No. 654,131. Patented July 24, 1900.

J. BURKE.

PIPE COUPLING.

(Application filed Sept. 1, 1899.)

(No Model.)

Fig. 1.

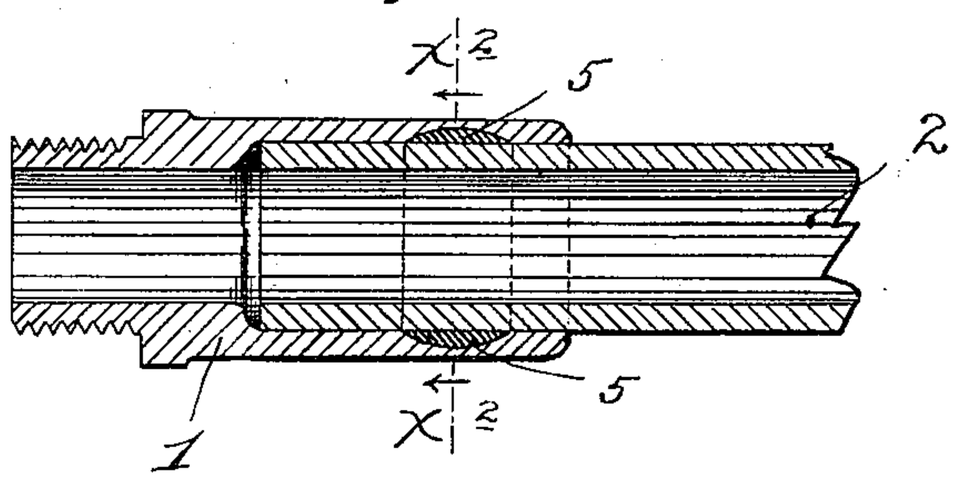


Fig. 2.

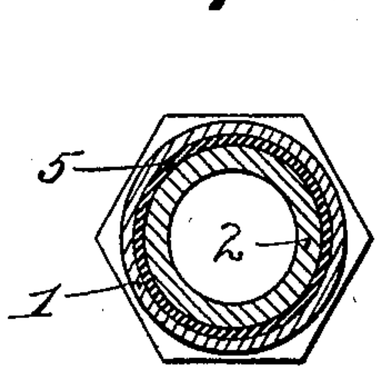


Fig. 3.

