

(No Model.)

A. CHRISTIE.
PUNCH HOLDER.

No. 418,604.

Patented Dec. 31, 1889.

Fig. 1.

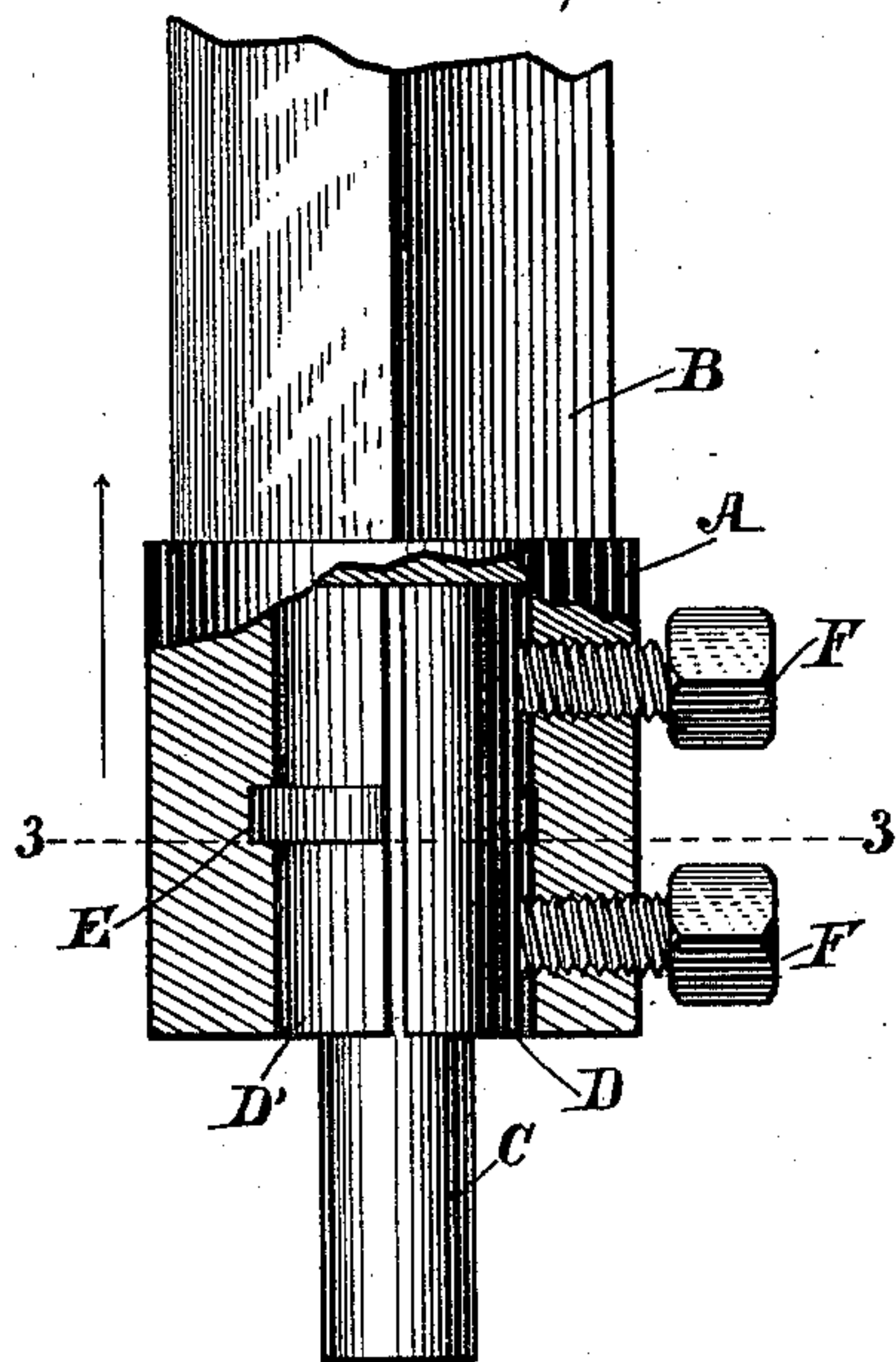


Fig. 2.

