

(Model.)

J. SWAN.
AUGER BIT.

No. 283,040.

Patented Aug. 14, 1883.

Fig:1.

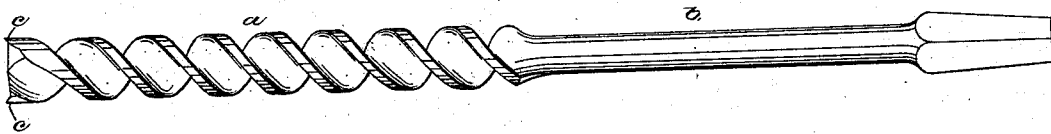
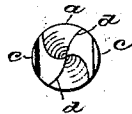


Fig:2.



Fig:3.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES SWAN, OF SEYMOUR, CONNECTICUT.

AUGER-BIT.

SPECIFICATION forming part of Letters Patent No. 283,040, dated August 14, 1883.

Application filed May 16, 1883. (Model.)

To all whom it may concern:

Be it known that I, JAMES SWAN, of Seymour, county of New Haven, State of Connecticut, have invented an Improvement in Auger-Bits, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

All twisted auger-bits known to me as now constructed have what is called a "leading-screw," which draws the pod and cutting parts into the wood at a speed depending upon the pitch of the thread cut on the said leading-screw, and the bit enters the wood at each turn only for a distance defined by the pitch of the said screw. This screw, besides retarding the entrance of the auger or bit, is also very objectionable because it acts as a wedge and splits the wood. By experiment I have discovered that splitting of the wood may be obviated by omitting the leading-screw and providing the bit with spurs to enter and produce an annular incision in the wood in advance of the action of the floor-lip, the latter merely acting to chip up the wood within the annular incision and deliver it into the grooves of the pod to be carried out of the hole. Omitting the leading-screw also results in leaving the wood in a better condition to be chipped out, for it is not compressed or hardened before the floor-lip strikes it, as is the case when the wood is wedged aside by the leading-screw. The inner cutting edges of the floor-lip are extended substantially to the center or axial line of the bit, and act to draw the bit into the wood, as does the usual leading-screw. The leading-screw is also seriously objectionable when acting at an angle to the grain of the wood, as it is apt to be diverted from a straight line by the irregular grain of the wood, thus frequently failing to bore a truly straight and cylindrical hole. To obviate this "running," as it is called, of common bits, it is customary in some classes of work and wood to bore holes with the so-called "Morse twist-drill."

The price of bits is greatly increased owing to the cost of making the leading-screw. The bit without the leading-screw enters the wood

as easily as with it, and by omitting the leading-screw extra pressure exerted on the bit enables it to be forced into the wood at each rotation for a distance dependent almost entirely upon the amount of pressure so exerted, rather than upon the pitch of the leading-screw, as in common bits. One of my improved bits may be made to bore much more rapidly than were a leading-screw employed, and at the same time do as good work with no greater expenditure of power.

My invention consists in a spur-bit provided with spurs or cutters to first enter the wood, and having cutting-edges of its floor-lips extended inwardly to the center line of the bit, thus obviating the employment of the leading-screw.

Figure 1 is a side elevation of an auger-bit embodying my invention; Fig. 2, another side view of part of the bit turned one-fourth round from Fig. 1; and Fig. 3 is an end view of the bit.

The pod *a* and shank *b* are all as usual. The end of the pod is provided with two spurs, *c c*, which extend a little beyond the floor-lips *d*, made at the end of the pod, as seen in Fig. 3, wherein it will be noticed that the edges of the floor-lip extend substantially to the center line or axial center of the pod, so that the wood within the circular incision made by the cutters *c* is chipped out by the floor-lip, and the wood not being expanded and hardened by a leading-screw, the floor-lip readily cuts therein.

I claim—

As an improved article of manufacture, a twisted bit provided with spurs or cutters *c*, to first enter the wood, and having the edges of its floor-lip extended to the axial center of the bit, thus enabling the usual leading-screw to be omitted, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES SWAN.

Witnesses:

A. B. POST,
W. H. WHITEMORE.