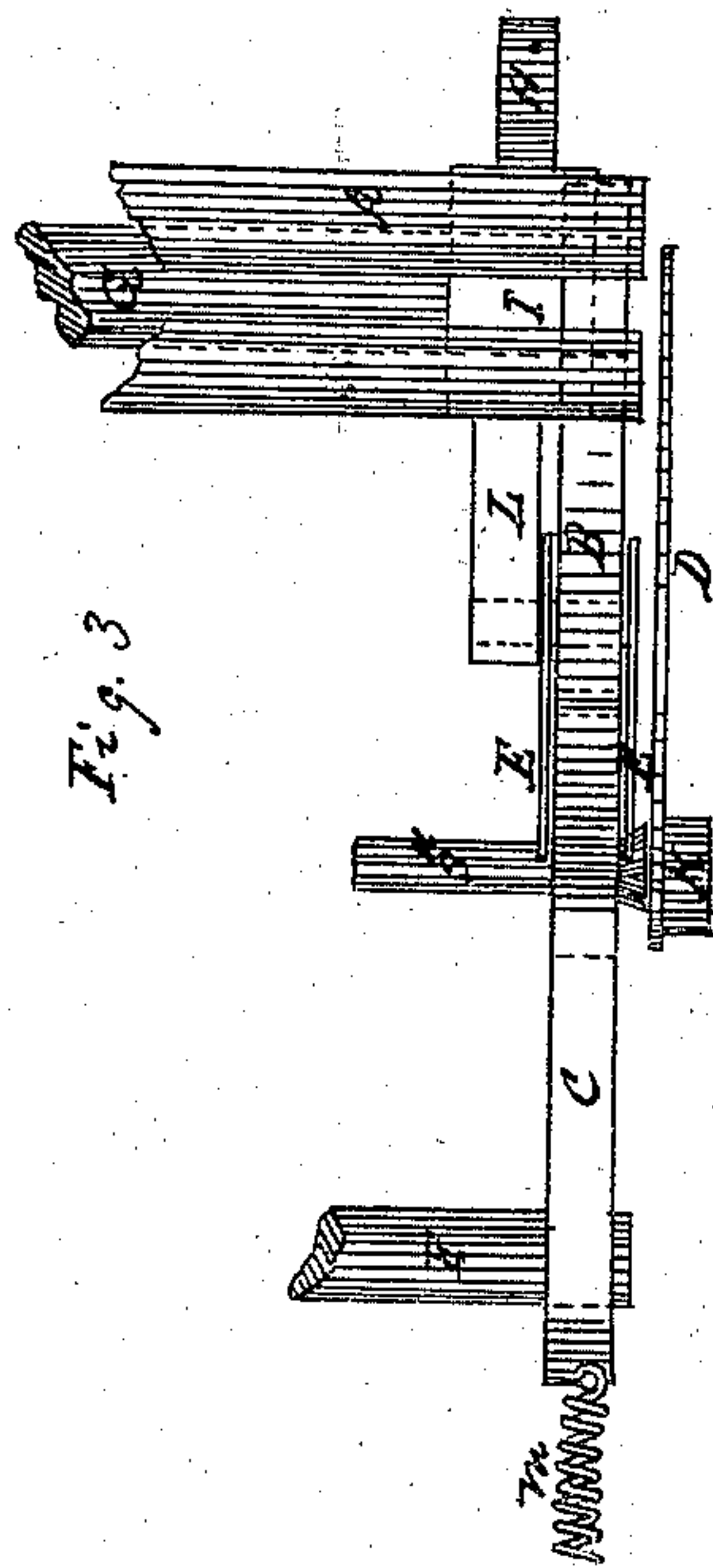
