

No. 763,083.

PATENTED JUNE 21, 1904.

F. X. WAGNER.

TYPE BAR MECHANISM FOR TYPE WRITERS.

APPLICATION FILED JUNE 12, 1903..

NO MODEL.

3 SHEETS—SHEET 1.

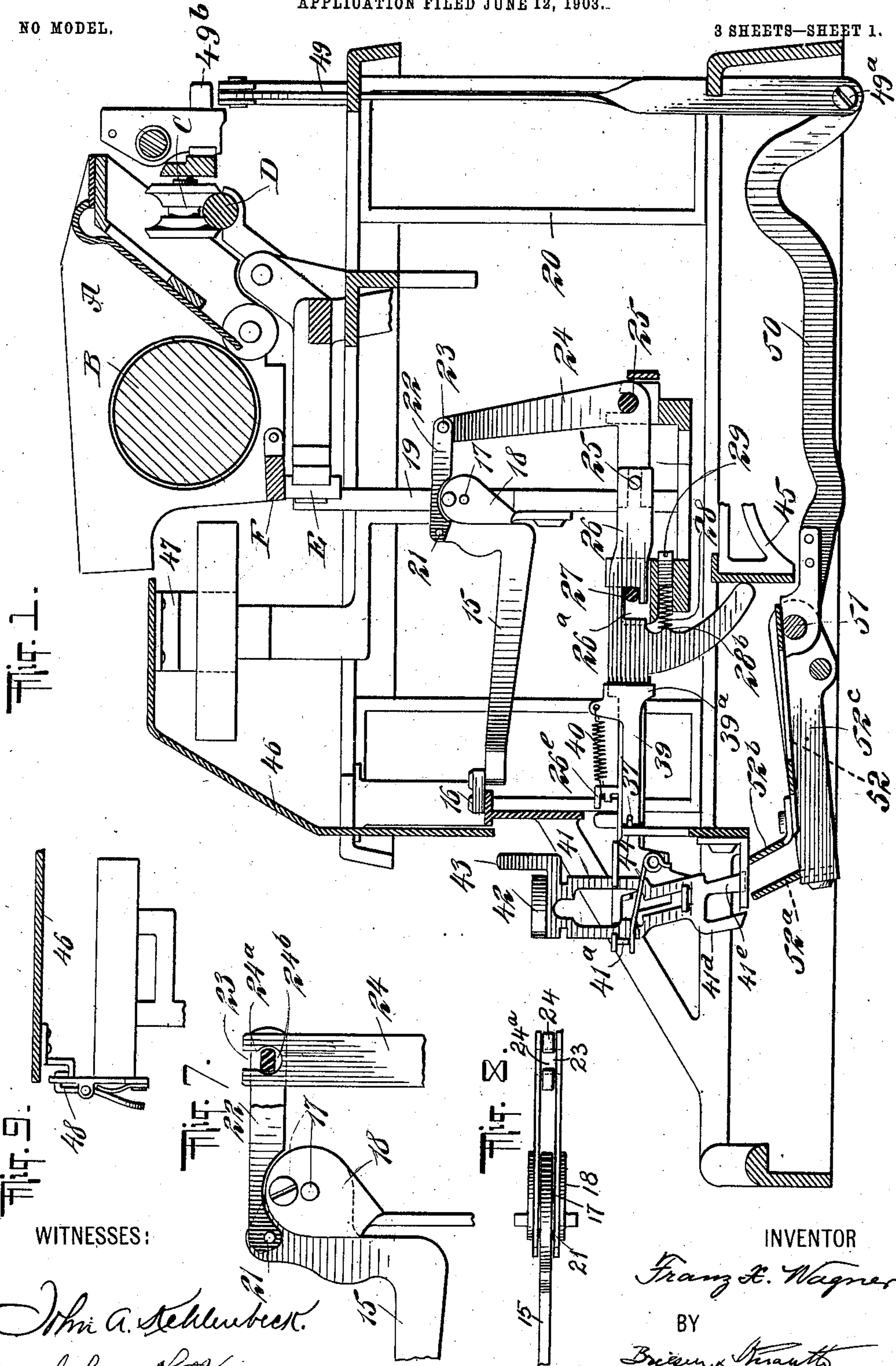


Fig. 1.

