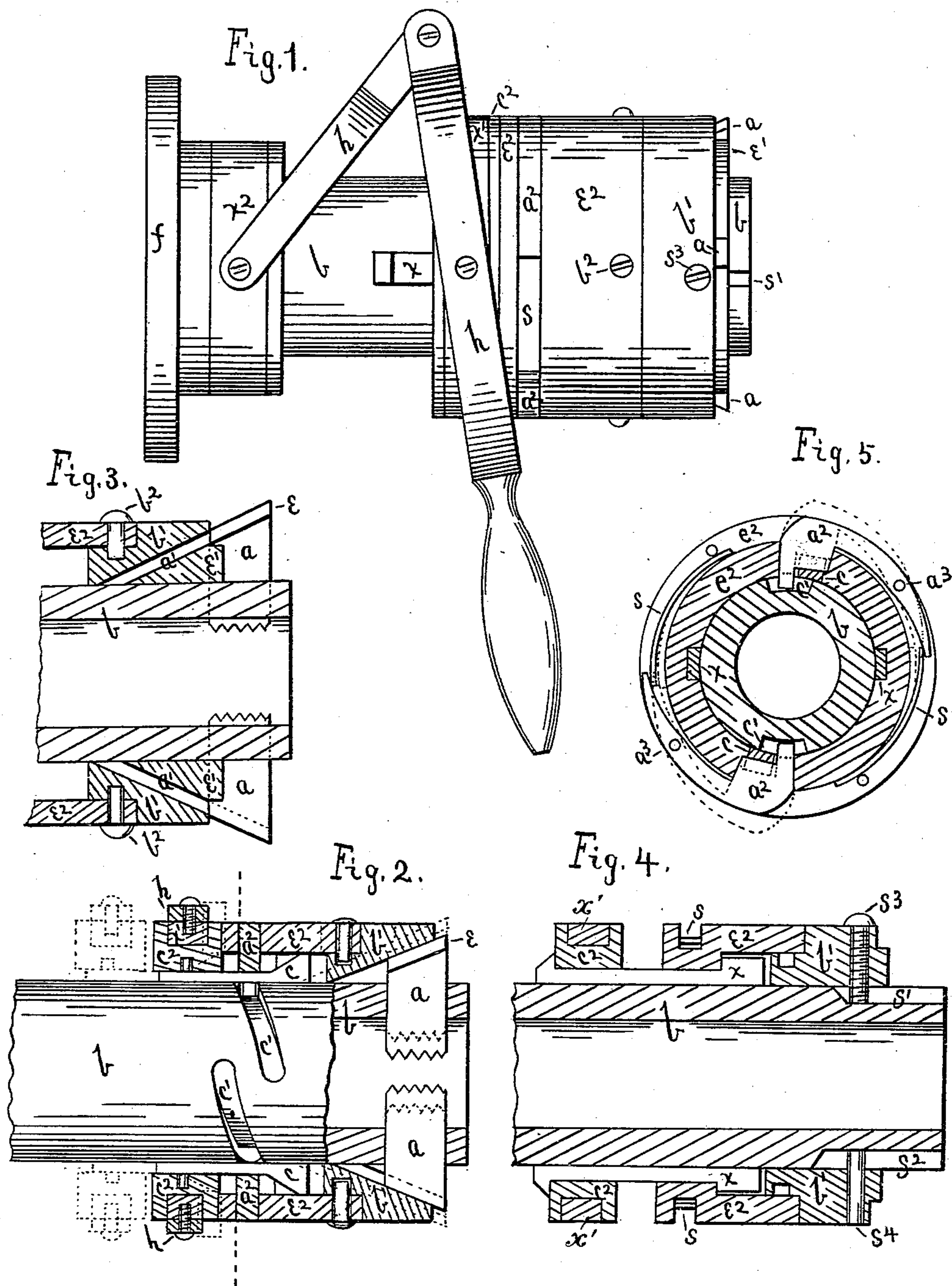


(No Model.)

L. W. STOCKWELL.  
SCREW CUTTING MACHINE.

No. 259,434.

Patented June 13, 1882.



Witnesses.  
James H. Holcomb  
George F. Robinson

Inventor  
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# UNITED STATES PATENT OFFICE.

LEVI W. STOCKWELL, OF CLEVELAND, OHIO, ASSIGNOR TO WILLIAM H. PRICE, OF SAME PLACE.

## SCREW-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 259,434, dated June 13, 1882.

Application filed July 13, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, LEVI W. STOCKWELL, of Cleveland, Ohio, have invented a new and useful Improvement in Screw-Threading Machines, of which the following is a specification.

This invention relates to that class of screw-threading machines in which the threading-dies are moved in the stock or cutter-head by means of converging grooves in a sliding collar.

The object of my invention is to facilitate the placing of the dies in the stock and sliding collar by means of an annular shoulder on the face of the sliding collar which arrests the dies in position to enter the converging grooves in the collar; also, to adjust the dies by means of cam-grooves in the stock entered by pins, which may be withdrawn by a sliding wedge or cam for the purpose of opening the dies.

Figure 1 is a plan. Fig. 2 is a vertical section. Fig. 3 is a vertical section of the front part of the machine, showing the relative positions of parts when the dies are being inserted. Fig. 4 is a horizontal section. Fig. 5 is a cross-section at the dotted line in Fig. 2.

