

(No Model.)

J. KEITH.
MACHINE FOR SETTING LACING HOOKS.

No. 517,828.

Patented Apr. 3, 1894.

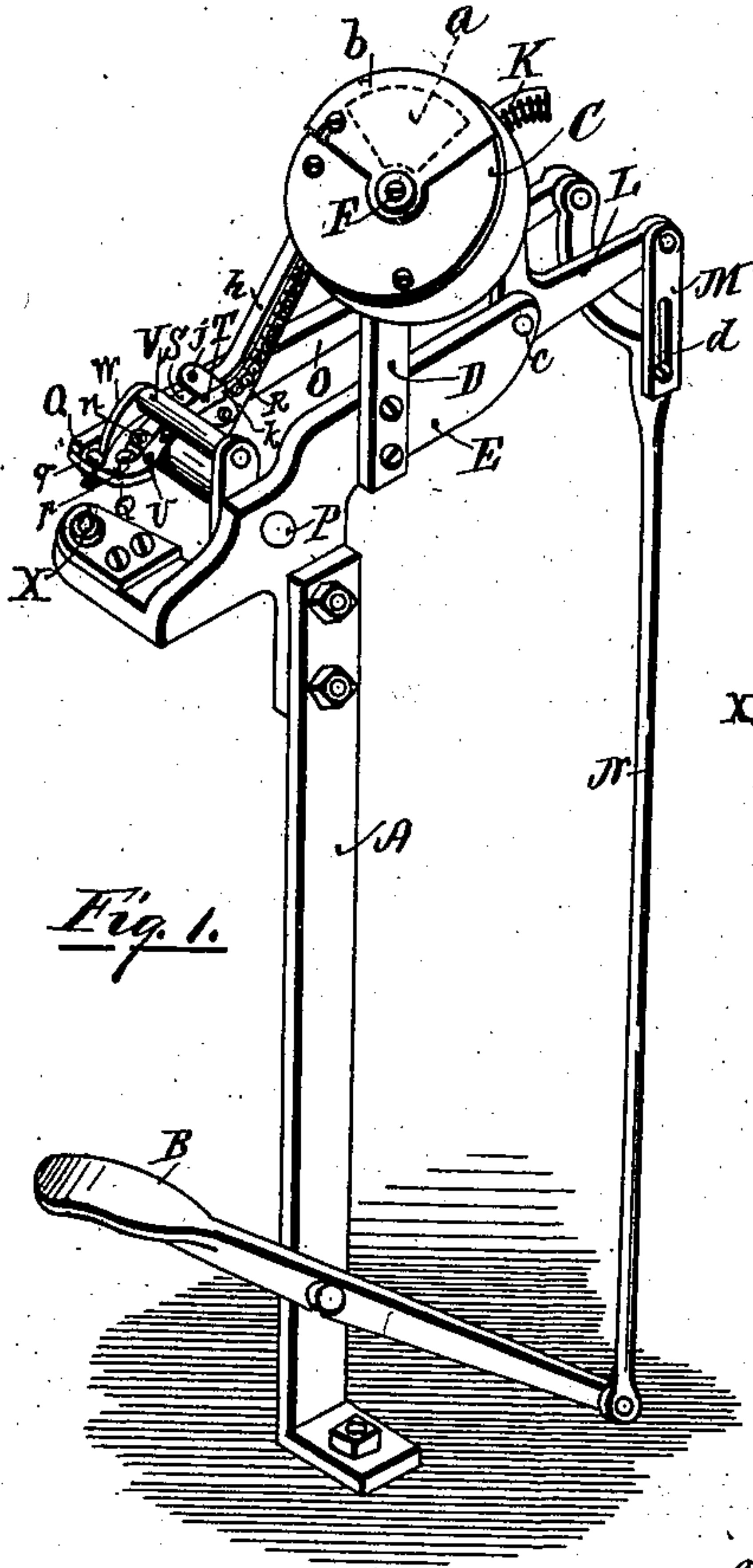


Fig. 1.

