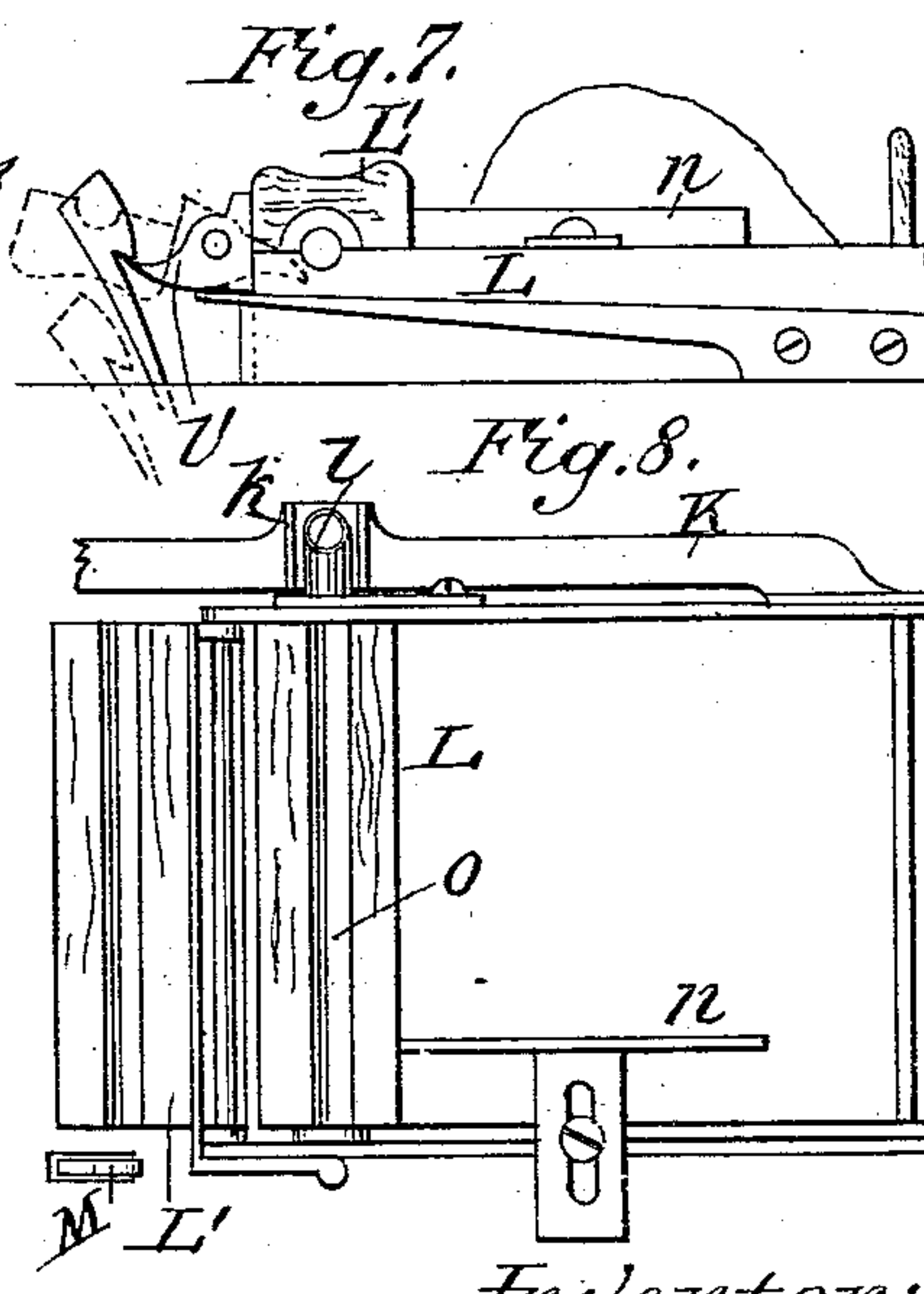
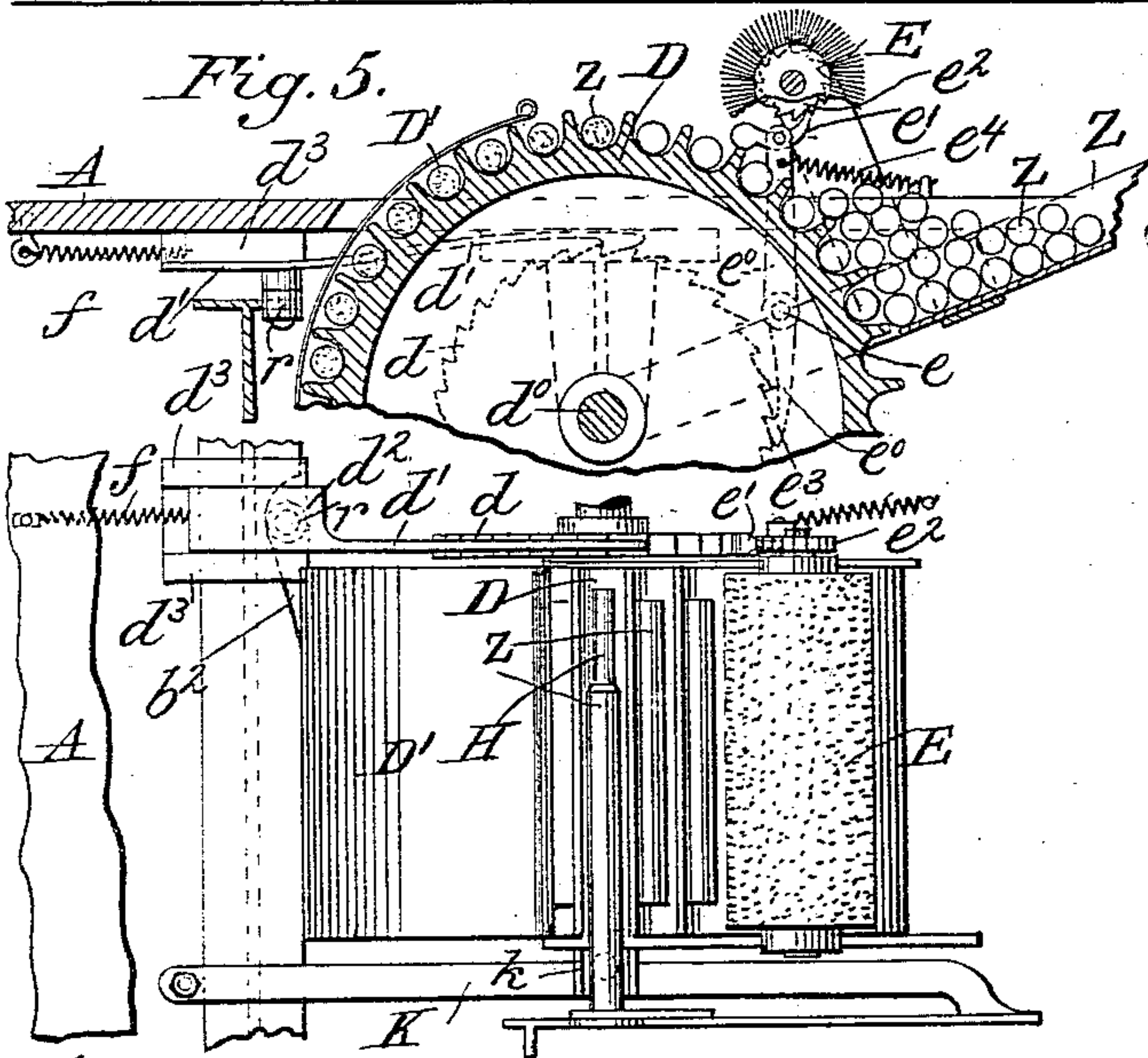
