

No. 772,853.

PATENTED OCT. 18, 1904.

W. J. WHITE & N. M. WATSON.

MOUNTING MACHINE.

APPLICATION FILED JULY 1, 1901.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 6.

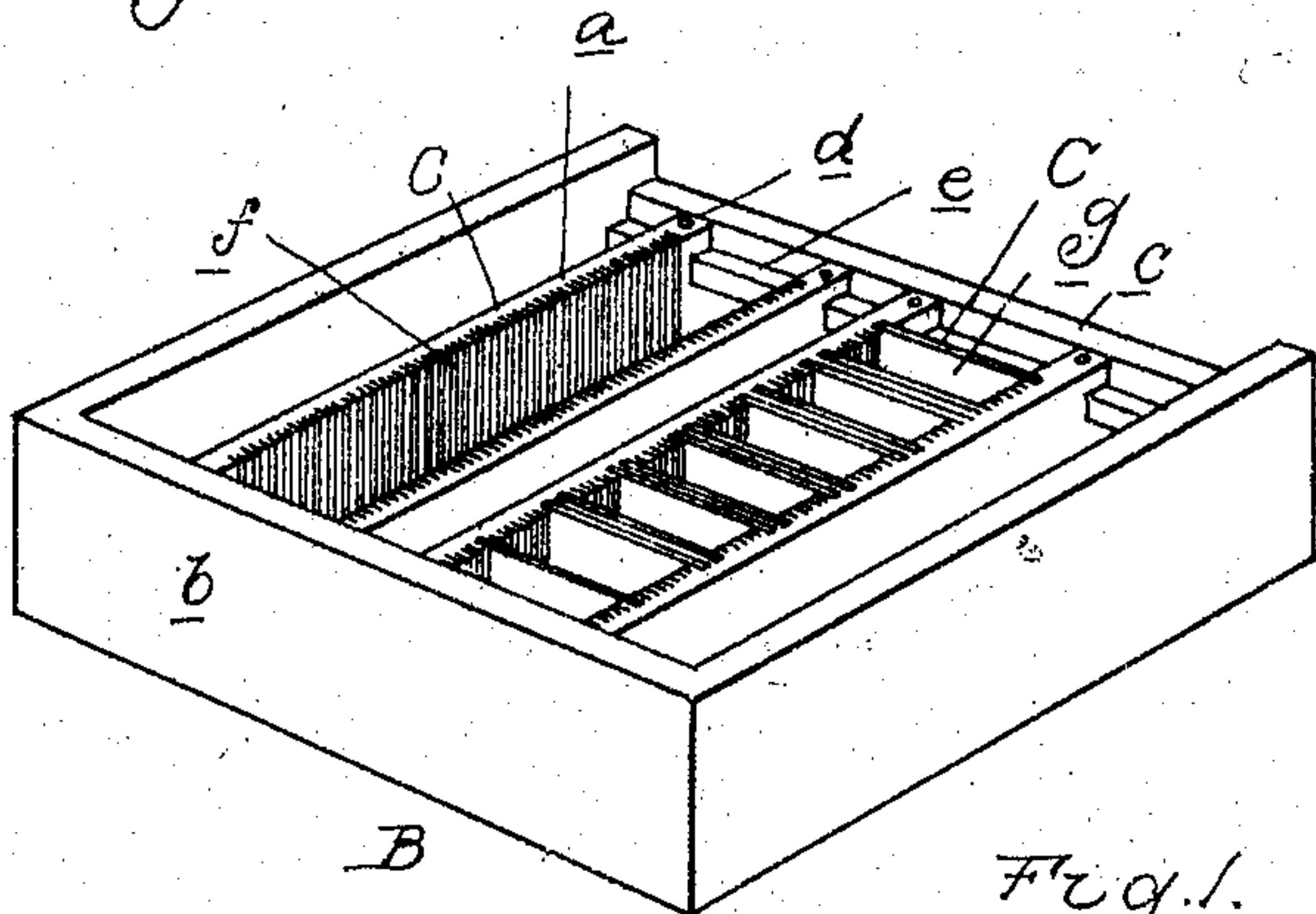


Fig. 1.

