

No. 619,260.

Patented Feb. 7, 1899.

W. P. QUIMBY.
TYPE WRITING MACHINE.

(Application filed June 6, 1898.)

(No Model.)

4 Sheets—Sheet 1.

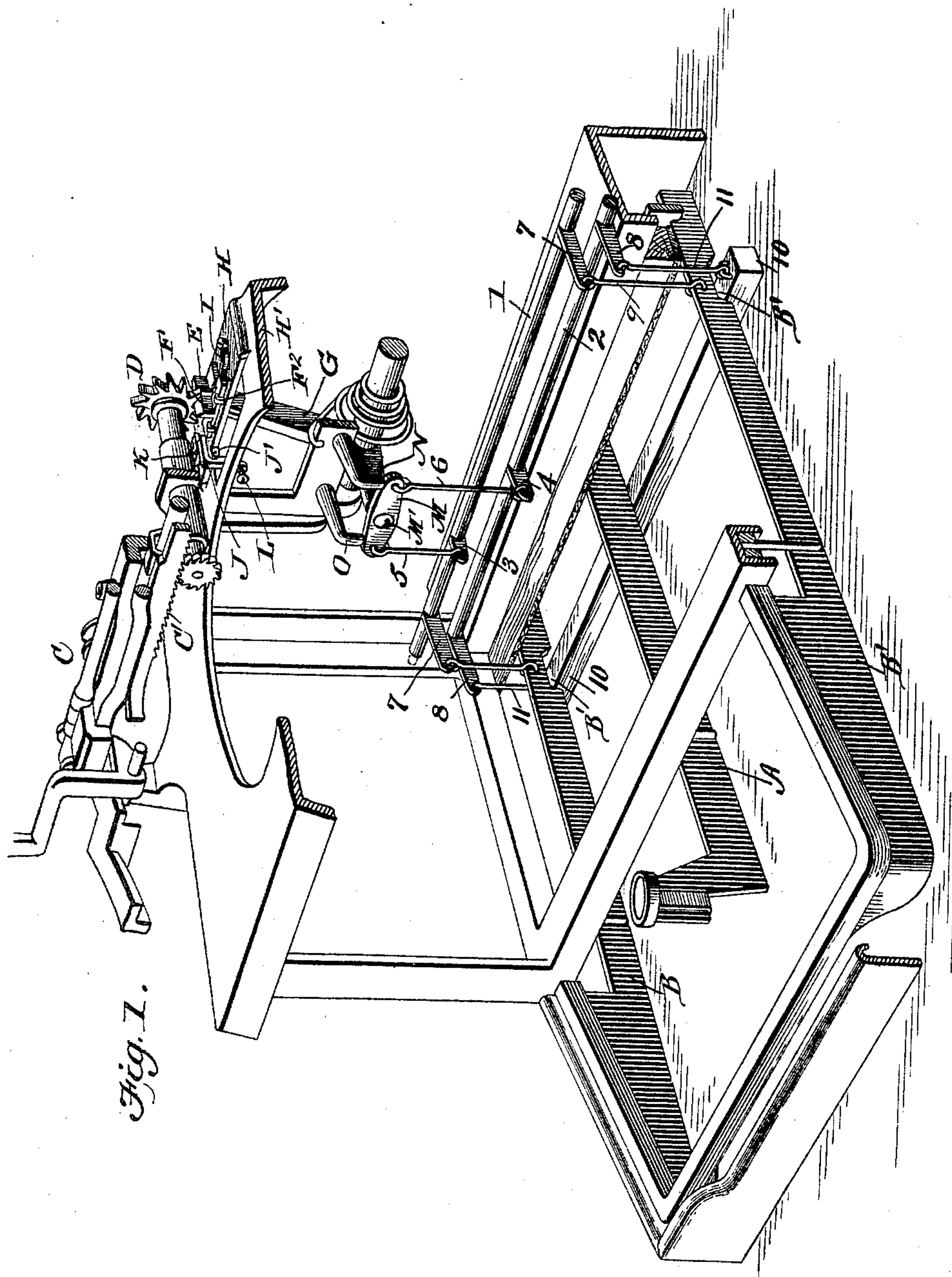


Fig. 1.

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No. 619,260.

