

No. 663,708.

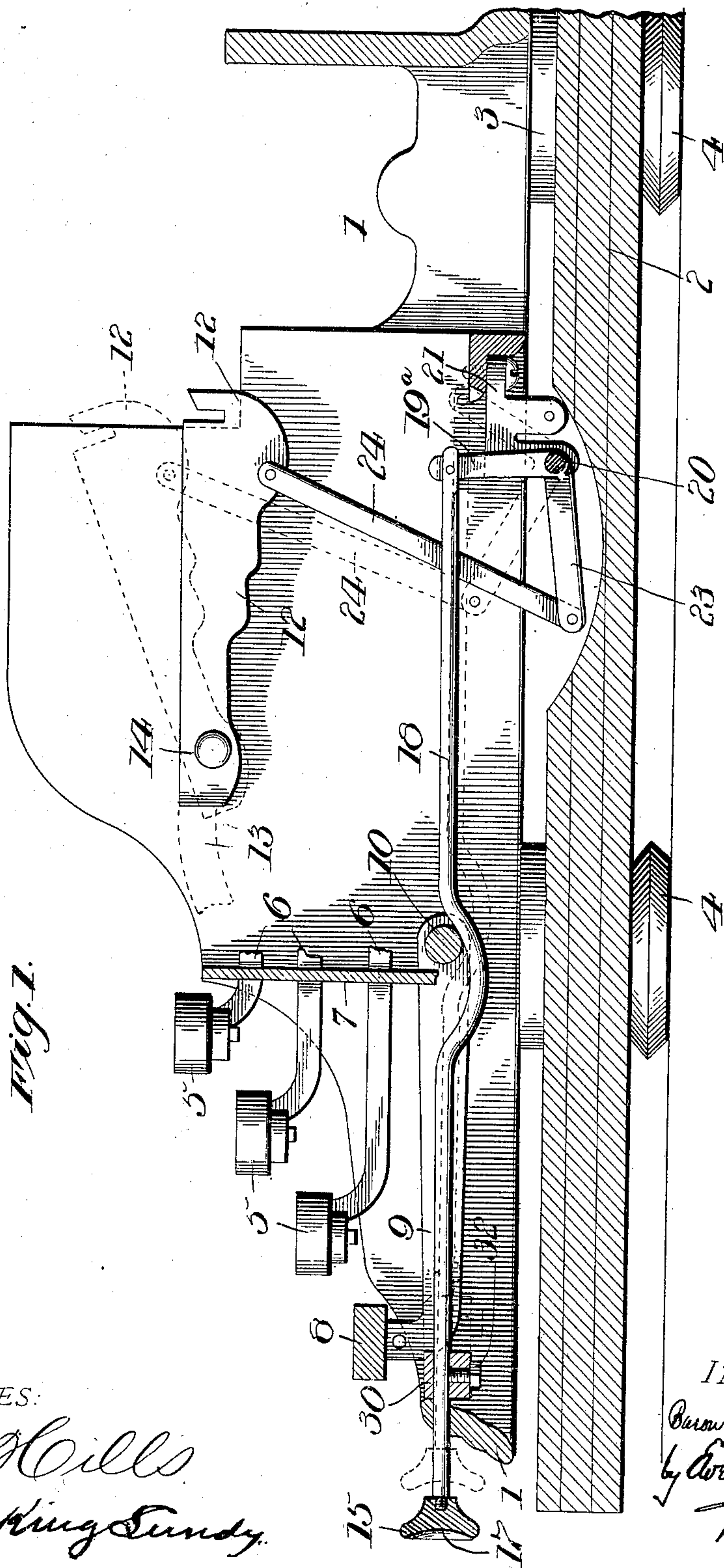
Patented Dec. 11, 1900.

BARON PAUL TCHERKASSOV.
TYPE WRITING MACHINE.

