

## High Cost of Impure Water

Its Toll in Disease and Death Represents an Enormous Sum

A recent report by George A. Johnson, water supply expert, expounds some very interesting facts respecting water filtration. The great benefits and, in many cases, the urgent necessity of filtering the water supplied to communities is clearly recognized, but its vital importance can only be realized by a thorough investigation, supported by the convincing data contained in this paper.

The figures given are for the United States, but with due regard to proportion, apply with equal force to Canada.

Mr. Johnson states that if the urban population of the United States were supplied with filtered or equally pure water 3,000 lives would be saved annually and 45,000 cases of typhoid fever prevented, representing in vital capital some \$22,500,000 annually, or the interest on an investment of \$375,000,000. In the United States an urban population of 30,000,000 persons is still supplied with unfiltered water; the cost of supplying filtered water to these, including fixed charges and operation of plants, would not be more than \$12,000,000 per year, or about one-half the present annual loss in vital capital due to non-filtration.

Twenty-million people are now being supplied with filtered water at a cost not exceeding \$8,000,000 or 40 cents per capita per year, and the results of water purification always show a big balance on the right side of the ledger.

In the United States, 300,000 persons suffer annually from typhoid fever and 20,000 die of it. Valuing the human lives lost at \$3,600 each, and, allowing for lost wages and medical attention \$200 for each case of the disease, the annual toll from typhoid alone amounts to \$130,000,000.

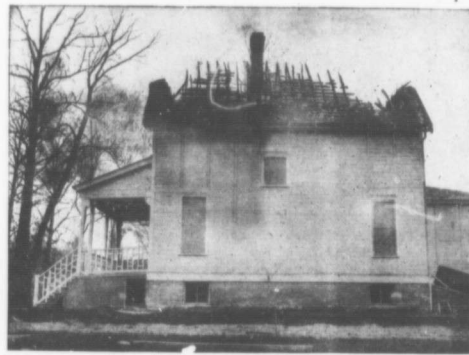
## Woodpeckers as Insect Destroyers

A Canadian bank manager recently boasted that he had shot seven woodpeckers in succession in his orchard, evidently under the impression that he was performing an exceedingly meritorious service to the community. He was destroying one of our most active insectivorous birds and, though keenly interested in the conservation of his trees and of our forests, he was destroying a most useful ally in their preservation. Boring insects are deadly pests of trees and woodpeckers are their special

enemies, as they are able to reach these pests so secure from other enemies. No birds are more useful in the protection of our forests.

With the exception of the Sapsuckers, our woodpeckers rarely attack healthy trees and are among the most beneficial of our insect-destroying birds. The Yellow-bellied Sapsucker has a black patch on its breast, while the top of the head from the base of the bill is red. These marks distinguish it from all other woodpeckers. It girdles the trees with holes in securing the sap which forms part of its food.

The different species of woodpeckers are the most important enemies of the bark-beetles and timber-boring beetles, these being



CHIMNEY

STARTED FROM THE CHIMNEY. IS YOUR HOME SAFE?

the chief enemies of our forest and other trees. About seventy-five per cent of their total food is animal food and this consists chiefly of insects, among which the wood-boring beetles predominate. The Common Flicker is a great destroyer of ants, particularly on lawns, as many as 5,000 ants having been found in the stomach of a single bird. The little Downy Woodpecker and Flicker should be encouraged to come into gardens. They will readily accept nesting-boxes and the encouragement of these birds is the best insurance policy that the tree-lover can take out.

For building bungalows and cabins in the woods, it is sometimes desirable to use logs with the bark attached. By cutting the logs in the fall or winter, they will be found to have the bark most closely adhered. Bark peels most readily during the spring and early summer season, when the trees make their most rapid growth. At that time the cambium, the soft, tender layer between the bark and the wood, is most active, and facilitates the separation of the bark from the wood.

## Is Your Home Safe?

Many of Canada's Fires are in Dwelling Houses

The fire record for 1915 shows that of 1,625 fires reported, 676 were in the homes of our people. The great majority of these dwelling house fires occur at night, when the lives of the occupants are endangered.

From the 676 homes the greater portion of the families were turned out at night, in wintry weather. In these fires 141 lives were lost.

The chief causes of these home fires are: Carelessness in allowing defective chimneys to exist; carelessness in the overheating of stoves and furnaces; carelessness

in the use of matches; carelessness in many other ways.

Before winter weather sets in, the householders should see that the heating equipment is fire-safe, that there are no cracks in the chimney to allow sparks to enter the attic; that furnace pipes are thoroughly clean and at a safe distance from woodwork; that stoves, ranges and stovepipes are in safe condition and all surrounding woodwork protected, and that lamps and lanterns are in good condition.

Carelessness with matches caused 69 fires last year; overheated stoves and furnaces, 51; defective and overheated chimneys, pipes, etc., 62; electrical defects, 55. These causes are all easily avoided and should be guarded against in future.

Homes should be made reasonably fireproof by taking the simplest necessary precautions. Safety First is as essential in the home as at work.

## CHIMNEY FIRES

For a chimney fire a few pounds of salt thrown in at the top is probably the best handy ex-

tinguisher; but a pail of sand, earth, ashes, or even coal, will be very helpful. If a fireplace connects with the chimney, the latter material is not desirable to use, since they are liable to scatter the burning soot into the room where the fireplace is located.

## Cooking Vegetables

Loss of Valuable Ingredients Through Wrong Methods

While boiling vegetables the nutrients soluble in water may be dissolved out and lost. The nutrients liable to be lost include protein compounds, mineral constituents, and sugars. The Minnesota and Connecticut Experiment Stations have conducted interesting experiments in connection with this subject. The first experiments were made with potatoes, which were boiled under different conditions, and the loss determined. When the potatoes were peeled and soaked for several hours before boiling, the loss amounted to 52 per cent of the total nitrogenous matter and 38 per cent of the mineral substance; when the potatoes were peeled and put into cold water, which was then brought to the boiling point as soon as possible, the loss amounted to about 16 per cent of the nitrogenous matter or protein and 19 per cent of the mineral matter; potatoes peeled and placed at once into boiling water lost only about 8 per cent of the nitrogenous matter, although the loss of mineral matter was about the same as in the preceding case; when, however, potatoes were cooked with the skins on, there was but a trifling loss of matter, either nitrogenous or mineral. In the baking of potatoes there is practically no loss other than the very little which may escape in the moisture given off.

To obtain the highest food value, potatoes should not be peeled. When peeled, there is least loss by putting directly into hot water and boiling quickly. Even then the loss is considerable. When potatoes are peeled and soaked in cold water the loss is very great.

It has also been found that considerable losses occur in the boiling of other vegetables such as carrots, beets and parsnips. The loss in the mineral matter is serious, as vegetables furnish mineral materials from which teeth and bone are formed. Vegetables should be boiled in large pieces and in as small a quantity of water as possible.

To prevent the serious loss which occurs when the water in which vegetables have been boiled is thrown out, the water should be boiled down and used in the making of the sauces which are to be served with the vegetables.—F.C.N.