

No. 738,194.

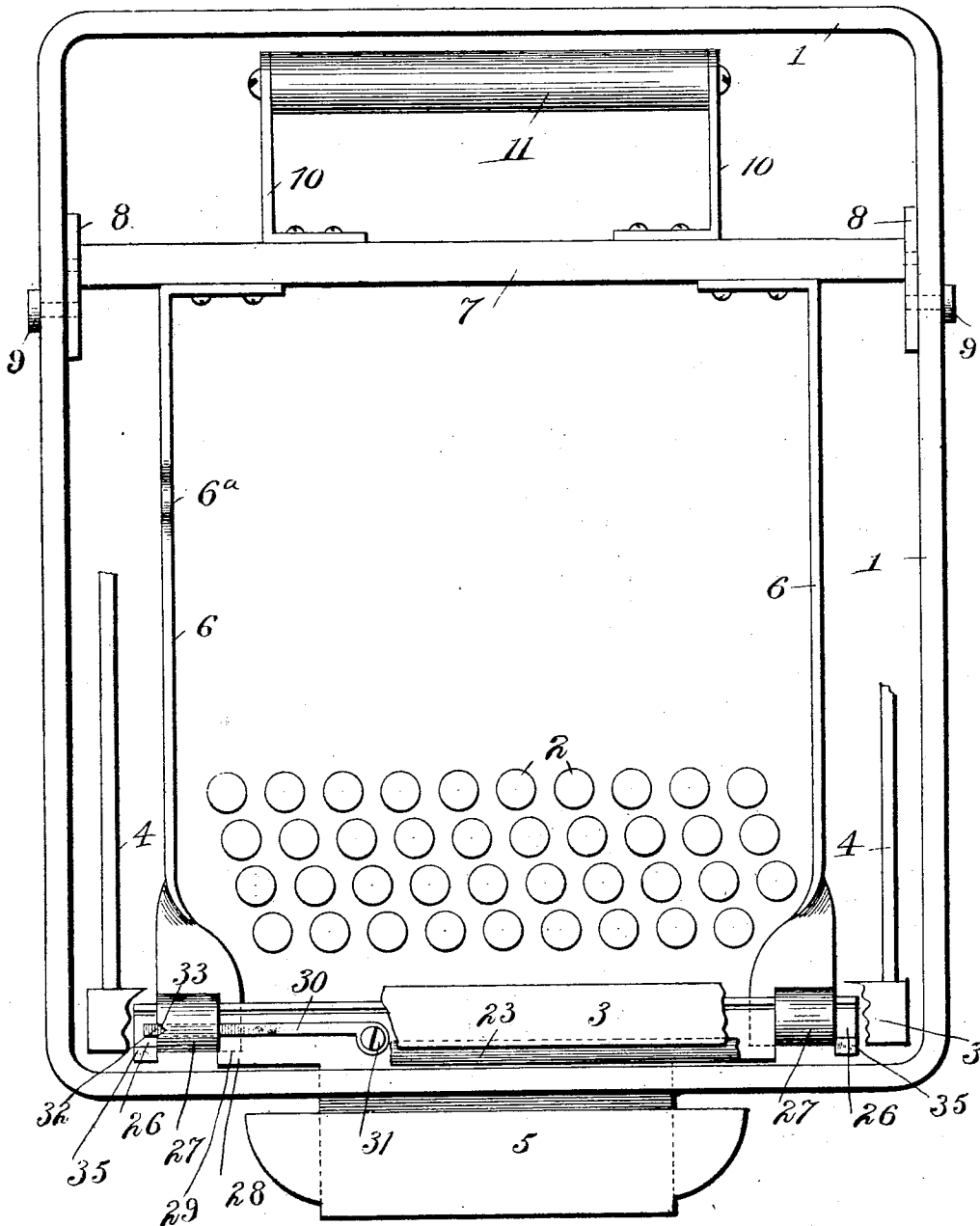
PATENTED SEPT. 8, 1903.

