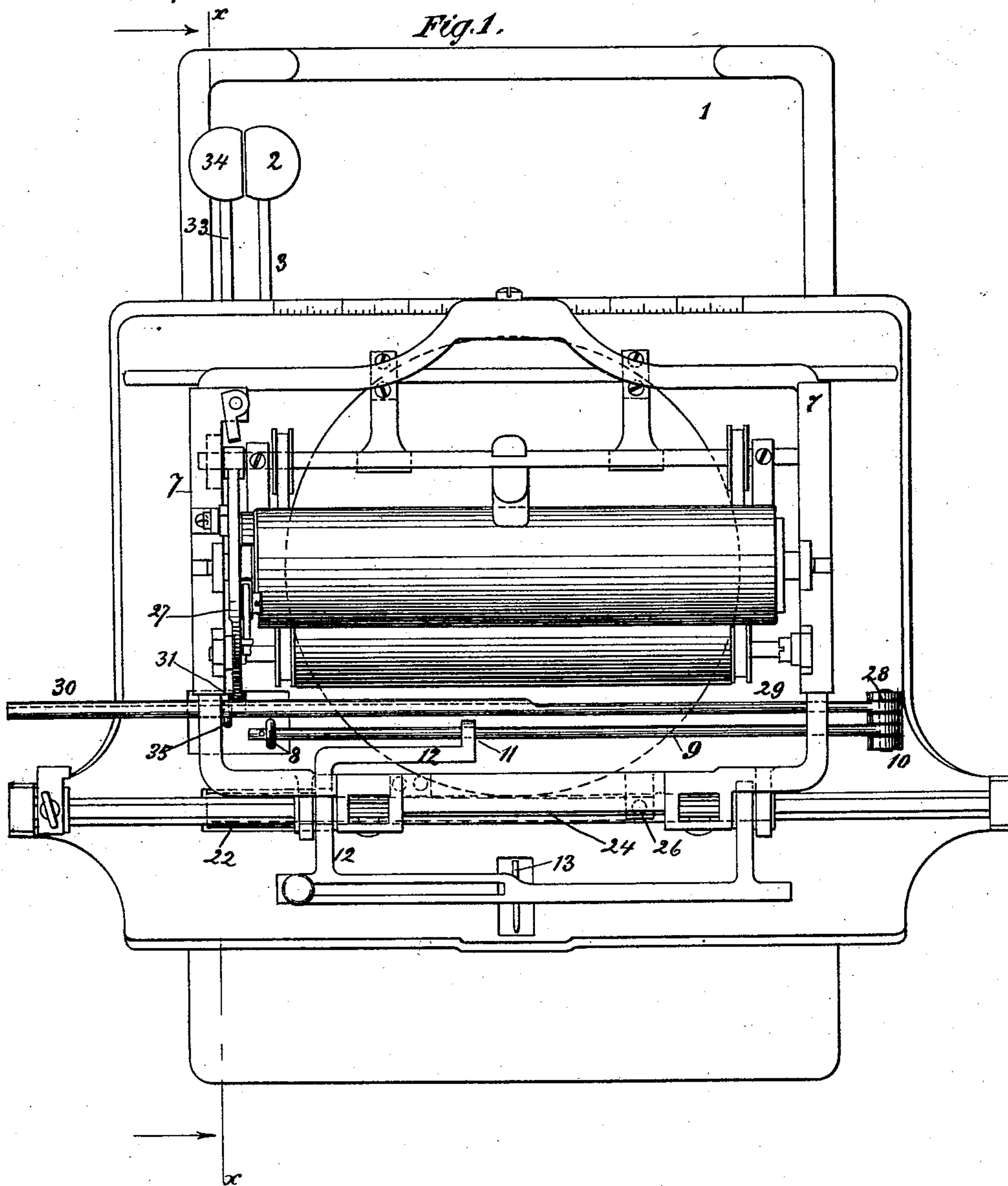


3 Sheets—Sheet 1.

TYPE WRITING MACHINE.

Patented June 28, 1892.



WITNESSES:

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INVENTORS:

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(No Model.)

