

(No Model.)

J. SWAN.
BUNG BORER.

No. 410,863.

Patented Sept. 10, 1889.

Fig. 1.

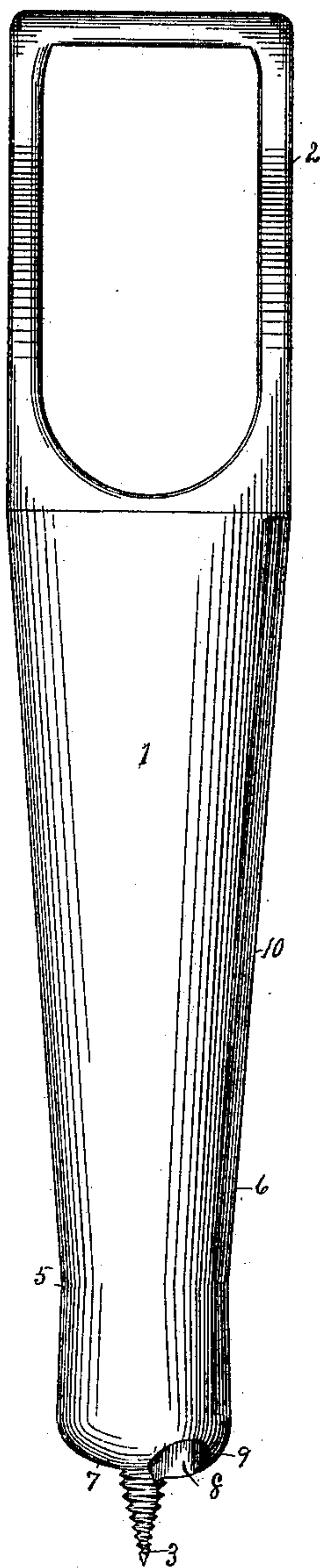


Fig. 2.

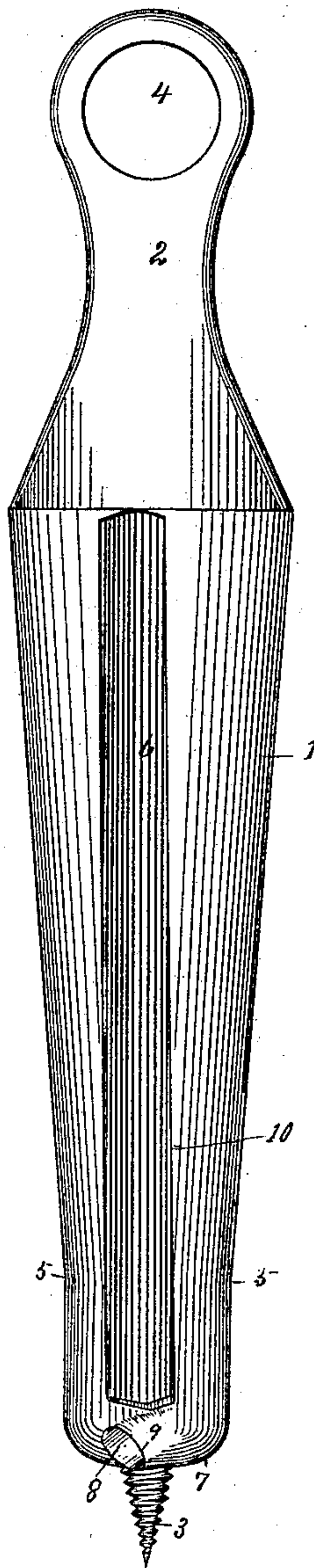


Fig. 3.

