

Again a noted Gas Engineer speaking of a 50-mile stretch of 30" Pressure Gas Pipes laid some years ago states:

"These mains have proved very effective and sufficiently flexible to meet the trying circumstances due to their being laid in subsiding ground. To test the ability of a 1/4" steel pipe of 30" diameter to withstand a concentrated weight, a 14 feet length of pipe was half buried in sand and a piece of hard timber was placed in the centre of the pipe and loaded up to 6 tons. The only effect of this was to flatten the pipe to the extent of 1/4" at the point of the application of the load after standing for six hours. Next day the load was increased to 8 1/2 tons, and after 2 hours the pipe had flattened to 1 1/8". The depression did not extend very far from the point of contact of the load, and the two joints which were placed in the horizontal plane were not affected, and a subsequent test of 400 lbs. hydraulic pressure proved that the joints had not been rendered leaky.

"It may be gathered from these notes that steel pipes are now available, which not only cost considerably less than cast iron pipes when laid, but are more reliable where the conditions are made specially onerous by such circumstances as the ground being liable to subsidences."

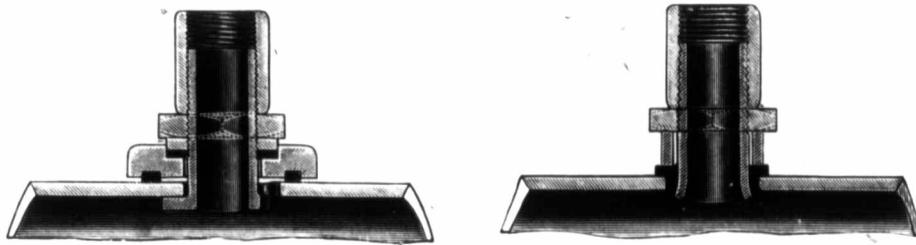
He also renders valuable testimony to the efficiency of wrapping with hessian (or jute) cloth as a safeguard against corrosion, in the following terms:

"..... when steel pipes are properly protected by a bituminous coating, strengthened by the use of hessian cloth in the manner described, external corrosion is entirely removed, and the life of a steel pipe may be indefinitely prolonged. There is in fact no evidence to show that its life would not be as long as that of a cast iron pipe."

Following on such experience, and in similar results obtained in many cases elsewhere (wrought pipes for the water supply of Springvale, San Francisco, have now been in use for 40 years), steel pipes have been generally adopted for water pipes all over the world.

Freedom from Breakage.

Absolute immunity from breakage of these steel tubes is ensured. It is hardly possible to destroy a steel tube. You may distort its shape and bend it to any extent, even to doubling it on itself, but without fracture. This has proved an important feature with steel tubes in the smaller sizes applied in long lengths to gas and water services. They can be **bent at site** to suit the trenches in which they are laid.



Tapping for Branch Services.

These branch services can be added to the pipes by means of special connections, as are illustrated above, and the same saddle fittings can be used for tapping steel pipe as for cast iron pipe. In this connection it may be mentioned that Messrs. Stewarts & Lloyds, Limited, have recently patented a very simple form of branch service connection applicable to their steel pipes, in respect of which some experiments were recently made to ascertain whether their use involved any frictional loss in the main. A 3" pipe about 200 yards in length and fitted with two dozen of these branch-service connections was laid at a gradient. The flow through the pipe was accurately gauged in a measuring tank before and after the insertion of the connections, showing the effect to be altogether negligible, being a fraction of 1% reduction in the discharge of the pipe.