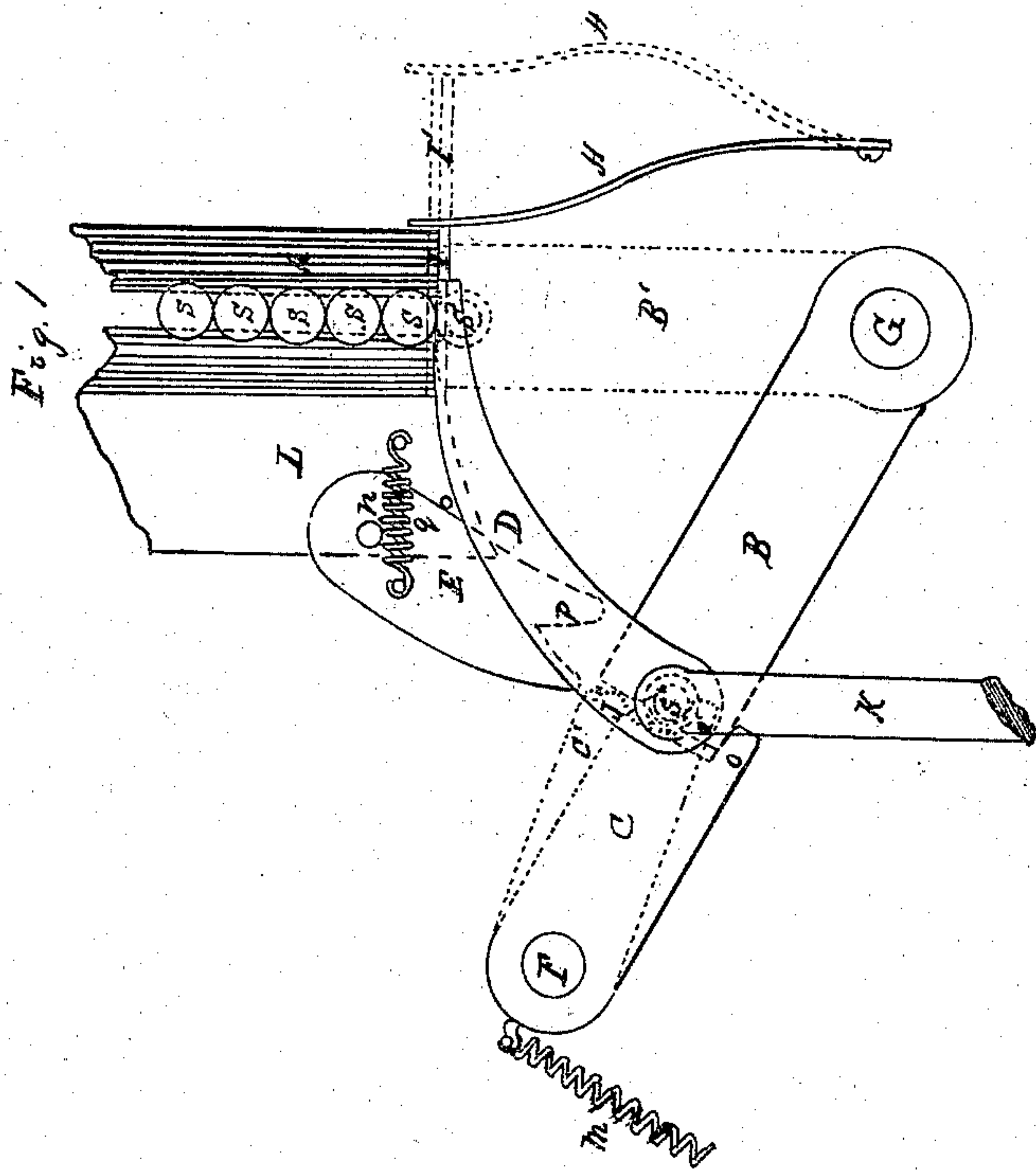
