

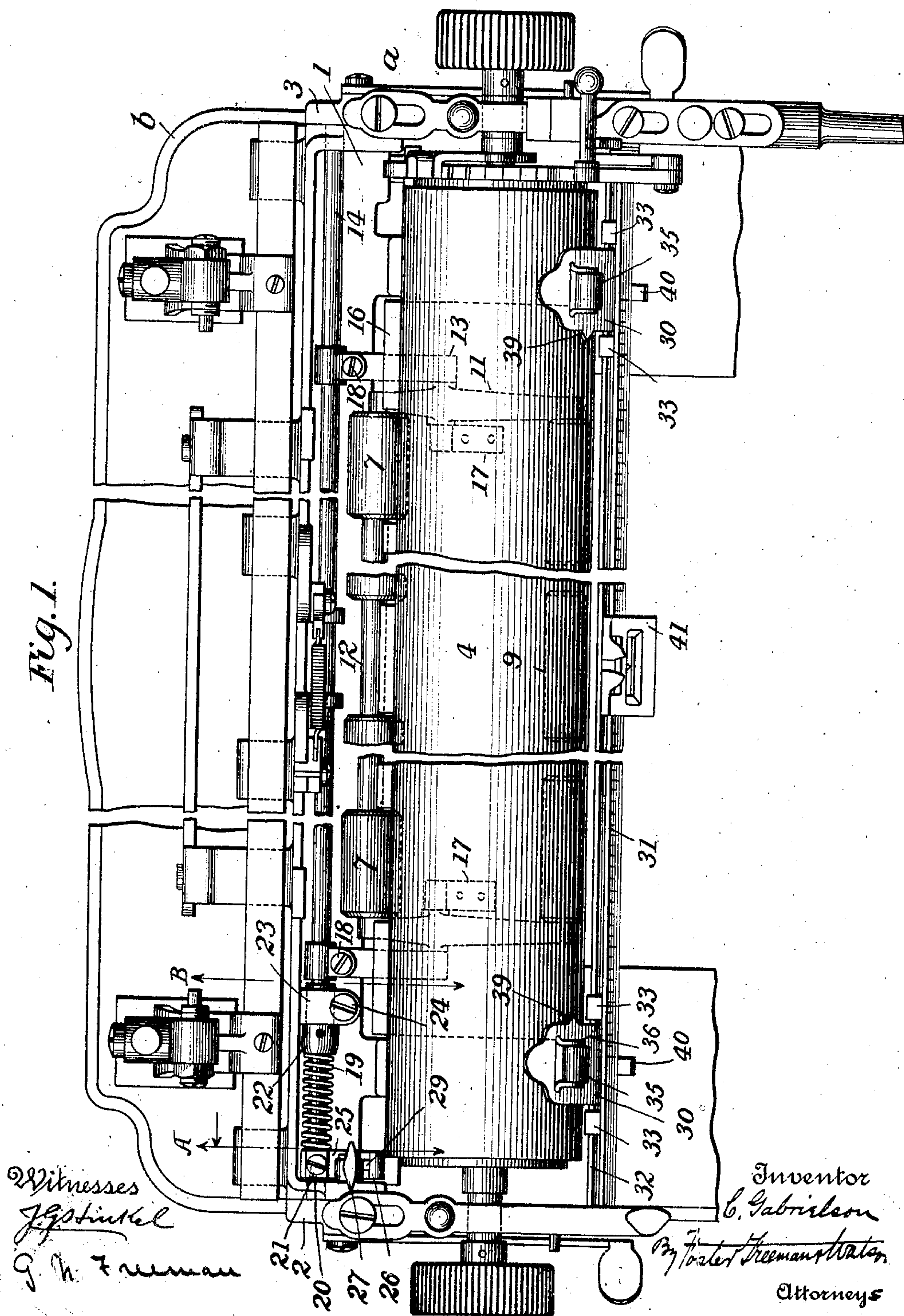
No. 865,694.

PATENTED SEPT. 10, 1907.