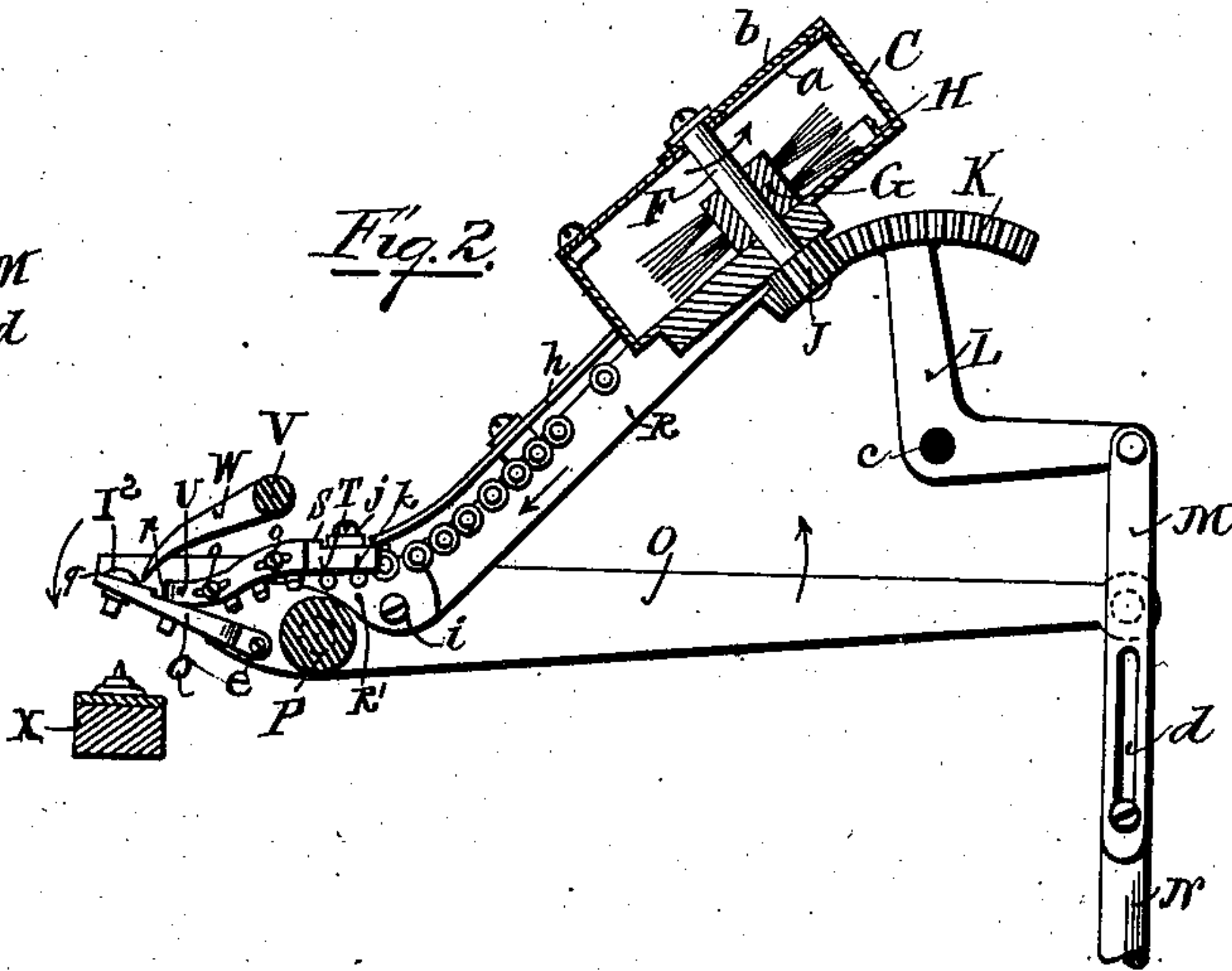


Fig. 2.

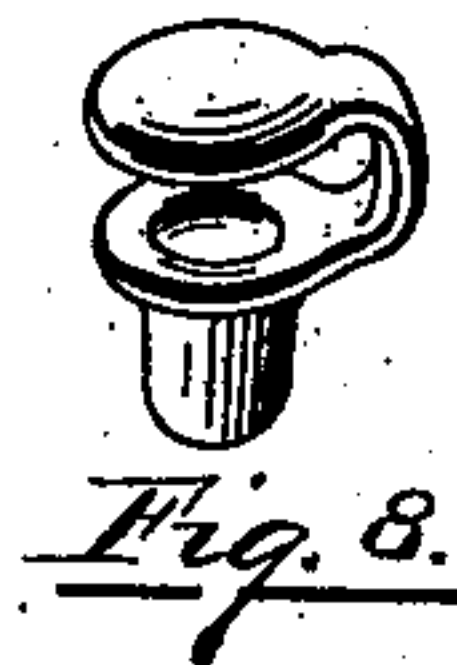


Fig. 8.

