

W. J. BARRON.
 TYPE WRITING MACHINE.
 APPLICATION FILED JULY 27, 1909.

Patented Oct. 29, 1912.

6 SHEETS—SHEET 1.

1,042,868.

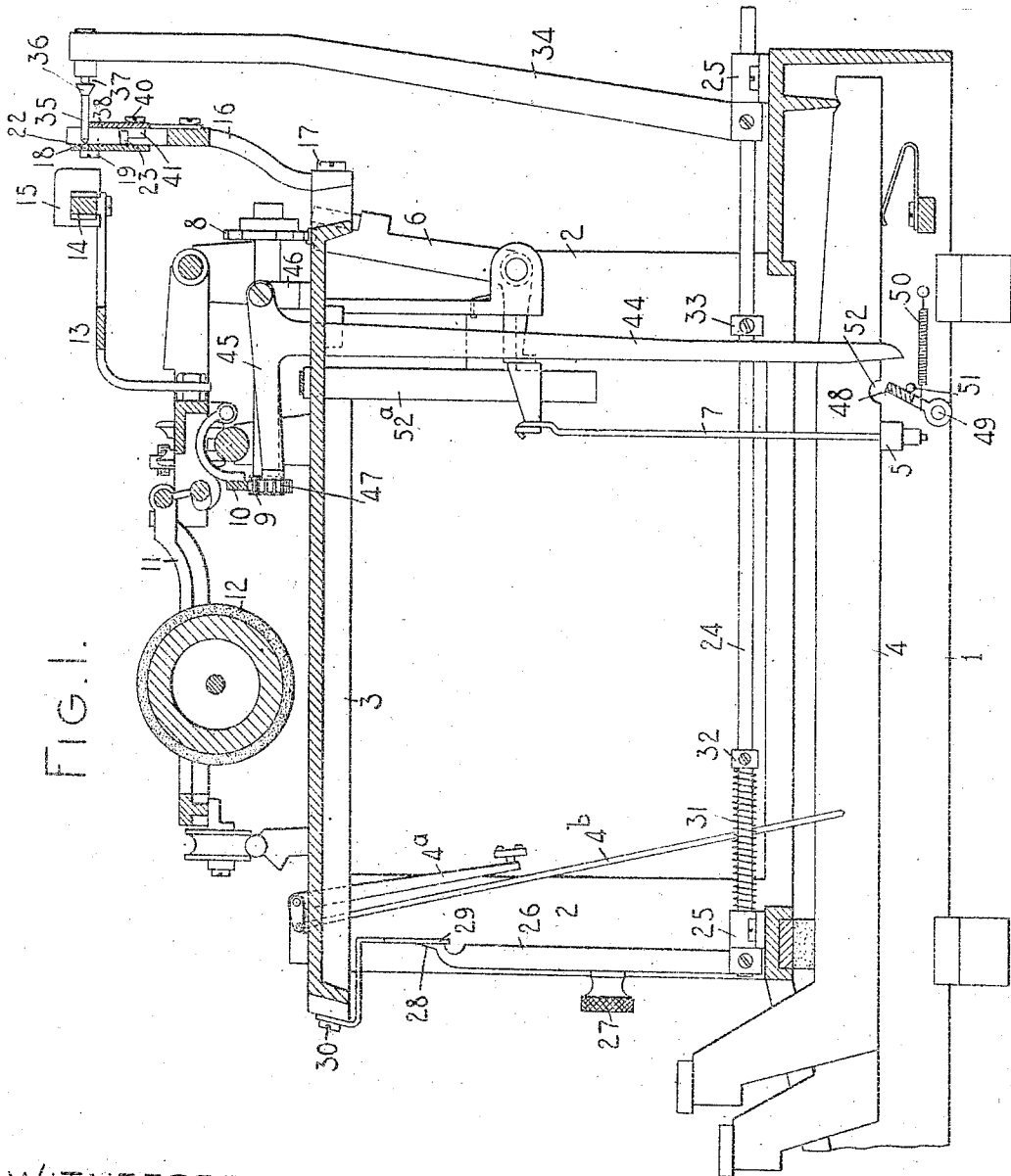


FIG. 1.

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 S. Nelson.

INVENTOR:

Walter J. Barron

By Jacob F. Felber

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1,042,868.

