(No Model.)

F. H. LA PIERRE.

DIE AND DIE HOLDER.

No. 556,060. Patented Mar. 10, 1896.

Fig. 1.

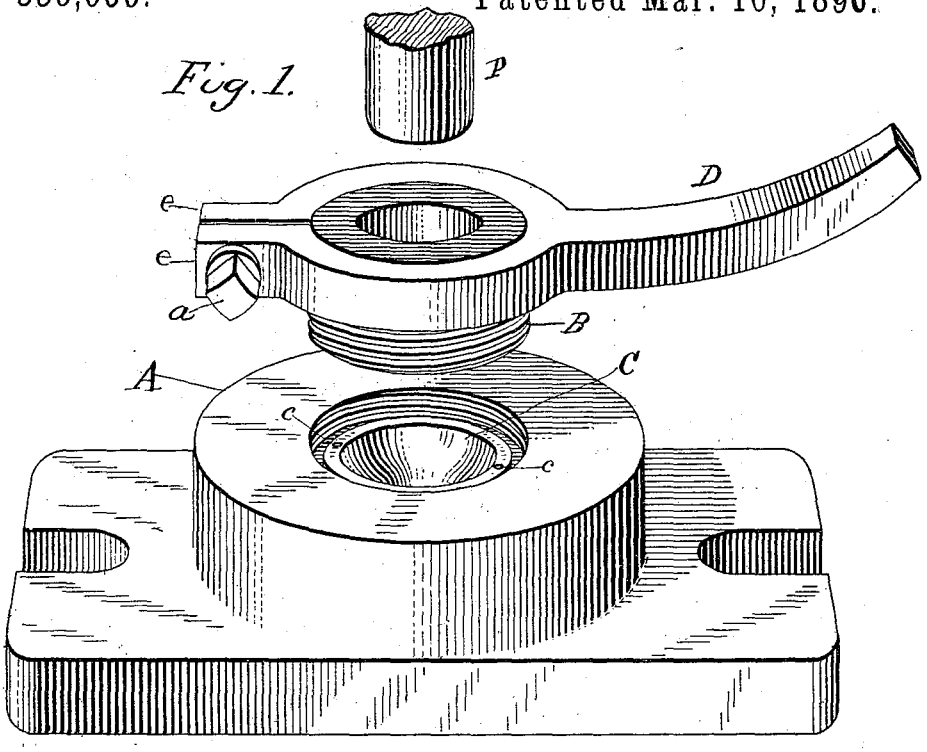
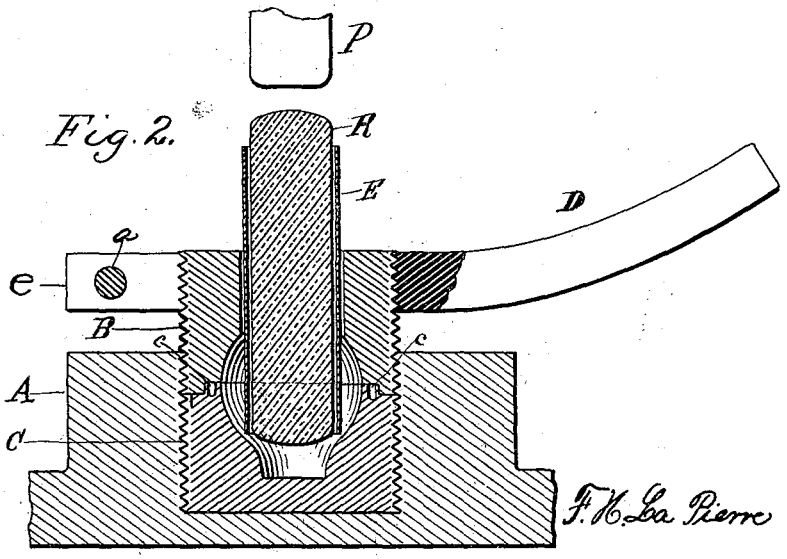


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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DIE AND DIE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 556,060, dated March 10, 1896.

Application filed June 3, 1895. Serial No. 551,553. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. LA PIERRE, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dies and Die-Holders, of which the following is a specification.

This invention relates to dies used for producing hollow silverware and the like, and the invention consists in a novel construction of the changeable dies and die-holder, as hereinafter more fully described.