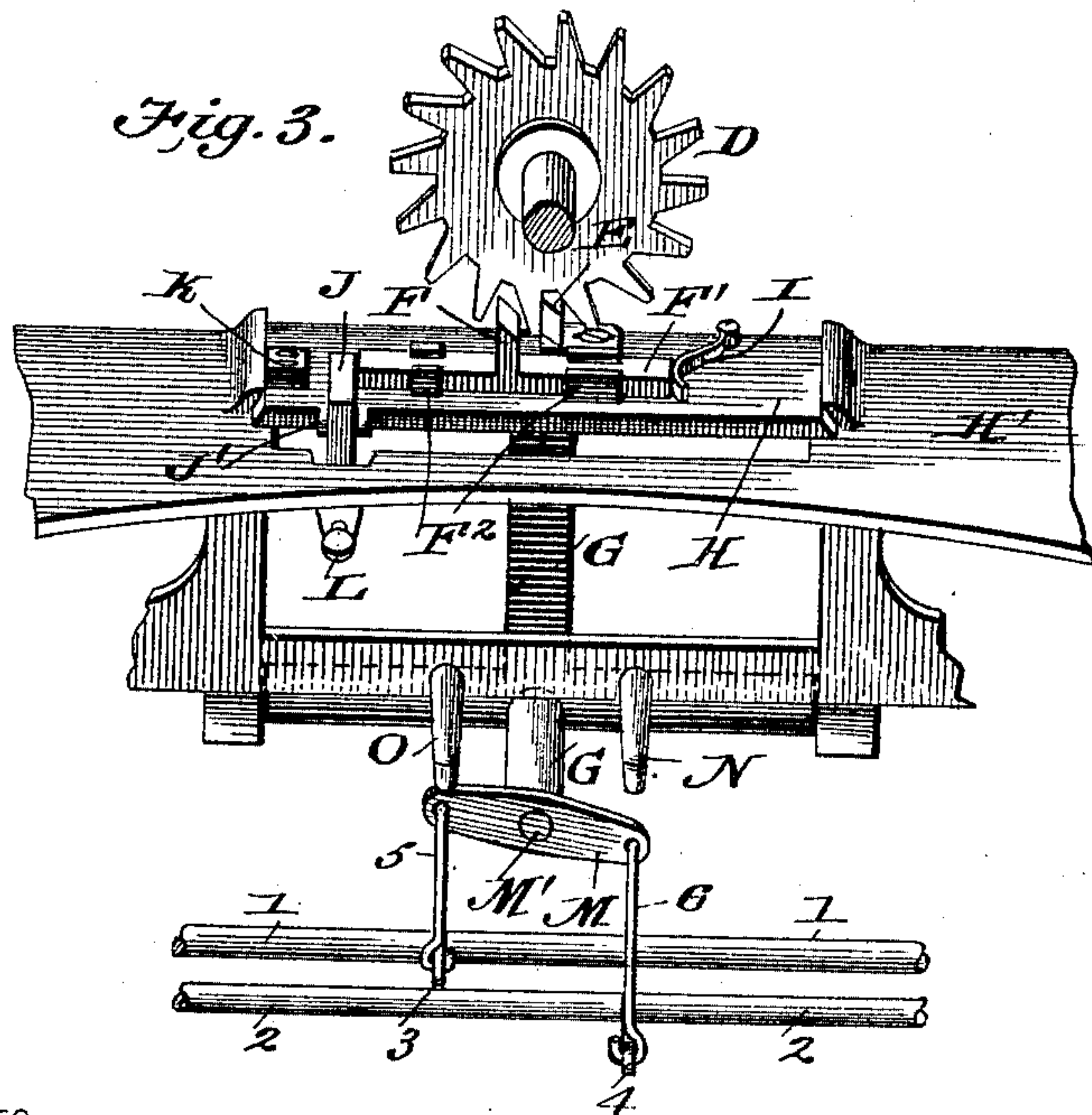
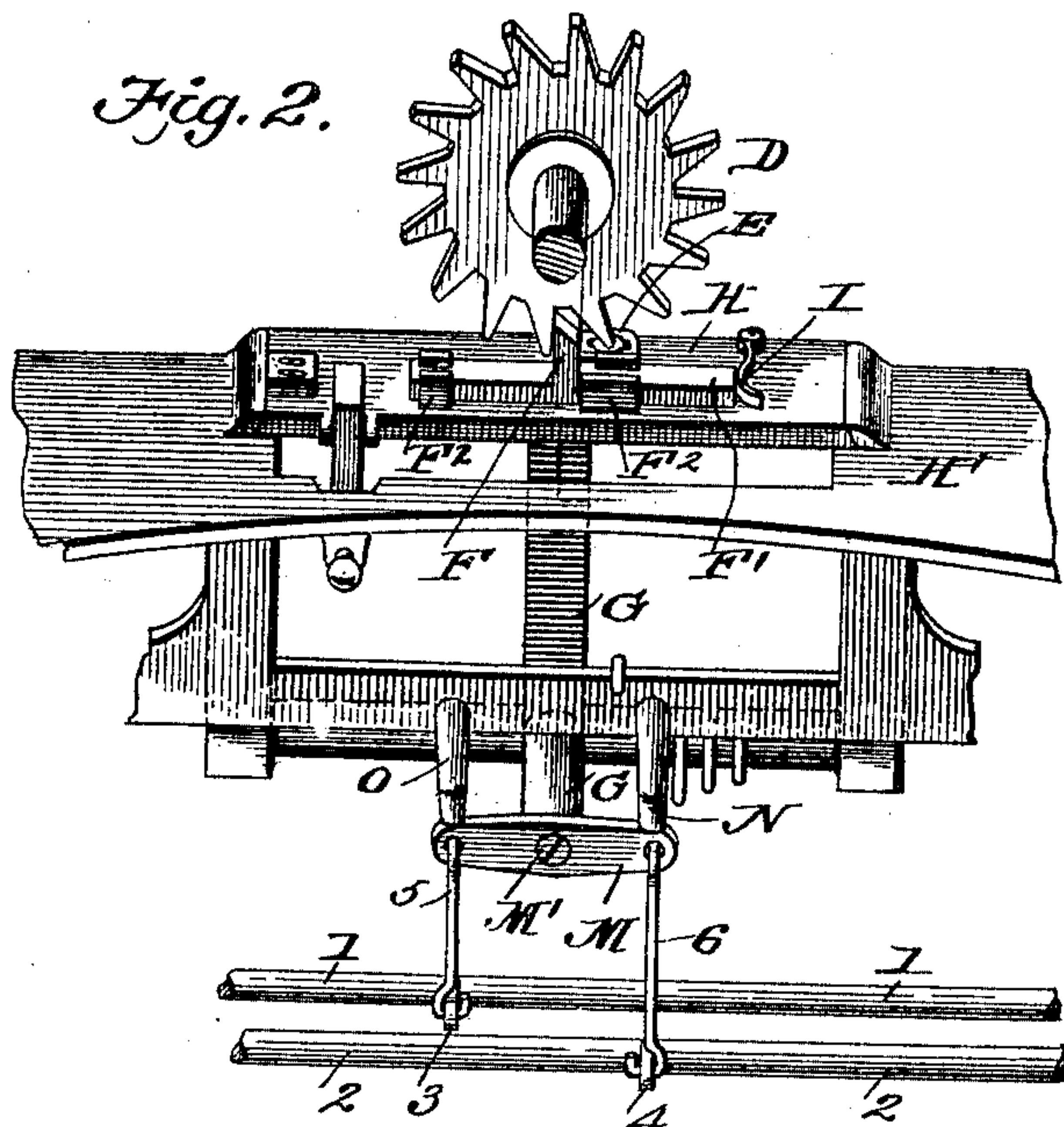
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4 Sheets—Sheet 3.

