

J. H. Cole.

Die for Making Ferrules.

N^o 99,848.

Patented Feb. 15, 1870.

Fig. 1.

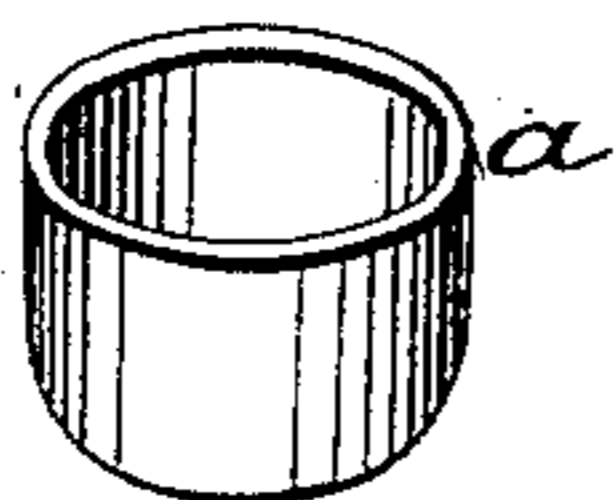
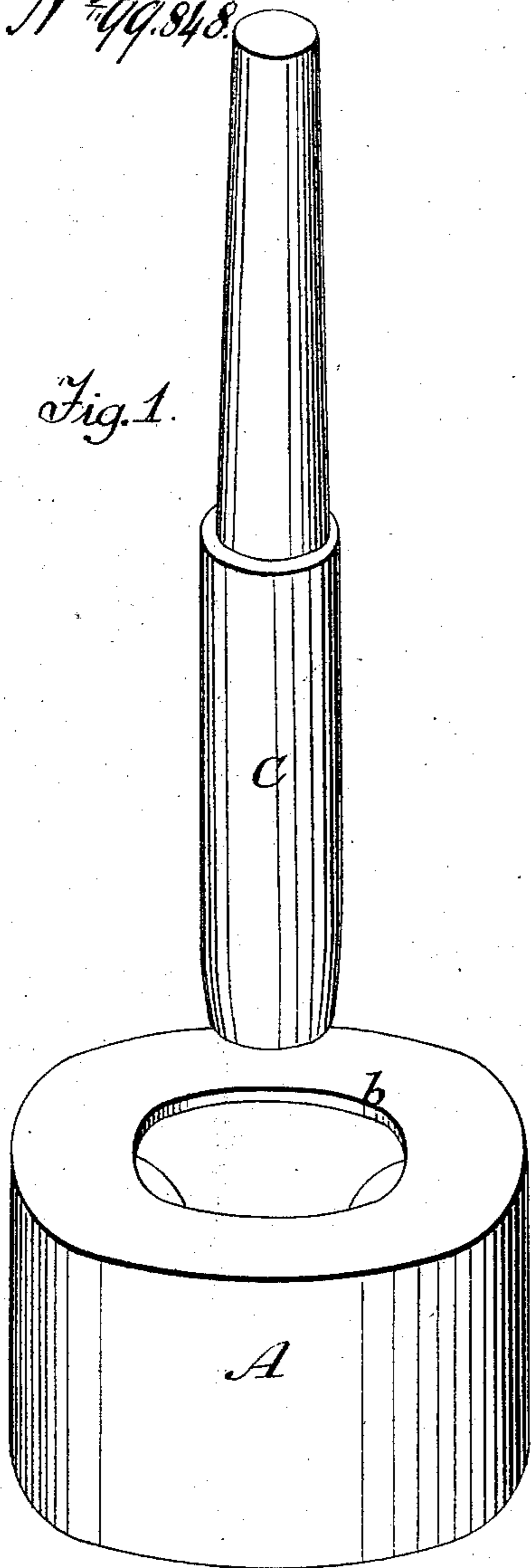


Fig. 3.

Fig. 2.

