heating system: Hot and cold water for kitchen and laundry; two lavatories; two bathrooms; an electric light

system for the four stories; an acetylene gas lighting system for the entire house; a perfectly equipped laundry (including a large cylindrical washer, automatic wringer, cold mangle, steam drying apparatus, automatic sprinkling nozzle and stationary tubs); a stationary vacuum cleaner in basement with pipe connections on each of the four floors; besides a dumb waiter, clothes chute to basement, ash tank in basement for each grate; a complete cement basement and cement walks around the entire house.

The whole equipment is run by a two and one-half horse power gasoline engine, which cost \$100.00. The engine also



A model Farm Home owned and built by Mr. W. S. Hansen of Fielding Utah. This house possesses all the modern conveniences any city home can boast.

pumps water into a tank in the barn which is used for watering the animals. Before the engine was used, it cost \$3.00 a day to water the animals, if the windmill couldn't run. Now it can be done for 10 cents a day. It costs 11 cents an hour if all the lights are used to light the house with electricity; only 15 cents a day with acetylene gas. The vacuum cleaner cost \$150.00 and costs 3 cents an hour to run. One whole floor consisting of five large rooms can be cleaned in two hours, and cleaned as no human power could clean it. The cleaner has been used two years with perfect satisfaction.

The laundry has been used six years, and in all that time the only repairs has been the tightening of one belt. It takes a woman four hours to wash for the entire family of fifteen members and at seasons hired help.

This home has two stories of water supply—the house and yard tank; two heating systems—stoves and grates or the hot water system; and two lighting systems—electricity or gas, the one to be used if the other is out of commission.

The owner estimates that all of the machinery and appliances, including laundry fixtures, vacuum cleaner and plumbing fixtures, bath tubs, sinks, basins and piping, lighting systems and everything named above, cost in round numbers \$2000.00. This seems a vast sum of money to spend for home machinery, but when one considers that there are thousands of dollars invested in farm machinery on this farm, the proportion does not seem so large, especially when one considers also that the latter must be replaced probably every ten years.

Too much cannot be said in praise of a man who provides such a home for his family. Of course, it is granted that few farmers could afford such conveniences. All that can be desired is, that while men are adding to the farm large barns and sheds, and every machine that comes on the market, they take equal interest in spending money for the betterment of conditions in the home. The equivalent of the expenditure will come back to them many times over though the interest may be paid in added joy and happiness rather than in dollars and cents.

COMPARATIVE COST OF FARM HOME MACHINERY

To determine the comparative cost of labor saving devices on the farm and in the home, two Utah farmers were examined for this purpose. Farm No. 1 is a 50-acre hay and grain farm; No. 2 is an 1800 acre hay and grain farm. Below is given a list of the labor saving machines found on each of these farm homes, with the cost of each machine specified:

Farm No. 1.

For Hay and Grain.

Implements used on 50-acre farm.

Hand Plow	\$18.00
Sulky Plow	55.00
Disc Harrow	50.00
Drag Harrow	20.00
Mowing Machine	60.00
Rake	30.00
Drill	100.00
Hay Fork	40.00
Hay Derrick	100.00
Self Binder	175.00

Besides a possible
\$500.00 invested in
co-operative thresh-
ing machine.

\$648.00 to \$1,148.00

Farm No. 2.

For Hay and Grain.

Implements used on 1800 acre farm.

2 Mowing Ma- chines	\$ 120.00
2 Rakes	60.00
Harvester	2,500.00
Hay Derrick	100.00
Hay Fork	40.00
Gang Plow	340.00
2 Sulky Plows.....	110.00
3 Drag Harrows	60.00
4 Disc Harrows	200.00
3 Drills	435.00
1 Hand Plow	18.00
Reaper	100.00

\$4,083.00

The machinery is seldom cared for in any thorough manner, so that it has to be replaced every five or ten years.

The labor saving devices for the **woman's work** on these two farms are tabulated below:

Home No. 1.

Implements used in Home of Farmer No. 1.

Sewing Machine	\$50.00
Washing Machine, in- cluding wringer	10.00
Bread Mixer	3 00

\$163.00

Home No. 2.

Implements used in Home of Farmer No. 2.

Washing Machine	\$ 10.00
Sewing Machine	50.00
Bread and Cake Mixer	5.00
Oil Stove	12.00
Refrigerator	30.00

\$107.00

These machines when once bought are supposed to last a life time.

The difference is evident. Very much less money is invested in the woman's side of the farm work than in the man's side; and have we not decided that woman's work is quite as important as man's—because it concerns so vitally the health and happiness of the entire family. The actual cost of devices for her work is low and considering the importance of the home in the welfare of the farm and the farmer, it is seriously to be questioned if justice has been done the woman in the few labor saving devices provided for her.

NECESSARY FARM HOME EQUIPMENT .

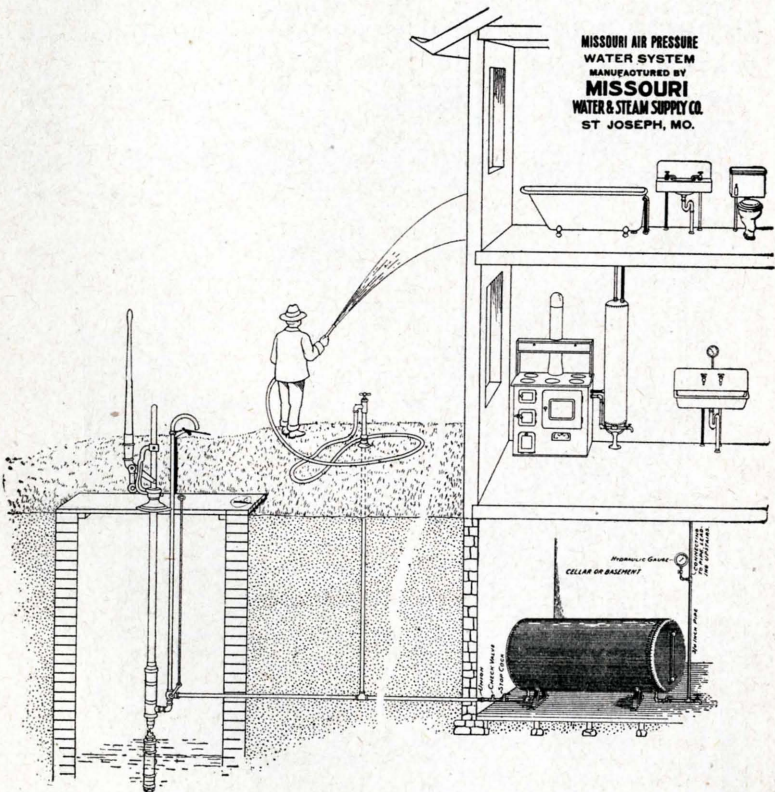
A Keen Interest:

The best labor saving device any home can possess is a good brain and deep interest in her work on the part of the home-maker. The old trite advice—"Make your head save your heels," has more in it than appears at first. On the following of this advice depends all we have now or may hope to have in the way of labor saving devices: each device has some one's brains back of it. The woman who uses her head in her work and never performs a task without the accompanying thought—"how can I do this better and easier," is in time going to become master of her work and enjoy the doing of it. The mental effort used lifts it above drudgery and makes the woman a professional worker. Woman's work—that of mother and house-keeper, is as important as any on earth; no man will deny this. Women themselves should feel more the dignity and world of importance of their life work, for it takes second place to none.

