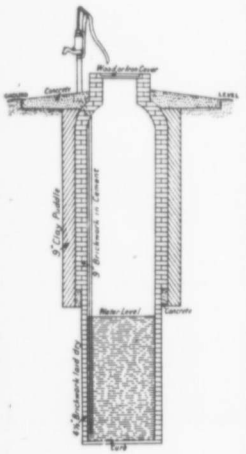
Wells and their Construction

The Home Water Supply Must be Safe from Pollution

Apart from municipal water works, our water supply is secured almost entirely from wells. Especially is this true on the farms and in the smaller villages. It is of primary importance that the well be properly constructed, that it be situated far from any source of possible pollution, and that the water be of satisfactory quality.

The safest form of well is the deep, or bored, well, carried down



through earth and rock beyond any danger of surface water and tightly and securely lined with piping. The piping is carried up to a tight joint with a pump or other elevating means at the top. Around this well, a concrete platform should be laid of at least eight feet diameter, sloping away from the well, to prevent surplus water, or water from melting snow, working down alongside the pipe.

The shallow, or dug, well is much more common. This type is usually the most carelessly constructed and the source of much danger to health. Such a well, however, may be constructed in a manner as to be safe, insofar as the collecting and containing of the water supply is concerned. It must be understood that *no well can possibly be satisfactory if the source of the water supply is polluted.*

The illustration herewith shows a well which is as safe as possible. For the upper nine feet the well is water-tight, the sloping platform diverts the surplus water from the well, and the top of the well is carried above the level and provided with an absolutely tight cover.

The pump has been placed on the concrete platform, on the ground level, the pipe is embedded in the concrete and carried to the bottom of the well where the water is coldest. There is considerable advantage in not having the pump at the top of the well. Surplus water is continually spilled, and, as more or less mud, barnyard manure, etc., is carried on the boots of those using the well, this water becomes polluted and seeps through the cover.

In many summer resorts, defective wells are the cause of much sickness, and many cases of typhoid among urban residents have been traced to this source. Too much care cannot be exercised in seeing that drinking water—one of the essentials of life—is thoroughly protected.

Electric Plants for the Farm

Small Equipments Save Much Labour on the Farm and in the Farm Home

One of the recognized necessities in connection with our increased agricultural production is better and more attractive conditions on the farm, and among the many suggestions the use of electricity should be considered. Electric power is a great convenience in the farm home, and saves much time to the farm help. The farm or country home situated within the area of an electric system of transmission or distribution is fortunate, but the vast majority must look to the small isolated plant.

This alternative, however, is now much more promising than a few

THE HOME WATER SUPPLY

Water in the house, to use lavishly for all wholesome conveniences, seems at first thought beyond the means of frugal people, who have earned by hard labour all they have to spend. To many, who have not closely considered the costs and the benefits, it appears an extravagance. Instead of that it is one of the greatest of house economies. Almost every farmer could afford the luxury of all water conveniences in his home. Like their fellows, sunshine, wholesome food and fresh air, they do not weaken the muscular, mental or moral fibres of life. When one has been compelled to use any of these debased for a time how satisfying is the pleasure of purity and abundance.

As an investment for the home I know of nothing likely to yield so much in return in saving women's strength, in increasing house comforts, in preserving health, in imparting satisfaction in housework and in elevating the general tone of the material side of living.—Dr. J. W. Robertson, in "Home Waterworks."

Protecting the Water Supply

Catchment Areas Being Re-forested to Conserve the Run-off

The beneficial effect of proper supervision, and particularly of maintaining forest growth, in water-works catchment areas, is being more fully recognized. A recent example is in the state of Pennsylvania, where the Commissioner of Forestry urged the planting of trees on those portions of their water-works catchment areas not useful for agriculture.

Favourable replies were received from one-half and, of the remainder, over 100 had no land requiring planting. To those who replied favourably, all planting facilities were afforded, including the services of a forester, and seedlings were offered at bare cost of packing and shipping, about 50 cents per 1,000 seedlings delivered. Applications were made for a total of 446,100 young trees for use on about 230 acres.—L.G.D.

years ago. Many factories manufacture this type of equipment, the operation of the plants has been simplified and cost has been much reduced.

These small plants may be advantageously used for many domestic purposes in addition to lighting, such as ironing, washing, toasting, pumping water, etc.; and also for the very important use of charging storage batteries.

There are a number of these small plants now on the Canadian market, ranging in size from 175 watts, and costing from $300 upward. Six different types were described in a recent electrical magazine, some using storage batteries in conjunction, and generally using a gasolene engine as a prime mover. They are usually operated at a very low voltage. These small plants are perfectly safe, so far as the handling of the electric energy is concerned.—L.G.D.

Use all the cereal foods possible. Their protein is quite as valuable as animal food protein, and cheaper.

Saving of Waste Material

Paper, Rags and Rubber are Sources of Revenue when Saved by Householders

It is an old axiom that "some people grow rich on what others throw away." This is especially true in regard to waste paper, rags and old rubbers.

In the past year much progress has been made in the saving of waste paper, but as yet a very small proportion of this material is available for reclamation.

Many reports of success in the work and of extensions of the waste paper collection movement have reached Conservation, and no doubt it only requires initiative on the part of a few public-spirited citizens to promote a proper collecting scheme in many of our municipalities.

The old fashioned rag-bag is almost a thing of the past in Canada. True, the incentive in collecting rags, in the remuneration received for them, was not such as to induce activity in that direction, but under present conditions we find that a considerable economic loss has been sustained by its discontinuance. Rags, after thorough disinfection, are used for many purposes. The cotton rags are used mostly in the making of the better grades of paper; linen stockings, after being macerated are used for colouring the grade of paper known as granite. Woollen rags are mainly used for the making of shoddy, a common ingredient in woollen goods. It is first disintegrated; the short fibre is then mixed with new wool of longer fibre and again spun into yarn. Much the greater portion of our woollen rags was imported prior to the war, but with the embargoes on exports the supply was cut off; prices of woollen goods have, therefore, greatly advanced.

Another discard is old rubber material. This is valuable, and by means of collecting boxes, is easily saved. One institution recently placed at its door a box to receive old rubbers, and was surprised to find how soon it earned ten dollars by this means.

If Canadians were more particular in saving the cents, represented by waste, many more dollars would be available for war loans and the cost of living would also be materially reduced.

Experiments in the use of Italian grass for paper pulp have been successfully carried out in Australia. There are millions of tons of Italian grass growing in Queensland, and produces three crops a year, and considered a curse to the country. It resembles esparto grass and when dried, yields as high as 60 per cent of first-class paper-making pulp.