(No Model.)

A. O. REVENAUGH.

BIT AND COUNTERSINK.

No. 267,590. Patented Nov. 14, 1882.

Fig. 1

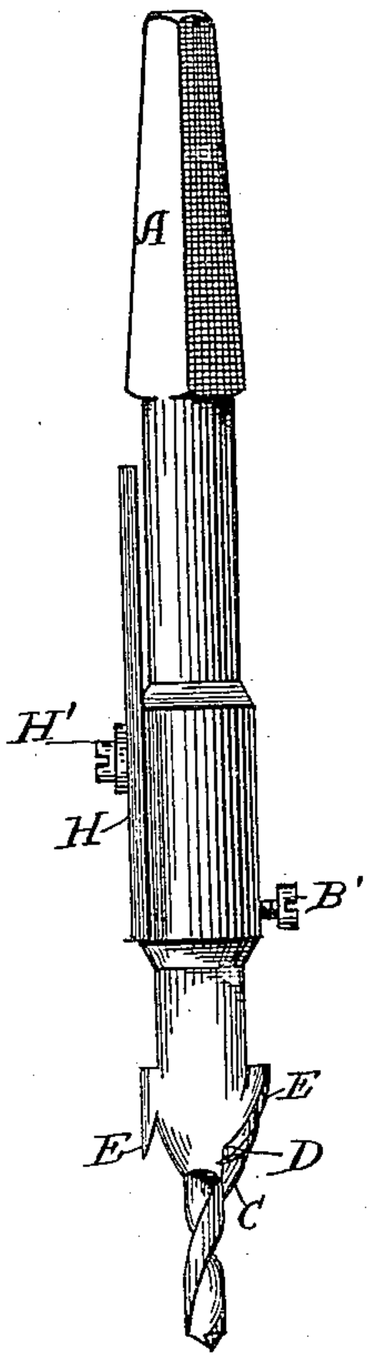


Fig. 2.

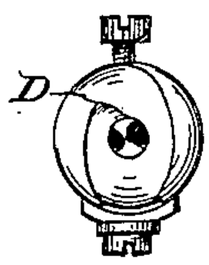


Fig. 5.

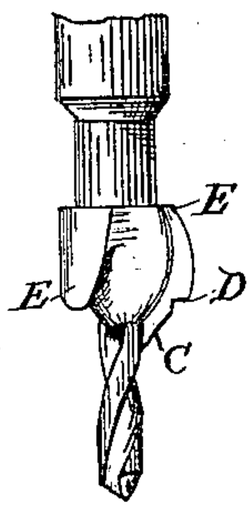


Fig. 3.

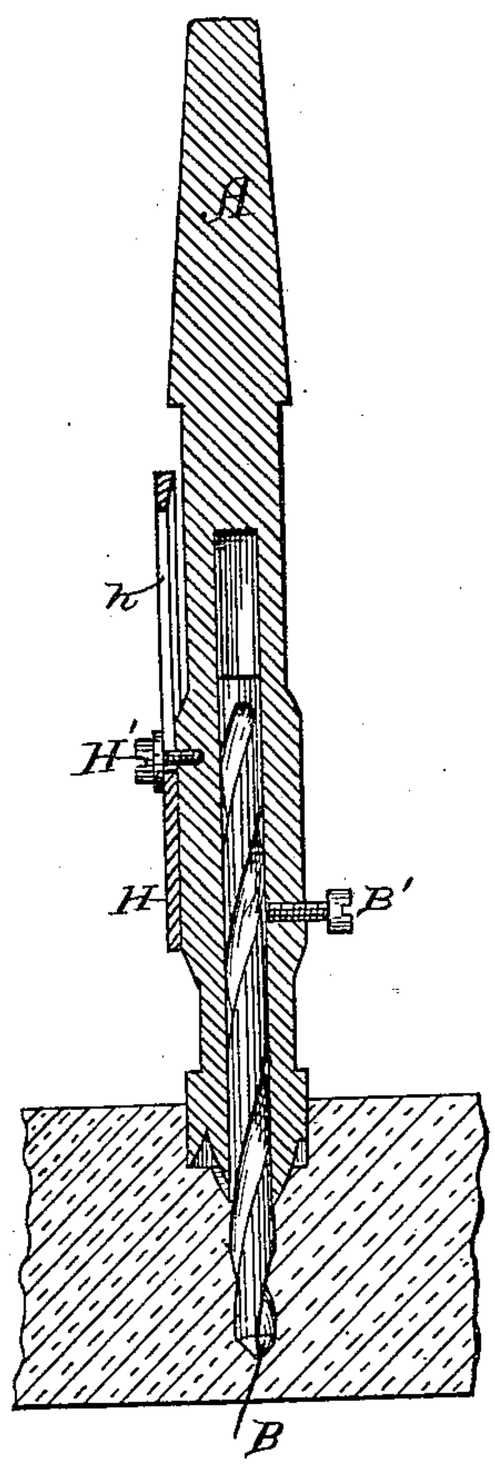
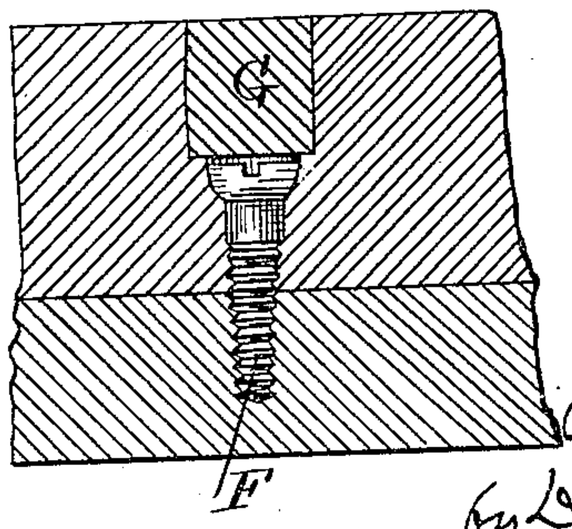