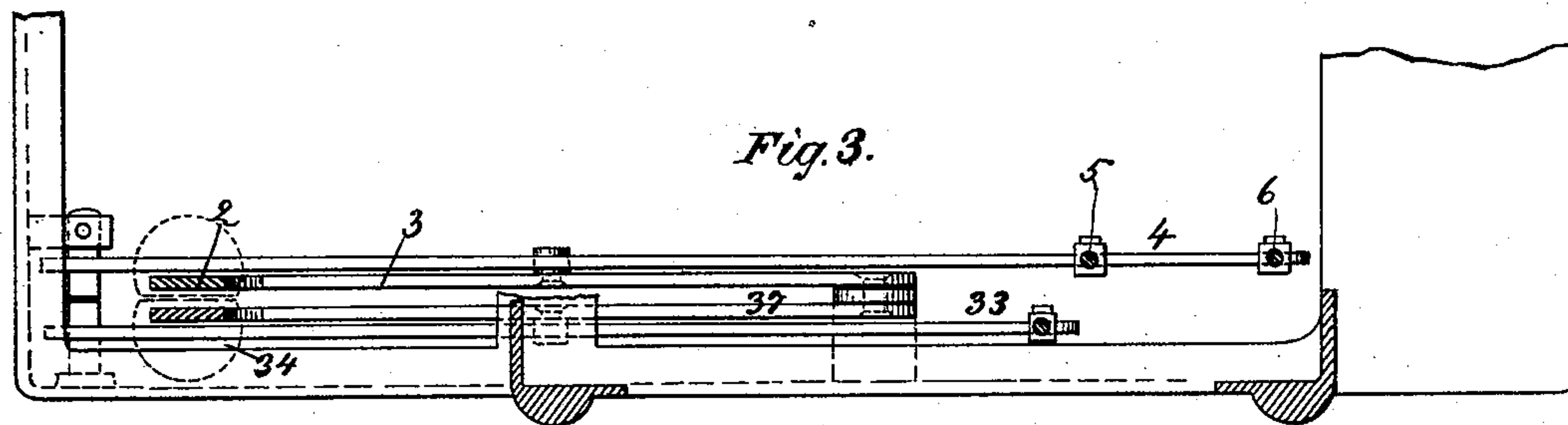
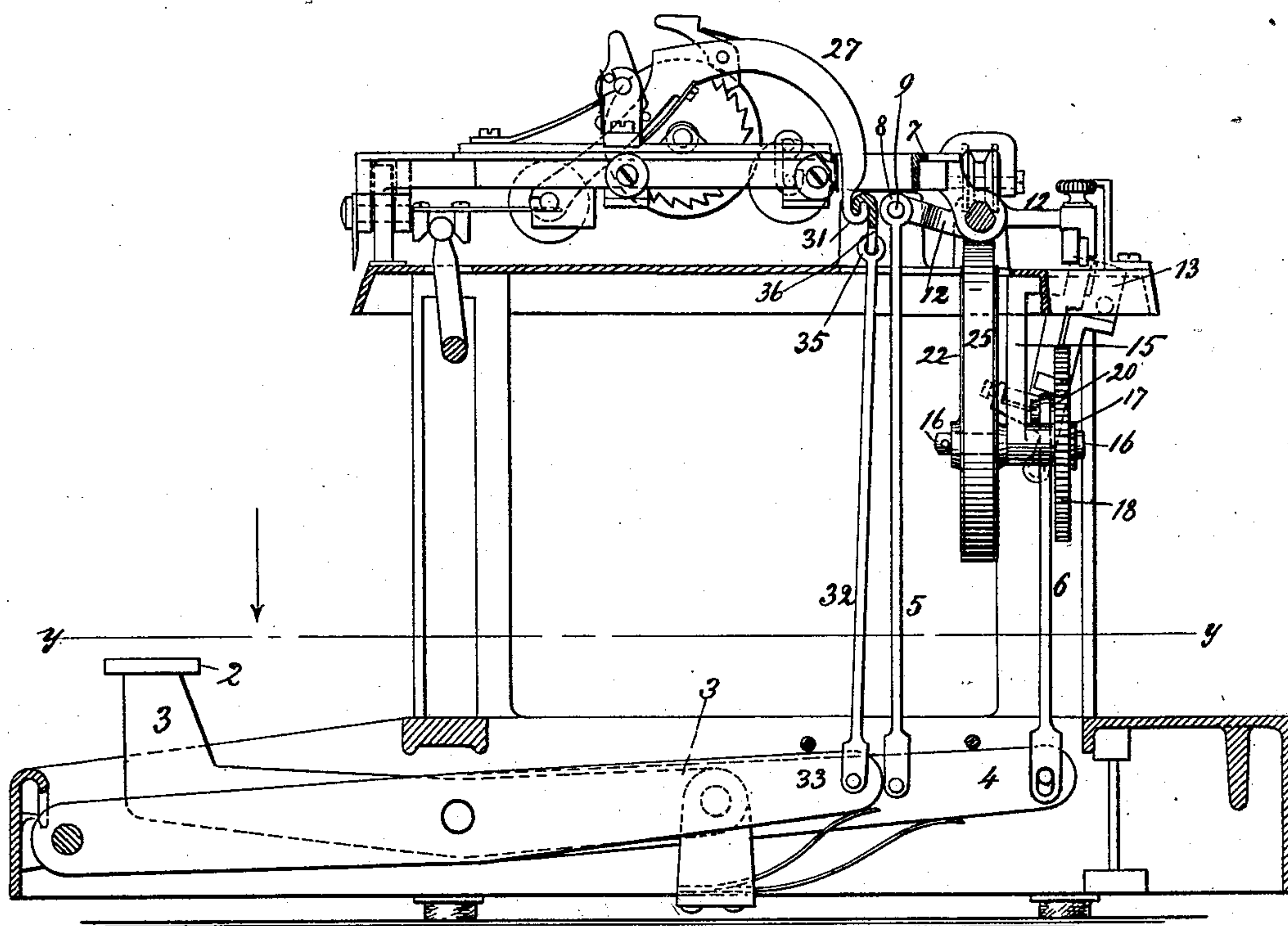
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H. E. BLAUVELT & J. A. POLHEMUS.
TYPE WRITING MACHINE.

