

We ask your attention to our Bell and Spigot Steel Tubes which can be used to great advantage for gas, air, water and sewage conduits. They are **jointed** in exactly the same way as cast iron pipes and can be used in conjunction with them. The process of forming the socket from the solid steel pipe was first introduced twenty-five years ago by Messrs. Stewarts & Lloyds, Limited, of Glasgow, and from that date till now the demand for steel pipe lines has been increasing at a rapid pace.

These steel pipes can be supplied in **lengths up to 40 feet**, their **light weight** rendering such lengths as easily handled as the 12-foot cast iron pipes. Whenever considerable freights are involved, a great saving is effected as compared with cast iron pipes, not only as delivered at the point of destination but in the **cost of handling, setting in place**, and in the **cost of joints** and jointing material. Tubes can be **jointed on the surface** in lengths of about 200 feet and then rolled into position. This allows of **rapid laying** of pipes and, owing to the relative impermeability of the material of which they are made, to the reduction in the number of the joints and to the elasticity of the pipes and joints which render them tight, even under considerable subsidence and distortion, the pipe line is much less subject to leakage.

Freedom from Corrosion.

While in the early years of the introduction of steel mains some difference seems to have been shown by engineers on the question of corrosion, these fears have now been dispelled by experience. In the case of both cast iron and steel pipes it is found that, with the great majority of potable waters, the inside of the pipes, if in constant use (i.e. free from atmospheric influence), is practically unaffected. As regards the outside, the same is the case, provided the pipes are buried in good natural clay. In the presence, however, of salts or acids, more or less corrosion takes place and, while cast iron pipes have the greater thickness, they are more porous and usually corrode proportionately faster than steel, the life of each depending on the quality of the protective coating employed.

In recent years such external corrosion has been effectively combated by dipping the pipes hot in Dr. Angus Smith's Solution and sometimes by wrapping them with Jute Hessian and re-dipping in the Solution. The pipes are thus enclosed in a thick tough envelope. This special jute covering acts as a non-conductor and prevents damage by electrolysis or by extreme variation in temperature. As illustrating the efficiency of such a coating, we may instance the 30" mains of the South Staffordshire Mond Gas Company which were laid for a distance of some 30 miles through slag heaps refuse and ash tips—a quality of material which is generally considered of the most corrosive nature possible; notwithstanding which, recent inspection of these mains (made of steel with leaded joints) shows the coating to be as good as when just laid. The mains have proved practically tight for the conveyance of such a penetrative fluid as "producer" gas, illustrating to what a degree of perfection the joints of these pipes can be made.

In this connection we may quote the experience of Mr. Davidson, M.I.C.B., Inspector General of Public Works in Victoria, Australia. In 1887, when Melbourne laid down its first wrought mains (18" to 53" diameter), he wrote that if wrought pipes continued to be effective in the Melbourne Water Supply Scheme for fourteen years, and were then altogether abandoned, there would be an actual monetary gain at the then relative prices of cast iron and wrought pipes which made a difference of 50% in favour of the latter.

Again in January, 1909, he writes of the same pipes:

"After twenty years use the pipes were found to be in excellent condition, both inside and outside. Internally the skin of the coating was intact, while on the outside there was not a sign of abrasion or rust."