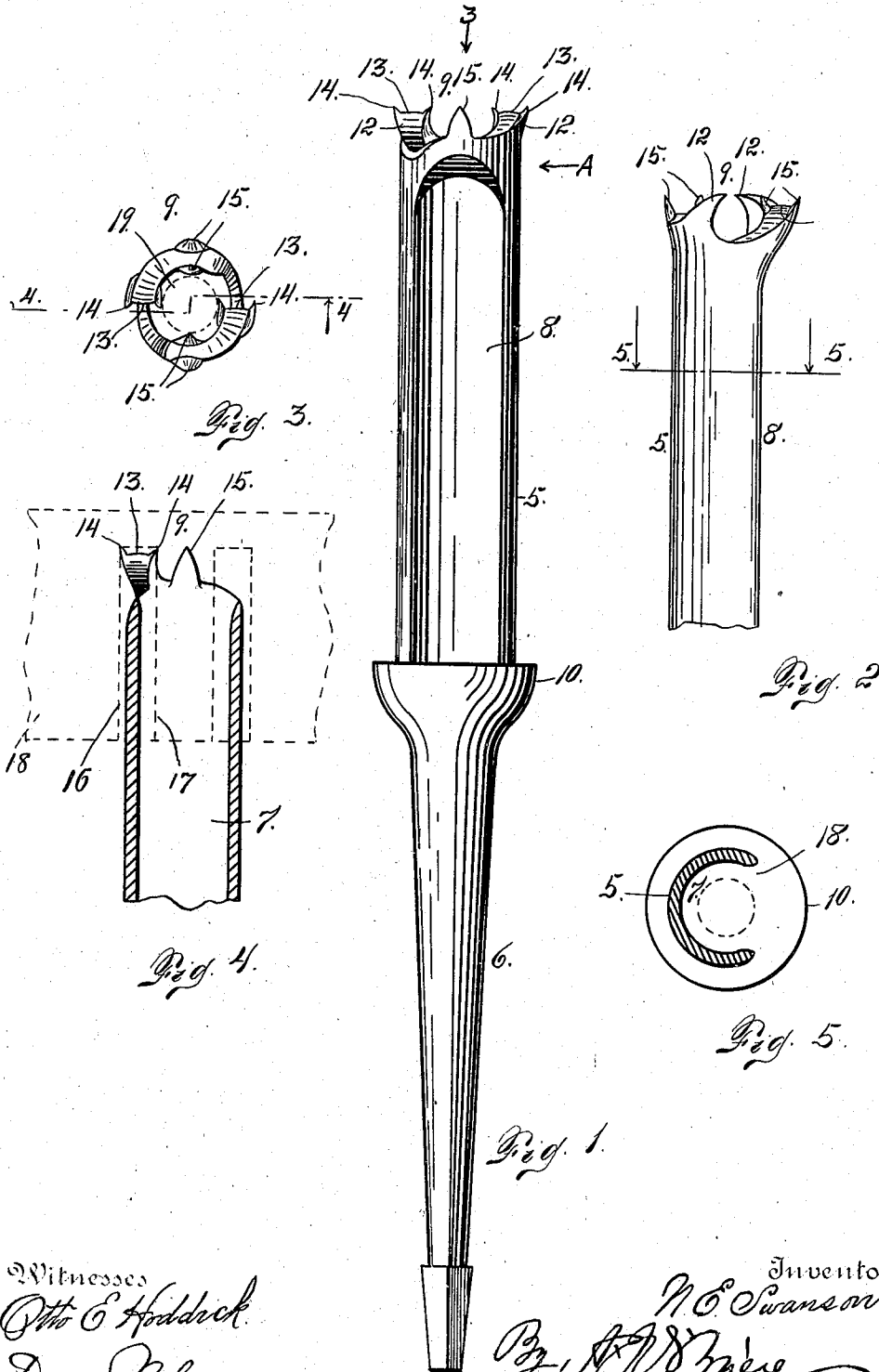


N. E. SWANSON.
HOLLOW AUGER.
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900,044.

Patented Sept. 29, 1908.



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HOLLOW AUGER.

No. 900,044.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NILS E. SWANSON, a citizen of the United States, residing at the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Hollow Augers; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

15. My invention relates to a hollow auger or a device having a boring end provided with a central opening communicating with a hollow body above.

