(No Model.)

J. McALLISTER.

UNION FOR LEAD PIPES.

No. 417,393. Patented Dec. 17, 1889.

Fig. 1.

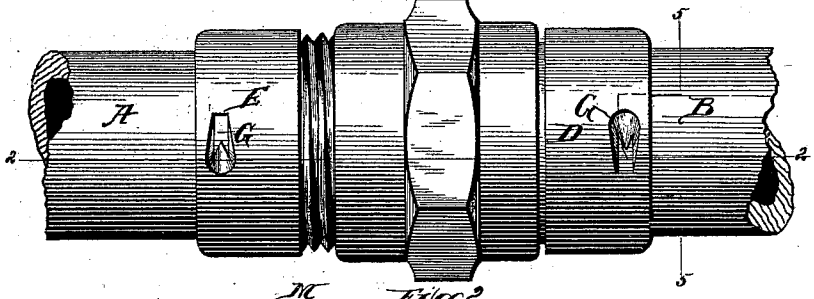


Fig. 2.

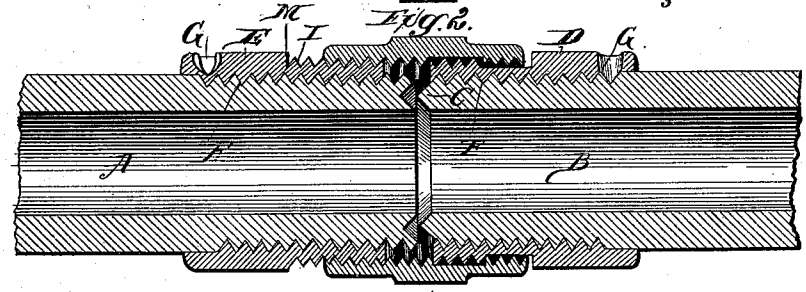


Fig. 3.

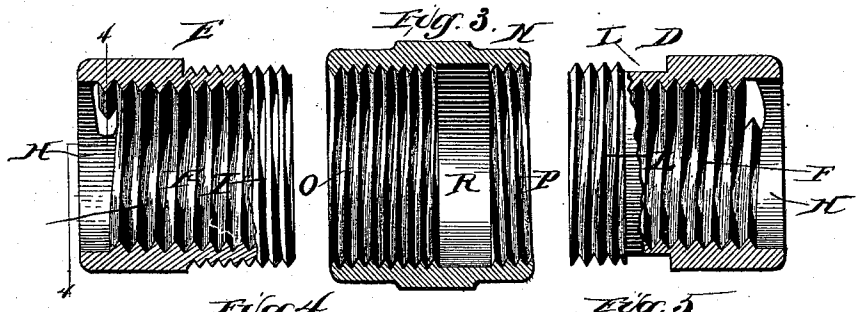


Fig. 4.

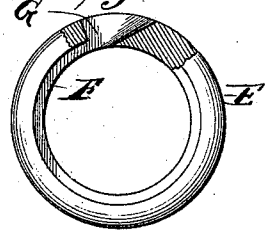
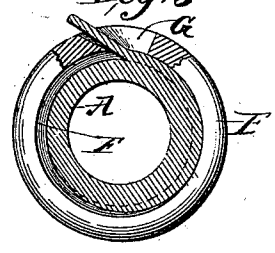


Fig. 5.



Witnesses
Wm. H. Forth.
A. M. Best.

Inventor
Jas. McAllister
By Johnson & Martin
Attys

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JAMES MCALLISTER, OF ENGLEWOOD, ILLINOIS.

UNION FOR LEAD PIPES.

SPECIFICATION forming part of Letters Patent No. 417,393, dated December 17, 1889.

Application filed February 23, 1889. Serial No. 300,978. (No model.)

To all whom it may concern:

Be it known that I, JAMES MCALLISTER, a citizen of the United States, residing at Englewood, in the county of Cook and State of Illinois, have invented a certain new and useful Improvements in Unions for Lead Pipes, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my invention; Fig. 2, a longitudinal vertical central view taken on the line 2 2 of Fig. 1; Fig. 3, a central vertical view of the three parts of which my coupler consists; Fig. 4, an end view of one of the couplers, with a portion shown in section, as indicated by the line 4 4 of Fig. 3; and Fig. 5, a transverse sectional view taken at the line 5 5 of Fig. 1.

Like letters refer to like parts in all the figures of the drawings.

The object of my invention is to make a union or coupling for lead or other soft-metal pipes that will be tight and readily coupled and uncoupled; and my invention consists in the special construction of the sleeves, which are secured to the ends of the lead pipes, respectively, that are coupled together; and it further consists in the construction of the coupling-nut, in combination with the other parts of the coupler.

In the accompanying drawings, A and B represent the ends of the lead pipes. The ends of these pipes are tongued and grooved, as clearly shown at C in Fig. 2, so that when the ends are brought together they make a tight-fitting joint.

