

No. 725,275.

PATENTED APR. 14, 1903.

J. McLEAN.
SOIL PIPE CONNECTION.
APPLICATION FILED JAN. 16, 1902.

NO MODEL.

Fig. 1.

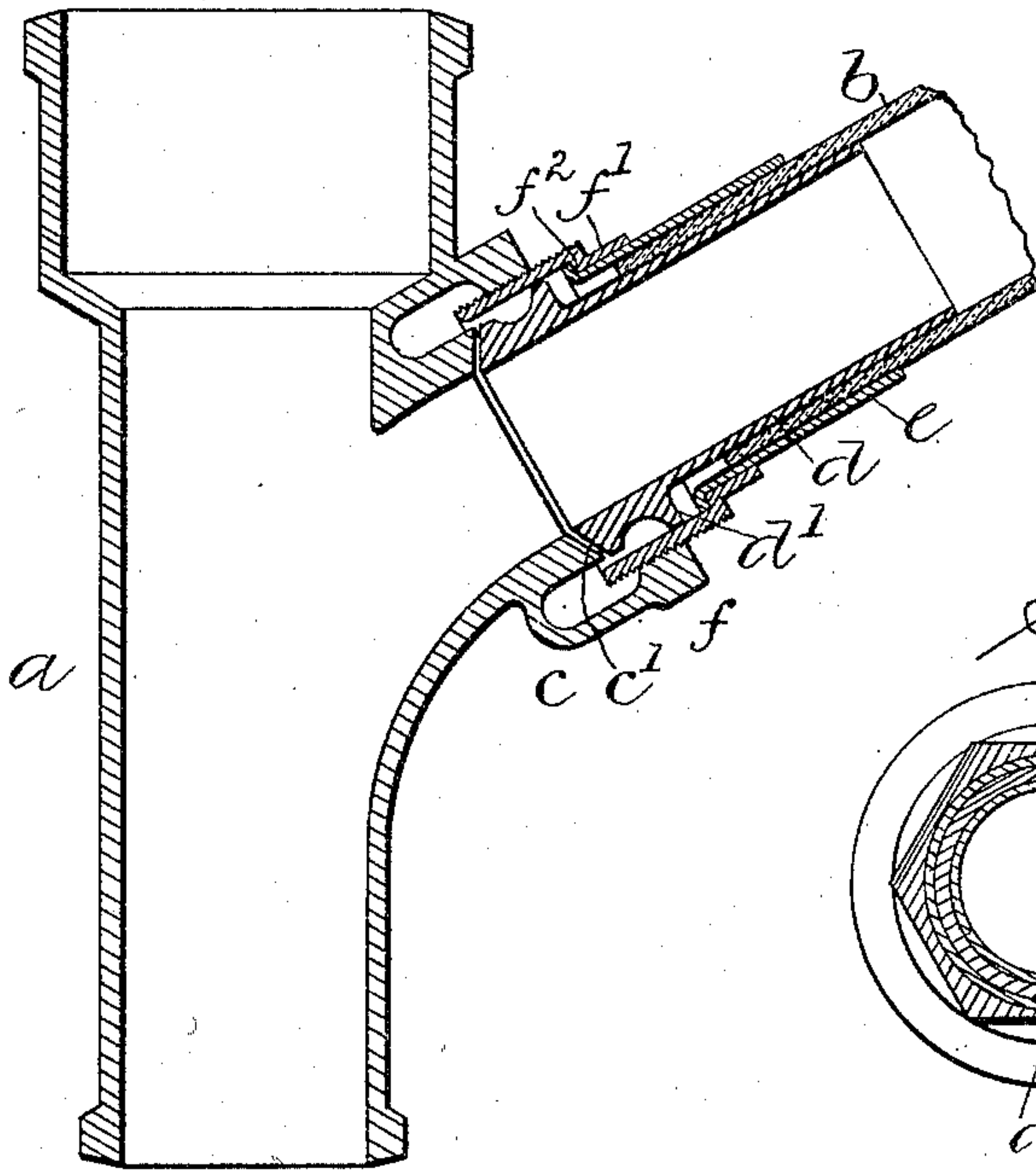


Fig. 2.