Fig. 7.

Fig. 8.

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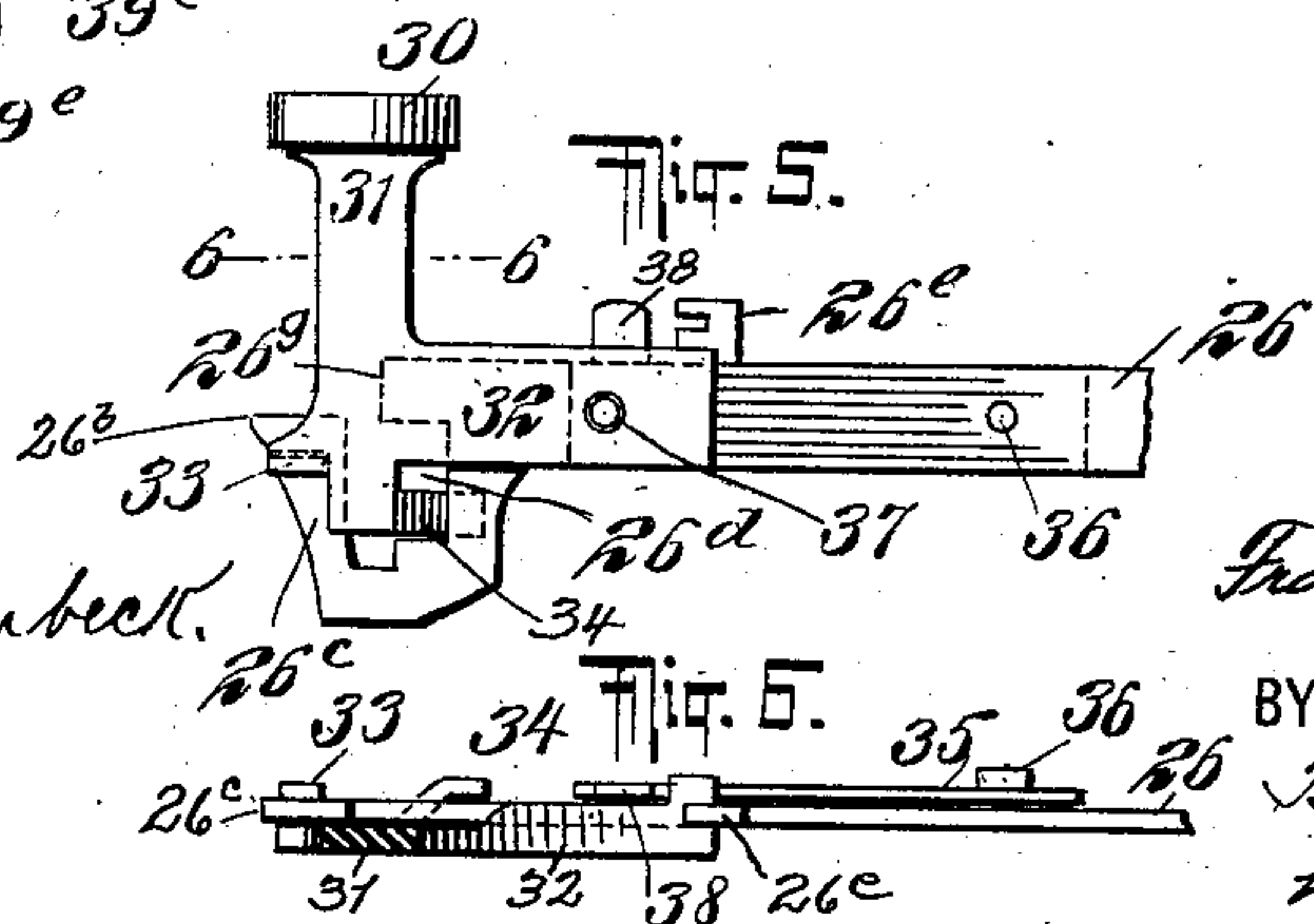