D and E are screw-threaded metallic sleeves, which are screwed upon the ends of the lead pipes A and B sufficiently far so that the ends of these pipes project through the sleeves, as clearly shown in Fig. 2. The sleeves D and E have interior screw-threads F. At one end of each of these sleeves the screw-threads F are cut away, leaving a smooth interior surface which will pass over the ends of the lead pipe; but one portion of these smooth surfaces is wider, so as to leave the entire screw-thread uncut, excepting as it is cut across its entire width, as clearly shown in the drawings. Above the end of the screw-thread which is cut away, as above described, there is an opening G through the sleeves. The end of the screw-thread is pointed at its inner edge, which pointed end of the screw-thread projects beneath the opening G and forms a cutting-edge, which will cut a groove or female screw-thread the exact size of the screw-thread F on the exterior of the end of the lead pipe, as the sleeve is screwed upon the end of the lead pipe the chip that is cut passing through the opening or hole G in the sleeve. The blank space H in the end of the sleeve in which the entire end of the screw-thread is left to be pointed, as shown, receives the end of the lead pipe and enables me to readily engage the cutting-point of the screw-thread with the exterior surface of the lead pipe and cut a female thread thereon, in which the screw-thread exactly fits, because the full size of the end of the screw-thread is made into a cutting-tool, with which the female thread on the exterior of the lead pipes is cut, and the pointed end of the screw-thread F being directly beneath the opening G, the part of the screw-thread which is cut away being cut obliquely and forming one part of the opening G, the opening extending the entire width of the screw-thread F, one end of which is pointed. The cutting-point, standing in the middle of the opening, facilitates cutting a female thread on the exterior of the lead pipe the exact size of the screw-thread F. By this construction of the sleeves D and E, I am enabled to readily cut a thread upon the exterior of the lead pipes A and B, in which the screw-threads F on the exterior of the sleeves exactly fit, as the sleeves are screwed upon the ends of the lead pipe. The sleeve D has also an exterior screw-thread I at or near its coupling end, between which and the shoulder J is a plane surface K. The sleeve E has also an exterior screw-thread L extending from its coupling end to the shoulder M. The exterior screw-thread I on the sleeve D is a left-hand screw-thread and the exterior screw-thread L on the exterior of the sleeve E is a right-hand screw-thread.

N is a coupling-sleeve nut having exterior right and left hand screw-threads O and P. Between the right and left hand screw-thread

O and P there is a space R wide enough to receive the left-hand screw-thread I on the exterior of the sleeve D, so that when the sleeve-nut N is screwed upon the sleeve D sufficiently far it will turn freely on said sleeve without turning off from the sleeve D. When the sleeve E is placed so that its exterior screw-thread will engage with the right-hand screw-thread on the interior of the sleeve-nut N, the sleeved nut can be freely turned on the sleeve D, which will draw the sleeve E into the sleeved nut until the two ends of the lead pipe which project through the sleeves D and E come in contact and their tongued and grooved edges are firmly pressed together.

The operation of my invention is as follows: The end of the lead pipe A is inserted in the chamber H of the sleeve D, and by turning the sleeve the cutting-point of the screw-thread F cuts the thread on the exterior of the end of the pipe A the full size of the screw-thread F, the chip passing out through the opening G, and the screw-thread F exactly fits the screw-thread where its pointed end cuts. The sleeve E is screwed upon the end of the pipe B in the same manner. The ends of the two pipes project beyond the sleeves, as shown in Fig. 2. The coupling-sleeve nut N, which has a right and left screw-thread, is then screwed upon the sleeve D, the left-hand screw being screwed upon the left-hand screw-thread on the end of the sleeve. The nut then swivels on the sleeve D, so that when the sleeve E is placed so as to engage its exterior screw-thread with the right-hand screw-thread of the sleeve-nut N the sleeve E is drawn into the sleeve-nut N and the pipes are coupled together.

Having thus fully described the operation and construction of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The sleeve having an interior screw-thread F and chambered at one end, the inner edge of the chamber following the outer edge of the screw-thread until it cuts across it at right angles, leaving the screw-thread its full width throughout its entire length, excepting at the pointed end, the point at the end of the screw-thread terminating in the chamber, the point being at the inner edge of the screw-thread, and an opening G, beneath which the cutting end of the screw-thread projects, substantially as specified and shown.

2. In a union for lead pipes, the combination of the coupling-sleeve N, provided with a right and left hand screw-thread, and the space R, the sleeve D, with its exterior screw-thread I and smooth exterior K, shoulder J, and the sleeve E, provided with the screw-thread L, substantially as specified.

JAMES McALLISTER.

Witnesses:
THOMAS WM. WATSON,
ADOLPH ALTERMATT.