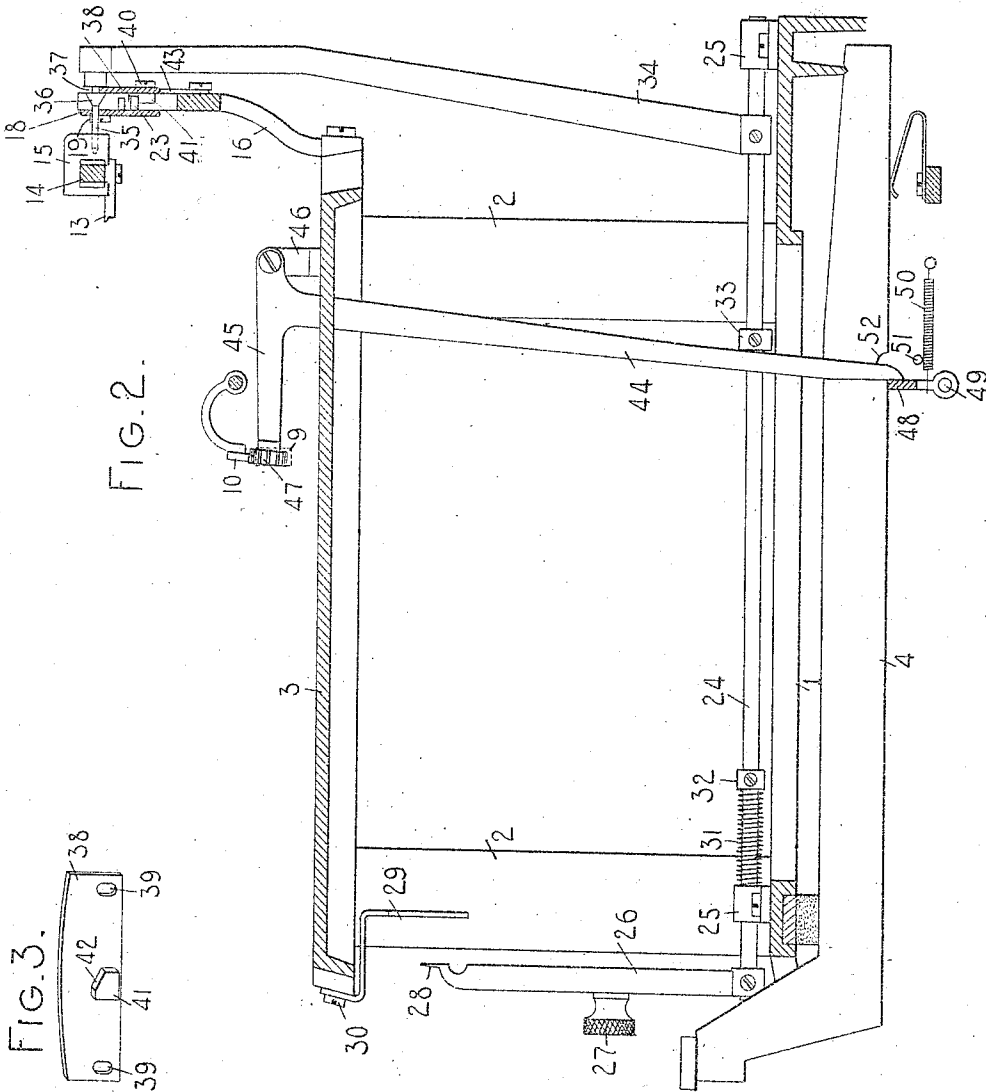


FIG. 2.

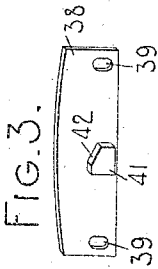


FIG. 3.

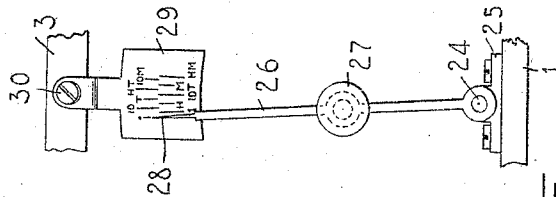


FIG. 4.

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6 SHEETS-SHEET 3.

1,042,868.