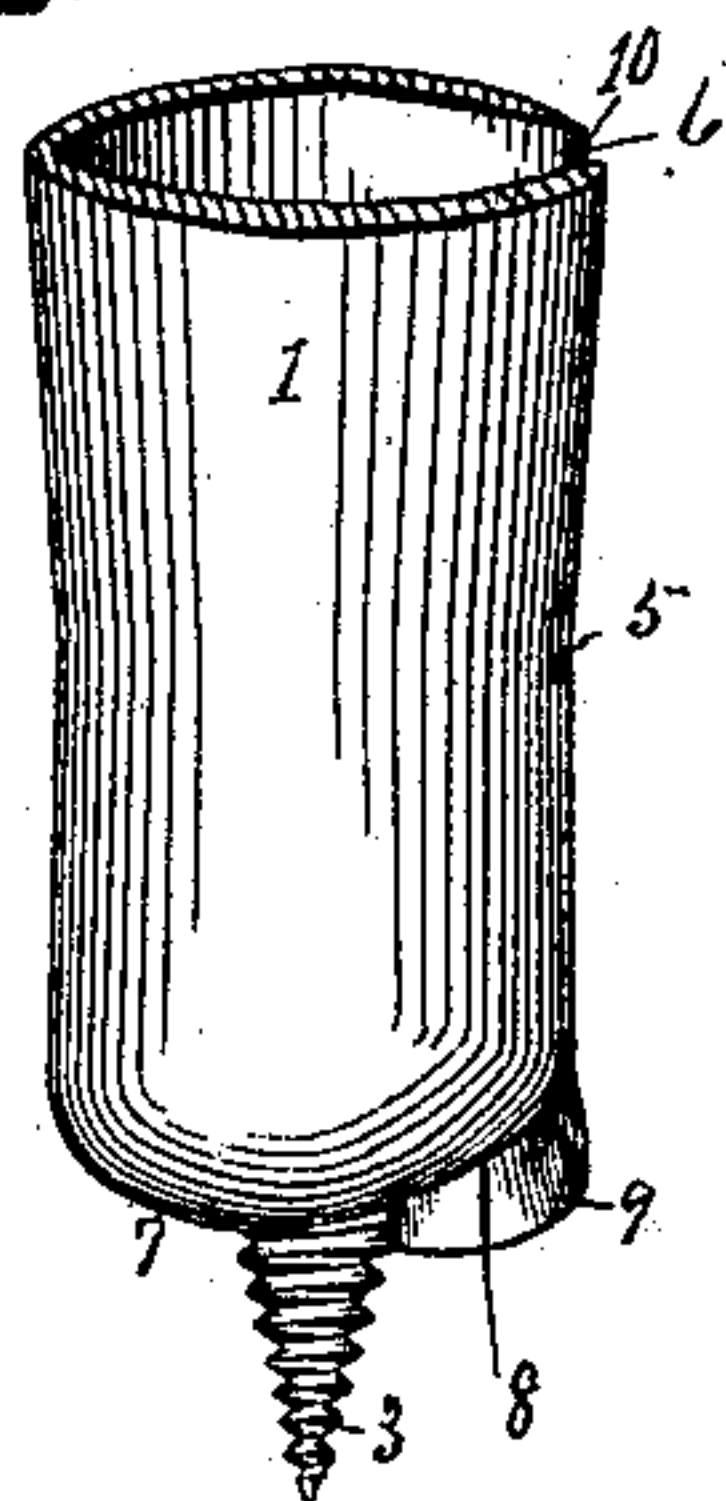
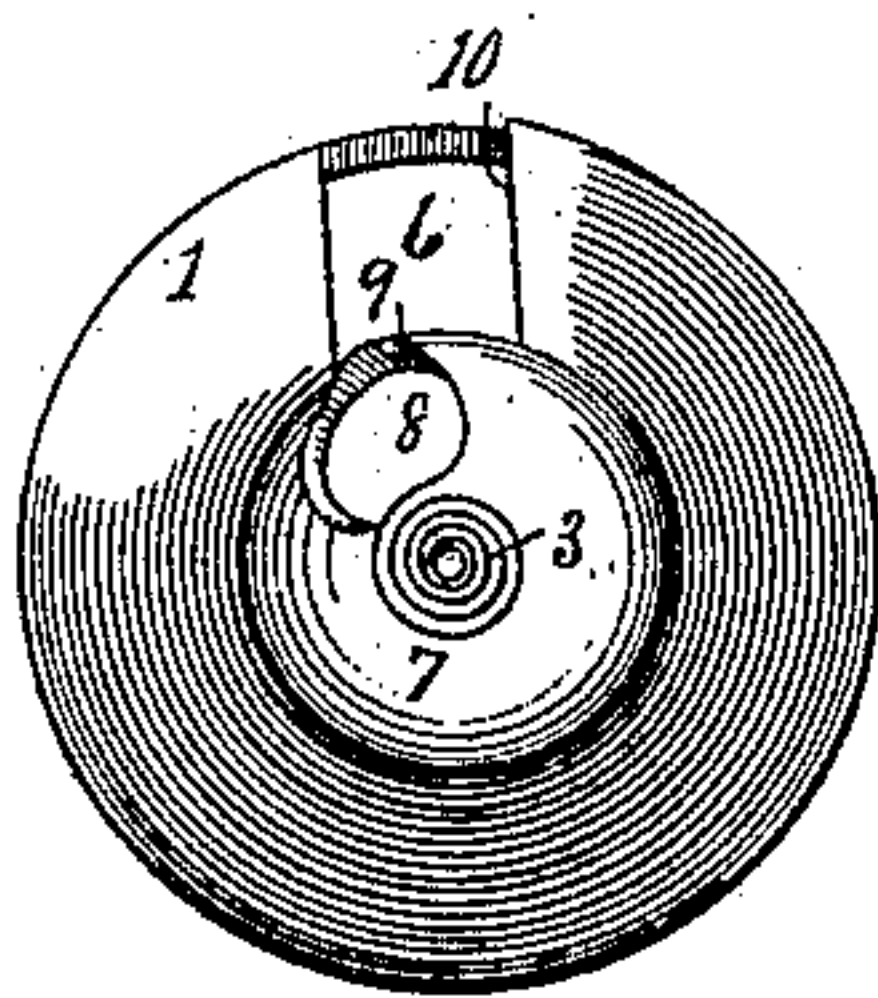


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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BUNG-BORER.