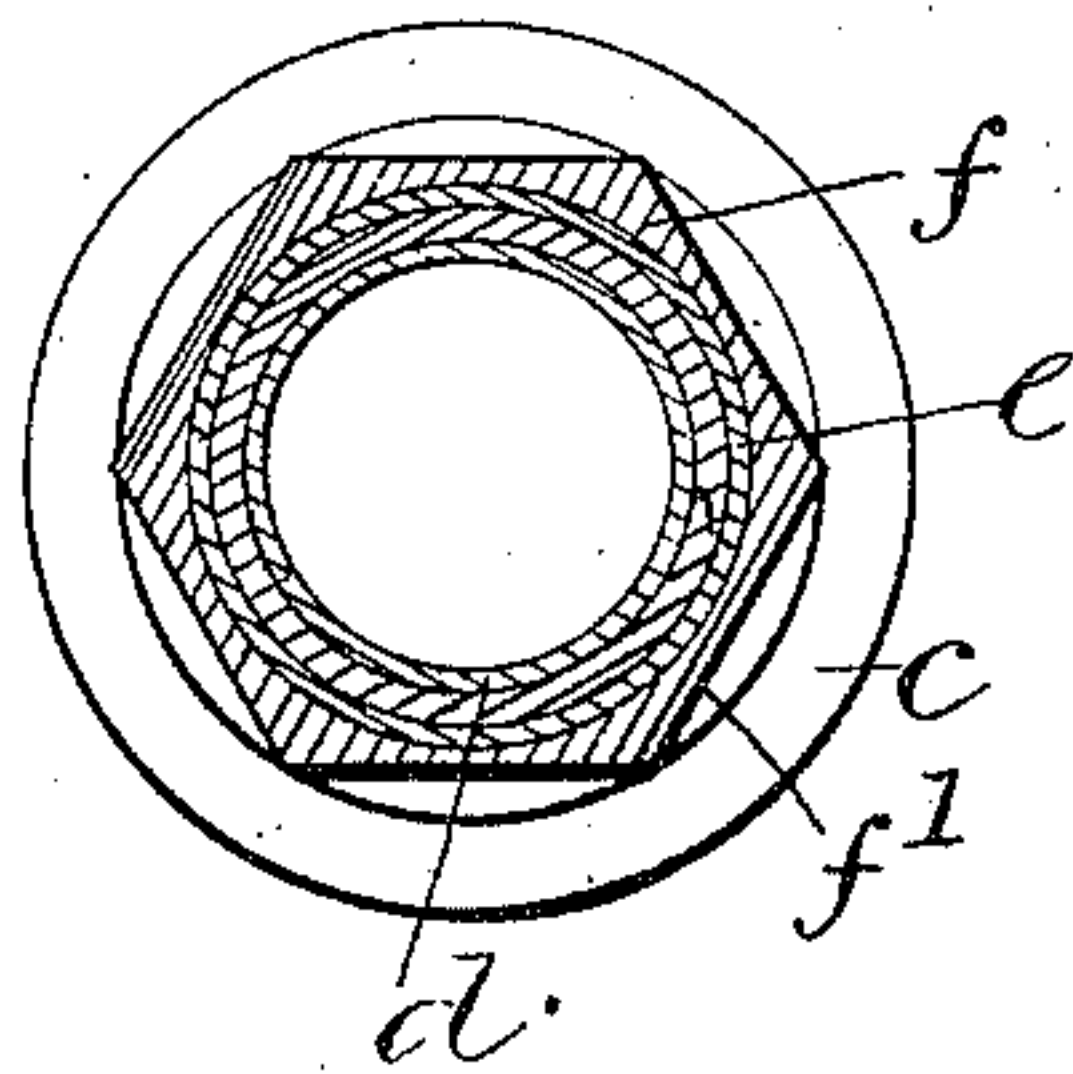


Fig. 3.