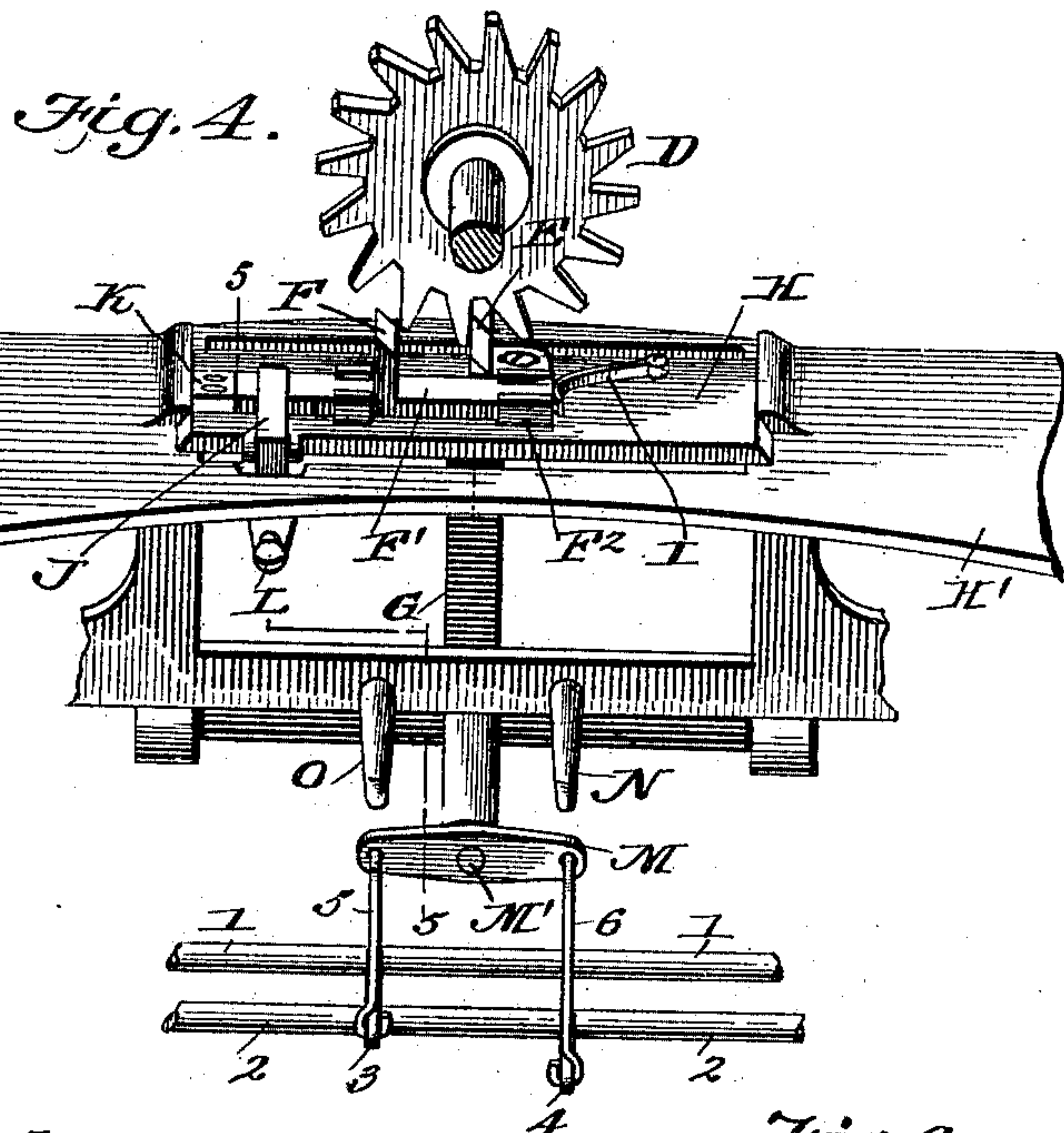


Fig. 5.