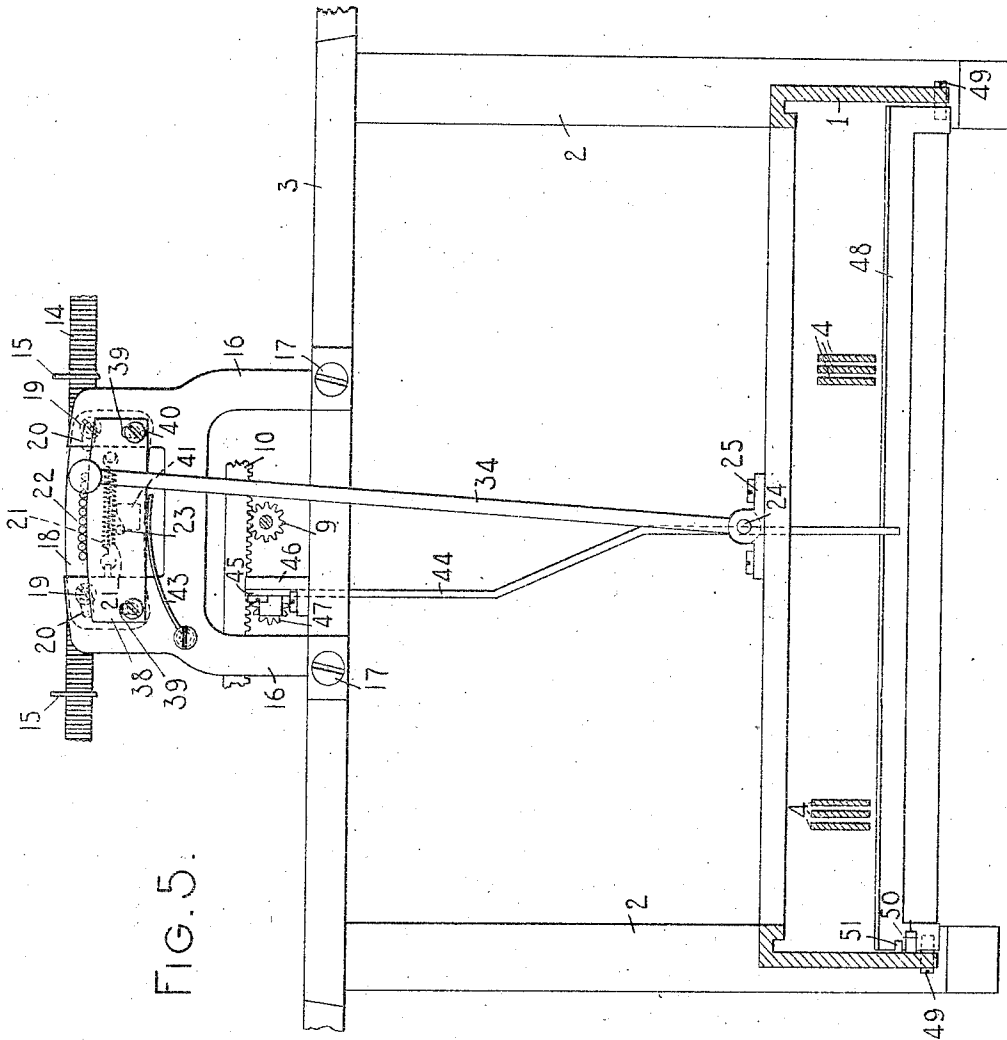


FIG. 5.

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6 SHEETS-SHEET 4.

