

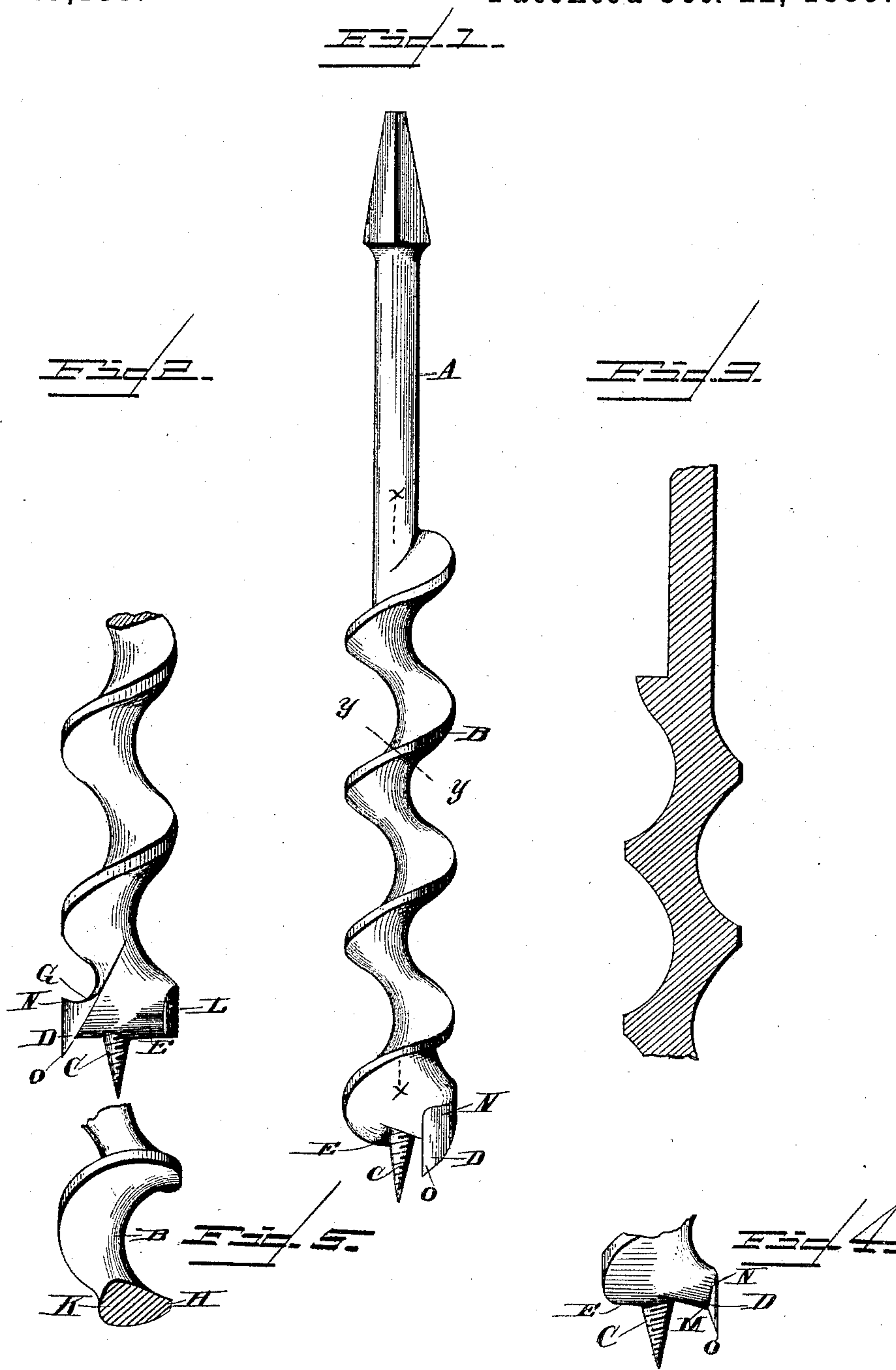
(No Model.)

J. BAILEY.

AUGER.

No. 413,159.

Patented Oct. 22, 1889.



Witnesses,  
Walter H. Rumphrey,  
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# UNITED STATES PATENT OFFICE.

JOSIAH BAILEY, OF WILMINGTON, OHIO.

## AUGER.

SPECIFICATION forming part of Letters Patent No. 413,159, dated October 22, 1889.

Application filed February 18, 1889. Serial No. 300,284. (No model.)

