

Screw-Cutting Devices.

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Inventor.
J. B. Low.
by his Attys.
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UNITED STATES PATENT OFFICE.

JOEL BACON LOW, OF RAVENNA, OHIO.

IMPROVEMENT IN SCREW-CUTTING DEVICES.

Specification forming part of Letters Patent No. 135,830, dated February 11, 1873.

To all whom it may concern:

Be it known that I, JOEL B. LOW, of Ravenna, in the county of Portage and State of Ohio, have invented a new and Improved Bolt-Cutter; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of my apparatus; Fig. 2, a side elevation of the same; and Fig. 3, a longitudinal central section.

Similar letters of reference in the accompanying drawing denote the same parts.

This invention belongs to that class of bolt-cutters in which the bolt is held stationary and dies revolve while cutting the bolt, and open for its removal when cut. The invention has for its object to improve the construction of such a bolt-cutter in such manner that the dies may have a curvilinear motion while being released from the bolt, and the dies be held against the bolt while cutting it, without possibility of yielding. To this end the invention consists in the combination, with the swinging die-holders which give the curvilinear motion and the sliding ring which holds the dies against the bolt, of a barrel formed with a rack, a lever formed with pinions engaging with said rack, and a sleeve inclosing the barrel and furnishing the fulcrum of the lever; all which I will now proceed to describe.

In the drawing, *a* are the dies aforesaid, the same being of ordinary construction, and are held in the die-holders *A* by screws or other proper devices. The die-holders are all bell-crank levers, pivoted between lugs *B*, which are attached to the outer face of a flange, *C*, which forms the head of the barrel *D*, which barrel has at its outer end a flange, *E*, by means of which it is attached to the live

spindle of a lathe. The bolt is held stationary between the dies by fastening it to the dead spindle of the lathe. The dies are clamped upon the bolt by means of a ring, *F*, attached to sliding sleeve *G* inclosing the barrel. This ring has an inclined outer side, *b*, and a plain rim, *c*. The die-holders *A* have inclined outer ends *d*, and plain inner faces *e*. Prior to clamping the bolt, the ends *d* and side *b* are in contact, as shown in Fig. 3.

By moving the sleeve *G* along the barrel, the inclined ends *d* are thrown outward, clamping the dies upon the bolt, the rim *c* forming a stop against which the faces *e* bear, which stop, it is obvious, cannot be moved backward by any amount of pressure on the dies. On moving the sleeve *G* backward by the means provided for that end, the bolt still holds the dies in the same position; but on drawing out the bolt the dies move in a curvilinear direction, the springs *k* causing the ends *d* to bear once more upon the side *b*. As this part of my apparatus is not new it is unnecessary to dwell upon it further.

In the outside of the barrel *D* a rack, *i*, is formed, and between lugs *g* of the sleeve *G* a lever, *H*, is pivoted, having a segmental pinion, *h*, on its inner end, which engages with the rack *i*. By means of this lever, rack, and pinion, the sleeve *G* is moved back and forth to accomplish the above-described movements.

Having thus described my invention, what I claim as new is—

The combination of the swinging die-holder *A*, the barrel *D* having a rack, *i*, the ring *F*, sliding sleeve *G*, and lever *H* having a segmental pinion, *h*, all arranged as specified.

JOEL BACON LOW.

Witnesses:

ABRAHAM KEEFER GRIM,
EDMUND BENITO MASTEN.