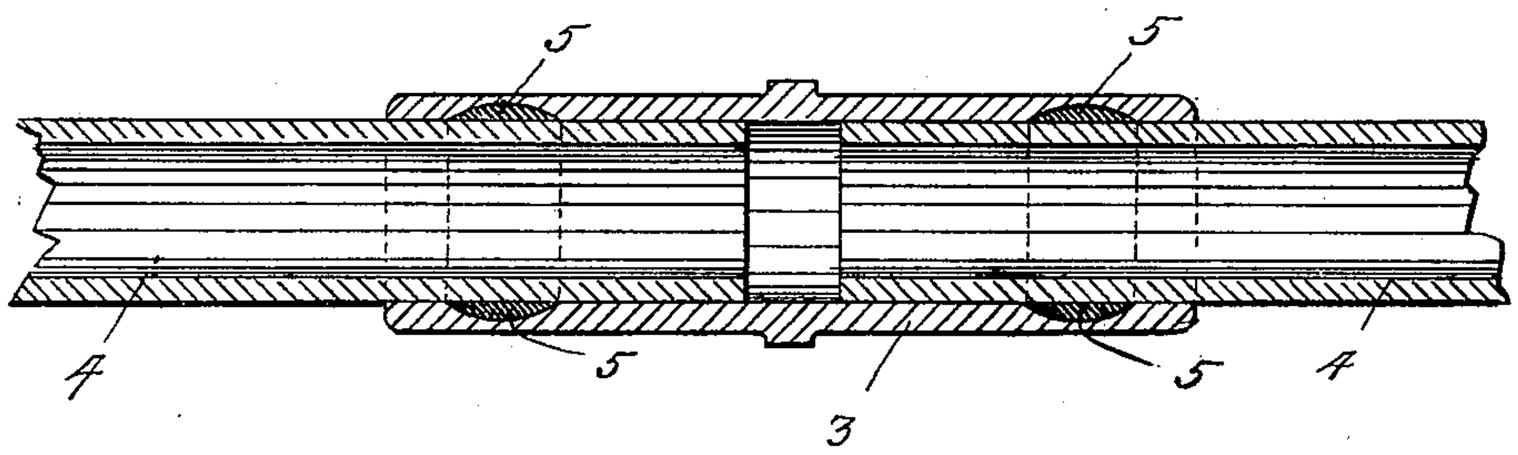


Fig. 4.

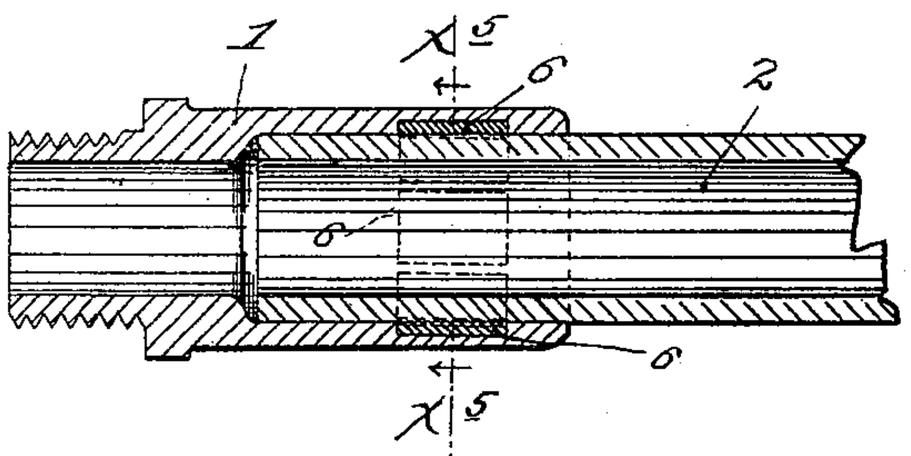


Fig. 5.

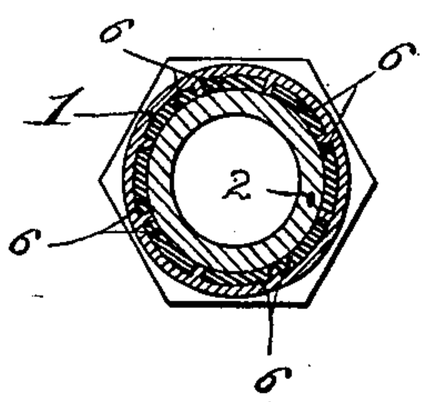
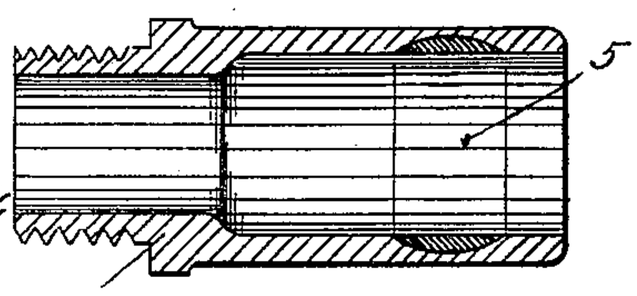


Fig. 6.



Witnesses,
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F. D. Merchant.

Inventor,
James Burke,
By his Attorney,
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UNITED STATES PATENT OFFICE.

JAMES BURKE, OF MINNEAPOLIS, MINNESOTA.

PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 654,131, dated July 24, 1900.

Application filed September 1, 1899. Serial No. 729,151. (No model.)