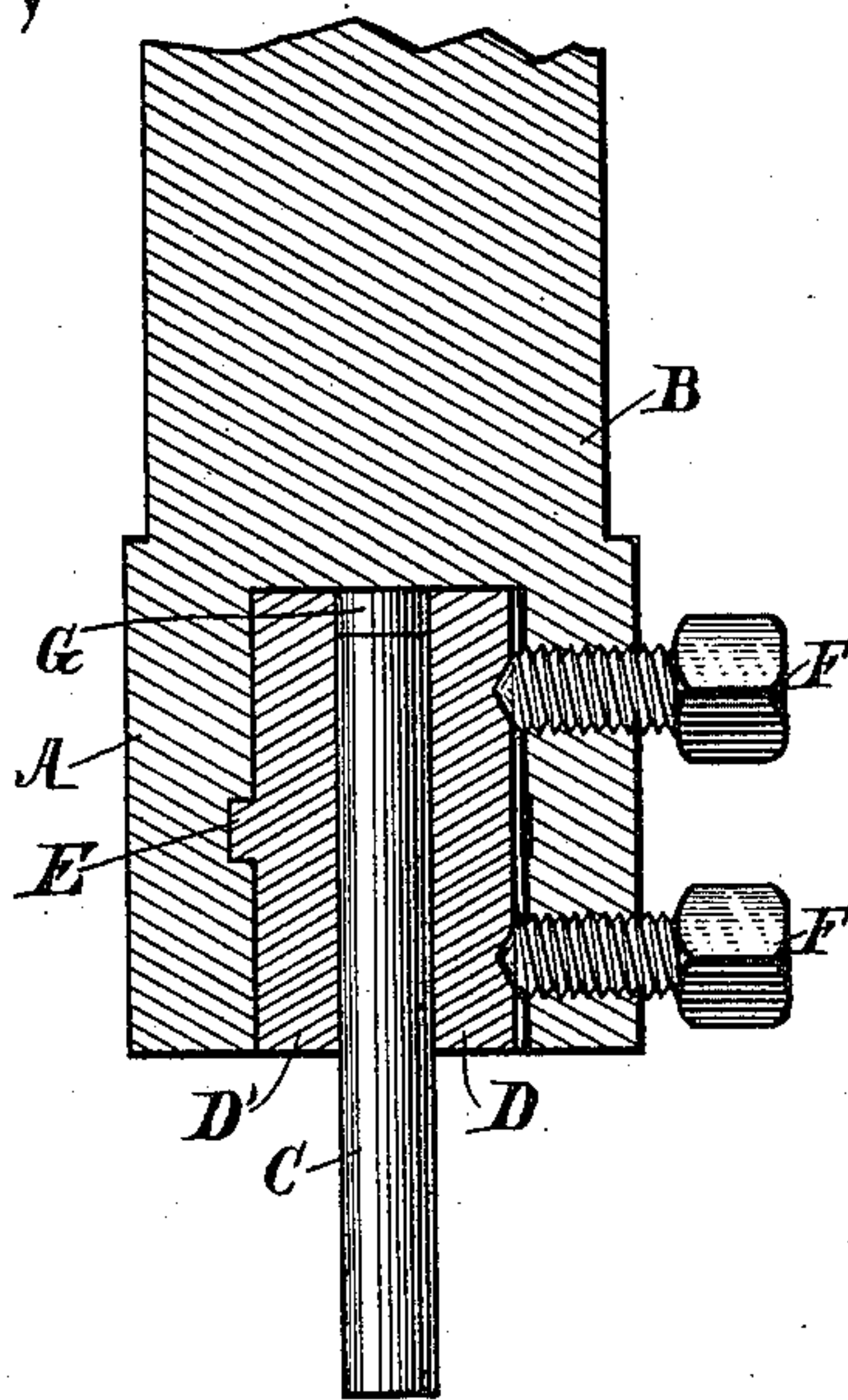


Fig. 3.

