STEPHEN W. WOOD.

Improvement in Machines for Tapering Cartridge-Shells.

No. 126,611. Patented May 7, 1872.

Fig. 1.

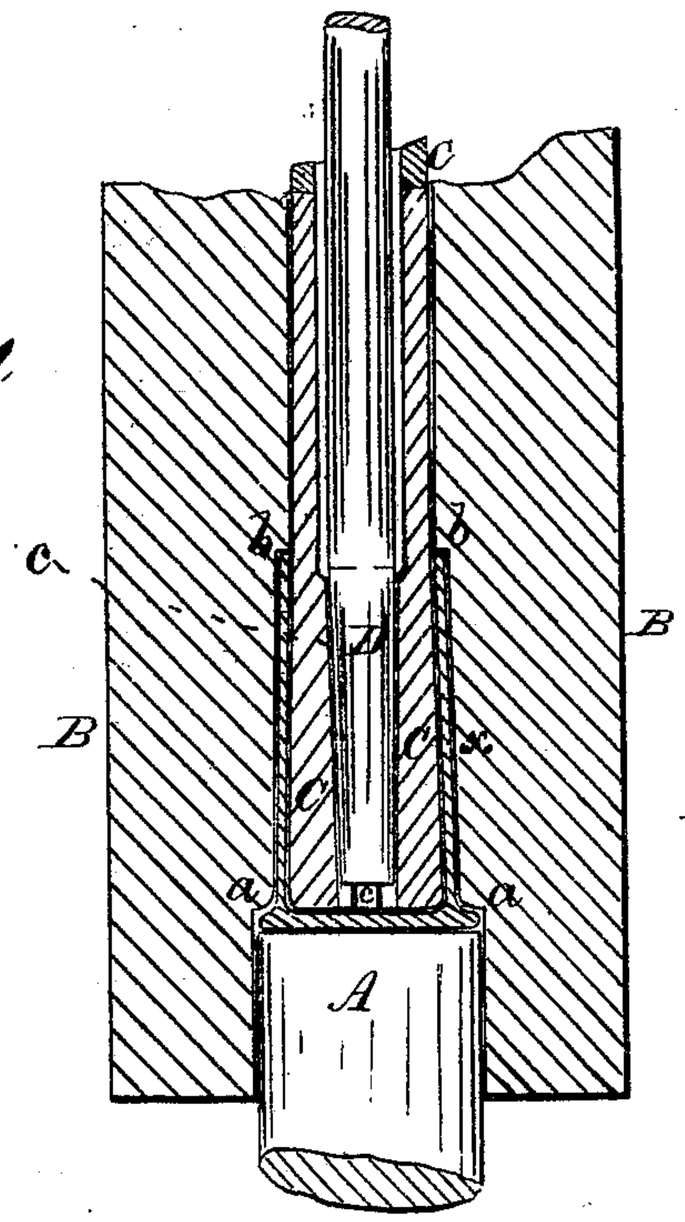


Fig. 2.

