

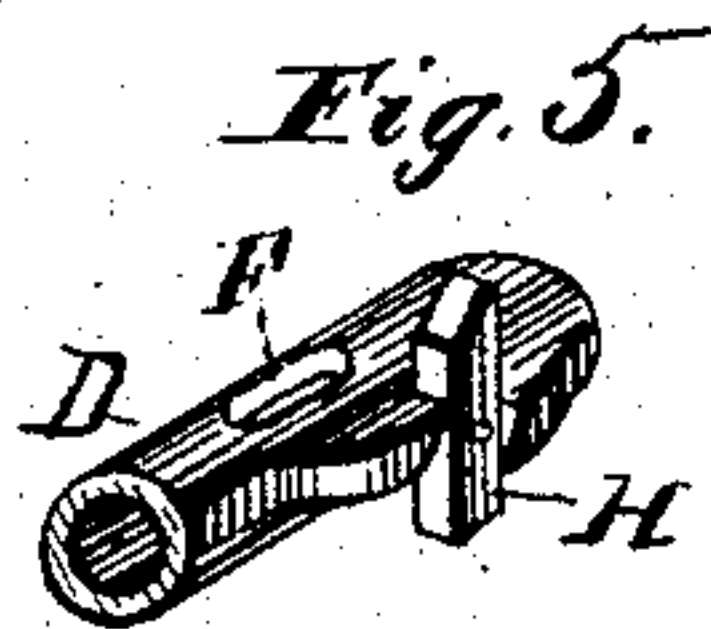
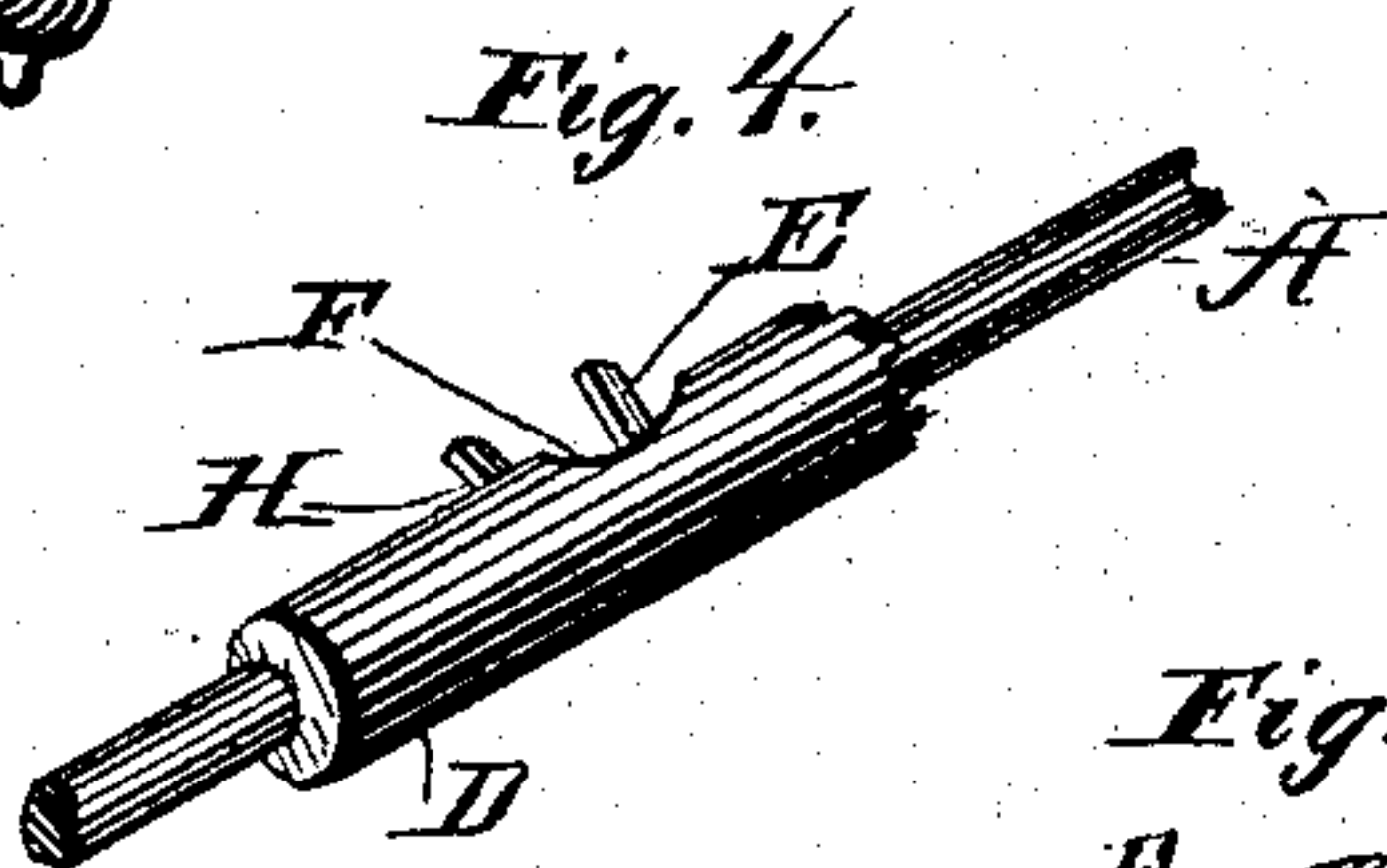