J. H. HOTSON.  
TYPE WRITING MACHINE.  
APPLICATION FILED DEC. 2, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses  
*Wm. C. Hammond*  
*C. F. Smith*

Inventor  
*John H. Hotson*  
By his Attorneys *Knight Bros.*

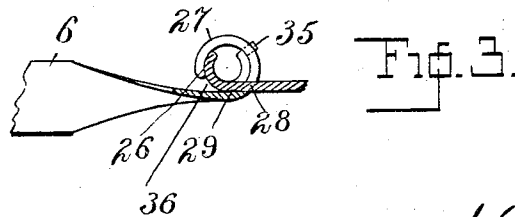
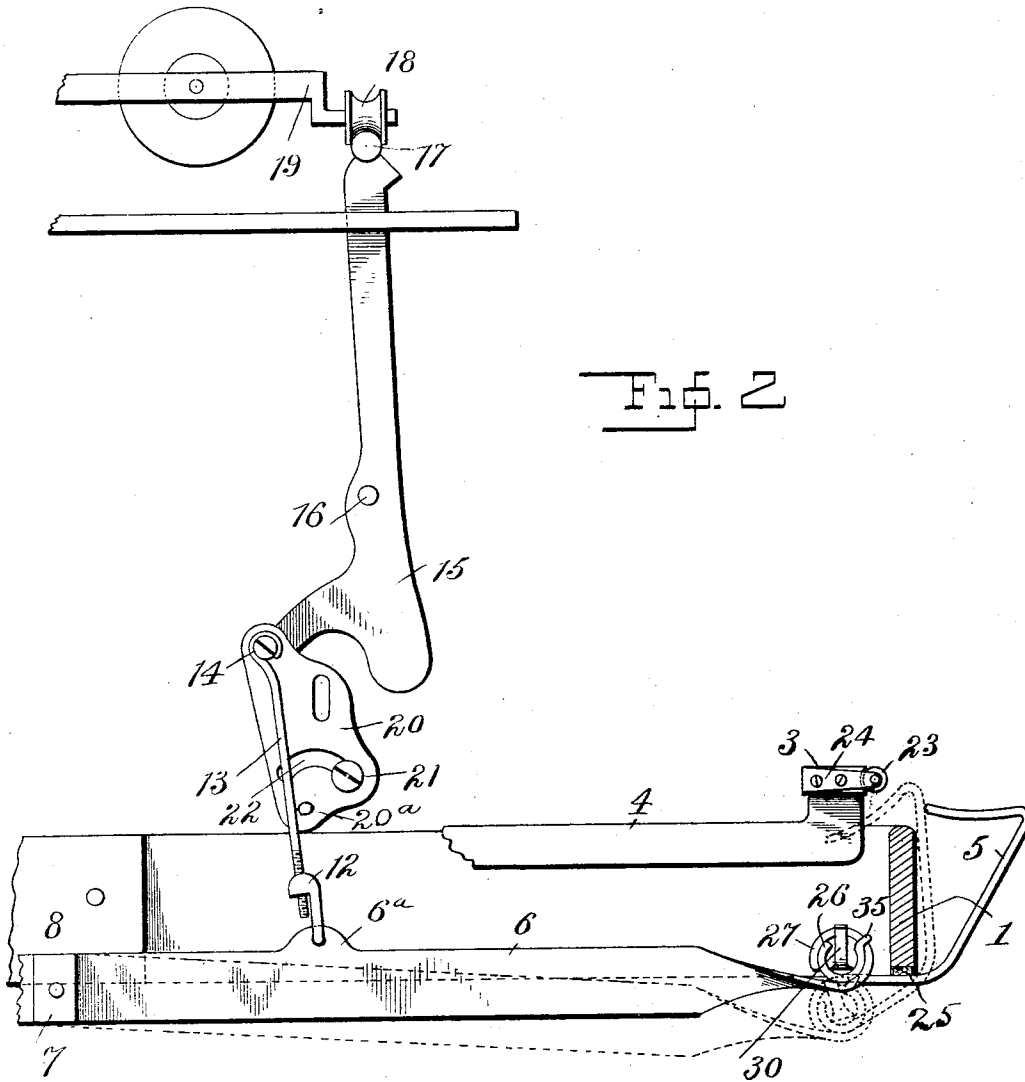
No. 738,194.

PATENTED SEPT. 8, 1903.