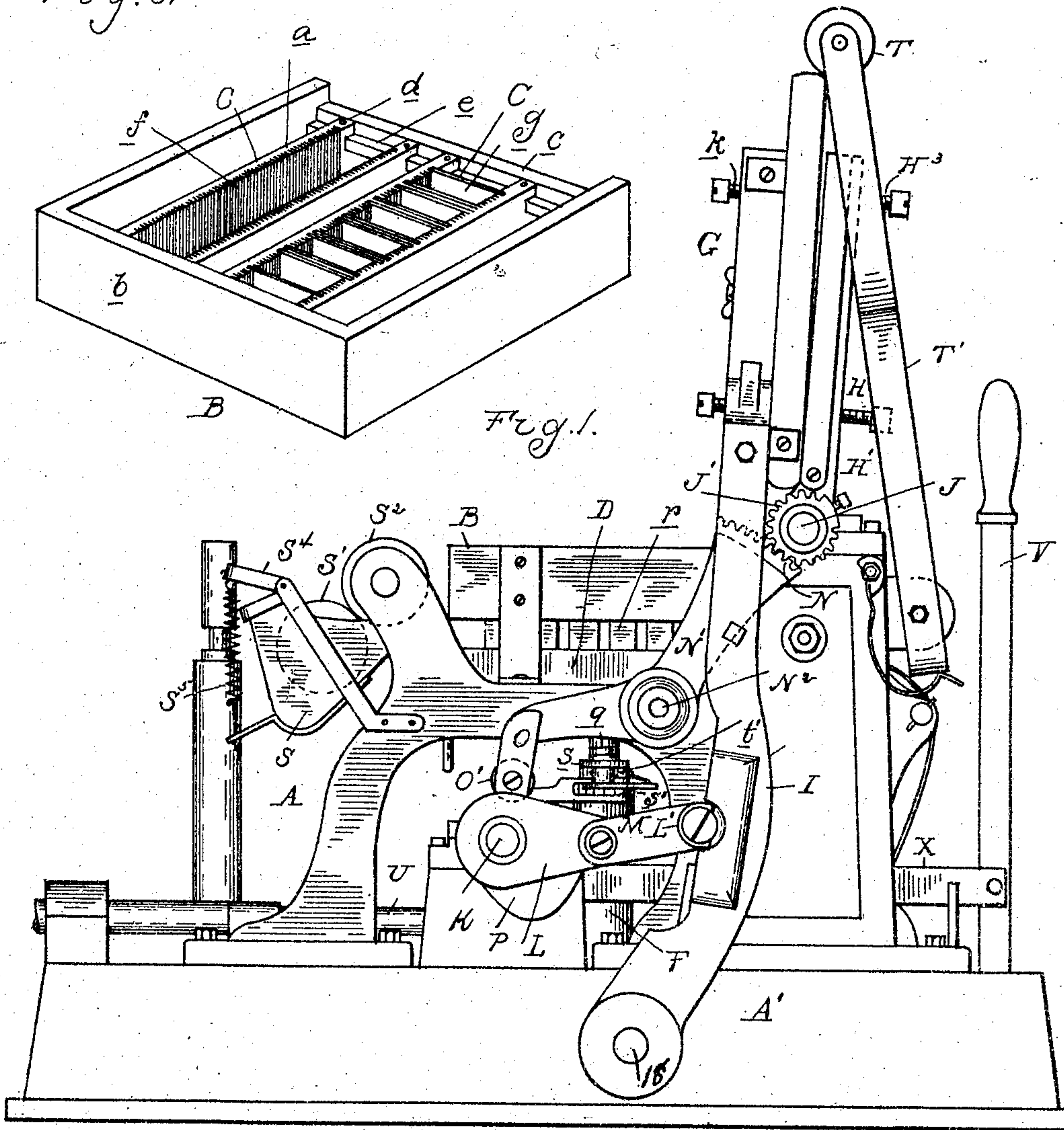
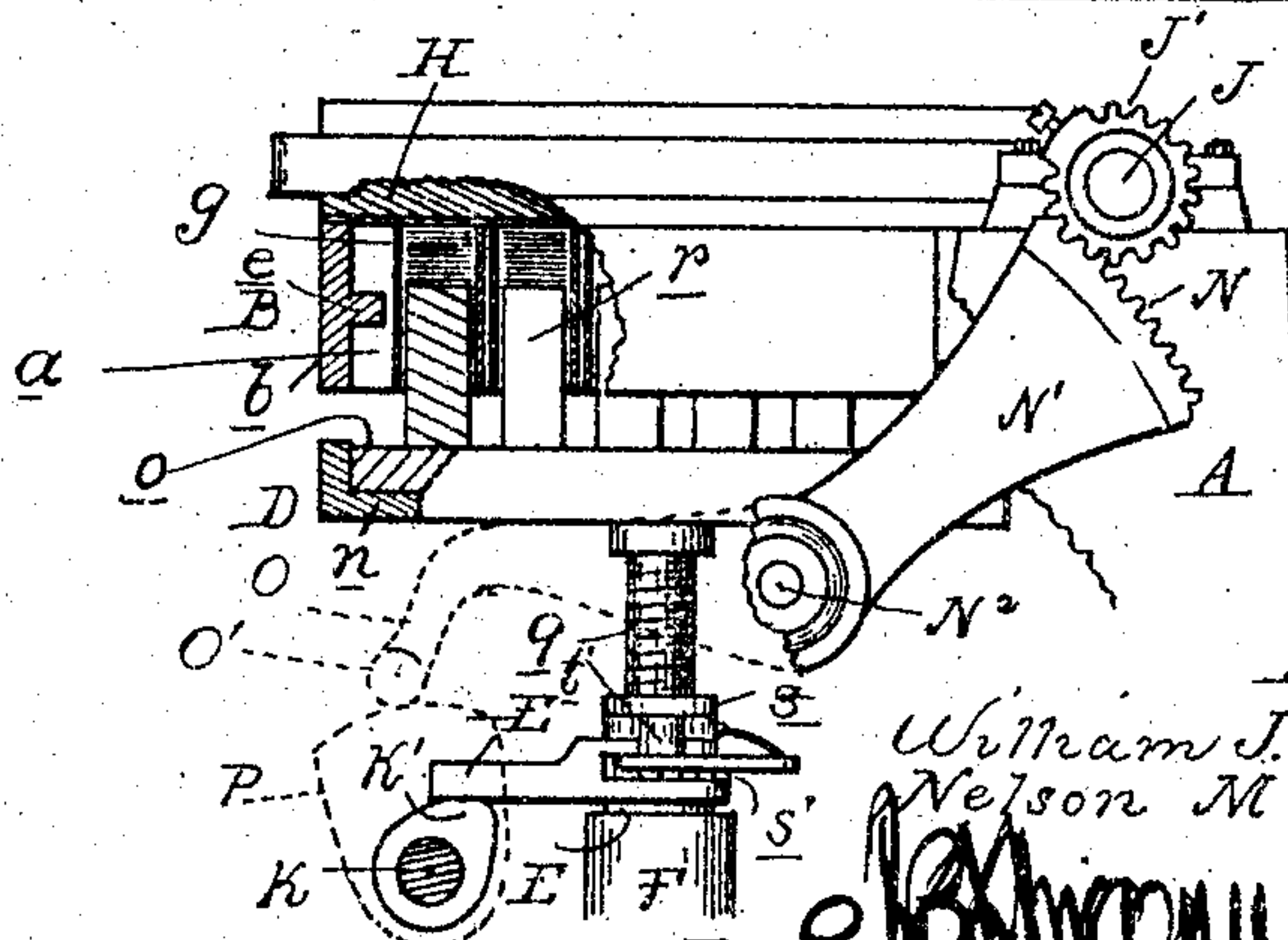


Fig. 3.