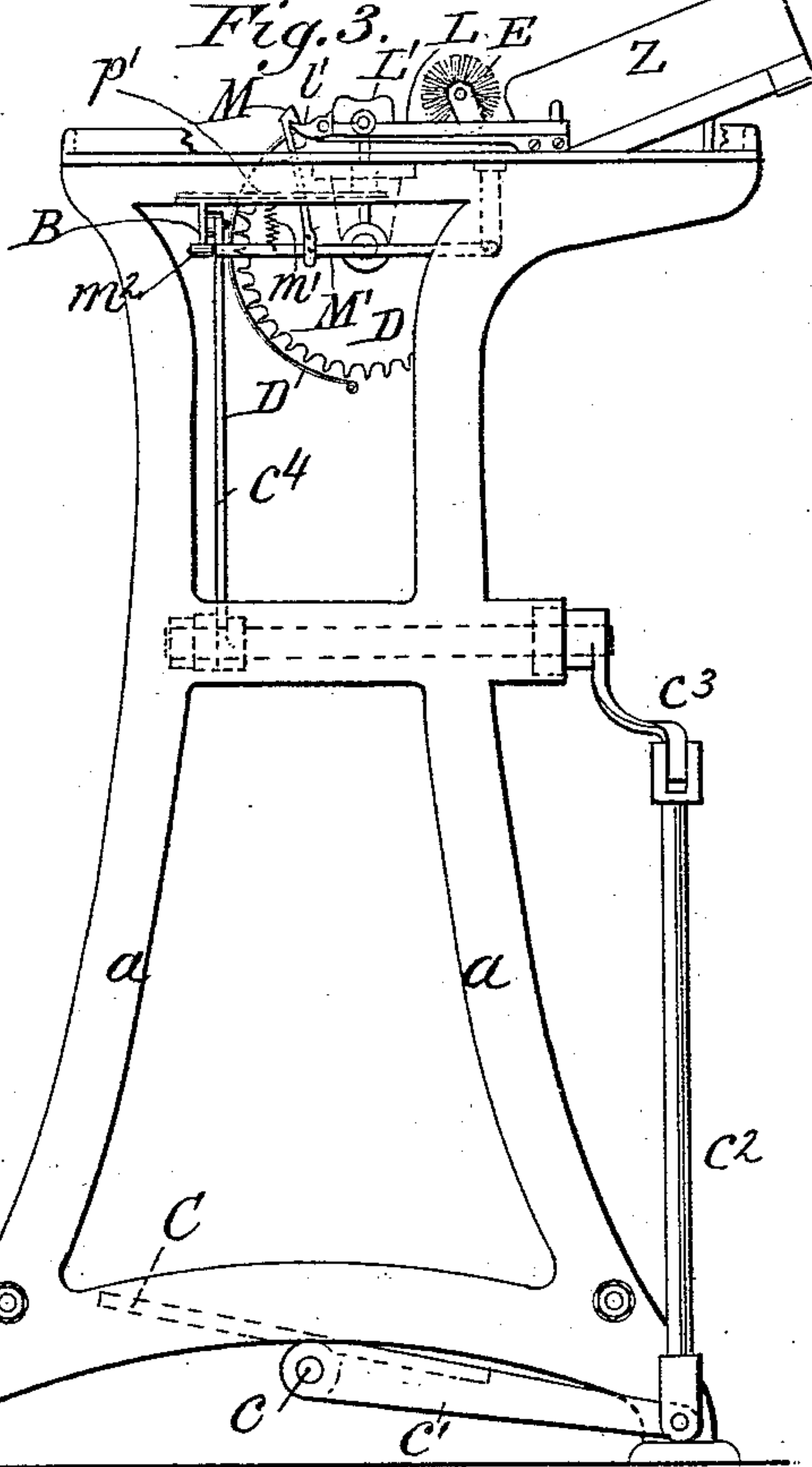
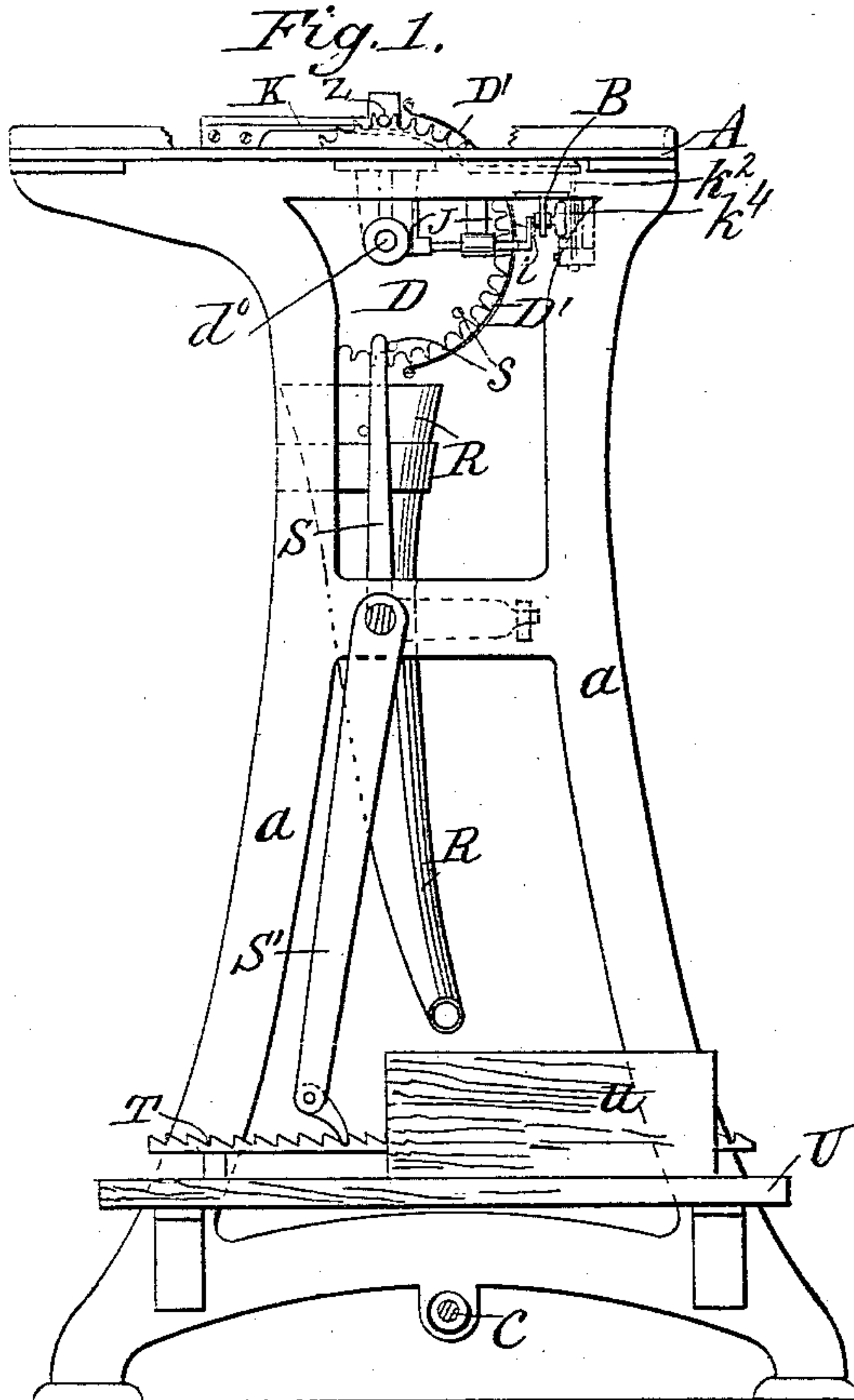