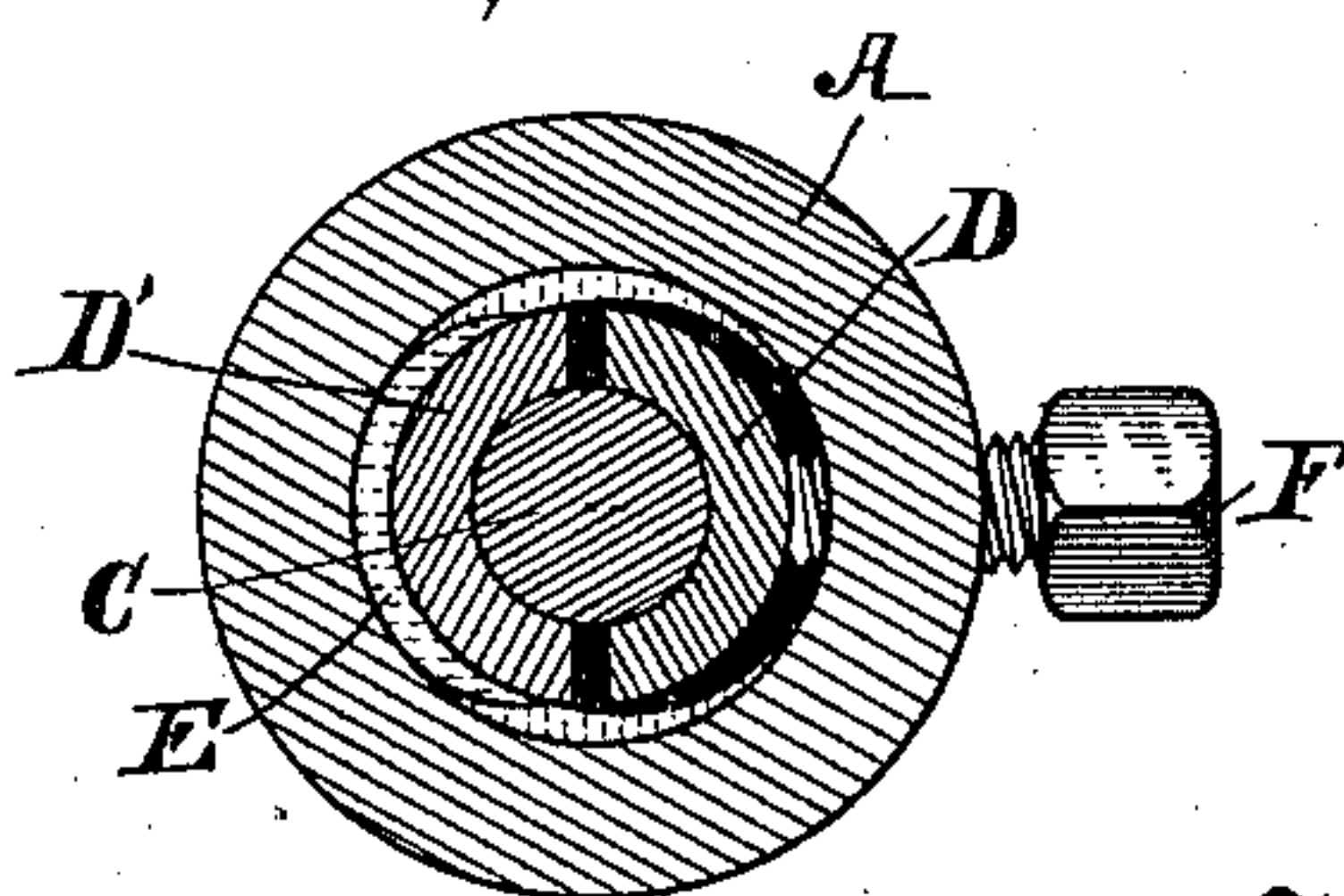


Fig. 4.