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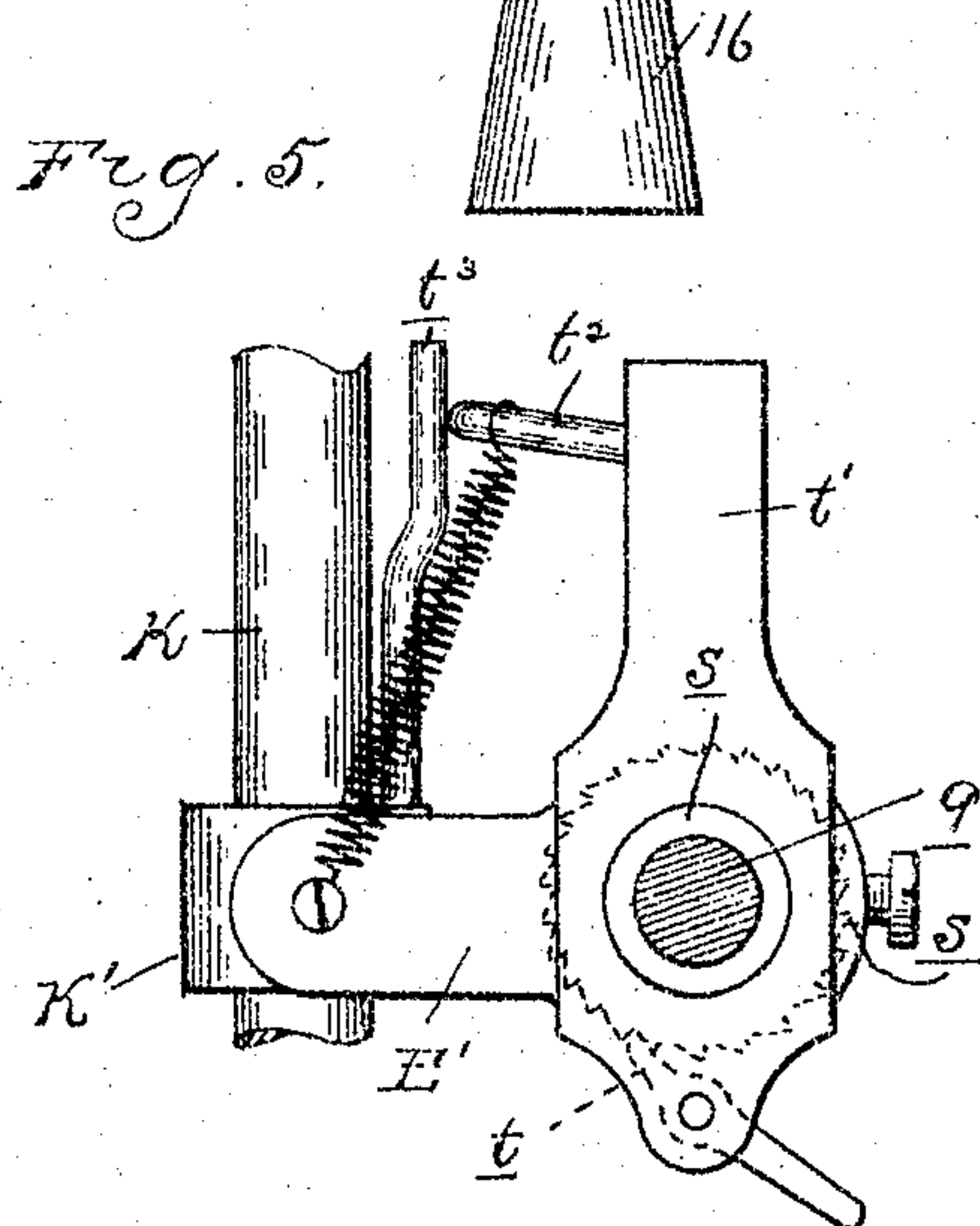
