MUNICIPAL DEPARTMENT

A NEW WATER TOWER.

Chief Benoit, of the Montreal Fire Department, returned last month from a trip to Holyoke, Mass., where he examined a new water tower ladder, which has been found to be very efficacious in the fighting of fires. The ladder is an ordinary extension fire ladder, but fitted up with a tower hose, which does the work of an ordinary water tower. The arrangement on the ladder is such that after it is raised a tower hose, worked from the ground, can pour water upon a blaze at the height of fifty feet. The tower hose in no way interferes with the working of the ladder, which can be used apart from it. The authorities took these tower ladders to the canal, where a practical test was given. It was demonstrated that almost as soon as the ladders were raised from the truck, the hose tower was ready for operation. In this connection it showed its superiority over the ordinary water tower, which is so very cumbersome, and which takes so much time to erect and get into active service. The price of a regular water tower is about seven thousand dollars; while one of these new tower ladders do not cost over six or seven hundred dollars. It is the intention of Chief Benoit to report to the Fire Committee of the Montreal council in favor of the purchase of some of these new tower ladders.

ASPHALTS.

About 1840 the city of Paris and some other large towns in France made a trial of melted asphalt-rock from French mines of Seyssel as a material for covering street pavements. The experiment attracted attention, and very soon afterwards the officers of the municipality of Hanover gave directions to the professors of the city technical school to examine the material from the mines of Limmer, which had been abandoned and almost forgotten, to see whether it could be used for street pavements in the manner in which the Seyssel asphalt had been tried in Paris. This leisurely investigation was interrupted by the political tumults of 1848, in which barricades of paving stones were used as fortifications by the discontented mob of nearly all the large cities of the Continent. Napoleon III., a practical man, like his uncle, bethought himself that if the streets of Paris were paved with asphalt in the manner which had just been tried on a small scale there would be no paving-stones to make barricades of, and by his influence, although not with that avowed object, many miles of asphalt-paving were laid throughout Paris. London, Berlin, Marseilles, and other cities followed the example of Paris, and a great demand sprang up for asphalt-rock. Although London and Paris have now substituted wood-blocks for asphalt in the roadways of their principal streets, the demand for the material continues unabated and fresh deposits are eagerly sought for. At present although the Limmer-Vorwohle mines are extensively worked, those of Pyrimont, Seyssel, on the banks of the Rhone, in the French Department of the Ain, hold the first place in regard to the quality of their product. The rock is a carbonate of lime containing from 6 to 8 per cent. of bitumen so intimately combined that it cannot be removed even by long heating. The stone is very uniform, and has a certain toughness which peculiarly adapts it for pavements. The Val de Travers, a few miles distant from Neuchatel, in Switzerland, furnishes a very similar material. Every architect knows the octagonal and circular blocks in which the Seyssel and Val de Travers asphalts are sent all over the world. For some purposes both these asphalts are mixed with mineral pitch from a mine near Ragusa, in Sicily, owned by the same company as the Pyrimont-Seyssel mines. Lately other asphalt mines have been opened in Southern France—at Marvejols, near Grenoble; at Lovagny, and at Mons, in the department of the Gard.

SMALL SEWAGE DISPOSAL PLANT.

A small sewage disposal plant of considerable interest is described in a recent issue of Indian Engineering. It was designed by Mr. C. C. James for a leper asylum with 400 inmates near Bombay, where the sewage originally drained into two large cesspools. These became a nuisance, so a disposal farm was laid out with settling tanks for liming the raw sewage, but the lime injured some of the crops, and it had to be abandoned. Finally the land became "sick," and the septic system was introduced preliminary to the land treatment. This has been successful and the sale of the farm crops yielded last year a profit of 21 per cent. above working expenses. The septic tanks have a capacity of about 19,000 imperial gallons, and the sewage passes through them at the rate of about 20 feet an hour. The leathery scum on the surface is 1 to 3 inches thick and there is some sludge on the bottom. The septic effluent has been used in experiments with a number of filters. One which gave a good result was made with pieces of coal. Another filter which received raw sewage was made with pieces of brick with pipes to distribute air through it in accordance with the principles advocated by Colonel Ducat. The sewage was 45 minutes in passing this filter and was well purified by the process.