

(Model.)

I. SHARP.
BORING AND CUTTING IMPLEMENT.

No. 253,115.

Patented Jan. 31, 1882.

Fig. 1.

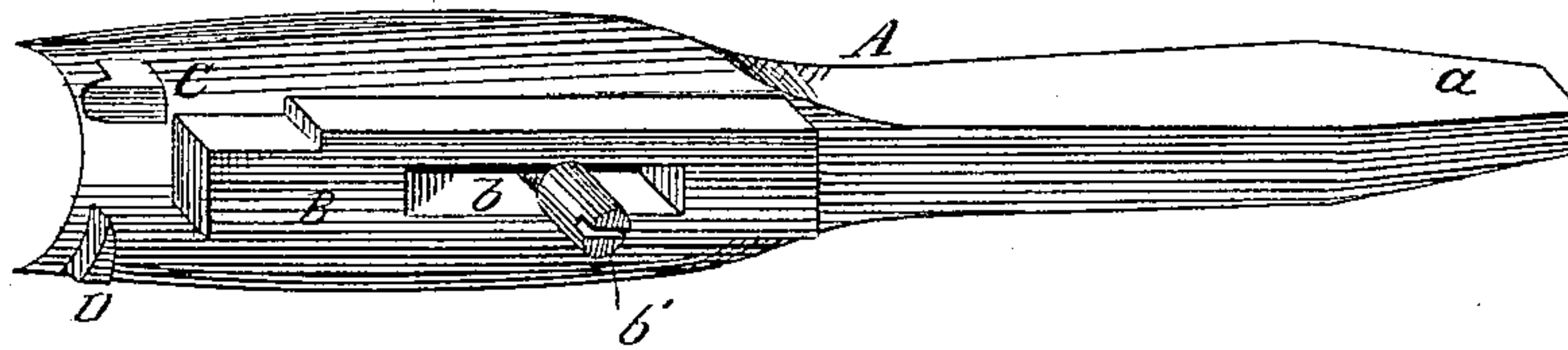


Fig. 4.

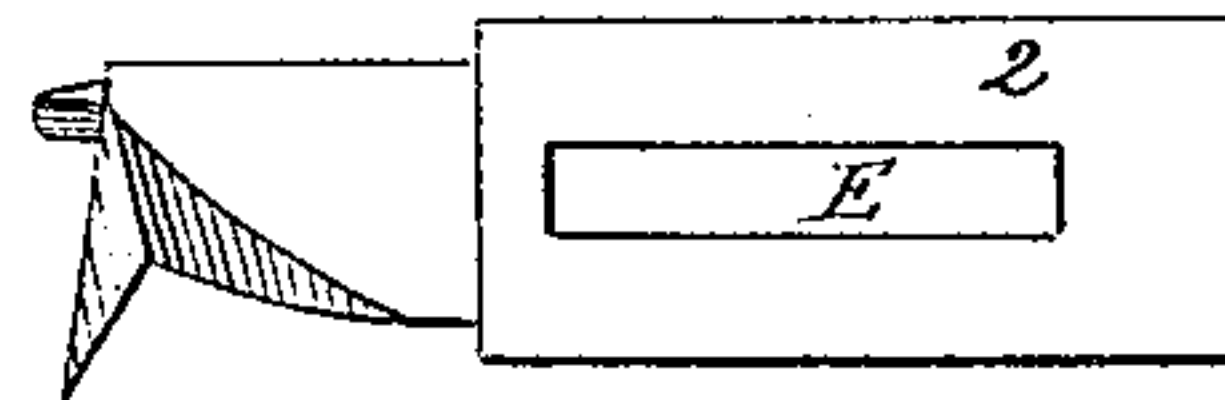


Fig. 2.