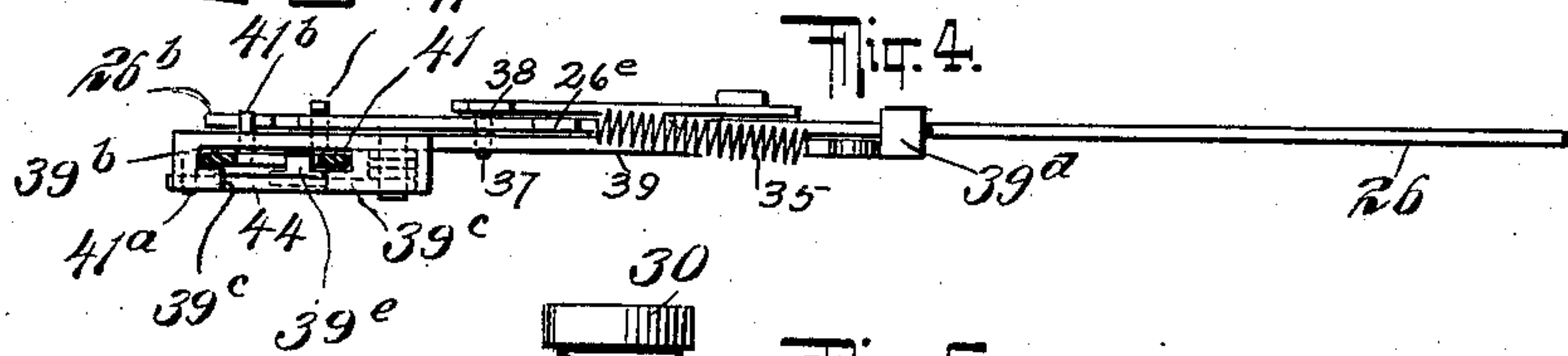
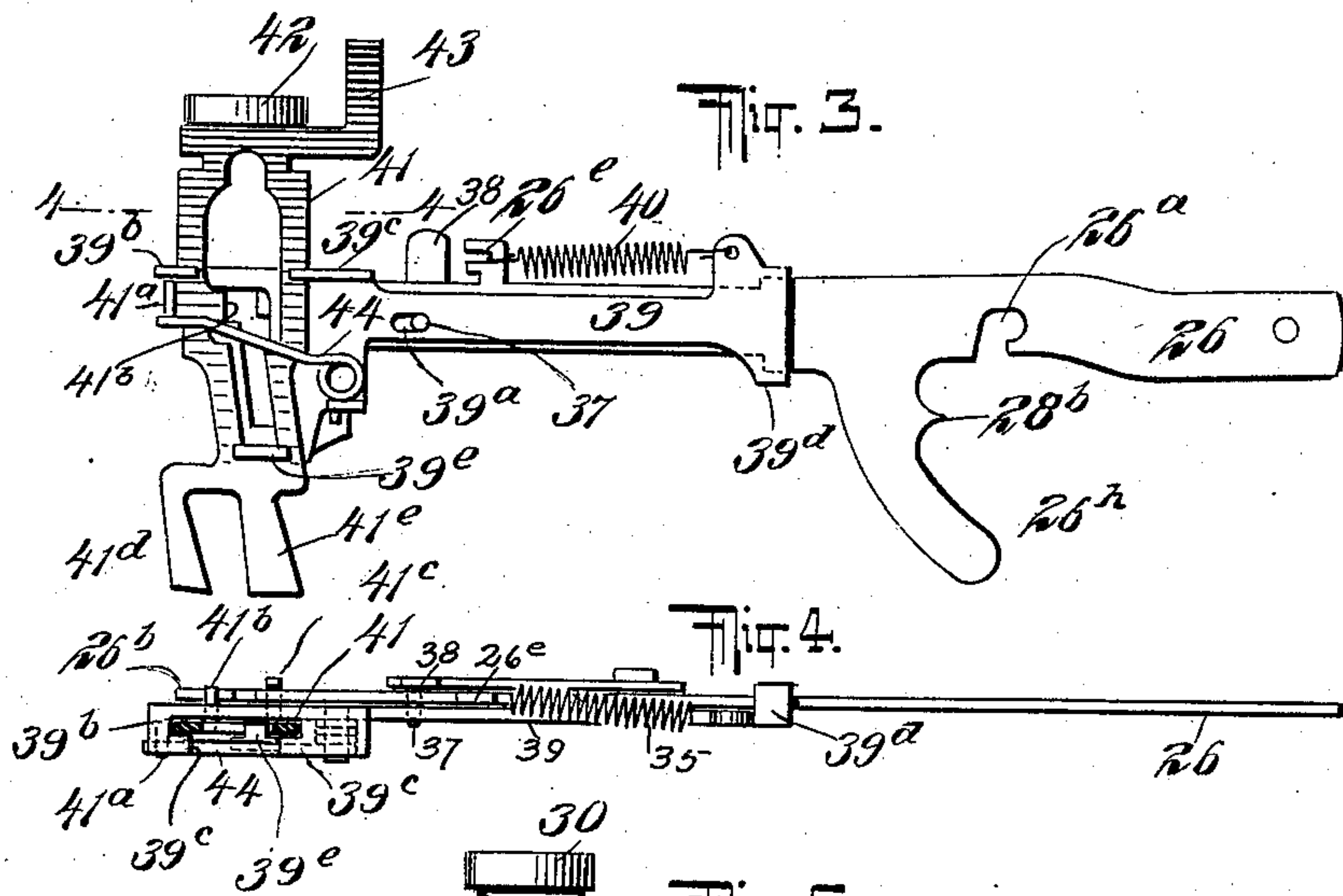