C. GABRIELSON.
TYPE WRITING MACHINE.
APPLICATION FILED APR. 28, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

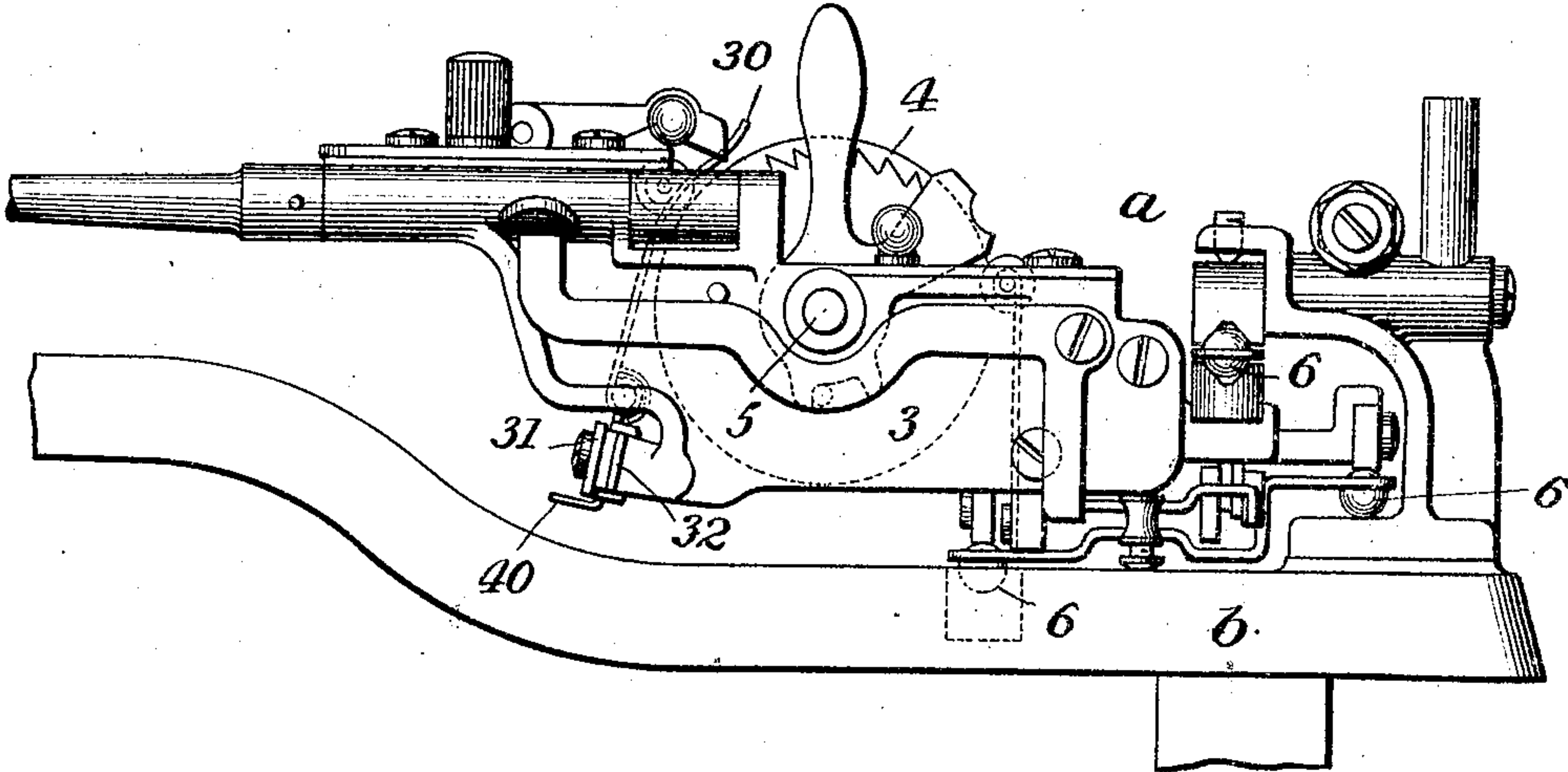


Fig. 3.

