

When the pipe has attained sufficient strength, which it should do in from four to six hours, according to the temperature and the kind of cement used, it can be turned end for end, thereby taking it off the bottom rings, and the molds may be removed. To enable the pipe to set satisfactorily they should be dampened every day for several days, if the weather is dry, and they should be protected from the direct rays of the sun in hot weather. They should not be used for some time after being made, but should be allowed to season for from four to six weeks.

The molds for manufacturing these tile may be obtained in various sizes, the more common being, for tile ranging from ten to thirty inches in diameter. The ten-inch tile is made about one and three-quarter inches thick; the twelve-inch tile, about two inches thick; the fifteen-inch tile, about two and one-eighth inches thick; the eighteen-inch tile, about two and one-quarter inches thick; the twenty-four inch tile, about two and one-half inches thick; and the thirty-inch tile, about three and one-half inches thick. Molds for making twelve-inch pipe cost about twelve dollars per set; for fifteen-inch, about fourteen dollars per set; for eighteen-inch about seventeen dollars per set; for twenty-four inch, about twenty-one dollars and fifty cents per set; and for thirty-inch, about twenty-six dollars. The molds are such as to manufacture pipe about two and one-half feet long. One set of bottom rings, those for forming the bell of the pipe, go with one set of molds, but it is advisable to have about four sets of bottom rings for each pair of cylinders to permit the maximum number of pipe to be made in a day.

The Importance of a Water Supply.

After a serious fire, which there was little means of combatting, the town of Port Perry is considering the installation of a system of public waterworks. This has been very largely the incentive to the construction of waterworks in the majority of towns in the Province. It is unfortunate that so costly a lesson is needed to arouse public sentiment in this regard, and yet it seems to be the case that, without some such striking example of the necessity of a public water supply, a councillor in many towns will place his public office in jeopardy should he advocate such a measure.

Water is one of the most useful liquids, and on it depends our existence. For example, in 1848, the French village of Bozel, which used water from wells, contained 1,472 of population, of whom 900 were goitrous, which is a disease showing glandular enlargement of the neck. To cure this a water supply was laid into Bozel from the town of St. Bon, when the disease decreased so rapidly that in 1864 there were only thirty-nine people having traces of the complaint. In one of the North Yorkshire towns in England low

fever and general lassitude was chronic with the population of the place. After a searching enquiry by the government the water supply was changed, and afterward the people brightened up, and their general health became good. There are many such cases as these recorded, which proves that it is of the first importance that the water we use for domestic purposes should not only be plentiful and convenient, but also of the softest and purest quality. We often give half a dollar for a good meal; a good bath improves the health and vigor of the body more than two meals, and those who have a plentiful supply of soft water may have their own private bath appliance, and enjoy a daily dip for less than five cents each. To be compelled to wash in hard water, or in dirty rain water after it has done duty in washing the filth from the roof of the house, and even then, the only quantity allowed being about three pints to each washing, is cruel and sinful, because the Creator has given abundance, and expects us to supply energy enough to pipe the water to our houses, and use it without stint and without waste.

The Great Lines and the Greater.

Many municipalities in the province have expended large sums of money in constructing large and expensive drainage works. They are in some cases miles in length, and have cut through considerable elevations of land. They are canal-like in their dimensions, and serve as outlets for networks of smaller drains which intersect the cultivated fields, carrying away sub-soil and surface water from a large area. The huge trunk drains are, it is true, a main factor in securing the general result, but they are not all, in spite of the immense sums they have cost. In themselves they benefit but a limited territory, and that to a limited degree. Not until the smaller lateral drains are made, is the chief benefit realized. The greater drain, the outlet, is but the servant of the aggregation of the smaller channels which, intersecting the fields, collect the water and empty it finally into the main drain. The efficiency of the drainage is not dependent upon the capacity and perfect grade of the outlet drain, but fully as much upon the measure in which the small lateral drains have been extended over the watershed.

In Ontario millions of dollars have been expended upon the construction and equipment of steam railways. These are now the trunk lines of travel and transportation. Their capacity and speed are, in most cases, all that present circumstances require. Like the drainage outlets their effectiveness is dependent on lateral channels along which traffic may flow to them, the main highways. The steam railways are, in point of completeness, far in advance of the network of subsidiary lines which they are able to serve. New lines of steam railways may still be needed in some districts, but the

great need of the entire province is better roads.

Reflecting upon conditions in Ontario, the trunk lines are such as to excite surprise and admiration. The common roads leading to them are also such as to excite surprise, but not admiration. Attention has too long been directed from the common roads and there is now need of a vigorous effort to bring to a corresponding degree of efficiency the network of common roads from which the trunk lines derive sustenance. The arteries of national life and vigor are the common highways along which flow commerce and the products of industry.

County Roads.

The Good Roads Convention held in Ottawa in March last was productive of much good at the time. A complete report of this convention has been published and widely distributed by the Ontario Commissioner of Highways and it forms a most valuable addition to the literature of good roads, having put in permanent form what would otherwise have had a mere temporary and local value. Among the subjects discussed at length was the question of county roads a matter which is being actively canvassed in numerous municipalities at the present time, due largely to the influence of the recent Highway Improvement Act, granting one million dollars for road improvement.

County councillor, James McEwing, referring to county roads in Wellington, said:

"The proportion which we in Wellington county expect to get is something more than \$30,000. In our county there are some like myself, canny Scotchmen, who hesitate a great deal before entering into large enterprises unless they know where the money is coming from. Notwithstanding the fact that we have expended only \$27,000, we have good roads built by the township. We have eighty miles of good gravel road, besides what were built by the county. I believe this matter of good roads is a good thing. We have about 140 odd miles of county road now. We have at the present time a large portion which was built some years ago running through the north part of the county. That portion consists of loose soil. When the roads were built, owing to the immense traffic, they were built on a broad principle. They were built wide. We find that the continual traffic is gradually wearing the centre downward. We feel that a great portion of the road must be remodelled in the near future. We have been spending more than \$10,000 a year on those roads. We do not like to raise our taxes to any great extent. Our scheme is something like this:—We want to draw that \$30,000. There are two or three townships which have not a fair percentage of roads at the present time. But they have to contribute their shares in the maintenance of