The cutting-dies  $a a a$  are placed in slots near the front end of the hollow stock  $b$ , the outer ends of the dies having side projections,  $e e e$ , fitted to the inclined grooves  $a' a' a'$  in cam-collar  $b'$ , which by sliding on stock  $b$  moves the cutting-dies toward and from the center of the stock. At the face of collar  $b'$  its circumference is cut down, leaving a shoulder,  $e'$ , which arrests dies  $a$  by contact with its projection  $e$  in position to enter the inclined grooves of collar  $b'$  when the dies are being placed in the stock, as shown in Fig. 3.

The collar  $e^2$  on stock  $b$  has an outer circumferential flange, connected with sliding collar  $b'$  by pins  $b^2 b^2$ , which enter a circumferential groove in collar  $b'$ .

The levers  $a^2 a^2$  are pivoted at  $a^3 a^3$  in a circumferential groove in collar  $e^2$ . One end of each of the levers  $a^2 a^2$  is in the form of a pin, and these ends project through collar  $e^2$  and enter circumferential inclined grooves  $c' c'$  in stock  $b$ . By turning collar  $e^2$  on stock  $b$  and collar  $b'$  the projecting ends of levers  $a^2 a^2$  follow the inclined grooves  $c' c'$  and cause collar  $b'$  to slide on stock  $b$  for the purpose of adjusting dies  $a$ .

The wedge or cam-slide  $c$  is attached to the inner circumference of ring  $c^2$  on stock  $b$ , and extends lengthwise on stock  $b$  through a slot across the inner circumference of collar  $e^2$  and under the flange of the collar. Lever  $a^2$  has a shoulder resting on wedge  $c$ , Fig. 5. By sliding back ring  $c^2$  on stock  $b$  the inclined upper sides of wedges  $c$  lift levers  $a^2 a^2$  out of grooves  $c' c'$  before ring  $c^2$  comes in contact with the projecting ends of rods  $x x$ . These rods extend back from ring  $c^2$  lengthwise on stock  $b$ .

By sliding back ring  $c^2$  after it comes in contact with the projecting ends of rods  $x x$  the collars  $e^2$  and  $b'$  are drawn back on stock  $b$  till the dies  $a$  are withdrawn from the threaded bolt, which may then be removed. The jointed lever  $h$  is pivoted to rings  $x' x^2$ , which rest loosely in grooves in ring  $c^2$  and hub of flange  $f$ . Flange  $f$  is attached to stock  $b$  and rotates with the stock and ring  $c^2$  in the rings  $x' x^2$ . Lever  $h$  is provided with a handle by which to slide ring  $c^2$ . For the purpose of operating the machine, flange  $f$  may be bolted to a rotating face-plate.

When the operator slides forward ring  $c^2$  the inclined part of wedge  $c$  is forced away from levers  $a^2 a^2$ , whose projecting ends will then rest on the circumference of stock  $b'$ . By continuing to slide forward ring  $c^2$  it comes in contact with collar  $e^2$ , sliding it and collar  $b'$  forward to close the dies  $a$  till levers  $a^2 a^2$  are in position to re-enter grooves  $c' c'$ , into which they are forced by the action of springs  $s s$ . These springs are placed in the same groove with levers  $a^2 a^2$ . One of the pins  $b^2 b^2$  is of sufficient length to act as a set-screw to hold collar  $e^2$  from turning when the cutting-dies  $a$  have been properly adjusted. In adjusting the dies, (after loosening set-screw  $b^2$ ), by turning collar  $e^2$  on stock  $b$  and collar  $b'$  the levers  $a^2 a^2$ , ring  $c^2$ , wedge  $c$ , and rods  $x x$  all turn with collar  $e^2$ . Longitudinal slots  $s' s^2$  are cut in the circumference of stock  $b$  at its front end, which are entered by pins  $s^3 s^4$  through collar  $b'$ .

When the machine is in operation the contact of screw-pin  $s^3$  with the end of slot  $s'$  arrests the backward movement of collar  $b'$  at the proper point to prevent the dies from becoming dislodged. When it is desired to remove the dies  $a$  the screw-pin  $s^3$  is to be withdrawn from slot  $s'$  to permit collar  $b'$  to be

moved back enough to dislodge the dies. Any further backward movement of collar  $b'$  is prevented by contact of pin  $s^4$  with the end of slot  $s^2$ , leaving the relative positions of collar  $b'$  and dies  $a$  as shown in Fig. 3.

I claim as my invention—

1. The stock  $b$ , having the inclined grooves  $c' c'$ , in combination with collar  $e^2$ , levers  $a^2 a^2$ , grooved collar  $b'$ , and dies  $a$ , substantially as described.

2. The ring  $c^2$ , wedges  $c c$ , levers  $a^2 a^2$ , and springs  $s s$ , in combination with collars  $e^2 b'$ , dies  $a$ , and stock  $b$ , having the inclined grooves  $c' c'$ , substantially as described.

3. The collar  $e^2$ , having the rods  $x x$ , levers  $a^2 a^2$ , and springs  $s s$ , and the ring  $c^2$ , having the wedges  $c c$ , in combination with collar  $b'$ , having the inclined grooves  $a' a'$ , the dies  $a$ , and stock  $b$ , having the inclined grooves  $c' c'$ , substantially as described.

4. The stock  $b$ , formed with slots  $s' s^2$ , of unequal length, in combination with collar  $b'$ , pins  $s^3 s^4$ , and the cutting-dies, substantially as described.

LEVI W. STOCKWELL.

Witnesses:

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H. S. SHERMAN.