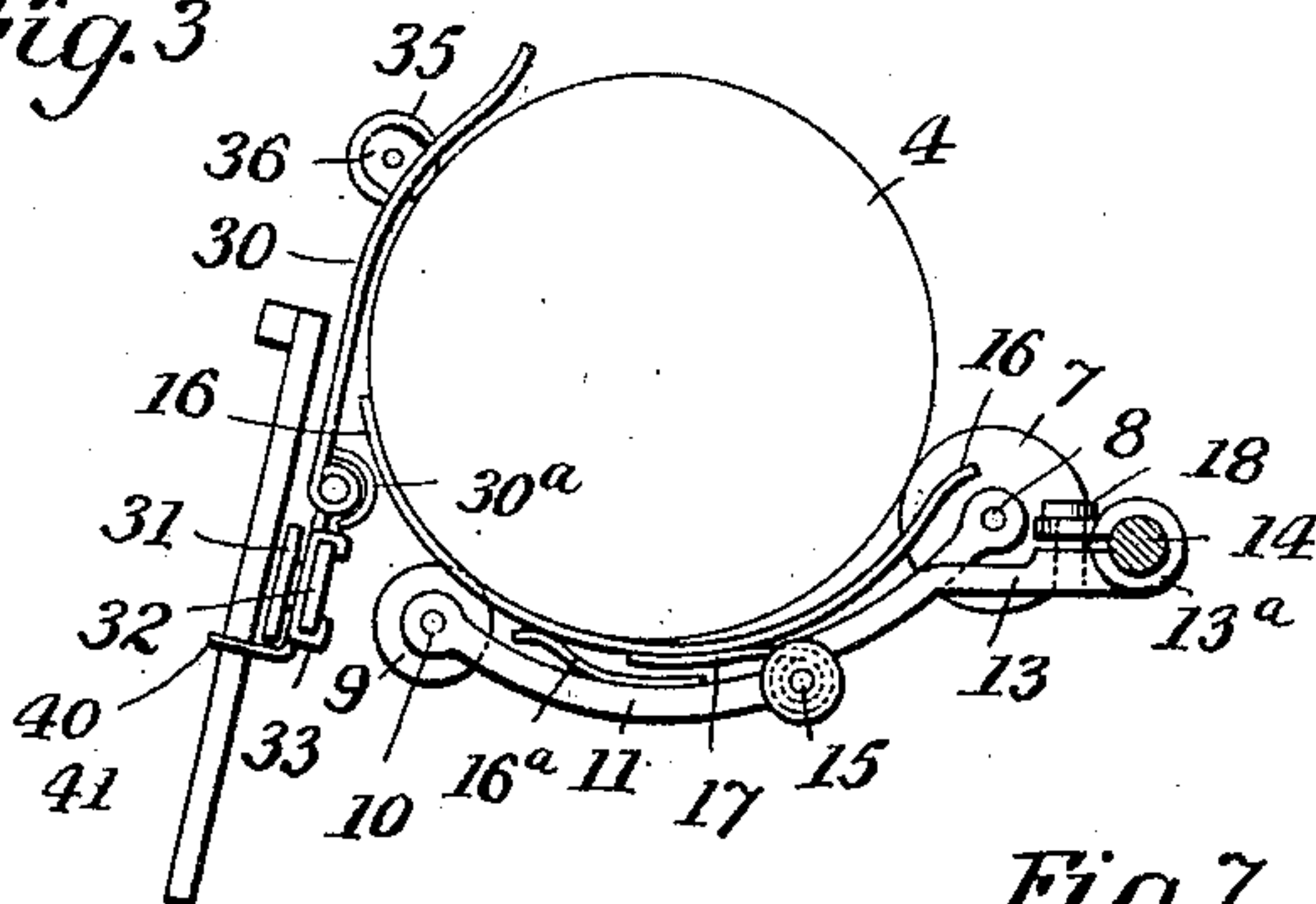


Fig. 4.