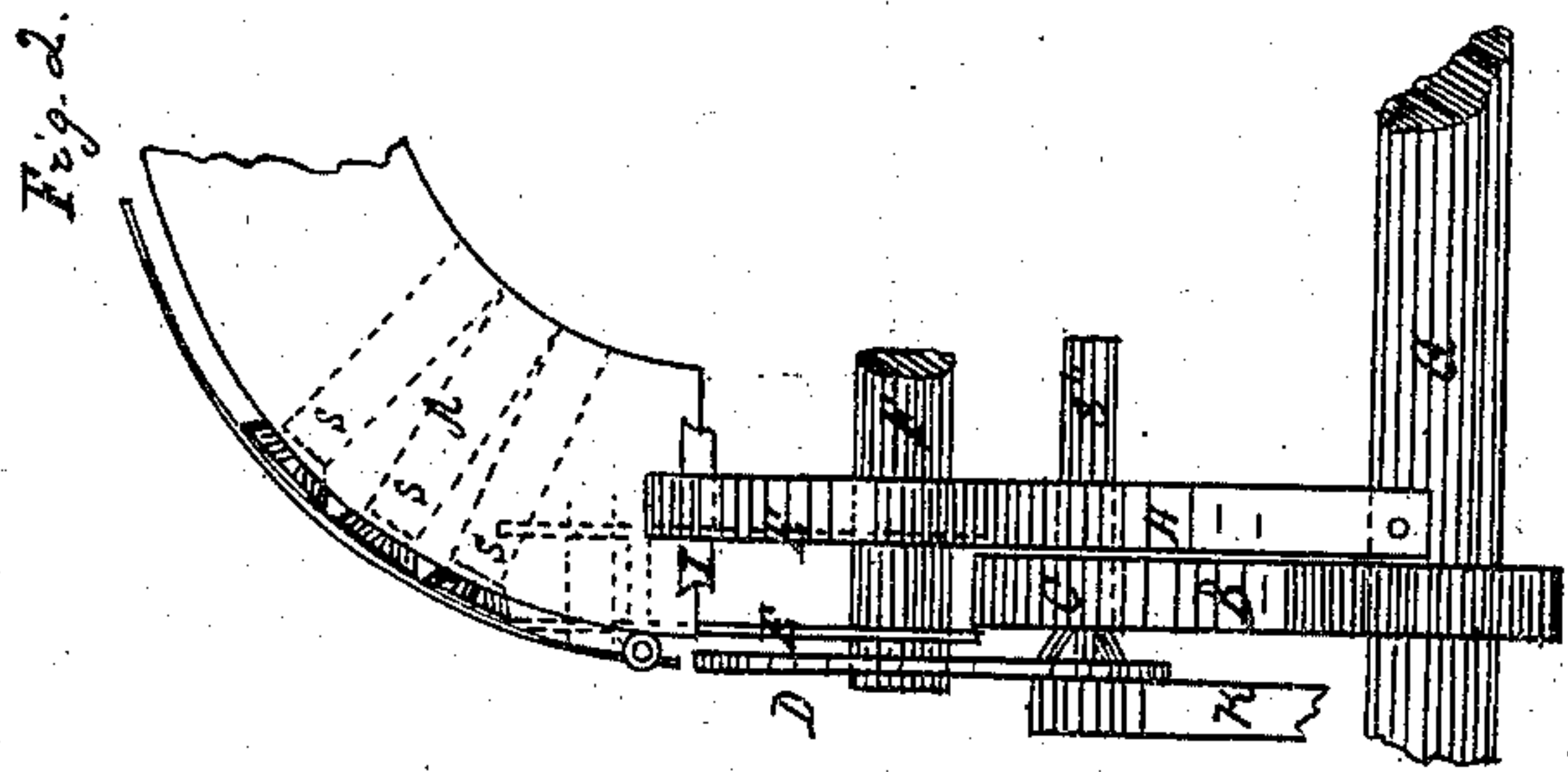