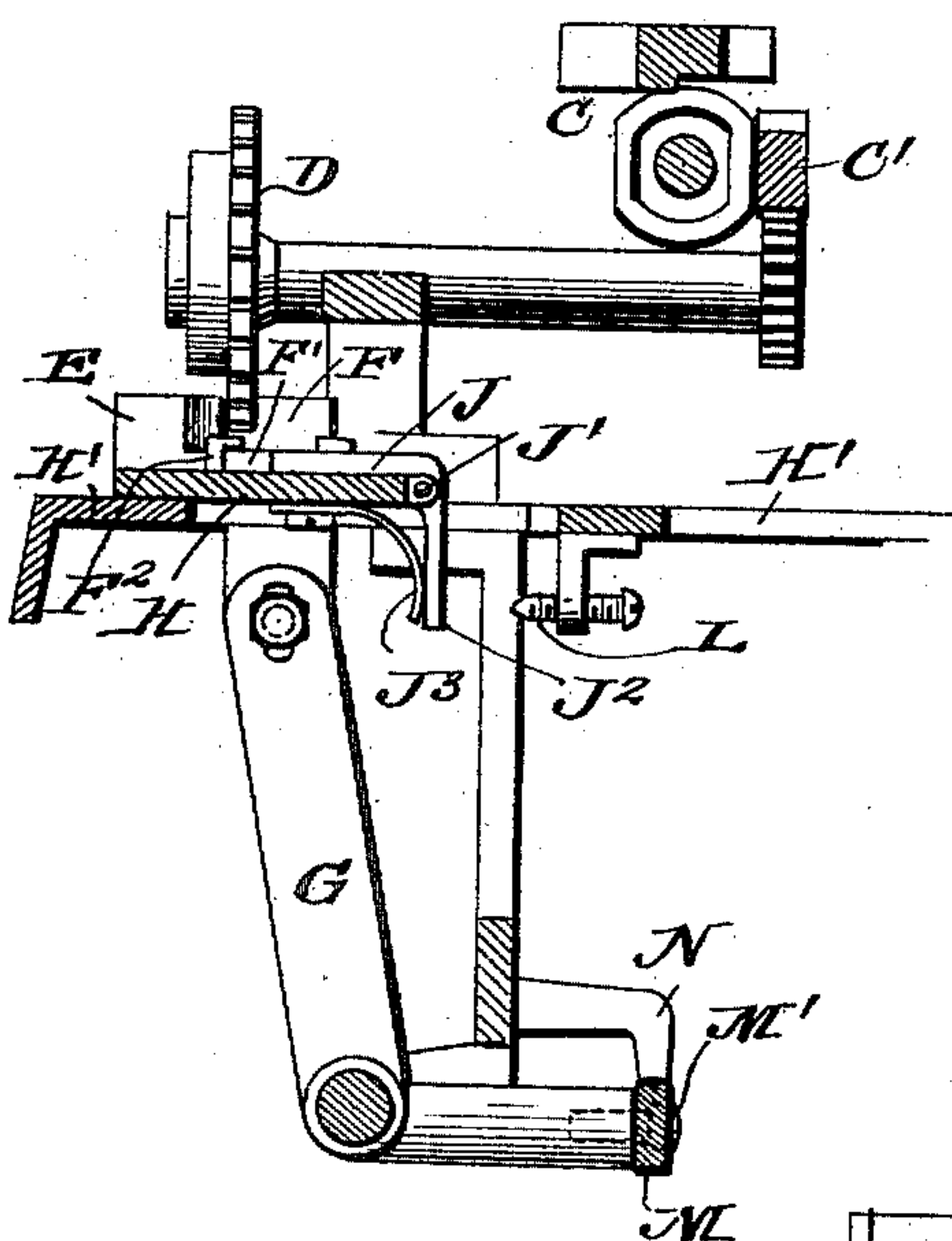


Fig. 6.

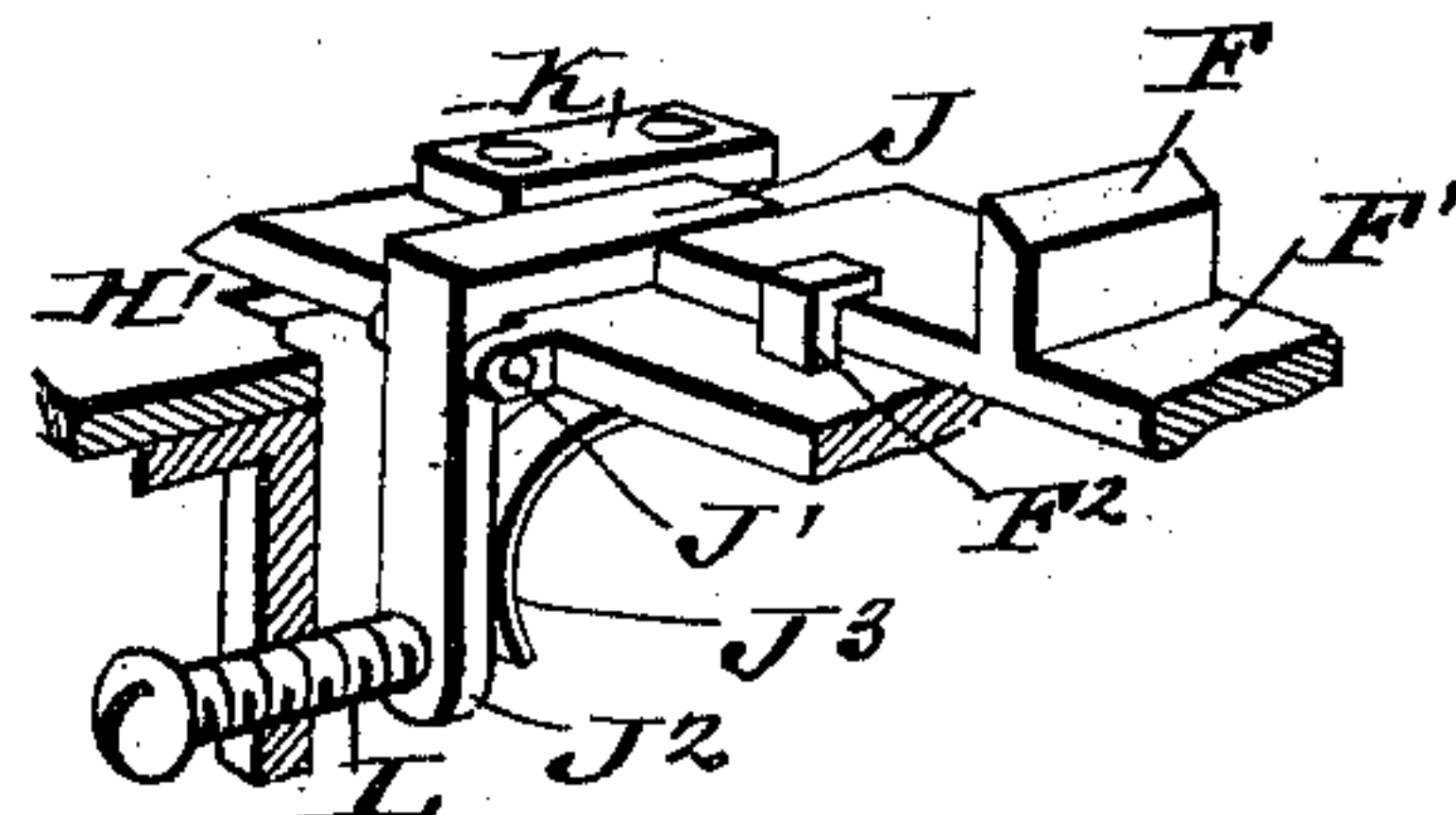


Fig. 7.

