

H. L. SHALER.
Auger.

No. 202,061.

Patented April 2, 1878.

Fig. 1.

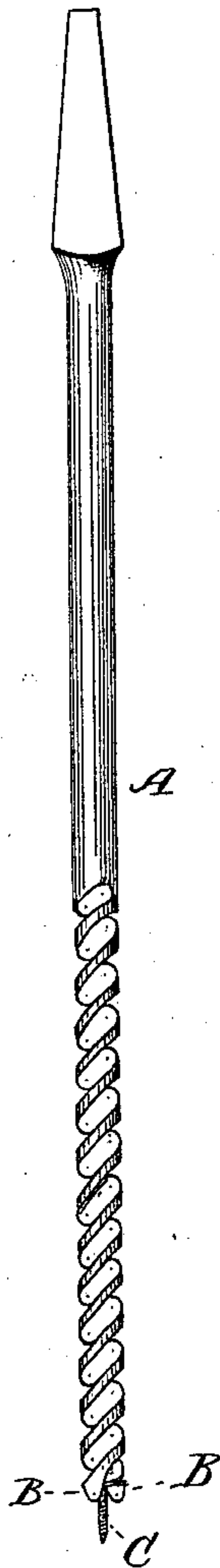


Fig. 2.

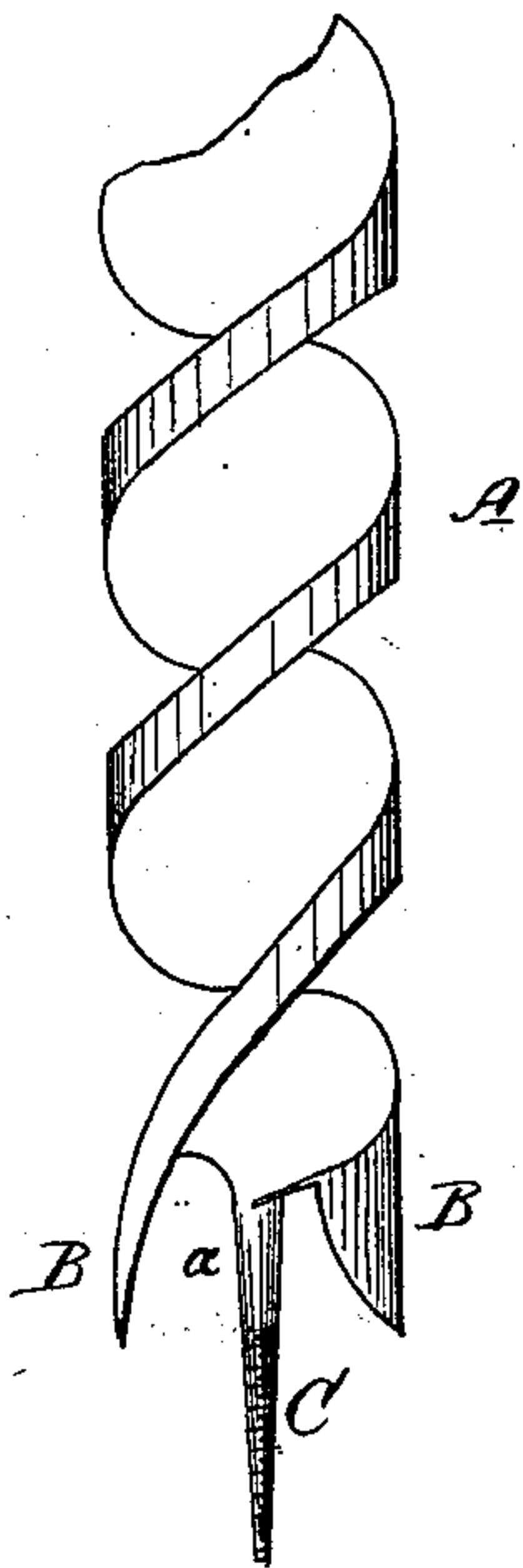
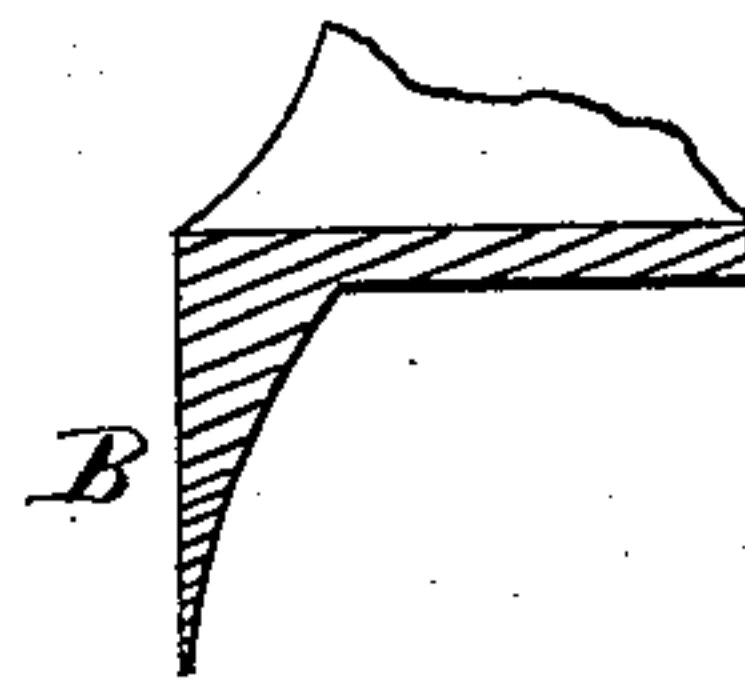


