

L. EATON.
Pea-Sheller.

No. 227,886.

Patented May 25, 1880.

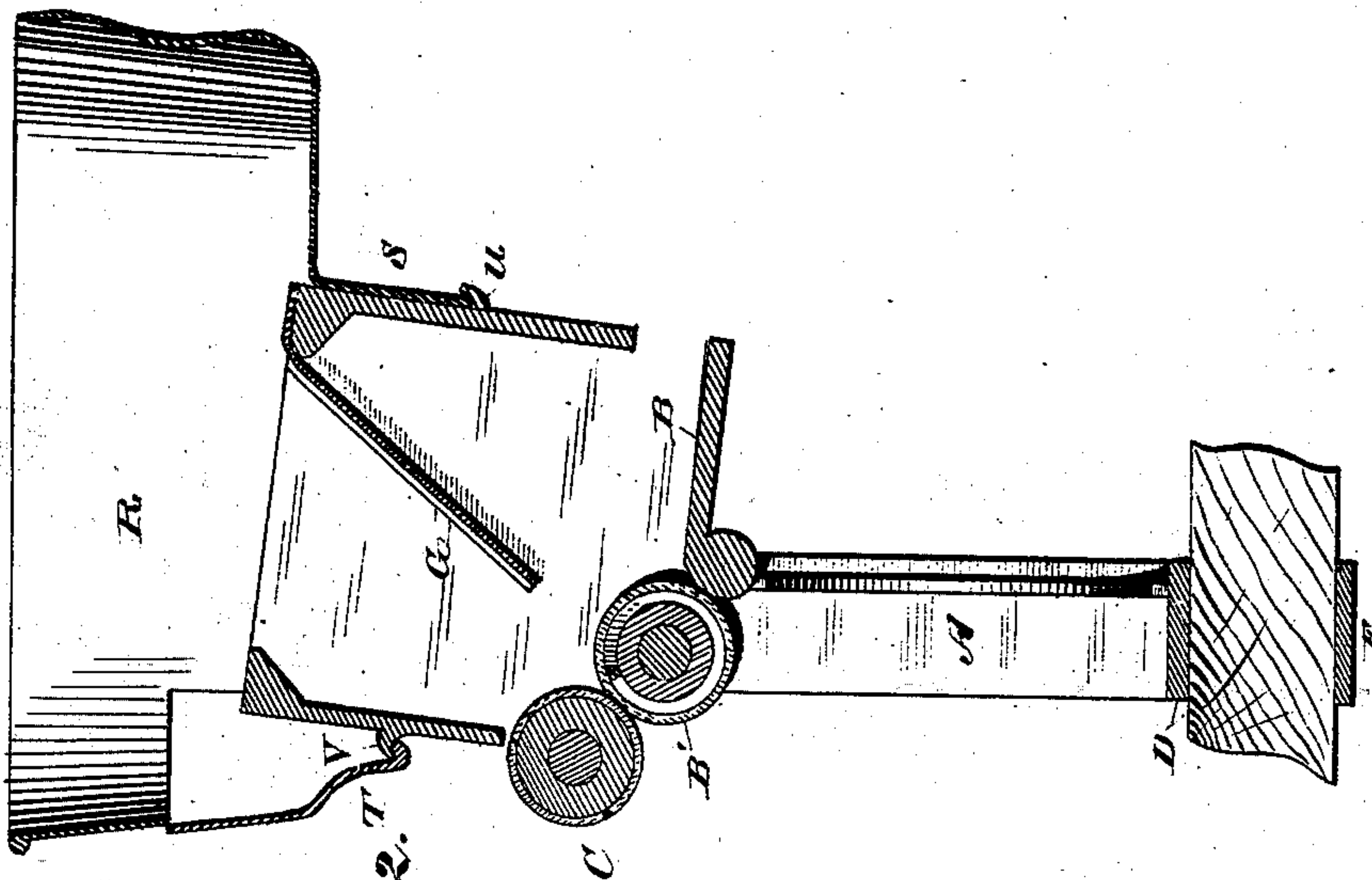


Fig. 2.