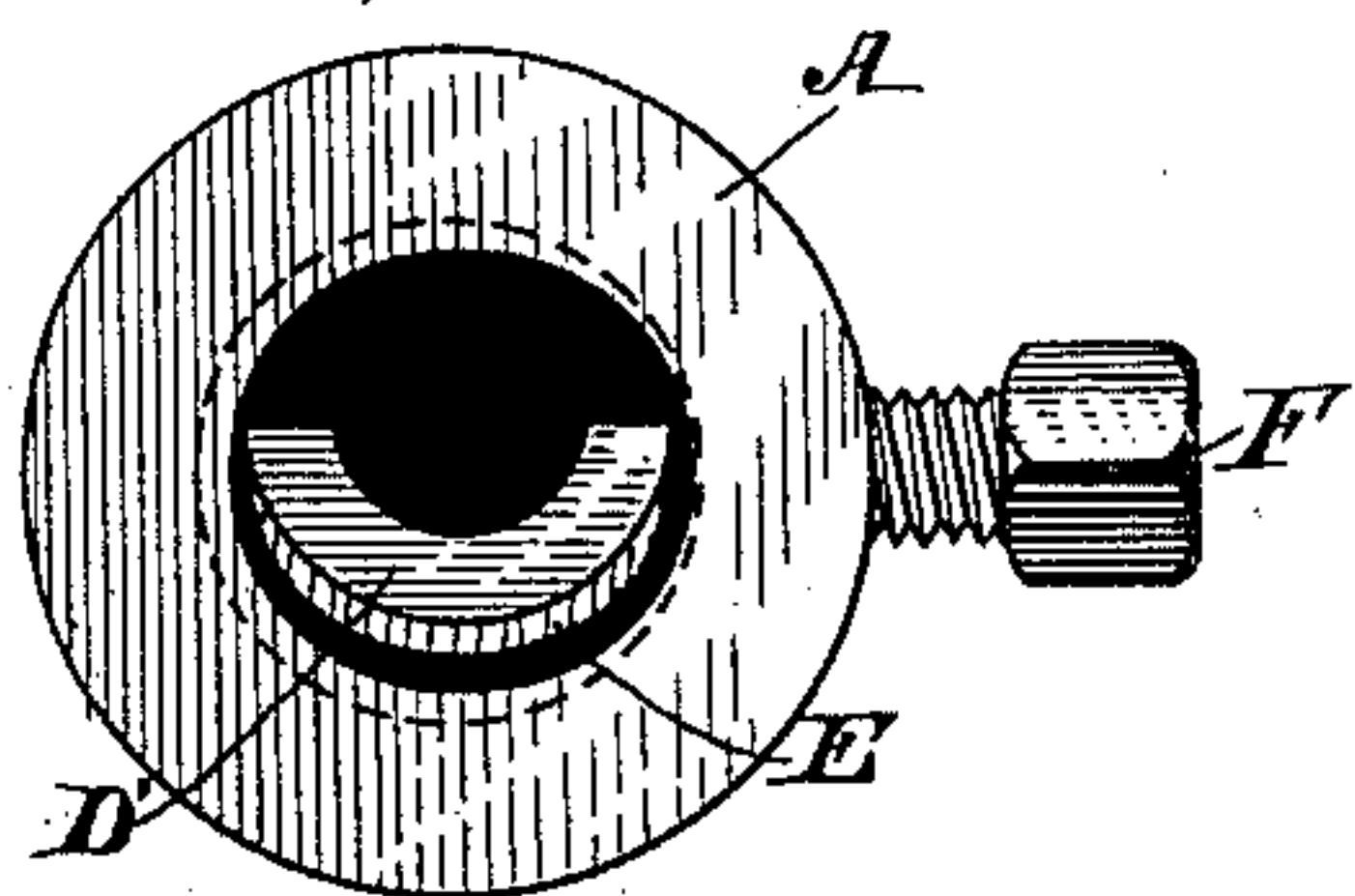