Fig. 4.



WITNESSES:

J. C. Turner
L. H. Marshall.

INVENTOR:

Aurelius O. Revenaugh
by Doubleday & Bliss
attys

UNITED STATES PATENT OFFICE.

AURELIUS O. REVENAUGH, OF JACKSON, MICHIGAN.

BIT AND COUNTERSINK.

SPECIFICATION forming part of Letters Patent No. 267,590, dated November 14, 1882.

Application filed July 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, AURELIUS O. REVENAUGH, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Bits and Countersinks, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side elevation of an implement embodying my improvements. Fig. 2 is a view from the under side. Fig. 3 is a longitudinal section. Fig. 4 is a sectional view, showing the screw and a plug inserted into the apertures formed by the tool. Fig. 5 is a side view of the lower end of the tool, taken at right angles to Fig. 1.

In the drawings, A represents the shank or stock of the tool. It may be constructed at the holding end to fit either an ordinary brace or to engage with the drill-chucks which are operated by power. At the outer end it is formed with a longitudinal socket adapted to receive a removable drill or bit, B, the shank of which can be adjusted longitudinally, it being clamped in any desired position by a set-screw, B′, inserted into the shank or stock A. At the outer end it is also provided with cutters adapted to form a conical recess around the inner end of the bit, cutters to form a shoulder at the outer end of the recess, and also cutters which form a cylindrical aperture of a diameter greater than that of the conical recess. I have shown one cutter, C, for producing the conical recess or "countersink," and one, D, for forming a shoulder at the outer edge of the countersink.

E E are cutters, arranged to form the cylindrical aperture outside of the countersink.

By means of this tool an aperture can be formed adapted to receive a screw, as at F, the head of the screw being seated in the conical recess or countersink, and adapted to receive, also, a cylindrical block, as at G, whereby the outer end of the aperture can be closed, and the parts within can be neatly concealed. The forming of apertures of this sort is, as is well known, a necessity in many of the wood-working arts—such as carriage-building, furniture-making, &c. Heretofore it has been customary to make the three parts of this compound aperture by one, two, and sometimes three separate operations. By means of my improved bit and countersink and circular cutter all of these operations can be performed at once, the various parts of the aperture being perfectly true relatively to each other.

Passage-ways are allowed for the chips produced by the plug-hole cutters, and by the others between said cutters, so that the tool can be inserted into the wood any desired distance without being interfered with by the chips. At H there is placed an adjustable stop whereby the depth of the hole or aperture can be regulated. It is provided with a slot, *h*, and is clamped by a set-screw, H′, the slot permitting it to be adjusted to correspond to the depth required. I am aware that boring-tools have been heretofore known, consisting of a bit with a squared shank and a reversible hollow cylinder, provided with a countersink cutter at one end and a plug-hole cutter at the other end, and I do not claim such tools as my invention; but one of the objects of my invention is to overcome difficulties met with in the use of these implements having reversible cutters. They are more expensive to make and necessitate two or more operations in order to complete an aperture of the character which I can effect at a single insertion of my bit.

What I claim is—

1. The herein-described cutting-tool, having the plug-hole cutters E E, a passage-way inside the outer end of said cutters for the chips to escape vertically, the cutter D, for producing a shoulder at the bottom of the plug-hole, the countersink-cutter C, and a longitudinal socket to receive a separately-formed screw-hole-cutting bit, said cutters C, D, and E being arranged, substantially as set forth, to operate simultaneously.

2. A boring-tool having the center smaller bit, B, the countersink-cutter C, the shoulder-cutter D, the plug-hole cutters E E, passage-ways inside of the outer ends of said plug-hole cutters, and the squared shank, formed integrally with the cutters C, D, and E, substantially as set forth.

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

AURELIUS O. REVENAUGH.

Witnesses:
J. M. LEWIS,
WM. H. COMSTOCK.