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Fig. 2.



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(No Model.)

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Fig. 4

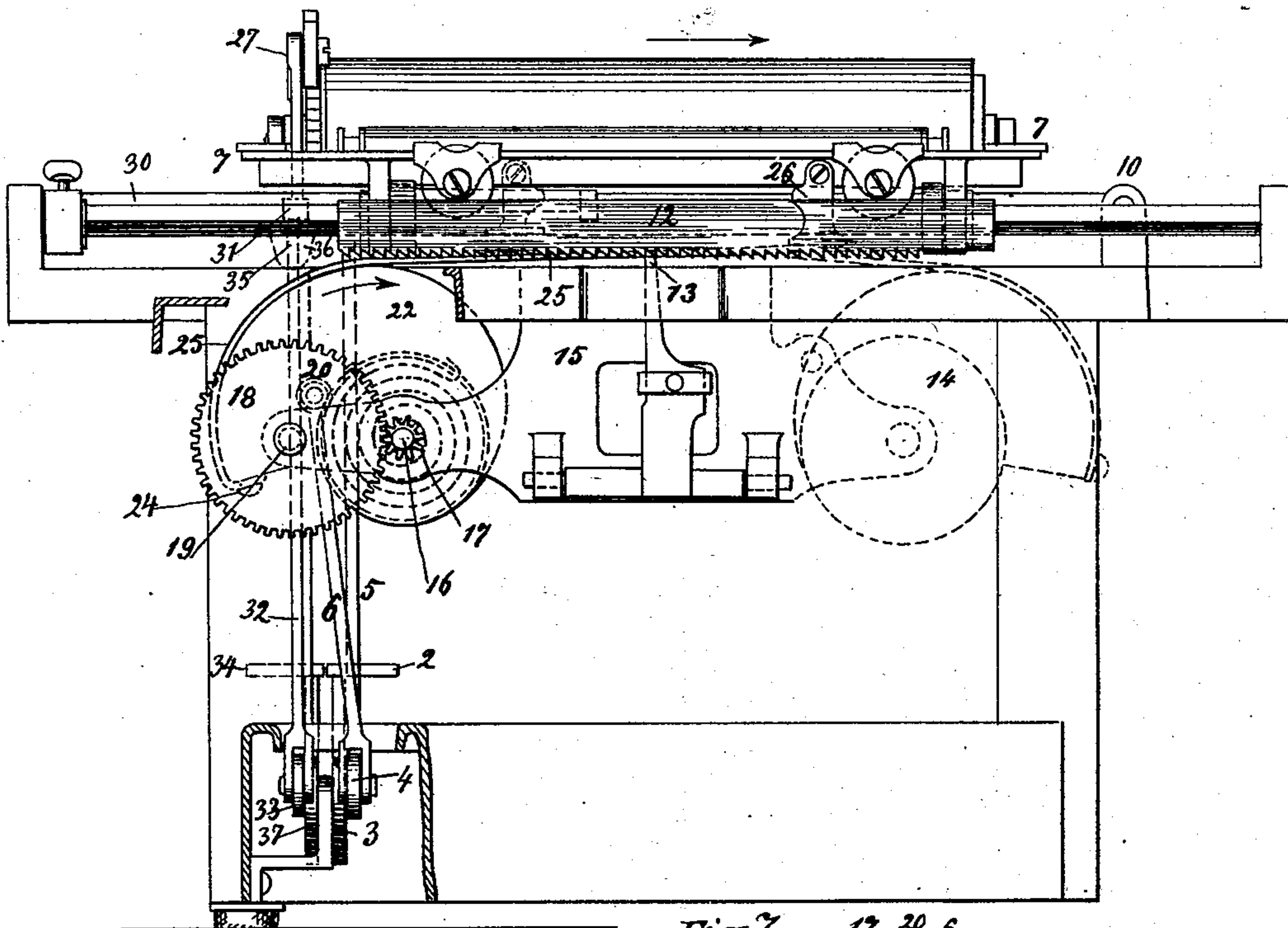


Fig. 5.