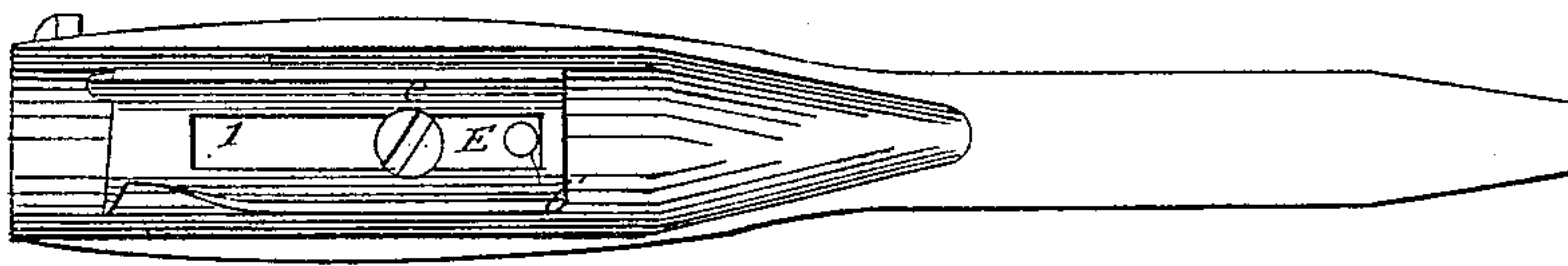


Fig. 3.

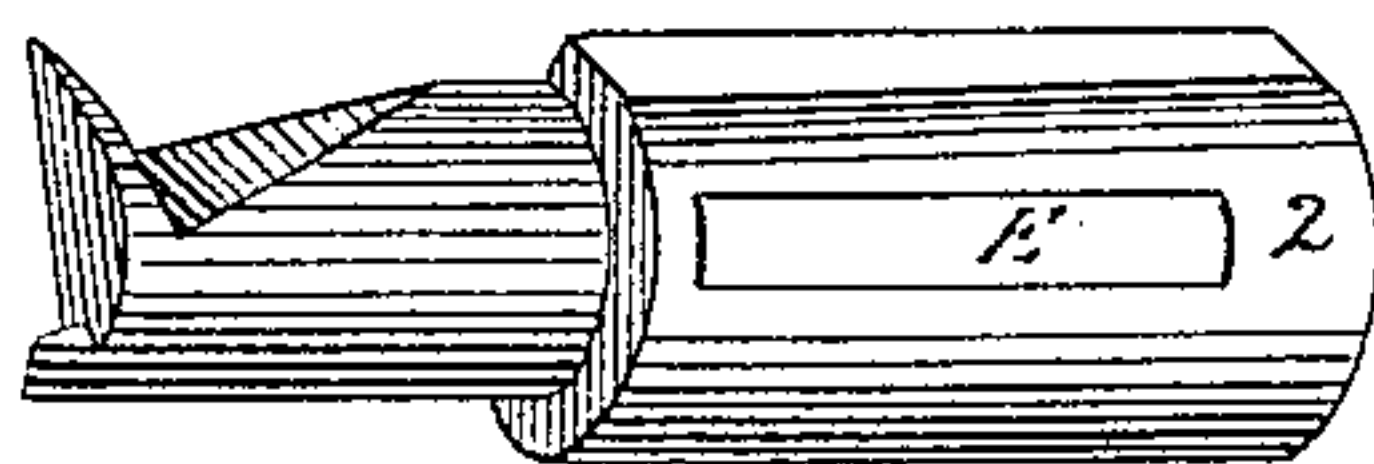


Fig. 4.^a

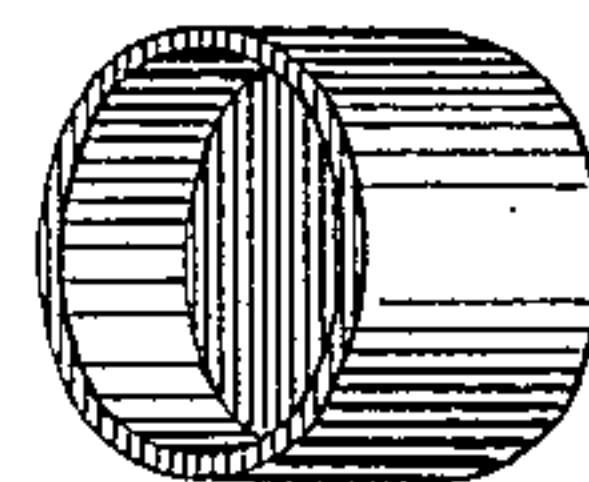


Fig. 5.