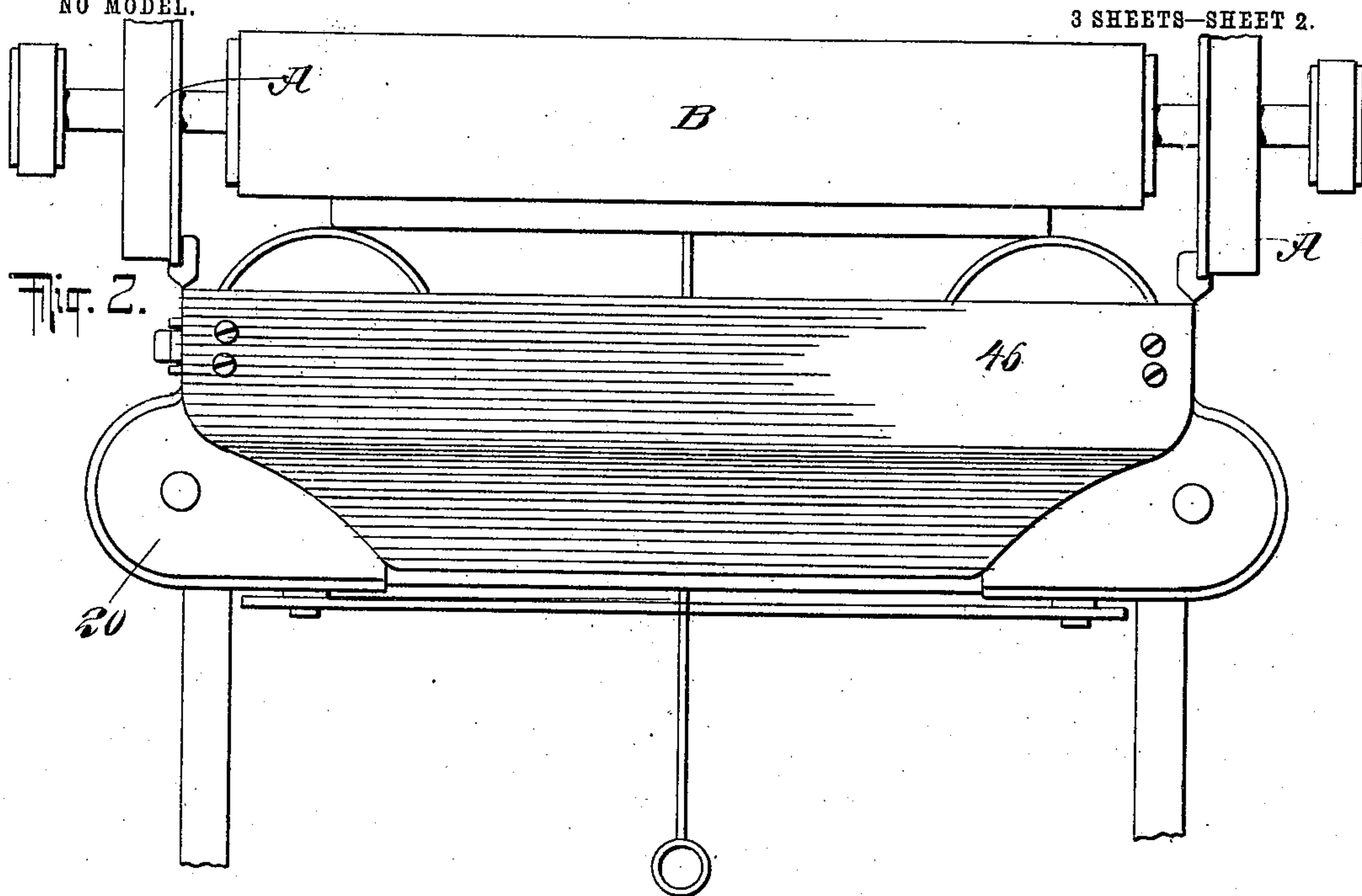
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3 SHEETS—SHEET 2.