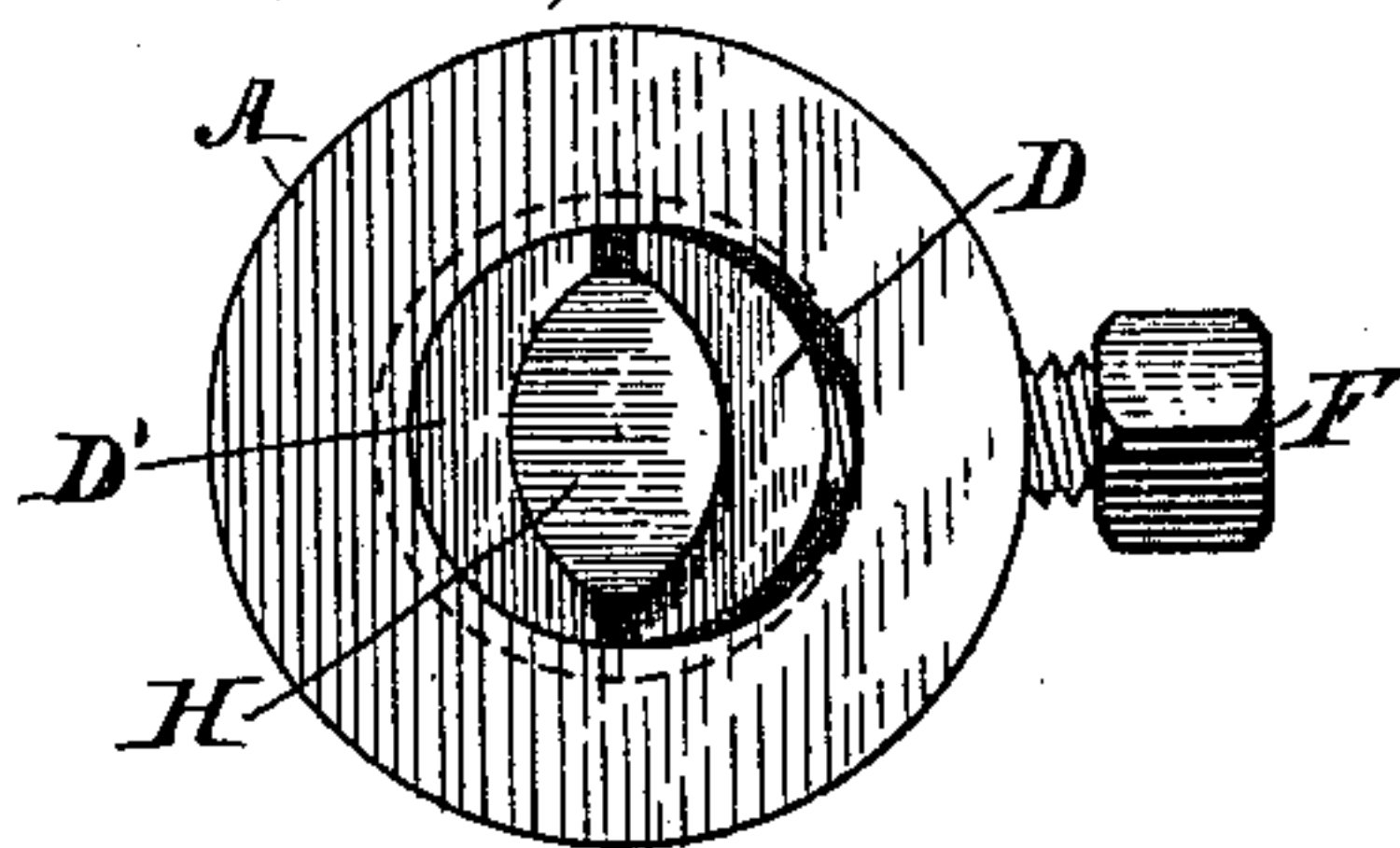