The Water System:

In enumerating the labor saving equipment of the farm home, the first to receive attention is the water system. Every home, if at all possible, should have one. The necessity of carrying all water for cleaning and cooking into the house, then carrying it out again, is the worst kind of human extravagance. The following incident is quoted from an article by Mrs. F. A. Stevenson, in the bulletin of the Rural Life Conference held in the University of Virginia last summer. "A

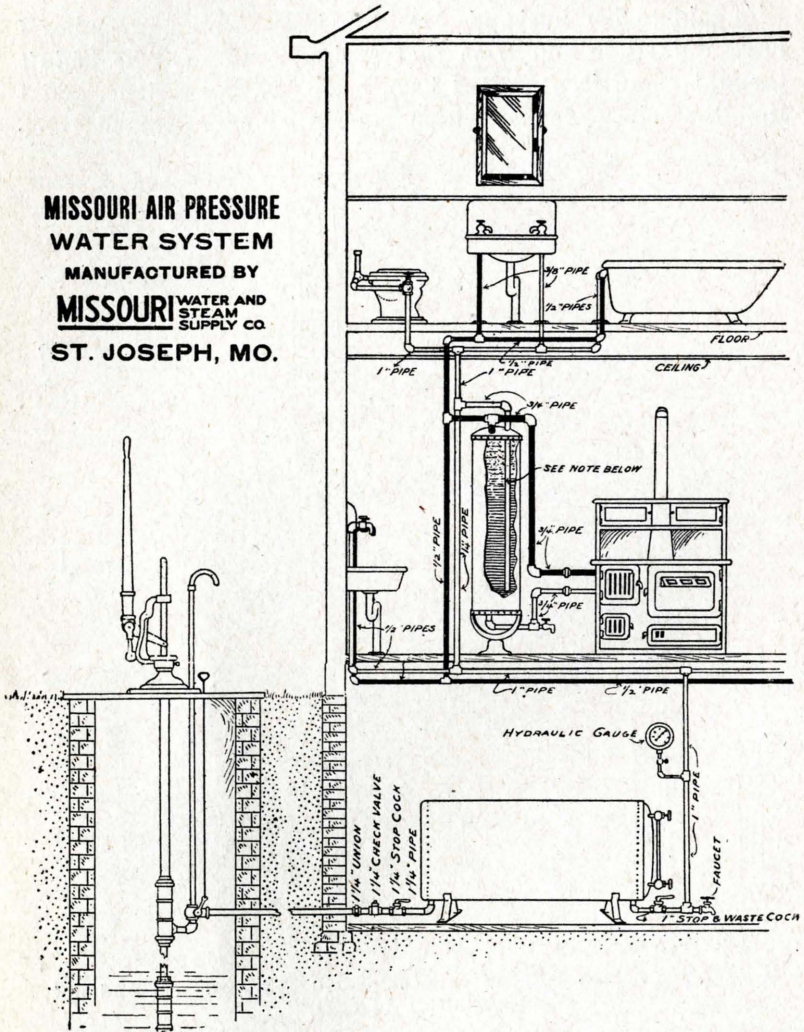
wife said to her husband—‘Do you know how many miles I have walked to and from that spring?’ He said he hadn’t thought about it. ‘Well, I have been figuring a little, and I find that since we have been married I have walked three



A complete water system; satisfactory in every respect and not prohibitive in cost.

thousand miles to and from that spring, sometimes with one and sometimes with two buckets of water.’” Mrs. Stevenson says further—“A few months ago I met an agent whose business it is to supply barns with an adequate flow of water for the stock on the farm. He told me that frequently for the sum of \$2.00 to \$5.00 the water could also be piped to the

**MISSOURI AIR PRESSURE
WATER SYSTEM
MANUFACTURED BY
MISSOURI WATER AND
STEAM
SUPPLY CO.
ST. JOSEPH, MO.**



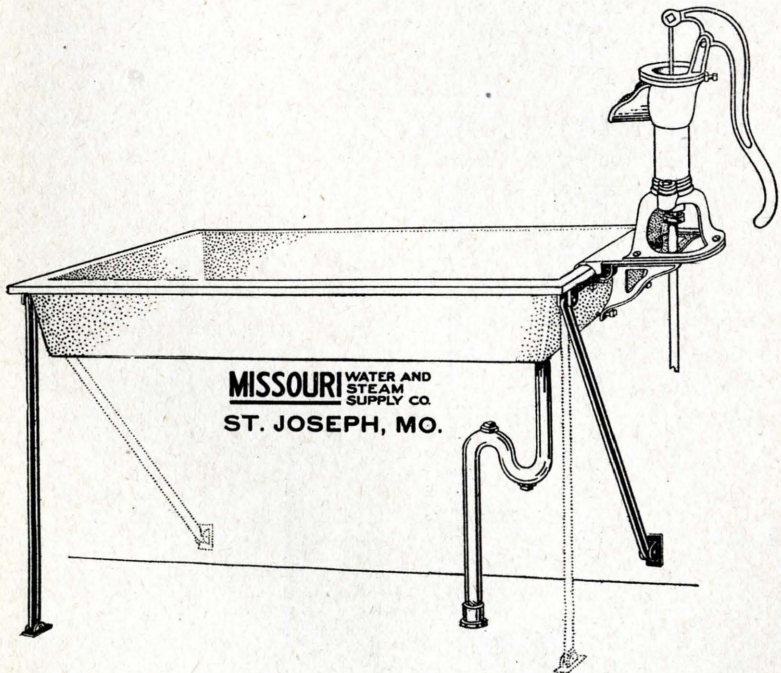
NOTE—The pipe shown running down to near the bottom of boiler is size $\frac{1}{2}$ -inch and delivers the cold water near the bottom so as not to disturb the body of hot which is constantly accumulating so as to deliver itself on call.

farm house and that only rarely did the farm man think the expenditure was justifiable.”

In such a system as the one illustrated, the labor for keeping a constant supply of water in the house is very small. A man need only give the pump a few arm strokes on his way to the barn and that is all that is necessary. Of course, a windmill does away with this.