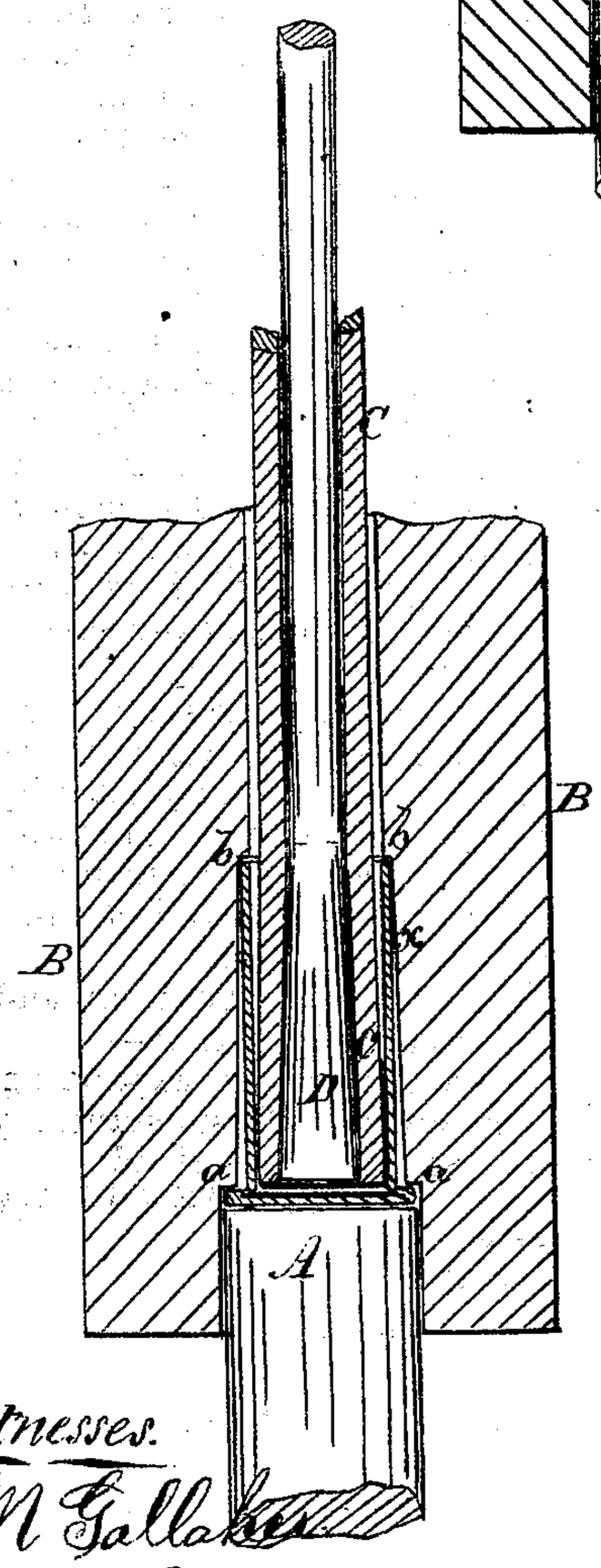
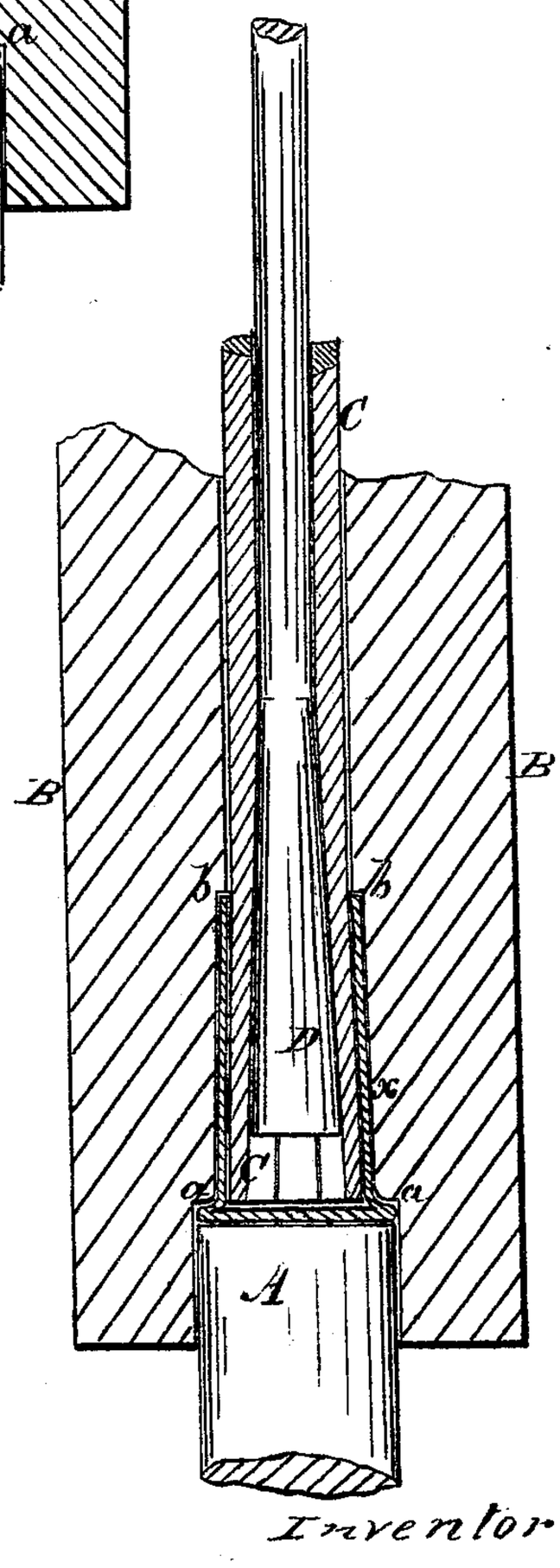