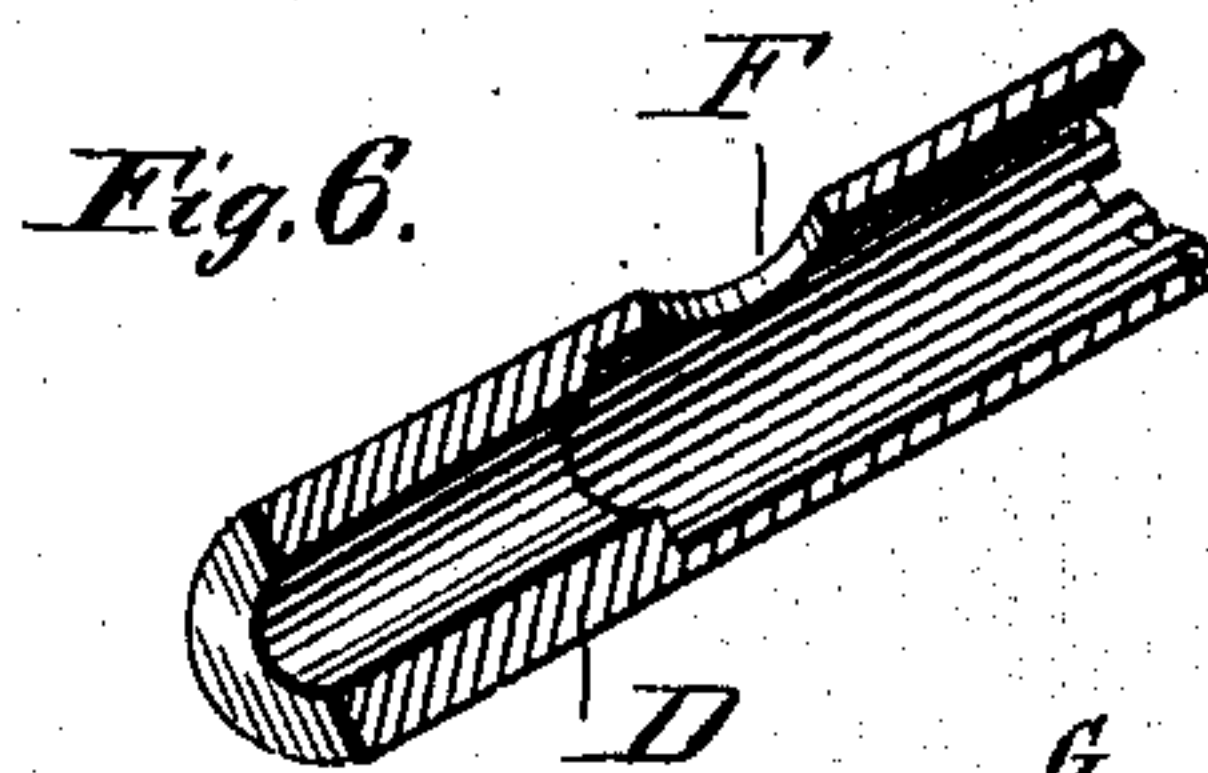
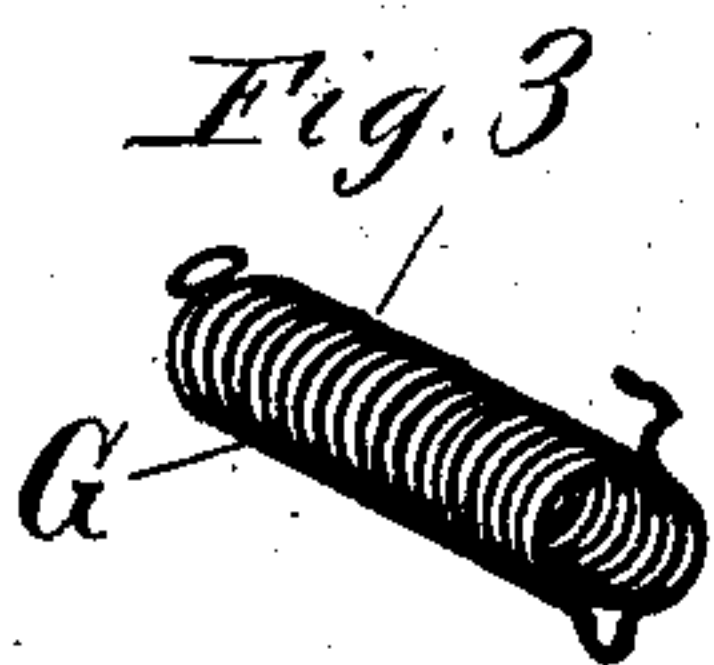
