J. H. Richardson.

Cutting Screws.

No. 77,530. Patented May 5, 1868.

Fig. 1.

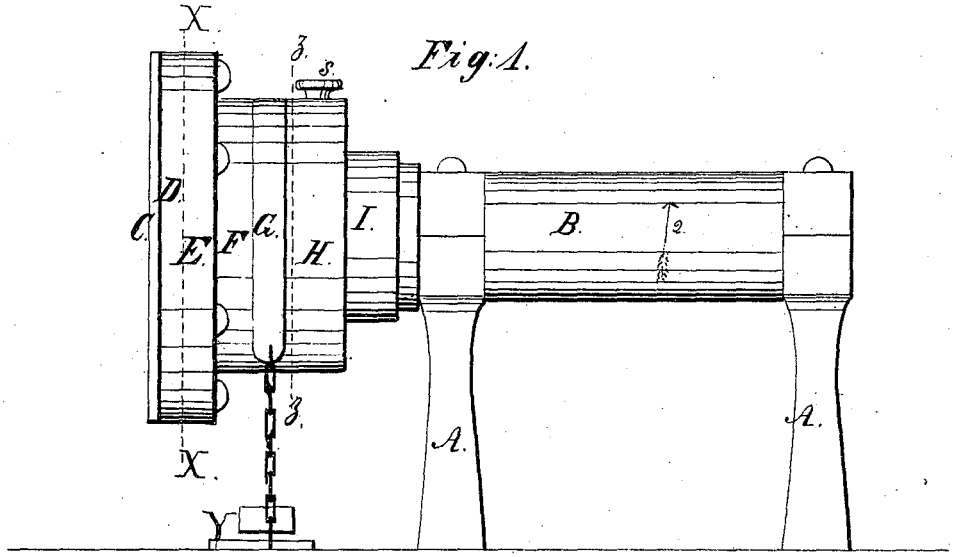


Fig. 2.

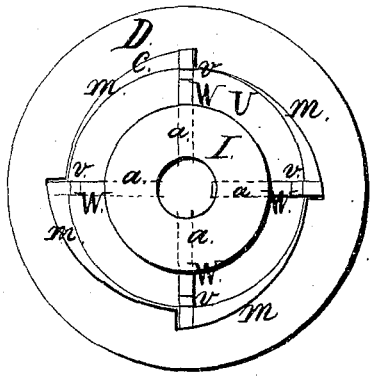


Fig. 5.

Fig. 3.

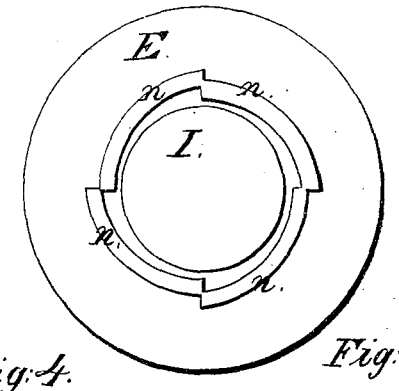
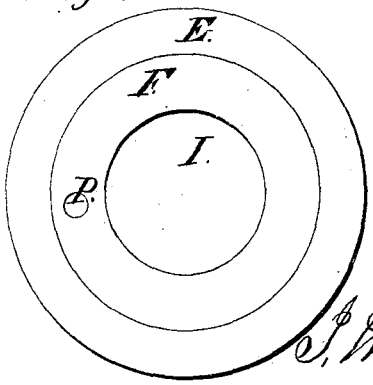
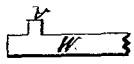
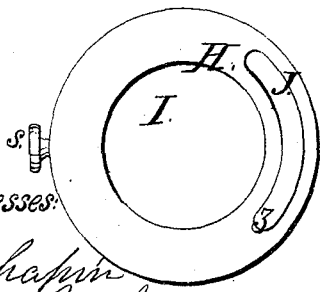


Fig. 6.

Fig. 4.







Inventor:

S. H. Richardson.

Witnesses:

J. L. Chapin

George Richardson.

United States Patent Office.

J. H. RICHARDSON, OF CHICAGO, ILLINOIS.

Letters Patent No. 77,530, *dated May* 5, 1868.

IMPROVEMENT IN SCREW-CUTTING MACHINE.

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, J. H. RICHARDSON, of Chicago, in the county of Cook, in the State of Illinois, have invented an Improved Screw-Cutting Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is an elevation of my invention.

Figure 2, a sectional elevation of the die-head, taken on the line X X, fig. 1.

Figure 3, a face view of the cam which closes the dies.

Figure 4, a sectional elevation of the die-head, taken on the line Z Z, fig. 1.

Figure 5, a face view of the collar, which governs the position of the dies.

Figure 6 represents one of the dies.

The nature of my invention consists in combining, with the cams of a die-head, a slotted collar, in which operates a stop, by means of which the dies may be set to cut screws of different sizes, and to open and shut uniformly by reversing the motion of the drive-pulley; and in the use of a friction-band passing over the die-head, for checking its motion, while the cams open the dies and loosen the screw.

In order to give a correct understanding of my invention, I have marked corresponding parts with similar letters, and will now give a detailed description, which will enable others skilled in the art to make and use it.

A A represent a substantial iron frame, which supports a drive-pulley, B, one of its journals being made long enough to fasten to the neck I of the head by means of a screw-thread in the usual manner. This neck I is made of iron, finished in a lathe, and is rigidly attached to that part of the head shown at U, figs. 1 and 2, which has grooves, *a*, sunk in its face, of such depth as will correspond with the thickness of the dies W, figs. 2 and 6, said part U being secured to a face-plate, C, and projecting outward from the same the thickness of the dies, and working inside of the cams *m*, fig. 2, made in that part of the head shown at D.

E represents a part of the head arranged to fit on the neck I, and is fastened to the part D by means of screws, and has grooved cams *n* made in its face, in which lugs *v*, figs. 2 and 6, made on the dies W, operate. The faces of the parts E D fitting each other, place the cams *m* and *n* in the proper position.

A pulley, F, is rigidly attached to the part E, and has a groove in its periphery for a friction-band, G, to work in, and has a pin or stop, P, fig. 4, projecting outward from its face to correspond with the depth of a slot, J, in the collar H, figs. 1 and 5, in which said pin operates. This collar is an important feature in my invention, and is arranged to turn on the neck I, the length of slot J, and has a thumb-screw, S, put through it for holding it in position on said neck.

A metal band, G, is secured to the same bed-piece as the frame A, at the opposite side of the machine to that which a treadle, Y, is attached, for tightening said band, and checking the motion of the pulley over which it passes, and thus allow the dies to open and loosen the screw.

Operation.

The dies *w* can be moved inward by turning the drive-pulley B in the direction indicated by the dart 2, fig. 1, at the same time holding the pulley F stationary by the band G and treadle Y, after which the screw S should be loosened and the collar H turned, so as to bring the stop P, fig. 4, against the end, 3, of the slot J, fig. 5, which will hold said dies in position for cutting screws of uniform sizes, but permit the dies to open and loosen the screw, when cut, by reversing the motion of pulley B and checking the motion of pulley F, as before, the stop P working back and forth in the slot J.

Having thus described my invention, I claim—

The combination of neck I, face-plate C, cams *m n*, pulley F, friction-band G, collar H, treadle Y, dies W, and die-head D E U, the whole being constructed and arranged to operate substantially as herein specified.

J. H. RICHARDSON.

Witnesses:

GEORGE RICHARDSON,

G. F. CHAPIN.