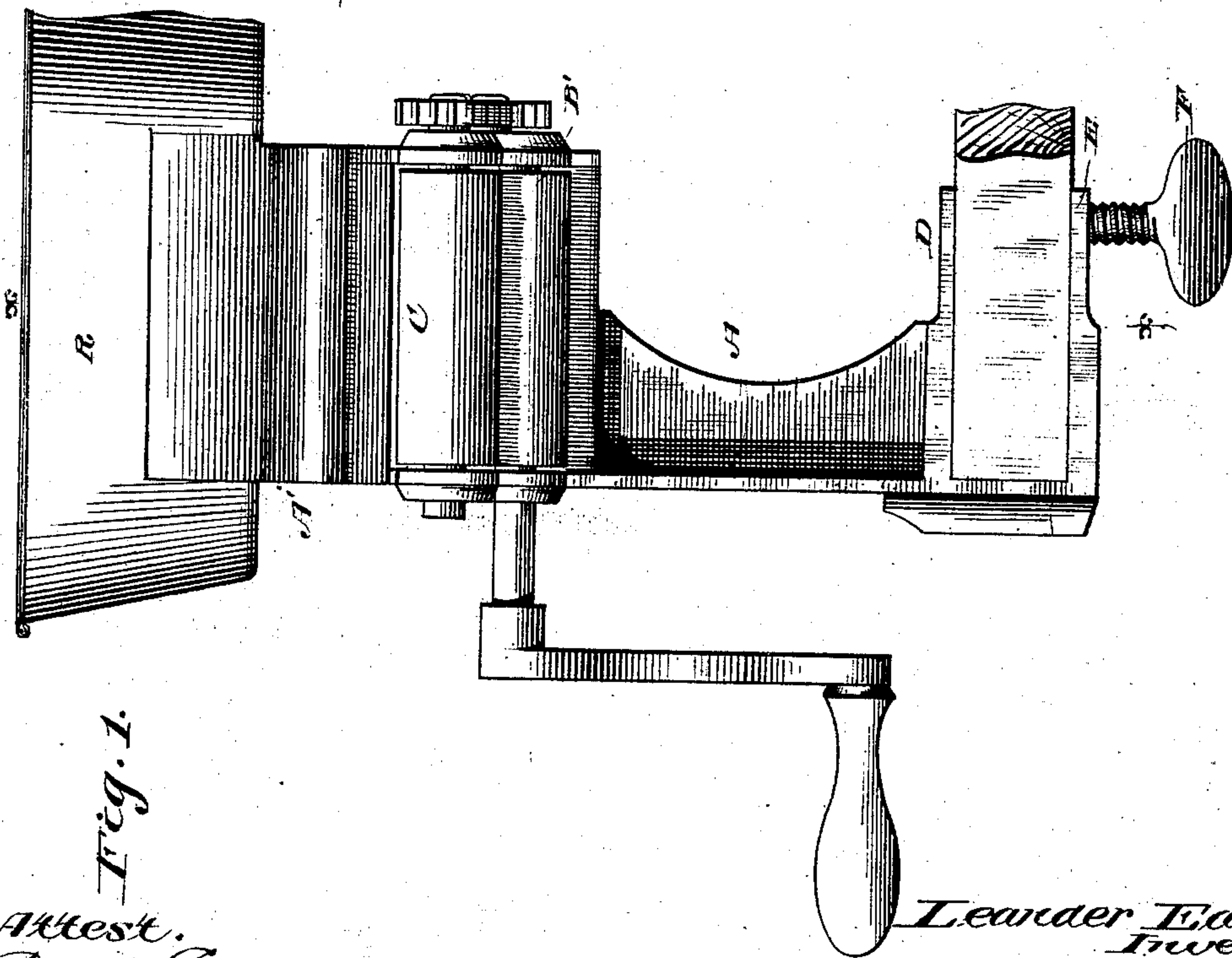


Fig. 1.