Fig. 3.



Witnesses.

E. M. Gallaher

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126,611

UNITED STATES PATENT OFFICE.

STEPHEN W. WOOD, OF CORNWALL, NEW YORK.

IMPROVEMENT IN MACHINES FOR TAPERING CARTRIDGE-SHELLS.

Specification forming part of Letters Patent No. 126,611, dated May 7, 1872.

To all whom it may concern:

Be it known that I, STEPHEN W. WOOD, of Cornwall, county of Orange, and State of New York, have invented Improved Machinery for Tapering Metallic Cartridge-Shells; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being in part a central longitudinal or vertical section and in part a side elevation of the principal parts of a machine for tapering cartridge-shells by my improved method; Fig. 2, a similar section and elevation of parts representing a modification of the method, the parts being shown in one position; Fig. 3, a corresponding section and elevation of the same, showing the parts in another position.

Like letters designate corresponding parts in all the figures.

My invention consists in tapering cartridge-shells by an expansible tool introduced inside of the shells and then expanded outward against the inner surface thereof, the tool having the proper form to produce the taper required, substantially as hereinafter set forth.

The parts of a machine employed for tapering cartridge-shells by this method, as represented in the drawing, are a base or support, A, on which the shells X to be tapered are placed, a die, B, which surrounds the shells and holds them in position, the expansible tool C, and tapered rod D, by which the tool is expanded. The support A is a simple cylinder or disk, of a diameter equal to that of the flange of the cartridge-shells. This fits into a hollow in the lower end of the die B and enters therein with a shell upon it until the flange of the shell reaches or abuts against the shoulder *a* in the interior of the die, which die is of the proper taper to give form to the shell. Above this shoulder the cavity of the die is large enough to contain the shell after it is enlarged by the tapering, and the open end of the shell may fit against another shoulder, *b*, of the die. The tool C is divided into sections longitudinally, so as to allow it to expand sufficiently to produce the taper of the shells and contract again. Its outer surface is tapered, or so formed that when expanded it produces the taper of the shell, and it has, or may have, a longitudinal hole, *c*, of taper form in its center, into which the tapered rod D, having a corresponding form, wedges. As arranged in Fig. 1, the expansible tool C is first caused to enter the shell X, and then the tapered rod D, which tapers downward, is driven down into the interior of the tool, thereby expanding it sufficiently to stretch the shell into the taper form required, as indicated in the figures. In Figs. 2 and 3 the rod D tapers upward, and it is first inserted into the shell, and next the expansible tool C is driven therein around the tapered rod, as indicated in Fig. 2. Then the tapered rod is drawn upward or outward, while the tool remains stationary in the shell, as represented in Fig. 3, and is thereby expanded against the inner surface of the shell, producing the taper required.

The position of the parts herein described may be horizontal or oblique, or inversely vertical. When inverted, the part A may be dispensed with, the functions of the two parts A B, or of one part alone, being to hold the shell in place to receive the action of the expanding-tool C.

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

The combination of the expanding-tool C, die B, and tapered rod D, substantially as and for the purpose herein described.

STEPHEN W. WOOD.

Witnesses:

H. S. MILLER,

JNO. D. PATTEN.