(No Model.)

J. SWAN.

AUGER.

No. 320,097. Patented June 16, 1885.

Fig: 1.

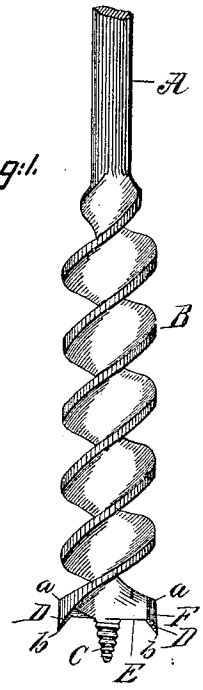


Fig: 3.

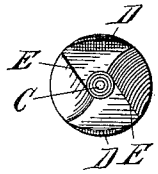
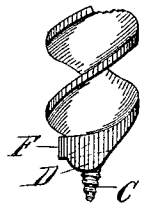


Fig: 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES SWAN, OF SEYMOUR, CONNECTICUT.

AUGER.

SPECIFICATION forming part of Letters Patent No. 320,097, dated June 16, 1885.

Application filed April 9, 1885. (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 Augers and Bits; 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 augers and bits known as "spur augers or bits," and is an improvement upon the bit which forms the subject of my former Letters Patent No. 290,812, dated December 25, 1883.

The object of my present invention is to carry forward and improve the construction shown and described in my said former Letters Patent.

With this end in view I have devised the novel construction and combination of parts which I will now describe, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents my improved bit in side elevation, one of the side lips being toward the front. Fig. 2 is a similar view, the bit being turned to show the spur in elevation, and Fig. 3 is a bottom plan view.

A represents the shank; B, the body of the bit, and C the leading-screw, which are of ordinary construction.

D represents the cutting-spurs, which are made concave upon their inner sides, as in my former patent, and as clearly shown in Fig. 3. I have discovered, however, in practice that the progress of the bit into the wood, and also its withdrawal from the wood, are facilitated by making the spurs to taper outward slightly from the top to the cutting-edges, as from point *a* to *b* in the drawings.

E represents the usual floor-lips, and F side lips, both of which are provided with cutting-edges. I am well aware that side lips are not, broadly, new, and make no such claim in this application, and I consider that the combination of cutting-spurs made concave upon their inner sides with floor-lips having cutting-edges is fully covered by my said patent referred to above. I have found, however, in practice that by combining in an auger or bit floor-lips and side lips with cutting-spurs which are made concave upon their inner sides, and which taper outward slightly from their upper ends to their edges, I am able to get better results than with any bit that has heretofore been produced.

My new bit enters the wood readily, may be withdrawn with perfect ease, and if held straight will never bind in the hole, no matter how deep it may be.

Having thus described my invention, I claim—

1. In an auger or bit, the combination, with floor-lips and side lips provided with cutting-edges, of cutting-spurs upon said side lips, made concave upon their inner sides.

2. In an auger or bit, the combination, substantially as herein set forth, of cutting-spurs made concave upon their inner sides, and tapering outward slightly from their upper ends to their edges, with floor-lips and side lips provided with cutting-edges.

3. A bit having a floor-lip and a side lip with cutting-edges, and a cutting-spur concaved upon its inner side and tapered outward slightly from the top to the edge.

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

JAMES SWAN.

Witnesses:
WM. B. SWAN,
J. B. LAKE.