No. 676,582. Patented June 18, 1901.

W. H. HELMERICH.

PIPE JOINT FORMER.

(Application filed June 9, 1900.)

(No Model.)

Fig. 1.

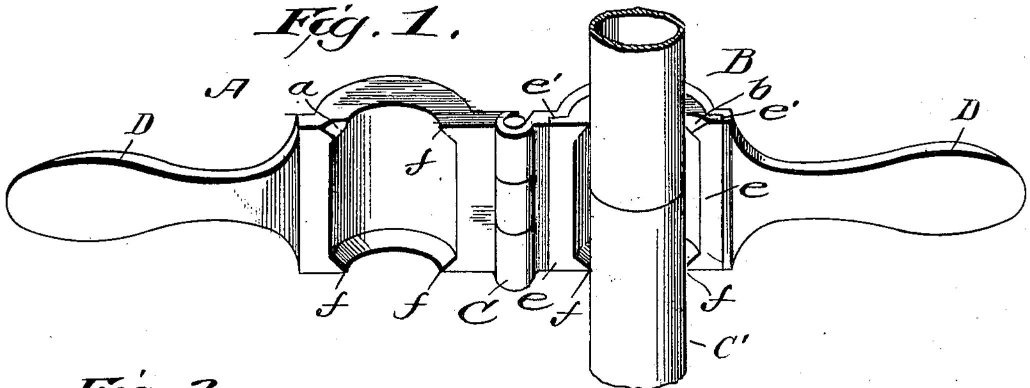


Fig. 3.

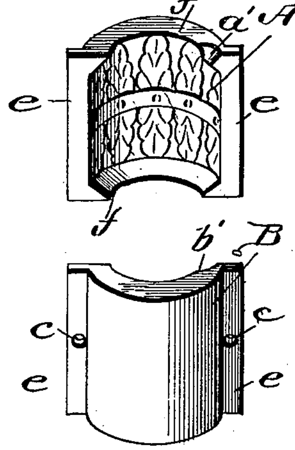


Fig. 2.

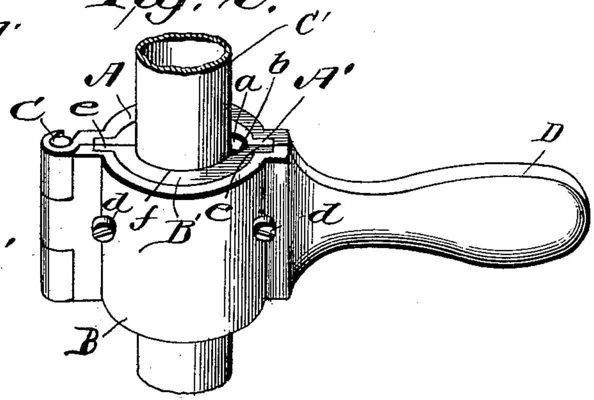


Fig. 4.

Fig. 5.

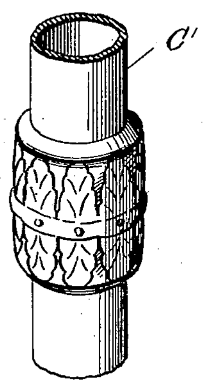
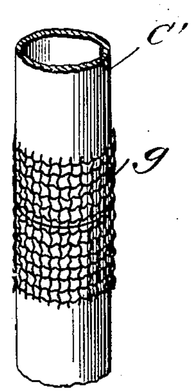


Fig. 6.



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UNITED STATES PATENT OFFICE.

WALTER H. HELMERICH, OF CHICAGO, ILLINOIS.

PIPE-JOINT FORMER.

SPECIFICATION forming part of Letters Patent No. 676,582, dated June 18, 1901.

Application filed June 9, 1900. Serial No. 19,776. (No model.)

To all whom it may concern:

Be it known that I, WALTER H. HELMERICH, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pipe-Joint Formers, of which the following is a specification.

My invention relates to devices for forming couplings or joints for pipes whereby their ends are secured together, and more especially to lead pipes, such as are commonly used in house or domestic plumbing.

The object of my invention is to provide an implement or tool which will form from solder or other suitable metal a neat and strong coupling to take the place of the ordinary "wiped joint" and by which such work can be quickly and more effectively accomplished.