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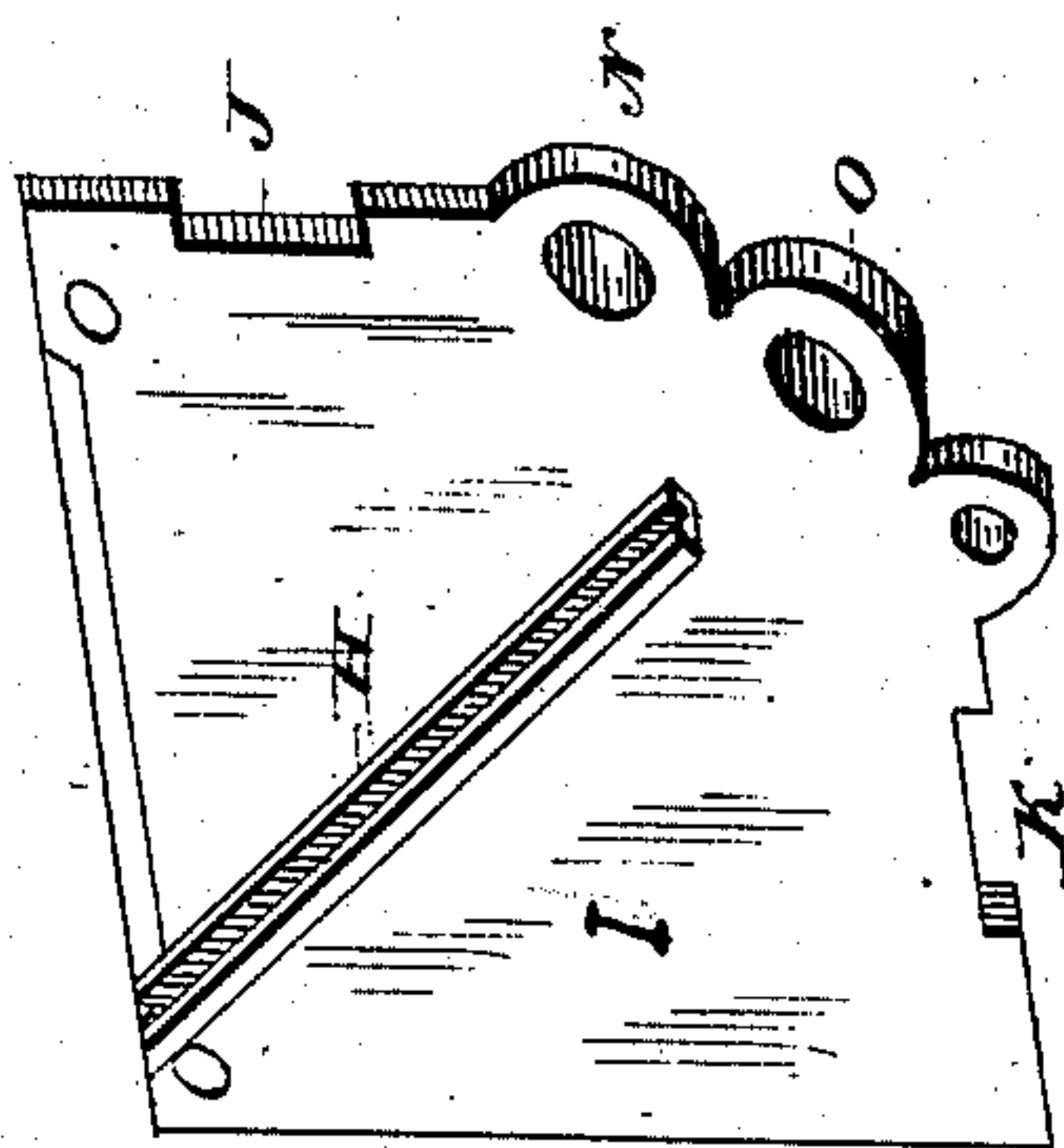


Fig. 3.

