S. Katz. Hollow Auger.

117784

PATENTED AUG 8 1871

Fig. 1

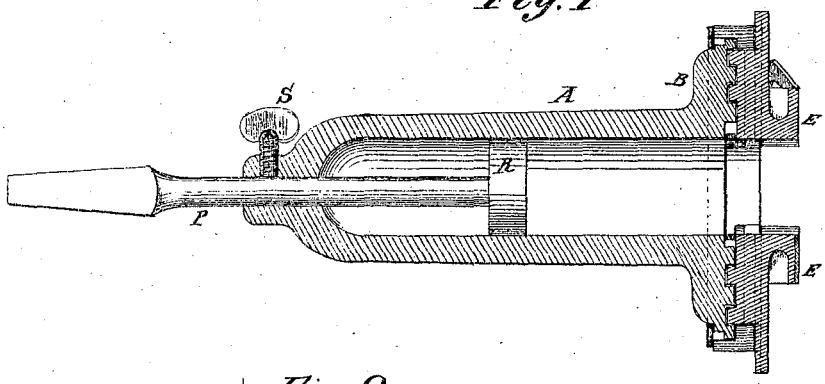


Fig. 2

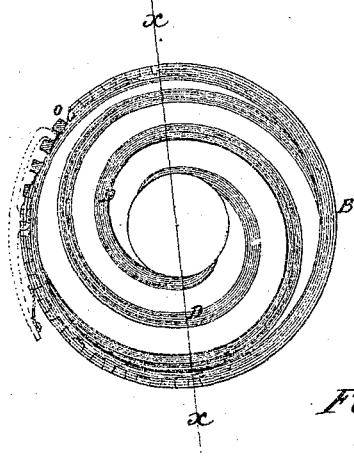


Fig. 3

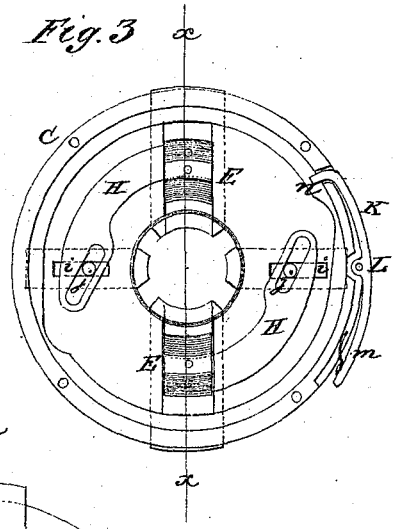
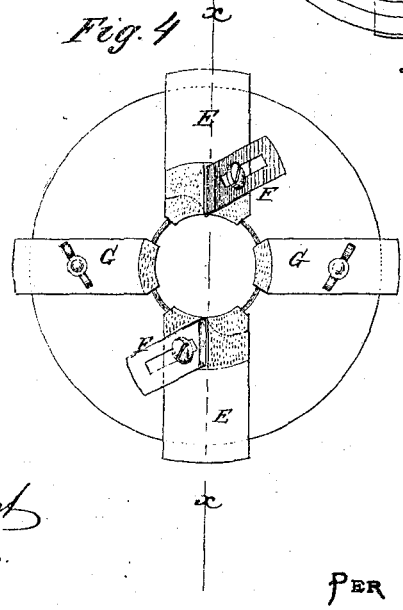


Fig. 4



Witnesses:

A. W. Almqvist

Wm. H. C. Smith.

Inventor:

S. Katz.

PER

Attorneys.

UNITED STATES PATENT OFFICE.

SILAS KATZ, OF BOSSARDSVILLE, PENNSYLVANIA.

IMPROVEMENT IN HOLLOW AUGERS.

Specification forming part of Letters Patent No. 117,784, dated August 8, 1871.

To all whom it may concern:

Be it known that I, SILAS KATZ, of Bossardsville, in the county of Monroe and State of Pennsylvania, have invented a new and useful Improvement in Hollow Augers; 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 drawing forming part of this specification.

My invention consists in an improved construction and combination of parts to form a hollow auger, as hereinafter fully described and subsequently pointed out in the claim.

In the accompanying drawing, Figure 1 is a longitudinal section taken on the lines *x x* of Figs. 2, 3, and 4. Fig. 2 is a face view of the scroll cut in the collar or flange of the tube or socket. Fig. 3 is a view of the inside of the face-plate, showing the guides and their mode of operation. Fig. 4 is a face view of the face-plate.

Similar letters of reference indicate corresponding parts.

A is the tube or socket. B is the collar on the end of the socket. C is the face-plate on which the adjustable slides and guides work. D represents scroll-threads on the face of the collar, which threads engage with grooves on the inner portion of the cutter-slides. E E are the adjustable slides or jaws, carrying each an adjustable cutter, F F, as seen in Fig. 4. These slides or jaws are grooved onto the face-plate, so that they are moved in and out radially from and toward the center by the scrolls D D as the face-plate is given a revolving motion. G G are two guide-jaws, which are connected with the sliding jaws E E by the obliquely-slotted plates H H. (See Fig. 3.) These guides slide in grooves in the face of the face-plate, and, by virtue of the oblique slots in the plates H H, and the slots *i i* in the face-plate, and the studs *j j* in the back of the guides, are moved radially in unison with the jaws E E, thus diminishing or increasing the area between the ends of the four movable slides or jaws. The diameter of this space governs the size of the tenon to be cut, and this is varied by turning the face-plate. The face-plate is held in position by means of a dog-lever, K, applied as seen in Figs. 2 and 3. The dog is attached to the inner rim of the face-plate. L is the fulcrum or pivot on which it works. *m* is a spring which forces the toe *n* to engage with the notches *o* in the periphery of the collar B. To turn the face-plate for adjusting the slides, the end of the dog is pressed down against the force of the spring. When the pressure is removed the toe of the lever engages with the collar, as seen in dotted lines in Fig. 2, and holds the face-plate so as to secure any desired diameter of tenon.

P is the shank, which passes through the end of the socket A, with a piston, R, upon its end, as seen in Fig. 1. This shank is fastened by the set-screw S, so that the piston may be adjusted to act as a stop to the end of the tenon, and thereby govern the length of the tenon.

This auger may be used for cutting tenon on spokes and for other purposes.

Its advantages are: It may be readily adjusted to cut tenons of different diameters and different lengths. It may be operated in a lathe or in a hand-brace, as may be most convenient.

The cutters F F are slotted and placed obliquely to the center on the sliding jaws E E, as seen in Fig. 4, so that they are readily adjusted to cut as required.

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

The rotary tube A having notched scroll-collar B D N, the series of cutter-slides E, cutters F, guides G, obliquely-slotted plates H, and pivoted spring-dog K L *m*, and the piston R and rod P, all combined, arranged, and operating together as and for the purpose specified.

Witnesses: SILAS KATZ.

J. A. BOSSARD,

J. S. MCNEAL.