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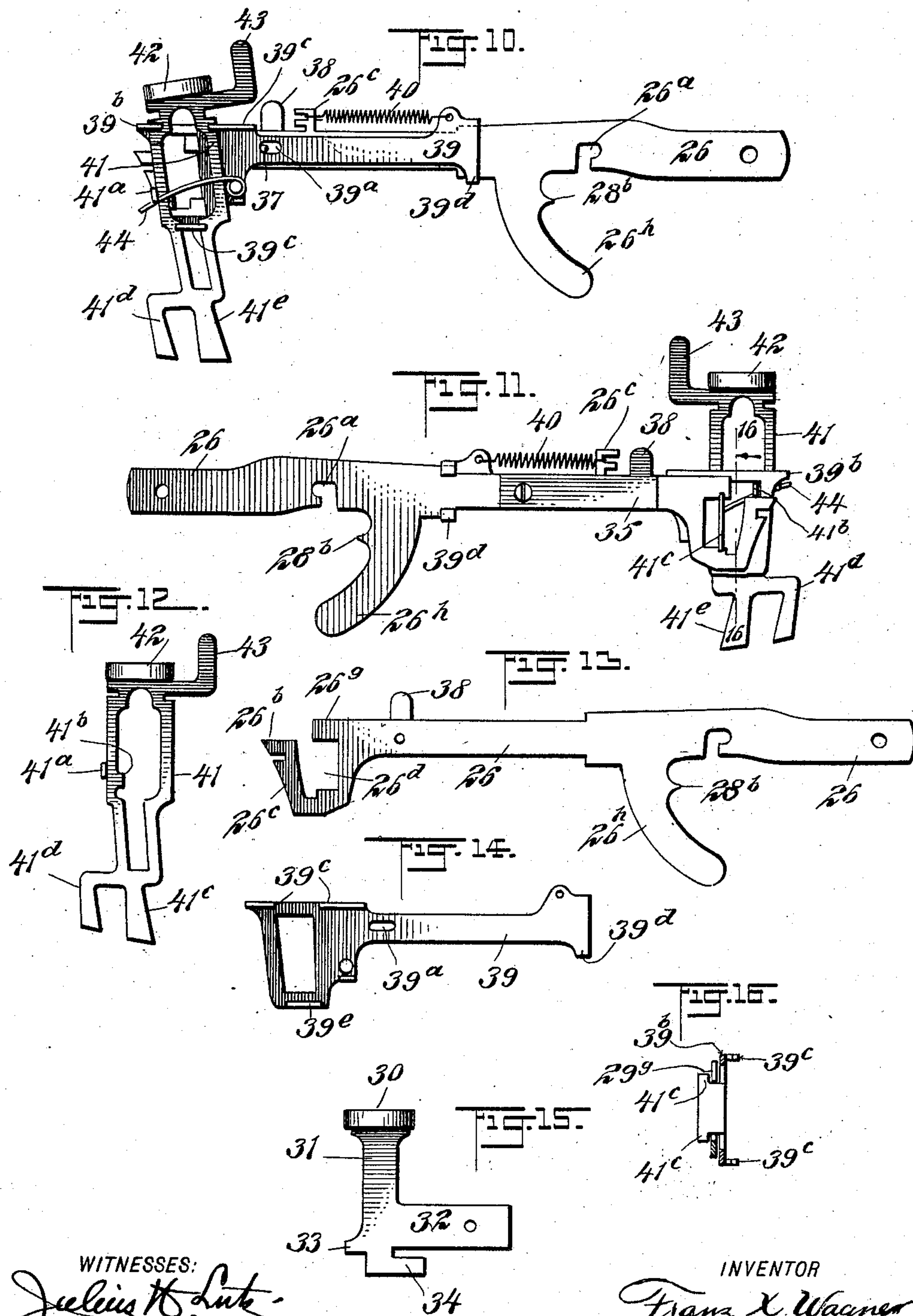
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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TYPE-BAR MECHANISM FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 763,083, dated June 21, 1904.