The Sink:

In placing plumbing fixtures in the home, be sure the sink is high enough so the woman does not have to stoop at

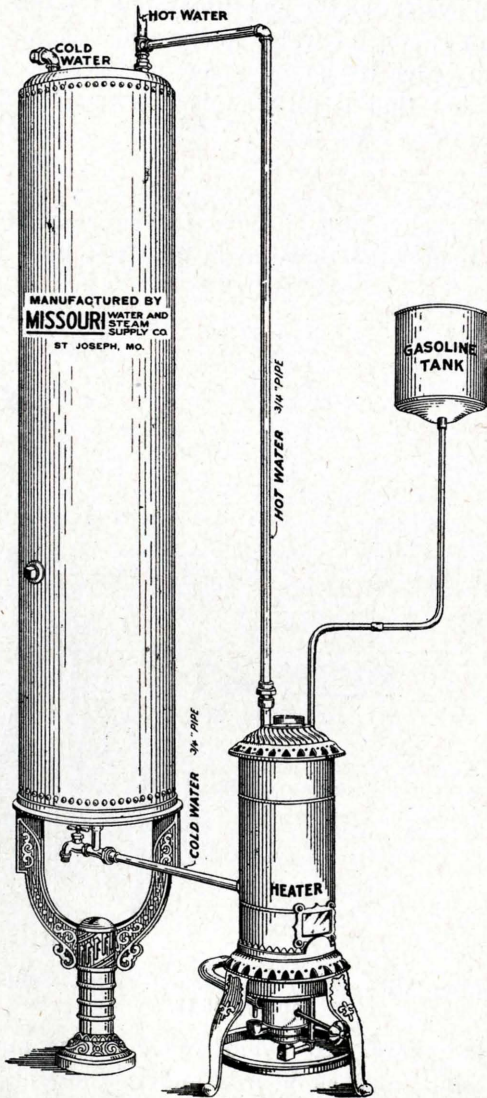


Sink Combination with Pump Attachment. Cost complete (without labor), \$6.12.

all in working there; also avoid wooden strips and all cracks around the sink; also cupboards under the sink if possible. Cracks where moisture and warmth are present are best possible breeding places for all kinds of disease germs and vermin.

The Bath Tub:

A large room is not necessary for a bath room; if



A Hot Water arrangement which can be installed in any home.
Cost complete \$25.60.

possible place the bath tub far enough from the wall so that it will be easy to clean around the tub. If space is an item, a folding tub may be had for \$18.00; with an attached heater \$23.00.*

Water Closets:

Indoor water closets are most desirable where there is sufficient drainage to make a cess pool sanitary; otherwise not. Many kinds including anti-freezing hoppers for use in stables or out of doors are shown in catalogs of firms handling these goods.*

There are other water systems on the market which do away with a storage tank for water as well as the one illustrated; if any storage tank is used, it should never be placed in the attic; it may freeze in winter; the water becomes too warm in summer, and there is always danger from leakage.

Even on farms where the price of the complete system is prohibitive, some method could be provided, if it is only a tank or barrel on the porch or in the corner of the kitchen. By a few arm strokes daily this could be kept full, so that a cold water supply is always on hand and that is half the battle. Then with little more expense, a sink could be had with outlet on some sunny part of the garden; and in time a bath tub with heater and tank could be added. (See illustrations Nos. 6 and 8.) It is worthy of note that a supply of running water at hand is a possible preventative of disastrous fires.

A Heating System:

Few farm homes or city homes of more than four rooms, know the luxury of being warm in the winter. It is much cheaper to heat an eight room house with a furnace than with stoves, to say nothing of the saving in labor and dirt. This is known by personal experience. If one can't afford to keep a large house warm during the winter months, one ought not to afford to build it. It is not healthful to have one or two

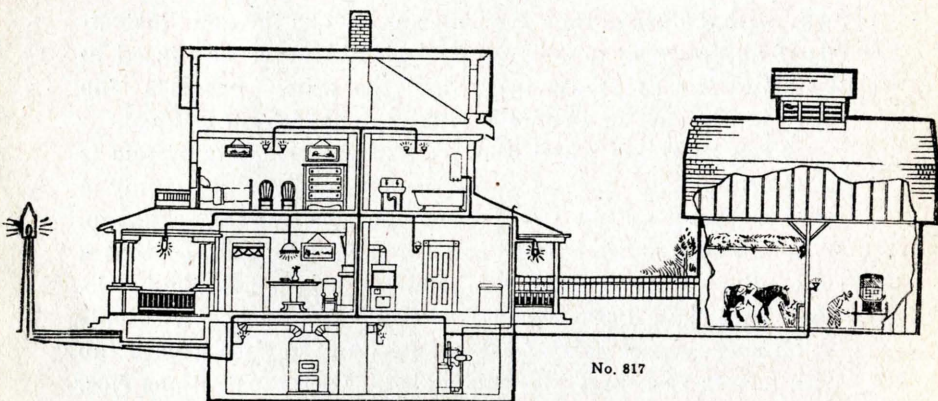
*If interested send for catalogs from different firms and get all possible information on this important subject. A local firm handling a system without storage tank is Fairbanks-Morse Co., of Salt Lake City.

*See catalog of Missouri Water and Steam Supply Co.

rooms warm and all the others icy cold. A furnace to heat a six or ten room house can be installed for \$200.00 to \$600.00 depending upon the kind of heat and style of furnace. The actual running expense is less than heating with stoves.

Lighting System:

The day of the tallow candle has passed. Just as sure is passing the day of kerosene lamps. With the possibility of installing an individual acetylene gas plant in an eight-room house for \$100.00, the time is in sight for doing away with the



This cut shows plan for piping houses and outbuildings for Missouri System of Gas Lighting.

An acetylene gas lighting plant. Approximate cost of lighting a house this size \$90.00; with running expenses less than the use of kerosene.

daily filling and cleaning of lamps. Acetylene gas is not dangerous if cared for by a responsible person, in reality it is not so dangerous as kerosene; the gas is not poisonous if taken into the lungs by accident. In 1906, 142,000 buildings in the United States were lighted by this gas. The daily cost of acetylene gas is rather lower than kerosene, with carbide at $5\frac{1}{4}$ cents per lb., as it is in Salt Lake City, and kerosene at 25 cents per gal. If a standard carbide-feed generator is used there can be no danger from its use for a safety pipe is used which makes

accidents almost impossible. It may easily be piped to the yard or barn as shown in illustration No. 9-a.

Vacuum Cleaner:

Many different kinds of vacuum cleaners are on the market; the hand cleaners cost from \$8.00 to \$25.00—the electric from \$25.00 to \$125.00. Too much cannot be said in favor of them, even where the hand machine is used, as a great deal of time and energy is saved in its use, besides the thoroughness with which the work is done. No amount of “elbow grease” expended in sweeping can compare with the cleanliness of the room after the vacuum cleaner has been used on it. After sweeping and cleaning a bedroom and a dining room rug as thoroughly as a good strong woman could do it, the vacuum cleaner was passed over them and a six-quart milk pail level full—probably eight pounds—of fine dust and dirt was extracted from the two rugs. Aside from the saving of energy is the saving of the furniture. While you are wearing out your brooms, you may be sure the carpets and furniture are being worn to the same extent. The cleaners are used with great success in many families; once used they would not do without them.