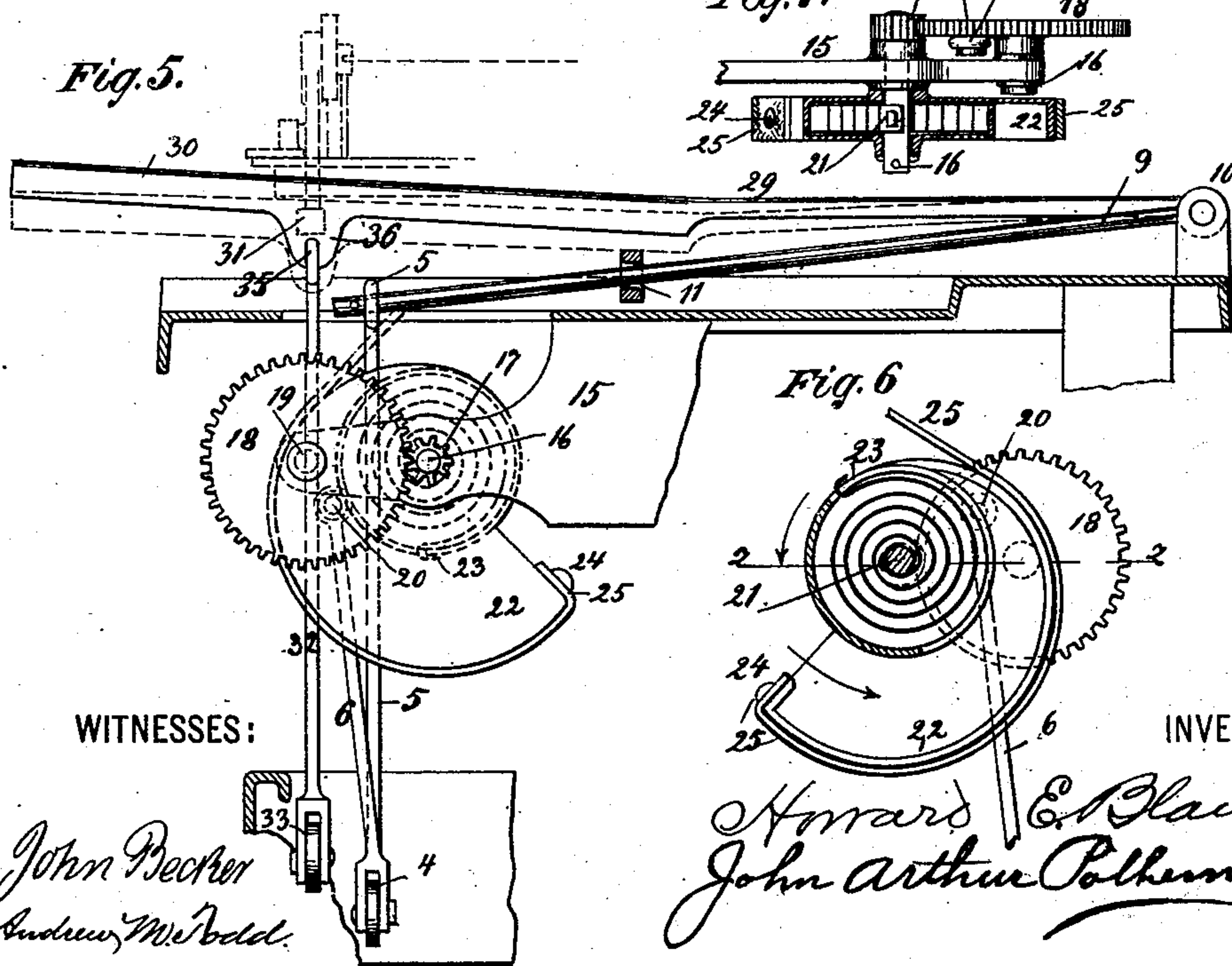


Fig. 7.