Original application filed July 5, 1902, Serial No. 114,362. Divided and this application filed June 12, 1903. Serial No. 161,185. (No model.)

To all whom it may concern.

Be it known that I, FRANZ X. WAGNER, a citizen of the United States, residing in the borough of Bronx, city, county, and State of New York, have invented certain new and useful Improvements in Type-Bar Mechanism for Type-Writers, of which the following is a specification.

My invention relates to type-bar mechanism for type-writers, and has for its object to provide a simple and effective type-key for performing several functions and also to provide a shield for the said type-bar mechanism to shield the eyes of the operator from observing the constant motion of the type-levers.

I desire it to be understood that while I have shown what I consider at the present the most effective way of carrying out my invention various modifications may be made without departing from the nature of my invention.

This application is a division of one filed by me in the United States Patent Office July 5, 1902, Serial No. 114,362.

Reference is to be had to the accompanying drawings, of which—

Figure 1 is a central sectional elevation of a type-writer provided with my improvements. Fig. 2 is a plan view of a portion of the same. Fig. 3 is a side view of one of my improved double-function keys. Fig. 4 is a sectional plan thereof on line 4 4 of Fig. 3. Fig. 5 shows how one of the double-function keys may be converted into an ordinary single-function key. Fig. 6 is a sectional plan of the same on line 6 6 of Fig. 5. Fig. 7 is a detail illustrating the connection of the type-lever with a link and elbow-lever, through the medium of which it is operated from the key-lever. Fig. 8 is a plan view of the same parts. Fig. 9 is a detail of the latch which is used to lock the end of the shield which is opposite to the hinged end. Fig. 10 is a view similar to Fig. 3, but showing the parts in a different position. Fig. 11 is a side view of one of my improved double-function keys looking from the other side. Fig. 12 is an isolated view of the key. Fig. 13 is an isolated view

of the key-lever. Fig. 14 is an isolated view of the front key-section. Fig. 15 is an isolated view of the single-function key, and Fig. 16 is a sectional view taken on line 16 16 of Fig. 11 with the key removed and looking in the direction of the arrow.

A represents a carriage-frame of a type-writer. B is the platen mounted thereon in the usual way. C is a roller mounted upon a rear portion of the said carriage-frame and serves to act as a bearing to permit the carriage being moved to the right or left on the track or rod D. E is a similar roller at the front of the carriage and acts in a similar way for a similar purpose in conjunction with the track F. The roller E is shown mounted on that portion of the machine which is ordinarily used to shift the carriage into the upper printing position.