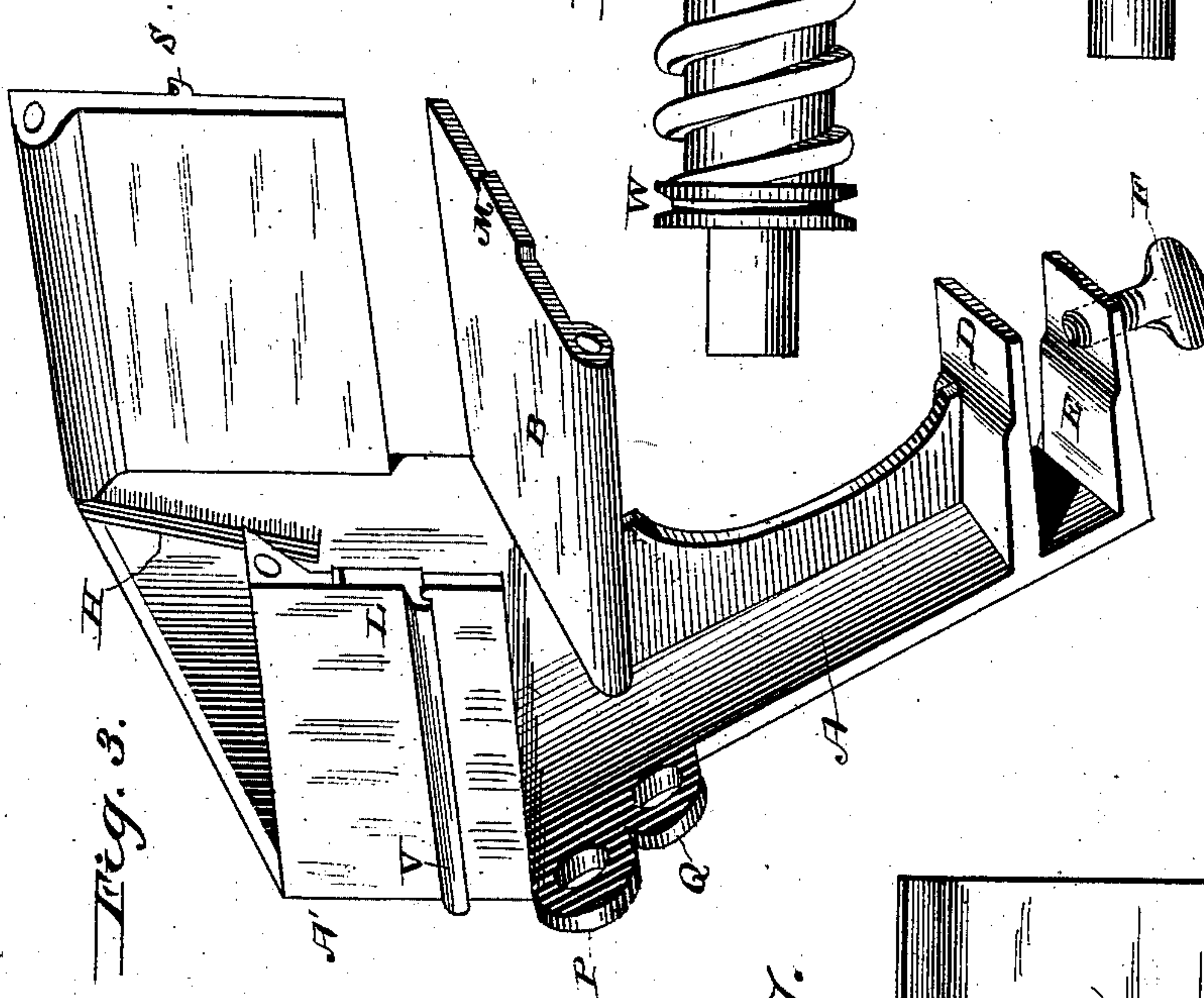


Fig. 4.