E. GEORGII.
CIGARETTE MACHINE.

No. 555,369.

Patented Feb. 25, 1896.



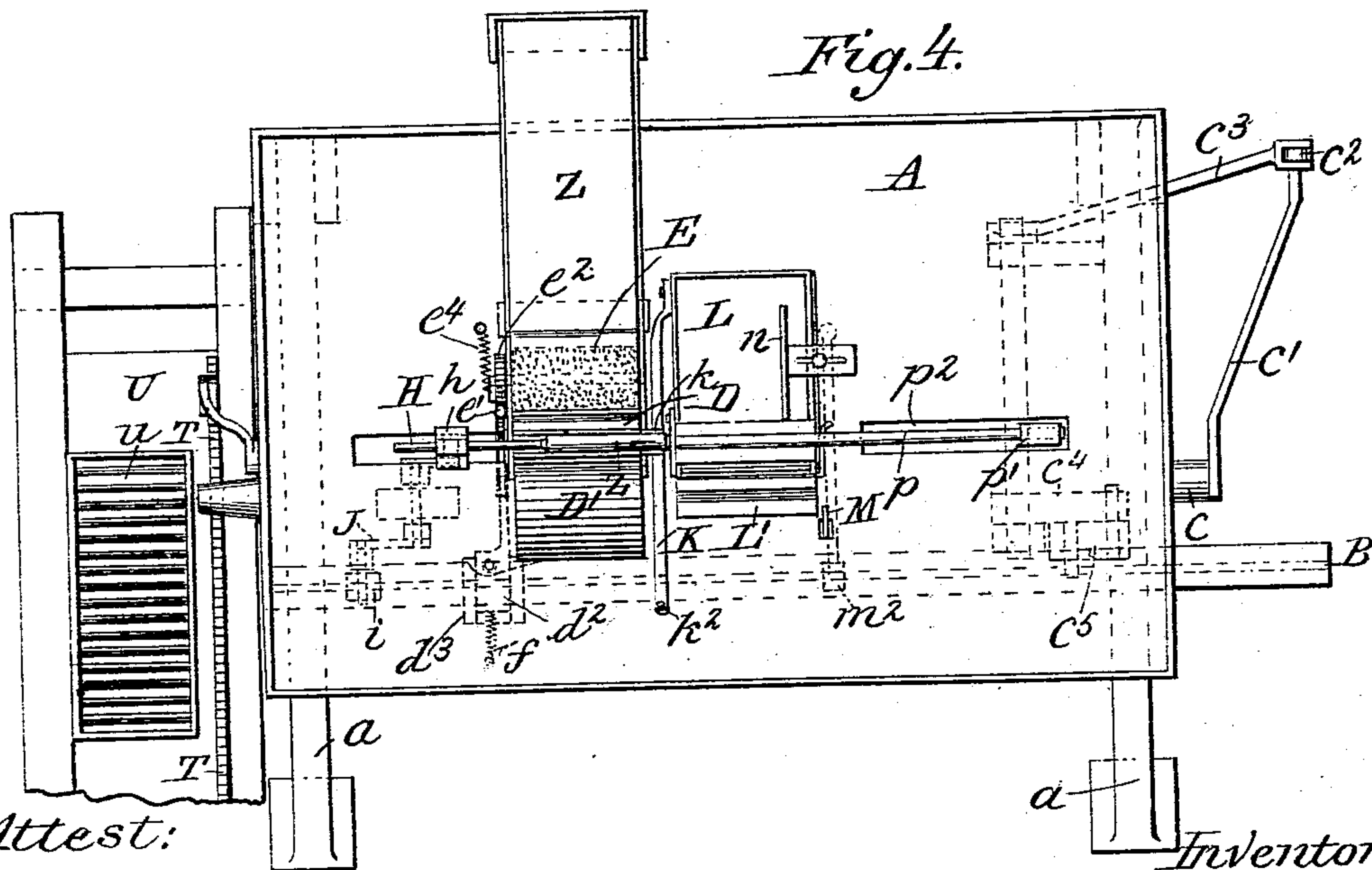
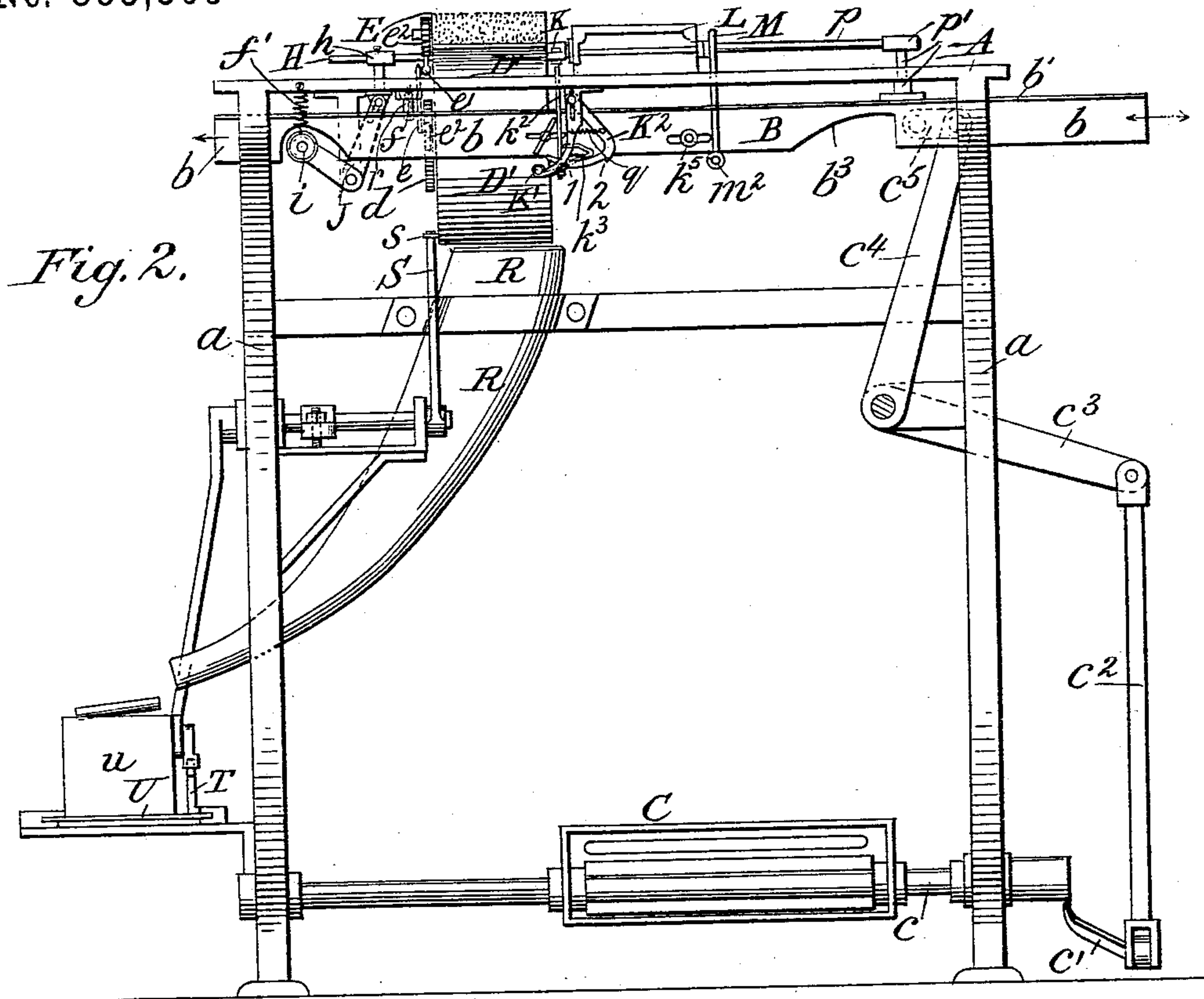
Attest:
H. H. Schott
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Fig. 6.
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Emil Georgii
by "Maximilian"
Attorney

