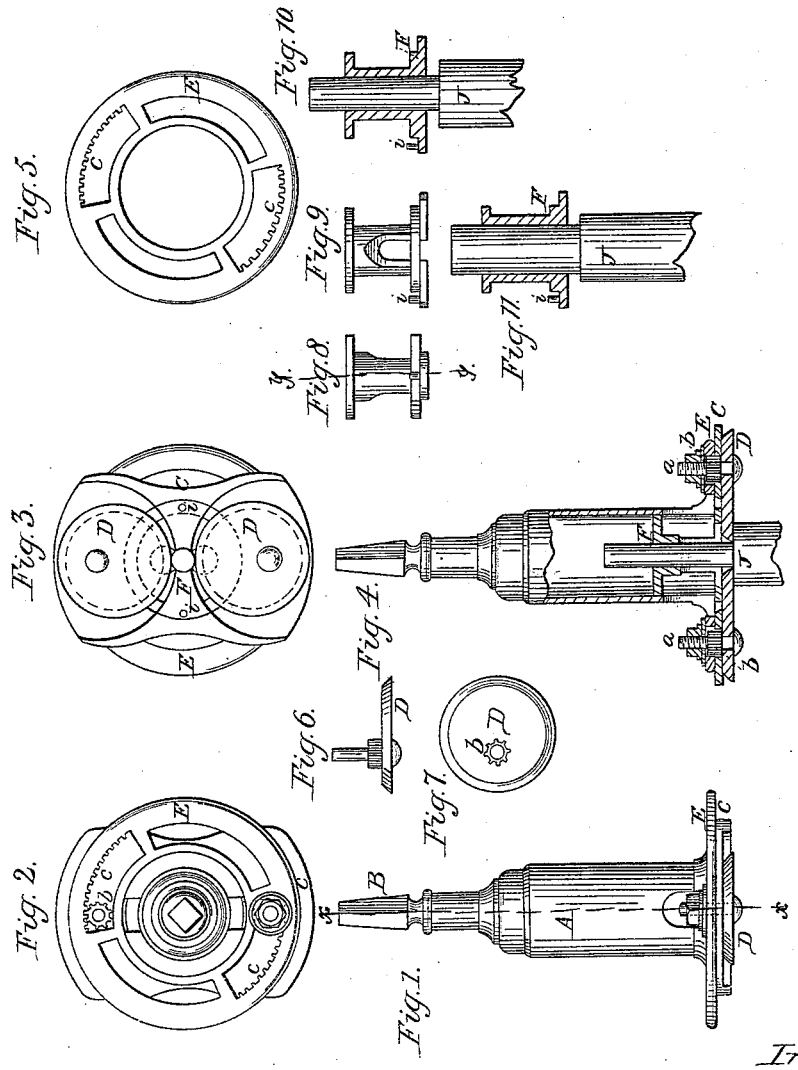
G. E. Booth,

Hollow Auger.

No. 64,478. Patented May 7, 1867.



Witnesses.
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GEORGE E. BOOTH, OF SEYMOUR, CONNECTICUT.

Letters Patent No. 64,478, *dated May* 7, 1867.

IMPROVEMENT IN HOLLOW AUGERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE E. BOOTH, of Seymour, in the county of New Haven, and State of Connecticut, have invented a new and improved Hollow Auger; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention consists in a device by which the tenons of the spokes for wagon wheels and tenons for other purposes may be accurately and expeditiously made by revolving my auger in a lathe or by a hand brace, the main feature of the invention being in the manner in which the cutters are constructed and adjusted, as will be more fully described hereinafter.

Figure 1 represents a side view of my hollow auger complete.

A is the barrel, into which the tenon enters as it is cut, as more distinctly seen in fig. 4. B is the shank, which enters the brace by which the auger is revolved. C is a broad flange, on the end or at the base of the barrel A, which supports the cutters. This flange is cut away on two sides, as seen in fig. 3. D represents the cutters. E is a circular plate, whose central portion surrounds the base of the barrel, on which it is moved or partially revolved. This plate is seen in detail in fig. 5.

Figure 2 is a plan view, showing the flange C and the plate E, with the gear arrangement for moving and adjusting the cutters.

Figure 3 shows the cutters adjusted on the flange.

Figure 4 is a longitudinal section of fig. 1, through the line *x x*, showing the end of a spoke with the tenon cut. The interior of the barrel A admits thimbles of various sizes, these thimbles are marked F, one of which is seen in place in fig. 3.

Figures 8, 9, 10, and 11 show various sizes of these thimbles.

When the cutters are turned round out of the way, these thimbles are slipped into their place, and are held from turning by steady pins *i*, seen in the drawing. The hole through these thimbles corresponds with the size of the tenon to be made, as seen in the figures. The principal novelty of my device consists in the form of the cutters and in the manner of their adjustment, to enable me to cut tenons of various sizes. The cutters D are plain circular disks of steel, bevelled to an edge, as seen in fig. 6, which is a detailed view of the same.

Figure 7 is a side view of the same.

These cutters are attached to the flange C by bolts, which pass through them on one side of their centres, as seen in figs. 6 and 7, and also in the sectional view, fig. 4. The bolts are marked *a*, and they are made fast in the cutters. These bolts have each a small toothed-pinion, *b*, which meshes into a rack, *c*, on the interior portion of the plate E, seen in fig. 5. As before stated, the plate E can be turned partially round the barrel, and when the tool is being prepared for service, the movement of the plate moves the cutters, and they being hung eccentrically, a partial revolution throws the peripheries or edges of the cutters either to or from the axial centre of the auger. In this manner the cutters are adjusted to suit the different sized thimbles, so as to cut the various sized tenons.

The operation of cutting tenons is performed by simply pressing the auger against the wood to be cut. A specimen of the work performed with this auger accompanies the drawing. The cutters are easily removed for sharpening or repairs, and they are held in place by nuts on the bolts *a*, as seen in fig. 4. The sides of the barrel A, and also the sides of the thimbles, are cut away, as seen in fig. 1, to allow the chips to be discharged. J represents spokes with tenons cut upon their ends.

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

1. The circular cutters D, pivoted eccentrically with the axial centre of the auger, and operated substantially as and for the purpose specified.

I claim the plate E, with the rack *c*, and the pinion *b*, arranged substantially as described for the purposes set forth.

I claim the thimble F, in combination with the barrel A and the cutters D, substantially as described.

GEORGE E. BOOTH.

Witnesses:

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