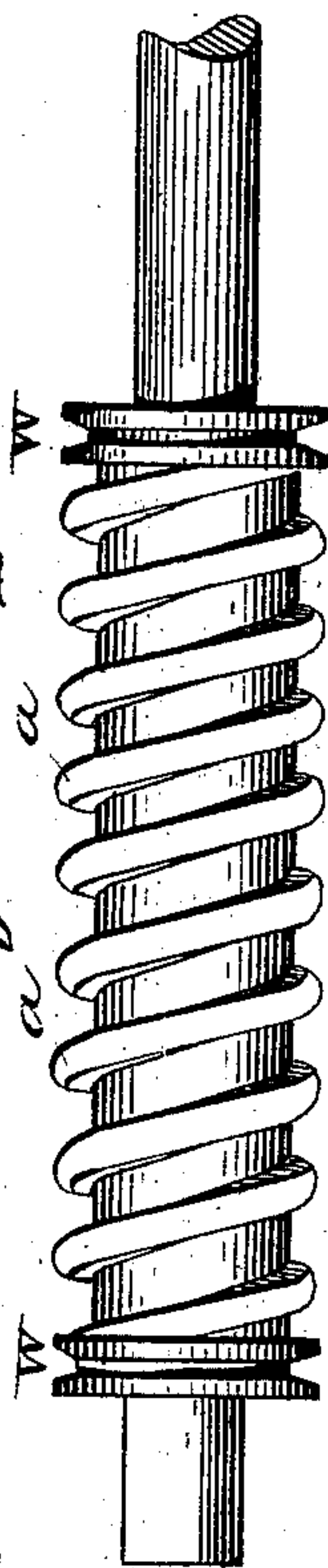


Fig. 5.

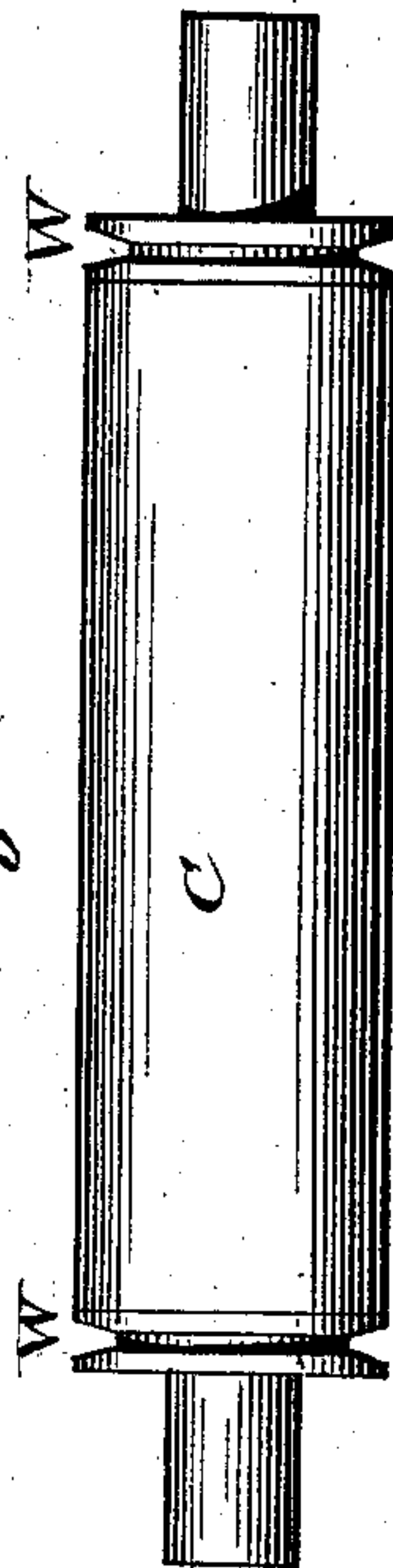


Fig. 6.