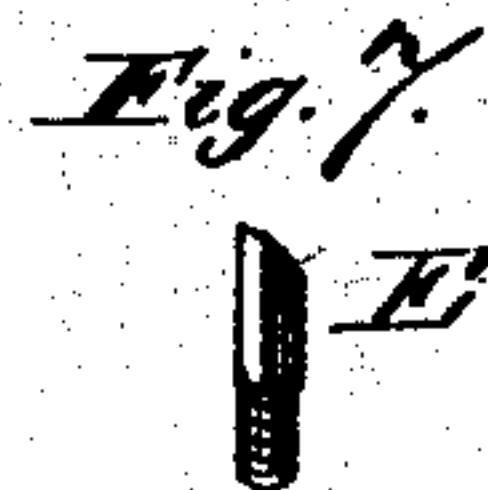
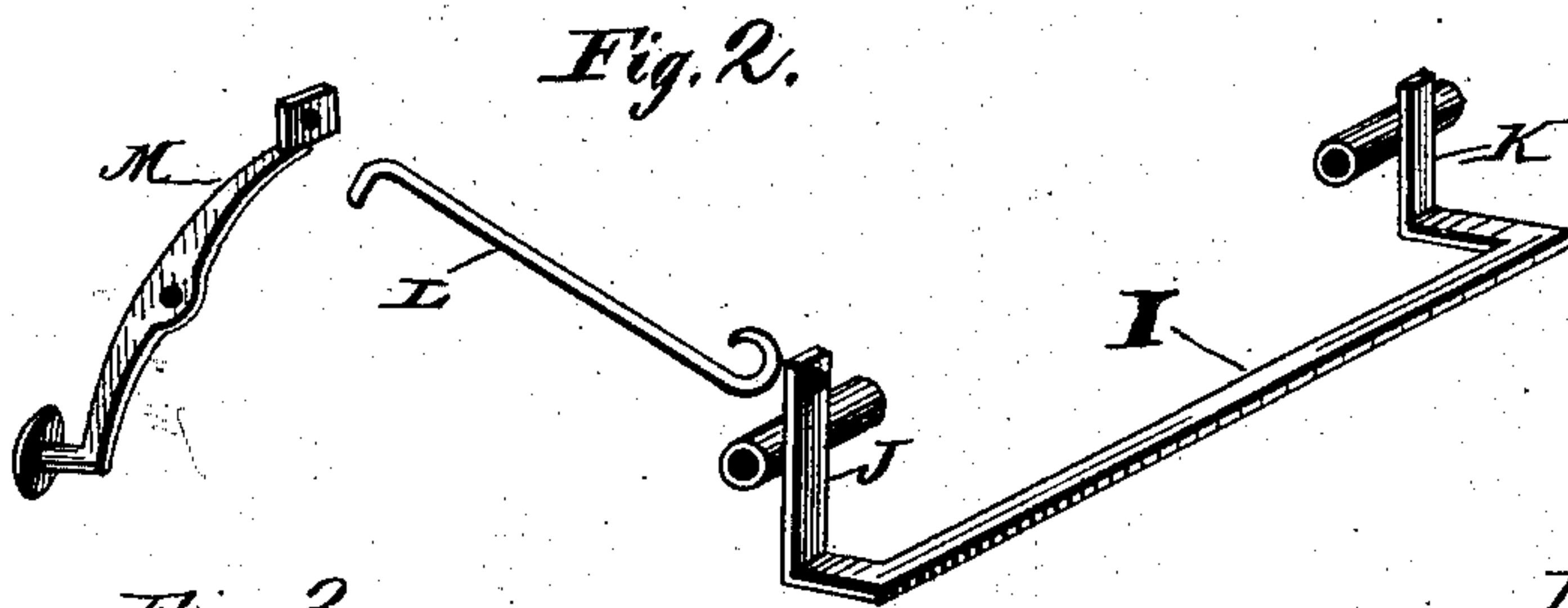
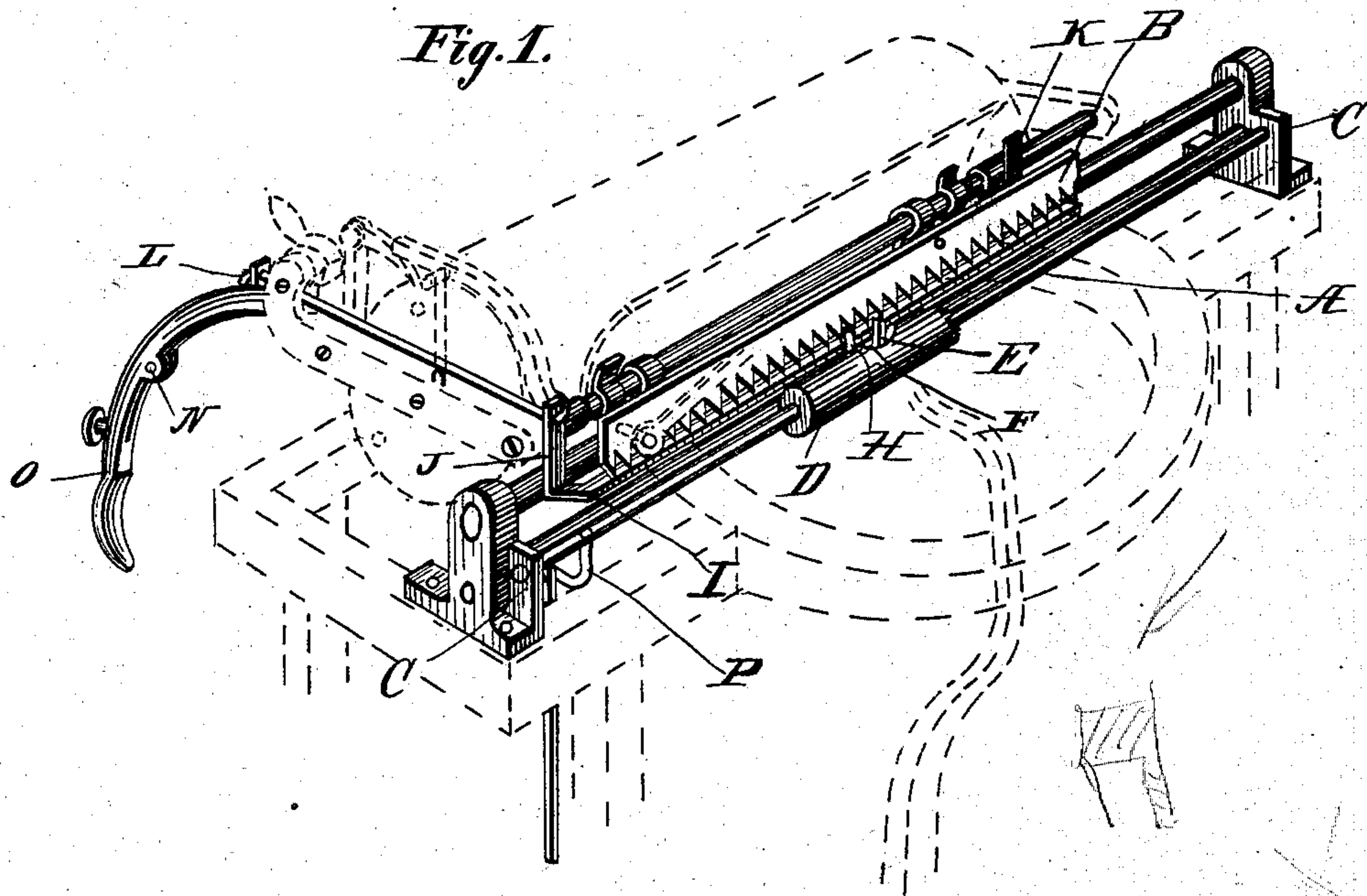
(No Model.)

