

(No Model.)

E. C. PHILLIPS.
BORING BIT.

No. 524,952.

Patented Aug. 21, 1894.

FIG. 1.

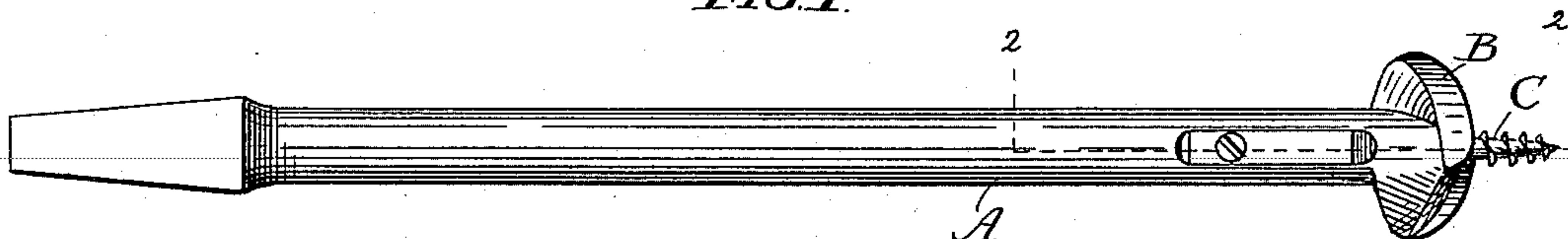


FIG. 2.

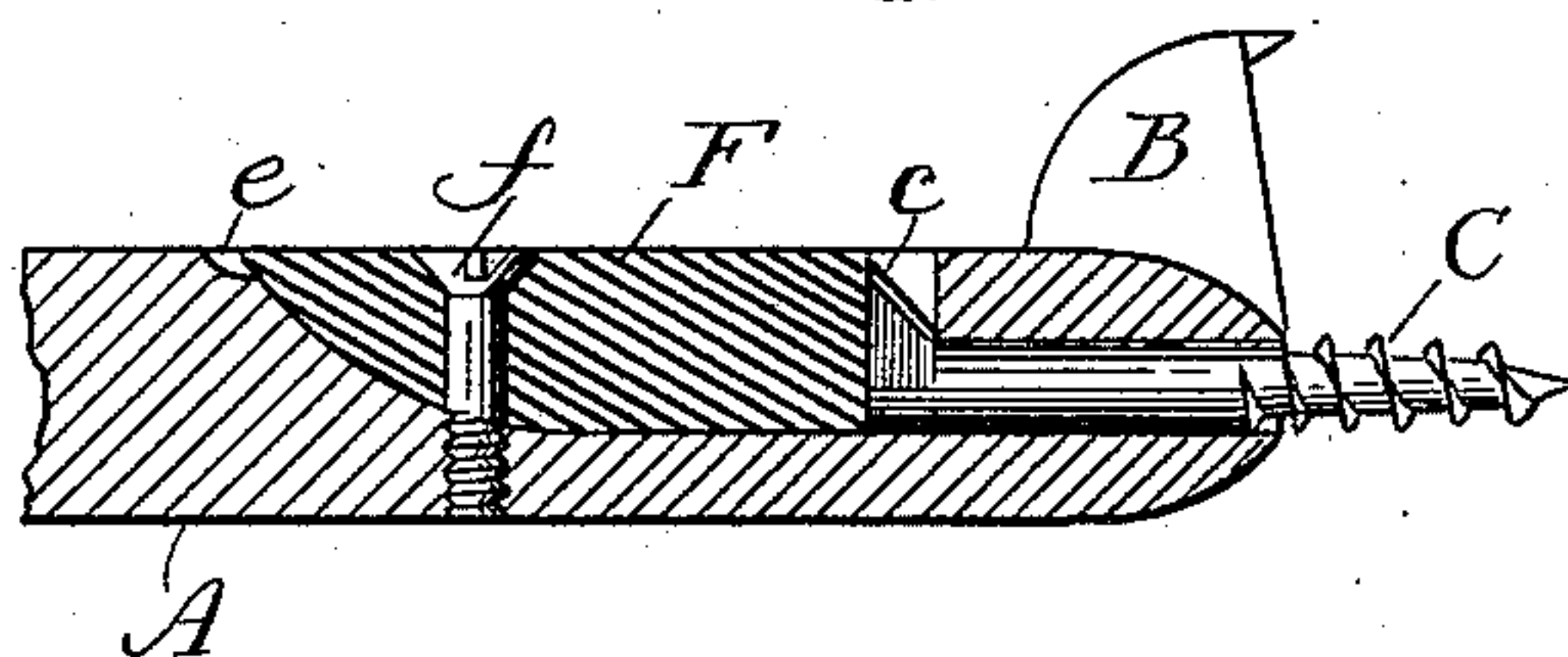


FIG. 3.