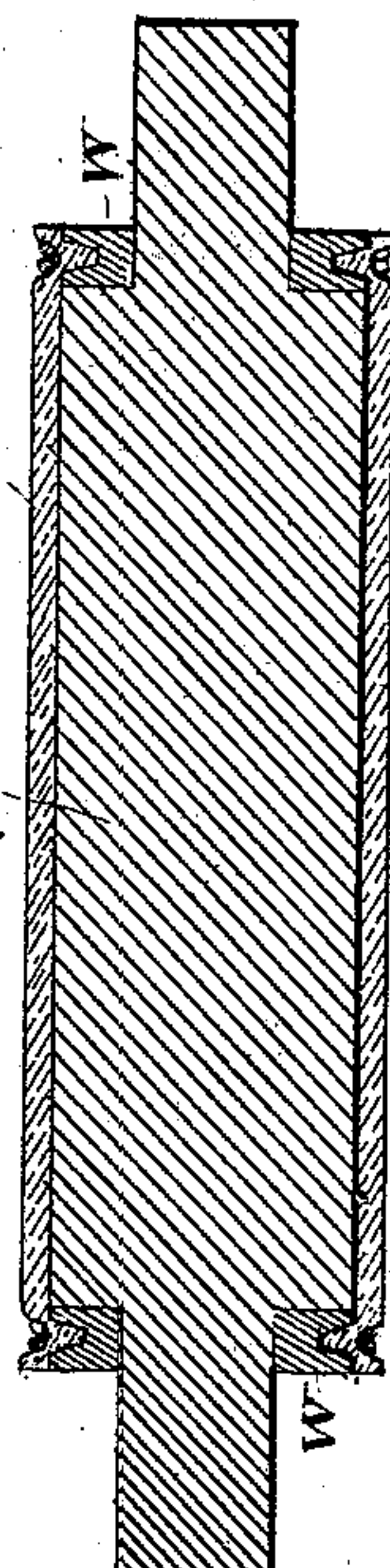
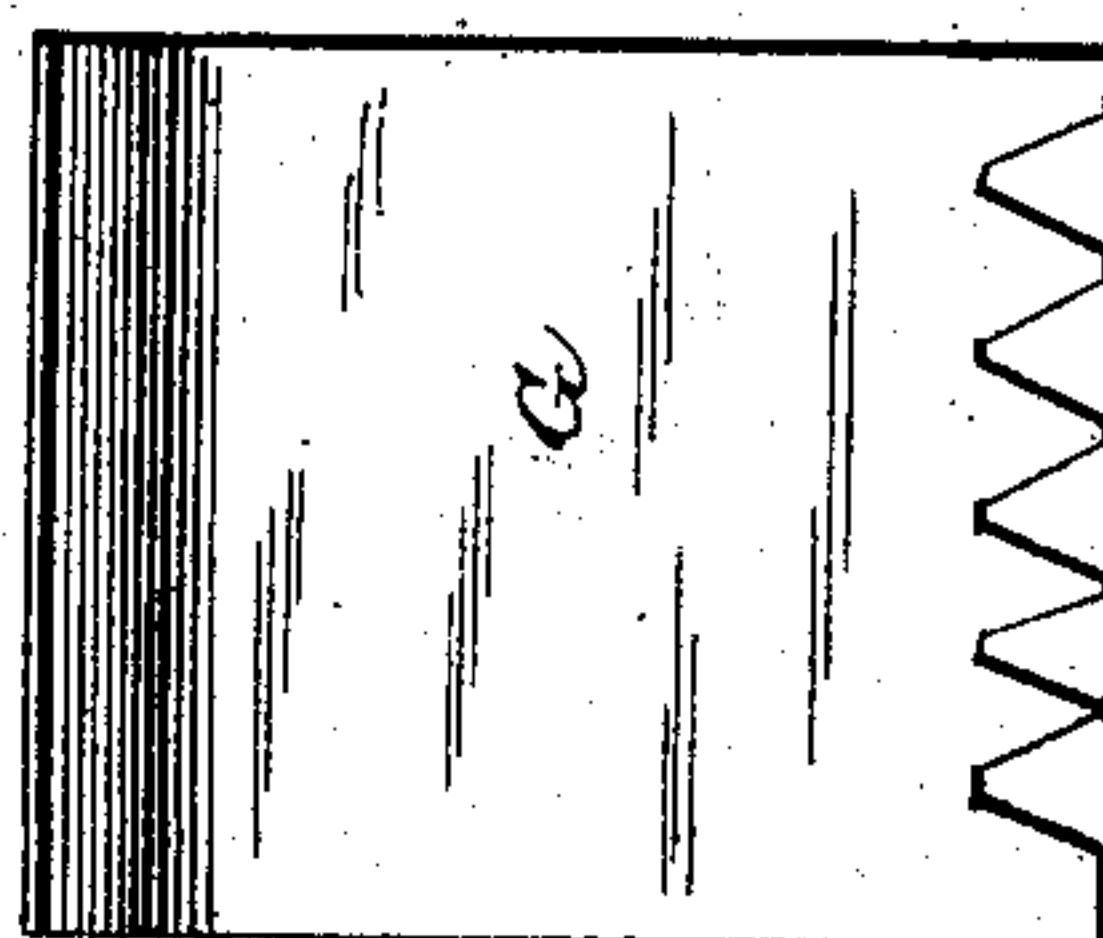