E. S. Pierce.

Conveying Screw-Blanks

Nº 74717

Patented Feb. 18, 1868.



Witnesses.

L. Haffen
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Inventor.

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United States Patent Office.

ELIJAH S. PIERCE, OF HARTFORD, CONNECTICUT.

Letters Patent No. 74,717, dated February 18, 1868.

IMPROVED APPARATUS FOR CONVEYING SCREW-BLANKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ELIJAH S. PIERCE, of Hartford, in the county of Hartford, and State of Connecticut, have invented a new and useful Mechanism for Conveying and Holding Screw-Blanks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 shows a front view of the improved mechanism. (The red lines show a different position of the parts B, C, H, and I.)

Figure 2 shows a view looking from the right hand of fig. 1.

Figure 3 shows a top view.

Like letters, in the figures, indicate like parts.

My invention is intended to be used in machines for manufacturing screws, or other similar articles; and consists in a peculiar mechanism for conveying the blanks from the hopper-trough to the point where the desired operation is to be performed upon them, such as pointing or nicking, and holding them firmly while such operation is performed; then dropping them into a proper receptacle, when finished.

A is the trough leading from the hopper containing the blanks, *s s s*, &c., to be operated upon. B is an arm or lever, fixed upon the shaft G, by which it is operated. This lever has a slot in its upper end, for receiving a screw-blank from the trough A, and conveying it to the point where it is to be operated upon. C is a gripping-lever, turning upon the axis F, through a small arc, and, in connection with the lever or arm B, forms a toggle for firmly clasp ing and holding the blank. It has a projection, *o*, against which the end of the arm B acts, and carries the lever C with it. *m* is a spring, for keeping the forward end of C raised, in the position shown by the red lines in the drawings, except when pressed down by the end of the lever B, as shown by the black lines. D is a guide, against which the heads of the blanks move, in passing from the position *s'* to *s''*. This guide is supported by the post K. E is a pawl, working upon the pivot *n*, in the piece L, attached to the guide or trough A, and has a spring, *g*, to hold it against a stop, to keep it in the position shown in the drawings, except when moved aside by the blank, as hereinafter described. It is so constructed as to admit of the passage of the lever B between its sides, shown at E E, figs. 2 and 3, and has an inclined surface, *p*, upon its end, to remove the blank from the slot in the arm B. The bottom of the piece L is curved, and serves to retain the blank in the slot in the end of the lever or arm B. I is a slide across the end of the feeding-trough A, for the purpose of retaining the blanks when the arm B is away from the end of A, in the position shown by the black lines in the drawings. This slide is pressed in by the spring H, to secure the blanks from dropping out.

The operation of my invention is as follows: The lever or arm B, in passing from its position shown by the black lines, (see fig. 1,) up to the position shown by the red lines at B', strikes against the end of the slide I, and pushes it back against the spring H, to the position shown by the red lines I' and H'. This releases a blank from the trough A, and it drops into the slot in the arm B, as shown by the red lines at *s'*. The arm B then moves to the left, toward the position shown at B, carrying the blank with it. As it moves from under A, the slide I follows it, under the pressure of the spring H, and closes the feeding-trough, so as to retain the blanks remaining in it. The blank in the arm B passes under the pawl E, raising it against the spring *g*, and allowing it to drop back to its position after it has been passed. The arm B strikes the projection *o* upon the gripping-lever C, which is then in the position shown by the red lines at C' and *o'*, and carries the lever C with it, to the position shown by the black lines. The end *j* engages with the blank, and forms a "toggle," which firmly grips the blank between the levers C and B, and holds it securely while any desired operation is performed upon it by suitable machinery, such as pointing or nicking. After the blank has been operated upon, the arm B moves back again to its former position, carrying the blank with it, and releasing the lever C, which rises, under the action of the spring *m*, to its former position. The blank is caught by the inclined surface at the end of the pawl E, and is thrown out of the slot in the arm B, and falls into a proper receptacle. The arm B moves back to the position B', and the operation is repeated. The shaft G, which operates the arm B, is connected with the machinery for performing the desired operation upon the blank, by a cam, or any other common mechanical device that will give it the proper reciprocating motion at the right time.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. I claim the swinging arm B, in combination with the gripping-lever C, when the same are constructed, operated, and governed in the manner described.
2. I claim the combination of the slide I, the arm B, and the spring H, or its equivalent, when used in the manner and for the purpose herein specified.
3. I claim the subject-matter of the first claim, in combination with the feeding-trough A, substantially as described.
4. I claim the combination of the feeding-trough A, the slide I, and the conveying-arm B, substantially as described.
5. I claim the combination of the feeding-trough A, the conveying-arm B, the gripping-lever C, and the pawl E substantially as described.
6. I claim the combination of the feeding-trough A, the slide I, the arm B, the lever C, and the pawl E, substantially as described.

ELIJAH S. PIERCE.

Witnesses:

L. HÄFELIN,

THEO. G. ELLIS.