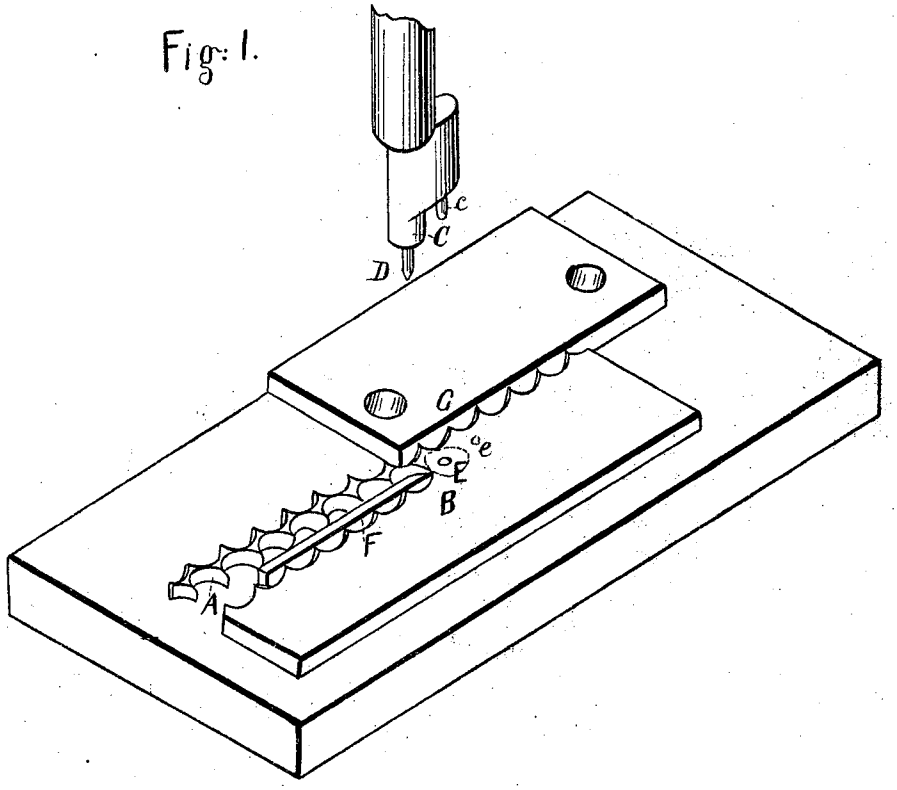
H. C. Thompson.

Die & Punch.

No. 76,958. Patented Apr. 21. 1868.

Fig. 1.



Witnesses:

George W. Atkins
James Shepard

Inventor.

Hiram C. Thompson

United States Patent Office.

HIRAM C. THOMPSON, OF BRISTOL, CONNECTICUT.
Assignor to self and Noah Pomeroy.

Letters Patent No. 76,958, *dated April* 21, 1868.

IMPROVEMENT IN DIES FOR MAKING CLOCK-COLLETS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HIRAM C. THOMPSON, of Bristol, in the county of Hartford, State of Connecticut, have invented a new and improved Double Die and Punch for Punching Clock-Collets, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my invention.

Similar letters of reference indicate like parts.

My invention consists, first, in making the distance between the circumference of the larger die and the centre of the smaller die equal to a small fraction (say about one-hundredth of an inch) over half the diameter of the larger die; second, in placing the front of the gauge-pin nearly parallel with the centre of both dies, in order that its front may serve as a guide to the metal after it has passed the dies, while its end serves for a stop; third, in placing the left-hand end of the back gauge nearly back of the centre of the larger die, in order to give the scrap room to part from the metal being pressed.

The metal, B, in fig. 1, covers the two dies E *e*, but their position is shown by the broken lines. In constructing this double die and punch, it is very necessary that the two dies E *e* are of the distance from each other above described, or, in other words, placed at such a distance from each other that as each collet is pressed, the scrap A will part from the metal B, while the collets will be punched full size and shape of the larger die E.

The gauge-pin F is made much longer than the ordinary gauge-pin, and of knife-edge form. Its end is placed as near the larger die E as possible, without having it come in contact with the larger punch C. The back gauge G is same as ordinary gauge, with the exception that it is placed further to the right, in order that its left end need not be in the way of the scrap A.

The dies and gauges are covered with a picker, or take-off of the ordinary style, but not shown in the drawings. The gauge-pin F can be fastened either to the take-off or die, as desired.

The punches C *c* for this die are constructed the same as an ordinary double punch, the larger one, C, provided with a pointed centre, D, the body of which will fill the hole punched by the smaller die *e* and punch *c*.

To use this die and punch, place the metal, B, against the gauge G, and then move it to the left until it is partly under the larger die E, and let the punches C *c* descend, when a hole will be punched with the smaller die *e* and punch *c*, and part of a collet will be punched with the die E and punch C. Then move the metal, B, to the left until the place in it from which the half collet was pressed comes in contact with the gauge-pin F. As the punches C *c* again descend, the pointed centre D of the punch C enters the hole just pressed, and brings it central with the larger die E, and then punches a collet, as well as another small hole. The left-hand end of the metal, B, parts enough to admit the end of the gauge-pin F, and is then passed along again, &c.

The scrap A forms back of the gauge-pin F, while the metal, B, is guided not only by the gauge G, but also by the front of the gauge-pin F, as shown in fig. 1.

The ordinary mode of making collets for clocks is to punch them with a single die and punch, and afterwards drill the centre hole.

Double dies and punches are used in clock-shops and others for punching thin metal, and are generally made as follows: The two dies are left at such a distance from each other that the scrap remains whole. The gauge-pin is less in length than the diameter of the larger die. After one article is pressed, the metal is raised over the gauge-pin and dropped again with the gauge-pin in the hole in the metal from which the article was pressed.

If a back-gauge is used, it extends about equal distances each way from the centre of the dies, and the metal must either be only wide enough for two rows of articles to be pressed from it, or, after pressing a row on each edge, the gauge must be moved back or the metal trimmed. Sometimes the back gauge is dispensed with, and the metal guided by hand. Then more than two rows can be pressed from one piece, but it involves a great waste of stock.

By my invention I produce a double die and punch which is capable of doing much finer and better work than any other, thereby bringing it into use where no other can be used. Living, as I do, in a vicinity where clocks are largely made, I can safely say that it is the only double die and punch that has ever been successfully used for punching clock-collets, whereas I have used mine for nearly two years, and thereby thoroughly tested it.

The labor of making clock-collets by my invention will cost only about three cents per thousand, whereas by the ordinary mode it costs twenty cents per thousand. The same proportion of labor will also be saved in pressing many other articles.

I do not claim a double die and punch of any construction, neither do I claim the take-off or method of securing the gauges in their places; but

What I do claim as new, and desire to secure by Letters Patent, is—

The combination and arrangement of the dies E *e*, gauge-pin F, and back gauge G, arranged and operating on the base-plate, substantially as described.

HIRAM C. THOMPSON.

Witnesses:

GEORGE W. ATKINS,

JAMES SHEPARD.