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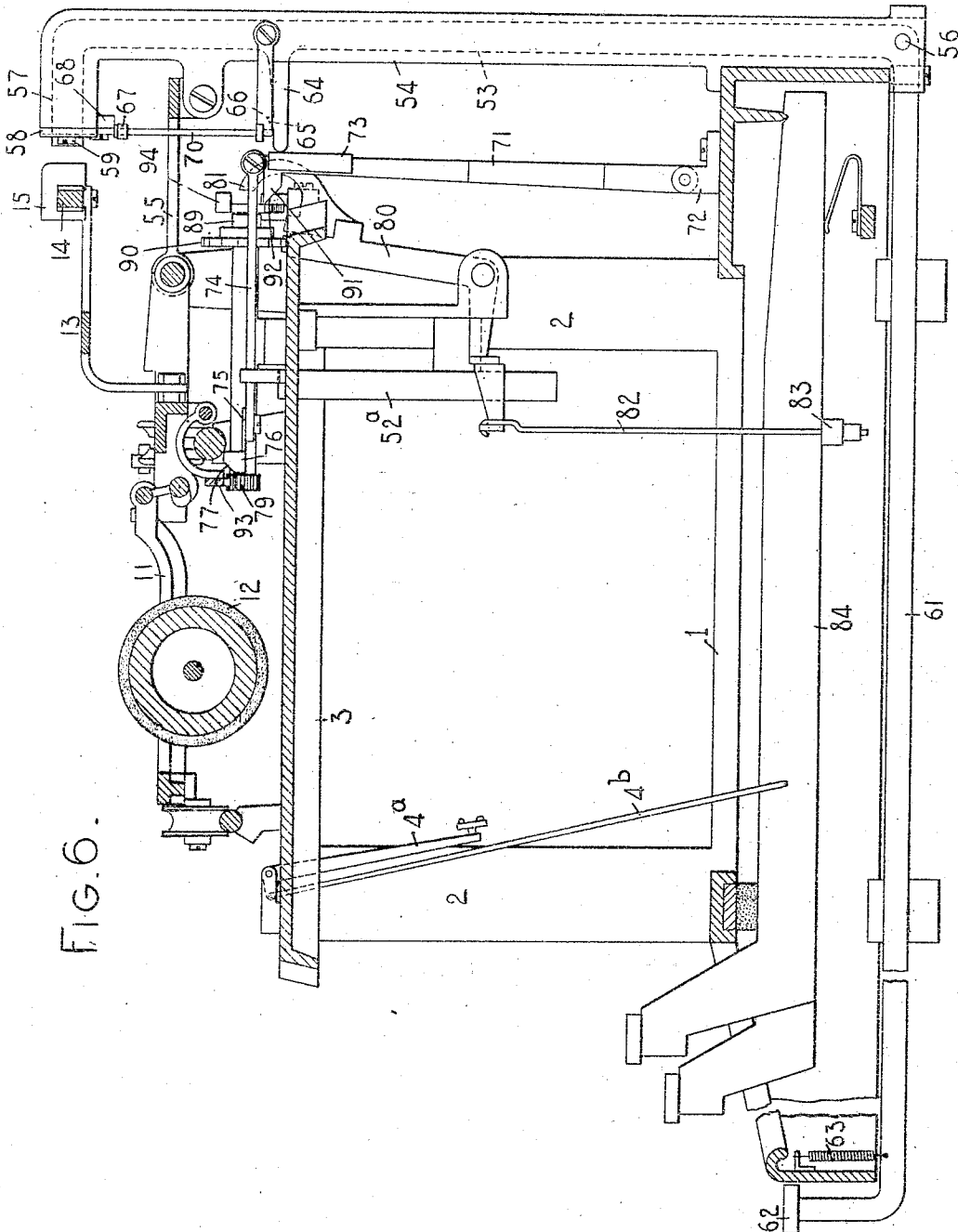


FIG. 6.

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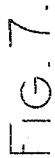
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6 SHEETS--SHEET 5.



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TYPE WRITING MACHINE.
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6 SHEETS-SHEET 6.