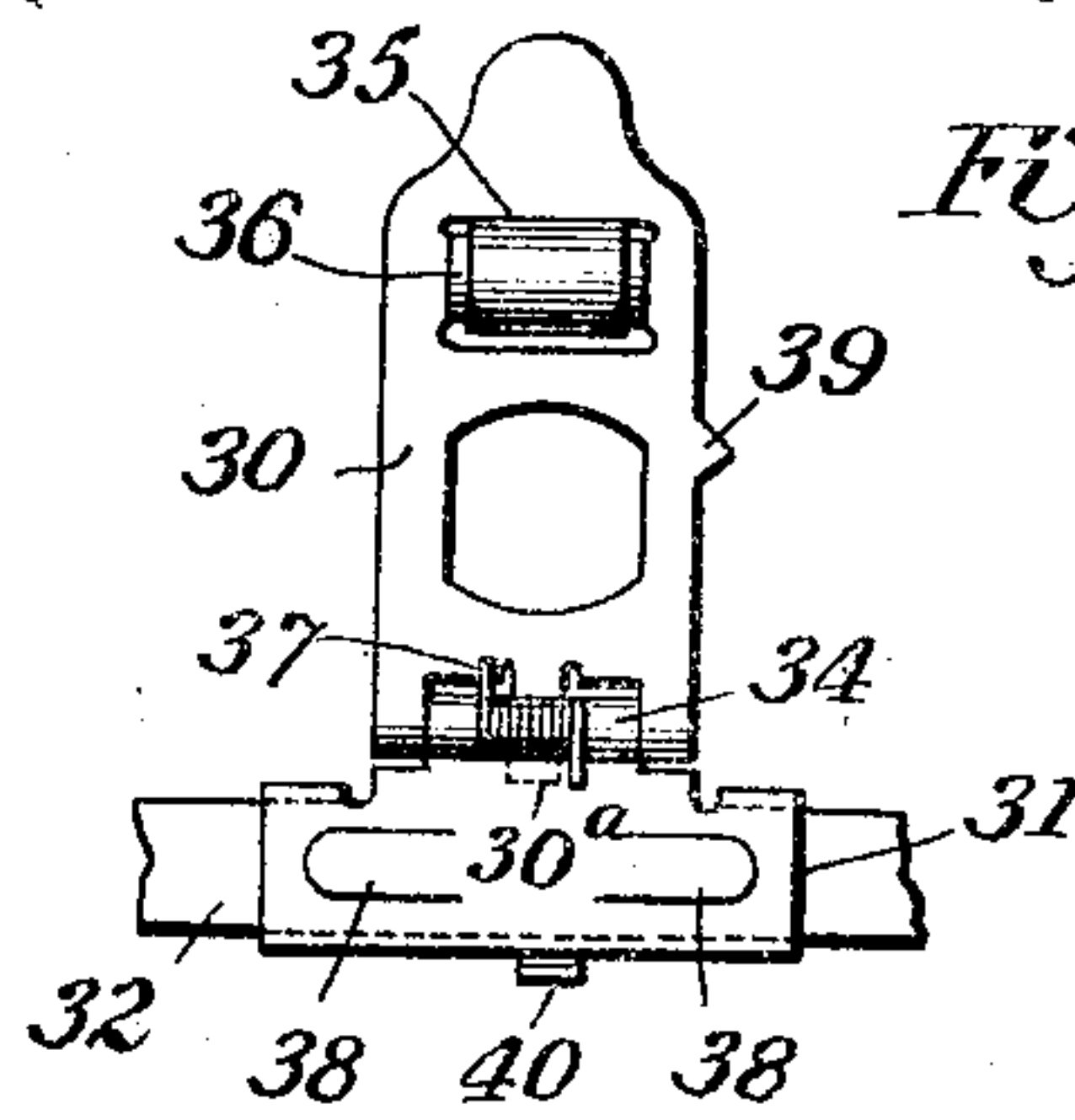


Fig. 7.