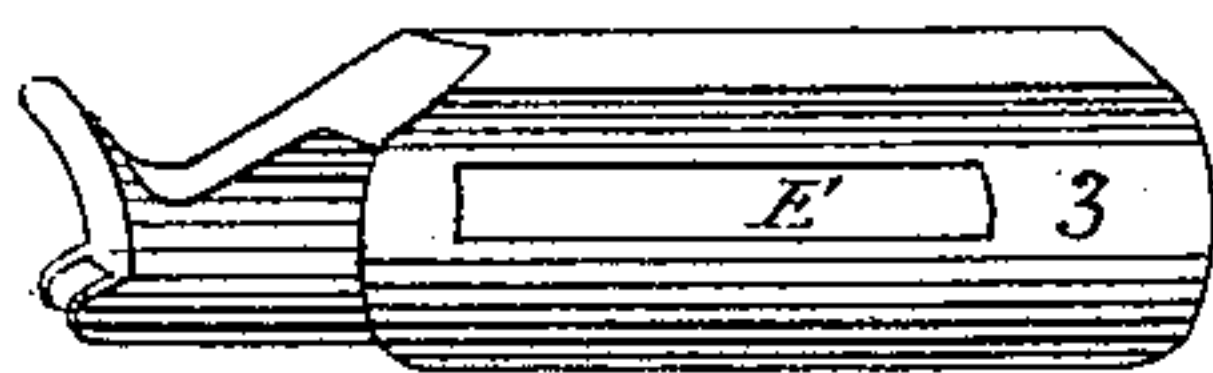


Fig. 5.^a

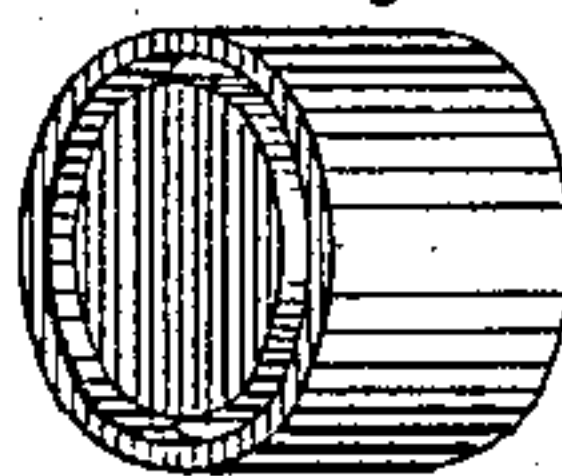


Fig. 2.^a

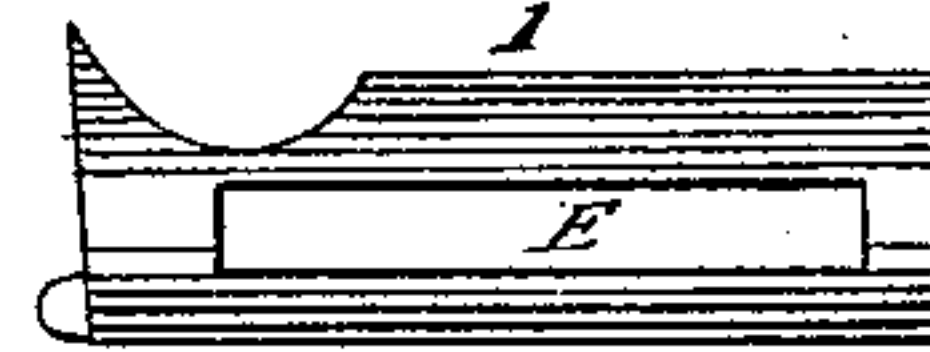


Fig. 6.