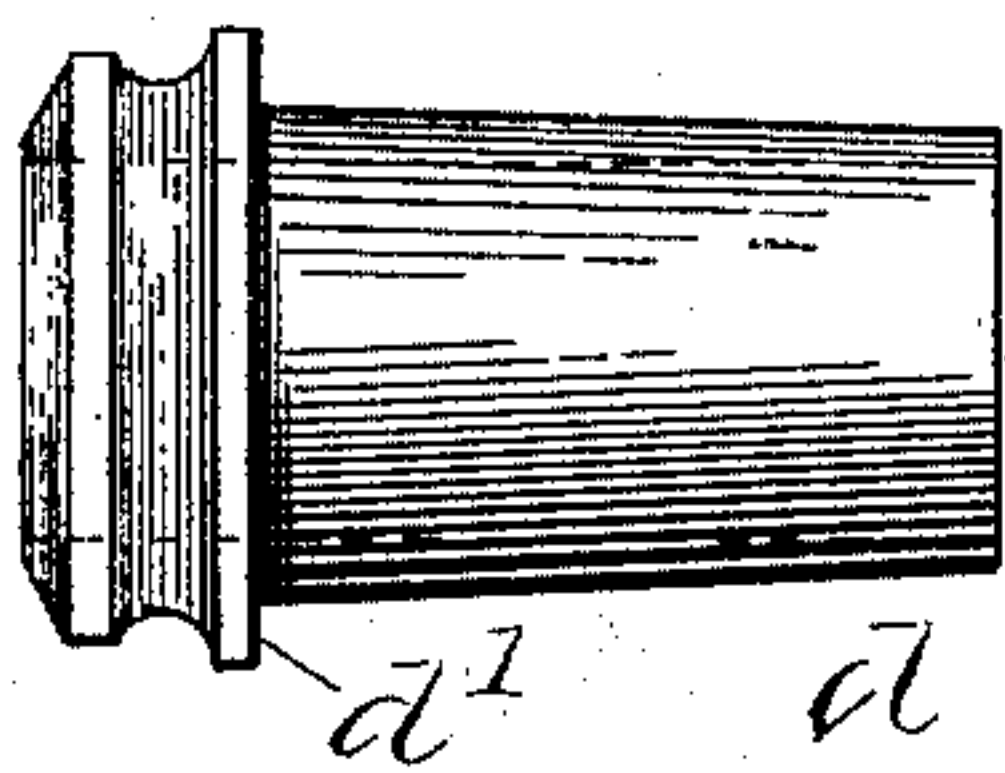
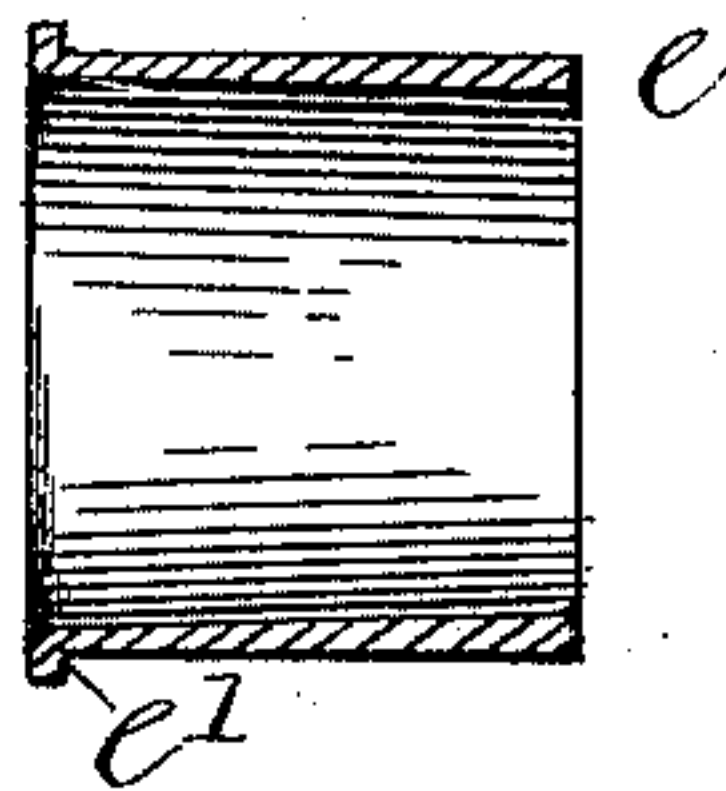


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SOIL-PIPE CONNECTION.

SPECIFICATION forming part of Letters Patent No. 725,275, dated April 14, 1903.

Application filed January 16, 1902. Serial No. 89,999. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MCLEAN, a citizen of the United States, and a resident of South Manchester, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Soil-Pipe Connections, of which the following is a specification.

My invention relates to a means for uniting a length of lead waste-pipe to a T or Y; and the object of my invention is to provide a strong and durable sanitary connection that may be readily and easily formed and that is equally adapted for use in what may be termed a "mechanical" connection as well as in the form of wiped-joint connection, and a further object of the invention is to provide a connection that may be readily disconnected for the purpose of cleaning out the pipe and then again readily and easily connected up. A device by means of which these objects may be attained is illustrated in the accompanying drawings, in which—

Figure 1 is a view in vertical section of a Y connection, showing the manner of securing a length of pipe thereto. Fig. 2 is a view in cross-section through said joint. Figs. 3 and 4 are views of the thimble and ferrule, illustrating to an exaggerated extent the method of beveling the surfaces.