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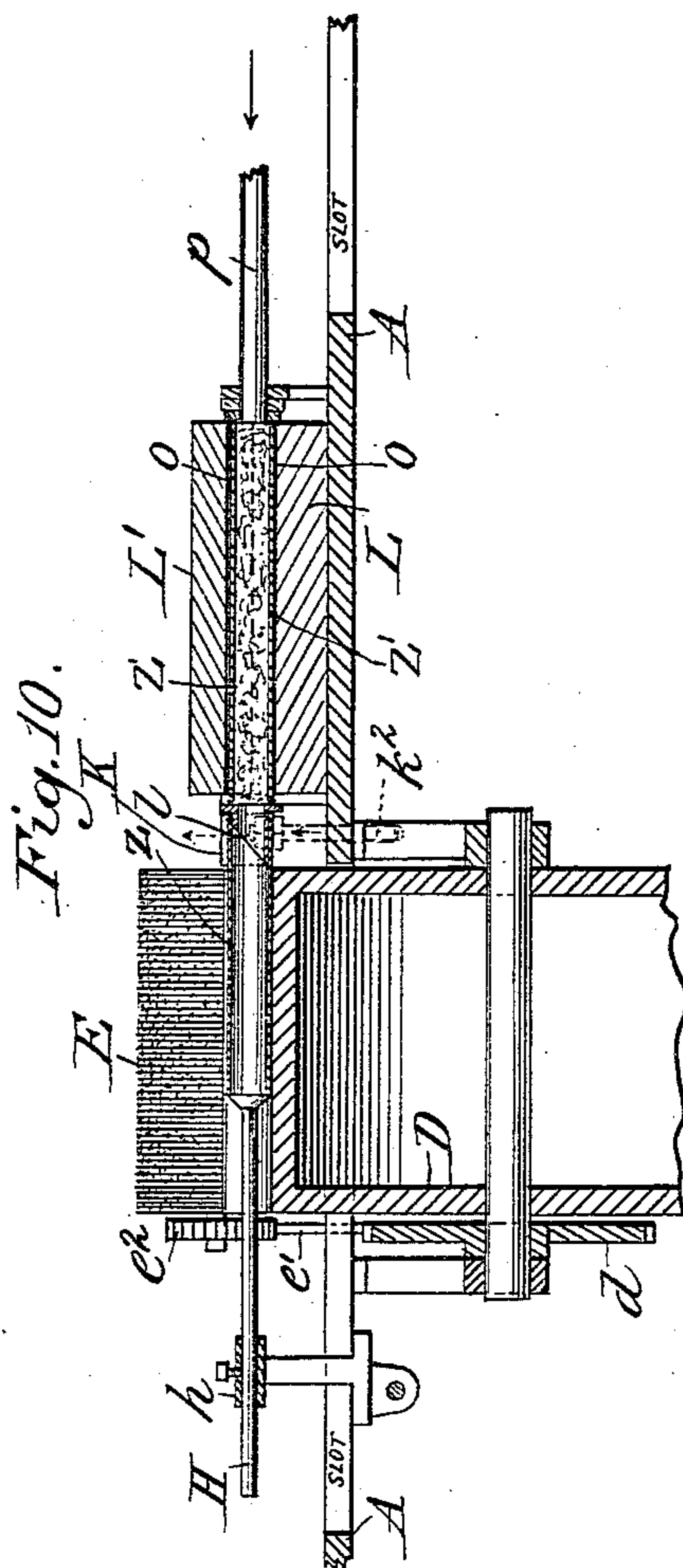
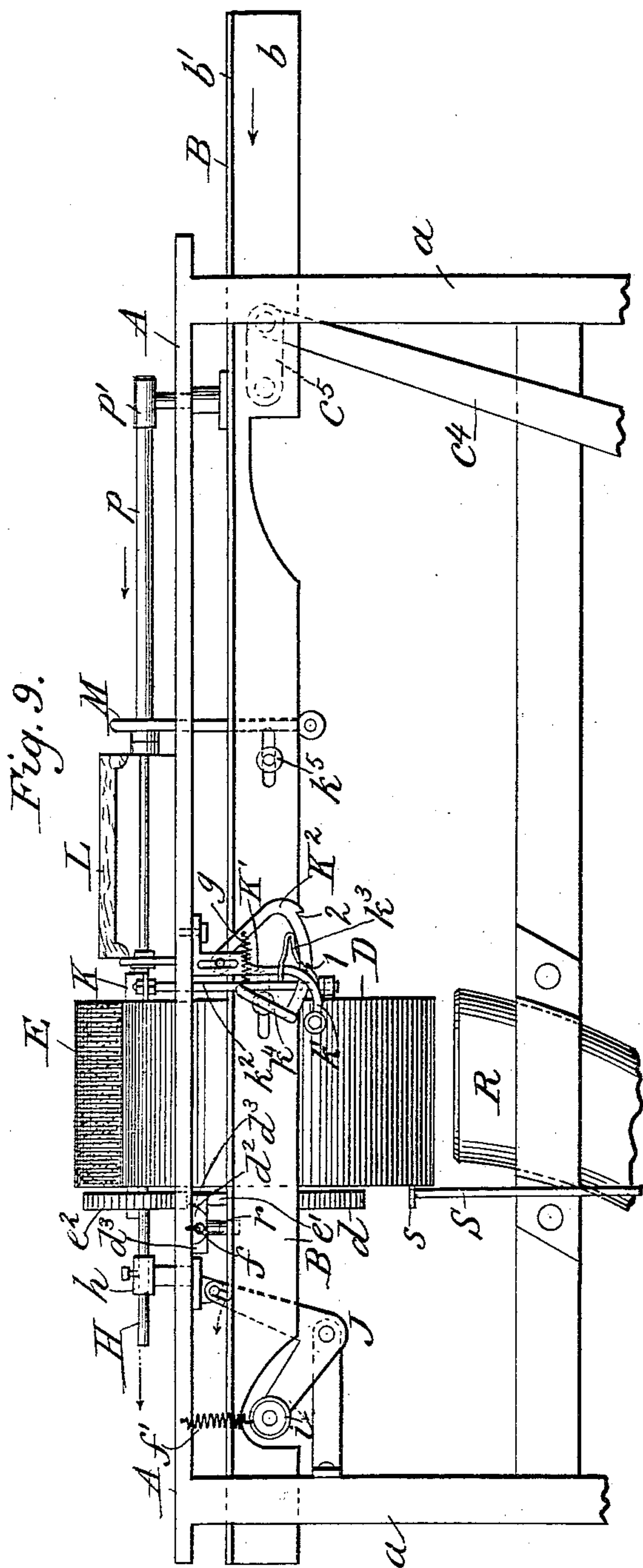
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F. H. Schott