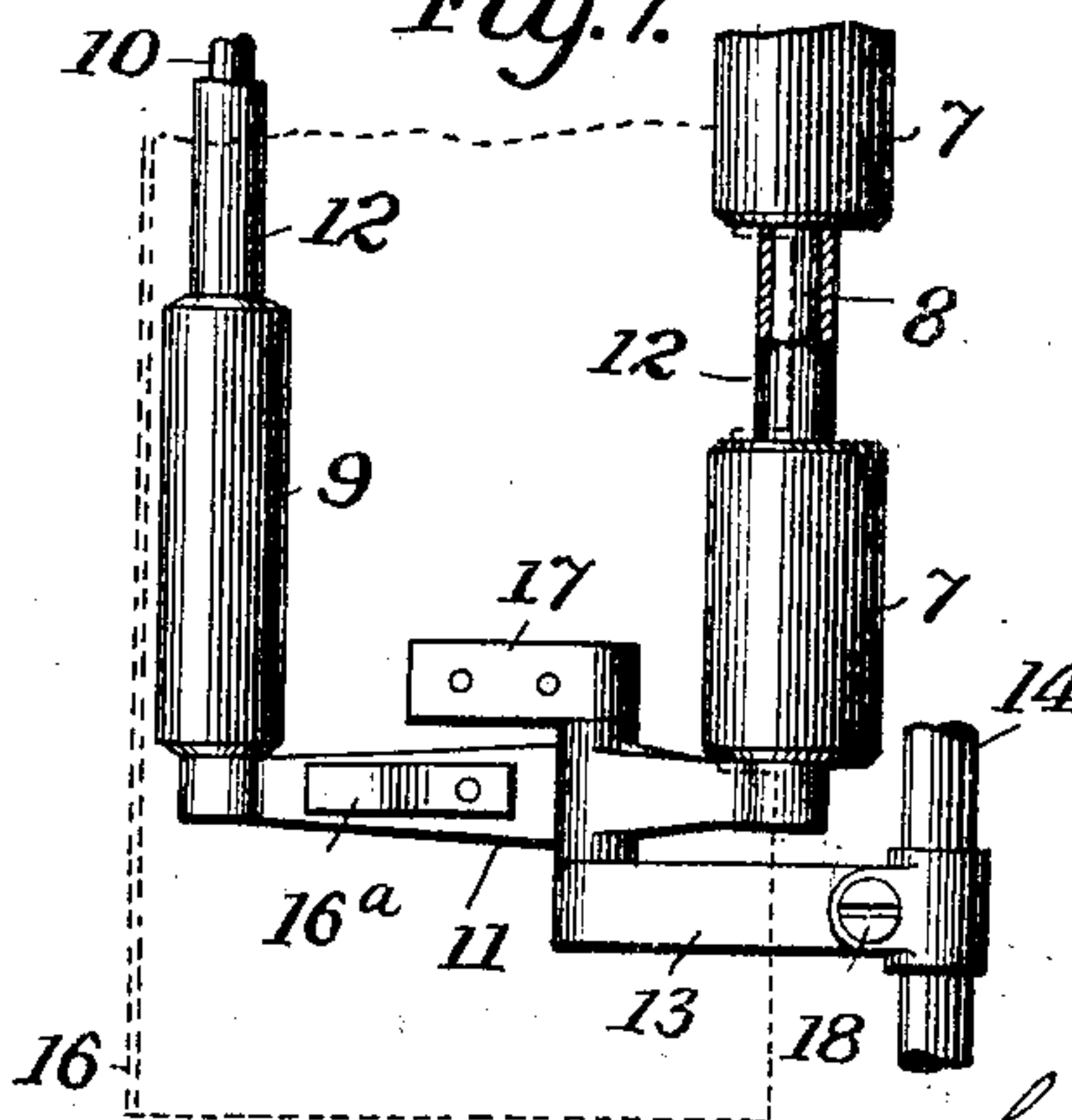


Fig. 6.