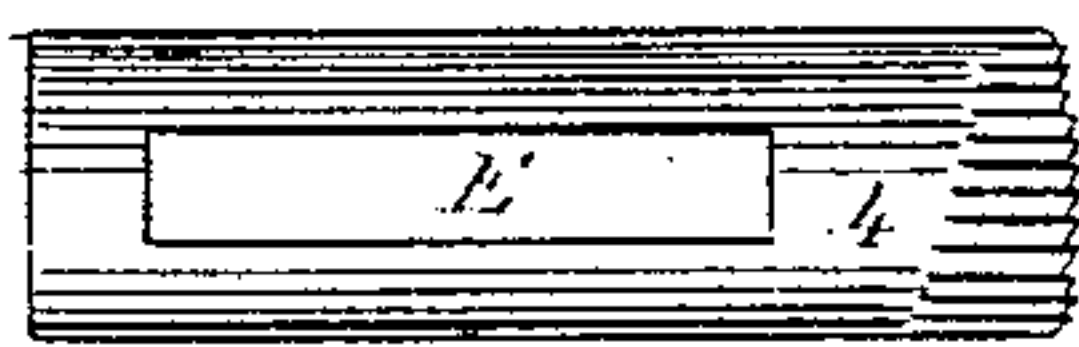


Fig. 6.^a

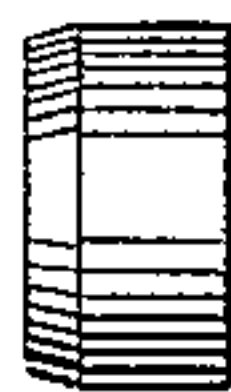
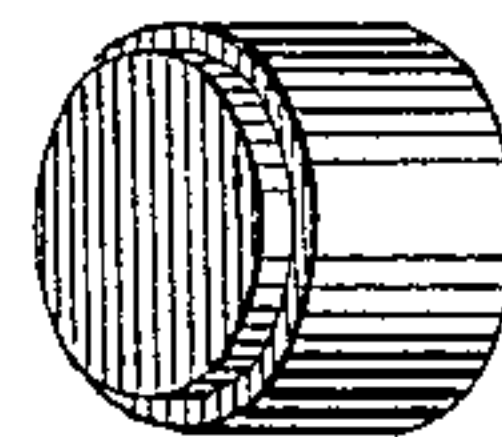


Fig. 2.^b



Witnesses
Harry E. Knight
L. W. Hopkins.

Inventor
Isaac Sharp
By Knight Bros. Attys

UNITED STATES PATENT OFFICE.

ISAAC SHARP, OF WAVELAND, INDIANA, ASSIGNOR OF ONE-HALF TO
GEORGE SEYBOLD, OF SAME PLACE.

BORING AND CUTTING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 253,115, dated January 31, 1882.

Application filed March 16, 1881. (Model.)

To all whom it may concern:

Be it known that I, ISAAC SHARP, a citizen of the United States, residing at Waveland, in the county of Montgomery and State of Indiana, have invented Improvements in Boring and Cutting Implements, of which the following is a specification.

It is necessary to have heads of screws used in carriage and wagon making, where they are to be hid by plugs, sunk deep enough below the surface of the panel to give the superimposed plug a sufficient depth of hold to secure it firmly to its place. Where panels are made very thin, which, in carriage-making especially, is often done to give lightness, they are either too shallow for plugs, or, if the screw is driven far enough into the panel to give the plug a good hold, there is not enough depth of panel left to give the screw a sufficient hold. For this reason the holes are frequently filled with putty, which always makes a bad job, it being almost impossible to hide the spots.