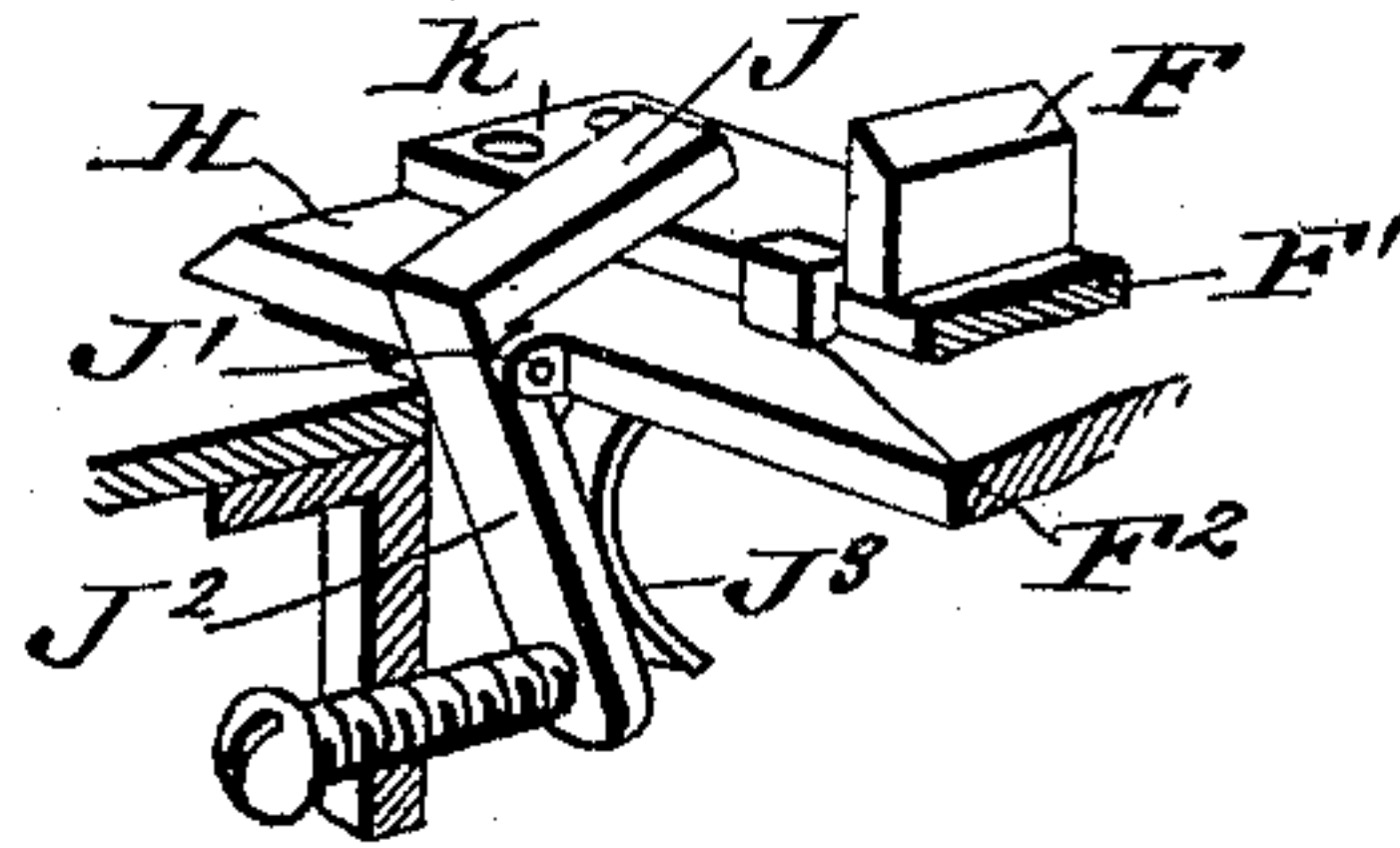
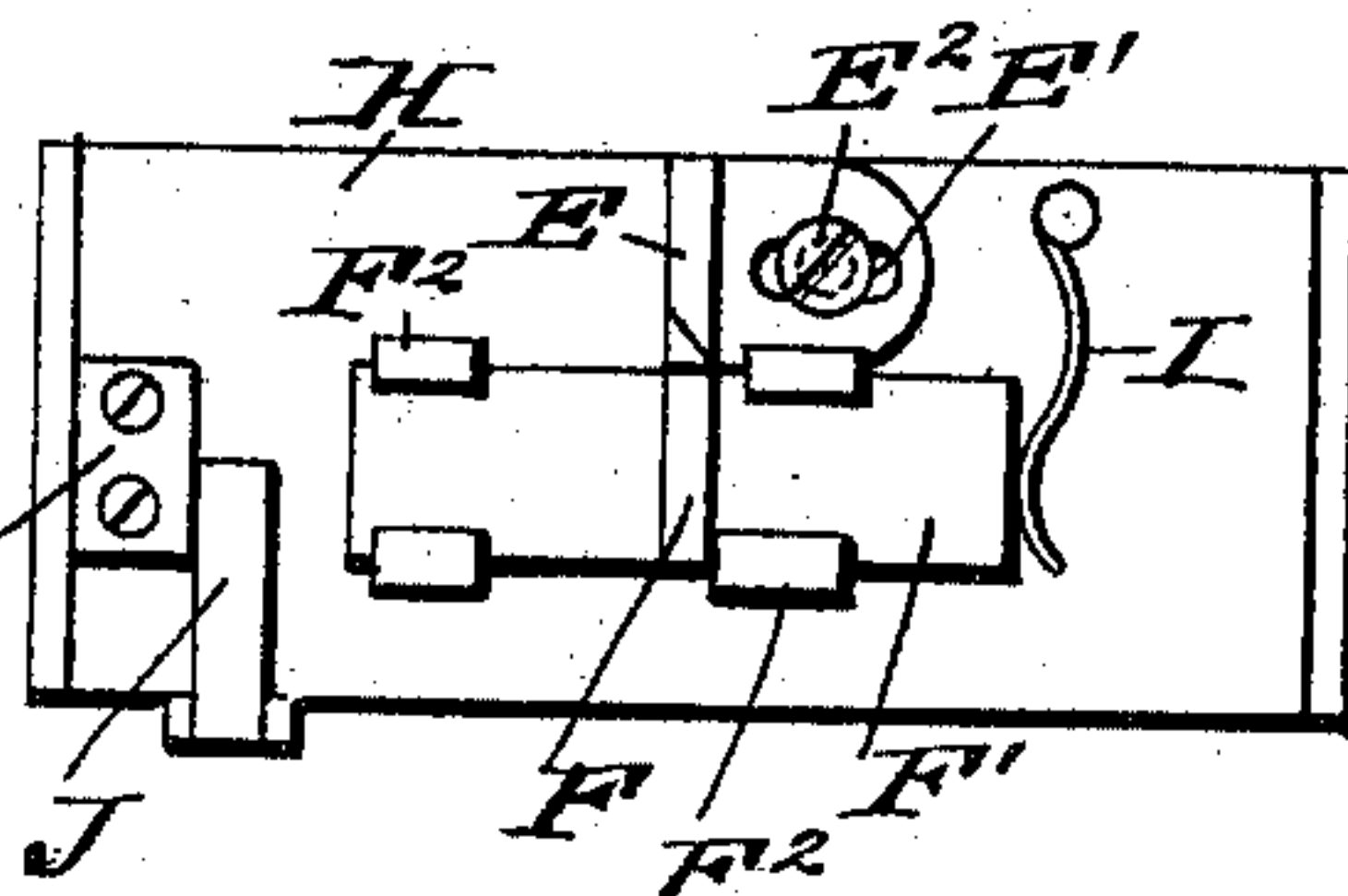