SPECIFICATION forming part of Letters Patent No. 410,863, dated September 10, 1889.

Application filed January 2, 1889. Serial No. 295,148. (No model.)

To all whom it may concern:

Be it known that I, JAMES SWAN, a citizen of the United States, residing at Seymour, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Bung-Borers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the class of boring devices commonly known as "bung-borers," the special feature of which is that they are so constructed as to bore a hole through a barrel and then ream it out to any desired size, leaving a perfectly smooth hole, tapering inward slightly.

It is desirable in all tools of this class that they should be simple and economical in construction, so as to be of moderate cost, durable, and should bore rapidly and with little friction; and it is furthermore of especial importance that they should be so constructed as not to drop chips into the barrel, this having been a serious objection to all bung-borers, so far as I am aware, which have been placed upon the market. In order to overcome these objections, I have devised the simple and novel construction which I will now describe, referring by numbers to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of my novel bung-borer; Fig. 2, a similar elevation, the point of view being at right angles to that in Fig. 1; Fig. 3, an elevation of the lower end of the device, taken at a position to show the face of the cutting-edge; and Fig. 4 is an inverted plan view.

1 denotes the body, which is made hollow; 2, the shank, and 3 the leading-screw, these parts all being of steel and cast, preferably, in a single piece.

It will be understood that the shape of the shank is not an essential feature of the invention.

4 denotes a hole in the shank to receive a suitable handle for convenience in operation. The hollow body tapers inward to a point which I have denoted by 5, and then tapers outward again slightly, this point being lo-

cated at a suitable distance from the cutting-edge to permit the borer to pass through an ordinary barrel before the reamer begins to act. By making the diameter of the borer at the cutting-edge slightly greater than at point 5 friction upon the side of the hole while boring through the barrel is wholly avoided.

6 denotes a slot in the body, which extends from the shank nearly down to the cutting-edge, sufficient metal being left above the cutting-edge to give the required strength and rigidity to the tool. The bottom of the body (denoted by 7) is rounded and is wholly closed, with the exception of an opening 8, extending from the base of the leading-screw out to the farthest extremity of the cutting-edge, so as to receive all the chip. The cutting-edge, which is denoted by 9, is higher than the opposite side of the opening, and is in shape a concave curve, extending from the leading-screw to the outer edge of the borer at its greatest diameter, said cutting-edge constituting, in fact, about one-half of the circumference of opening 8. It will be noticed (see Figs. 1 and 4) that one side of slot 6 is perceptibly higher than the other, the highest edge being the tapering reaming cutting-edge, which I have denoted by 10.

My novel bung-borer differs essentially from all others of which I have any knowledge in that the chip is plano-convex at the start and after the first turn concavo-convex, and that it is cut in the form of a continuous strip, like a worm, the construction of the tool being such that the chip is not broken in cutting, as with ordinary borers. As soon as the borer has pierced the barrel, the tapering reamer begins to operate and the hole may be reamed out. By this I mean that as soon as the borer has passed in far enough so that point 5 is at the outer edge of the barrel, cutting-edge 10 of the reamer will begin to act, and will ream out the hole to any desired size, giving it at the same time an inward taper. The chip made by the borer in cutting through the barrel will remain within the body, not dropping out at all, and the wood cut away by the reamer will drop down upon the other chip, also remaining in the body, so that when the body is removed substantially all of the chips made by the two cutting-edges will be

brought out with it, and will drop out at the top when the borer is inverted. This is an important advantage, as it has been practically impossible heretofore to prevent chips from dropping into the barrel.

Having thus described my invention, I claim—

1. A bung-borer consisting of a body, shank, and leading-screw cast in a single piece, the body being hollow and tapered and having a slot 6 through it, said slot being highest upon one side to form a reaming cutting-edge and the bottom being closed, with the exception of an opening 8, which is made highest upon one side to form a curved cutting-edge extending from the base of the leading-screw to the outer edge.

2. In a bung-borer, a hollow body having a closed rounded bottom, a leading-screw, and an opening through said bottom, one edge of which is made highest to form a cutting-edge,

which extends from the base of the leading-screw to the outer edge of the opening, the smallest diameter of the body being at a distance above said cutting-edge.

3. A bung-borer consisting of a tapering hollow body having a slot with a cutting-edge, the bottom of said body being closed and rounded, as shown, and provided with a leading-screw and an opening leading from said screw to the outer edge, said opening being highest upon one side and having a cutting-edge, the smallest diameter of said body being at a distance above said cutting-edge, so that a barrel may be bored through without friction upon the side of the hole.

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

JAMES SWAN.

Witnesses:

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C. M. NEWMAN.