My invention relates to a means of overcoming this difficulty by a plug of peculiar construction; and my invention consists of a cutting or boring implement for making these plugs. For this purpose I use a round or semi-circular bit bearing near its cutting-edge piercing and abrading lips, and adapted to have cutting or abrading tools of various shapes screwed adjustably on its upper portion. The bit is also provided with an adjustable gage fixed to its upper portion to regulate the depth of penetration.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a rear perspective view of my borer with sliding gage attached. Fig. 2 is a view of its concave side, showing the cutter employed for making a small-sized or shouldered plug, the cutter detached and a plug made by it being shown at Figs. 2^a and 2^b, respectively. Figs. 3, 4, 5, and 6 are views of different forms of cutters employed by me for cutting variously-shaped plugs, Fig. 4 being a front view of the cutter shown in rear view at Fig. 3. Figs. 4^a, 5^a, and 6^a show plugs made by these various cutters.

A represents my improved bit, its upper portion or shank, *a*, being either of the rectangular shape shown, tapering at the end for ready insertion into and removal from a brace, or of a cylindrical or other shape for insertion into the tool-holder of a lathe or other machine.

B is a gage, slotted at *b* for the reception of set-screw *b'*, on which the gage B is adjustable.

C is a piercing lug or lip on the convex side of the borer, near its edge, which marks out the wood to be removed by the abrading-lip D. These lips C and D may be made in one piece with the bit A or welded on, or they may have a screw-threaded lug, enabling them to be attached and removed at pleasure for sharpening or renewal.

My improved bit may be used either alone for cutting out a solid plug or may have attached any kind of cutting-tool, of which I show several at 1 2 3 4 for making different styles of cuts. Of these tools No. 1 is used for cutting a groove around the head of a screw or for making a plug such as is shown at 2^b. 2 shows a tool used for abrading the center of a plug, making the hollow plug shown at 4^a. These two tools are used as follows: I sink the screw in a panel until its head is, say, one sixteenth of an inch below the surface—a depth which could not be used with a wooden plug, indeed hardly enough to hold putty; then, putting cutter No. 1 in place on the concave side of the tool, I make a broad groove around the head of sufficient depth into the panel. Then I take the hollow plug 4^a, made by the tool 2 of such a height that the flanged portion will touch the bottom of the groove, while the flat top will be on a level with the surface of the panel, and insert it in the countersink. Thus a good hold is provided for the screw-head, the plug is easily and firmly held in place, and the panel is rendered as perfect and smooth as if no hole were in it.

3 and 4 show concavo-convex tools used respectively for cutting a small or an annular plug and a tapering plug. These tools 1 2 3 4 are all longitudinally grooved, as shown at E, for the insertion of a set-screw, *e*, to permit adjustment of the tools for making plugs of different heights.

When using some of the cutters shown the

cutters and gage may be transposed, the gage being on the concave side of the bit and the cutters on the convex, or both on either the concave or the convex.

5 My improved borer may also be used for cutting grooves in the ends of carriage single-trees and other places for the attachment of ferrules, boring cylindrical sockets, and many other similar purposes.

10 It is evident that the bit inserted either in a brace or a lathe may be used for cutting out and excavating cylindrical boxes, lids, &c., boxes of different sizes for various purposes being formed by different-sized bits.

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

1. A plug cutter or borer consisting of a semi-cylindrical bit having a sharp arcuate edge and a slotted abrading-tool adjustable on 20 the concave surface of the said bit, substantially as shown and described.

2. A plug cutter or borer consisting of a semi-cylindrical bit having a sharp arcuate edge and piercing and cutting lugs on its con- 25 vex face, and a slotted abrading-tool adjustable on the concave face of the said bit, substantially as shown and described.

ISAAC SHARP.

Witnesses:

HENRY E. RHOADS,
C. H. JOHNSON.