Fig. 8.



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No. 619,260.

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TYPE WRITING MACHINE.

(Application filed June 8, 1898.)

(No Model.)

4 Sheets—Sheet 4.

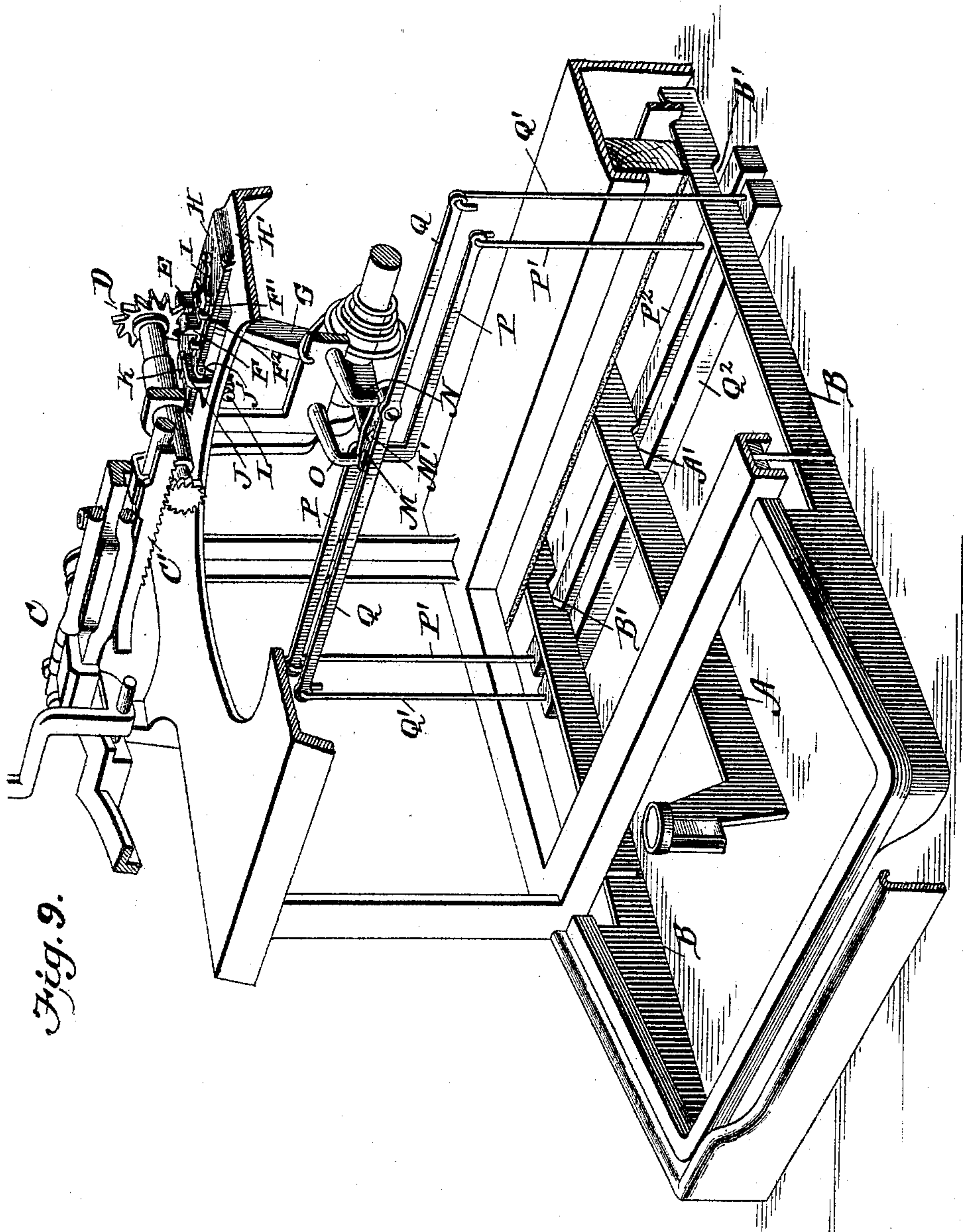


Fig. 9.

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UNITED STATES PATENT OFFICE.

WILLIAM P. QUIMBY, OF GETTYSBURG, PENNSYLVANIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 619,260, dated February 7, 1899.

Application filed June 6, 1898. Serial No. 682,716. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. QUIMBY, residing at Gettysburg, in the county of Adams and State of Pennsylvania, have made certain new and useful Improvements in Type-Writers, of which the following is a full, clear, and exact description.