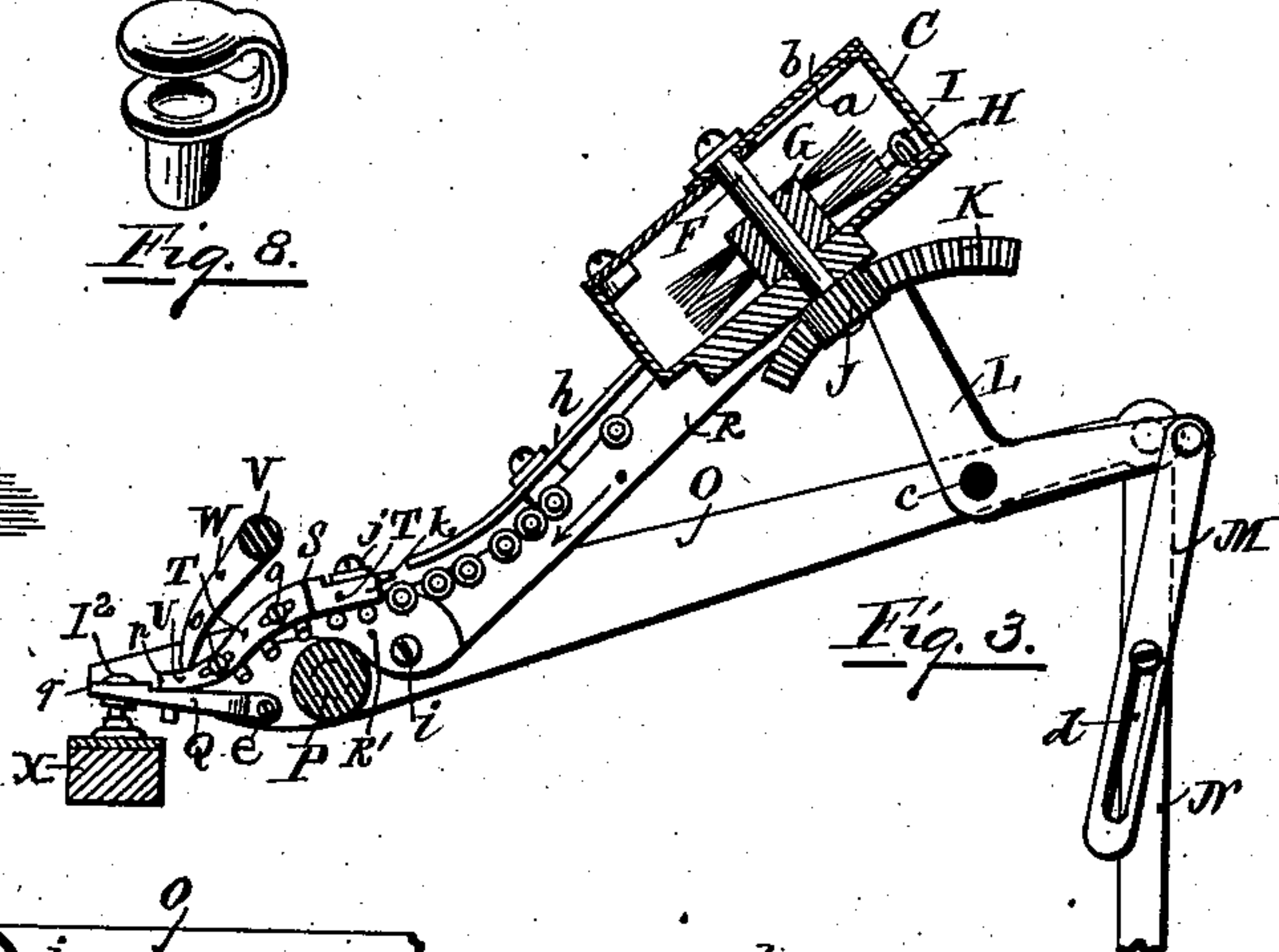


Fig. 3.