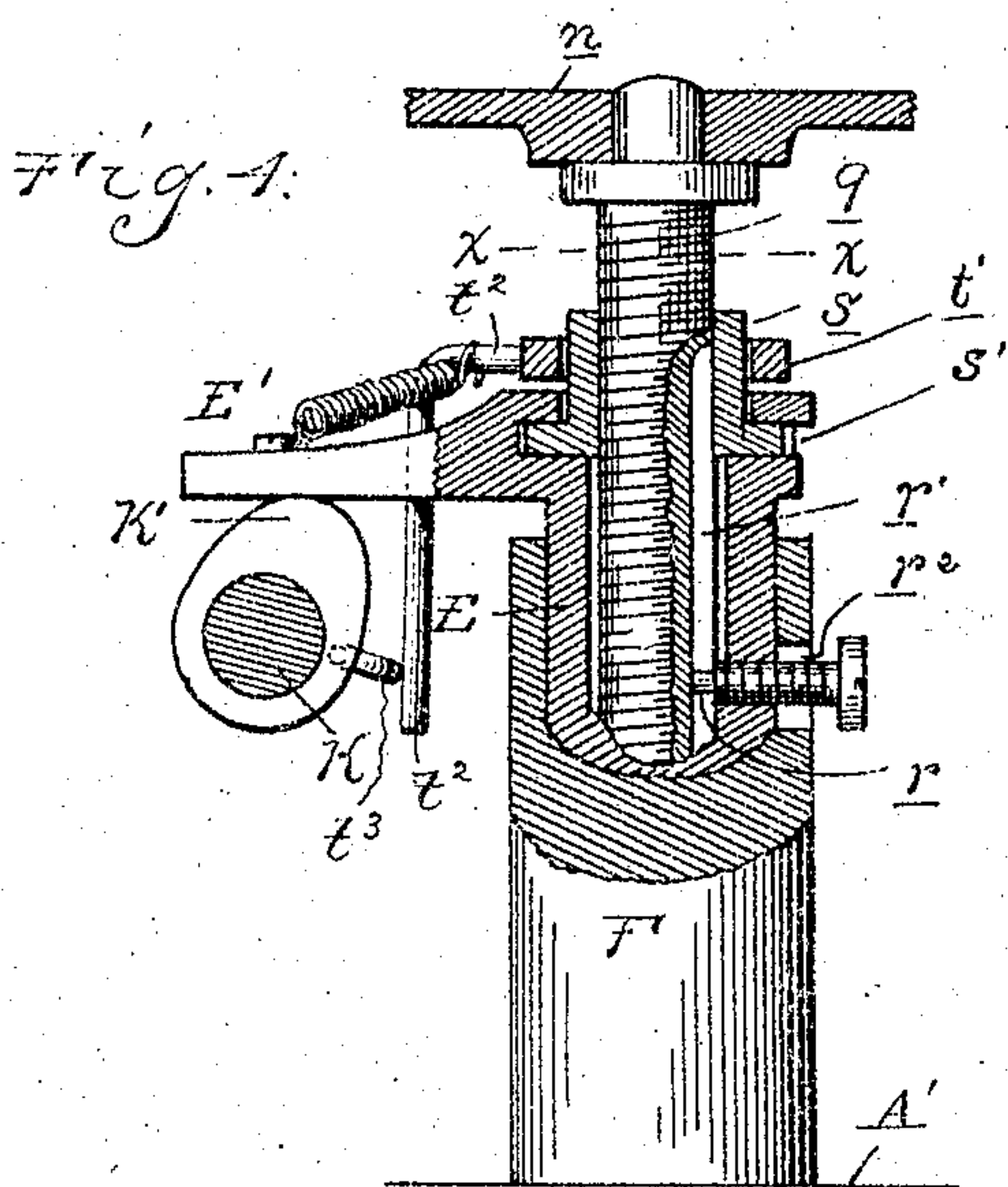
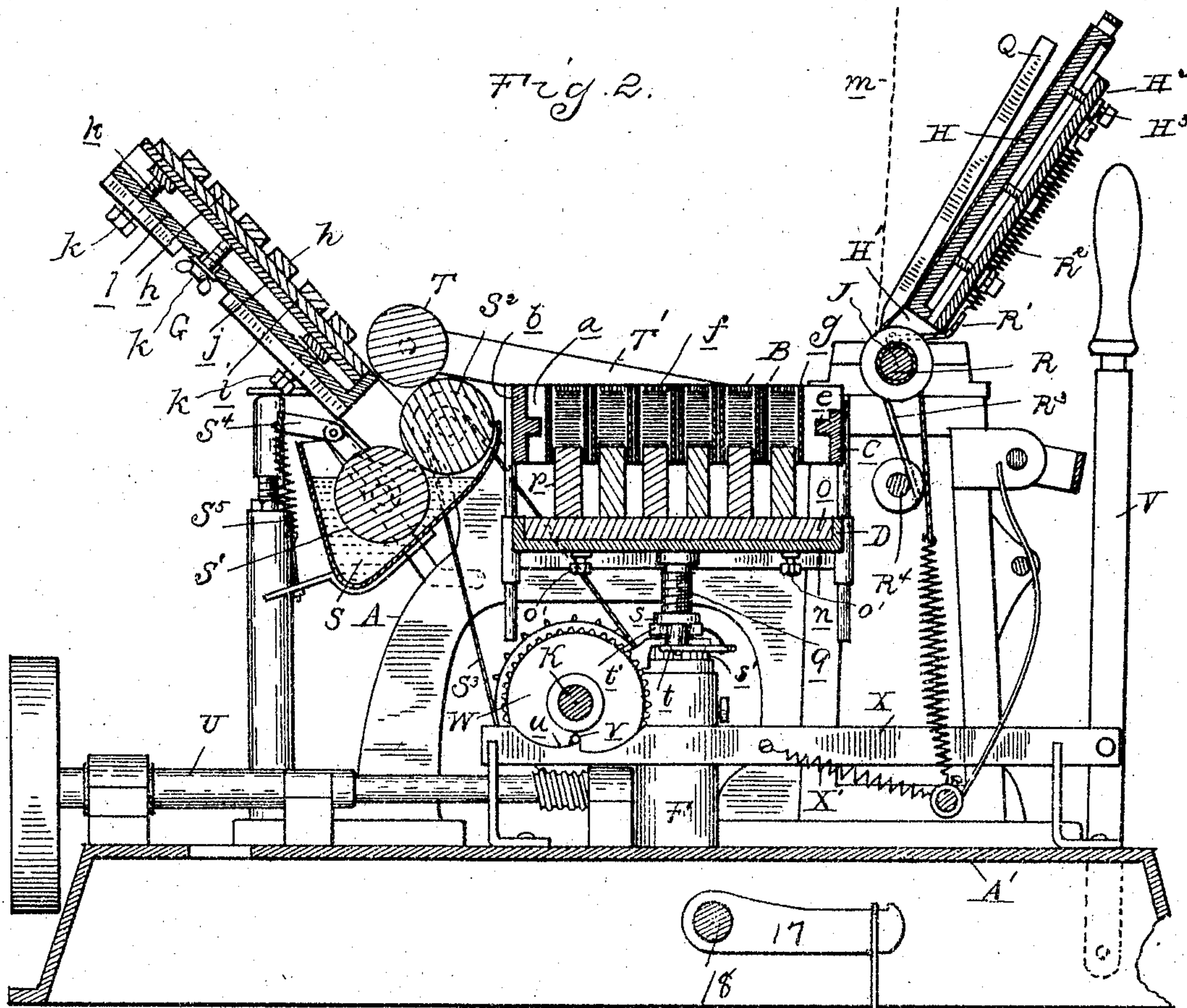
W. J. WHITE & N. M. WATSON.