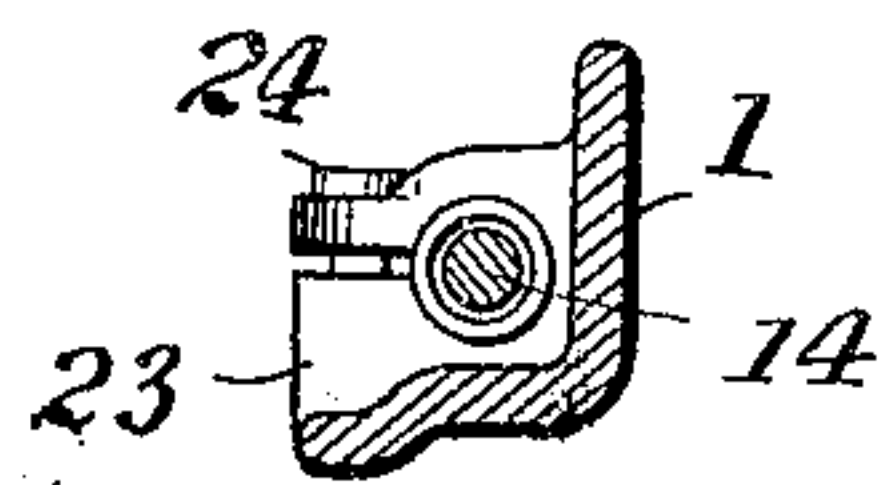
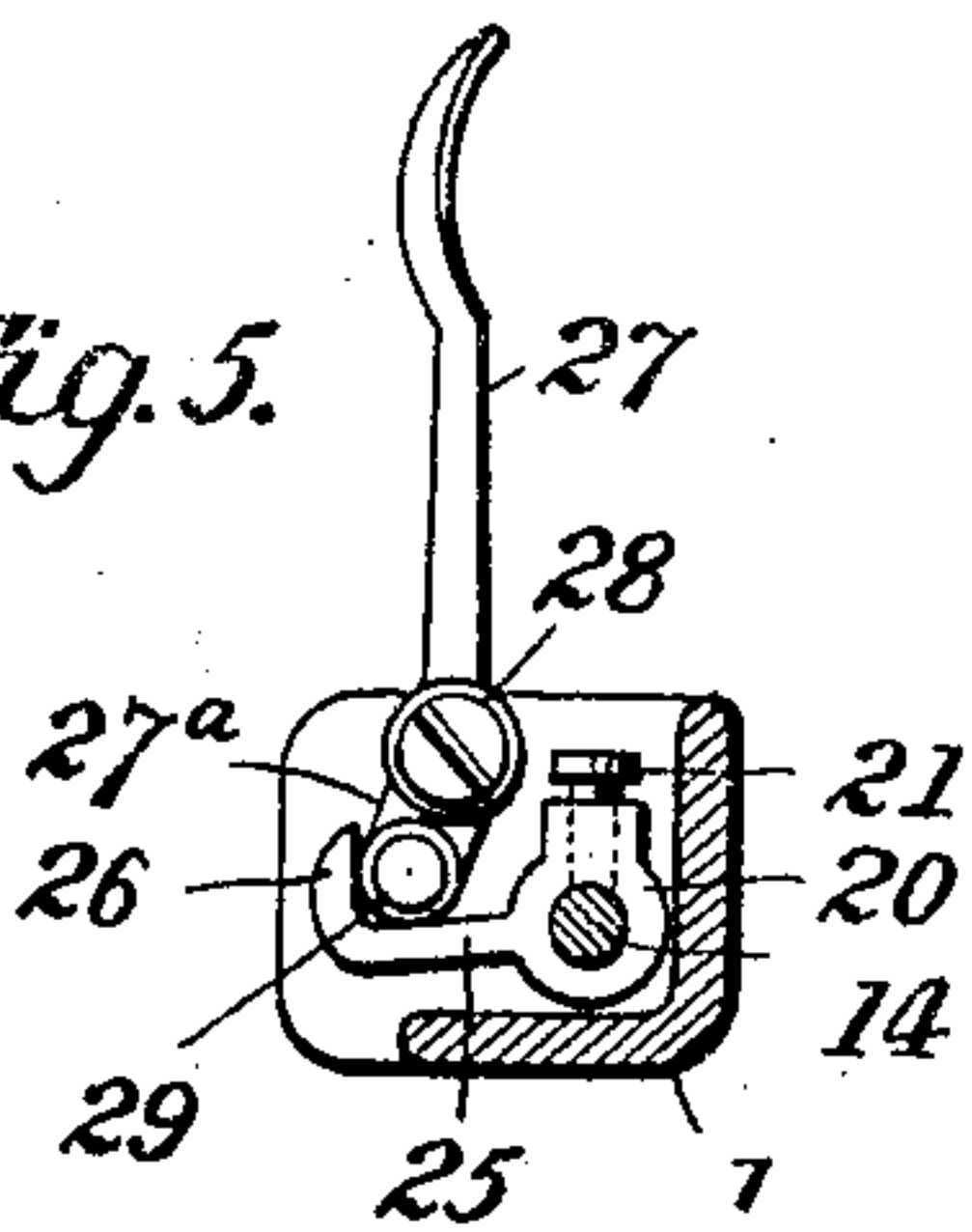