15 represents the type-levers, carrying the type 16 and fulcrumed at 17 upon brackets 18, which are attached to the segment 19, forming part of or secured to the frame 20 of the machine. Each of the type-levers 15 is connected pivotally, as indicated at 21, with the link 22, the rear end of which is provided with a pin 23, having flat surfaces, as shown in Fig. 7, and this pin is adapted to pass through a slot 24^a into a recess or socket 24^b at the upper end of an elbow-lever 24, fulcrumed upon the machine at 25. The link 22 consists of two members which receive between them the upper end of the elbow-lever 24 and of the type-lever 15, and these members are made of elastic material, so that their forward ends may be sprung over the pin 21, which connects them with type-levers 15. Thus the forward ends of links 22 may be readily detached when desired from the corresponding type-levers, and by then turning the links upward until the flat faces of the pin 23 stand vertical each link may be readily removed from the upper end of the corresponding elbow-lever 24. The lower member of the elbow-lever 24 extends forward and is slotted to receive a pin 25 upon the rear portion 26 of a key-lever which is fulcrumed

upon a rod or pivot 27, arranged to fit into a recess 26^a. The key-lever is pressed forward by a spring 28, one end of which engages a projection 28^b in the key-lever, while its other end abuts against an adjustable screw 29, supported on the frame of the machine. This construction allows the action of each key to be regulated independently.

When the keys are to perform their ordinary function only, they may be constructed as shown in Figs. 5, 6, and 15. Here the front portion of the key-lever comprises a key 30, having a shank 31 and a longitudinal member 32, provided with a lip 33, which extends into a recess at the front end 26^c of the member 26 of the key-lever. There is further provided an arm 34, which extends through an opening 26^d to engage the arm 26 on the side opposite to that on which the member 32 is located. The front member of the key-lever is further held in position by means of a spring-latch 35, which is secured to the member 26, as shown at 36, and is provided at its front end with a pin 37, arranged to pass through a suitable aperture in the members 26 and 32. A projection 38 is provided, so that the latch 35 may be readily manipulated. It will be understood that by swinging the latch 35 outward, so as to release the member 32 from the pin 37, the forward member of the key is made free, so that it may be first moved forward to disengage the lip 33 from the front portion 26^c and then upward to entirely separate the parts 30, 31, 32, 33, and 34 from the machine. When these parts, which I may call a "removable" front section of the key-lever, have been taken off, I may substitute for them another front section which enables the key-lever to be used for performing some function in addition to its ordinary function of swinging the type-lever into the printing position. This double-function attachment is shown in detail in Figs. 3, 4, 10, 11, 12, 13, and 14 and comprises a longitudinal sliding member 39, provided with a slot 39^a, which receives the pin 37. The spring 40 normally holds the member 39 and the parts connected therewith in a forward position, said spring being detachably engaged with a lug 26^e upon the key-lever member 26. At its front end the longitudinal member 39 is provided with laterally-projected flanges 39^b, provided with lips 39^c, projecting toward each other, as shown in Fig. 4. At its rear end the member 39 has lips 39^d embracing the edges of the member 26, while lugs 41^e serve the same purpose at the front end of the member 39. (See Figs. 4, 11, and 16.) It will thus be seen that the front key-section 39 is movable longitudinally of the rear section 26. Between the flanges 39^b and the lips 39^c is held to slide vertically the shank 41 of the key 42, the latter being provided with an upward projection 43 for the purpose of enabling the front key-section 39 to be readily pressed rearward by the operator's