Refrigerators:

Every farm home should be supplied with some means of keeping the food cool, other than the one usually resorted to—the cellar or the cool out-house ten or one hundred steps removed from the kitchen. A refrigerator or some kind of artificial cooler should be a part of every kitchen furniture, and should be as necessary as the stove. In places where ice is not to be procured, it is possible to make a cupboard, in some instances where running water can be utilized. Or, a cupboard could be built which has access to the outside air, the shelves being of wire netting which permits the constant circulation of the air—this cupboard, if possible, being on the shady side of the house. The principle used in the African water bottle may be utilized; that of having a cupboard covered with some absor-

a. If interested in a local firm, send to the Will Reese Plumbing Co., Salt Lake City for information. The Colt generator is highly recommended by those who have used it, as well as the one shown in above illustration.

bent material and allowing the cover to be constantly saturated with water. In our Western climate evaporation of the water keeps the inside air as cool as could be desired.

Sewing and Washing Machines:

Nothing need be said in favor of the sewing and washing machines—they have come to stay. It is to be wished only that electricity could be supplied in the majority of houses to run these machines without human power. One washing machine has been very highly recommended as being almost as economical of energy as is the electric washer. It uses the principle of the circulation of steam as a means of removing dirt, and its price is not prohibitive—not more than \$10.00. Those who have used it are very enthusiastic in its praise.*

It is hoped that in the not too distant future, each village may have its public laundry, and this industry taken out of the home as has been the weaving and other industries. But until that day comes, every means should be used to make this necessary labor as light as possible.

The Successful Dish Washer:

This is possibly a machine of the future. A few different kinds are on the market, but for the small family at home they seem not yet entirely successful. The Home Economics Department of the Utah Agricultural College, is experimenting now, with more or less practical results, on small machines advertised as being adapted to the use of the ordinary family.*

Certainly nothing is more needed in all the homes of the civilized world than some satisfactory solution of the "dish washing problem."

A Mangle:

You will notice in the list given above a mangle is mentioned. There is hardly one home in a thousand in this country, provided with a mangle; and yet in the older countries of Europe, the poorest possible house-worker would feel she was imposed upon if she had to iron by hand her so-called "flat

*This machine is the Improved Steam washer, manufactured by A. L. Betzer, 1507 Brooklyn Ave., Kansas City, Mo.

work." Three-fourths of the ordinary ironing could be passed through a mangle and done in much less time. In a family where the mangle is used, it has been proved that ironing which takes five hours to do by hand, can be passed through the mangle in 25 minutes, and the work is better done. Considering the cost of the mangle—from \$6.00 to \$25.00, no home in which weekly ironing is done, should be considered equipped without one. **

The Alcohol Iron:

Can be used at a cost of a cent and a half an hour by using denatured alcohol at 60 cents a gallon. Care must be exercised in using this iron; but its use saves countless steps and is much preferable to the old journey between the table and stove. Of course the electric iron is to be preferred if it can be used. The best advice to give on this subject is to reduce the ironing to a minimum. Washing is a necessity; ironing a luxury. Use the knitted and crepe underwear as much as possible; also soft bosomed shirts for men; and let the sheets and towels be used as they come from the line saturated with sunshine.

The Carpet Sweeper:

Most house-keepers have agreed that the carpet as a floor covering must go. It is unsanitary as well as back-breaking to keep clean. However, where carpets or rugs are still used, the sweeper will be found most useful in taking up the top dirt—not as a means of thorough cleaning, however.

Bread and Cake Mixers:

No really progressive woman will refrain from trying the bread and cake mixers, and if she persists in using them one month, she would not want to keep house without them. The same could be said of the meat mill, or grinder, which finds use in countless ways in every kitchen.

*If you are interested, write to the Director of this Department, or to the National Machine & Stamping Company of Detroit, Mich., for literature.
**For information address American Ironing Machine Co., B-52 E. Lake St., Chicago, Ill.

The Fireless Cooker:

Much could be said in favor of using the fireless cooker, particularly on a hot day when the farm hands must be provided with warm meals, and when cooking over a hot stove is almost an unendurable process. Those who have used the cooker most, declare that after its use, food cooked on the stove is dry and tasteless. It is most highly recommended to housewives. There are many different kinds on the market—any one of which has advantages and disadvantages. Any one in which the plates are made of iron (which may be placed inside the fire-box to heat), will be found most useful. Success depends on getting the plates very hot. In the early morning when it is cool, a fire could be made, the plates heated, food for the hot meal at night put in the fireless cooker, and the fire allowed to go out. The food will be found ready when wanted. The fireless cooker is no longer an experiment; it is used in many houses with great success today.*

The Steam Cooker:

Is very convenient in bottling fruit, steaming chicken and puddings and in countless ways familiar to every housewife. (See illustration No. 3.) Its cost is saved many times over by its convenience and the success which attends its use. (See page 40.)

Coal Oil Stoves:

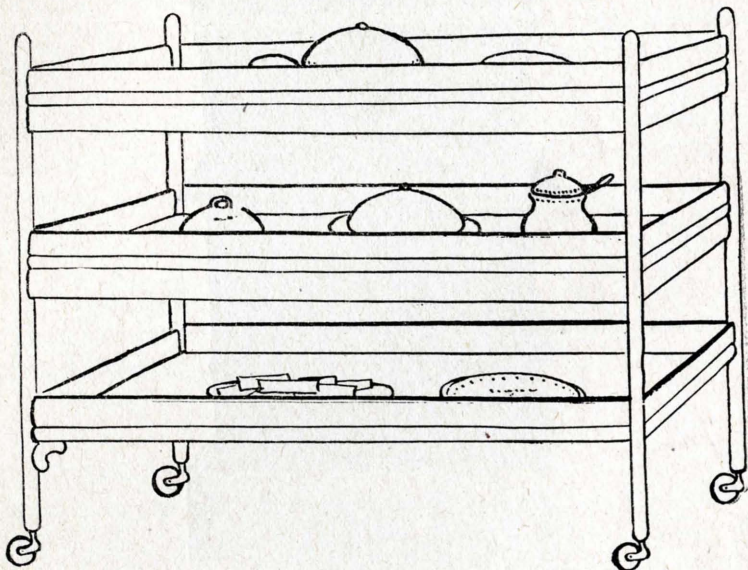
Are also used with success by many housewives. One good housekeeper I know uses a coal oil stove and a fireless cooker entirely, and finds that her fuel bills and labor are much less than when she used a coal range. Their use is most highly recommended in warm weather; the oven can be used successfully; and the cost of running is not at all prohibitive.