# MOUNTING MACHINE.

APPLICATION FILED JULY 1, 1901.

NO MODEL.

3 SHEETS--SHEET 2.



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No. 772,853.

PATENTED OCT. 18, 1904.

W. J. WHITE & N. M. WATSON.

MOUNTING MACHINE.

APPLICATION FILED JULY 1, 1901.

NO MODEL.

3 SHEETS—SHEET 3.

Fig. 8.

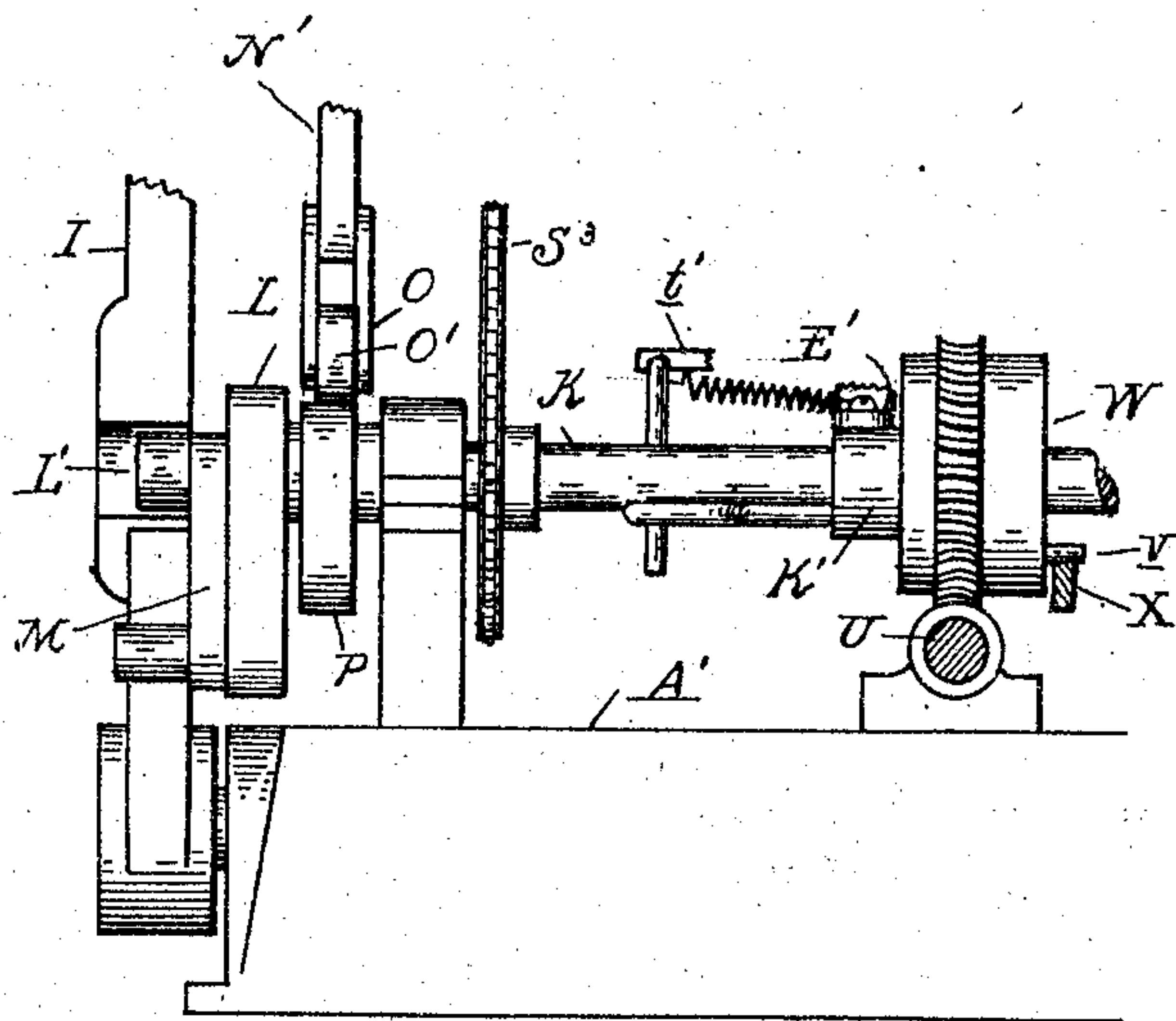


Fig. 7.

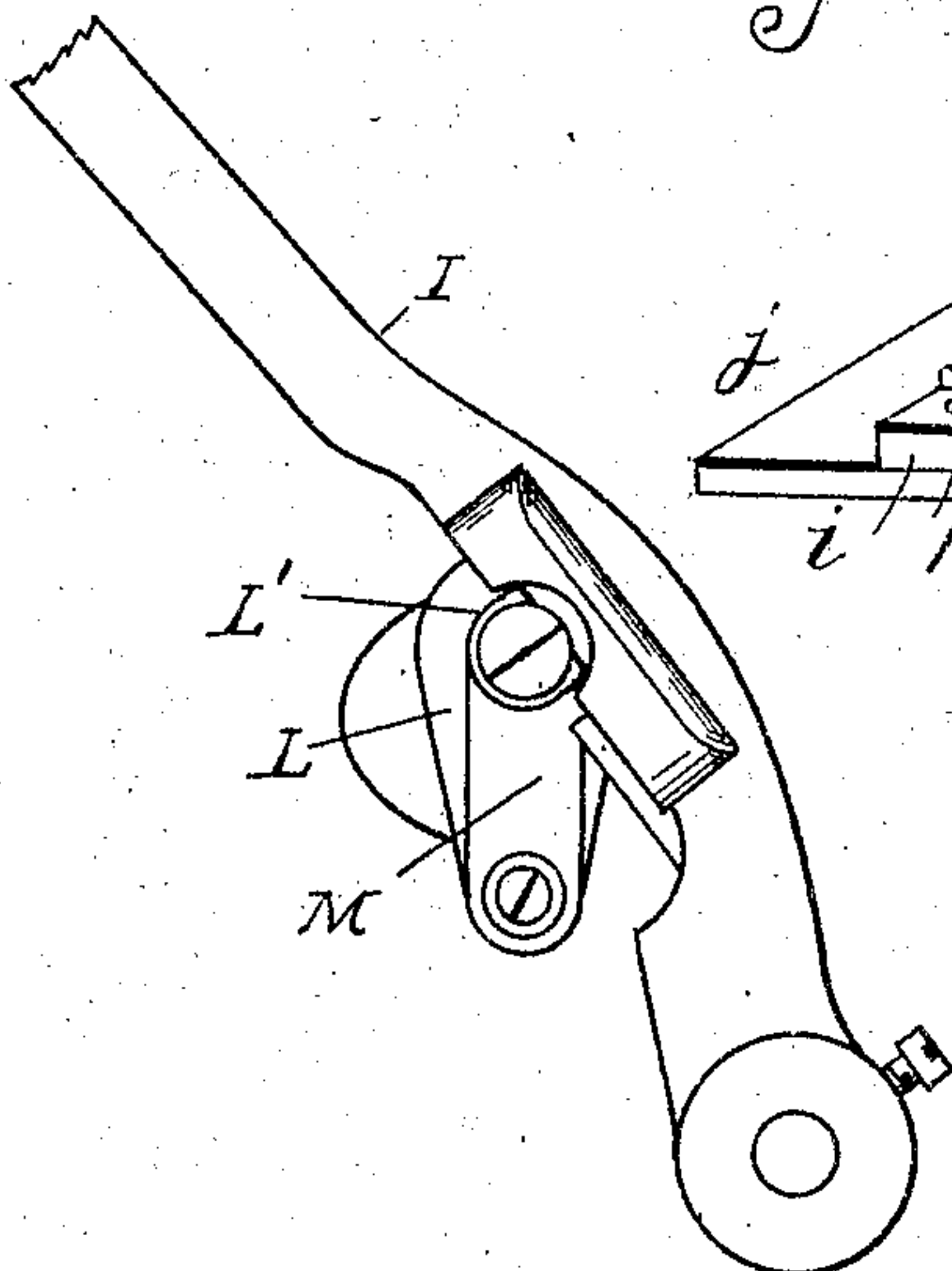
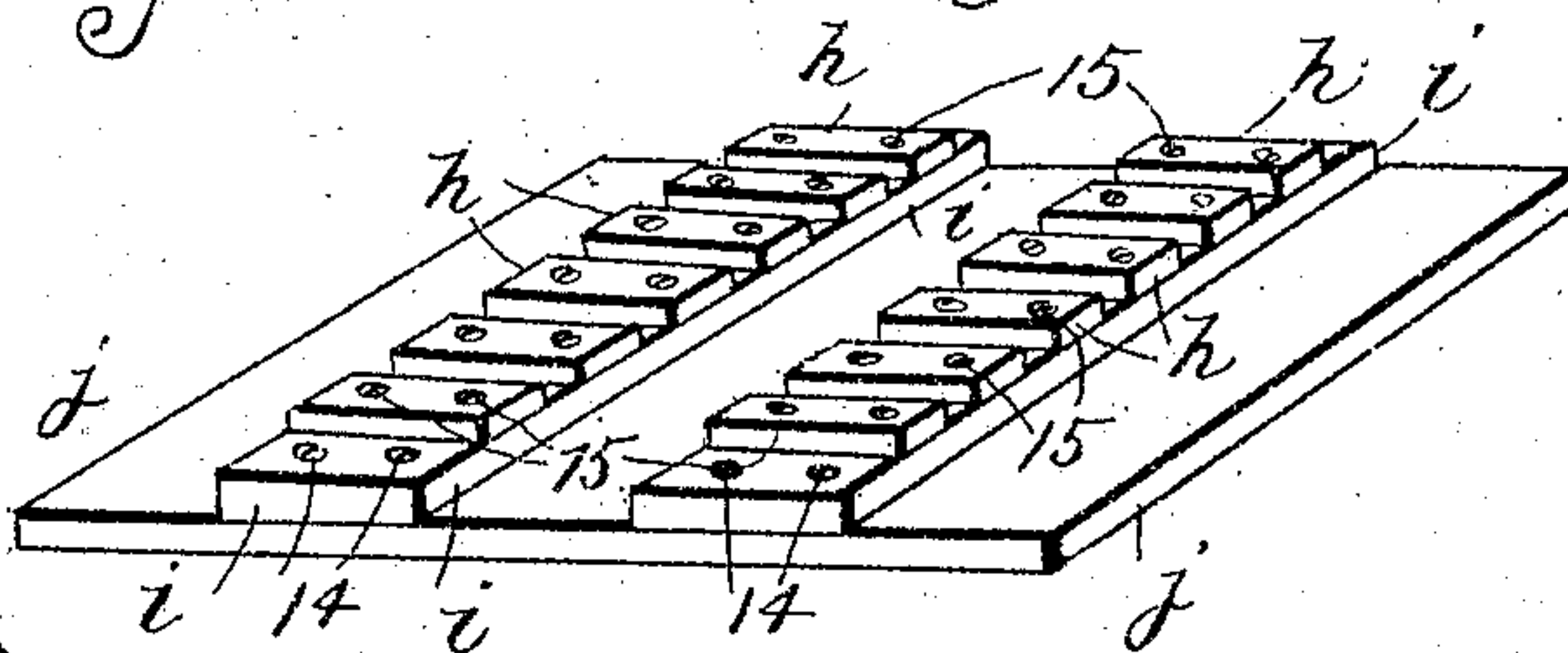