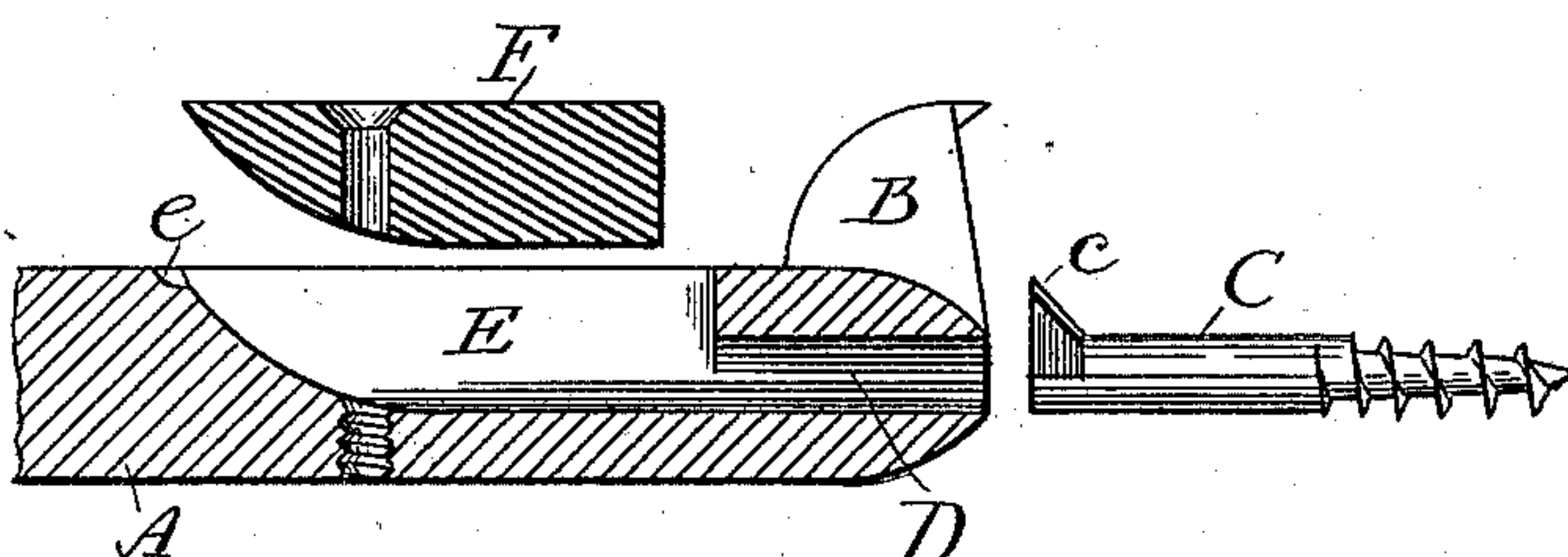
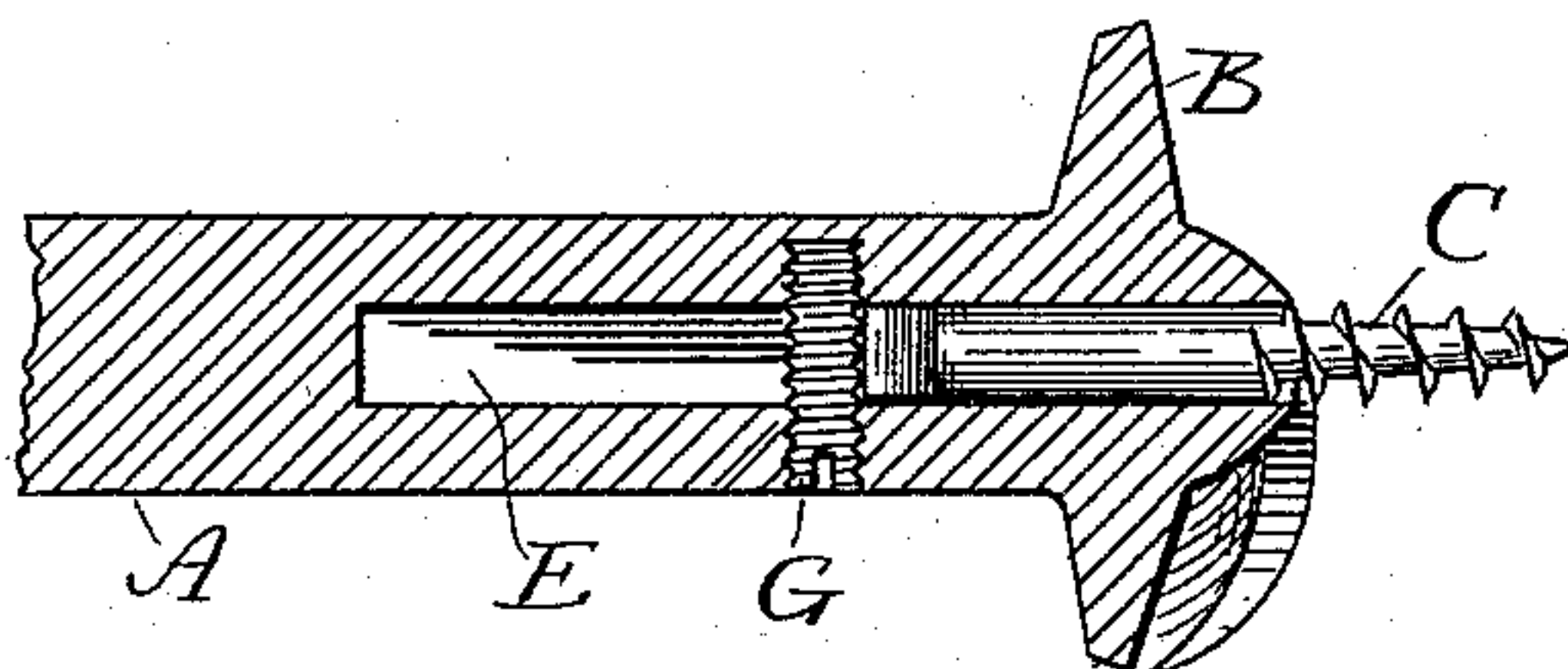