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

ALEXANDER CHRISTIE, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO HENRY RIVERS, OF SAME PLACE.

PUNCH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 418,604, dated December 31, 1889.

Application filed September 9, 1889. Serial No. 323,392. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER CHRISTIE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Punch-Holders; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a punch that is adapted for the cold punching of iron plates or bars; and its object is to so construct the punch and the device for holding it that the entire device may be inexpensively constructed, so that the punch may be readily changed when desired or easily repaired when necessary.

In the drawings, Figure 1 is a side view of the complete device, parts being broken away to show interior parts. Fig. 2 is a central longitudinal section of the punch-holding device. Fig. 3 is a transverse section on line 3 3 of Fig. 1. Fig. 4 is a view of the lower end of the punch-holding device shown in Fig. 1, the punch being removed and the method of inserting a shoe in the holder being illustrated. Fig. 5 is an end view of a modified form of punch and shoe in the holder.

The same letters refer to like parts in all the views.

The punch-holder is formed in the head A of a sliding bar B, ordinarily constructed of steel or iron. In the end of the head a socket is formed, which is preferably somewhat elongated laterally rather than circular for the purpose of conveniently inserting and removing the shoe hereinafter described.

The punch C is simply a piece of cylindrical steel rod of equal diameter throughout its length, and is readily constructed by sawing off from a steel rod, as ordinarily constructed for the market, a piece of the rod of such length as is desired for the punch. A punch so constructed is, as will be readily understood, necessarily very inexpensive and quickly made, and may be easily repaired when the ends are broken or chipped off by merely sawing off the end sufficiently to ob-

tain a perfect face. This solid cylindrical punch C is held in the bar B by means of a removable shoe in two parts D and D', inserted in the socket in the head A around the punch C. The shoe is preferably as long as the socket in the head A, and on the outer surface is curved to fit the interior wall of the socket, while interiorly the shoe is circular and of a proper size to fit the punch C. The part D is provided with an outwardly-projecting flange E, fitted to enter a recess therefor in the wall of the socket in the head A, whereby the shoe, when in position, is held against dropping or falling out. The part D of the shoe is held in place by set-screws F F, turning through the head A against the part D, preferably into slight depressions therefor in the surface of the shoe. It will be understood that by this construction the punch is held firmly in its seat by turning the set-screws F F down against the part D of the shoe, which clamps the punch against the part D', which is thereby held against the wall of the socket, the flange or rib E entering the recess therefor in the wall of the socket. It will also be understood that by releasing the set-screws F F the punch may be readily removed from its seat in the head A, and the part D of the shoe may also be withdrawn directly, while the part D' may be removed by rotating it sufficiently to bring its greatest width in line with the long transverse axis of the socket, as shown in Fig. 4.

When the end of the punch has become worn or is chipped off, the punch may be turned end for end, or the end may be sawed off sufficiently to give a perfect face to the punch, and the part removed may be placed in the bottom of the socket, as shown at G, to support the punch in proper position with reference to the bar B.

A modified form of punch H is shown in Fig. 5, which form of punch is sometimes desired. When such form of punch is used, it is merely necessary to so construct the inner surfaces of the shoe as to fit the surface of the punch, whereby it can be held firmly in position. It will also be understood that punches of different sizes or forms can be used in this device, it being only necessary to have shoes constructed with the proper interior opening for receiving

and holding each form or size of punch. The great advantage of this form of device is that the punch itself is readily constructed from a bar of steel, that it can be quickly placed and secured in position in the punch-bar, that it can be reversed end for end when desired, and can be readily repaired when worn or chipped at the end.

If the socket is circular, it will be necessary to make the part D' of the shoe a little less than half the circle of the socket, so that it can have a little lateral movement when the punch and part D are not in the socket, in which form it can readily be removed from the socket.

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

1. The combination, with a punch bar or stock having a socket in its end, of a shoe in two longitudinal parts inserted in the socket,

one part being provided with a flange or rib adapted to enter a recess in the wall of the socket in the stock, a punch inserted between the parts of the shoe, and means, substantially as described, for clamping the shoes against the punch.

2. In a punch-holder, a shoe in two longitudinal parts inserted in a socket in a stock at opposite sides of and adapted to be clamped on a punch, one of which shoes is provided with a flange or rib adapted to enter a recess therefor in the wall of the socket in the stock, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER CHRISTIE.

Witnesses:

C. T. BENEDICT,
HENRY RIVERS.