Fig. 9.



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# UNITED STATES PATENT OFFICE.

WILLIAM J. WHITE AND NELSON M. WATSON, OF DETROIT, MICHIGAN;  
SAID WATSON ASSIGNOR TO SAID WHITE.

## MOUNTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,853, dated October 18, 1904.

Application filed July 1, 1901. Serial No. 66,805. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM J. WHITE and NELSON M. WATSON, citizens of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Mounting-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to improvements in mounting-machines, and has more particular reference to machines designed for affixing a plurality of color-slips upon a single mount.

It is the object of the invention to obtain a machine in which a single operation will effect the arrangement of the slips in proper relation to each other upon the mount and will also apply the adhesive for securing the slips to the mount.

To this end the invention consists in the peculiar construction of a machine comprising a receptacle for the various slips, means for applying the paste or other adhesive to the mount at points corresponding to the positions of said slips, and means for subsequently pressing said mount against the slips in said receptacle, whereby the latter will be affixed to the mount.

The invention further consists in the peculiar construction, arrangement, and combination of parts, as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of the machine. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a similar section of a portion of the mechanism and partly shown in elevation. Fig. 4 is an enlarged sectional view through the supporting-standard for the receptacle. Fig. 5 is a section on line *xx*, Fig. 4. Fig. 6 is a perspective view of the receptacle. Fig. 7 is an elevation of a portion of Fig. 1, showing the parts in different position. Fig. 8 is an elevation of the cam-shaft, and Fig. 9 is a detail perspective view of the paste-form.

A is a framework.

B is the receptacle mounted upon the frame, which is provided with a number of division-strips C for separating said receptacle into a

plurality of compartments. Each compartment is of a size to receive a pile of slips, which is supported upon the movable follower D. The latter is secured to a head E, vertically adjustably secured in a standard F on the base of the frame. The various compartments of the receptacle B are arranged in such relation to each other as to properly position the slips upon the mount. As shown in Figs. 2 and 6, this receptacle is preferably formed with the compartments thereof separate from each other by adjustable division-strips, so that their size and relative arrangement may be adjusted as required. The division-strips comprise the longitudinally-extending strips *a*, adjustably secured to the opposite end walls *b* and *c* of the receptacle by means of screws *d* engaging with flanges *e* upon said ends. The strips *a* are provided upon their adjacent faces with a series of vertical grooves *f*, with which the cross-strips *g* may be engaged to form the sides of the separate compartments. Thus by changing the position of the strips *a* the length of the compartments may be varied, as well as the space between the compartments in different rows, while by adjusting the position of the cross-strips *g* the width of the compartments and the space between the compartments of the different rows may be adjusted.

G is a paste-applying form having a plurality of lugs or projections *h*, corresponding in size and relative arrangement to the compartments of the receptacle B.

H is a movable platen, provided with a suitable holder for the mount and adapted in one position of its movement to press said mount against the receptacle B. The platen H and the paste-applying form G are arranged in such relation to each other and are provided with suitable actuating mechanism, whereby the mount carried by said platen is first pressed in contact with said paste-form and subsequently moved against the receptacle B, the pasted portions of said mount being registered with the corresponding compartments of the receptacle.

As shown in the drawings, the operation above described is effected by hinging the



platen H or securing it to a rock-shaft for swinging it in or out of contact with the receptacle, while the paste-form G is mounted upon the movable frame adapted to swing said form into contact with said platen in one position of the latter.

In detail, I represents arms pivoted to the base A' of the frame A upon opposite sides thereof and at their upper ends secured to the paste-form G.

18 is the pivot-shaft for the arms I, and to this shaft is connected a short arm 17, from the free outer end of which suspends a weight 16, serving as a counterbalance for the arms I and devices carried thereby.