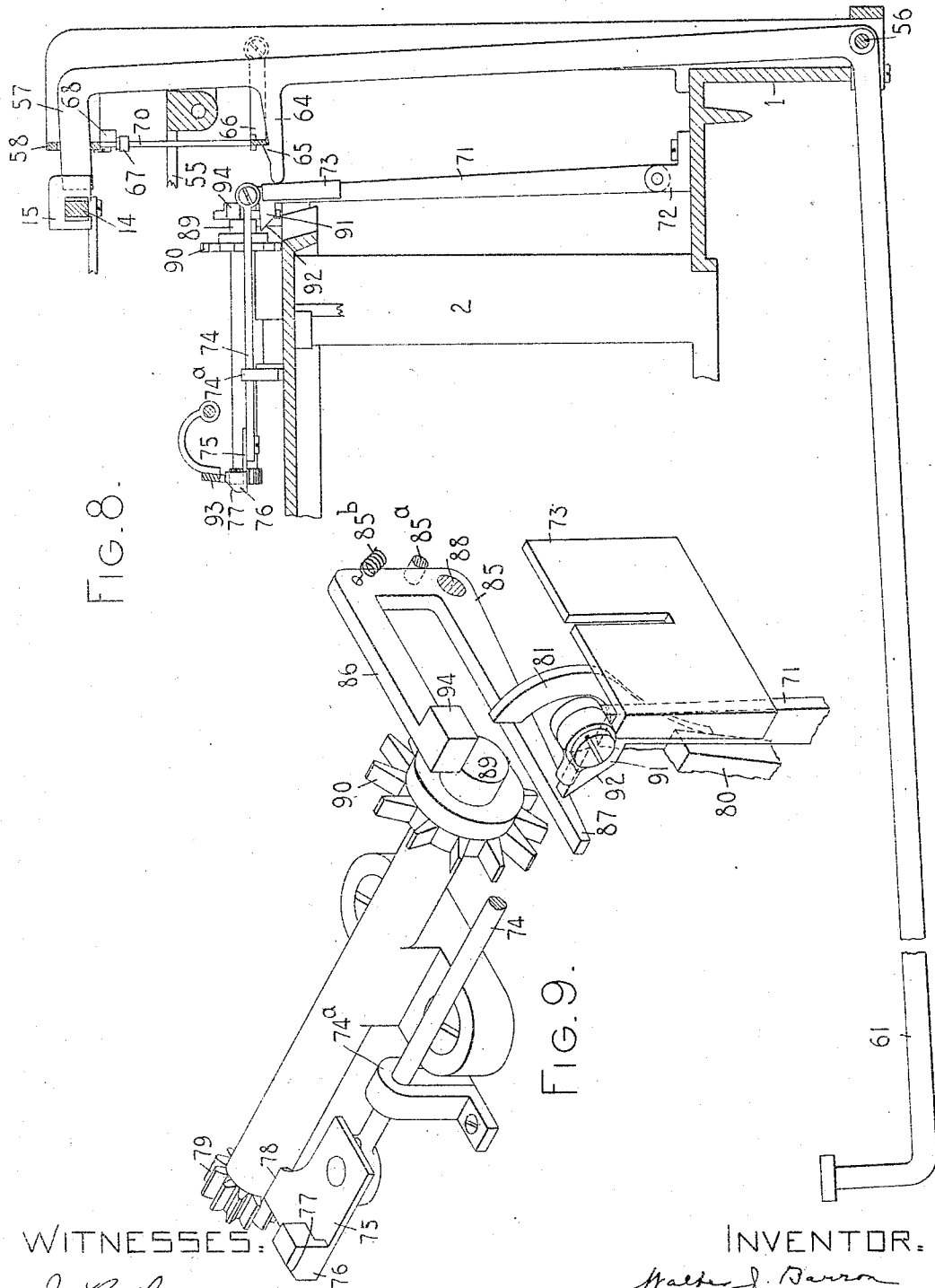


FIG. 8.

FIG. 9.

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UNITED STATES PATENT OFFICE.

WALTER J. BARRON, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

1,042,868.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed July 27, 1909. Serial No. 509,798.

To all whom it may concern.

Be it known that I, WALTER J. BARRON, citizen of the United States, and resident of the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to improvements in tabulating mechanism for typewriting machines.

The object of the invention, stated generally, is to combine with the tabulating mechanism and type keys of a machine means to render the type keys inoperative during tabulating movements of the carriage.

The invention consists of a typewriting machine comprising the combinations which are described and claimed herein and which include key locking means operative on the type keys, and releasing mechanism operative on the key-locking means at the end of each tabulating movement of the carriage and effective then to release the type keys from the control of the key-locking means.

On the accompanying sheets of drawings which show the invention embodied in two forms and on which like reference numerals designate like parts of different views, Figure 1 is a vertical and front to rear section of an incomplete typewriting machine embodying the invention in one of the forms mentioned; Fig. 2, a similar view with some of the parts omitted and illustrating the operation of parts shown in Fig. 1; Fig. 3, a perspective view of a device hereinafter called a latch. Fig. 4, a front view of a tabulator key and its scale, in front of which latter a pointer attached to the tabulator key extends; Fig. 5, a rear and sectional elevation of the frame of the machine and parts of the mechanism shown in Fig. 1; Fig. 6, a vertical front to rear section of an incomplete typewriting machine embodying the invention in another form; Fig. 7, a rear elevation of the frame of the machine and parts of the mechanism shown in Fig. 6. Fig. 8, a fragmentary side and sectional elevation of parts of the mechanism shown in Fig. 6. Fig. 9, an enlarged perspective view of parts of the escapement and of a locking device.

The typewriting machines of which parts

are shown herein are like the No. 6 Remington machine which has long been in use and whose construction and operation are known so well as to enable the invention of this application to be described properly and understood by persons skilled in the art, although some parts of the typewriting machines proper are not illustrated or mentioned in this specification.

Parts of the machine shown in Figs. 1 to 5, inclusive, which are like parts of the common No. 6 Remington machine, are the base 1, posts 2 and top plate 3 of the frame, the key levers 4, type bars 4^a, type bar actuating links 4^b, universal bar 5, dog rocker 6, connecting links 7 between the universal bar and dog rocker, escapement wheel 8, pinion 9 operatively connected with the escapement wheel, rack bar 10, and carriage comprising a platen frame 11 and platen 12. To the rear of the carriage is attached a frame 13 to which is affixed the column stop bar 14 and on this stop bar are bifurcated column stops 15 adjustable in the usual manner along the column stop bar. On the back of the frame of the machine is a standard 16 which is fastened to the frame by screws 17. On the front of this standard is mounted a guide plate 18 which is attached to the standard by screws 19 that pass through slots 20 in the guide plate and into tapped holes in the standard. A spring 21 tends to draw this guide plate to the right and hold it in the position in which it is shown in Fig. 5. The guide plate 18 contains a series of holes 22 and on the back of this plate is a fixed pin 23, the distance from the center of one hole to that of the next being a letter space distance.