W. S. BOYD.

ESCAPEMENT OR FEEDING DEVICE FOR TYPE WRITING MACHINES.

No. 326,011.

Patented Sept. 8, 1885.



WITNESSES  
*Wm. H. Denton*  
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# UNITED STATES PATENT OFFICE.

WILLIAM SABERT BOYD, OF WASHINGTON, DISTRICT OF COLUMBIA.

ESCAPEMENT OR FEEDING DEVICE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 326,011, dated September 8, 1885.

Application filed February 26, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, W. S. BOYD, a citizen of the United States; residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Escapements or Feeding Devices for Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my invention, showing the manner of attaching the same to a caligraph-writing machine, part of which is shown in dotted line. Figs. 2, 3, 4, 5, 6, and 7 are detail views of the different parts, and Fig. 8 is a perspective view of the device arranged without the sleeve.

This invention has relation to feeding devices for writing-machines, whereby the carriage is moved transversely across the top of the machine one space to the left whenever a letter or space key has been pressed down by the operator; and it consists of the improved mechanism, which will be hereinafter more particularly described, and pointed out in the claims.

In the accompanying drawings, and in which the same letters refer to the same parts in all the figures, A represents a rod extending transversely across the top of a machine near to and parallel with a toothed rack-bar, B, which is fastened to the carriage. This rod is secured at each end to supports C C, but it may be made shorter, and be secured by other suitable bearings.

Near the center of the rod is a close-fitting sleeve, D, which is bent in place by a pin, E, passing through a slot, F, into the rod. One end of this sleeve has a bore of a larger diameter than that of the rod around which it works, in order to receive a coiled spring, G, between it and the rod. The object of this spring is to move the sleeve back on the rod the distance of a tooth or space, and also to rotate it around the rod whenever required. One end of this spring is fastened by the pin E to the rod A, and the other end is fastened to the end of the sleeve by means of two pro-

jections in the last coil, as shown in Fig. 3, which engage with the notches in the end of the sleeve. This method of fastening it prevents its binding on the rod A as it is expanded or contracted. It also permits the spring to be wound up, as it were, and then secured in the notches, which will thus keep the required side of the slot against the pin E, and will also rotate the sleeve back to that position after it has been forced out of it by the mechanism, which will be described hereinafter.