Fig. 3.



WITNESSES

Wm. E. Oliphant
D. P. Plumb

INVENTOR

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per Cha. H. Fowler,
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UNITED STATES PATENT OFFICE.

HENRY L. SHALER, OF DEEP RIVER, CONNECTICUT.

IMPROVEMENT IN AUGERS.

Specification forming part of Letters Patent No. **202,061**, dated April 2, 1878; application filed February 20, 1878.

To all whom it may concern:

Be it known that I, HENRY L. SHALER, of Deep River, in the county of Middlesex and State of Connecticut, have invented a new and valuable Improvement in Augers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of a spur-auger bit, showing my invention. Fig. 2 is a broken section of the same on an enlarged scale. Fig. 3 is a section of the spur.

This invention has reference to that class of bits known as "spur-auger bits;" and relates more particularly to those of the smaller size, which require more care and skill in their manufacture, although the invention is equally applicable to the spur-auger bits of various sizes.

The invention consists in extending the screw or worm a sufficient distance above the cutting-edges of the spurs to draw the bit into the wood, and leaving that portion of the screw or worm at its base opposite to or below the cutting-edge of the spurs smooth or without screw-threads, and of full diameter or as large in circumference as the largest portion of the screw-threaded part of the worm, so as to more easily and effectually guide the cutting-edges of the spurs into the wood during the operation of boring, as will be hereinafter described, and subsequently pointed out in the claim.

In the accompanying drawings, A represents the auger, and B the spurs, which, if desired, may be made solid with the head of the auger. The spurs are preferably made concave in form, with a backward pitch; or, in other words, extending on a helix, as described and claimed in my former patent bearing date January 1, 1878, No. 198,857, which form is better adapted to augers of the smaller size, having my improved screw-point or worm. It is evident, however, that any of the different shapes of spurs may be used without departing from the gist of my invention.

The screw or worm C extends above the

cutting-edge of the spurs B; and it will be noticed that the end of the bit, being about as large in diameter between the spurs as the screw or worm is in length above the same, it will, when drawn into the wood in the operation of boring, steady the bit, and enable it to do its work more easily and smoothly. The screw or worm C, below the cutting-edge of the spurs, has no screw-threads thereon, as shown at *a*, making that part where it joins the floor-lips much stronger, and not so liable to break off as when the screw-threads run the entire length of the screw or worm, as is commonly done.

As has been before stated, the spurs are extended on a helix, and it is desirable to so extend them as far as possible, and are cut into shape by a machine and finished in form before the screw-thread is cut.

By having the screw or worm extended some distance above the cutting-edge of the spurs, and that portion opposite the spurs made plain or without screw-threads, the threads may be made on the screw or worm on the smaller size bits without in the least damaging the spurs, and they may be readily sharpened, when dull, without injury to the threads upon the screw or worm. And a further advantage in having that part of the screw or worm smooth or without threads opposite the spurs, and also of full diameter, is the ease with which the cutting-edges of the spurs are guided into the wood after the threaded portion of the screw or worm has passed below the surface of the wood.

The full size of the lower or smooth part of the worm, being preserved, fills the opening made by the screw-threaded portion, and acts like a turned center to hold the bit as the spurs enter the wood in boring, and thereby makes them cut the wood with greater precision in a true circle, and aids the bit to bore the hole straight without being affected by the inequalities of the wood.

I am aware that auger-bits are not new having the worm screw-threaded a portion of its length only, and the plain or smooth surface joining the floor of the bit diminished in diameter to leave it free to enter the wood more rapidly. I do not, therefore, wish to be understood as claiming such construction; but

Having fully described my invention, what I do claim as new, and desire to secure by Letters Patent, is—

An auger provided with spurs and a worm extending above the cutting-edges thereof, said worm having a plain surface, without screw-threads below the spurs or opposite thereto, and of full diameter, or as large in circumference as the largest part of the screw-

threaded portion of the worm, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HENRY L. SHALER.

Witnesses:

S. S. SELDEN,
GIDEON PARKER.