In order to permit of adjusting the relative arrangement of the projecting lugs *h* of the paste-form to correspond to changes in arrangement of the receptacle B, said lugs are formed by separate blocks adjustably secured to strips or bars *i*. (See Fig. 9.) These strips are mounted upon a bed *j*, which in turn is adjustably secured by screws *k* to a plate *l*, carried by the upper ends of the arms I, Fig. 2. The screws *k* may be adjusted to elevate or lower the bed *j*, so as to properly position the bars *i*, while the latter may be adjusted laterally by means of the screws 14, it simply being necessary to remove the screws and screw them into any other position desired on the bed *j* to correspond in position to the rows of compartments in the receptacle B. The lugs *h* may be similarly adjusted on the slats *i* through the medium of screws 15 to correspond to the position of the compartments in each row of the receptacle.

The normal position of the paste-form G is, as shown in Fig. 2 of the drawings, arranged on an incline at one side of the receptacle B, while the normal position of the platen H is in an oppositely-inclined plane upon the opposite side of the receptacle B. In the operation of the device, as before referred to, the paste-form G and the platen H are moved, the one by the swinging of the arms I and the other by the rocking of the shaft J, until they meet in the common plane indicated by the dotted line at *m* in Fig. 2 and in full lines in Fig. 1. As shown in the drawings, the mechanism for effecting this movement comprises a shaft K, journaled in bearings upon the base and extending transversely of the frame. At its opposite ends this shaft is provided with cranks L, which are connected by links M with the opposite rock-arms I. In the normal position of parts as shown in Fig. 7 the cranks L and links M are folded in the same plane, the pivotal connection between the links and the arms I being substantially in line with the shaft K. The pins forming the pivotal connection between the links and cranks are provided with extensions having sleeved thereon rollers L', which in the revolution of the cranks L are first pressed against the arms I to impart an initial movement to

said arms and to open out the toggle connection formed by said cranks and links. A further movement of the cranks will straighten out the toggle until the paste-form is moved into the dotted plane *m*. At the same time the platen H has been rocked into the plane *m* by the following mechanism:

J is a rock-shaft journaled in bearings upon side portions of the frame A. The platen H is secured to this shaft by means of rock-arms H' thereon, which are connected to each other by a plate H<sup>2</sup>. The platen is adjustably secured to the plate H<sup>2</sup> by screws H<sup>3</sup>, which permit of changing its angle. At the outer ends of the shaft J are secured pinions J', which are respectively in mesh with segmental racks N, carried by rock-arms N'. The latter are pivotally secured at N<sup>2</sup> to the side frames of the machine and are provided with the oppositely-extending actuating-arms O, carrying at their free ends the antifriction-rolls O'.

P represents cams upon the shaft K, adapted to actuate the arms O, so that in the rotation of said shaft the properly-timed rocking movement is imparted to the arms N' and racks N, thereby correspondingly rocking the arms H' and the platen carried thereby. The movement imparted to the platen is first a rocking upward into the plane of the dotted line *m*, where it is held for an instant, and then continues to swing forward and downward as the paste-form G recedes until it finally reaches a horizontal plane adjacent to the upper face of the receptacle B. Here it is held for another short interval and is finally rocked upward into its normal position.

The platen H is provided with means for holding the mount thereon, which, as shown, consists of clip-bars Q, secured to the sleeve R upon the shaft J. This sleeve has secured thereto a chain or flexible connection R', which is attached to a spring R<sup>2</sup>. The tension of this spring is adapted to draw upon the chain R' to cause the rotation of the sleeve R upon the shaft J; but in the normal position of parts as shown in Fig. 2 this sleeve is held from rotation by a finger R<sup>3</sup>, secured thereto and bearing against a stop-rod R<sup>4</sup>. When, however, the shaft J is rocked to carry the platen forward, the spring R<sup>2</sup> will hold the clip-bars Q from movement until the platen is firmly pressed thereagainst. Thus the clip-bars Q in the normal position of parts are held sufficiently spaced from the platen to permit of the insertion of a mount-card, which after the initial movement of the platen is clamped by said clip-bars to the platen.

For applying paste to the form G the paste-receptacle S is arranged beneath the paste-form in its normal position. Within this receptacle is journaled a paste-roll S', which contacts with the distributing-roll S<sup>2</sup>, the latter being driven by a sprocket-and-chain connection S<sup>3</sup> from the shaft K.

T is a paste-applying roll, which in normal



position rests upon the distributing-roll  $S^2$ . This roll T is journaled at the end of a swinging frame  $T'$ , which is pivoted to the frame A, so that in the swinging movement of the form G said roll T will be caused to travel upward over said form and coat the lugs  $h$  thereof with paste. In the return movement of the paste-form G the roll T will retrace its course until it assumes its normal position. The roll  $S'$  is journaled in the frame  $S^4$ , which is pressed by the tension of the spring  $S^5$ , so as to hold said roll in contact with the roll  $S^2$ . Thus the movement imparted to the sprocket  $S^3$  will be transmitted to the roll  $S'$  and also to the roll  $S^2$ .

The standard F has vertically adjustably secured therein the shank E, which supports the follower D. This follower preferably consists of a plate  $n$ , conveying a bed  $o$ , which in turn carries the individual follower-blocks  $p$ , secured thereto, Fig. 3.

$q$  is a screw-threaded rod swiveled at its upper end in the plate  $n$ . This rod passes centrally downward through the shank E, which is hollow, and is held from rotation in said shank by the pin  $r$  engaging a longitudinal slot  $r'$  in the rod  $q$ . The pin  $r$  has a screw-threaded portion engaging a corresponding screw-threaded aperture in the shank E and passing outward through the slot  $r^2$  in the standard F.

$s$  is a nut engaging the threaded rod  $q$  and swiveled in the upper portion of the shank E. This nut has a ratchet-wheel  $s'$  formed thereon, with which the pawl  $t$  on the rock-arm  $t'$  is adapted to engage. The rock-arm  $t'$  is sleeved upon the shank of the nut  $s$  and at its free end is provided with a downwardly-projecting arm  $t^2$ , which is adapted to engage with the crank-arm  $t^3$ , carried by the shaft K, the same being secured to a cam  $K'$  on said shaft. This cam  $K'$  at a certain portion of the rotation of said shaft is adapted to raise and lower the shank E in the standard F by engaging with a laterally-projecting arm  $E'$  upon said shank. With the mechanism just described each rotation of the shaft K will impart an upward-and-downward movement to the shank E and follower D, carried thereby, which will raise and lower all of the individual follower-blocks within the compartments of the receptacle B. At the same time each revolution of the shaft K will cause the rocking of the arm  $t'$  through the engagement of the crank  $t^3$  with the arm  $t^2$ , thereby causing the pawl  $t$  to feed the ratchet-wheel  $s'$  one or more notches. This will turn the nut  $s$  upon the rod  $q$  and cause a slight upward feed of said rod.