It has been a common practice in forming a joint prior to my invention to insert a ferrule within the enlarged end of the section of the pipe to which the connection is to be made and unite the end of a piece of lead pipe to this ferrule by what is called a "wiped" joint. A space is left between the ferrule and the spigot end of the pipe, into which space molten lead is poured and after cooling is tamped with a calking-chisel or like implement for the purpose of forming a tight joint. In locating the piping in a building it often happens that a connection is located in a corner or angle, and especially when made to a T or Y it is a difficult operation to calk this lead in the joint, owing to the small space within which a hammer or calking implement may be operated.

My invention provides means whereby these difficulties are almost entirely obviated and a perfectly-tight joint can be formed in a short

time and without difficulty. In the accompanying drawings this manner of forming a connection is illustrated, the letter *a* denoting a Y, to which the end *b* of a length of waste-pipe is secured. The spigot end *c* of the branch of this Y is formed with a seat *c'*, beveled, as shown. This provides a construction which may be easily ground to form a perfect seat.

A ferrule *d* is formed to fit within the spigot end of the Y, and the inner end of this ferrule is provided with a beveled face adapted to fit snugly against the beveled face *c'*. The ferrule is also provided with a shoulder *d'*, which is employed for a purpose to be hereinafter described.

A thimble *e* is so formed as to be located outside of or surrounding the ferrule in a manner to form a space between these two parts. This thimble is provided at its inner end with a flange *e'*, forming a shoulder. A coupling *f*, provided with a screw-threaded outer surface, fits the interior screw-threaded surface of the spigot end of the branch of the Y, this coupling having an angularly-formed outer surface *f'* for the reception of a wrench or like tool used for the purpose of uniting it with the branch. This coupling has on its inner surface a shoulder *f''*, adapted to abut against the flange on the end of the thimble *e*.

The inner surface of the thimble *e* and the outer surface of the ferrule *d* are beveled, as clearly shown in Figs. 3 and 4 of the drawings, so that when these parts are in place the space between said parts is less at the inner than at the outer ends. The length of lead pipe *b* is inserted in the space between said ferrule and thimble, and it will be noted that a movement of the thimble inward along the ferrule will contract the space between the parts and any material held between them.

In connecting up the parts forming the joints said parts are assembled, as shown in Fig. 1 of the drawings, as by means of a wrench or like implement applied to the angular portion *f'* of the coupling *f*. The coupling is screwed into the spigot end of the branch, drawing the thimble *e* inward and contracting the space between the thimble and ferrule, thus firmly packing the lead

within said space. This operation also tends to force the ferrule tightly against the seat c' , closely packing the joint at this point. It will be seen from this construction that the necessity of uniting the end of the lead pipe to the end of a metallic ferrule which is to be secured in place is obviated, the end of the lead pipe itself forming the gasket, which in the old method above described is necessary. If, however, it is desired to make a wiped joint, as in the old method, this may still be done, the end of the lead pipe being joined to the ferrule, as in the old method, and the thimble being discarded. In this case the coupling f is screwed down until the shoulder thereon encounters the shoulder d' on the ferrule, the latter being forced firmly to its seat in the same manner as when the construction shown in Fig. 1 is employed.

My improved coupling is of especial advantage when a stoppage occurs in the soil-pipe, for the reason that the joint may be readily disconnected and access had to the pipe for the purpose of removing the obstruction, after which the joint may be again connected, forming a perfectly-tight connection.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a pipe-coupling, in combination, a section having a seat for a ferrule, a ferrule to fit said seat and having a shoulder, a thimble surrounding said ferrule and having a shoulder, a pipe end, and a coupling having a shoulder adapted to engage the shoulder on the thimble or the shoulder on the ferrule and having means of engagement with said

section whereby the pipe end is secured to the section.

2. In a pipe-coupling, a section having a seat for a ferrule, the ferrule adapted to fit said seat and having a peripheral shoulder, a thimble surrounding said ferrule and having a peripheral shoulder, a pipe end, and a coupling having an internal shoulder to engage the shoulder on the thimble or on the ferrule and also having means of engagement with said section whereby the pipe end is secured thereto.

3. In a pipe-coupling, a section having a spigot end and a seat within said end for the reception of a ferrule, the ferrule adapted to fit said seat and projecting beyond the mouth of the spigot end and having a shoulder, a thimble surrounding the ferrule and having a shoulder, a pipe end, and a coupling having a shoulder to fit the shoulder either on the thimble or on the ferrule, and a screw-thread to engage a screw-thread on the spigot end whereby the pipe end may be secured to the latter.

4. In a pipe-coupling, a section having a seat for a ferrule, the ferrule adapted to fit said seat, a thimble surrounding said ferrule, a pipe end, and a coupling arranged to form a tight joint at the termination of the pipe end and to force the thimble tightly to its seat in the same operation.

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