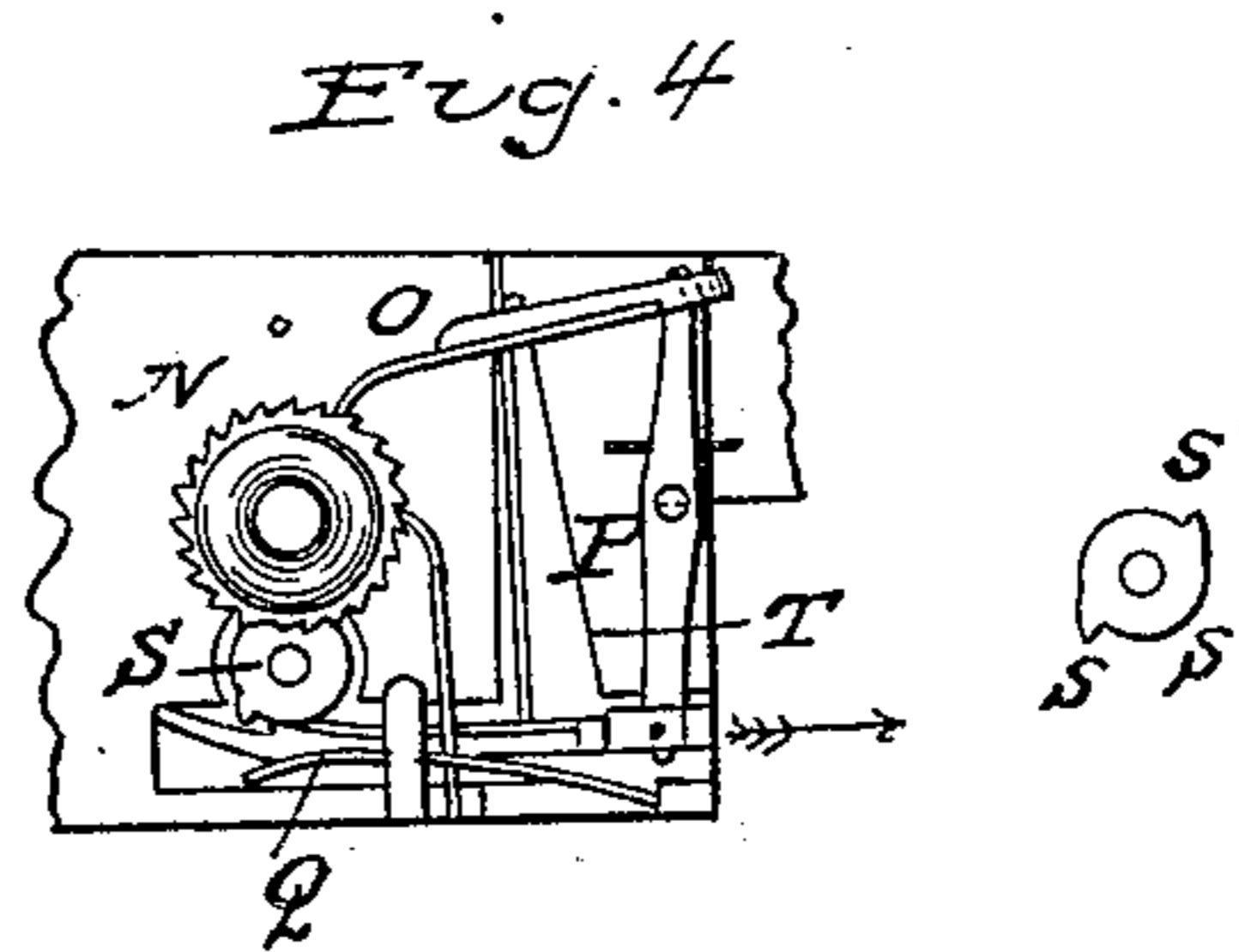