Figure 1 is a perspective view of the die-holder and the removable dies, and Fig. 2 is a central vertical section of the same with the blank inserted ready for operation.

It is customary to form hollow ware and other articles of silver or similar ductile metal by first drawing the metal into the form of a tube, open at one or both ends, according to the nature or the article to be formed, inserting the tube into dies of the required shape, filling the tube with rubber of the proper consistency, and then by means of a punch forcing the rubber down in the tube or blank, and thereby pressing the latter outward in the dies, thus imparting to it the required form or shape. As these articles are usually of an irregular form, it is necessary to use at least two dies which can be separated for the removal of the article after it is formed; and the object of the present invention is to so construct the dies and the die-holder as to insure accuracy of work and at the same time facilitate the operation and enable the dies to be readily and quickly changed, as is necessary to form the various articles, and with these ends in view I construct them as follows:

In the drawings, A represents the die-holder, which is secured to the bed of the press in the usual manner, by bolts fitting in the slots at its opposite ends. The central portion of this die-holder is made to project of such a height as to enable a recess to be formed therein deep enough to enable both the upper and lower dies, B and C, to be set therein, as represented in Fig. 2.

The recess in the die-holder A is provided with a continuous screw-thread its entire depth, and the dies B and C are both provided on their exterior with a corresponding screw-thread, as shown in Figs. 1 and 2, the lower die, C, being provided with a couple of holes *c* for the insertion of the prongs of a suitable wrench or tool for screwing it in and out of its seat in the holder.

As the upper die has to be removed at each operation, it is provided with a handle or lever D, by which it can be quickly unscrewed from the holder, this upper die entering the holder but a short distance, just enough to hold it secure, so that but a few turns are necessary to release it.

As it is necessary to change the dies with each change of article, the lever or handle D is so made that it can readily be removed from one die and attached to another, and for that reason it is constructed as shown in Fig. 1, the ring portion which clasps the die being split and having projecting ends *e*, which are provided with a screw-bolt *a*, by which they can be drawn together and made to clamp the die sufficiently tight to enable the latter to be turned and thus be screwed in and out of the holder at will.

When the dies are to be changed it is only necessary to release the clamping-bolt *a*, when the handle D can be quickly detached from the die and be attached to the one that is to be substituted, and thus the one handle is made to answer for any number of dies of the same external diameter, the idea being to make a large number and variety of dies of the same external diameter, so that all may be used in the same holder, the cavity in which the articles are formed being varied, of course, according to the shape and size of the various articles to be produced.

It is of course obvious that the dies may be plain or figured, so as to produce a plain or an embossed surface on the articles, as is customary.

It will readily be seen that by this construction the dies and their holder are simple and cheap to make, can be quickly assembled by any ordinary workman, that the upper die can be quickly removed and replaced, and that the handle can be quickly changed from one die to another, and thus be made to answer for any number of dies. The dies and their seat in the holder being circular in form, they can be quickly formed by lathe-work, and with the required accuracy.

In the drawings, E represents the tube or

blank of which the article is to be formed, R the rubber used to expand the same in the dies, and P the plunger of the press for forcing the rubber down and pressing the blank against the interior of the dies, any suitable press being used for the purpose, and which it is therefore unnecessary to show.

I am aware that a two-part die for the forming of watch-cases by means of a roller has been used, said die being held in place by an overlapping annular cap screwed on the die-holder, and that an upper die for stamping sheet metal has been secured by a screw-thread to the reciprocating portion of the press, and therefore I do not claim such; but,

Having fully described my invention, what I claim is—

As an improvement in mechanism for forming hollow sheet-metal articles, the bodies of which are of greater diameter than their mouths or extremities, the combination of a die-holder A provided with a central recess having a screw-thread on its interior wall, and the two-part die B, C, provided with a central cavity having its greatest diameter at the point where the two parts meet, both of said parts being provided on their exterior with a screw-thread corresponding with the screw-thread of the die-holder, whereby the parts are longitudinally seated in fixed relation to each other in the holder, the upper part B being provided with means for its ready removal from the die-holder, substantially as shown and described.

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

FRANK H. LA PIERRE.

Witnesses:

HENRY IDIN, Jr.,

WM. R. STRONG.