J. H. HOTSON.  
TYPE WRITING MACHINE.  
APPLICATION FILED DEC. 2, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses

*Wm. P. Hammond*  
*R. G. Lammie*

Inventor  
*John H. Hotson*  
By his Attorneys  
*Knight Bros*

# UNITED STATES PATENT OFFICE.

JOHN H. HOTSON, OF NEW YORK, N. Y.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 738,194, dated September 8, 1903.

Application filed December 2, 1902. Serial No. 133,550. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. HOTSON, a citizen of the United States, and a resident of Brooklyn, in the city and State of New York, have invented a certain new and useful Improvement in Type-Writing Machines, of which the following is a specification.

In application Serial No. 132,844, filed the 26th of November, 1902, I have described the combination, with a keyboard and a space-key located in front thereof, of a vertically-depressible shift-key located in front of the said space-key, so that the shift-key may be actuated by a continuation of the same downward movement of the thumb which depresses the space-key.

My present invention relates to the embodiment of the same principle of operation in machines which do not admit of locating the depressible shift-key within the frame immediately in front of the keyboard.

To this end my invention consists in combining with the keyboard and a depressible space key or keys located in front of said keyboard within the frame a depressible thumb-key connected with the shifting mechanism by which the relative position of the platen and type is changed and located in front of the frame in such relation to the depressible space-key that said shift-key may be actuated by a continuation of the same downward stroke of the thumb which actuates the space-key.

My invention is fully disclosed in the following description, and, by way of example, its application to a type-writer of the Remington class is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of so much of the lower part of a type-writing machine as is necessary to illustrate the invention. Fig. 2 is a side elevation of the shift-key and carriage-shifting device connected therewith, the front bar of the frame being shown in section. Fig. 3 is a detail section showing the joint by which the shift-key is connected to its operating-levers, so as to enable said shift-key to be folded compactly against the front of the frame when not in use, as shown in dotted lines in Fig. 2.

1 represents the frame of a Remington type-writer; 2, the type-keys, the position of which

is indicated diagrammatically; 3, the usual spacing-bar, and 4 4 the space-levers on which it is mounted, the said space-levers being broken off, as their mode of attachment and connection to the shifting carriage is well known in the art, and my invention does not involve any special construction thereof.

The shift-key 5 is preferably formed with a slightly-concave upper surface and in the general form shown in Figs. 1 and 2, located centrally in front of the frame 1, as near thereto as to permit its free vertical movement, and extends downward and backward beneath the front bar and within the frame 1, where its laterally-extended ends are connected by knuckle-joints to the ends of the horizontal shift-levers 6 6, fixed at their rear ends to a rock-shaft 7, which is pivoted at its ends to plates 8 8, fastened by bolts or screws 9 to the inner face of the respective side bars of the frame 1. To the rear face of the rock-shaft 7 are fixed rigid arms 10 10, carrying a weight 11 to counterbalance the shift-bar 5 and its arms 6 and retain the said shift-bar normally in the elevated position shown in Fig. 2. One of the arms 6 is formed with an upwardly-projecting cheek 6<sup>a</sup> for the reception of a pivoted link 12, which is threaded to receive the lower end of a rod 13, pivoted by its upper end at 14 to the L-shaped shift-lever 15 of usual form, which is fulcrumed at 16 and connected at its upper end with the track-bar 17, on which runs the concave-faced roller 18, pivoted to the platen-carriage 19, so as to shift the same back and forth in customary manner by the oscillating movement of the L-shaped lever 15.

20 represents the customary rocking plate, through the medium of which the rod 13 is pivoted to the lever 15 and by the shifting of which on its pivot 20<sup>a</sup> to either extremity of its stroke permitted by the movement of the screw or pin 21 in segment-slot 22 in said plate 20 the line of pull of the rod 13 is changed to either side of the fulcrum-point 16, so that the platen-carriage is held normally at either extremity of its back-and-forth movement and thrown to the other extremity of such movement by the depression of the shift-key.

In the operation of type-writing machines

it occurs in a large majority of instances that the operation of the shift key or bar for the printing of a capital letter or special character is preceded by the operation of the space-bar.