(Application filed May 28, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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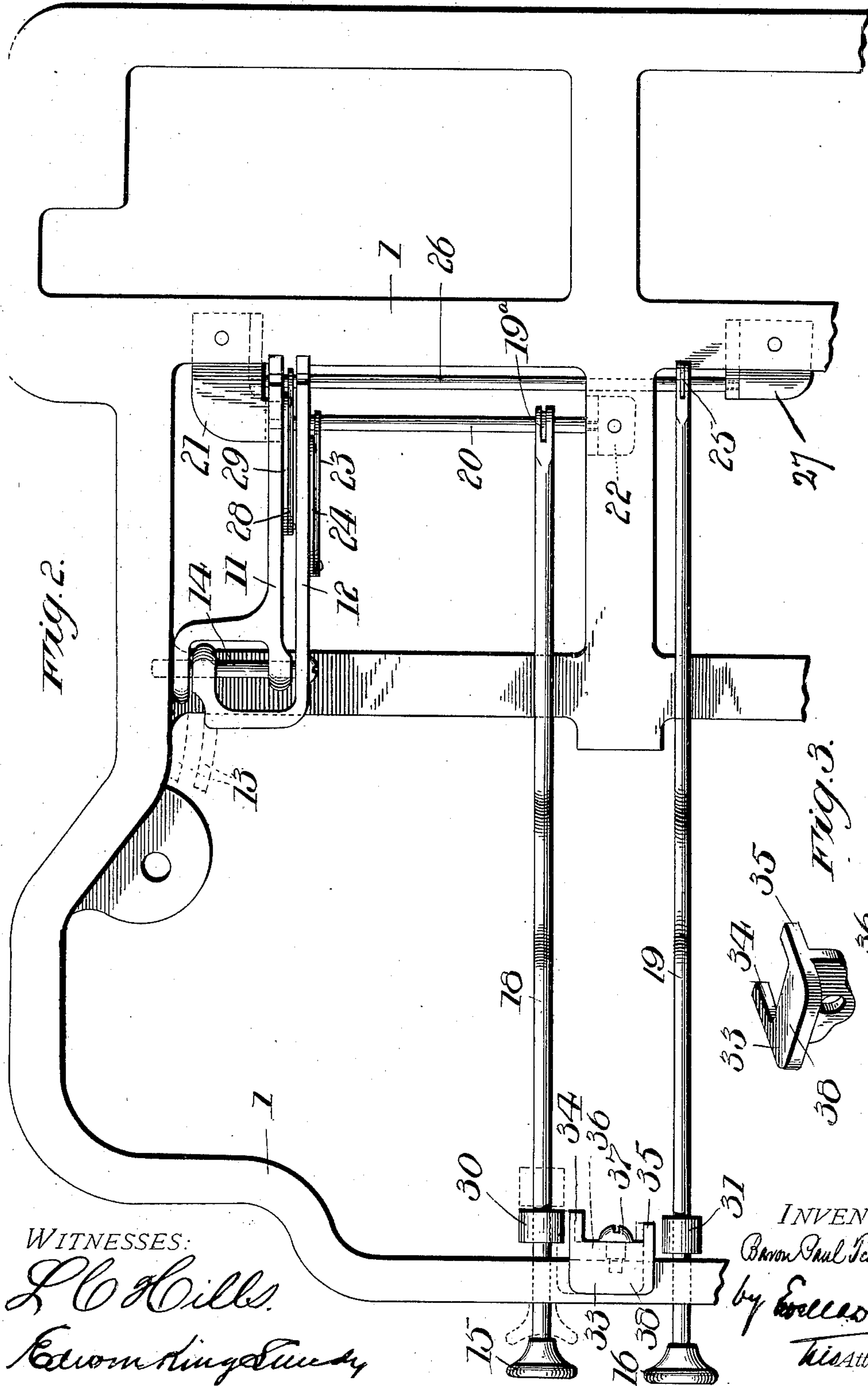
BARON PAUL TCHERKASSOV.

TYPE WRITING MACHINE.

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(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

BARON PAUL TCHERKASSOV, OF ST. PETERSBURG, RUSSIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 663,708, dated December 11, 1900.

Application filed May 28, 1900. Serial No. 18,277. (No model.)