A rod or rock shaft 24 is so mounted in bearing blocks 25, attached to the base of the machine, that it may be moved both angularly and axially and on the front end of this rod is an arm 26 having on it a finger piece or key 27 and having at its upper end a pointer 28. The pointer extends in front of a scale plate 29 which is attached to the frame of the machine by a screw 30. A coiled expansion spring 31, confined between the bearing block 25 and a collar 32 affixed to the rod 24, tends to keep this rod in the position longitudinally considered, in which it is shown in Fig. 1. Another collar 33 is

affixed to this rod near the back of the machine. An upwardly extending stop carrying arm 34 is also affixed to the rod or rock shaft 24 near the rear end of the latter and at the top of this arm 34 is a stop pin 35 which is fast on the arm 34 and which fits in the holes 22 in the guide plate 18. The stop pin 35 comprises a tapering part 36 between which and the arm 34 is a recess 37, the part 36 forming a catch to adapt it to co-act with a latch which is mounted on the back of the standard 16. This latch consists of a plate 38 having in it vertically disposed slots 39 through which headed screws 40 extend, the screws being received in tapped openings in the back of the standard 16. On the front of this plate or latch 38 is a block 41 (see Fig. 3) having an inclined face 42 which normally rests in contact with the pin 23 on the back of the guide plate or stop guide 18. A spring 43 (Fig. 5) attached to the back of the standard 16 bears against the lower edge of the latch 38 and tends to force the latch upward. The stop pin 35 may be moved forward and into and through any of the holes 22 in the stop guide 18 by actuating the arm 26. The stop is made to register with the hole in which it is desired to insert it by turning the arm 26 on the axis of the rod 24. The scale 29 indicates to what extent the arm should be turned to cause the stop 35 to register with any of the holes in the stop guide 18. A forward pull on the finger piece 27 is then effective to move the rock shaft 24 forwardly and to move the stop pin 35 into the hole 22 with which it registers. When the stop pin is moved forward as described to its foremost position the part 36 of the stop pin acts on the upper edge of the latch or plate 38 and depresses this plate against the action of the spring 43 and when the recess 37 is over the upper edge of the latch, then the spring 43 forces the latch into that recess behind the catch 36 and the stop pin is locked in its forward position and in engagement with the plate 18 as is indicated in Fig. 2. When the stop pin is in its foremost position it projects into the path of the column stops 15.

An angular lever having arms 44 and 45 is pivoted to a support 46 on the frame of the machine. On the arm 45 of this lever is mounted a pinion 47 which is immediately under the carriage rack 10 and normally out of contact with the rack. The arm 44 of this angular lever extends below the key levers and close to the rod 24 and near and in front of the collar 33. A locking bar 48 pivoted by screws 49 to the sides of the base of the frame extends underneath the type key levers and is normally held by a coiled contractile spring 50 in contact with a stop pin 51 as appears by Fig. 1. The key levers have in them notches 52 which are immediately over the bar 48 when this bar is in its

normal position and then any of the key levers may be actuated without bringing it into contact with the bar 48. When the rod 24 is moved forward to engage the stop pin 35 in the plate 18 as above described, the collar 33 on the rod 24 forces the arm 44 of this angular lever against the locking bar 48 and the bar is then moved to the position in which it is shown in Fig. 2, its upper edge being then close to the lower edges of the key levers and the pinion at the front end of the arm 45 of this angular lever raises the rack 10 out of engagement with the pinion 9 of the escapement mechanism, thus releasing the carriage and enabling it to be moved from right to left under the power of the usual spring drum 52^a connected in the usual manner with the carriage. When the carriage has been released from control of the escapement for its tabulating movement as described and the locking bar 48 is in the position in which it appears in Fig. 2, the type key levers are all locked in their normal positions by the bar 48. It will be seen that when the stop pin 35 is locked in its foremost position as described the angular lever will also be locked in the position in which it is shown in Fig. 2 so that the bar 48 will also be locked and the locking mechanism will so act on the carriage rack as to prevent the rack from reengaging with the escapement pinion.

When a tabulating movement of the carriage occurs and one of the column stops 15 is brought into contact with the stop pin 35 the stop guide 18 is moved toward the left against the action of the spring 21, whereupon the pin 23 in the back of the stop guide acts on the inclined face 42 of the block 41 on the latch 38 and presses the latch down so that it releases the catch 36 on the stop pin and the key operated parts of the tabulating mechanism are restored to their normal positions. As the arm 34, rock shaft 24, etc., move rearwardly to their normal positions the collar 33 is moved away from the arm 44, thus allowing the locking bar 48 and the feed rack 10 to be restored to their normal positions; the locking bar releasing the key levers and the rack restoring the carriage to the control of the escapement mechanism.

