T. THOMAS.

Machine for Threading Bolts.

No. 207,084. Patented Aug. 13, 1878.

Fig. 1.

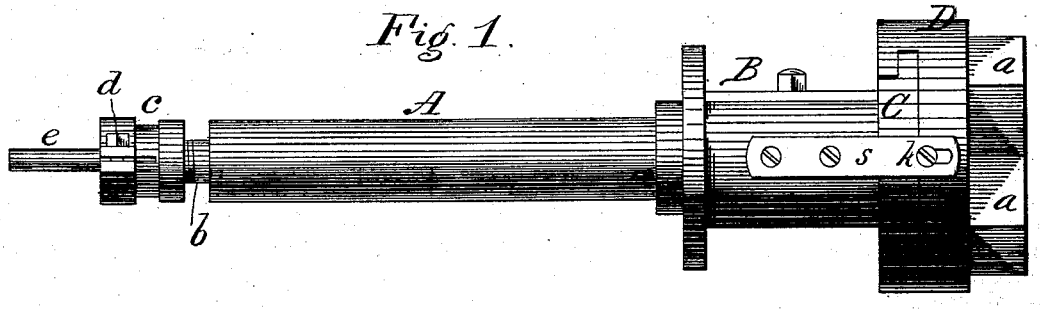


Fig. 2.

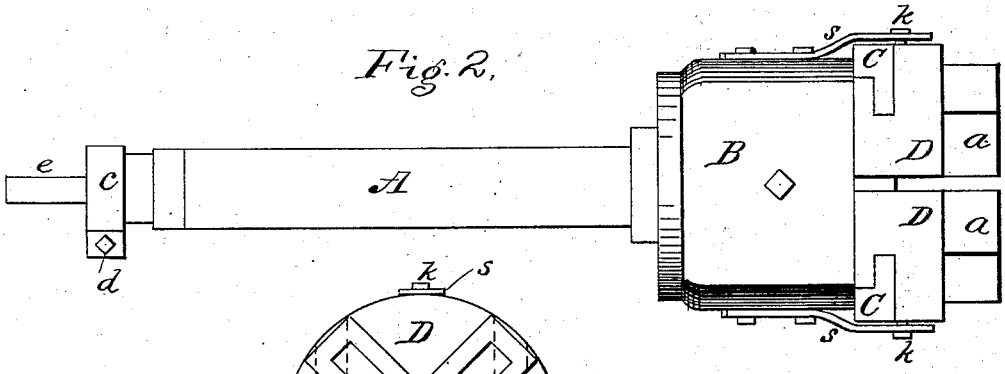


Fig. 3.

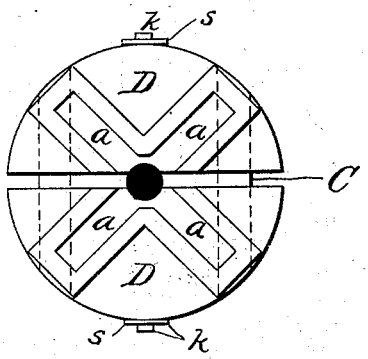
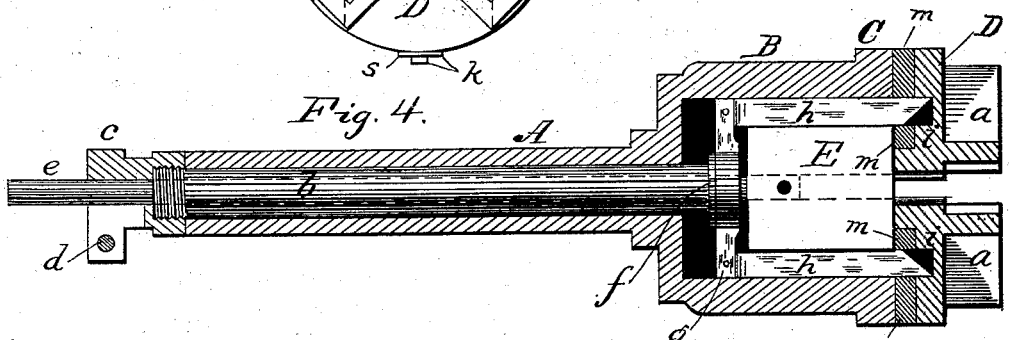


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS THOMAS, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR THREADING BOLTS.