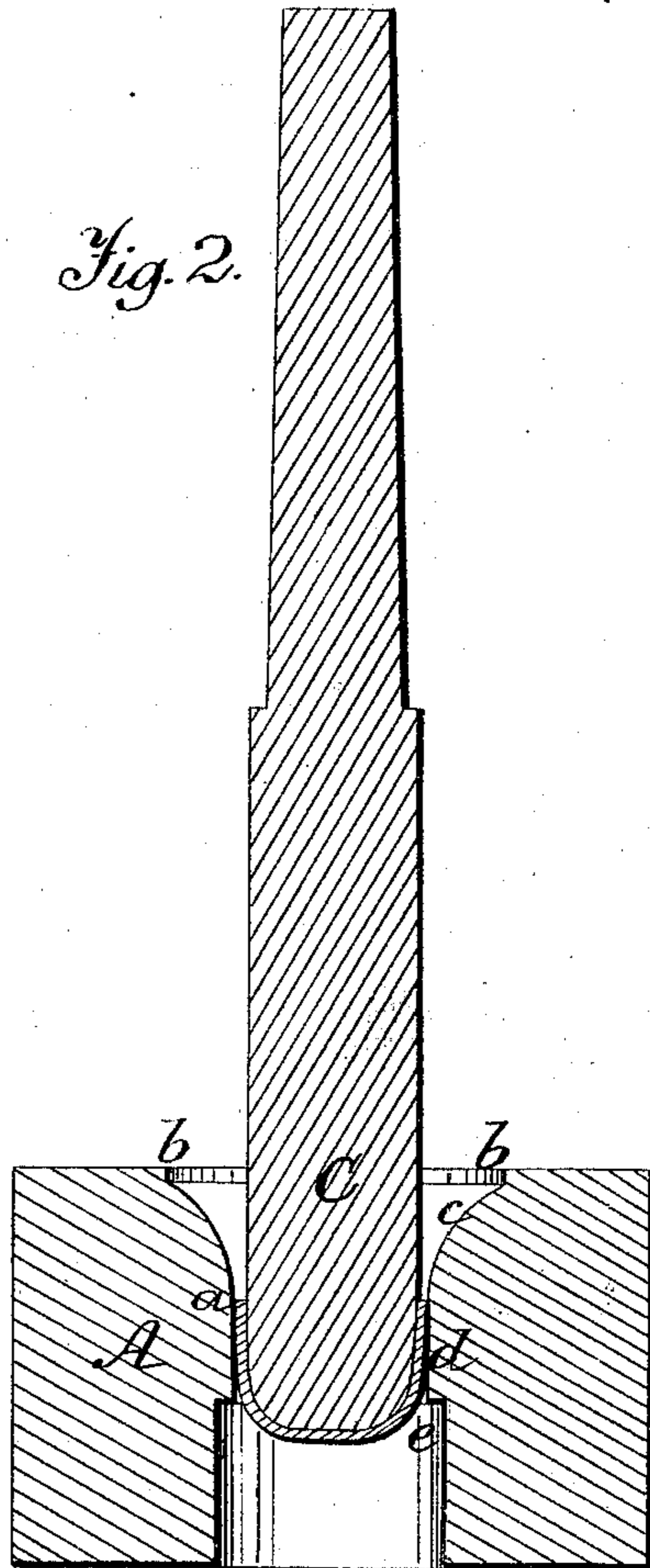


Fig. 4.

Witnesses.

Thos. C. Dodge.
Albert C. Peirce.

Inventor.

J. H. Cole.

United States Patent Office.

J. H. COLE, OF MILLBURY, ASSIGNOR TO SAMUEL P. EMERSON AND AMOS WHITE, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 99,848, dated February 15, 1870.

IMPROVED DIE AND PLUNGER.

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

Know all men by these presents:

That I, J. H. COLE, of Millbury, in the county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Die and Plunger for making ferrules, thimbles, and other similar articles from blanks of cold wrought iron; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a perspective view of the die and plunger;

Figure 2 represents a vertical central section of the die, plunger, and partially-formed thimble; and

Figure 3 represents a perspective view of a ferrule or thimble formed by the co-acting surfaces of the die and plunger.

To enable those skilled in the art to which my invention belongs, to make and use the same, I will proceed to describe the said improvement more in detail.

The nature of my present improvement consists in a particular improvement on the device for which Letters Patent were granted to me on the 28th day of April, A. D. 1868, as will be hereafter explained.

Prior to my invention for which said Letters Patent were granted, all attempts to form ferrules or thimbles from cold wrought iron proved unsuccessful.

In the practice of my said invention, however, I found that while it worked well on a uniform size and thickness of metal blanks, it was nevertheless defective, in that if the blank happened to be thick, it would often form a ferrule with a bur or flange on the edge *a*, while at the same time endangering the machinery by the sudden stoppage of the plunger. Then, again, foreign matter was liable to accumulate and adhere to the inside of the die, especially to the lower outer surface. Another difficulty arose from trouble in removing the ferrule or thimble, and also to loss of power when the blank happened to be thick, which occasioned the sudden stoppage of the plunger, as before explained.

All of the foregoing objections are obviated by my present improvement.

The die *A* is made with a circular shoulder, *b*, a gradually curved or opening part, *c*, these parts being curved and shaped as described in the Letters Patent above referred to. For the purposes already mentioned, I, however, form the bottom of the die in a manner different from that shown in said Letters Patent, that is to say, I make it with a straight portion, *d*, and then with an enlarged or bottom part or hole, *e*.

The operation is as follows:

The blank of cold wrought metal *B* is placed by the attendant upon the shoulder *b*, when the plunger *C* descends and forces the blank down over the curved part *c*, and through the straight portion *d*, into the enlarged part *e*.

From the foregoing description it will be seen that all the ferrules or thimbles will be of an uniform size, and further, that there will be no bur or flange left on the edge *a*, since all the thimbles will be forced through the die by means of the plunger, and if the blanks vary in thickness, they will be drawn down to a size as they are forced through between the die *A* and plunger *C*.

After the ferrules and thimbles are made in the form shown in fig. 3, tang-holes of any desired form may be punched through the closed end thereof.

Having described my device for making ferrules and thimbles,

What I claim as my invention, and desire to secure by Letters Patent, is—

As an improvement in the die for which Letters Patent were granted me on the 28th April, 1868, the formation of the lower portion of the die with the straight part *d* and opening *e*, substantially in the manner and for the purposes herein shown and specified.

J. H. COLE.

Witnesses:

THOS. H. DODGE,
ALBERT E. PEIRCE.