My invention generally consists of a flask formed in two parts separably hinged together and provided with suitable grasping-handles adapted to grip the end portions of the sections of pipe to be coupled, having means for introducing the metal in a molten form, having provisions for applying dies or blocks of various sizes and varied ornamentation and in which the molten metal is prevented from creeping or seeping into the joint between the adjacent ends of the pipe, and in various economies and advantages of construction and arrangement, which will hereinafter appear in detail, all of which are illustrated in the accompanying drawings, which form a part of this application, and in which—

Figure 1 is a perspective view of my invention, showing its application in an open position to two sections of pipe. Fig. 2 is a similar view showing the invention in a closed position. Fig. 3 is an interior or face view of a die or block forming one feature of my invention. Fig. 4 is an outside or rear view of said die or block. Fig. 5 is a view of a joint formed with my improved device, and Fig. 6 is a view of a portion of my invention which effects the exclusion of the molten metal from the joint and assists in securing the coupling to the pipe.

Referring to the drawings, A and B represent the two parts of like construction which form the flask of my implement and which are hinged together at C by any form of hinge which will permit their ready separation and joining together. The body portion of each of the sections A and B is semicylindrical and may be adapted to grasp the pipe C′ directly or to receive dies or blocks like those shown in Figs. 3 and 4. In the upper edge of the sections are grooves *a* and *b*, which are so positioned that when the sections are brought together said grooves register and form an opening which is preferably tapering, as shown, and which must extend through the sections at an angle to the vertical plane of the latter, for reasons which will appear. The flask-sections are each provided with a handle-section D, flat on the inner side and rounded on the outer side, said flat sides contacting when the flask-sections are closed about the pipe, thus forming a handle which may be readily grasped and held during the forming of the joint. Extending through the sections are openings *c c*, in which are inserted thumb-screws *d d*, the inner ends of which enter threaded openings in the dies A′ B′, said latter openings, however, not extending through said dies. These dies are semicylindrical, with side flanges or wings *e e*, which enter corresponding recesses *e′ e′* in the sections A B.

The dies may be cut on their inner faces with fanciful designs, as indicated, or may have the name or trade-mark of the particular individual or firm using the device, such design or trade-mark being cast on the joint or coupling when complete, as shown in Fig. 5.

It will be understood that the sections A B when used with the dies will be made sufficiently large to hold dies of varying sizes, thus adapting the tool to pipes of different cross-diameters. If the sections are used without the dies, they form a blank, upon the inner surface of which the design, &c., may be cut in the same manner as with the dies.

In order to prevent the escape of the molten metal, I form upon the upper and lower inner edges of the sections (or upon the dies, if they are used) beveled shoulders *f f*, having cutting edges which grip the pipe and slightly enter the material thereof, thus forming a perfect closure around the upper and lower edges of the sections or dies.

To prevent the molten metal from entering the joint between the adjacent edges of the pipe and to secure a better adherence of the solder to the pipe, I wrap the end portions of the latter with a section of tinned wire-gauze *g*, as shown in Fig. 6. This gauze amalgamates with the solder and pipe and makes a stronger joint.

In order that the molten solder may flow into the flask when used for jointing horizontal pipes, I form the grooves *a* and *b* at such angle that they will incline downwardly whether the tool is held vertically, as shown, or horizontally.

It will be apparent that when the dies are used grooves *a'* and *b'*, corresponding to *a* and *b*, must be made to permit the molten solder to flow into the dies. It is also obvious that other methods than that shown may be used to removably secure the dies in position within the flask on sections.

I do not limit myself to the semicylindrical form of sections shown, as the device is equally well adapted to forming T-couplings and angle-couplings, the only change required being in their shape.

Having thus described my invention, what I claim as new is—

1. A pipe-joint former comprising two hinged sections, each provided with a handle, and having the inner face adjacent to the hinge recessed transversely, the sections at the ends of the recessed portions being provided with inwardly-projecting sharpened edges adapted to engage with and slightly enter the pipe around which they are placed, and the adjacent ends of the edges farthest from the hinge on one edge of the sections being recessed to form an ingate for molten metal into the larger recessed portions when the sections are closed.

2. In a pipe-joint former, the combination, of two hinged sections, each provided with a handle and having its inner face recessed transversely near the hinge, the central portions of the recesses being deeper than the ends, and the sections being provided with grooves that lead into the end portions of said recesses, a removable die in the recess of each section, the central portion of which is recessed longitudinally and provided with an inwardly-projecting sharp-edged flange at each end, the corresponding ends of two of the flanges being cut away to register with each other and form an opening when the sections are closed, and the sides of each die extending laterally to form wings for fitting in the ends of the recesses of the sections and provided with threaded openings, and a screw through each perforation in the sections and engaging with the wings of the dies.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WALTER H. HELMERICH.

Witnesses:
S. R. BOWEN,
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