As my improved device is rotated in contact with wood, the boring or cutting portion forms an annular groove, in the center of which is located a core which passes upwardly into the hollow body of the auger as the latter enters the wood. The body of the 25 auger above the end is open on one side to allow the shavings to escape around the core or plug during the boring operation.

The object of this device is to form plugs for use in cabinet work where it is desired to 30 conceal the heads of screws, nails, bolts or other fastening devices.

The object of my improved device is to facilitate the accurate formation of plugs of this character, whereby it becomes practicable to conceal the heads of screws or other 35 fastening devices, in such a manner as to make the plug practically invisible since by the use of my improved auger the plug may be cut in such a manner that when inserted in the countersink above the head of the 40 screw or other device, it practically conforms or harmonizes with the grain of the wood in which it is inserted.

Having briefly outlined my improved construction as well as the function it is intended to perform, I will proceed to describe the same in detail reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

50 In this drawing, Figure 1 is a side elevation of my improved auger viewed from the side where the shank is open. Fig. 2 is a side elevation of the same or a view looking in the direction of arrow A in Fig. 1. Fig. 3 55 is an end elevation of the cutting extremity

of the device, or a view looking in the direction of arrow 3 Fig. 1. Fig. 4 is a section taken on the line 4—4 Fig. 3. Fig. 5 is a cross section taken on the line 5—5 Fig. 2.

The same reference characters indicate the 60 same parts in all the views.

Let the numeral 5 designate the hollow body of the auger; and 6 the shank which may be inserted in the ordinary brace (not shown) in the usual manner of bits, augers or 65 other boring devices. The shank may of course be inserted in a chuck rotated in any suitable manner either by hand or other power. The body 5 is hollow as shown at 7 and open on one side as shown at 8. The 70 opening is formed by removing a segment of a cylinder, since if the opening 8 were closed, the body part would be of cylindrical shape. The opening 8 extends from a point slightly above the cutting extremity 9 of the auger to 75 the shoulder 10 of the shank. The cutting extremity is provided with inclined cutters 12 which have sharp end edges 13 and longitudinal side edges 14. As shown in the drawing there are two of these cutters. 80 The two cutters 12 perform the main boring function; they are located on opposite sides of the cutting head and cooperate to perform the said function. Between these cutters and oppositely located are two pairs of 85 teeth 15, the individual teeth of each pair are separated so that they occupy substantially the same arcs as the longitudinal side edges 14 of the cutters 12. These two pairs of teeth form cuts in the wood defining the 90 annular groove formed by the cutters around the core (not shown). In other words these teeth cut the wood on opposite sides, and the cutters remove the portion of the wood between the cuts, forming the annular groove. 95 The circle described by the inner teeth of each pair, defines the circumference of the plug to be removed.

In Fig. 4 the annular groove is designated 16 and is indicated by dotted lines, while the 100 plug, also indicated by dotted lines, is designated 17; while 18 is the piece of wood upon which the device operates. The teeth 15 and the cutters 12 of the device, surround a central opening 19 which indicates the size 105 of the plug or core formed by the operation of the device (see Fig. 3).

From the foregoing description the use and operation of my improved device will be readily understood. The cutting extremity 110

of the auger is applied to the piece of wood 18 indicated by dotted lines. Now as this auger is rotated, an annular groove 16 is formed, by the coöperation of the cutters 12 and the teeth 15, leaving the cylindrical plug 17 which enters the hollow 7 of the auger body. During the operation of the device the shavings may pass upwardly around the body and may also enter the hollow shank 10 and pass out at the opening 8 in the side of the body. The plug or core 17 may also be removed through this opening. After this plug is formed, it may be cut into sections of suitable length for filling countersinks above 15 screws or other fastening devices as heretofore explained.

Having thus described my invention, what I claim is:

An auger having a hollow body, and an opening in one side thereof, cutters having 20 sharp end edges and longitudinal side edges, pairs of teeth located between the said cutters, said cutters and teeth being located at one extremity of the body surrounding a 25 central opening communicating with the hollow body, and being arranged to form an annular groove around a central plug or core which enters the hollow body as the boring operation proceeds, substantially as 30 described.

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

NILS E. SWANSON.

Witnesses:

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