The invention is shown in Figs. 6 to 9 inclusive embodied in a No. 6 Remington machine and applied to tabulating mechanism somewhat similar to that commonly known as the Gorin mechanism in which the column stops 15 act on independently movable denominational stops which are arranged in a series at the back of the frame of the machine and whose upper ends are moved forward into the path of the column stops. Denominational stop levers 53, shown in Figs. 6, 7 and 8, are mounted in a frame 54 which is fastened near the top to an arm 130

55 attached to the frame of the machine, the frame 54 being fastened at the bottom to the base of the machine frame. These denominational stop levers are pivotally mounted on a rod 56 fixed in the frame 54 at its lower end and they comprise horizontal parts or stop members 57 which extend through a stop guide 58 that is mounted on the frame 54 to receive a limited horizontal movement. This stop guide is mounted on the frame 54 by means of shouldered screws 59 that pass freely through horizontal guide slots 60 in the stop plate and thence into the frame 54. The normal position of the stop guide is that which is indicated in Fig. 7 where the plate as shown in this figure is at the limit of its movement to the left viewed from the back, or the right viewed from the front, of the machine. Each of the denominational stop levers 53 constitutes an extension of a key bar 61 which extends under the frame of the machine and has on its front end a finger button or denominational key 62, the key bars and the stops formed thereon being normally held in the positions indicated in Fig. 6 by coiled springs 63 attached to the bars 61 and to the frame of the machine. Each of the denominational stop levers has on it a forwardly extending arm 64 which is provided with a catch or tooth 65 and on the frame 54 is pivoted a latch 66 which extends over and close to the arms 64 on the denominational stop levers. An angular lever 67 is pivoted to an ear 68 on the frame 54, this lever having an upright arm that normally makes contact with a projection 69 on the left end of the stop guide 58 and having a horizontal arm to which is attached a link 70 which is connected at its lower end to the latch 66. An arm 71 is pivoted at its lower end to a bracket 72 on the frame of the machine and to this arm, at its upper end, is attached a plate or bar 73 which extends in front of the arms 64 and close to their front ends. To the upper end of this arm is pivoted a forwardly extending rod 74 mounted to slide in a bearing 74^a secured to the top plate. On the front end of the rod 74 is a plate 75 on which is fixed a block 76 having an inclined face 77 adapted to coact with the feed rack to lift it and thus release the carriage as will hereinafter clearly appear. The plate 75 has a fin 78 (see Fig. 9) formed as a part thereof, said fin being adapted to be moved into any of the spaces between the teeth of the pinion 79 of the escapement to lock the pinion against rotation.

On the dog rocker 80 at its upper end is an arm 81 which is fast on the rocker. The dog rocker is connected by links 82 with a universal bar 83 which extends under and makes contact with the type key levers 84. A stop device 85, whose shape is best illustrated in Fig. 9 and which comprises an

upper arm 86 and a lower arm 87, is pivoted on a fixed pin 88 and is normally held against a fixed pin 85^a by a spring 85^b. This stop device 85 is so arranged that the arm 86 thereof may be interposed between the arm 81 and the hub 89 of the escapement wheel 90 and thus block the movement of the arm 81 and the dog rocker to which it is fixed. On the arm 71 is a forwardly extending projection 91 which has an inclined edge 92 and which normally rests just behind the arm 87 of the device 85.

In Figs. 6 to 9 I have applied some of the same reference characters that are employed to designate corresponding parts in Figs. 1 to 5.

When one of the denominational keys is actuated the associated denominational stop 57 is moved so that it extends into the path of the column stops 15 and the arm 64 on the actuated denominational stop lever acts on the plate 73 and forces forward the upper end of the arm 71, whereupon the fin 78 of the plate 75 engages with the locks the pinion 79, and the block 76 on the plate 75 raises the carriage rack 93 out of engagement with the pinion to release the carriage. Also when the upper end of the arm 71 is moved forward as described the projection 91 acts on the arm 87 of the stop device 85 and forces the block 94 on the end of the arm 86 between the hub 89 of the escapement wheel and the arm 81 on the dog rocker so that then the dog rocker cannot be rocked by pressure exerted on any of the type keys. When the denominational stop is actuated as described the latch 66 engages the catch 55 on the actuated denominational stop lever and locks the stop in the position to which it was moved by the operation of the denominational key, so that the device 85 and dog rocker are also locked and the rod 74 and the parts mounted thereon are also locked, the pinion 79 then being held against rotation and the feed rack being disengaged from it. When a column stop is brought into contact, by a tabulating movement of the carriage, with a denominational stop actuated as described, the stop guide 58 is forced toward the left and the action of the stop guide on the angular lever 67 then causes the link 70 to be drawn upward and the latch 66 is disengaged from the catch 65 on the denominational stop, whereupon the denominational stop and other parts of the tabulating and locking mechanism are restored to their normal positions. The series of denominational stops and their levers may act like a spring on the stop guide 58 and tend to keep that guide in its normal position.