M. C. Massie

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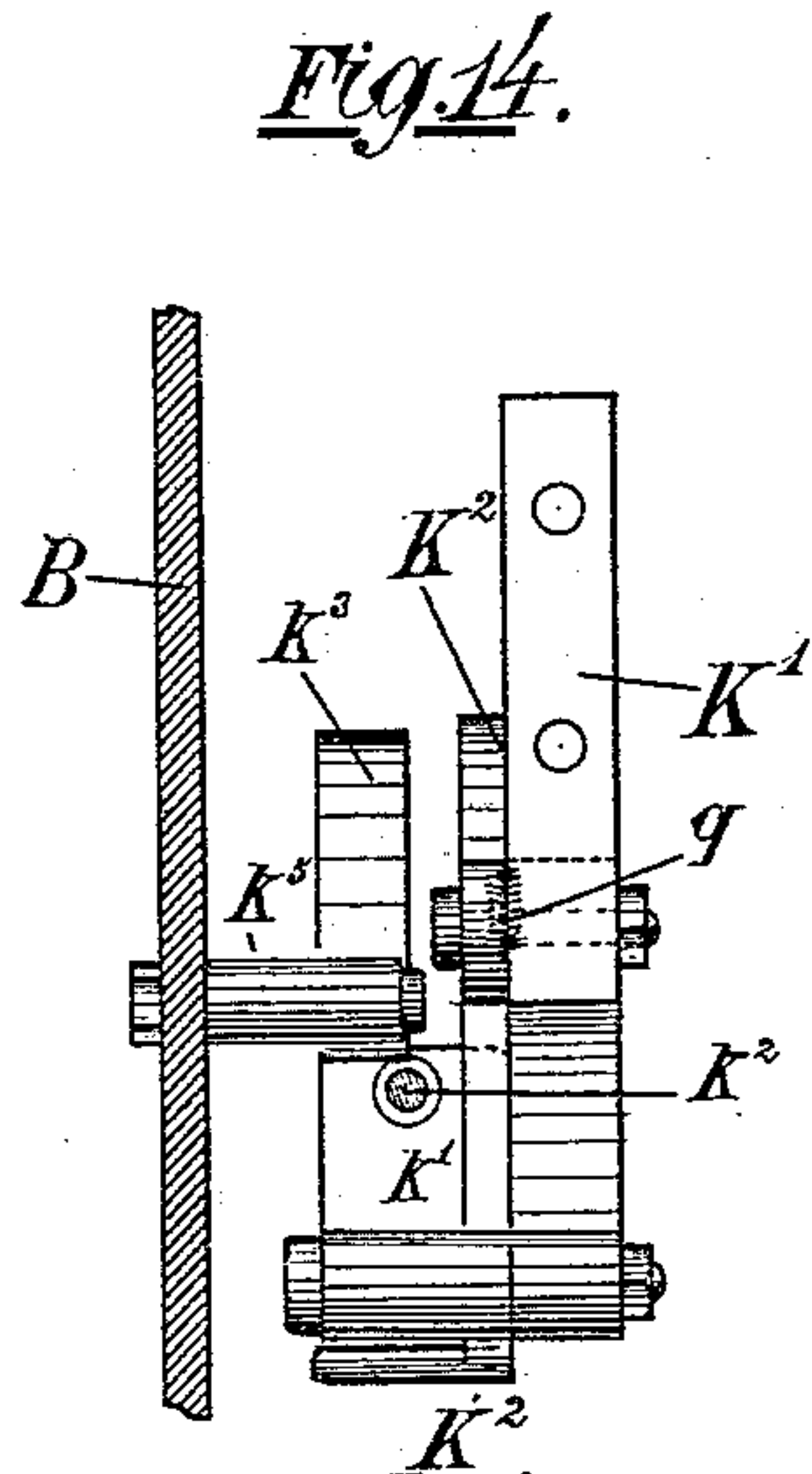