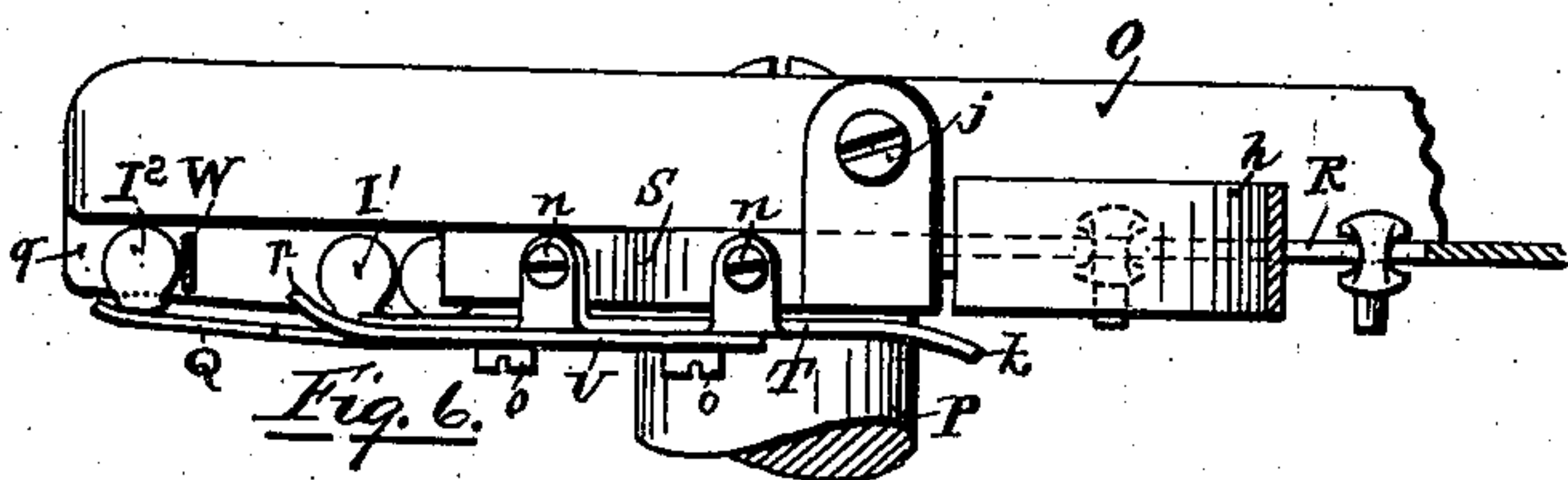


Fig. 6.

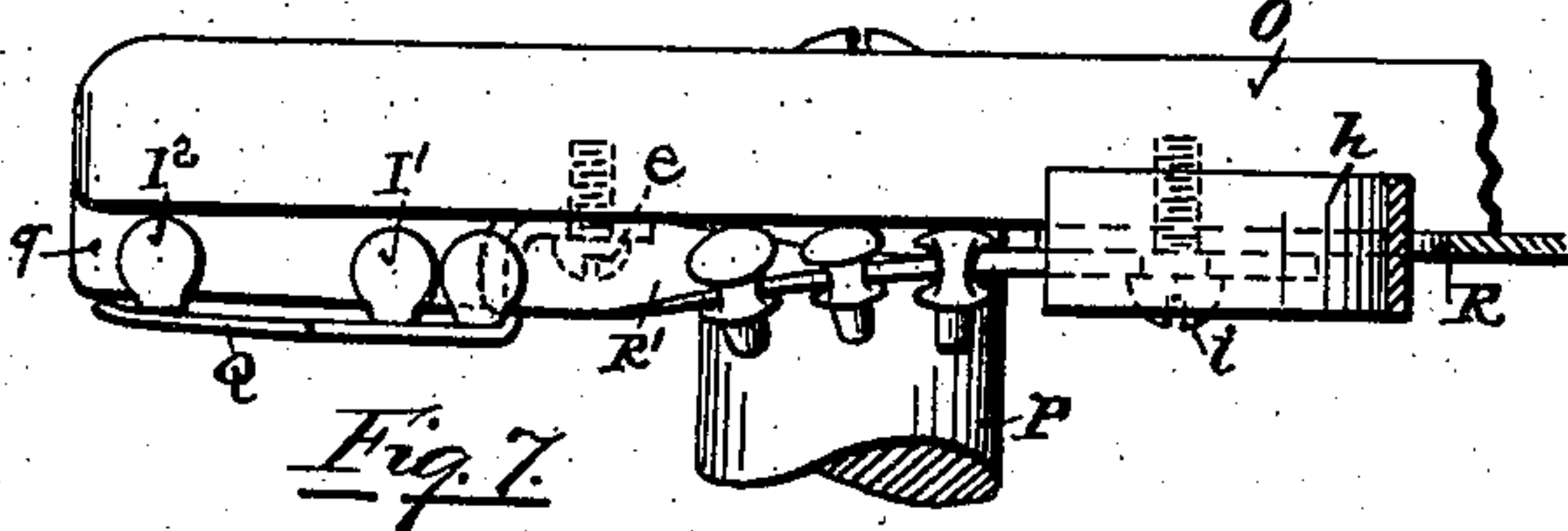


Fig. 7.

