

H. O. REED.
Screw-Cutting Machines.

No. 141,460.

Patented August 5, 1873.

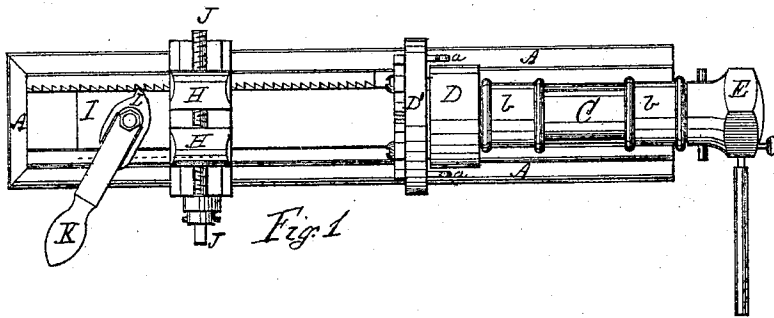


Fig. 1

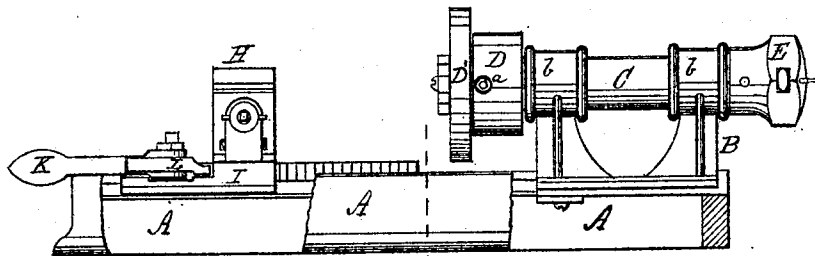


Fig. 2.

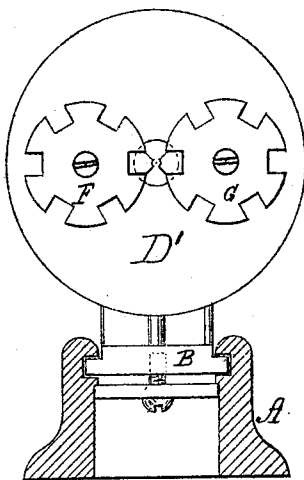


Fig. 3

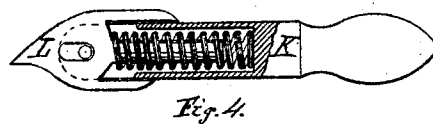


Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRY O. REED, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SCREW-CUTTING MACHINES.

Specification forming part of Letters Patent No. **141,460**, dated August 5, 1873; application filed May 16, 1873.

To all whom it may concern:

Be it known that I, HENRY O. REED, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Machine for Cutting Threads and Tapping Nuts, of which the following is a specification:

In the drawings, Figure 1 is a plan; Fig. 2, an elevation; Fig. 3, a section on the dotted line of Fig. 2. Fig. 4 shows one of the devices detached from the machine.

My machine consists of a bed-piece, A, on which is secured a head, B, as shown in the drawings. On this head B are two uprights supporting the boxes *b b* of the shaft C. This shaft is hollow, and is provided with the holder D, at its inner end. At its outer end it is formed to enter the sleeve on the hub E, to which it is securely held (after it has been placed in the boxes *b b*) by means of a pin passing through it and the sleeve. In cutting threads the dies are secured to the plate D', the axis of the die coinciding with the axis of the hollow shaft C. In the drawings I have shown a die which consists of two castings, F and G, each of which is provided with a notch capable of receiving and holding a small steel piece upon which the thread-cutters are formed. These castings are arranged each upon its set-screw, which project from the face of the die-plate D', and are held in place, when properly adjusted, by these set-screws, and by pins *a a*, Figs. 1 and 2, which pass through the plate D' and into the castings. The small steel pieces are so formed that they will be securely held in the notch, which they fit accurately. I prefer to make these castings disk-shaped, and to form a series of notches in each, and to fit a steel piece in each notch, so that by merely starting the set-screws and taking out the pins, the disks can be turned and readjusted by tightening the set-screws and replacing the pins, and a die of a different size be thereby brought into position. When the thread-cutters on the small steel pieces are worn or injured, the casting can be readily taken off, and a new piece inserted. This

combination of parts constitutes an important feature of my invention.

The rod to be threaded is held between the jaws H H, which are mounted in ways on the head I, and are actuated by the right-and-left screw J. This head I is mounted in the bed-piece A, so that it is free to be moved to and from the die-plate D'. When the rod is properly clamped between the jaws H H the head I is moved toward the die-plate, and the end of the rod pressed into the die, by means of the lever K. This lever K is fulcrumed upon the head I, and has upon its end a sliding spring-pawl, L, which takes in a rack upon the bed-piece. The pin which forms the fulcrum of the lever K passes through a slot in the pawl L, and a stem from this pawl L lies within the coils of a spiral spring which lies in a chamber in the lever K, so that the pawl can move endwise on the lever K against the spiral spring. This device constitutes also one feature of my invention.

When nuts are to be tapped the die-plate is removed from its holder D, and a chuck for holding the tap is substituted, in the well-known manner, the nut-blank being held by means of the jaws H H, as usual.

What I claim as my invention is—

1. The castings F and G, in combination with the small steel pieces, the set-screws, the pins *a a*, and the die-plate D, as above described.

2. The lever K having for its fulcrum the sliding spring-pawl L, bearing in a rack in the bed A, in combination with the head I and jaws H H mounted in ways in the bed A, and with the die-plate D bearing a cutting-tool, so that the screw or nut held in the jaws may be forced against the cutting-tool by the lever, all substantially as described.

Signed this 14th day of May, 1873.

HENRY O. REED.

Witnesses:

J. E. KNOX,
J. E. MAYNADIER.