My invention is an improvement in type-writers, relates particularly to the spacing mechanism, and has for an object to provide a simple novel mechanism whereby a single or double spacing may be effected by one movement in order that an operator in printing the last letter of a word may simultaneously with such printing movement effect a double spacing to provide for the usual spacing between words.

My invention involves certain improvements in the escapement mechanism, as well as in the intermediate devices between the same and the type and spacing levers; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view illustrating my improvements, parts of the machine being removed and others shown in section. Figs. 2 and 3 are detail perspective views showing the escapement-wheel and the parts immediately connected therewith. Fig. 4 is a perspective view similar to Fig. 3, showing the escapement-lever in a different position. Fig. 5 is a detail vertical section on about line 5 5 of Fig. 4. Fig. 6 is a detail view illustrating the movable stop for the loose dog of the escapement. Fig. 7 is a detail perspective view illustrating such stop as raised out of the path of the base-plate of the loose dog. Fig. 8 is a detail plan view illustrating the sliding escapement-plate with the loose dog and the stops therefor in position. Fig. 9 is a perspective view illustrating a somewhat different mechanism intermediate the keys, and the step-by-step spacing mechanism.

In carrying out my invention the type-writer frame, its type-levers A, spacing-lever B, carriage C, with rack C', and the escapement-wheel D may in general respects be of the usual construction.

In connection with the escapement-wheel D

I provide a fixed dog E and a loose dog F to secure the desired feed of the carriage for spacing, and in securing such spacing I provide for a variable movement laterally of the loose dog F, so such dog may when released from the escapement-wheel move laterally a distance equal to one tooth of the wheel or equal to two of such teeth, as may be desired. In effecting such result I provide the rocking escapement-lever G with a plate H, which slides back and forth on the top plate H' of the machine-frame and supports the rigid dog E and the loose dog F; and I provide mechanism, as will be presently described, whereby the movement of the lever G may be sufficient to permit the escapement-wheel to move one step or two steps, as may be desired. While I refer to the tooth E as "rigid," it should be understood that I prefer to make such tooth rigid in operation, and yet provide, by means of the slot E' and the screw E², for adjusting the dog E on the plate H to take up wear or for any other purpose desired. The loose dog F is movable laterally on the plate H, being provided with a base-plate F', sliding on such plate H and guided in keepers F². This plate F' is pressed laterally by the spring I into contact with a stop J or a stop K when such stop J is lifted. This stop J is movable and is arranged in position to stop the loose dog F in position to secure a single spacing of the carriage, while the stop K is in position to stop the said dog in position for a double spacing of the carriage if the stop J be raised so the dog can move on into contact with the stop K. The stop J is down in position to be engaged by the base-plate F at all times when the rocking lever G is given the slight movement necessary to secure a single spacing of the carriage; but if the rocking lever G be given the extent of motion necessary to effect a double spacing, the stop J will be moved out of the path of the plate F' and the latter may move into contact with the stop K. This is preferably effected by pivoting the stop J at J' and providing it with an arm J², which is pressed upon by a spring J³ in such manner as to hold the stop J normally in the path of the plate F' and yet permit it to rise out of the path of such plate, so the plate F' can move on into contact with the stop K. This movement of the stop J out of the path of

the plate F' is preferably secured by providing at L a device which will engage the arm J² of the stop J when the plate H is thrown forward sufficiently far to effect a double spacing of the carriage. This stop is preferably a screw, as shown in Figs. 5, 6, and 7, and can be readily adjusted to secure the desired operation of the stop J, as will be understood from said figures.

10 In operation the dogs E and F act in connection with the escapement-wheel D just as in the ordinary Remington type-writer, except that I provide for two movements of the rocking escapement-lever and vary the lateral
15 movement of the loose dog, so the latter can move a distance necessary for a single spacing or a greater distance to secure a double spacing, this movement of the loose dog being controlled by the movements of the rock-
20 ing escapement-lever, the usual movement thereof moving the plate H but a short distance, so the arm J² will not strike the stop L, while a greater movement of the rocking lever will cause the arm J² to strike the stop
25 L, so the plate F' can pass on into engagement with the stop K, and thus provide for a double spacing of the carriage. In order to provide for this variable movement of the lever G, I pivot thereto a connecting-lever M,
30 such lever being pivoted at M' centrally between its ends to the lever G, and the framing being provided with abutments N and O, which serve as stops to limit the upward movement of the connecting-lever M and also
35 as fulcrum for the opposite ends of such lever as the same is depressed at one or the other end in the operation of the machine. For operating the lever M, I provide means whereby the spacing-lever and the keys may act
40 thereon to depress one or the other end of such lever or to move the same bodily downward. As shown in Fig. 1 and as may be preferred, shafts 1 and 2 are journaled to the framing and have crank-arms 3 and 4, connected by links 5 and 6 with the ends of lever
45 M and crank-arms 7 and 8, which are operated, respectively, by the spacing-lever B and the type-keys, the spacing-lever B being connected with its crank-arm 7 by a link 9, and
50 the keys, of which I show only one, being arranged to engage the lower cross-bar 10 of a bail, whose end rods 11 connect with the cranks of the shaft 2. The spacing-lever B is cut out at B', where it crosses the bar 10.
55 It is manifest that the keys or the spacing-lever when depressed will rock their respective shafts 1 and 2 and depress the corresponding end of the lever M, operating the lever G sufficiently to secure a single-spacing movement of the carriage, but if the type-
60 key and the spacing-lever be operated at the same time the bar M will be moved bodily downward (see Fig. 4) and effect a sufficient movement of the lever G to secure a double-spacing movement of the carriage.

It will be noted that the extent of movement of the key and spacing levers is the

same both when the levers are moved alone and when they are moved jointly.