Dinner Wagon:

In homes where it is necessary to have a separate kitchen and dining room, it should be considered necessary to have a

*See bulletin 217 of the University of Wisconsin, on "Fireless Cookers", by Ellen A. Huntington.
The Rapid Cooker is one that may be recommended. It is manufactured by Wm. Campbell Co., of Detroit, Mich.

so-called "dinner wagon," an illustration of which is given, No. 11. This dinner wagon can be made by any one who knows how to handle tools at all, and as you see, is in reality a two or three story table on wheels. This should stand near the kitchen stove, and on it should be placed everything required for the meal. It can be wheeled into the dining room or to



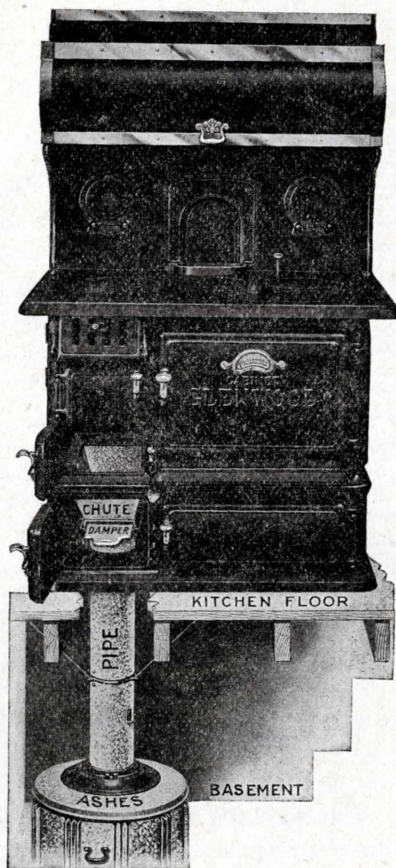
so-called "dinner-wagon." Designed to save steps between kitchen and dining room.

the table, and then set aside until required to move everything from the dining table back to the kitchen. Think of the countless steps saved by the use of such a simple little appliance as this.

Ash Chute for the Range:

Much time, dirt and annoyance could be saved in every kitchen if an ash chute could be provided for the cooking stove. The tank shown in illustration No. 12, holds three months supply of ashes, and could be fitted to most any range by some competent person. This could be used in any locality where a cellar is possible. By the mere drawing of a slide, the

ashes are emptied—think of it! No dirt; no bending of backs to jerk out the warped ash pan; and no danger of forgetting



An ash-chute for the kitchen range. A decided labor saving device and should be used in every kitchen if possible.

the dirty job so that the life of the grate is in danger. The cost of the can and pipes, and all connections is only \$10.00!

Cement Walks are listed among the labor saving devices. They should be listed among the necessities. House labor should not only include getting dirt out of the house, but preventing the dirt from getting in. Half the cleaning of every

home could be saved if cement walks were used around the house. A wise woman should stipulate that cement walks and cellar be built as soon as possible after the building of the house. This seems strange doctrine to preach to farmers' wives who live in isolated districts, many miles from the railroad; but if possible, get the cement walks and cellars. The cost is not prohibitive; for even in districts where railroads have not yet penetrated, cement could be hauled at an additional cost of a few cents per hundred pounds. As a matter of fact, when the cement walk or its equivalent is considered a necessity, the cement will be found as easily as are building materials.

DESIRABLE KITCHEN TOOLS.

Illustrations Nos. 1, 2, 3 and 4 show a number of small inexpensive, but very useful kitchen utensils. They are each listed below with cost.

ILLUSTRATION NO. 1.—FRONTISPIECE.

Articles—	Cost.
Wooden spoons, Nos. 1, 2 and 6.....	\$.25
Soap shaker, No. 3 .....	.10
Fork, No. 4 .....	.15
Spoon, No. 5 .....	.05
Turner, No. 7 .....	.10
Vegetable slicer, No. 8.....	.35
Potato slicer, No. 11.....	.25
Cork Screw, No. 9 .....	.25
Wire dish cloth, No. 10 .....	.10
Funnel, No. 12 .....	.10
Potato or vegetable strainer, No. 13.....	.35
Double boiler, No. 23	1.00
Triplicate saucepans, aluminum, No. 21.....	1.90
Lemon squeezer, No. 22 .....	.10
Measuring cup, No. 20 .....	.10
Measuring cup, No. 17 .....	.05
Measuring cup, No. 18 .....	.10

Large cup or small saucepan, No. 19.....	.25
Pastry brush, No. 19a.....	.35
Aluminum saucepan, No. 16.....	1.10
Aluminum fry pan, No. 15.....	1.50
	<hr/>
	\$8.50

The meat mill No. 14, is listed on page 15.

The home-made lid rack No. 24, was made from materials found around the house, so its cost is not listed.

ILLUSTRATION NO. 2.

Paring knives, different shapes, Nos. 1, 2, 8, 9 or 13, each...\$	.25
Butcher knives, different shapes, No. 3 or 5, each.....	.75
Bread knife, No. 4.....	.75
Palate knife, No. 11.....	.35
Meat Cleaver, No. 6.....	.35
Meat Saw, No. 7.....	.40
Pastry Cutters, No. 10.....	.25
Nutmeg Grater, No. 12.....	.25
Egg Whip, No. 14.....	.10
Egg Beater, No. 15 or 16.....	.10
Dover Beater, No. 17.....	.15
Dover Beater for whipped cream, No. 18.....	.15
Dover Beater for use in small utensil, No. 19.....	.15
Brush for washing windows, No. 20.....	1.00
Window drier, No. 21.....	.25
	<hr/>
	\$5.25

ILLUSTRATION NO. 3.

Scott Paper Towels, 150 to pkg (extra heavy), No. 1.....\$	.35
Millar Paper Towels, 480 to pkg, No. 2.....	.25
Aluminum Teakettle, No. 3.....	3.25
Balances, No. 8.....	1.60
Baking dish, No. 9.....	.90

Paper bags (pkg. of 30), Nos. 6 and 7 .....	.25
Aluminum Steam Cooker; No. 4, cost \$5.75*	
Dustless Dusters, Nos. 10 and 11, each 25c.....	.50
	\$7.10

A Workman Is Known by His Tools.

Before speaking of the above utensils in detail, it must be stated plainly that each kitchen should be provided with any and all tools it needs, but not any more. No man can do good work without good tools; and what is more, he does not try it. But a woman will work for years with dull knives, broken scissors, leaky pans, because she does not have the immediate means or the "spunk" to replace them. This should not be necessary, but if it is, then she must use her wits and wisdom and find ways of procuring the things she needs when she needs them. It would give more real comfort to most women to have a fine sharp knife or scissors to use daily than to have a fancy lace jabot to wear on Sunday—if they can't have both. So by a little scheming and twisting of resources a woman could get these things she needs if she would.

Too Many is as Bad as Not Enough:

A word of caution may be necessary here: Don't feel that everything shown in the accompanying pictures must be had in every kitchen. It is not intended so. They are merely suggestive useful tools; but should they all be needed, their cost is not prohibitive—\$20.85 for all shown in illustration 1, 2, and 3.

To have a kitchen filled with little "knick-knacks that may come in handy sometimes" is the worst kind of extravagance of money and energy; they only hinder and cause extra-work in keeping clean, and any kitchen is hard enough to keep clean at best. Some women purchase everything they see just because it looks good or useful. Wait until there is a need for an article and then get it, by some means or other.