To all whom it may concern:

Be it known that I, JAMES BURKE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Pipe-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved device for forming soldered joints between connected pipes or tubular sections; and to this end it consists of the novel means hereinafter described, and defined in the claim.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 shows in central longitudinal section a pair of pipe-sections connected by my improved device. Fig. 2 is a transverse section on the line x^2 x^2 of Fig. 1. Fig. 3 is a similar view to Fig. 1, but illustrates a slightly-modified construction. Fig. 4 is also a view corresponding to Fig. 1, but illustrating another modification of the construction. Fig. 5 is a transverse section upon the line x^5 x^5 of Fig. 4, and Fig. 6 is a longitudinal section showing the socket member of the pair of pipe-sections shown in Fig. 1.

In Figs. 1, 2, 4, 5, and 6 the numeral 1 indicates what may be termed the "socket" or "exterior" member of the tubular parts to to be connected, which part we will assume to be of brass, although it might be of other hard metal, or even of lead. The numeral 2 indicates a section of pipe which we will assume to be of lead, although it might be of hard metal.

In Fig. 3 the numeral 3 indicates a coupling-sleeve which we will assume to be of brass or hard metal, and the numeral 4 indicates a pair of pipe-sections which are adapted to telescope one into each end of the sleeve 3, which we will assume to be of lead.

The so-called "socket-section" 1 (shown in Fig. 1) and the sleeve 3 (shown in Fig. 3) are provided in the vicinity of their ends with internal annular grooves or seats in which annular strips or rings 5, of solder, are cast or otherwise fitted and secured at some suitable time prior to the coupling thereto of the lead-pipe sections or tubular sections, which when coupled are telescoped thereinto, as shown in the drawings. It is intended to secure these solder rings 5 in position at the factory and to supply them to the trade ready for use. Fig. 6 illustrates the so-called "socket-section" 1, which is shown in Fig. 1, as it would be supplied to the trade, with the solder ring 5 positioned therein. These solder rings 5 may of course have any desired dimensions.

In the construction illustrated in Figs. 4 and 5 the solder, instead of being secured in the socket-section 1 in the form of a complete ring, is in the form of a broken ring made up of a plurality of disconnected sections 6, which are held in suitably-formed seats in the interior of the said socket 1. This construction, while not the full equivalent and for many purposes not as good as the construction previously described, will nevertheless be efficient for many purposes. This latter construction will require some play or clearance between the sections to be soldered together, so as to permit the solder to run between the soldered or connected pipe-sections.

The important advantages derived from my invention will appear from a brief statement of the manner in which the solder joint is formed. It is of course a known fact that the fusing-point of solder is much lower than that of lead pipe and of course very much lower than that of harder metals, such as brass or iron.

In accordance with my invention the pipe-section 2 is in the one instance first slipped into the socket-section 1, or in the other instance the pipe-sections 4 are slipped into the coupling-sleeve 3 and properly positioned. Then to form the soldered joint heat is applied in the one instance to the socket-section 1 and in the other to the coupling-sleeve 3, and the solder rings 5 in the one case or the soldered disks 6 in the other case will be melted and caused to adhere to the said pipe-sections 2 or 4, as the case may be. Not only is an extremely well formed soldered joint made by this operation, but the work may be

very readily done by any one, as the same does not require the use of soldering-tools. Furthermore, the necessity of providing solder for use in forming the joints is obviated.

From the foregoing description and statements made it will be understood that my invention is capable of a large range of modification and that the same may be used for connecting tubular or cylindrical sections of various description and character.

Although not the full equivalent of the construction above described, it would be within the scope of my invention to connect the pair of telescoping parts by first dipping one of the same into solder to produce a lining or coating which would adhere to the pipe or telescoping section and could be melted by the application of heat after the sections to be connected were telescoped or positioned.

It would also be within the scope of my invention to connect other metallic parts, such as a pipe or tube and a saddle or segmental section, by the means above indicated.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

The combination with a pipe or tube and a socket-section, said parts having smooth cylindrical surfaces closely fitting and adapted to telescope and to be adjustably set telescoped to a greater or less extent as desired, the said socket-section having an internal ring of solder embedded therein, whereby the said tubular sections to be connected may be telescoped to the desired positions and thereafter soldered by the application of heat, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES BURKE.

Witnesses:

MABEL M. MCGRORY,

F. D. MERCHANT.