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

CARL GABRIELSON, OF SYRACUSE, NEW YORK, ASSIGNOR TO L. C. SMITH AND BROS. TYPE-WRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 885,694.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed April 28, 1904. Serial No. 205,306.

To all whom it may concern:

Be it known that I, CARL GABRIELSON, a citizen of the United States, residing at Syracuse, Onondaga county, State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention comprises improvements in the paper feeding mechanism of typewriting machines, the details of which will be described in the following specification, in connection with the accompanying drawings, in which the improvements are shown as applied to a "front strike" machine.

In the drawing, Figure 1 is a top plan view of parts of a typewriting machine, including the carriage and platen, with my improvements applied thereto; Fig. 2 is a right end view of the same, the knob for turning the platen being removed; Fig. 3 is a side view of the paper feeding devices and the type-guide, the platen being shown in outline; Fig. 4 is a front view of one of the fingers for holding the paper against the front of the platen and for indicating the printing line upon the paper; Fig. 5 is a detail sectional view on the line A—A of Fig. 1, showing the means for moving the paper guiding rollers out of engagement with the platen; Fig. 6 is a similar view on the line B—B of Fig. 1, showing the clamp for holding the tension adjusting sleeve; and Fig. 7 is a detail of part of Fig. 1, with the platen omitted.

Referring to the drawing, *a* indicates the carriage, the frame of which comprises a back bar 1 and end bars 2 and 3 projecting forwardly therefrom. The platen 4 is mounted upon the shaft 5 which is journaled in the ends of the carriage, and the carriage travels transversely of the machine frame 5 upon ball bearings 6. The paper is conducted beneath the platen by a series of rollers 7 journaled upon a shaft 8 in the rear of the platen and a series of rollers 9 journaled upon a shaft 10 in front and below the platen. The shafts 8 and 10 are journaled in rockers 11 which are pivoted on arms 13 which are adjustably secured to a rock shaft 14. The rollers on shafts 8 and 10 are spaced suitable distances apart by sleeves 12 upon the shafts. The shafts and rockers form a frame or cradle which is carried by the shaft 14. As shown, the arms 13 are connected to the rockers 11 by pivot pins 15, which pass through the rockers 11, and a curved sheet metal guide 16 for the paper is pivotally supported on said pins by intermediate tongues 17 secured to the lower side of the guide and journaled upon said pivot pins. The forward end of this apron is normally pressed lightly against the forward side of the platen by springs 18 secured to the rockers 11 and bearing against the under side of the apron, and the rear portion of the apron hangs away from the platen to permit the paper to be readily in-

serted between the platen and the apron. The arms 13 are provided with split hubs 13^a and clamping screws 18 by means of which the arms may be adjusted and clamped upon the rock shaft. This rock shaft has its ends journaled in suitable bearings in the carriage frame, and the paper feeding rolls are given the requisite pressure against the platen by means of a spring 19. This spring is coiled around the rock shaft and has one end attached to a collar 20 (Figs. 1 and 5) secured upon the shaft by a set screw 21, and its opposite end is secured to a sleeve 22 which fits loosely upon the shaft and is normally held against rotation by a split hub or clamp 23, Figs. 1 and 6. This hub or clamp, as shown, is formed integral with the carriage frame and the shaft and sleeve extend through it, the latter being adjustably secured by means of the clamping screw 24. The pressure of the various feed rollers upon the platen may be equalized by adjusting the arms 13 upon the rock shaft, so as to make the pressure of the rollers at opposite ends of the roller frame alike, and the degree of pressure of all the rollers may be regulated by the adjusting sleeve 22.