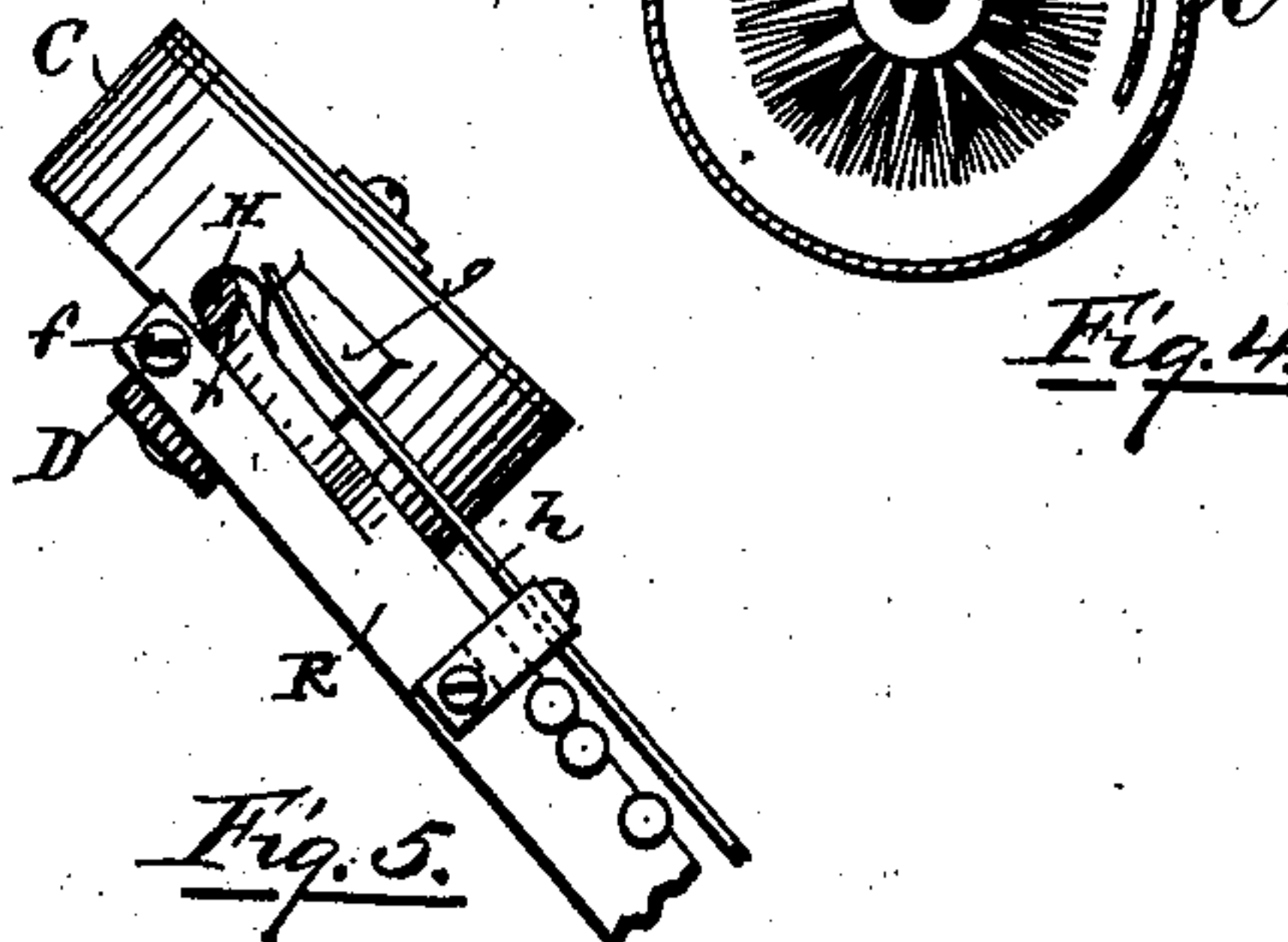


Fig. 5.