Fig. 7.



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UNITED STATES PATENT OFFICE

LEANDER EATON, OF WORCESTER, MASSACHUSETTS.

PEA-SHELLER.

SPECIFICATION forming part of Letters Patent No. 227,886, dated May 25, 1880.

Application filed October 24, 1879.

To all whom it may concern:

Be it known that I, LEANDER EATON, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain
5 new and useful Improvements in Devices for Shelling Green Pease; 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
10 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

15 Figure 1 is a side elevation; Fig. 2, a section through *xx* of Fig. 1; Fig. 3, an elevation of the standard and bin, with one side of the latter removed; Fig. 4, a side view of one of the rolls with its covering removed, exhibiting the spiral rings or threads around the
20 core; Fig. 5, a similar view of another of the rollers with the covering removed, exhibiting grooves near the end to receive a portion of the covering when depressed by means hereinafter described; Fig. 6, a longitudinal section of that roller, showing how its covering is
25 held thereon by means of the grooves and threads, and Fig. 7 a front view of the feed-plate removed from within the bin.

30 My invention relates to devices for shelling green pease and beans; and it consists in constructing the bin of the device with an inclined feed-plate and two drawing-rolls, constructed as hereinafter described, both plate and rolls
35 being at an inclination of about forty-five degrees and one at right angles to the other; secondly, in constructing one of the drawing-rolls with threads in the manner of a screw, the depth and distance apart of the threads
40 being such as to afford relief to the pea as the pod is being drawn between the rolls, so as to separate the pea from the pod without crushing the pea.

It also consists in the further construction
45 of the rolls and of other parts of the sheller, as hereinafter particularly described.

In the accompanying drawings, the letter A indicates the standard of the sheller, which is provided at its lower end with fixed jaws D E,
50 by means of which and a thumb-screw, F, it is secured to a stand.

To the upper part of the standard there is formed a bin, A', three sides of which are cast with the standard and the fourth made separate therefrom, but to be secured thereto by
55 means of screws.

The bottom B of the bin is cast as a part of the standard and three sides of the sheller, and is far enough below the sides of the bin to leave a space between the front and rear
60 ends of the bin and its bottom, as shown in Fig. 2, and has a downward inclination from front to rear, so as to direct the shelled beans or pease to the opening in the rear, through which they are removed.

Two rollers, C B', are journaled in the open space in the front of the bin, and are set at an angle of about forty-five degrees, so as to be at right angles to the feed-plate G, which is placed within the bin at an angle of about
70 forty-five degrees, and can be moved up and down in inclined grooves or ways H, formed on the sides of the bin, in order to regulate the space between end of the plate and the rollers for the passage of large or small pease or
75 beans, as the case may be.