In Fig. 9 I show a different construction 70 between the type-levers and the spacing-lever and the lever M, to which, at its opposite ends, are connected the upper cross-bars P and Q of bails Q' and P', the lower cross-bars Q² and P² of which are arranged, respectively, 75 for engagement by the spacing-lever B and the type-lever A, so such levers may when depressed move downward their respective bails to rock the connecting-lever M, as indicated in Fig. 3. While the levers A and B 80 cross both bars Q² and P², I prevent the operation of the bar Q² by the lever A and the bar P² by the lever B by providing said levers A and B with cut-out portions A' and B', corresponding to the cross-bars which 85 they cross, but are not desired to operate, as will be understood from Fig. 9. In the operation of such construction if the type-levers A, of which I show only one, are depressed they will push down the bail P' and the cross- 90 bar P will tilt the lever M by causing one end of such lever to fulcrum against the stop N, and the reverse result will occur when the spacing-lever B is operated, such lever depressing the bail Q and tilting the lever M to 95 the position shown in Fig. 3. Either of such operations serves to rock the lever G the distance necessary to effect a single-spacing movement of the carriage, the extent of movement of the lever M and the lever G being indicated in Fig. 3. Now if it is desired 100 to move the lever G a distance sufficient to effect a double spacing—as, for instance, in printing the final letter of a word—the operator in striking such letter will at the same 105 time strike the spacing-lever. By this operation both bails P and Q are depressed, and the lever M, instead of being depressed at only one end, is depressed at both ends and moved bodily downward, thus rocking the 110 escapement-lever G to a greater extent than before and giving to the plate H sufficient movement to cause the arm J² to engage the stop L and lift the stop J so the loose dog F can move a sufficient distance to secure a 115 double-spacing movement of the carriage. It is manifest that by this construction the operator is able to save one movement for each word written, as the same movement which prints the final letter of a word also operates 120 to secure the spacing between such word and the next.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 125

1. In a type-writer, the combination of the rocking escapement-lever, the type-levers, the spacing-lever, and intermediate means including a variably-movable connecting device whereby the rocking lever may be positively 130 moved by the independent movement of either the key or spacing levers a given distance and may be positively moved by the joint operation of such levers a distance in excess of

said first distance, the extent of the movement of the key and spacing levers being the same in both instances, substantially as set forth.

2. In a type-writer the combination of the carriage, the escapement-wheel, the rigid dog, the plate carrying the rigid dog and movable substantially as described, the loose dog slidable laterally on said plate, a fixed stop for said loose dog, a movable stop movable into and out of the path of the loose dog and an abutment on the frame for engagement by the said movable stop, substantially as set forth.

3. In a type-writer, the combination of the carriage, the escapement-wheel, the plate carrying the rigid dog and movable substantially as described, the loose dog movable laterally on said plate, a fixed stop for said loose dog, a movable stop for said dog, such movable stop being pivoted and an abutment on the frame for engagement by said movable stop whereby to set the same out of the path of the loose dog, substantially as set forth.

4. In a type-writer, the combination of the escapement-wheel, fixed and loose dogs operating in connection therewith, a fixed and a movable stop for the loose dog, a movable support for said dogs, means whereby said support may be moved different distances, and means whereby the movement of said support controls the movable stop for the loose dog whereby to effect a variable movement of the escapement-wheel, substantially as shown and described.

5. In a type-writer substantially as described, the combination of the carriage, the escapement-wheel by which to control the spacing movements of said carriage, the rigid dog, a movable plate supporting the rigid dog, the loose dog slidable laterally on said plate, the fixed stop and the movable stop for limiting the lateral movement of the loose dog, such movable stop being pivoted and having a crank-like arm and an actuating-spring and a stop on the framing arranged to engage said arm, substantially as set forth.

6. In a type-writer, the combination of the escapement-wheel, the rocking escapement-lever, the fixed and loose dogs thereon and engaging the escapement-wheel, the fixed and movable stops for said loose dog, means whereby the movable stop will be cleared of the path of the loose dog when the rocking lever is moved to its greatest extent and devices whereby the key and spacing levers may when operated jointly move the rocking lever to its full extent, and may when operated singly move said rocking lever less than when operated jointly substantially as set forth.

7. In a type-writer, the combination with the rocking escapement-lever, of a connecting-lever pivoted between its ends to said escapement-lever, and devices connected with

the opposite ends of said connecting-lever and adapted for sole or joint operation, substantially as set forth.

8. In a type-writer, the combination with the escapement-wheel, the rocking lever and the plate thereon, of the fixed dog on said plate, the loose dog movable laterally on the plate, the stop for such dog fixed on the plate and the movable stop pivoted to the plate and arranged for operation, substantially as set forth.

9. In a type-writer, the combination of the rocking escapement-lever, the connecting-lever pivoted to said rocking lever and means for rocking said connecting-lever and for moving it bodily whereby to secure a greater or less movement of the escapement-lever, substantially as set forth.

10. The herein-described improvement in type-writers comprising the carriage, the escapement-wheel by which to control the spacing movements of the carriage, the rigid and loose dogs in connection with said wheel, the rocking escapement-lever supporting and operating said dogs, the connecting-lever pivoted between its ends to the escapement-lever, the type-lever, the spacing-lever, and intermediate devices between the type-levers and spacing-lever and the opposite ends of the connecting-lever, substantially as set forth.

11. In a type-writer, the combination of the rocking connecting-lever, shafts having crank-arms connected with the ends of the connecting-lever and means whereby the type and spacing levers may operate such shafts, substantially as set forth.

12. In a type-writer substantially as described, the combination of the shafts having crank-arms, the key-levers and spacing-levers arranged to operate their respective shafts either singly or jointly, the step-by-step spacing devices and connections between the same and the said shafts substantially as set forth.

13. In a type-writer, the combination of the carriage, the escapement mechanism including the oscillating lever, the connecting-lever pivoted between its ends thereto, the shafts having cranks connected with the opposite arms of the connecting-lever, the spacing and key levers and connections between the same and the shafts having cranks, substantially as set forth.

14. In a type-writer, the combination with the oscillating escapement-lever of the connecting-lever pivoted between its ends to the oscillating lever, and devices for rocking said lever and for moving the same bodily, substantially as set forth.

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Witnesses:

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PERRY B. TURPIN.