MUNICIPAL DEPARTMENT

FRENCH PRACTICE IN THE MANUFACTURE OF CAST-IRON PIPES.

(Continued from last week.)

The idea of shrinking steel bands on to cast-iron cylinders is very ancient, and at the present day English pipefounders shrink wrought-iron bands on the sockets of large diameter pipes intended for export, to prevent breakage in transhipment; but there is no doubt that steel or wrought-iron bands shrunk on in this manner cannot bear with perfect uniformity on every particle of the surface, as owing to inequality in shrinking, some parts must be more strongly compressed than others.

The problem was, therefore, to find some method which would cause the bands to follow exactly the shape of the parts to be enveloped, and exert an even pressure throughout. This is satisfactorily accomplished by the method of winding above referred to. It is clear that in the manufacture of pipes all idea of using complicated machinery must be rejected, and it was therefore essential o provide a method of winding which, while being perfectly simple in its application, would secure perfect uniformity of tension in each wire wound round. To solve this problem M. Jacquemart started from the fact that a steel wire of uniform diameter must have a constant resistance throughout its length. He therefore devised a method by which the wire is passed through a draw-plate, which reduces it to a certain fixed diameter. A means of winding at an equal and constant pressure is also a very important feature of the process. The winding is effected by revolving the pipes, the wire first passing through the drawplate above described under the desired amount of tension. Another important point in the application of steel wire is the bedding of theends. This is effected by shaping the edges of the grooves, so that the extremities of the wire can be bedded into them, and thus be securely fixed, and for greater security liquid tin is poured over every wire, which perfects the arrangement. It is also essential that the steel bindings should be of the same durability as that of the cast-iron; and to secure this a phalte is put on at high temperatures, which penetrates the spaces between the coils and completely covers them. This is kept in place by the edge of the grooves, so that the whole forms a block of great strength, perfectly impermeable, and absolutely proof against oxidization.

The results of experiments with these steel-bound pipes show that it is possible to avoid a burst with a large main, and the behaviour of the pipe under such conditions as sudden and instantaneous shocks, shows that pipes of this type are absolutely proof against fracture, and even when strained to the point of fracture, the damaged parts remain in their original position.

A cast-iron main of this type, 2 metres (78 inches) in diameter, has been laid by the water company of Paris.

C. H. Rust, city engineer of Toronto, has prepared a very exhaustive report on the disposal of the sewage of Toronto, in which he gives much information on the various sewage disposal works he examined on his recent trip to England. Mr. Rust refers to the Exeter and other experiments and to various systems visited in Europe, including the sewage works for the south of London, situated at Abbey Mills, Kent, and the works at Sutton, Hampton, Manchester, Croydon, Leicester, Birmingham and Leeds. Mr. Rust states that chemical precipitation is not only unsatisfactory, but is expensive both in operation and construction, and that it only prepares the sewage for purification, a work now done much more efficiently by the septic tank. Mr. Rust presents four separate schemes for consideration: 1st. An intercepting sewer to discharge the whole of the city sewage into Lake Ontario, 9 miles east of the waterworks intake pipe. 2nd. Septic tanks at Ashbridge's Bay and filter beds near the Woodbine. 3rd. Septic tanks and bacteria beds. 4th. Septic tanks and single bacteria beds, one series at the outlet of Garrison creek sewer for the west end, and the other at Eastern avenue in the east end.

The third annual convention of Ontario Municipal Associations, which was held at St. Catharines, added the following clause to the municipal act: "That the act relating to the cutting and trimming of shade trees be amended so as to allow municipalities of under 100,000 inhabitants the privilege of cutting down and trimming the trees on the streets without it being necessary to pass a by-law, and to recompense individuals for the loss of the trees."