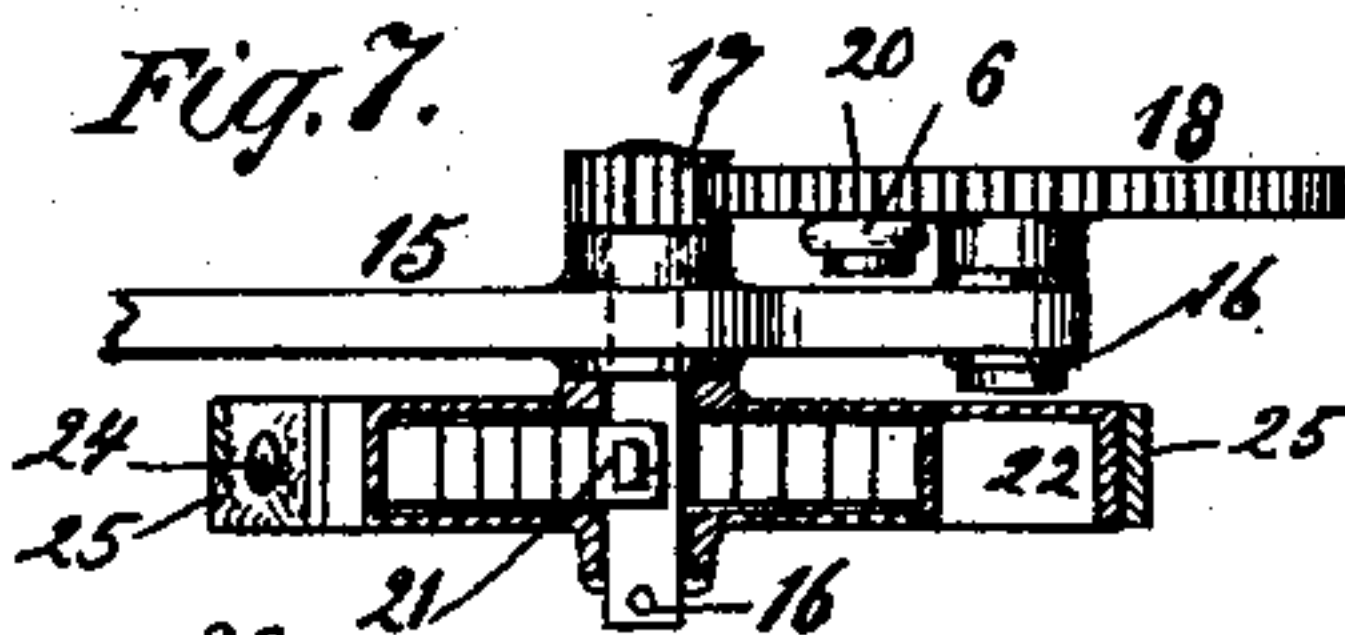
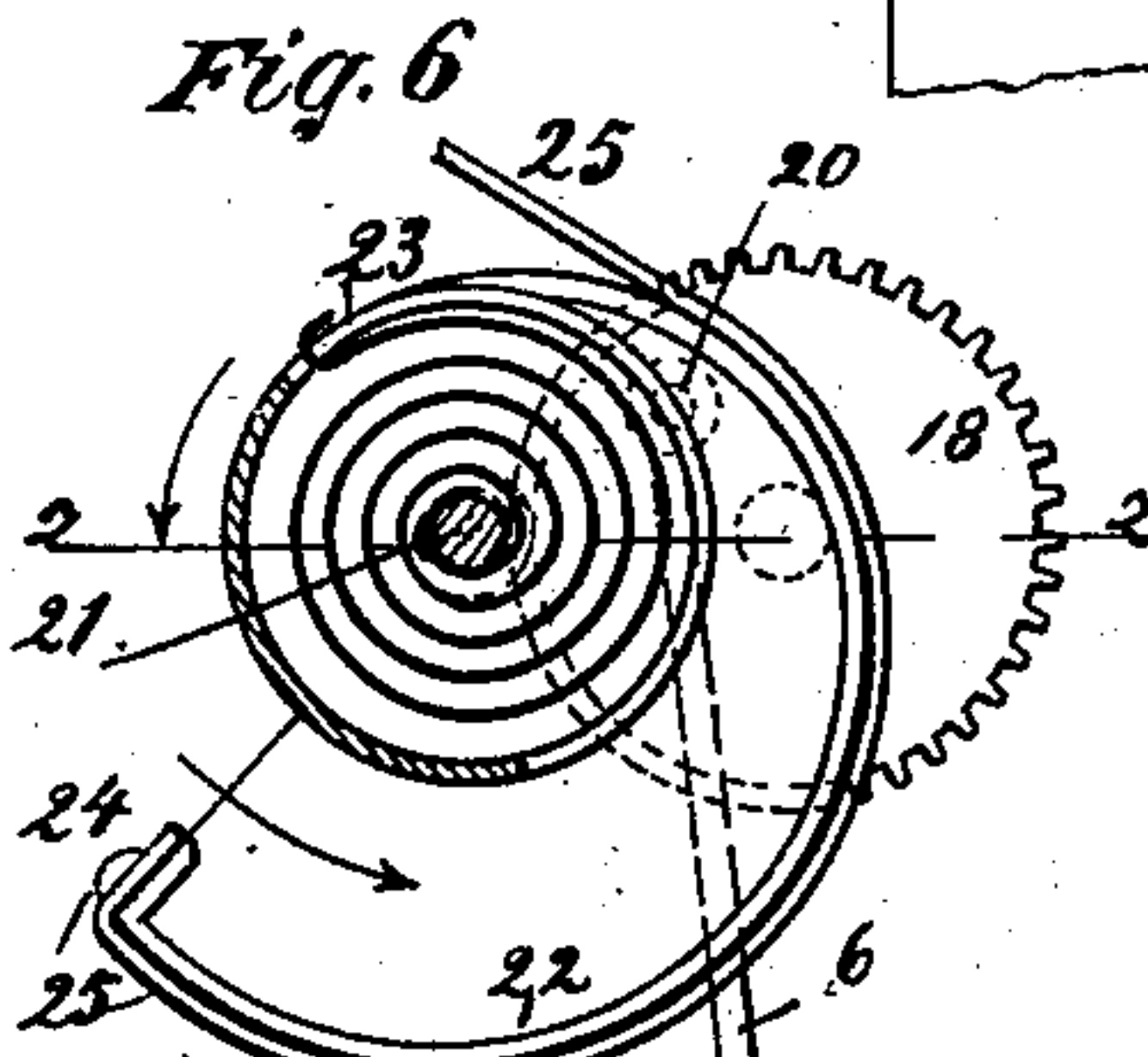


Fig. 6



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UNITED STATES PATENT OFFICE.