The bin has a rearward inclination from the standard, in order that the rolls may be placed at an angle that will not afford a lodging-surface for the pea or bean on the lower roller.
80

The detachable side I of the bin is cast with recesses J K for tenons L M on the edges of the front and bottom of the bin to fit into, and with lugs N O, which have holes through them and are to form the bearings for one end of
85 the rollers, the other end of the rollers fitting into the lugs P Q, cast on the standard, as shown in Fig. 3. The side thus constructed is secured in position by means of screws passed through the holes shown in Fig. 3 as formed therefor.
90 On the top of this bin there is placed a hopper, R, which is constructed with flanges S T, which fit over the mouth of the bin, the flange S resting on the bead U, cast on the rear of the bin, and flange T, the lower end of which is
95 hooked, fitting over and hooking with the bead V, formed on the front of the bin.

Both of the rollers are formed with grooves W at or near their ends, and have a rubber tubing, Y, slipped over them and held thereto
100 by means of wire or threads wound around the same, and which force a part of the tubing

into the grooves, thereby preventing it from working off the same.

By thus constructing the rollers the rubber tubing can be readily removed when it is worn out, and be replaced by another, without discarding the whole roller or sending to the factory for others.

As the rollers used in these shelling-machines have been heretofore constructed, many of the beans or pease have been crushed in drawing the pods between them. To avoid the crushing of these pease and beans, I construct the rollers as I will now describe.

The roller B' is formed with spiral ribs or threads *a*, like the threads of a screw, as shown in Fig. 4, the threads being far enough apart to allow the pea or bean in the pod to fit, or nearly fit, between them, and at the same time to hold the pod firmly between the top of the thread and bearing-surface of the other roller, the depth of the threads being sufficient to relieve the pea or bean in the pod from any pressure that would crush the same. I have found that if the screw-threads be cut three to the inch, and with a depth of one-eighth of an inch, the pease and beans can be shelled without being crushed. The roller thus formed is covered with a rubber tubing, just as has been described for the other one.

In operation, the green pea or bean pods are placed in the hopper R, from whence they are fed by the plate G down onto or between the rollers C D, which, in their revolution, take hold of the pod and draw it between them, breaking the same open, and forcing the pease or beans back onto the inclined bottom B, from whence they fall backward to the opening in the rear of the bin, through which they are removed, while the pods themselves are drawn forward to the other side of the rollers, where they fall into a receptacle placed there for that purpose. In drawing the pod forward the threads of the roller bite the pod itself, and if the pea comes in contact with

them it slips to one side, to the space between the two threads, where it finds more flexibility to the roll and relief from all pressure that would have a tendency to crush it.

A sheller constructed according to the foregoing description separates the pea or bean from the pod without crushing it, and can be made at little cost, and saves the labor of six or seven persons shelling by hand.

Having described my invention, what I claim is—

1. In a pea-sheller, the combination of a bin and inclined feed-plate and draw-rolls, one of said rolls being provided with spiral ribs beneath a flexible covering, so as to form a correspondingly irregular yielding surface to the roll, for the purpose set forth.

2. In a pea-sheller, the combination of two draw-rolls, one of them being provided with spiral ribs beneath a flexible covering, so as to form a correspondingly irregular yielding surface to said roll, for the purpose set forth.

3. In a pea-sheller, the combination of a bin and inclined floor, two draw-rolls, and an adjustable feed-plate, arranged with reference to each other as described, for the purposes set forth.

4. The bin A', provided with beads U V and inclined ways H, for the purposes set forth.

5. The bin A', provided with beads U V, in combination with hopper R, as described.

6. The pea or bean sheller herein described, consisting of standard A and bin A', formed as described, in combination with hopper R and rolls B' C and adjustable feed-plate G, arranged with reference to each other as described, for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

LEANDER EATON.

Witnesses:

A. M. LONG,

WM. G. HENDERSON.