finger. The shank 41 is further guided by a T-shaped projection 39^e (see Fig. 4) on the side of the member 39 near its lower end. A spring 44, which is secured to the member 39 and bears against a projection 41^a of the shank 41, normally keeps the key 42 in its upper position. A downward movement of the key 42 and of the shank 41 relatively to the key-lever 26 is normally prevented by projection 41^b, which projects above a lug 26^b. It will be understood that the parts which I have termed the "double-function attachment" may be readily disconnected from the key-lever 26 when desired, as best shown in Figs. 12, 13, and 14. When the key 42 is pressed down while in the position illustrated by Fig. 1, it operates the corresponding type-lever 15 and also, by means of an arm 26^h, acts on the universal bar 45, which moves from front to rear. When, however, the key is to perform a function in addition to its ordinary one, the key 42 is first pressed rearward by means of the projection 43, and the member 39, sliding longitudinally of and upon the member 26, thus disengaging the projection 41^b from the lug 26^b and permitting the key 42 to be then pressed downward independently to perform a second function, as shown in Fig. 10. As an instance of such second function I have shown a tabulating device comprising a stop 49, pivotally connected at 49^a to an arm 50, pivoted at 51, said arm 50 being provided with a forwardly-projecting member 52, carrying a heel 52^b, which is adapted to be engaged by the toe 41^e of the key 42 when said key 42 is in its rearward position for the performance of its second function. Upon the rod 51 is also loosely mounted the arm 52^c, carrying the heel 52^a, which is adapted to be engaged by the toe 41^e of the key 42 when said key is in the position above mentioned. The length of the toe 41^e, which presses downward against the heel 52^b when in operation, is such that the tabulating-stop 49 is brought into operative position a fraction sooner than the toe 41^d, which is a trifle shorter, pressing against the heel 52^a, carried by the arm 52^c, releases the escapement mechanism from the rack, thus assuring the positive action of the stop 49 against the stop 49^b to arrest the carriage. The connection of the escapement-release mechanism with the arm 52^c may be accomplished in the usual way. It will be understood that this is only an instance, and the second function of the key may consist in the operation of any other mechanism. The rearward movement of the member 39 and the key 42 is limited by the slot 39^a and the pin 37, while the shank 41 is guided vertically by the lips 39^c and the T-shaped projection 39^e. After pressure is removed from the key 42 the spring 44 serves to return the said key 42, with its shank 41, back to its original position vertically, after which the spring 40 tends to bring the member 39 now again in engagement with the key

42 and its shank 41 forward into the locked position first mentioned, the entire key-lever, with all its parts, being returned to the normal position by the spring 28 bearing against the projection 28^b. It will be understood that while the key 42 performs this second function, the connection between the key and the key-lever having been for the time being destroyed through the projection 41^b passing out of engagement with the lug 26^b, the key-lever 26 will remain stationary, while the type-lever and elbow-arm through their various connections also remain in the normal position.

A shield 46 is arranged at the top of the machine on the front portion of it and is preferably hinged at one side, as indicated at 47, so that it may be swung up to give access to the type-bars and other mechanism which it normally covers. 48 indicates a spring-latch for holding that end of the shield which is opposite to the hinge and is best illustrated by Fig. 9. This shield has for its main purpose to conceal the type-bars, so that the eye of the operator may not be worried by constantly observing the motions of the said type-bars.

What I claim, and desire to secure by Letters Patent, is—

1. In a type-writer or like machine, a key-lever having a latch and an attaching-surface in front of said latch in combination with a key-carrying section engaging said latch and said attaching-surface.

2. In a type-writer or like machine, a key-lever having a latch and a notch in front of said key-lever in combination with a key-carrying section engaging said latch and provided with a projection extending into said notch.

3. In a type-writer or like machine, a key-lever having a latch and attaching elements both in advance of and in the rear of the latch in combination with a key-carrying section engaging said latch and attaching elements.

4. In a type-writer or like machine, the combination of the key-lever, a member mounted to slide thereon lengthwise, a key member mounted to slide on said sliding member transversely and means for preventing a movement of the key member relatively to the sliding member when the said sliding member is in one of its positions.

5. In a type-writer or like machine, the combination of the key-lever, a member mounted to slide thereon lengthwise, and a key member mounted to slide on said sliding member transversely.

6. In a type-writer or like machine, the combination of the key-lever, a member mounted to slide lengthwise thereon, a key member mounted to slide transversely on said sliding member, said key member being capable of an independent movement relatively to the sliding member when said sliding member is in one of its positions and means for returning the key member to its normal position.

7. In a type-writer or like machine, the combination of the key-lever, a member mounted to slide thereon lengthwise, a key member mounted to slide transversely on said sliding member and means for returning the sliding member and the key member to their normal positions.

8. In a type-writing machine or the like, the combination with the frame, the type-levers and mechanism for operating the type-levers, of a shield arranged in front of and above the path of the type-levers so as to conceal them in their movement, said shield being hinged at one end and a latch for locking the opposite end of said shield.

Signed this 10th day of June, 1903.

FRANZ X. WAGNER.

In presence of—

JOHN LOTKA,

JOHN A. KEHLENBECK.