

There are a few lan pholes and inspection tubes.
Dirt baskets are suspended under each cover, which catch a large quantity of dirt.

SEWER INSPECTION.

Mr. Ryan, the sewer inspector, has succeeded in constructing an effective light, or lamp, for inspecting and locating junctions. He has located a junction at 68 feet from a manhole, in a 9 inch sewer. A float or boat at the radius of the sewer, and nearly half its diameter, carries a looking glass reflector with a hood over it. The reflector is placed at 45° to the axis of the sewer, at a convenient distance from it the light is placed. By fastening it on a pivot, he is able to read right and left hand as desired.

The boat is pushed up the sewer by means of jointed rods.

Manholes are examined weekly, dirt baskets cleaned, and in many cases sewers flushed from the hydrants. Automatic flushing cannot be introduced, as there is scarcity of water in many streets newly sewered.

During construction a careful record is kept of the depths of rock and earth; the position of every manhole and junction for private drain connections is noted. After each sewer is completed a plan is prepared showing the positions of the manholes and junctions, and on the same sheet a profile is plotted, giving the depths of cutting and depths of rock and earth passed through.

Whenever it is necessary to take up a pipe, either from its being defective or to put in a junction in its place, instead of stripping several pipes and trying to spring them, Mr. Ryan adopts the plan of cutting off one half of the flange. By cutting off the upper part of one flange or socket in the sewer, he can raise the pipe easily, and by cutting the lower portion of the socket of the pipe to be put in, he is able to replace a pipe without disturbing more than one pipe. The pipe is turned round and the broken part placed upwards; the defective sockets are made good with cement. He uses fire clay instead of cement in such places, and under water has found it to set and become effective when cement washed out. This is a novelty the writer has not met with in his practice, the experience in St. John's has proved most satisfactory.

COST OF WORK.

The engineer's department has not had the advantage of experience gained by many years of work; it had also to deal with a hard and troublesome rock to blast. Prices of work done compare favourably with Ontario. Laborers get \$1.00 per day; bricks cost \$13.00 per M. and \$6.00 per M. to lay them; bricklayers' and masons' wages are \$2.30 per day; cement costs \$2.70 to \$3.00 per bbl. as imported by the Council. Pipe is much the same as Ohio pipe prices. Contract work: earth trenching 50 to 60 cts. per cubic yard; rock, from \$2.50 to \$2.60 per cubic yard. Day time, earth trenching 30 to 35 and rock \$1.90 to \$2.00 per cubic yard. Tunnelling costs from \$7.50 to \$12.00 per cubic yard, including timber framing.

ROADWAYS.

The roadways are all macadamized, the surface is in good order, well kept up, and in their general condition the streets compare favourably with Canadian streets. Like all macadamized surfaces, they are muddy; still the writer knows many western cities which are notorious for muddy streets.

Water channels are pitched with cobble stone. Kerbs are of a local slaty rock, 2½ to 3 ins. thick, and not very well dressed. The pitching of the water channels is well done, the stones are uniform, oval and well shapen.

Gulleys are of the old Board of Works fashion. As they are replaced, either the Doulton gully or proper brick ones are used. It is necessary to have a good depth under the trap, to catch the mud and débris. They are constantly cleaned out.

The city owns a ten ton Aveling & Porter steam road roller.

SCAVENGING AND STREET CLEANING.

No systematic arrangements exist for sweeping and scraping the surface of the streets, as in the present financial condition the revenue will