*Steam cooker No. 5 is listed on page 15 and as one would not want the two styles, the price for No. 4 is not listed with the total here.

Where They Can Be Obtained.

The question of how to get these articles may be well asked by some isolated farm dwellers. Since this is the day of the telephone, telegraph and parcels post, nothing is impossible. Again let it be suggested that your nearest local dealer be asked for the article you want. This creates the demand; your neighbor seeing your useful article will want one like it and so on. If your dealer does not have it and does not care to get it, then you are justified in sending to the nearest large town or any place in fact where you can get it.

The Use of Light Utensils.

Many of the utensils shown in the illustrations are made of aluminum. They are being made now so that they are much more durable than formerly and are not so expensive. They are recommended most highly by those who have used them because they are so easy to handle and have no lining to chip or break, leaving them marred. As far as possible the use of heavy utensils should be avoided; a woman's strength can be used to better advantage than in lifting heavy pots and kettles.

DESCRIPTION OF UTENSILS.

Illustration No. 1.

Wooden Spoons.—Nos. 1, 2, and 6 should be found in every kitchen. They are light to handle; if made right are easy to keep clean; they have no injurious compound in any mixture stirred with them (as iron or tin is apt to do); they do not scrape or scratch the utensils in stirring; they are cheap; they are durable. No. 1 is useful in stirring large quantities of fruit or pickles. Nos. 2 and 6 are used in stirring or mixing smaller quantities.

No. 3 is a **soap shaker**. The small clasp is loosened and the small bits of soap left from the bar (which are sometimes wasted) are placed in the cup. The ends are of netting and as shaken in the water allows the suds to escape.

*If your local dealer cannot get the goods you want, send to the Salt Lake Hardware Co., 42 West 2nd South St., Salt Lake City, for catalogues and information. If they can't supply you, send to John D. Bang & Co., 296 Wabash Ave., Chicago, Ill. This latter firm carries everything manufacture in the line of kitchen utensils. Try the home firms first.

Nos. 4, 5 and 7—Fork, spoon and pancake turner need no introduction. They are good in shape and style.

Numbers 8 and 11—A vegetable and a potato slicer would probably be used only in large families or in families where large quantities of fried vegetables are used. No. 11 is used also for slicing cabbage for cold slaw or sauer-kraut.

Numbers 9, 10 and 12—An Improved cork-screw, wire dish cloth and funnel are articles that speak for themselves.

No. 23 is a porcelain lined double boiler, used often in every kitchen.

No. 21 is a triplicate saucepan so called. It is in reality three saucepans fitted together so that they occupy the space of one large one. They are especially useful on the coal oil stove, as they enable three different articles to be cooked over one burner. The handles are adjustable and can be removed if desired with these triplicate saucepans.

Numbers 17, 18 and 20 are measuring cups in tin, aluminum and glass. Most homes are furnished with a graduated quart cup; but when it comes to measuring the half-cup or one-third cup the cook must guess and sometimes makes mistakes. The use of the graduated standard cup-measure is recommended; there are marks on one side dividing the cup into thirds; on the other, into quarters.

No. 22 is a glass lemon squeezer and is preferable to any kind of metal because of the danger of the strong acid attacking the metal.

No. 19 is a very small saucepan and brush. It is used for holding the grease—lard, dripping, butter or oil—for greasing bread and cake tins or pudding molds. It is very convenient, being much easier to use the brush in getting around the tins than the rag or paper used by many women. The brush should be thoroughly cleaned every week in boiling water. A large cup may be used in place of the small saucepan.

Numbers 15 and 16 are frying pan and sauce pan in aluminum. They are light and easy to handle and are recommended for that reason.

No. 13 is a potato riser or vegetable puree strainer. It is very useful in mashing or flaking hot potatoes; also in mashing vegetables for the making of milk soups and many other purposes.

No. 14 is a meat or vegetable grinder. Its use is manifold in every kitchen; for grinding tough meats—cooked or uncooked; making dry bread or crackers into crumbs; grinding of vegetables for pickles and other purposes; making of peanut butter; and also for countless other uses.

No. 24 is a home-made lid rack; it was made by a fifteen year-old boy out of bits of lumber found around the house. Therefore in the list above the cost is not given. If made by a carpenter it would probably not cost more than \$1.00. It could be made out of metal. It is very useful as most women will see at a glance; if the lids are in a drawer or on a shelf, the lid one wants is always under all the others.

Illustration No. 2.

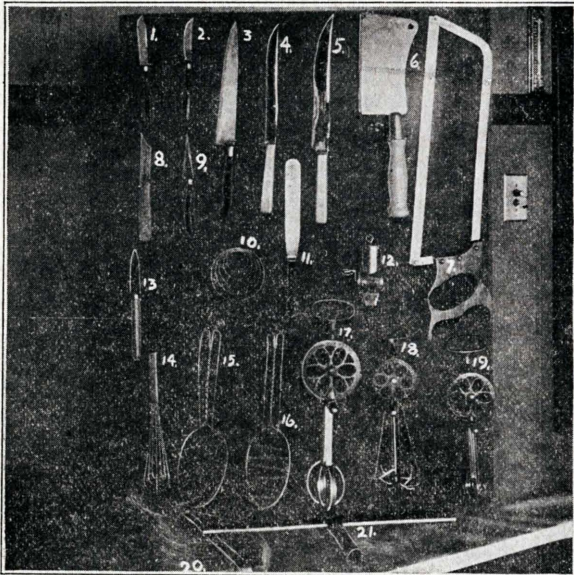
Numbers 1, 2, 3, 4, 5, 8, 9, 11 and 13 are different shapes and sizes of kitchen knives. They are scarcely to be classed as labor saving devices since every kitchen must have them in some shape. Too many women however are content to use awkward shapes and poor cheap steel, which can never be sharpened, and these are shown as samples of good shapes and good quality.

Each kitchen should have at least four good knives—a paring knife; a bread knife; a palate knife—No. 11, and a good steel butcher knife. And they should be kept in good condition by the frequent use of a steel or emery sharpener. No good butcher ever allows a knife to lose its edge or become dull. He sharpens it a little every time he uses it, with an occasional grinding or honing.

Numbers 4 and 5 have steel blades and aluminum handles. This is the most sanitary and durable knife on the market. Wooden handles are sure to warp and shrink because of use and washing; the cracks become filled with dirt that can't be removed; and it is only a question of time till the handle and the knife part company and the knife is useless even tho the

blade may be better than when first bought—for use improves a good steel blade. Hence a demand should be made for a more durable knife handle.

No. 11 is a so-called palate knife and is just as useful in a kitchen as a butcher knife. It has no edge and is very lim-



A Group of Kitchen Utensils.

ber; is used to loosen cooked food from baking utensils; lifting a cake from pan to board and in countless other ways. Once used no housekeeper would do without it.

