

R. W. DEELY.

BOLT-THREAD CUTTING-MACHINE.

No. 172,851.

Patented Feb. 1, 1876.

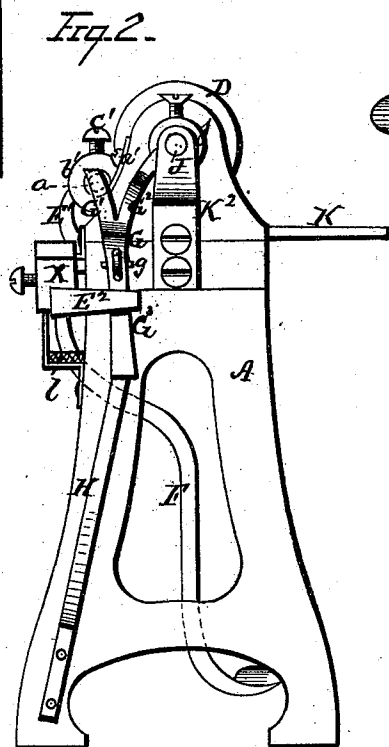
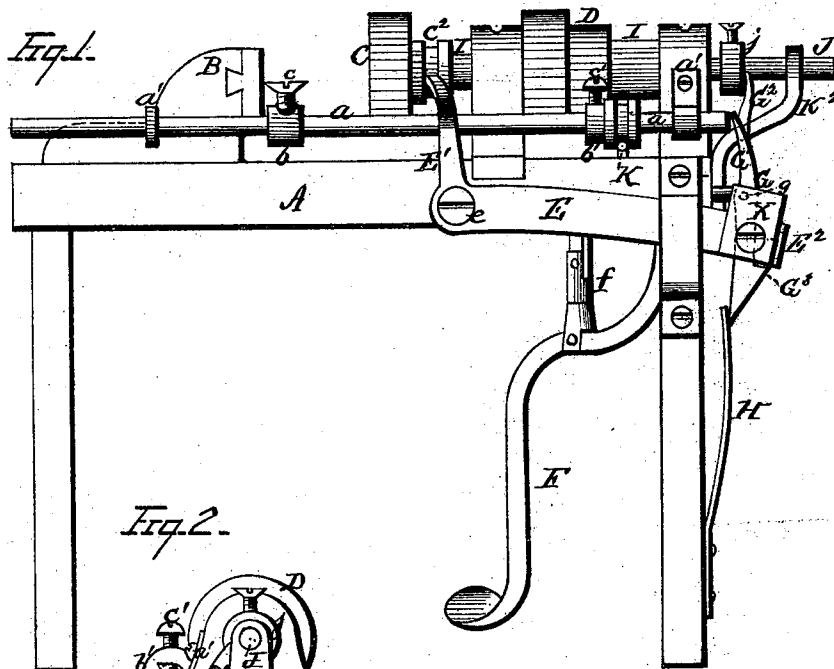


Fig. 3.



WITNESSES

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RICHARD W. DEELY, OF RICHMOND, INDIANA, ASSIGNOR TO HIMSELF AND
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IMPROVEMENT IN BOLT-THREAD-CUTTING MACHINES.

Specification forming part of Letters Patent No. **172,851**, dated February 1, 1876; application filed
May 26, 1875.

To all whom it may concern:

Be it known that I, RICHARD W. DEELY, of Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Bolt-Thread-Cutting Machines; 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.

My invention has relation to machines for cutting threads on bolts; and consists in certain attachments or devices and appliances, as hereinafter more fully set forth, whereby the length of thread on bolt is automatically gaged by the action of the bolt being operated upon operating to open or release the thread-cutting dies from the bolt, and thereby terminate the cutting.

In the drawings, Figure 1 is a side elevation of my improvement as attached to a bolt-thread-cutting machine; Fig. 2, an end view. Fig. 3 is a detached view of the rod in the interior of the hollow spindle.