HOWARD E. BLAUVELT AND JOHN ARTHUR POLHEMUS, OF NYACK,
NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,882, dated June 28, 1892.

Application filed August 5, 1891. Serial No. 401,766. (No model.)

To all whom it may concern:

Be it known that we, HOWARD E. BLAUVELT and JOHN ARTHUR POLHEMUS, citizens of the United States, and residents of Nyack, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

Our invention relates to means for returning the paper-holding carriage to its position for commencing a line of type-writing by introducing suitable mechanism for that purpose between a keyboard-lever and such carriage, such mechanism having the double function of automatically returning the carriage and of supplying itself with tension or power for such purpose at each manipulation of its keyboard-lever, so that such movement of the carriage and of supplying the tension or power therefor can be made by pressing down a key in the keyboard of the type-writer at will of the operator.

It also relates to improved mechanism for causing the paper-roll to move a spacing distance.

In the drawings, Figure 1 is a plan or top view of a type-writer containing our improvements. Fig. 2 is a vertical cross-section thereof, taken in the line X X of Fig. 1. Fig. 3 is a detailed view in cross-section. Fig. 4 is a rear view of the type-writer. Fig. 5 is a detailed view in vertical longitudinal section. Figs. 6 and 7 are detailed views of the coil-spring mechanism.

In the drawings only those portions of the type-writer which are used in connection with our improvements and those portions modified by reason of the addition of such improvements will be described.

The class of type-writers to which our improvements are applicable is that having sliding paper-holding carriages, such as the Remington, Caligraph, Yost, new Yost, and other similar machines.

1 is the keyboard. We insert therein two additional keys and double levers connected therewith. One of these keys 2 and double levers 3 4 has at the end of member 4 two

rods or pitmen 5 6, connected at their upper ends with mechanism for shifting the carriage 7 back to its original position or to any desired position at which a new line of type-writing is to be commenced. The rod 5 is connected by an eye 8 at its upper end to one end of the rod 9. The other end of the rod 9 is pivoted to the top of the type-writing machine at 10. This rod 9 not only passes through the eye 8 of rod 5, but also through an eye 11, made on the rear portion of the operating-frame 12, which frame carries the ratchet-teeth for engagement and disengagement with the pawls 13, by means of which frame the carriage 7 is shifted in type-writing by the keys in the keyboard. The rear portion of this frame, however, is constructed differently from the frame shown in the machines above referred to in that its arm 12 extends back a sufficient distance so that the eye 11 can move out to near the extreme end of rod 9, so as to permit of the carriage 7 moving to the extreme side of the machine at which point a line of type-writing may be commenced. It will be seen from this description that the downward movement of lever 4 would withdraw the ratchet-teeth from out of contact with the pawls 13. When so elevated, the carriage would move back into its original or any desired position if there is some force to propel it in a backward direction. Now one form of means which I propose to employ to so propel the carriage back is in its main feature substantially a duplicate of the spring and cam 14, shown in dotted lines in Fig. 4. Some modification of such mechanism is necessary, which will be now described.

On an extension downward of the machine-frame 15 is secured a short shaft 16, having a spur-wheel 17 on its outer end, which engages with a cog-wheel 18, placed on a boss 19 of the frame 15. To this cog-wheel 18, at 20, is pivoted the upper end of the rod 6. Upon the shaft 16 is secured the inner end of a coil-spring, as shown at 21. The outer end of this coil-spring is arranged to engage with a snail-box 22, as seen at 23, such snail-box having free movement upon the shaft 16. At the extreme end of the greatest diameter of

this snail-box is riveted by rivet 24 one end of a belt 25. The other end of this belt is secured to the side of the carriage, as seen at 26, such points being at the other side of the carriage, at which the end of the ordinary belt to propel the carriage in a forward direction is secured.