From the above description it will be noted that all of the various movable parts of the machine receive their motion from the shaft K and that one complete revolution of said shaft will complete all of the movements of said parts. The shaft K receives its motion

from the shaft U, extending longitudinally of the frame and journaled in suitable bearings thereon. This shaft is preferably constantly driven and is connected by a worm-gear connection with one member of the clutch W, the complementary member of which is secured to the shaft K. This clutch may be of any suitable construction adapted when tripped to make one complete revolution and then to automatically release. The detail construction of this clutch is therefore not illustrated; but the tripping mechanism is shown as comprising a lever V, connected to a slide X, which has a cam  $u$  for engaging with the trip-pin  $v$  of the clutch. The slide X is normally held in position to disengage the clutch by means of the spring  $X'$ .

The parts being constructed as shown and described the complete operation of the machine is as follows: The normal position of the parts is, as before stated, shown in Fig. 2, in which position the clutch W is released, and the shaft K is therefore stationary. Supposing that the divisions of the receptacle B and the blocks of the paste-form G have been adjusted for the particular work desired to be performed, the operator first places the color-slips in the proper compartments in the receptacle, arranging them in piles with the color side facing downward, the lowest slip resting upon the follower-blocks  $p$ . He then takes one of the mounting-cards and places it against the platen in engagement with the clip-bars Q. The lever V is then moved to trip the clutch W, which couples the shaft U with the shaft K, imparting rotation to the latter. The rotation of the shaft K will, as before described, cause the swinging of the arms I and the rocking of the shaft J, so as to press the paste-form G against the card on the platen H. In moving toward the platen the form G will be coated with paste by the traveling of the roll T over the surface thereof. The pressing of the paste-form G against the card will deposit the paste on the latter in positions corresponding to the arrangement of the color-slips in the receptacle B. Upon the return movement of the arms I and paste-form G the platen H will be swung downward until it reaches the receptacle and presses the card against the slip thereon. The platen will then be held in this position, while a further rotation of the shaft K causes the cam  $K'$  thereon to raise the arm  $E'$  of the shank E, which causes the follower D to be lifted and all of the slips in the different compartments to be pressed upward by their respective follower-blocks. This will press the upper slips of each pile against the pasted surfaces of the mount-card, after which the follower will again be lowered and the platen H swung outward to its normal position. During this upward movement of the platen or at some other suitable point in the rotation of the shaft K the rock-arm  $t$  will be actuated to impart a slight rota-



tion to the nut *s*, so as to feed the follower upward a distance corresponding to the thickness of the slip. When the platen *H* arrives at its normal position, the clutch *W* will be automatically tripped and the mechanism arrested, thereby giving the operator time to remove the card with the slips mounted thereon and to insert a new card, after which the operation may be repeated.

10 What we claim as our invention is—

1. In a machine of the character described, the combination of a multiple slip-receptacle, a mount-holding platen, a multiple paste-form, and connected operating mechanism including  
15 means for initially causing the platen and paste-form to approach and contact each other, means for subsequently moving the platen into registration with the slip-receptacle, and means for feeding the slips against the platen;  
20 substantially as described.

2. In a machine of the character described, the combination of a multiple slip-receptacle, a mount-holding platen, a multiple paste-form, and connected operating mechanism including  
25 means for causing the platen and paste-form to contact, means for subsequently moving the platen into registration with the slip-receptacle, and means for feeding the slips against the platen; substantially as described.

3. In a machine of the character described, the combination of a multiple slip-receptacle, a mount-holding platen, a multiple paste-form corresponding to the slips in said receptacle, and connected operating mechanism including  
35 means for causing the platen and paste-form to contact, means for moving the platen into registration with the slip-receptacle, means for pressing the slips against the platen, and clutch mechanism for throwing said driven  
40 member into and out of operative relation with its associated parts; substantially as described.

4. In a machine of the character described, the combination of a multiple slip-receptacle,  
45 a mount-holding platen, a multiple paste-form corresponding to said slip-receptacle, a follower projecting into the compartments of said multiple receptacle and connected operating mechanism adapted to effect a complete  
50 operation of the machine in each cycle of operation, said mechanism including means for causing the paste-form and platen to contact, means for moving the platen into registration with the slip-receptacle, and means for recip-  
55 rocating the follower in said receptacle to force the slips against the platen; substantially as described.

5. In a machine of the character described, the combination of a multiple slip-receptacle,

a mount-holding platen, a multiple paste-form  
60 corresponding to said slip-receptacle, a follower projecting into the compartments of said multiple receptacle, and connected operating mechanism adapted to effect a complete operation of the machine in each cycle of opera-  
65 tion, said mechanism including means for causing the paste-form and platen to contact, means for moving the platen into registration with the slip-receptacle, means for reciprocating the follower in said receptacle to  
70 force the slips against the platen, and means for successively advancing the follower as the slips are withdrawn from the compartments; substantially as described.

6. In a mounting-machine, the combination  
75 of a slip-receptacle, a swinging mount-holding platen pivoted at one side thereof, a paste-form normally arranged on the opposite side thereof, and connected operating mechanism including means for moving said paste-form  
80 against said platen and retracting the paste-form, and means for swinging the platen against the slip-receptacle; substantially as described.

7. In a mounting-machine, the combination  
85 of a slip-receptacle, a swinging mount-holding platen pivoted at one side of said receptacle, a paste-form normally arranged upon the opposite side of said receptacle, and connected operating mechanism including means for  
90 moving said paste-form against said platen and retracting the paste-form and means for swinging the platen against the receptacle, and a paste-applying roll arranged to travel over the surface of said paste-form during  
95 the movement thereof; substantially as described.

8. In a machine of the character described, the combination of a multiple slip-receptacle, a mount-holding platen, a multiple paste-  
100 form corresponding to the slips in said receptacle, and connected operating mechanism including means for causing the platen and paste-form to contact, means for moving the platen into registration with the slip-recep-  
105 tacle, means for pressing the slips against the platen, and means for successively advancing said slip-pressing means as the slips are withdrawn from the slip-receptacle; substantially  
110 as described.

In testimony whereof we affix our signatures in presence of two witnesses.

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NELSON M. WATSON.

Witnesses:

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H. C. SMITH.