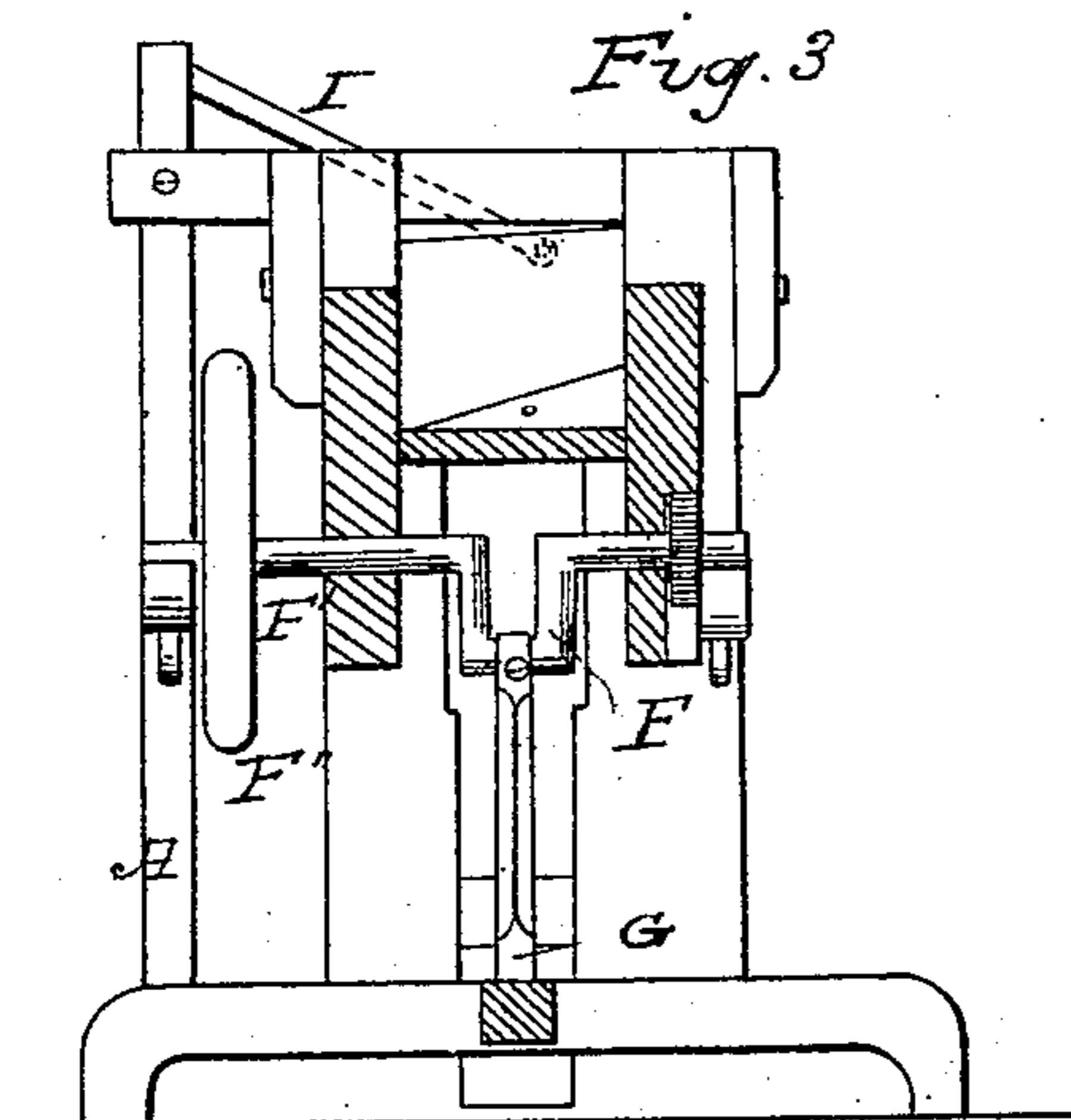
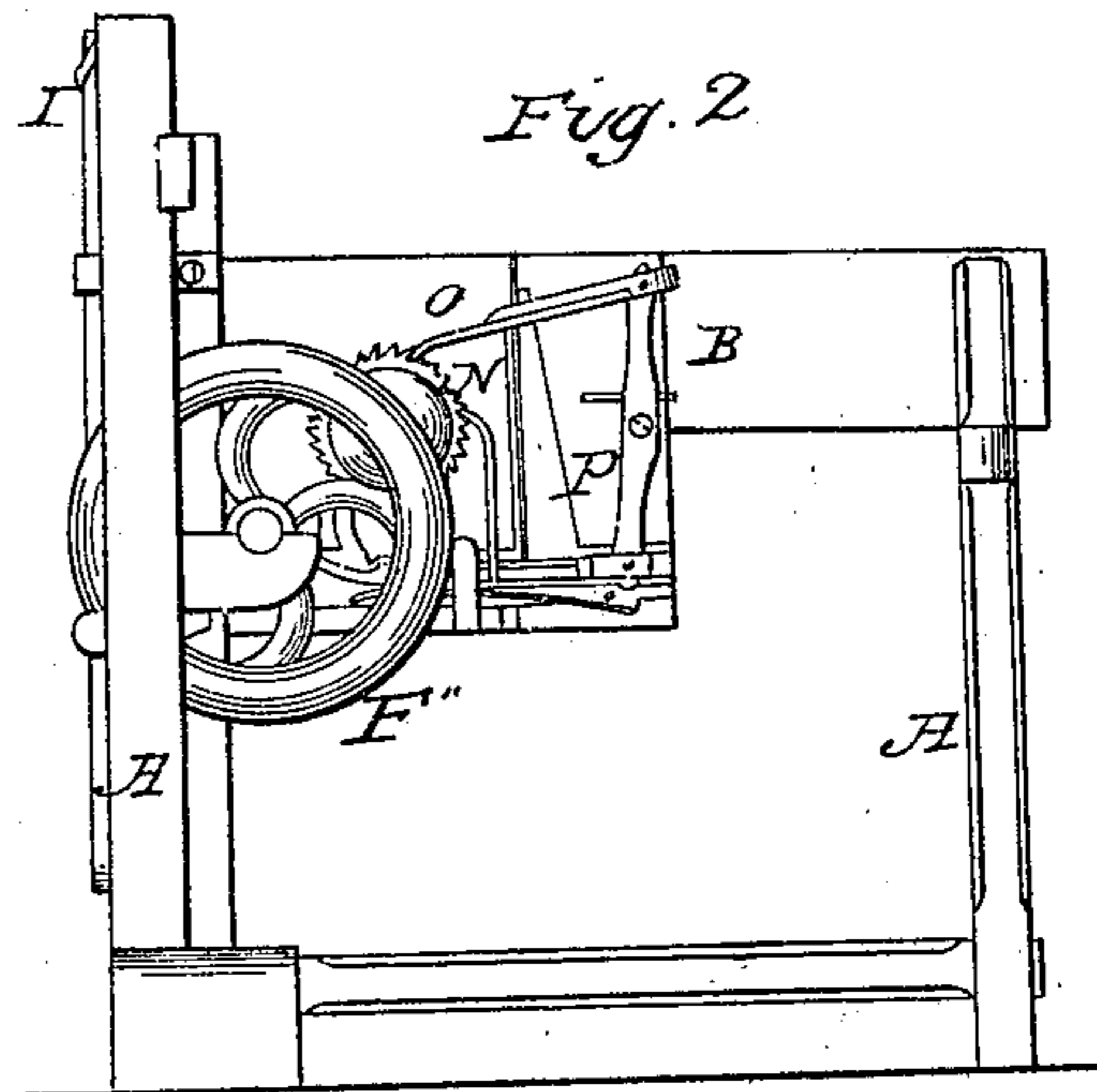