It will be perceived that in the forward movement of the carriage the belt 25 will pay off from the periphery of the snail-box 22 by reason of such snail-box being loose upon the shaft 16, as before stated. The position of the snail-box and belt will then be as shown in Fig. 4. The downward movement of the rod 6 will cause the cog-wheel 18 to rotate the cog-wheel 17 upon the shaft 16 about twice. This rapid movement will place tension upon the coil-spring to such an extent that its outer end will act upon that part 23 of the snail-box to which it is attached as to cause the snail-box to be drawn over and thereby cause the belt 25 to return the carriage back to its original or any desired position. The snail-box, cog-wheels, &c., will then assume the position shown in Fig. 5. A release of the lever 4, however, through the medium of the key 2, will cause the cog-wheels, spring, &c., to assume their normal position, as shown in Fig. 4. This movement of the parts will be readily comprehended from an examination of Fig. 6, showing the spring, snail-box, &c., as they appear looking at the machine at rear of parts shown in Fig. 5.

The lower portion of the rod 6 where it is connected to a pin on end of lever 4 is slotted. The end of rod 5 is connected to lever 4 by a pin. The object of this is to give movement first to rod 5, so as to withdraw the ratchet-bar of paper-carriage from off of pawls 13 before rod 6 commences its downward movement to cause the coil-spring to act upon the snail-box and belt for the return of such carriage for commencing another line of typewriting.

Fig. 7 shows in cross-section the spring and its attachments to the shaft 16, which shaft passes through the boss on the frame 15 and having its gear-wheel 17 meshing into the cog-wheel in the manner as before stated. This figure also shows the snail-box free upon the shaft 16. In Fig. 2 these parts are shown in full lines upon the cross-section. This completes the intermediate mechanism we have made use of between the keyboard-lever and the paper-holding carriage for the purpose of shifting such carriage in a backward direction.

The spring used should have sufficient strength to draw the carriage in a backward direction as against the spring which brings it in a forward direction in the operation of type-writing.

The manipulation of the key 2 to operate its attached levers 3 4 to cause the interme-

diate means to return the carriage will be understood from the above description.

We will now describe the intermediate means placed between a keyboard-lever and the paper-roll-shifting device on the paper-holding carriage for causing the paper-roll to move a spacing distance.

27 is the ordinary line-spacing lever connected by dog or pawl to the ratchet-wheel of the paper-roll as found in the kinds of machines above mentioned. At one side and on the top frame of machine is pivoted at 28 a rod 29, running along to and extending beyond the other side of the frame of the machine. The greater portion of the outer end of the rod 29 is constructed in an inverted-channel or trough-like form 30. At the end of the spacing-lever 27 is a hook 31, which moves and is always in such channel 30 of rod 29, whatever may be the position of carriage 7 on the top of the machine.

32 is a rod, the lower portion of which is connected to member 33 of the levers connected with another key in the keyboard 34. The upper end of rod 32 has an eye 35, which passes through a lug 36, made in the lower portion of the trough 30. The operation of this key 34 and its levers 33 37 is such that the pressing down of the key will cause the lever 33 to draw down the rod 32, the trough 30, and the hinged rod 29, thus depressing the line-spacing lever 27 and causing the paper-roll to move a spacing distance.

We claim—

1. In a type-writer, the combination, with the carriage and feed mechanism, of a return-spring for the carriage, a spur-wheel secured to the shaft of the return-spring, a cog-wheel meshing therewith, and a key-lever for winding the spring and connected with the cog-wheel, substantially as set forth.

2. In a type-writer, the combination, with the carriage and feed mechanism, of a return-spring for the carriage, a key-lever on the keyboard, the operation of which winds the return-spring and means connecting the key-lever to said return-spring, a release device for the feed mechanism, and means connecting the key-lever with the release device for the feed mechanism, substantially as set forth.

3. In a type-writer, the combination of a keyboard-lever with the paper-roll-shifting device and the paper-holding carriage and an intermediate channeled pivoted lever with which the lever of the shifting device and connecting-rod to the keyboard-lever are engaged for causing the paper-roll to move a spacing distance, substantially as described.

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