*To all whom it may concern:*

Be it known that I, JOSIAH BAILEY, a citizen of the United States, residing at Wilmington, in the county of Clinton and State of Ohio, have invented certain new and useful Improvements in Augers; 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 consists in an improved form of auger, hereinafter to be described and claimed.

In the drawings, Figure 1 is a perspective view of the auger. Fig. 2 is a perspective view of the side opposite from that shown in Fig. 1. Fig. 3 is an axial section taken on the axis  $xx$  of the auger, as shown in Fig. 1. Fig. 4 is a detail view of the pointed cutter; and Fig. 5 is a section of the main spiral web, taken on the line  $yy$  of Fig. 1.

Like letters refer to like parts throughout the drawings.

A is the stock of the auger, having its upper end shaped like the frustum of a pyramid for the application of the ordinary bit-stock or wrench by which it is to be turned.

B is the main spiral web. I employ but a single spiral in my improved form of auger, for reasons which will be hereinafter set out. This web B is made much thicker at its inner edge K, which forms the axis of the auger, than at its outer edge H, as is shown in Fig. 4.

The auger terminates in the usual screw-point C and has a pointed cutter, D, which is supported on a short spiral web G. The forward or cutting edge of the cutter D is vertical, while its rear edge is inclined, preferably, at an angle of about sixty degrees with the cutting-edge. The intersection of the edges of the cutter D forms a sharp point at its lower extremity. The advantage of this pointed form of cutter is that it can be forced into the wood much more easily than the rounded cutter heretofore used. This short spiral web G has a much greater pitch or inclination toward the axis of the auger than the main spiral B, and consequently it runs into and coincides with the main spiral before it has made half a revolution about its axis, as is shown in Fig. 2. The pointed cutter D has its point O projecting downward from the edge M of the sup-

porting-web G. A portion of its cutting-edge extends above in a vertical lip N, all as shown in Fig. 4. The main spiral web B terminates in a cutting-edge E with a vertical lip L, for the purpose of breaking out and removing from the hole the chips cut by the pointed cutter D.

In operation the pointed cutter D cuts a circular scarf in the wood, while the chip is broken off and removed by the edge E of the main spiral. When too deep a cut is taken, a portion of the chip is broken off and removed by the edge M of the supporting-web G and carried upward by the spiral supporting-web G. The vertical lips L and N cut off any projections or broken fibers of wood left by the cutter D and smooth the sides of the hole.

I am aware that augers having the feature of a single main spiral web have had a second web which has extended but a short distance above the cutting end of the auger. This feature I do not broadly claim; but in my invention the short supporting-web decreases gradually in radius as it ascends, and from this and from the fact of its greater pitch runs into and coincides with the main web, as set out.

The advantages of my construction are that the cutter D is strongly supported by its web G, that the single main spiral leaves ample space for the removal of the chips, and that the thickening of the inner edge of the web B supplies the necessary strength usually lacking in augers having only a single spiral at the same time that the thin outer edge leaves plenty of space for the passage of the chips, while the whole construction is one easily and cheaply made.

Having thus described my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. An auger which has a single main spiral web, together with a pointed cutter backed by a spiral web which has a pitch greater than the pitch of the main spiral web of the auger, and which decreases gradually in radius as it ascends and runs into and coincides with the said main spiral web at a short distance from the cutter, substantially as described.

2. An auger which has a single spiral main web which increases in thickness gradually and uniformly from the outer to the inner



edge, together with a pointed cutter placed to one side of and at some distance from the axis of said auger, and a support for said cutter projecting from said axis, substantially as described.

3. An auger which has a single main spiral web which terminates in a suitable edge for removing the chips, together with a pointed cutter backed by a spiral supporting-web which has a pitch greater than the pitch of the main spiral web, and which decreases gradually in radius as it ascends and runs into and coincides with the said main spiral web, substantially as described.

4. An auger which has a single main spiral web which increases in thickness gradually and uniformly from the outer to the inner edge, together with a pointed cutter which is

backed by a short spiral web which has a pitch greater than that of the main spiral web, and which decreases gradually in diameter as it ascends and runs into and coincides with the main spiral web, substantially as described.

5. In an auger, the single pointed cutter supported upon and projecting downward from a suitable web, which terminates in a straight cutting-edge, a portion of the cutting-edge of the pointed cutter being above said web, substantially as described.

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

JOSIAH BAILEY.

Witnesses:

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W. M. KELLUM.