5 It will be apparent that the location of the shift key or bar directly in front of and slightly below the space-bar greatly facilitates this operation by permitting the depression of the shift-key directly after the space-bar by a single stroke or downward movement 10 of the thumb. To further facilitate the single movement of the thumb in striking first the space-bar and then the shift-key, I provide in front of the space-bar a roller 23, mounted by 15 pivots at its ends in cheek-plates 24, fixed to the ends of the space-bar 3, the said space-bar being preferably recessed in its forward edge to receive the rear side of the said roller, as shown. A cushion 25 is applied to the bottom 20 of the frame to receive the impact of the key 5 caused by the counterweight 11 after said key is depressed. The knuckle-joints, by which the shift-key 5 is connected to the levers 6 6, consist of gudgeons 26, turning in loops 25 27 on the ends of the levers, said gudgeons having shoulders 28, which in the operative position of the key rest on shoulders 29, projecting from the loops 27, so as to afford rigid bearings for the key against the levers when pressed 30 downward and to permit the key to be folded back compactly against the frame, as shown in dotted lines in Fig. 2, when not in use, so that it may present no obstruction in putting on the cover. A spring 30, fixed at its inner end to 35 the base of the key by a screw 31 and turned up at its free end and provided with a V-shaped lug 32, catching in notches 33 in the loop 27, retains the folding key in either position of adjustment, so as to prevent accidental movement therefrom, while permitting it to be 40 turned by application of moderate force. If the front of the frame is not high enough at the bottom to allow of the free operation of the shift-key and its levers, the machine is raised 45 by providing thereon higher feet or standards. If the front frame of the machine projects up so high that it stands in the way of the easy transition of the thumb from the spacing to the shifting key, the front of the frame is cut 50 down to a suitable height. For assembling the folding shift-key and the shifting-levers on which it works one or both of the bearing-loops are left open, as shown at 36, and the extremity of the corresponding gudgeon is 55 formed with a projecting ear 35 in such position that by folding the key completely back between the levers said ear 35 will pass through the opening 36 and when the key is turned forward into position for use will engage the 60 outer edge of the bearing-loop, so as to retain the parts in their connected relation.

In my application, Serial No. 132,844, filed November 26, 1902, hereinbefore referred to, I have shown and described and claimed the 65 combination, with the keyboard and a depressible space-key located in front of the

same, of a vertically-depressible shift-key located in front of the space-key, so as to permit the operation of the shift-key by a continuation of the same downward movement of the thumb 70 by which the space-key is operated. In the illustration of this invention shown in my said application Serial No. 132,844 the shift-key is located immediately in front of the space-key and within the frame of the machine. I there- 75 fore do not claim, broadly, in the present application a vertically-depressible shift-key located in front of the space-key, so as to be operated by a continuation of the downward movement of the thumb which actuates the 80 space-key; but my present improvement is limited to a combination in which the vertically-depressible shift-key is located in front of the frame of the machine, so that the improvement may be utilized in a machine in 85 which room does not exist within the frame for both space-key and shift-key in front of the keyboard.

Having thus described my invention, the following is what I claim as new therein and 90 desire to secure by Letters Patent:

1. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type, in order to allow a selected 95 character to reach the printing-point, in combination with a depressible space-key located in front of the keyboard, a downwardly-depressible shift-key connected with the shifting mechanism for actuating the same, located 100 in front of the frame and sufficiently close thereto to permit the depression of said shift-key by a continuation of the same movement which depresses the space-key, substantially as described. 105

2. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type, in order to allow a selected character to strike the printing-point, in combination with a depressible space-key lying 110 in front of the keyboard, a downwardly-depressible shift-key connected to the shifting mechanism for actuating the same, located conveniently close in front of the frame and 115 having its upper side lower than the upper side of the space-key, so as to hinder striking the one for the other and so that the thumb or finger of the operator, after striking the space-key and effecting the space passes 120 directly downward and forward to the shift-key and depresses the same, effecting both spacing and shifting with substantially one unbroken movement.

3. In type-writing machines having a single 125 keyboard and a shifting mechanism for changing the relative position of the platen and type in order to permit a selected character to strike the printing-point; the combination of a depressible space-key located in front of 130 the keyboard, a rotatable roller mounted on the front edge of said space-key, and a shift-

key located in front of the frame and below the level of the space-key, substantially as and for the purposes set forth.

4. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type, in order to allow a selected character to strike the printing-point; the combination of a depressible space-key located in front of the letter-keys and a downwardly-depressible thumb shift-key located outside the frame centrally in front of the depressible space-key, and adapted to be operated by downward pressure of the thumbs while the fingers retain their normal position over the keyboard customary in touch operating; as explained.

5. In type-writing machines which shift the platen in order to print a selected character; the combination of a depressible space-key lying in front of the keyboard, and a depressible shift-key connected to the platen, the depression of which shift-key effects the shifting of the platen and lying conveniently close in front of the frame, and having its upper side lower than the upper side of the space-key so as to hinder striking the one for the other, and so that the thumb or finger of the operator, after striking the space-key and effecting the space passes directly downward and forward to the shift-key and depresses the same, effecting both spacing and shifting with substantially one unbroken movement.

6. In type-writing machines which shift the platen in order to print a selected character; the combination of a depressible space-key lying in front of the keyboard, a depressible shift-key connected to the platen, the depression of which shift-key effects the shifting of the platen and lying conveniently close in front of the frame, and having its upper side lower than the upper side of the space-key so as to hinder striking the one for the other, and so that the thumb or finger of the operator, after striking the space-key and effecting the space passes directly downward and forward to the shift-key and depresses the same, effecting both spacing and shifting with substantially one unbroken movement, and a lightly-turning roller on the front edge of the space-key for the purpose of facilitating the thumb in gliding off the space-key onto the shift-key when a capital letter is to be written immediately following a space, and also for the purpose of hindering the accidental depression of the space-key by the thumb or finger scraping against it when the intention is only to depress the shift-key.

7. In type-writing machines which shift the platen in order to print a selected character; the combination of a depressible space-key lying in front of the keyboard; a depressible shift-key connected to the platen to shift the same, located directly in front of the frame, having its upper surface slightly concave and rising a little toward the front, so that the

thumb or finger of the operator, after striking the space-key and effecting the space passes directly downward and forward to the shift-key and depresses the same, effecting both spacing and shifting with substantially one unbroken movement; and a lightly-turning roller on the front edge of the space-key, substantially as and for the purposes set forth.

8. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type in order to allow a selected character to reach the printing-point; the combination of a depressible space-key located in front of the keyboard, a shifting mechanism for changing the relative position of the platen and the type, and a depressible shift-key located in front of the frame and connected to the shifting mechanism by a folding joint, enabling the folding of the said shift-key over the front of the frame when not in use, substantially as described.

9. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type in order to allow a selected character to reach the printing-point; the combination of a depressible space-key located in front of the keyboard, a shifting mechanism for changing the relative position of the platen and the type, and a depressible shift-key located in front of the frame and consisting of a nearly horizontal top to receive the pressure of the thumb or thumbs, projecting backward from a supporting part which is connected to the shifting mechanism through the medium of a suitable rock-shaft to enable the folding of the shift-key against and over the front of the machine, substantially as described.

10. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type in order to allow a selected character to reach the printing-point; the combination of a depressible space-key located in front of the keyboard, a shifting mechanism for changing the relative position of the platen and the type, and a depressible shift-key located in front of the frame and consisting of a nearly horizontal top, to receive the pressure of the thumb or thumbs projecting backward from a supporting part having gudgeons journaled in bearings in the shift-levers and having an angular movement limited by ears and bearing-shoulders adapting the said shift-key to be folded compactly against the front of the frame when not in use and to be placed in rigid operative relation to the shift-levers when in use, substantially as described.

11. In type-writing machines which have a single keyboard and a shifting mechanism for changing the relative position of the platen and the type, in order to enable a selected character to reach the printing-point; the combination of a depressible space-key located in front of the keyboard, a depressible shift-key

connected with the shifting mechanism and located in front of the frame in convenient position to be depressed by a continuation of the same movement of the thumb or thumbs  
5 which depresses the space-key, means for automatically restoring the shift-key to its upper position after it is depressed, and a cush-

ion beneath the front of the frame to receive the impact of the shift-key connection in rising, substantially as described.

JOHN H. HOTSON.

Witnesses:

OCTAVIUS KNIGHT,  
JOSEPH J. SCHMIDT.