

### THE SETTING AND CARE OF FIRE HYDRANTS.

With the approach of winter, which the weather prophets say will be a severe one, the superintendents of waterworks are necessarily engaged in putting fire hydrants in good condition for resisting freezing. It is accordingly timely to call attention to the recommendations on this subject made by the National Fire Protection Association. They read as follows:

In setting hydrants where the soil is not porous enough to ensure ready drainage, place around the base gravel, small fragments of stone or broken bricks to provide a stratum which will absorb water issuing from the hydrant drain in the normal operation. This drainage space should be kept low so as not to contribute to the easy penetration of frost around the hydrant. (Note.—Hydrants in cities are sometimes piped to drain to a sewer. The other means herein recommended are more applicable and simpler.)

Branch pipes to hydrants are more susceptible to freezing than the main line. Hydrants must therefore be of such length as to afford safe cover. (Note.—There is a temptation for men who lay pipe to raise the branch lines when they will not raise the main lines, because they buy hydrants of a specified length for the job, and many times it is comparatively easy and always advisable to put the main pipe low, but rock or some other obstruction makes it equally convenient to put the hydrant high, the result being that the branch pipe at the hydrant, where, naturally, there will not be any circulation, and where, therefore, freezing is more apt to occur, is the least protected of any point in the system.)

In the fall, just before the ground begins to freeze, try every hydrant by running water through it. After it is shut off, examine carefully to see that it is draining properly and that it is in good condition, noting any necessary repairs immediately. (Note.—Be careful that the hydrant valve does not leak, because even if there is good drainage for a reasonable amount of water, continued leakage is apt to fill up the space and cause water to back up into the hydrant. The hissing of a small leak can be heard by placing the ear firmly against the iron casting.)

After two weeks examine the hydrants again without water running through. Small leaks will then have had a chance to fill up the hydrant and show at the hose outlets. Having thus made sure the condition is good, do not use the hydrants again during the winter except in case of absolute necessity, making visual inspection at least once a month meantime.

Hydrants set where ground water stands higher than the hydrant drain

should have the drip openings plugged and be pumped out by hand with a pump having a suction pipe suited to be inserted to the bottom of the hydrant barrel, as should any hydrant concerning which the drainage is in doubt.

In using hydrants having independent valves on the hose outlets, the hose gates should be shut last to insure drainage and to prevent leaving the inlet gate open and water in the hydrant. (Note.—A small hole has been drilled in the bottom of the hose valve when this is applied outside the hydrant, through which air may enter and water will issue. The procedure of rule will apply to all types of hydrant in use.)

The practice of putting foreign materials into a hydrant to prevent freezing, notably mixtures containing salt, is not recommended. The presence of salt is apt to induce galvanic action between the dissimilar metals of the hydrant, resulting in injury. Of course, such action takes place right at the valve, the most important part of the device.

To thaw we recommend the application of dry steam. Municipalities usually have a portable boiler which can be obtained. Repeated internal applications of hot water may be used. Only in extreme cases where other means are not available should the heat of a fire be applied to a hydrant, as valves are liable to be injured and it takes time and trouble to repair lead joints.

### OCTOBER BUILDING T TALS.

The number of building permits issued in Toronto during the past month was 570, valued at \$1,536,575, and making a total for the ten months of this year of \$11,102,903. When compared with last year these figures show a large increase. The building permits for October, 1905, numbered 271 and were valued at \$1,009,005, while the totals to the end of October were \$8,954,789.

In Winnipeg the October building values totalled about \$1,080,000, making \$11,675,000 for the past ten months of this year. In October, 1905, the building values were only \$445,800.

### NEW CRUSHING PLANTS.

Among recent sales of crushing plants by Allis-Chalmers-Bullock, Limited, of Montreal, were a No. 6 Gates "K" breaker complete with a 40 h.p. engine to Wallace & Sturtevant, Bancroft, Ont.; a "D" breaker, set of "B" rolls, "Gates" tube mill, "Reynolds" Reliance Corliss engine, boiler, elevators, etc., to the Commercial Cement Company, of Rose Isle, Man.; and a "Dodge" crusher with "Gates" elevators, etc., to the Western Canada Cement & Coal Company, Limited, Exshaw, Alta.

Cowan & Company, of Galt, Ont., are making extensive additions and improvements to their shops.

### NEW COMPANIES.

J. A. Robertson Company, Limited, Toronto, incorporated, capital \$500,000, to manufacture and deal in bricks, tiles, lumber, etc. Promoters, J. S. Lovell, W. Bain, E. W. McNeill and W. F. Ralph.

Canadian Refining Company, Limited, Ottawa, incorporated, capital \$2,000,000. Promoters, H. Roy, Ottawa; F. W. Rolt, Rossland, B.C.; E. Hoffman, New York, and others.

British American Oil Company, Limited, Toronto, incorporated, capital \$200,000. Directors, H. Babel, W. A. Manion, A. L. Ellsworth.

Canada and United States Oil & Gas Company, Limited, Chatham, Ont., incorporated, capital \$30,000. Directors, E. I. Barnard and J. W. Shay, Pittsburgh, Pa.; P. W. Roth and F. B. Barnard, Buffalo; and others.

Erie Natural Gas Company, Limited, Dunnville, Ont., incorporated, capital \$40,000. Directors, W. W. Krick, F. M. Waines, A. Hoover, A. A. Root, and others.

Silver Lion Mining & Development Company, Limited, Cobalt, Ont., incorporated, capital \$500,000. Directors, J. Watt, Toronto; J. Black, Cobalt; A. G. F. Ross, Montreal; and others.

Harley Kay Knitting Machine Company, Limited, Georgetown, Ont., incorporated, capital \$40,000. Directors, F. A. Harley, A. F. Hatch and J. L. Counsell, all of Hamilton.

Watts Mines, Limited, Toronto, incorporated, capital \$1,000,000. Directors, W. R. P. Parker, G. M. Clark, J. M. McEvoy, G. Russell, and E. M. Lindsay.

### NEW IDEA IN PAVING BLOCKS.

A new idea in granite paving blocks which has been tried successfully in England, are being manufactured in a wedge shape, and are particularly appropriate for roads over which pass heavy vehicles. This form of granite block has been used for some time in Germany, giving highest satisfaction. These blocks are four inches and wedge shaped, instead of the ordinary six-inch square block, in general use. In placing these new shaped blocks on the roadway, they are set uppermost with the greater end or base uppermost, in the form of a segment of a circle.

When placed in the above manner, the blocks are rammed down to a level and covered over with a dressing of fine sand. The greater weight that is placed on these blocks forces them closer together, so that they gradually become more compact, thereby giving strength and solidity to the thoroughfare. The cost is said to be only slightly in excess of the ordinary paving block, and the manufacturers of granite blocks for paving purposes will no doubt see in them a profitable source of revenue.