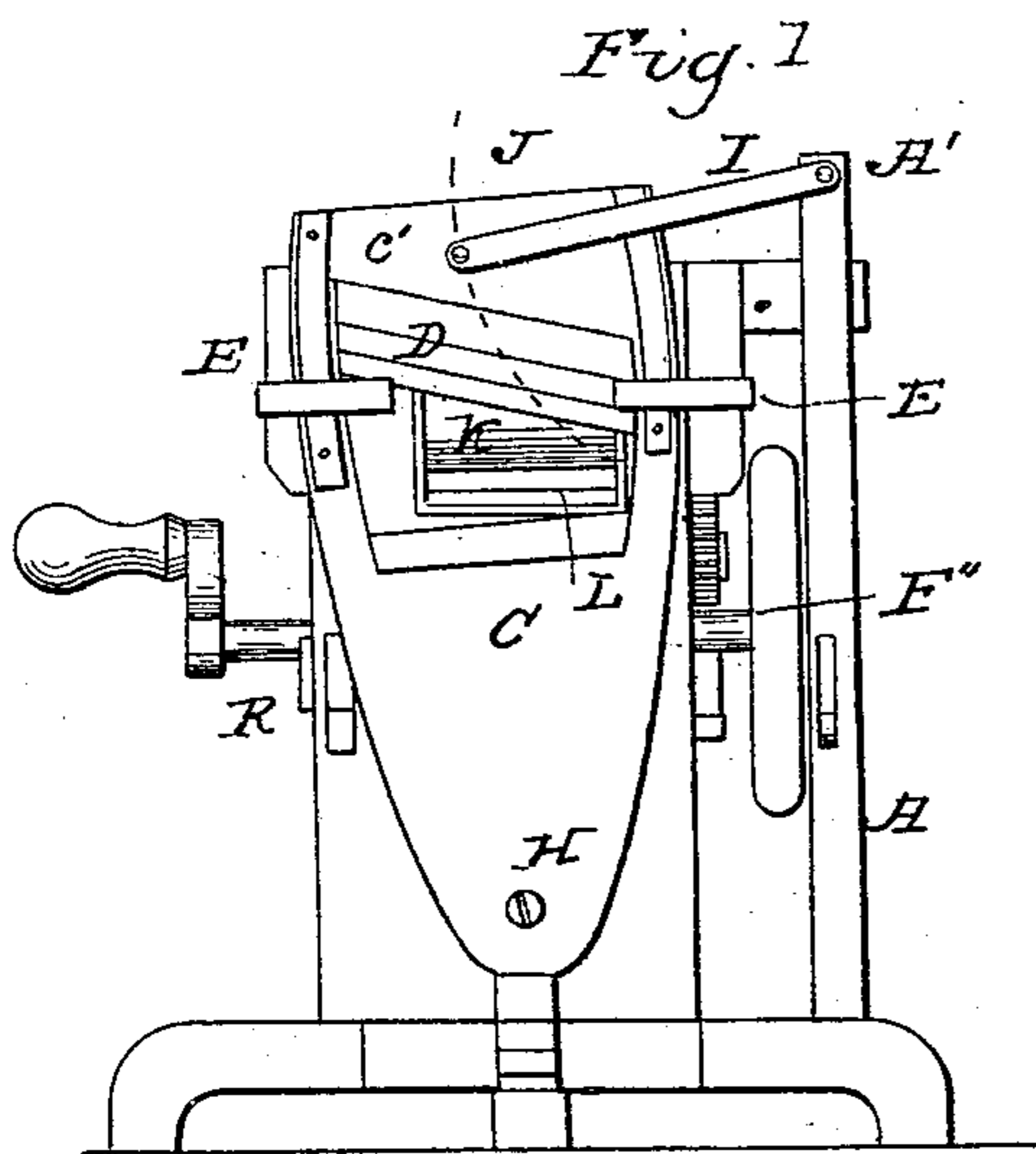