To all whom it may concern:

Be it known that I, BARON PAUL TCHERKASSOV, a subject of the Czar of Russia, and a resident of St. Petersburg, in the Russian Empire, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to type-writing machines, the same residing particularly in the construction and means of mounting and operating the shift-keys and in the means for locking the same in one of their positions.

One object of the invention is to provide two shift-keys for one or two shift-machines, designed to be operated by a forward movement of the thumbs of the hand, located beneath and in front of the usual spacing-bar and having concave faces providing a support upon which the thumbs may pivot to enable the fingers of the hand to operate the printing-keys while the shift-key is held in its operating position.

A further object of the invention is to provide an improved form of lock for the shift-keys, which is conveniently located and may readily be thrown into operative position.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be set forth in the claims.

In the drawings forming part of this specification my invention is shown in connection with a portion of a Munson No. 2 machine, substantially as illustrated in United States Patent No. 474,350, dated May 3, 1892; but it will be of course understood that it is adapted for use upon any one or two shift-machines.

Figure 1 is a longitudinal sectional view of a portion of a Munson machine with my improvements applied. Fig. 2 is a plan view of the same with the printing-keys and other unnecessary parts of the machine removed. Fig. 3 is a detail view of the lock for the shift-keys.

Like reference-numerals indicate like parts in the different views.

The frame 1 of the machine is supported upon and secured to the usual base-board 2, between which and said frame are interposed the rubber washers 3. On the under side of the base-board 2 are the rubber buffers 4. The printing-keys 5 5 are connected to the levers

6 6, which extend through the front guide-plate 7, but are broken off to more clearly show the remaining construction. The spacing-bar 8 is connected through the levers 9 with the rock-shaft 10. All of these parts are of the usual form and construction employed in the Munson machine above referred to and form no part of my invention. The shifting levers 11 12 are also of the same form as that commonly employed in the Munson machine, except that the forward ends thereof are cut off, as shown by the dotted lines 13, and the point at which the power is applied to said levers is changed from their extreme forward ends to a point on the opposite side of the fulcrum 14. The fulcrum 14 in the present instance consists of a screw extending into the frame 1 of the machine and around which the bifurcated forward ends of the levers 11 12 pass.

The shift-keys 15 16 are located adjacent to the center of the forward end of the machine, slightly below the spacing-bar 8 and the front or lowermost bank of printing-keys 5. The outer surface of each of these shift-keys is formed with a cavity or depression 17 and said keys have secured to them the rods or plungers 18 19, the same extending through the front of the frame 1, as clearly shown. The rear end of the plunger 18 is pivoted to a crank-arm 19^a, secured to a transverse shaft 20, mounted in suitable bearings in brackets 21 22 on the main frame, and said shaft has secured to it and extending forwardly therefrom a crank-arm 23, which is connected through the link 24 with the shift-lever 12. The plunger 19 is pivoted at its rear end to a crank-arm 25, secured to a rock-shaft 26, mounted in suitable bearings in the brackets 21 and 27, and said shaft 26 has secured to it and extending forwardly therefrom a crank-arm 28, which is connected through the link 29 with the shift-lever 11.

From the foregoing description it will be seen that by pressing forwardly upon the shift-key 15 the rear end of the shift-lever 12 will be lifted through the connections described, consisting of the crank-arm 19^a, shaft 20, crank-arm 23, and link 24, and that a corresponding movement of the shift-key 16 will raise the rear end of the shift-lever 11 through the connections described, consisting of the

crank-arm 25, shaft 26, crank-arm 28, and link 29. Either one of the shift-keys 15 and 16 may be actuated by either thumb, and when one or the other or both are pressed forwardly the fingers of the hand are free to operate the printing-keys 5 without removing the thumbs from said shift-keys. The depression or cavity 17 in each of these shift-keys provides for the pivoting of the thumb thereon and prevents the slipping of the thumb therefrom during the movement of the fingers of the hand from one printing-key to the other. The feature, therefore, of forming the shift-keys with the cavity or depression 17 is an important one. Also by providing two shift-keys, as shown and described, my invention is applicable to use upon either one or two shift-machines.