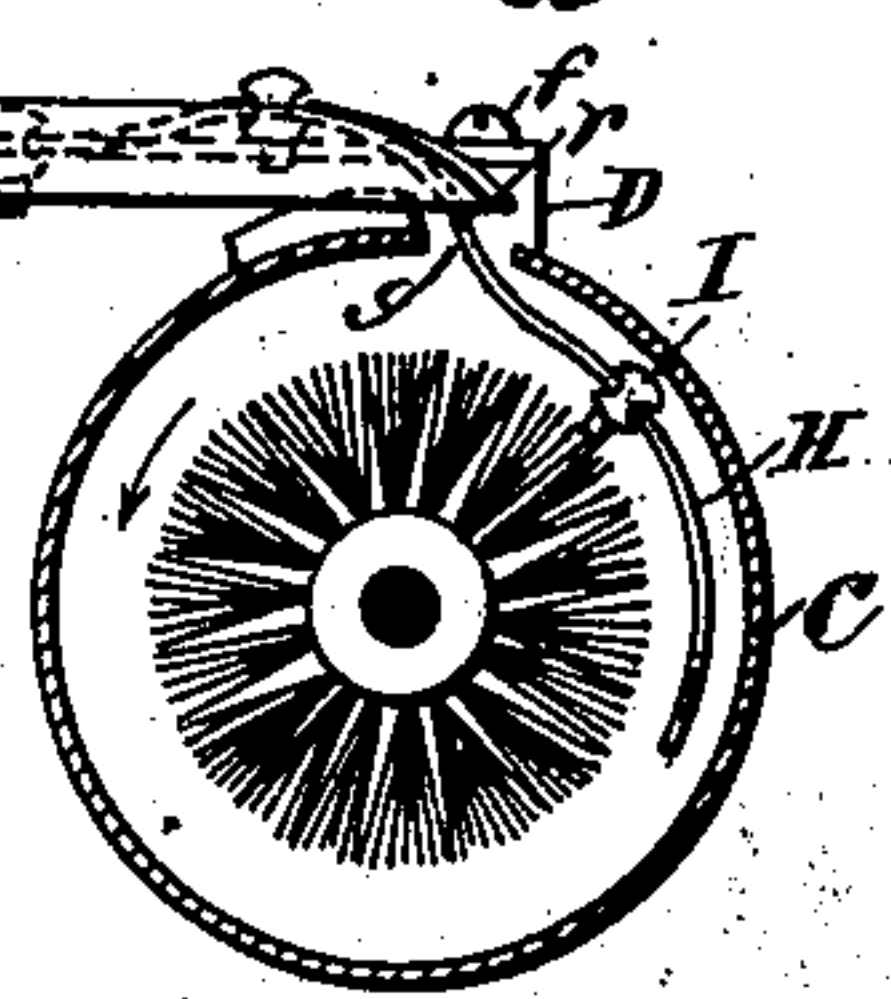


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR SETTING LACING-HOOKS.

SPECIFICATION forming part of Letters Patent No. 517,828, dated April 3, 1894.

Application filed February 24, 1893. Serial No. 463,601. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH KEITH, a citizen of the United States, residing at Middleborough, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Machines for Setting Lacing-Hooks, of which the following is a specification.

My invention consists in the improved arrangement of parts, whereby the machine is rendered simple in construction, and efficient in its operation.

In the accompanying drawings:—Figure 1, represents a perspective view of the machine. Fig. 2, represents a vertical section showing the working parts of the machine, the lacing hook having been carried to its forward position for setting. Fig. 3, represents the same section showing the lacing hook pressed upon the setting anvil. Fig. 4, represents a plan view of the circular hopper for holding the loose mass of lacing hooks to be fed to the machine. Fig. 5, represents a detail side view, showing the circular hopper, and the delivering track leading therefrom. Figs. 6 and 7, are enlarged detail views showing a top view of the outer end of the delivering track. Fig. 8, represents a perspective view of the lacing hook which is to be set by means of the machine.

In the drawings, A represents the upright stand to which the machine is attached, and B the pedal, by means of which the machine is to be operated. The circular hopper C is supported in an inclined position by means of a standard D, attached to the frame E, the said hopper being provided with the opening *a*, adapted for filling the hopper with lacing hooks, and with the cover *b* to prevent the accidental loss of lacing hooks from the hopper when the machine is in operation.

