

A. & A. PHILLIPS.
Screw-Cutting Machines.

No. 140,161.

Patented June 24, 1873.

Fig 1.

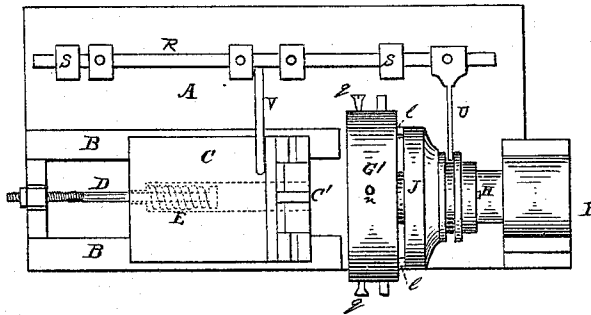


Fig. 2.

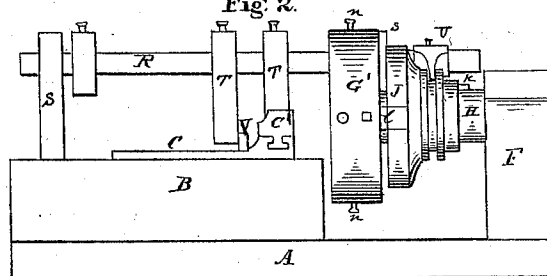


Fig. 3.

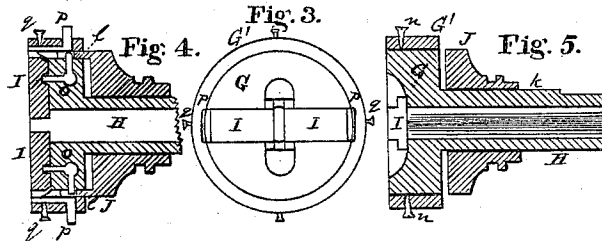


Fig. 4.

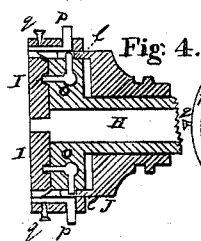
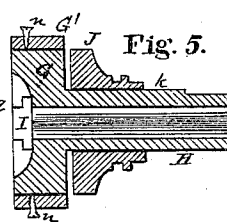


Fig. 5.



WITNESSES

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ALFRED PHILLIPS AND ALBERT PHILLIPS, OF CLEVELAND, OHIO.

IMPROVEMENT IN SCREW-CUTTING MACHINES.

Specification forming part of Letters Patent No. **140,161**, dated June 24, 1873; application filed October 25, 1872.

To all whom it may concern:

Be it known that we, ALFRED PHILLIPS and ALBERT PHILLIPS, of Cleveland, county of Cuyahoga, State of Ohio, have invented certain Improvements in Bolt-Cutting Machines, of which the following is a specification:

These improvements consist in the construction and arrangement of the parts or devices comprising the cutter-head, whereby the dies are thrown open, releasing the bolt, and in the arrangement of the bolt-carriage, which, when the bolt is released from the dies, flies backward into position to receive another blank bolt and closes the dies ready for cutting.

In the accompanying drawing, Figure 1 is a plan view of part of a bolt-cutting machine embodying our improvements. Fig. 2 is a side elevation of the same. Fig. 3 is a face view of the cutter-head. Fig. 4 is a horizontal, and Fig. 5 is a vertical, section of the same.

A, Figs. 1 and 2, represents a portion of the bed-plate which supports the working-parts. To the bed-plate are attached ways or slides B B, upon which rides the bolt-carriage C. Attached to the carriage C is a rod, D, playing in a spring, E, on the under side of the carriage. The other end of said rod is secured in the end of the slide-frame.

The object of this rod and spring will be hereinafter shown.

To the bed-plate A is attached a post, F, having a box on the upper end, in which the journal of the cutter-head revolves. The cutter-head consists of a disk, G, having a hollow mandrel, H, in which disks are the cutting-dies I I.

These dies are made to open and close in the following manner: On the hollow mandrel is placed a sleeve, J, having a groove cut lengthwise on the inside, which groove fits over a feather, k, on the mandrel. This allows the sleeve to play back and forth on the mandrel while it revolves with it. The sleeve has two arms, l l, which slide in grooves cut for them in the periphery of the disk G. In slots cut in the disk are placed two small right-angle levers, o o, pivoted or fixed so as to play or turn at the angle, one end of said levers connecting with the arms l l of the sleeve J, and the other end of said levers connected with the dies I I.

Thus it will be observed that when the

sleeve is moved back and forth the play of the levers moves the dies in or out. The disk G is surrounded by a ring, G', held in place by set-screws n n. In the said ring, in grooves, are placed two small bearing-pieces, p p, against which the arms l l slide, and which pieces p p are kept closely in contact with said arms by set-screws q q. This keeps the parts closely together and prevents rattling or displacement of parts.

It will be seen that the ends of the arms l l are beveled off, so that they shall easily enter and push the dies inward.

To operate these parts of the cutter-head there is placed by the side of the carriage a sliding bar, R, set in posts S S having on it adjustable arms T T, and also having an arm, U, which connects with an annular groove in the sleeve J for carrying the sleeve back and forth.

To the carriage is fixed an arm, V, which strikes the arms T T and which actuates the bar R.

The operation of this machine is as follows: A bolt-blank is placed in the slot or clamp, C', of the carriage, and the carriage pushed forward until the blank enters the dies, which commence cutting, and will continue to draw the bolt in. When the thread has been cut a sufficient length, which is determined by the position of the arms T T, the arm V will carry the bar R forward, and through the arm U carry the sleeve J forward, by which the dies are expanded and the bolt is released; then the spring E on the rod D causes the carriage to fly backward, and the arm V strikes an arm, T, and carries the bar R back again, which immediately closes the dies ready for the next blank.

We claim—

1. The disk G, hollow mandrel H, sleeve J, arms l l, levers o o, dies I I, ring G', pieces p p, set-screws q q, the arm U, bar R, adjustable arms T T, arm V, and the carriage C, all constructed, combined, and arranged, and operating substantially as shown and described, and for the purpose set forth.

2. The rod D and spring E, in combination with the carriage C, as shown and described, and for the purpose set forth.

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Witnesses:

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