In order to lock the shift-keys 15 and 16 in their pressed-in positions, I secure to the plungers 18 and 19 collars 30 31, the same being held thereon in any position to which they may be adjusted by set-screws 32. Coöperating with these collars 30 and 31 is a swinging lock 33, consisting of a plate having forwardly-extending projections 34 35 thereon, adapted to be moved within the path of the collars 30 31, having a downwardly-extending lug 36 thereon, through which extends a screw 37, by means of which said lock is pivoted to the front bar of the frame 1 and is adapted to be depressed upon one side or the other of said pivot. The upper part of the lock 33 is provided with an overhanging ledge 38, which lies directly over the front bar of the frame 1 and provides means for conveniently shifting the lock by slight pressure on one side or the other of the pivot 37. When the overhanging ledge or flange 38 is in a horizontal position both of the projections 34 and 35 are outside the range of movement of the collars 30 and 31. When, however, the shift-key 15 is in its pressed-in position and the left side of the lock 33 is thrown downwardly, the projection 34 will lie just behind the collar 30 and prevent the rearward or return movement of the shift-key 15 and the parts connected therewith. When the shift-key 16 is pressed in, the same may be locked in this position by swinging downwardly the right side of the lock 33, so as to bring the projection 35 behind the collar 31 on the plunger 19.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination with the usual printing-keys, of a horizontally-movable shift-key having a depression or cavity in the face thereof.
2. In a type-writing machine, the combination with the usual printing-keys, of a horizontally-movable shift-key located adjacent to the center of the frame, in front of and slightly below the front or lowermost bank of printing-keys and having a depression or cavity in the face thereof.

3. In a type-writing machine, the combination with the usual printing-keys, of a plurality of separately-actuated horizontally-movable shift-keys located adjacent to the center of the frame of the machine and slightly below and in front of the front or lowermost bank of printing-keys.

4. In a type-writing machine, the combination with a plurality of shift-levers, of a plurality of horizontally-movable shift-keys, plungers connected, respectively, with said shift-keys, a plurality of rock-shafts having crank-arms thereon connected, respectively, with said plungers, second crank-arms on said shafts, and links connecting said crank-arms, respectively, with said shift-levers.

5. In a type-writing machine, the combination with a horizontally-movable shift-key, of a lock within reach of the operator, and adapted to be moved positively into engagement with said key for holding the same and the parts connected therewith in operative position.

6. In a type-writing machine, the combination with a horizontally-movable shift-key, and a plunger connected therewith, of a collar secured to said plunger, and a lock within reach of the operator adapted to be moved positively into the path of movement of said collar.

7. In a type-writing machine, the combination with a horizontally-movable shift-key, and a plunger connected therewith, of a collar secured to said plunger, and a pivotally-mounted lock within reach of the operator adapted to be moved positively into the path of movement of said collar.

8. In a type-writing machine the combination of two horizontally-movable shift-keys and a common lock therefor.

9. In a type-writing machine the combination of two horizontally-movable shift-keys, a common lock therefor, and means for throwing said lock into operative relation with said keys alternately.

10. In a type-writing machine, the combination with two horizontally-movable shift-keys, and plungers connected therewith, of collars on said plungers, and a common lock for said shift-keys adapted to be moved alternately within the path of movement of said collars.

11. In a type-writing machine, the combination with two horizontally-movable shift-keys, and plungers connected therewith, of collars secured to said plungers, and a pivotally-mounted lock adapted to be shifted to a point within the path of movement of each of said collars.

12. In a type-writing machine, the combination with the frame thereof, two horizontally-movable shift-keys, and plungers connected with said keys and extending through said frame, of collars secured to said plungers, and a common lock for said keys, consisting of a plate having a downwardly-extending lug

thereon, pivoted to the main frame of the machine, between said plungers, having an overhanging ledge or flange located above said frame and provided with projections on opposite sides of its pivot adapted to be moved within the path of movement of each of said collars.

In testimony whereof I have hereunto set my hand this 2d day of May, 1900.

BARON PAUL TCHERKASSOV. [L. s.]

Witnesses:

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H. LOVIAGUINE.