Specification forming part of Letters Patent No. **207,084**, dated August 13, 1878; application filed June 11, 1878.

To all whom it may concern:

Be it known that I, THOMAS THOMAS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Bolt-Threading Chucks; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation; Fig. 2, a plan; Fig. 3, an end view; and Fig. 4 a longitudinal middle section of Fig. 2.

The invention relates to bolt-threading chucks for machines of that class in which the dies are held in vibrating jaws, which are caused to open when the bolt has advanced to a predetermined point.

It consists in the hereinafter described and claimed means of opening, closing, and locking the vibrating jaws, and the combination thereof with the chuck and its parts.

Except in some particulars the general form is of the usual construction, consisting of a hollow spindle, A, carrying at its outer end the box B, provided with the rabbeted or dovetailed slideway-head C, on which are arranged the two jaws D, grooved to slide on head C, as shown, and having on their faces the die-holding cavities *a a a a*.

Passing through the hollow spindle A is a hollow tube, *b*, to which, beyond the spindle, is screwed the collar *c*, which is partly split and provided with the clamping-screw *d*. A long rod, *e*, passes through collar *c* and pipe or tube *b*, and is clamped to any position therein by collar *c* and the screw *d*, so that if the rod *e* is pushed either way it carries the tube *b* with it.

Tube *b* passes into the box B through a rubber or other cushion, *f*, and beyond that screws into a cross-head, *g*, to each end of which are secured the parallel bars *h h*, which pass forward through the head C, and have their outer ends inwardly inclined to form wedge-faces, as shown in Fig. 4. The adjacent faces of the vibrating jaws D have slots or recesses *i*, as shown.

Attached to the box B are springs *s*, having slotted ends, through which pass the studs *k*. These springs normally tend to separate the jaws D when free to act.

A block, E, is set or cast in the box B, between the bars *h*, to guide them, and is perforated centrally for the passage of the bolt, as are also the head C and jaws D. The wedge-faces on bars *h* and the slots *i* in jaws D are so proportioned relatively that the bars enter the slots to a greater distance than the length of wedge-face requires. The jaws D have hardened and removable wearing-faces *m*, which can be taken out and replaced when required.

To operate, the device is fitted to the machine, after pushing forward the rod *e*, collar *c*, and tube *b* as far as possible. This causes the wedge-faces of bars *h* to impinge on the inner edges of slots *i* and push the jaws D inward. On advancing farther the bars *h* finally project into the slots so far that their parallel sides bear upon the sides of the slots, and in such position the jaws are locked firmly against the strain on the dies.

The bolt to be threaded enters the dies and is threaded as it advances till its end strikes the end of rod *e* and pushes it ahead. This causes tube *b* to recede also, drawing bars *h* out of the slots *i*. Springs *s* act to separate the jaws D and dies, when the bolt is released and can be withdrawn.

This construction enables me to previously adjust the rod to any required length of thread, and, when once set, it will automatically open the dies at any required point.

The tube *b* may be made large, so as to take in different sizes of bolt.

I claim as my invention—

The combination, with the box B, hollow spindle A, and spring-controlled jaws D, of the sliding tube *b*, rod *e*, passing through said tube and adjustable in relation thereto, collar *c*, clamp-screw *d*, cross-head *g*, and beveled parallel bars *h h*, with or without the block E, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of June, 1878.

THOMAS THOMAS.

Witnesses:

THOS. J. BRAY,

T. J. MCTIGHE.