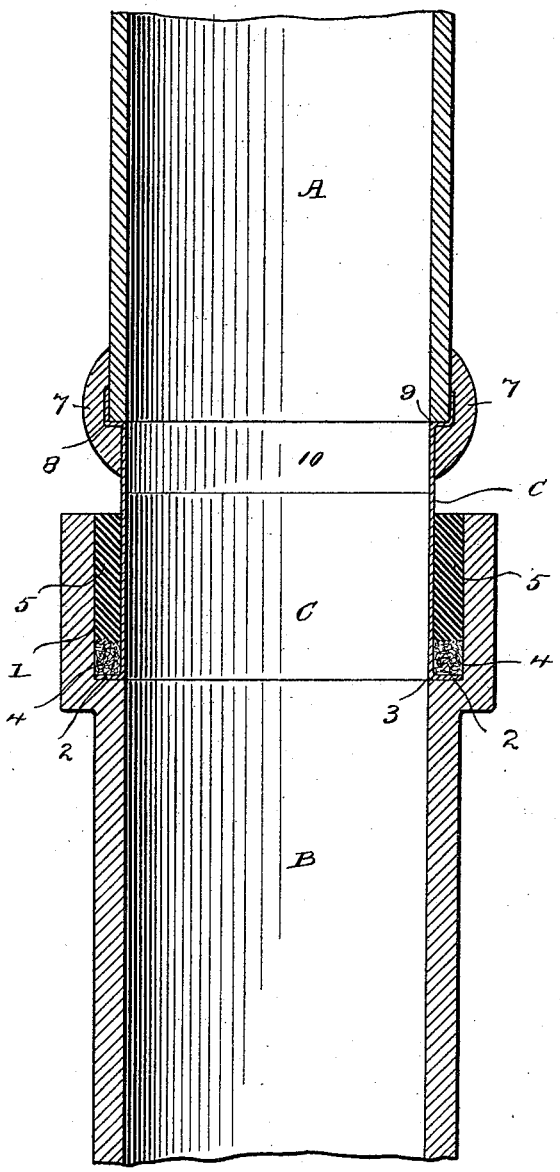
(No Model.)

C. A. COTTER.

PLUMBER'S FERRULE.

No. 494,413. Patented Mar. 28. 1893.



WITNESSES

H. A. Lamb

Pearl Reynolds

INVENTOR

Charles A. Cotter

By A. M. Wooster

Atty.

UNITED STATES PATENT OFFICE.

CHARLES A. COTTER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO RANDOLPH & CLOWES, OF SAME PLACE.

PLUMBER'S FERRULE.

SPECIFICATION forming part of Letters Patent No. 494,413, dated March 28, 1893.

Application filed November 11, 1892. Serial No. 451,596. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. COTTER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Plumbers' Ferrules; 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 produce a novel article of the class known as plumbers' ferrules, *i. e.* a ferrule used by plumbers in making a connection between a lead pipe and an iron pipe, it being of course understood that it is impossible to form either a wiped or a packed joint between lead pipe and iron pipe without the interposition of a ferrule made of some metal to which solder will adhere in making a wiped joint and which will not be affected by the pouring of molten lead in making a packed joint. Various styles of ferrules have been used heretofore for this purpose, the ferrule most commonly used however being one made of cast brass.

My novel ferrule is especially adapted to take the place of cast brass ferrules, it being very much stronger, much lighter, non-porous, and very much cheaper to produce.

In the accompanying drawing forming part of this specification the figure is a sectional view illustrating the manner in which a section of lead pipe is joined to a section of iron pipe by the use of my novel ferrule.

A denotes a section of lead pipe, B a section of iron pipe which is provided with the usual socket 1 at its end, said socket terminating in a shoulder 2, and C represents my novel ferrule which is a drawn, seamless, brass or copper tube having at its lower end a flange 3 which rests upon shoulder 2 in the socket in the iron pipe. In joining a lead pipe to an iron pipe it is necessary that two perfect joints be made, for the reason that it is impossible to pour molten lead against a lead pipe without melting it.

The ferrule is in practice connected to the iron pipe by what is termed a packed joint. The ferrule is placed in the socket, the flange of the ferrule resting upon the shoulder at the base of the socket, oakum denoted in the drawing by 4 is packed in tightly upon the top of the flange of the ferrule and then molten lead denoted by 5 is poured in upon the top of the oakum to complete the joint.

The lead pipe is in practice connected to the ferrule by what is termed a wiped joint.

I have shown the ferrule as provided with an offset 8 at the base of which is a shoulder 9. The end of the piece of lead pipe is simply placed within the offset, resting upon shoulder 9, and a wiped joint formed in the usual manner covering the point of joinder of the lead pipe to the ferrule. For convenience in making the wiped joints, that is, so that they will always be ready for immediate use, the upper ends of the ferrules are tinned as at 10, the lower edge of the tinned portion being indicated in the drawing by a line and the tinned portion above the line being indicated by lighter shading.

Ferrules made in this manner are very much lighter than any other style of ferrule known to the trade, making them much more convenient to ship and to handle, they are very much stronger for the reason that all tubing of the class from which these ferrules are made is tested to 500 pounds pressure before being shipped, and another and very important advantage is that there is no loss from breakage in dropping, cast metal ferrules being very apt to crack if dropped.

Having thus described my invention, I claim—

In combination, with the iron pipe B, the flanged ferrule secured thereto by a packed joint, an offset 8, formed at the opposite end of the ferrule, a lead pipe fitting within the same, and a wiped joint securing the ferrule thereto, substantially as described.

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

CHARLES A. COTTER.

Witnesses:
G. W. BLACHNALL, Jr.,
W. S. PECK.