A is the table or frame of an ordinary bolt-cutting machine, upon the bed of which is mounted the sliding bolt-chuck B, die C, and driving-pulleys D. *a* is a rod, secured or held in place at the side of the machine, in bearings or guides *a'*. *b b'* are collars, secured to the rod *a* by set-screws *c c'*. E is a bell-crank or L lever, pivoted to the frame A at *e*, constructed at its front end with a curved arm, *E¹*, which enters a groove, *c²*, in the rear of the die C, and at the rear with a projecting portion, *E²*. On the rear end or long arm of this lever E is an adjustable weight, X. F is a foot-lever or pedal, secured by the hanger *f* to the under side of frame A, and operating to raise lever E. G is a trip or catch, pivoted at *g* to the frame A, constructed at the top portion of a V form, or with laterally-projecting arms *G¹ G²*, and at the bottom with a catch or hook, *G³*, which engages under the part *E²*, and holds up lever E. H is a spring, operating to hold trip G in position. Instead of this spring H, the end of the trip may be weighted.

The spindle I, on which the driving-pulleys D and die C are mounted, is made hollow, and in the interior, running the entire length, is a spirally-formed rod, J, provided at the outside-projecting rear end with an adjustable collar, *j*, against which the arm *G²* of trip G bears and holds in position. The other arm *G¹* of the trip G impinges against the end of rod *a*. K is a hand-lever, pivoted to frame A and engaging in the groove in collar *b'*. Beneath the rear end of lever E is an elastic cushion, *l*, on which the lever drops, thus preventing noise and jar of the parts.

The operation of the parts is as follows, the parts being in the position as shown in the drawings, with the lever E up and secured by catch *G³*: In this raised position of the lever, by means of its arm *E'*, the die C is thrown forward and in a closed position. The bolt-blank upon the end of which it is desired to cut a screw-thread is secured and held in the clamp or chuck B.

Now, the object of my invention is to open or release the dies from contact with and cease cutting the bolt when the thread has been cut to a certain length or degree thereon. This may be accomplished by the forward movement of the chuck B, which, in advancing, comes against the collar *b*, pressing it and the rod *a* forward, which rod, pressing against the arm *G¹* of trip G, releases catch *G³* and allows the lever E, by reason of gravity of weight X, to drop down, drawing back the die C by arm *E'*, thereby opening and releasing them from the bolt, and ceasing the cutting operation. The lever is brought back and the parts set by pressure upon foot lever or treadle F.

The same operation may be accomplished, and the catch G tripped and the dies opened, by hand, and not automatically, as above, by pushing forward or pressing upon the end of rod *a*.

Another way by which the parts may be automatically operated and the same result obtained, and one which dispenses with rod *a*, is as follows: As the bolt being cut enters the die C and reaches a certain point it comes against the end of the spirally-formed rod J, forcing it back against the arm *G²* of trip G,

thus releasing the catch G^3 from the lever, and allowing the same to drop and open the dies.

The object of forming the rod J of the spiral form is to allow a passage and carry off the cuttings, &c., of the bolt from the dies, and thereby keeping the hollow spindle clean.

By this construction and arrangement it will be seen that three separate and distinct modes of tripping or opening the dies are secured, and the parts may be arranged by adjusting the collars on the rod a and J, so as to trip the lever and open the dies at any desired degree or point, and the thread cut on the bolt any length desired.

The spiral rod J is supported and held in a central position in the hollow spindle I by a rear support, K^2 . Thus the rod J is prevented from contact with the interior of the spindle, and wearing the same or causing friction.

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

1. The spirally-formed rod J, mounted in the hollow axle I, as and for the purposes described.

2. In combination with the rod J, the trip

or catch G, constructed at the top with lateral arms, and at the bottom with a hook or catch G^3 , substantially as and for the purpose described.

3. In combination with the rod J and catch G, the lever E, constructed at its front end with a curved arm, E^1 , which engages with the dies C, and at the rear with a projecting portion, E^2 , which engages with catch G^3 , substantially as and for the purposes described.

4. In combination with lever E, the foot-lever F and adjustable weight X, for operating the lever E, as and for the purposes described.

5. The combination and arrangement, in a bolt-thread-cutting machine, of rod J, trip G, weighted bent lever E, and treadle F, all constructed, arranged, and adapted to operate as and for the purposes set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 25th day of May, 1875.

RICHARD W. DEELY.

Witnesses:

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