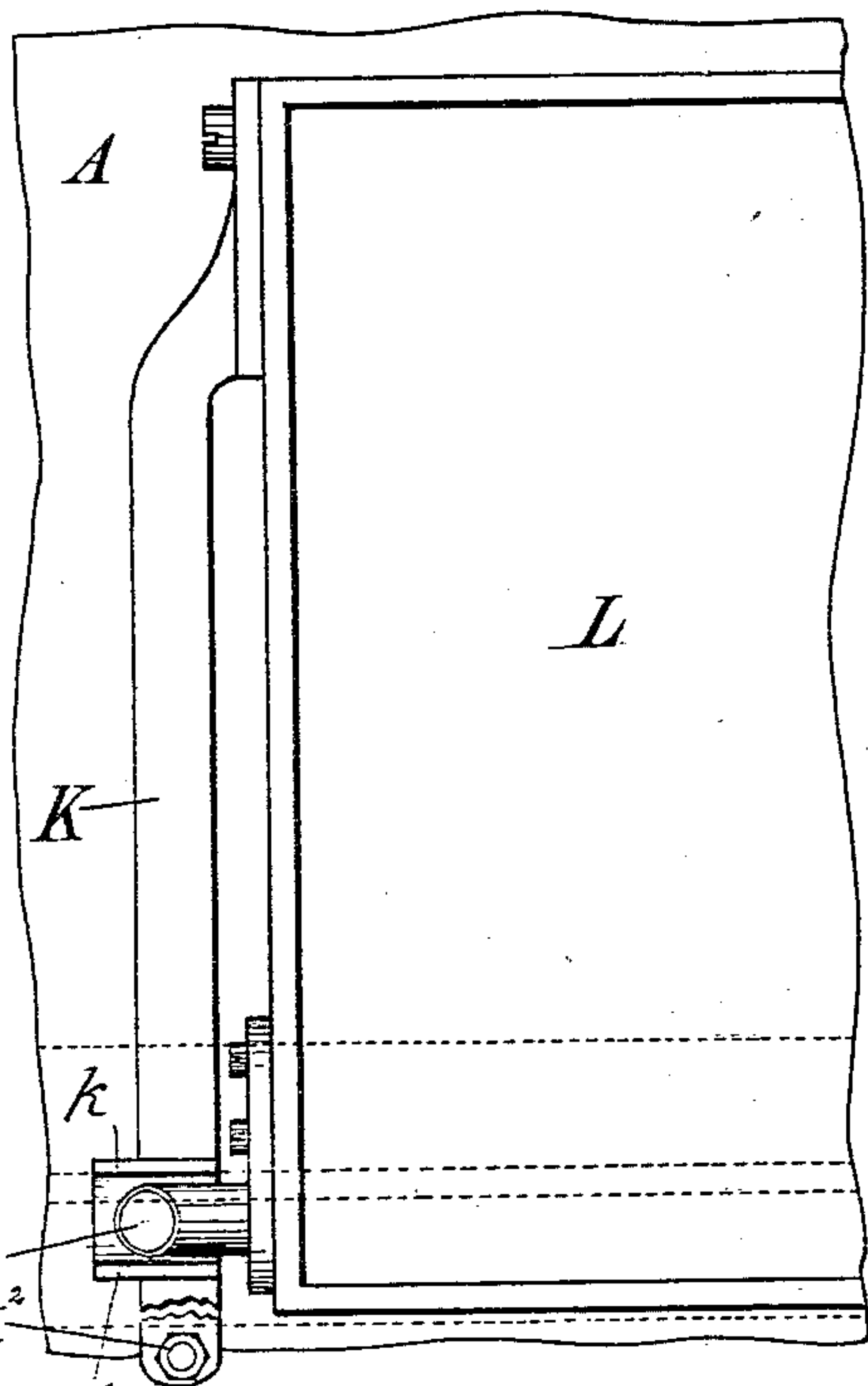
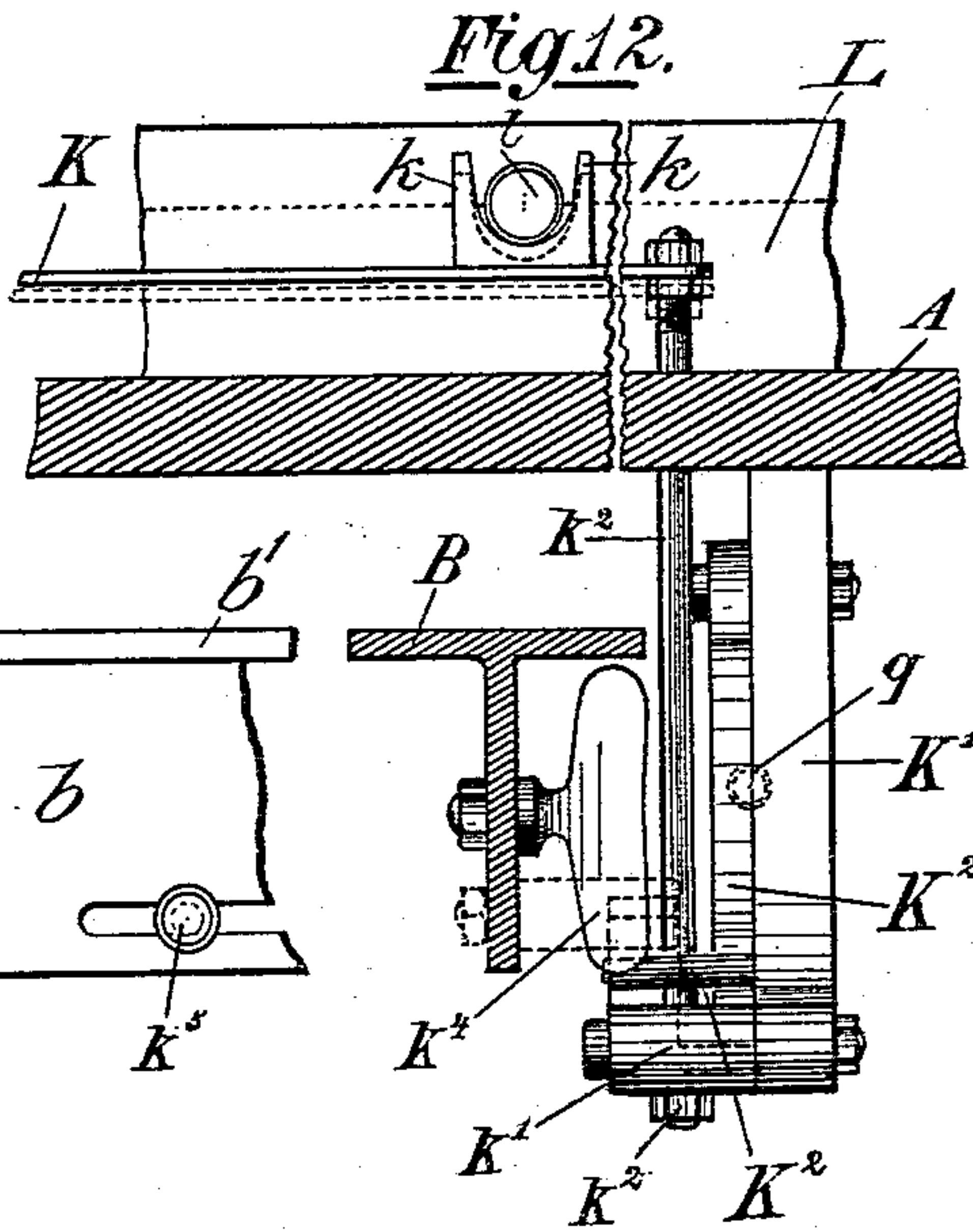
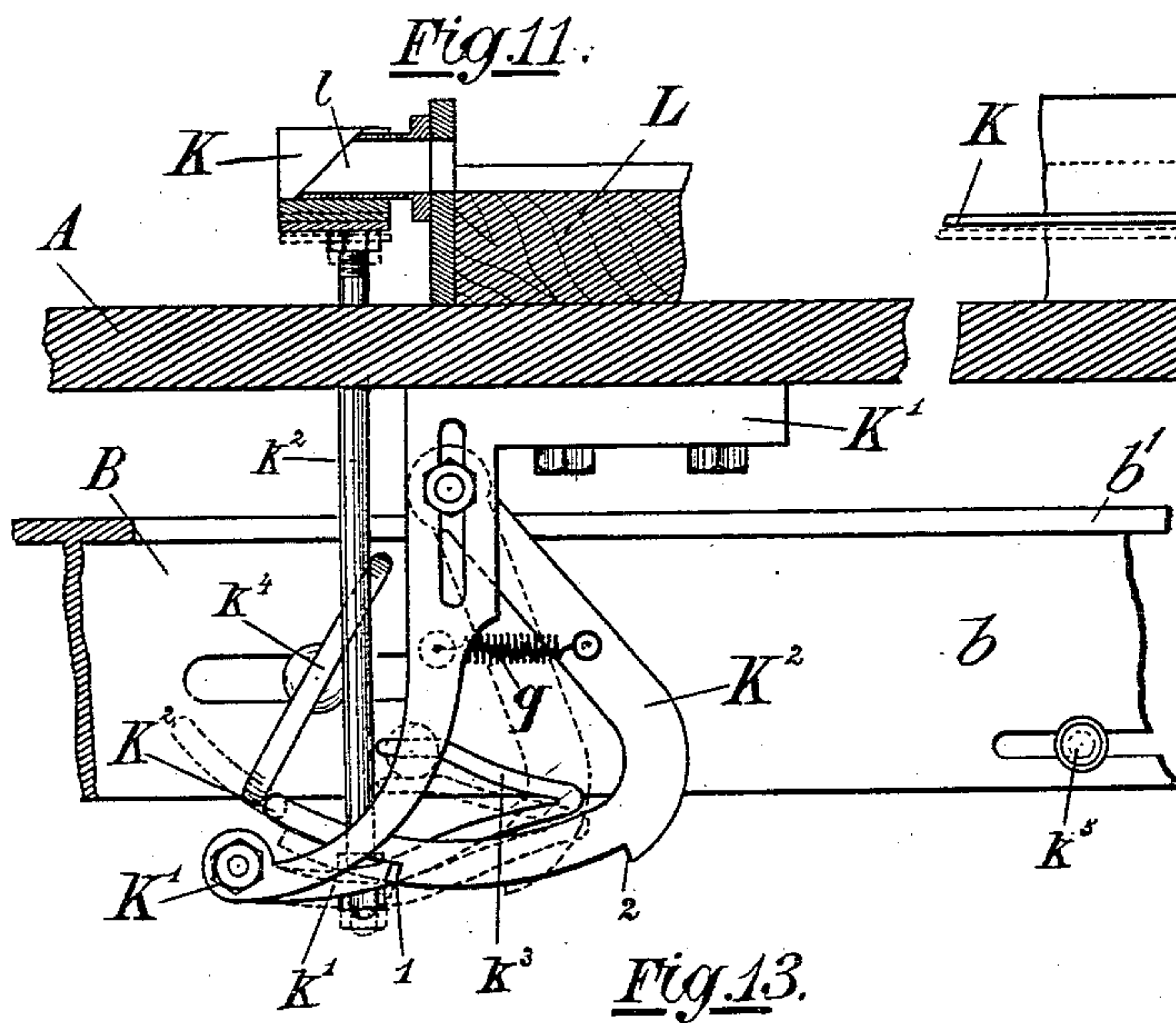
(No Model.)