FIG. 4.



Witnesses:
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By his attorneys
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UNITED STATES PATENT OFFICE.

ELWOOD C. PHILLIPS, OF CHICAGO, ILLINOIS, ASSIGNOR TO FRANK F. SPENCER, OF MONTCLAIR, NEW JERSEY.

BORING-BIT.

SPECIFICATION forming part of Letters Patent No. 524,952, dated August 21, 1894.

Application filed January 30, 1892. Serial No. 420,137. (No model.)

To all whom it may concern:

Be it known that I, ELWOOD C. PHILLIPS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Boring-Bits, of which the following is a specification.

When the screw-point of a boring-bit is much worn or is broken off the bit will not bite. The point being the most delicate part of the bit—the part that gives out first—its life determines the life of the bit, and hence when the bit is constructed with an integral point, it has to be thrown away as soon as the point fails to do its duty, because there is no way of repairing it. To remedy this obvious defect was the object of the invention shown and described in Letters Patent No. 458,640 which were granted to me on the 1st day of September, 1891, and which show a bit having a removable screw point. The subject of the present invention is, likewise, a bit having a removable screw-point, and while the said invention relates more particularly to the manner of securing the screw in place, yet I desire to have it understood that I do not abandon any of the features of the bit shown in my former patent. Nor is it my intention to provide a bit that shall supersede the one shown in my former patent, but to provide a new one. Both bits have their purposes, and both are to be put on the market to fulfill their respective purposes.

The invention consists in certain features of novelty that are particularly pointed out in the claims hereinafter, and in order that said invention may be fully understood I will proceed to describe it with reference to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is an elevation of a boring-bit embodying my invention. Fig. 2 is a longitudinal section thereof on the line 2—2. Fig. 3 is a longitudinal section thereof on the same line with the parts separated. Fig. 4 is a longitudinal section of a bit showing the invention under a slight modification.

The drawings show a single-twist bit consisting of a shank A, a cutter B, and a screw point C. The shank and cutter, as shown in the drawings, are integral, but in its generic

sense my invention is not limited to this particular construction, nor to the character or style of the bit itself.

The invention is equally applicable to boring bits of all kinds, whether they be of the single-twist, double-twist, gimlet, or any other variety, and it is equally immaterial whether the twist extends through only part of a circle, or through an entire circle, or through more than one circle.

As shown in Figs. 1, 2, 3 and 4, in the end of the bit is formed a socket D and in its side is formed an opening or depression E that communicates with the inner end of said socket. The screw-point C is a wood screw of ordinary construction, except that its head is cut away on all but one of its sides, leaving only a lateral projection *c*. The screw is introduced into its socket, point first, through the opening E and when in place the projection *c* engages the sides of the opening and prevents the screw from turning. In order to hold it against endwise displacement I prefer to place in the opening E a block F which bears against the end of the screw and fills the openings so that shavings cannot become lodged in it and make the work hard, but I do not limit myself to this block. Instead of it I may use a screw G which crosses the opening from side to side and bears against the end of the screw as shown in Fig. 4. The block F is held in place by a screw *f* and is preferably wedge-shape, the bit being formed with a notch *e* under its smaller end for admitting an implement by which it can be pried out.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A boring-bit having a socket in its boring end and an opening in its side communicating with said socket, a screw adapted to be placed in and removed from said socket through said opening, and means for holding the screw against accidental displacement, substantially as set forth.

2. A boring-bit having a socket in its boring end and an opening in its side communicating with said socket, a screw adapted to be placed in and removed from said socket through said opening, said screw having a

noncircular portion for preventing it from turning, and means for preventing it from moving endwise, substantially as set forth.

3. A boring-bit having a socket in its end
5 and an opening in its side communicating with said socket, a screw adapted to be placed in and removed from said socket through said opening, and a block placed in said opening and engaging the end of the screw, sub-
10 stantially as set forth.

4. A boring-bit having a socket in its end and an opening in its side communicating

therewith, a screw adapted to be inserted in and removed from said socket through said opening and having a projection occupying 15 said opening for holding it against turning, and a block occupying said opening and engaging the end of the screw for holding it against endwise displacement, substantially as set forth.

ELWOOD C. PHILLIPS.

Witnesses:

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