Numbers 6 and 7 are meat cleavers and saw. In families where large quantities of meat are handled they are very necessary.

No. 10 is a set of pastry cutters for different size cookies or biscuit; and while cheap are "handy."

No. 12 is a nutmeg grater. The nutmeg is placed in the upper tin out of the dust and by turning a small handle it is grated without being handled at all.

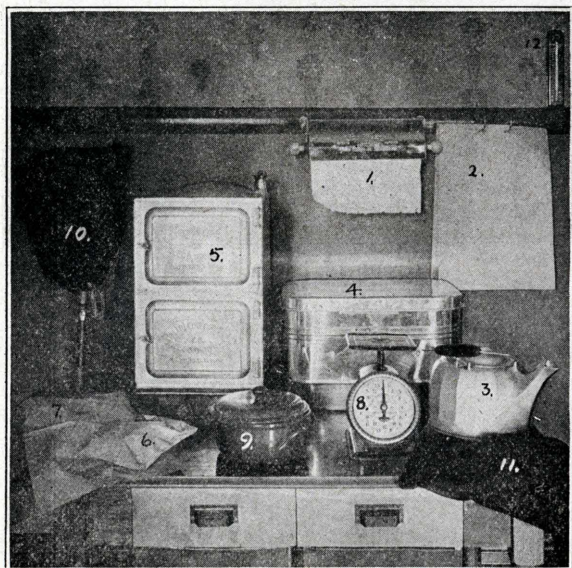
Numbers 14, 15, 16, 17, 18 and 19 are different style egg whips and beaters. The egg whips—14, 15 and 16 are used for

beating egg whites; also for stirring gravies or sauces. No. 18 is especially good for whipping cream; and No. 19 is useful to beat anything in a cup or pitcher or any small receptacle.

Numbers 20 and 21 are useful in the home for cleaning outside windows. No. 20 is a white-wash brush; fitted with a long handle, it is very satisfactory in washing outside windows. No. 21 is a so-called "window drier"; it is made of tin with a strip of rubber across the edge. It, also, must be fitted with a long handle. Armed with these two inexpensive articles any boy can clean all the outside windows in a short space of time.

Illustration No. 3.

Numbers 1 and 2 are paper towels showing two different styles and holders. The use of paper towels is a sanitary as



A Group of Kitchen Utensils.

well as a labor saving device. Their use in large stores, schools, public and office buildings is almost general, in all the large cities, at least. They were introduced rather for sanitary than

economical reasons; but it has been found that the latter reason is by no means to be overlooked.

Their use in the home especially the kitchen is not general, though occasionally women are found who have used them not only for drying the skin but for wiping dishes after scalding and draining. They would be found very useful and economical in some families and not in others. The wise woman will give them a fair trial and find out for herself.

In using the paper towels don't rub them over the surface like a fabric towel; they are used rather as a blotter and are most satisfactory, since each person has a fresh towel.*

In farm homes where there are hired hands as well as a large family, and mother has to do all the work including the weekly washing, the paper towel should be adopted without question. In too many homes the hands are half washed in the basin and the rest of the dirt taken off and left on the roller towel, which soon becomes unsanitary and unsightly to say nothing of the back breaking process of washing and ironing the towels.

No. 3 is an aluminum teakettle, which has been in constant use for ten years. It is light to handle and is excellent in shape. Beware of a kettle in which the spout comes from the bottom of the kettle; the water will run over the top before it comes out of the spout.

Numbers 4 and 5 are different shaped steam cookers.* No. 4 is made of aluminum and is useful for steaming roasts or fowl; it also has an arrangement for holding one dozen cups of custard or eggs to be poached. Its shape permits its use

*Since the name of a Utah dealer carrying these paper towels is not known to me, the address of the Eastern manufacturers is given. No. 1 is the Scott Tissue towel manufactured by the Scott Paper Co., Seventh and Glenwood Ave., Philadelphia, Pa. This firm manufactures other paper specialties, including toilet paper, Sani-komb (a paper comb for once using only), sanitary drinking cups, and wash cloths. Their towels cost as follows: 5 rolls and fixture, \$2.00; 6 rolls (without fixture), \$2.00—150 extra heavy white absorbent towels to the roll. An extra charge is added for shipping west of the Mississippi River.

No. 2 manufactured by Geo. W. Millar Co., 62 and 64 Dwane St., New York. They make a crepe and a plain towel. Their cheapest towel—Mayville cream paper towel—cost 25 cents per package in bundles of twenty packages; in bundles of five packages, 35 cents per package. These come punched for the metal holder; they are cheaper if hung on wire loop or if unpunched at all. There are 480 towels to the package and they measure 12x18 inches.

*No. 4 is manufactured by the Aluminum Cooking Utensil Co. of New Kensington, Pa., No. 5, by the Toledo Cooker Co., of Toledo, Ohio. The manufacturer will give the name of the nearest local dealer.

on top of the stove or in the oven. No. 5 is most useful for steaming fruit; it will hold eighteen quart bottles at once. It is also useful for meat or vegetables or puddings, and occupies but the space of one kettle. It is particularly recommended for use with a coal oil stove since three or four things may be cooked at once.

Numbers 6 and 7 are different sizes of paper bags** for cooking in the oven without the use of baking utensils. They come in three sizes; the smallest is the size for baking one large or two medium sized apples; and the largest will take a good size roast. They are placed on a rack in the oven and have the advantage of keeping in all the juice and aroma. After the article is cooked the bag can be burned. Great care must be used, however, or the bag will break and then there is more trouble than washing a baking dish. They are still more or less in the experimental stage.

No. 8 is an ordinary spring balance and is often needed by every housekeeper. It should be considered as necessary as are knives or spoons and one similar should be a part of every kitchen equipment.

No. 9 is a brown earthenware baking dish or casserole. It is made so that it can withstand the heat of the oven; and looks so well that it can be placed on the table (on a mat), and the baked food served from it directly—thus saving the use of another covered dish. They come in different shapes and sizes and are most useful.

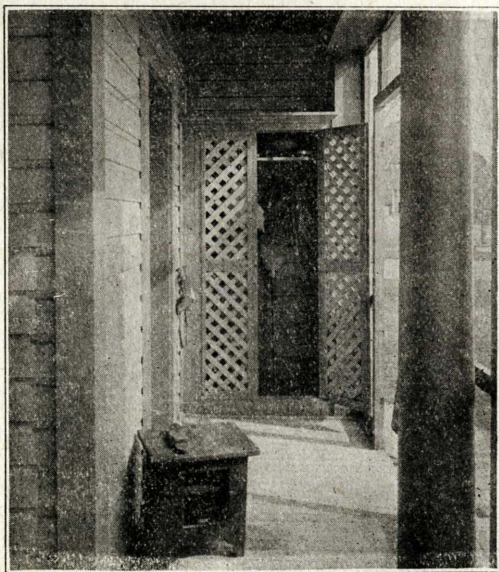
Numbers 10 and 11 are so-called dustless dusters,* and their name indicates their virtue and use. Most dusters are merely displacers of dust and transfer it only from one place to another. These dusters are treated by chemicals in such a way that they actually absorb and hold the dust. It cannot be shaken loose. When they are saturated with dust, soap and water will remove it all and the dusters are as good as new

**The paper bags shown are manufactured by the Union Bag and Paper Co., 17 Battery Place, New York, N. Y. These are carried by the Lafount Hardware Co. of Logan, Utah.