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E. GEORGII.
CIGARETTE MACHINE.

No. 555,369.

Patented Feb. 25, 1896.



Attest: k
M. C. Massee.
J. H. Schott

Inventor.
Emil Georgii
by Max Hingua
Attorney

UNITED STATES PATENT OFFICE.

EMIL GEORGII, OF STUTTGART, GERMANY.

CIGARETTE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 555,369, dated February 25, 1896.

Application filed April 9, 1895. Serial No. 545,098. (No model.) Patented in Germany August 1, 1895, No. 82,444.

To all whom it may concern:

Be it known that I, EMIL GEORGII, manufacturer, residing at Stuttgart, Württemberg, Germany, have invented a new and useful
5 Improvement in Cigarette-Machines, (for which I have obtained a patent in Germany, dated August 1, 1895, No. 82,444,) of which the following is a specification.

My invention relates to an improvement in
10 cigarette-machines.

The object of my invention is to construct a machine in which the hand-made tobacco-charges inclosed in a temporary binder are, by successive steps, ejected from the said
15 binder and then forced by suitable mechanism into a paper wrapper, the finished cigarettes being then conveyed away and placed in a box, while in the meantime new wrappers are forced forward onto a wrapper-holder
20 and are then filled in succession.

The invention consists in the features, details of construction and combination of parts which will first be described in connection with the accompanying drawings and
25 then particularly pointed out in the claims.

In the drawings, Figure 1 is an end elevation of a machine embodying my invention, a part of the mechanism being removed. Fig. 2 is a front elevation of the complete machine.
30 Fig. 3 is an elevation showing the end of the complete machine opposite to that shown in Fig. 1, a part being broken away. Fig. 4 is a plan. Fig. 5 is a detail view of the feed-roll. Fig. 6 is a detail plan view of the same. Fig.
35 7 is a side elevation of the forming-plate and lid, the latter being closed. Fig. 8 is a plan of the same with the lid open. Fig. 9 is a front elevation of a part of the machine on an enlarged scale. Fig. 10 is a longitudinal section
40 of the feed-roll and forming mechanism. Fig. 11 is a detail sectional view, partly in elevation, of the wrapper-clamping mechanism in its locked position, the parts being shown on an enlarged scale. Fig. 12 is a detail elevation,
45 partly in section, of the same. Fig. 13 is a detail plan view of the same. Fig. 14 is also a detail plan view of another portion of the same.

Referring to the drawings, A is a plate or
50 table-top mounted upon legs or standards a and carrying a reciprocating slide B, consisting of a web b , having flanges b' , the slide being

moved longitudinally by a treadle C, fixed to a shaft c , provided with a crank-arm c' , which operates a pitman c^2 , connected to a bell-crank
55 arm c^3 , the other arm, c^4 , of the bell-crank connecting by means of a link c^5 to the said slide B, whereby, when the treadle C is pressed down, the slide B will be moved toward the left. (See Fig. 2.)
60

In the table-top A is mounted a feed-roll or drum D, having longitudinal grooves in its periphery to receive the paper wrappers z and the filled cigarettes. The drum or feed-roll D is fixed on a shaft d^0 , mounted in journals
65 in the frame and provided with a ratchet-wheel d , which is engaged by a pawl-arm d' , having a head d^2 , movable in guides d^3 , secured to the under side of the table A, the head d^2 being normally held outward by a
70 spring device f , connected to the head and to some fixed point, as the table A.

The head d^2 has a stud carrying a roller r , which is held against the flange of the slide B by means of the spring f . The flange of
75 the slide B is cut away, as shown by dotted and full lines in Fig. 6 at b^2 , and when this portion comes opposite the roller r the latter is drawn into it by means of the spring f , whereby the pawl d' rotates the ratchet-wheel
80 d one tooth, and with it the drum or feed-roll D.

Above the roll D is mounted a revoluble brush E, adapted to brush back the empty tubes z , piled in a feed-trough Z, which slopes toward the feed-roll, the brush E being
85 driven intermittingly by a lever e^0 pivoted at e and having a pawl-arm e' engaging a ratchet-wheel e^2 , which is connected to the axle of the brush E, the lower end of the pivoted lever e^0 being swung as the drum D is rotated by
90 a tooth e^3 , which is pushed outward by the teeth on the ratchet-wheel d , the said lever e^0 being swung backward by a spring e^4 .

The paper tube z , which lies loosely in the groove of the feed-roll D, is fed endwise,
95 by means of a reciprocating pusher H, onto a beveled supporter l , and is there held by means of a spring-lever K and its clamp k , as herein-after described, until the filling is pushed into the tube z by means of a filling-rod p ,
100 which moves with the slide, being fixed thereto by an arm p' , (best shown in dotted lines in Fig. 3,) secured to the top of the slide, said arm being bent at right angles and having its

free end projecting upward through a slot p^2 in the table-top A, to which end the rod p is secured.