In order to withdraw the feed rollers from contact with the platen for the purpose of adjusting the paper, the collar 20 is provided with a radially projecting arm 25, (Fig. 5) having an upturned end 26, and a lever 27 is journaled upon a stud 28 projecting from the carriage frame above said arm. The shorter arm 27^a of this lever is provided with a roller 29 which is adapted to bear upon and depress the arm 25 when the longer arm of the lever is pulled toward the operator. This depression of the arm 25 causes the rocking of shaft 14 and the withdrawal of the paper feed rollers from the platen. When the movement of lever 27 is reversed, the spring 19 returns the rollers to their positions against the platen, and normally holds the roll 29 against a stop 26, and the lever 27 in its rearward position.

A plurality of paper-holding fingers 30 are pivotally connected to slides 31 which are adjustably secured upon a bar 32 arranged in front of and below the printing line of the platen said bar being secured at its ends to the ends of the carriage frame. These slides and fingers are preferably made of sheet steel and each slide has overturned flanges or clips 33 fitting around the edges of the bar 32. Each finger 30 is secured to its slide 31 by a hinge joint 34.

A roller 35 is journaled in ears 36 projecting outwardly from the body of each finger, and this roller is normally pressed against the paper by means of a spring 37 arranged at the hinge joint. Stops 30^a are provided to limit the movement of the fingers when the platen is removed. Spring tongues 38 in the front of each slide bear frictionally upon the bar 32 and retain the fingers in any desired position. It will be noted from an

inspection of Fig. 3 that the fingers do not bear upon the paper, but serve to guide the paper beneath the rollers 35 which hold it against the platen. There are projections 39 at the inner sides of the fingers which serve as pointers to indicate the printing line. These indicators are desirable in writing upon ruled paper. When a ruled line is brought to register with the indicators, the machine will print on the upper side of the line. The slide portion of each finger is provided with a stop piece 40 projecting forwardly from its lower edge. These stop pieces are arranged to engage the type-guide support 41 or some similar fixed obstacle to prevent the finger pieces from passing in front of the printing point. It is impossible, therefore, for the type to strike the finger pieces at either end of the line.

It will be evident that the mechanism described may be varied more or less without departing from the spirit of the invention.

Therefore, without limiting myself to the precise construction and arrangement of parts illustrated and described, I claim:

1. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a rock shaft, arms on said rock shaft, rockers pivotally connected to said arms, roller shafts journaled in said rockers, a curved paper guide for directing the paper about the platen between the roller shafts, said guide being carried by said rockers, and springs for pressing the guide against the platen.

2. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a rock shaft, a pair of arms adjustably mounted on said rock shaft, paper feed rollers carried by said arms, a spring operating on said rock shaft to hold the rollers against the platen, an arm fixed on said rock shaft, and a lever operating on said arm to rock the shaft for the purpose of withdrawing the feed rollers from the platen.

3. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a bar supported on the carriage in front of the platen; slides upon said bar, spring fingers carried by said slides, a type guide, and stops on said slides cooperating with the type guide for preventing the fingers from being moved past the printing point.

4. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a bar supported on the carriage in front of the platen, slides upon said bar, pivoted upwardly extending fingers carried by said slides, springs carried by the slides for forcing the fingers against the platen, and stops for sustaining the fingers when the platen is removed.

5. In a typewriting machine, the combination with the platen and a bar adjacent to the platen, of a slide on said bar, a finger hinged to said slide, a spring tending to move the finger into engagement with the platen, and a stop fixed on the finger and adapted to abut against the slide to limit the movement of the finger.

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

CARL GABRIELSON.

Witnesses:

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C. F. PARSONS.