Upon the rock shaft F within the hopper C is placed the circular brush G adapted to rock with the said shaft, and near the upper edge of the inclined bottom of the hopper C, is placed the curved track H, adapted to catch the properly placed lacing hooks from the agitated mass in the hopper; as shown by the lacing hook I in Figs. 3 and 4. The circular brush G is caused to turn in opposite directions, by means of the pinion J upon the shaft F, and the gear segment K, located at

one end of the bell crank lever L, which lever is pivoted upon a stud *c*, attached to the frame E; and operative connection is made from the bell crank lever L, to the pedal B, by means of the slotted link M, and the connecting rod N, and by means of the slot *d* in the link M, the setting lever O to which the connecting rod N is jointed, may be moved through a considerable distance by the movement of the pedal B without imparting movement to the gear segment K which operates the shaft F.

The setting lever O is pivoted to the stud P, attached to the frame E, and is provided with the lip *q* for holding the lacing hooks to be set, and with the spring guard Q, which serves to prevent the lateral removal of the lacing-hooks from the said lip, the said guard being attached to the lever O, by means of the screw *e*.

The delivering track R is pivoted at its upper end to the standard D, by means of the screw *f*, and the curved track H extends outwardly from the hopper through the opening *g* and abuts against the end *r* of the track R, as shown in Figs. 4 and 5, a guard *h* being placed above the track R to prevent the loss of the lacing hooks therefrom in their descent to the setting lever O. The lower end of the track R is pivoted to the lever O by means of the screw *i*, the same screw serving to attach the partially twisted track R', to the lever O, the said track R' being made to rest at its forward end upon the lip *q* and serving to turn the lacing hooks to the proper position for setting, as shown in Fig. 7.

The tracks R and R' are lapped upon each other and made of such thickness that the lacing hooks will readily pass from the one to the other, and over the track R' is placed the guard S which is attached to the lever O by means of the screw *j*. To the guard S which serves to prevent the loss of the lacing hooks from the track R' is attached the side guide T having an outwardly turned end *k* the said attachment being made by means of the screws *n*, *n*; and to the outer side of the side guide T is attached the slotted adjustable spring stop U, by means of the screws *o*, *o*, the inwardly turned end *p* of the said spring stop serving to stop the forward movement of the lacing hooks along the track R'

so that, at all times there will be a lacing hook I' in contact with the end *p* of the stop as shown in Fig. 6.

To the stud V attached to the frame E, is pivoted a dog W, which serves to carry the lacing hooks forward from the spring stop U to the proper point for setting, as shown in Figs. 2 and 6, upon the upward movement of the forward end of the plunger, but upon the downward movement of the same for setting the lacing-hook I² upon the setting anvil X, the dog W will swing back to a position behind the lacing hook I', which rests against the spring stop U, so as to carry the said lacing hook forward upon the succeeding setting movement.

I claim as my invention—

1. In a machine for setting lacing hooks, the combination with the inclined circular hopper C, and the curved track H, projecting upward from the bottom, and located near the peripheral wall of the said hopper, of the rock-shaft F, provided with the radially arranged brush G, the pinion J, upon the shaft F, the lever L, provided with the gear segment K, the slotted link M, for actuating the said segment, and means for reciprocating the said link, to move the brush in opposite directions, substantially as described.

2. In a machine for setting lacing hooks, the combination with the inclined circular hopper C, the curved track H arranged near

the upper edge of the inclined bottom of the said hopper, and projecting through an opening in the side of the same, the rock-shaft F provided with the circular brush G, and means for operating the brush in reverse directions, of the setting lever O, provided with the lip *q*, the spring guard Q, the track R pivoted to the lever O, the track R', the side guide T, and the spring stop U, substantially as described.

3. In a machine for setting lacing hooks, the combination with the anvil X, of the setting lever O, provided with the lip *q*, the spring guard Q, for holding the lacing-hook in its proper position, the track R pivoted to the lever O, the track R', the side guide T, and the spring stop U, substantially as described.

4. In a machine for setting lacing hooks, the combination with the anvil X, of the setting lever O, provided with the lip *q*, the spring stop U, means for raising and lowering the outer end of the lever O, and the stationary forwardly directed pivoted dog, adapted to force the lacing hook forward upon the setting lever to the proper position above the anvil, upon the upward movement of the lever, substantially as described.

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Witnesses:

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