The fillings or charges are made in the usual manner by hand, using temporary tubular binders z' , Fig. 10, upon the plate L, which has a hinged lid L'. The plate L and the lid L' have each a semicylindrical cavity, which, when the lid is closed, form a complete hollow cylinder. In this hollow cylinder the tobacco charge, inclosed with the temporary binder, is held fast by the lowered lid until the filling-rod p , which enters the cylinder, pushes it into the tube z . As soon as this step is completed and during the forward movement of the filling-rod p , the clamp k releases the paper tube z from the supporting-sleeve l , and the completed cigarette is then pushed into its groove on the feed-roll D by the completion of the stroke of the filling-rod—i. e., of the reciprocating slide. Then the feed-roll is advanced one groove, bringing another empty tube z into line, and the lid of the plate L is mechanically opened by means herein-

after described. The parts of the plate L in which is the groove o , as well as the lid L', are made easily interchangeable, so that by using larger or smaller grooves cigarettes of different thicknesses can be made, the length being regulated by means of the adjustable slide n .

The pusher-rod H is adjustably secured in a sliding sleeve h , which receives its movement by means of a bell-crank J, which carries at one end a roll i pressed against the slide B by means of a spring f' , while its other end is connected to the sliding sleeve h . When the slide is moving from right to left, before completing its stroke, the roller i is forced into a notch on the slide by means of the spring f' , whereby the pusher-rod is pushed forward and the paper tube z is also moved forward and pressed upon the support l .

The movement of the spring-lever K is produced by means of the device shown in detail in Figs. 11 to 14 inclusive. A rod k^2 is connected at its lower end with a pawl device k' , which is revolvably held by a support K' secured to the table A. When the lever K is to be drawn downward—i. e., when the paper tube is to be set free—the rod k^2 and the device k' must be drawn down. To clamp the paper tube after it has been placed upon the support l , the angular segment-lever K^2 (which is pivotally attached to the support K' and which is pressed against the device k' by means of the connecting-spring q) and one of its ratchet-teeth 1 2 comes into operation. One of the ratchet-teeth of the angle segment-lever K^2 lies nearer to the center or pivotal point of the latter than the other, so that when, for example, the forward ratchet-tooth 1 lies against the device k' the clamping-lever K presses against the supporter-sleeve, but is free when the other ratchet-tooth, 2, lies against k' . The rotatably-mounted angle segment-lever K^2 is moved by means of an arm k^4 , which is adjustably secured in a slot in the

slide B. During the movement of the slide toward the right the arm k^4 strikes against the free end of the segment-lever K^2 and forces the same from engagement with the ratchet-tooth 2 into engagement with the tooth 1, as shown in Figs. 5 and 12, in which position the lever K presses against the supporter-sleeve l and holds fast the tube z previously mounted thereon. On the return movement of the slide B to the left the adjustable roller k^5 attached to slide B depresses the device k' , which is attached to the lever K by the rod k^2 , whereby the lever is also depressed and the paper tube set free, the angle segment-lever K^2 being brought into such position by means of the spring q that its ratchet-tooth 2 lies against the part k' .

The hinged lid L', attached to the plate L, is opened by means of a hook M, which hooks over a projection l' on lid L', and which is actuated by a pivoted lever M', having a roller m^2 at its outer end, which is pressed by means of a spring m' against the lower side of the slide B. In the latter there is a notch, (shown at b^3 , Fig. 2,) on the passage of which the lever M' is lifted, together with the hook M, and the latter is placed over the projection l' . On the return of the slide B the hook M is depressed and the lid L' is opened. The lid L' is closed by hand. The completed cigarettes remain during the intermittent movement of the feed-roll D in the grooves of the same, being retained by a shield D' until they come opposite a hopper R, into which they drop and from which they pass into a receptacle u , located upon a movable board U, which is fed forward by means of a pawl-rod T secured to the same, and also by means of a lever S having an arm S', also operated from the feed-roll intermittently by means of pins s fixed in the end of the feed-roll D. As soon as the receptacle arrives at the end, it must be replaced manually.

I claim—

1. The combination, with a revoluble feed-roll, a filling-rod at one side of said roll, and a tube-clamp between the feed-roll and filling-rod, of a reciprocating slide actuating said feed-roll, filling-rod and tube-clamp, substantially as described.

2. The combination, with a feed-drum, and a ratchet-wheel arranged to actuate the drum, of a slide provided with a notch, a sliding head having a pawl engaging the ratchet-wheel, a spring device tending to hold the sliding head toward the slide, and means carried by the sliding head and arranged to enter the notch in the slide, whereby the feed-drum is rotated, substantially as described, and for the purpose set forth.

3. The combination, with a feed-drum, and a ratchet-wheel arranged to actuate the feed-drum, of a slide provided with a flange having a notch, a sliding head having a pawl engaging the ratchet-wheel, a spring tending to hold the sliding head toward the slide, and a roller on the sliding head, arranged to run on

the flange of the slide, and to enter the notch in said flange, substantially as described, and for the purpose set forth.

4. The combination, with a feed-drum having a series of longitudinal grooves in its periphery, a plate and a lid, each having a recess, the said recesses together forming a chamber in line with one of the grooves in the feed-drum, and a filling-rod arranged to move in said chamber, of a slide, means for reciprocating the slide, and mechanism intermediate the feed-drum and filling-rod, whereby the former is intermittently rotated to bring the grooves successively opposite the chamber, and the filling-rod is moved in the said chamber, substantially as described, and for the purpose set forth.

5. The combination, with a sleeve arranged to receive the cigarette-tube, and a clamp, of a slide, and mechanism intermediate the slide and clamp, whereby the latter is moved toward and from the sleeve by the movement of the slide, substantially as described, and for the purpose set forth.

6. The combination, with a sleeve arranged to receive the cigarette-tube, and a clamp, of a rod connected to the clamp, a spring device connected to the rod and provided with a detent, a segment having a pair of notches, a slide, a device on the slide for moving the segment to bring the detent into one of the notches, a releasing device on the slide for forcing the detent out of the said notch, and a spring for moving the segment to bring the detent into the other notch, substantially as described and for the purpose set forth.

7. The combination, with a feed-roll, adapted

to receive cigarette-tubes, and means for supplying such tubes to said feed-roll, of a rotary brush arranged to hold back the surplus tubes, substantially as described.

8. The combination, with a feed-roll adapted to receive cigarette-tubes, and a trough for supplying cigarette-tubes to the feed-roll, of a rotary brush mounted above the feed-trough, and means for simultaneously operating the feed-roll and brush, substantially as described, and for the purpose set forth.

9. The combination, with a feed-roll adapted to receive cigarette-tubes, and a trough for supplying cigarette-tubes to the feed-roll, of a rotary brush mounted above the feed-trough, a ratchet-wheel arranged to actuate the brush, and a pawl device operated by the feed-drum and engaging the ratchet-wheel, substantially as described, and for the purpose set forth.

10. The combination, with a feed-roll adapted to receive cigarette-tubes, means for feeding cigarette-tubes to the feed-roll at one side of the latter, and means for charging said tubes with tobacco, of a casing surrounding one side of the feed-roll to hold the filled cigarettes in place, and a chute at the end of the said casing to receive the completed cigarettes, substantially as described, and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EMIL GEORGII.

Witnesses:

AUGUST B. DRAUTZ,
ARTHUR HOFMANN.