S. RING.
Straw Cutter.

No. 29,311.

Patented July 24, 1860.



WITNESSES
J. Brainerd
W. H. Murray

INVENTOR
Samuel Ring

UNITED STATES PATENT OFFICE.

SAMUEL RING, OF CLEVELAND, OHIO.

STRAW-CUTTER.

Specification of Letters Patent No. 29,311, dated July 24, 1860.

To all whom it may concern:

Be it known that I, SAMUEL RING, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful
5 Improvements in Straw-Cutters; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making
10 part of this specification, in which—

Figure 1, is a front view, Fig. 2, is a side view, Fig. 3, is a vertical cross section upon the line of the crank shaft, and Fig. 4, is a view of the feeding apparatus.

15 Like letters refer to like parts in the several views.

The nature of my invention relates to the peculiar motion of the knife, and to the manner of feeding the machine.

20 A, represents the frame of the machine.

B, represents the box in which the straw is placed, while being cut.

C, represents a sash that carries the knife

25 D. This sash moves upward and downward between guides E E, by means of the crank F, upon the shaft F', seen in Fig. 3.

G, is a connecting rod, that connects the crank with the lower end of the sash C. The lower end of this connecting rod moves
30 in a guide, to keep it in place, and the lower end of the sash is attached to it by a screw or pin H. The lower end of the sash, therefore, moves in a vertical line. The upper end of the sash C, to which the knife D, is
35 attached, is caused to have a lateral movement, by means of the space between the guides E; and the rod I, one end of which rod is attached to the upper end of the post A, at A', and the other end of the rod I
40 being attached to the upper end of the sash at C', which causes it to describe a segment of a circle, in its rise and fall, by the revolution of the crank F, as shown by the dotted line J. The knife D, being placed below the
45 point of articulation C', must therefore have

a sliding, downward movement, whenever the sash is caused to descend.

The straw is fed into the machine—or rather, it is moved under the knife—between two rollers K L, seen in Fig. 1. The
50 roller L has its upper surface even with the bottom of the box B, and is moved or rotated forward at intervals, when the knife is up, by means of a pawl and ratchet, seen in Figs. 2 and 4.

55 The ratchet N, is placed upon the shaft of the roller L, and is moved by the pawl O, lever P, and arm Q. Upon the end of the driving shaft R, is placed a cam wheel S, having projections S' S' upon opposite
60 sides, which, at every half revolution, act upon the arm Q, and thus carries the lower end of the lever P in the direction of the arrow; the upper end of the lever P, acts
65 upon the pawl O, and this turns the ratchet N, upon the outer end of the feed roller, but as soon as the projection S', passes the notch in the arm Q, the spring T, carries the pawl
70 back to the position seen in Fig. 4, where it remains at rest till another half revolution of the cam S, moves it forward. The crank
shaft F' which carries the balance wheel F'', is connected with the driving shaft R, by cog gears, which gives it two revolutions,
75 to one of the shaft R. Consequently, the feed rollers are moved simultaneously with, or rather at the interval, of the downward stroke of the knife.

What I claim as my improvement, and desire to secure by Letters Patent, is— 80

The sash C, crank F, connecting rod G, pin H, guides E, and arm I, as described, the several parts being constructed and arranged in relation to each other and to the feed rollers, and operating in the manner
85 and for the purpose set forth.

SAMUEL RING.

Witnesses:

W. H. BURRIDGE,
J. BRAINERD.