The sleeve D is provided with a pin H, which can be formed solid with it, as in Fig. 4, or it can be attached to the side of it, as shown in Fig. 5. By having the pin secured pivotally to the side of the sleeve, the carriage can be shifted backward without the trouble of rotating the pin out of the way of the teeth of the rack-bar, as would have to be done if the pin and sleeve were solid; or the sleeve may be dispensed with entirely by placing the pin through a slot in the rod A and securing it to the spring, as shown in Fig. 8. The corners of the teeth where they press against the pin may also be slightly beveled, to assist in forcing the pin back out of the way. These two pins E and H work between the teeth of the rack-bar and engage with them alternately, as follows: Pressure on the key-board is communicated through means of a universal bar and connections, in the usual manner, to an arm, P, which is secured to one end of the rod A. This causes the rod to rock on its axis, thereby causing the pin E to engage with a tooth of the rack-bar at the same time that the pin H is released from the tooth which has been pressing against it. As soon as the pin H is released, the spring G draws it back the length of the slot F, which is just sufficient to allow the pin to engage with the next tooth of the rack-bar, which it does as the rod is rocked back into position by the forward pressure of the tooth against the pin E, which holds the carriage stationary as long as the finger of the operator remains on the key-board.

Whenever it is desired to shift the carriage of the machine without pressing on the key-board, the following described mechanism can be used: I is a rod or bail extending horizontally the entire length of the rack-bar, and



secured pivotally to the carriage by means of L-shaped arms, J and K at the ends. One of these arms, J, extends above the bearing and is loosely attached to a rod, L. This rod or wire extends from the connection with the arm J across the end of the carriage of the machine, and connects with one end of a pivoted thumb-lever, M, which is pivoted at N to the arm O. By pressing the free end of the thumb-lever M the tripping rod or bar I is caused to press against the pin on the sleeve D, which causes the sleeve to rock on the rod A, and independently of it, thereby releasing the pin H without causing the pin E to engage with the teeth of the rack-bar. When the rack-bar is thus released from both pins, the carriage can be moved any distance in either direction without trouble or difficulty, and by removing the pressure from the lever M the pin H instantly rocks back into position by the action of the spring G, and stops the carriage at any desired place.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a feeding device or escapement for writing-machines, the combination, with a toothed rack, of a rocking-rod provided with a rigid tooth, a tooth sliding longitudinally on said rod, and means, substantially as described, for sliding the said tooth, substantially as described, and for the purpose set forth.

2. In a feeding device or escapement for writing-machines, the combination, with a toothed rack, of a rocking-rod provided with a rigid tooth, a slotted sleeve provided with a tooth or projection fitting and sliding longitudinally on said rod, and means for sliding said sleeve, substantially as described, and for the purpose set forth.

3. In a feeding device or escapement for writing-machines, the combination, with a toothed rack, of a rocking-rod provided with

a rigid tooth, a slotted sleeve provided with a tooth or projection and having a bore part of its length greater than the diameter of the rod upon which it slides, and a coiled spring working between the sleeve and the rod and having one of its ends secured to the rod and the other end secured to the sleeve, substantially as described, and for the purpose set forth.

4. In a feeding device or escapement for writing-machines, the combination, with a toothed rack, of a rocking-rod provided with a rigid tooth, a slotted sleeve provided with a tooth or projection and having a bore part of its length greater than the diameter of the rod upon which it slides and provided with teeth or notches at the end of the part having said larger bore, a coiled spring working between the sleeve and the rod and having one of its ends secured to the rigid pin on said rod and the other end secured in the notches of the sleeve by means of two projections upon the last coil of said spring, substantially as described, and for the purpose set forth.

5. In a tripping device for feeding attachments for writing-machines, the combination of a spring-actuated rocking-escapement device, a horizontal bail or rod pivotally secured to the carriage of the machine by means of upwardly-extending L-shaped arms, a thumb-lever pivotally attached to the hand-lever of the carriage, and a rod or wire connecting the thumb-lever and the tripping bail or rod, substantially as described, and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I have hereunto affixed my signature in presence of two witnesses.

WILLIAM SABERT BOYD.

Witnesses:

WM. BAGGER,  
ARTHUR L. MORSELL.