*There are different kinds on the market at present. The ones shown are from the Howard Dustless-Duster Co., 164 Federal St., Boston, Mass. Send to manufacturer and ask for nearest local agent. Similar ones to those in the illustration are carried by the Howell-Cardon Co., of Logan, Utah; also by Lafount Hardware Co. of Logan, Utah.

again—until worn out. There are different shapes and sizes and also a dustless mop. It seems a great deal to pay for a dust cloth, but when the work they do is considered the price is not so high. They are very satisfactory.

A Vegetable Table. Your attention is directed to the table on which the utensils are placed in illustration No. 3. It is an ordinary kitchen table (cost about \$2.75 when new) and the two bins were made in about three hours time out of materials found at home. The sides are wood, perforated to allow a free passage of air; the bottom is made of tin, painted.



A "handy" porch cupboard for holding floor and dust cloths and all damp cleaning utensils. The floor is perforated so there is constant circulation of air with a consequent absence of all "musty" odors.

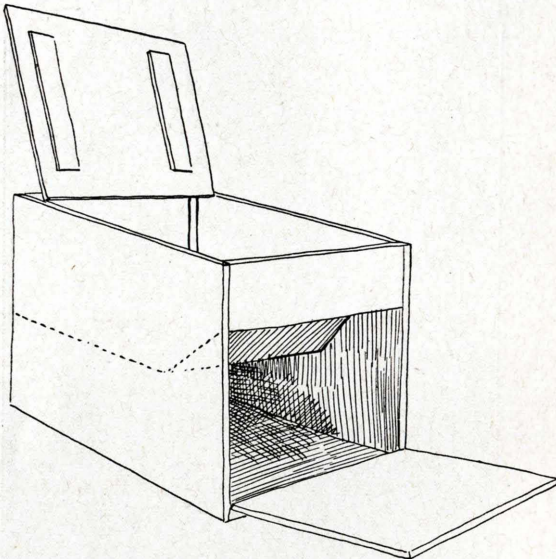
The little box containing shoe polish necessities is for the men of the house and while simple in construction is decidedly labor saving.

One is for potatoes and the other for roots and other vegetables. They will hold a week's supply for an ordinary family. A small boy can clean and fill the bins as a Saturday chore, and thus the daily trip to the cellar be avoided. It is found to be a very successful and cheap labor saving device.

Porch Cupboard. Notice the useful porch cupboard shown

in illustration No. 4. Also the shoe polish box for men. These articles are almost self-explanatory and while very useful and satisfactory are not expensive. A man or handy boy could easily build them in spare hours.

Coal Box. Illustration No. 10 shows an adaptation to coal of the old wood-box idea. It is made to hold three scuttles of coal with provision underneath for "kindling." In most families is a man or boy who would fill the box as a morning chore, thus saving much labor to the woman. This box is



A home-made coal box with provision underneath for "kindling." It should be made large enough to hold a day's supply of fuel. One in use at the present time is 18-in. x 24-in. x 23-in. high and will hold three scuttles of coal.

placed at the side of the stove and while it is not at all in the way it affords an excellent seat while stirring gravies or sauces or other food that needs watching on the stove. It has been used for over a year with much satisfaction.

EXTRAVAGANCE NOT NECESSARY.

In order to have any and all of these appliances in the home, it is not necessary to be extravagant, or to get them all at once. If, as some Political Economist tell us, a woman is

entitled to spend one-third of the yearly income, she should spend it wisely, and get first those things which mean most to her. Cement walk should be more important than the costly front porch, which is seldom used except on a pleasant Sunday afternoon. A vacuum cleaner is much more necessary than the velvet "parlor set" or showy mahogany mantle. A well equipped, handy kitchen ought to be much more desirable to every housewife than a well furnished parlor. Both are desirable, but if something must be sacrificed, let the things for show come last.

EACH WOMAN TO PLAN HER HOME.

Here it may be well to say that every woman should draw the original plan of her home, for she is the one to work in it and ought to understand it better than any one, especially a man who has never done house-work. Every girl should begin early to sketch her ideal home, and change it as her understanding enlarges. Then when the time comes to build, she knows what she wants. No woman would plan to have one or more stair-steps between kitchen and dining room, for every time she steps up she actually lifts the weight of her own body. She should understand that a cement cellar is as necessary as the roof, and much more desirable than a front porch. If any porch at all is provided, let it be sleeping or living porch—not one for show merely. The house should be planned so that as few steps as possible be taken in the accomplishment of all daily tasks, and this needs careful thought and study. If the house is to be more than two stories high, a clothes chute for soiled clothes should be planned and built in. If food must be sent to the cellar to be kept cool, a dumb waiter should be provided. Built-in furniture is much more preferable than store furniture, because of the ease with which it may be kept clean, and it is no more expensive.

CO-OPERATIVE OWNERSHIP.

A word ought to be said to the farmer's wives, particularly those who live in villages, about the advisability of co-operative ownership of expensive labor saving devices. If each man who could not afford to own a threshing machine

raised only as much grain as he could thresh by hand, how fast could he get ahead? It is just as feasible for a half dozen women to own a large vacuum cleaner, and take turn in the use of it, as for the same number of men to own a threshing machine.

In the same way a laundry could be equipped and used by different families on different days.

Also a brick oven could be built and some one be employed to bake the bread for all the families interested. It could be done much cheaper, and with what a saving of labor. If women could only be permitted to handle a little of the income of the farm, and wake up to their opportunities, they could make life much happier for themselves and their loved ones.

THE SMOOT BILL.

In conclusion I desire to call your attention to a bill presented at the last session of Congress by Senator Reed Smoot. This bill is "To Provide for an Increased Annual Appropriation for Agricultural Experiment Stations, to be used in Researches in Home Economics and Regulating the Expenditure thereof." This bill was read twice and referred to the Committee on Agriculture and Forestry, and there it slumbers.

If all the progressive women of the Nation would rouse themselves, work through their senators and congressmen and wake that bill up, it could become a reality. It is no more than right that our Government should provide means to experiment for the betterment of home conditions and a better race of men, as well as for the better hogs and chickens and fine sanitary barns. The Smoot Bill provides, among other things, that ten thousand dollars shall be annually appropriated "To pay the necessary expenses of conducting original or confirmatory researches or experiments bearing directly on home economics, including both Domestic Science and Domestic Art, and printing and disseminating the results of said experiments, having due regard to the varying conditions and needs of the restrictive States and Territories."

When this bill becomes law, we will have our perfected dishwasher.