In the construction shown in Figs. 1 to 5 the type keys are automatically locked by the direct cooperation of the locking bar 43 with the key levers to prevent a printing op-

eration when the carriage is moving under control of the tabulator, whereas, in the construction shown in Figs. 6 to 9, the type keys are locked through the universal bar, nevertheless, in both cases key-locking means are provided which are operative on the type keys to lock them against actuation during the tabulating movement of the carriage and in both cases releasing means are provided which are operative on the key locking means when the carriage is arrested.

Obviously the invention may be embodied in modifications differing from either of the forms above described.

15 The invention herein shown and described is broadly claimed in my application Serial No. 68,385, filed July 15th, 1901, the claims herein being restricted to features not shown in my said earlier filed application.

20 What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination with the type-keys, and tabulating mechanism including a movable stop-guide, of automatic key-locking means operative on the type-keys during a tabulating movement of the carriage, the stop-guide being operative on a part of the key-locking means to release the type-keys.

2. In a typewriting machine, the combination with the type-keys, and tabulating mechanism including a movable stop-guide, of automatic key-locking means operative on the type-keys during a tabulating movement of the carriage, the key-locking means including interlocking devices, and the stop-guide being operative on one of those devices to disengage it from the other.

3. In a typewriting machine, the combination with the type-keys, and tabulating mechanism including a movable stop-guide, of automatic key-locking means operative on the type-keys during a tabulating movement of the carriage, the key-locking means including a catch and a co-acting latch and the stop-guide being connected with said latch.

4. In a typewriting machine, the combination with the type-keys, and tabulating mechanism including a movable stop-guide, of automatic key-locking means operative on the type-keys during a tabulating movement of the carriage, the key-locking means including a catch, and a latch mounted on a fixed support and movable into engagement with the catch, and the stop-guide being connected with said latch.

5. In a typewriting machine, the combination with the type-keys, and tabulating mechanism including separately movable denominational stops and a movable stop-guide, of automatic key-locking means operative on the type-keys during a tabulating movement of the carriage, the stop-guide

being movable by the carriage and each of said stops and being operative on a part of the key-locking means to release the type-keys.

6. In a typewriting machine, the combination with the universal bar, and tabulating mechanism including separately movable denominational stops and a movable stop-guide, of automatic locking means operative on the universal bar during a tabulating movement of the carriage, the stop-guide being movable by the carriage and each of said stops and being operative on a part of said locking means to release the universal-bar.

7. In a typewriting machine, the combination with the type-keys, and tabulating mechanism including separately movable denominational stops and a device movable by the joint action of the carriage and each of said stops, of automatic key-locking means operative on the type-keys during a tabulating movement of the carriage, the key-locking means including a part that is movable by said device to release the type-keys.

8. In a typewriting machine, the combination with the universal bar, and tabulating mechanism including separately movable denominational stops and a device movable by the joint action of the carriage and each of said stops, of automatic locking means operative on the universal bar during a tabulating movement of the carriage, said locking means including a part that is movable by said device to release the universal-bar.

9. In a typewriting machine, the combination with the universal bar and tabulating mechanism including a movable stop-guide, of automatic locking means operative on the universal bar during a tabulating movement of the carriage, the stop-guide being operative on a part of said locking means to release the universal bar.

10. In a typewriting machine, the combination with the universal bar and tabulating mechanism including a movable stop-guide, of automatic locking means operative on the universal bar during a tabulating movement of the carriage, said locking means including a catch, and a latch mounted on a fixed support and movable into engagement with the catch, and the stop-guide being operative on the latch to disengage it from the catch.

11. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other, and the rack being movable to disengage it from the pinion, the combination with said carriage feed-mechanism, the universal bar, and tabulating mechanism, of automatic locking means operative on the rack and universal bar during a tabulating movement of the carriage, said

locking means including a catch, a latch mounted on a fixed support and movable into engagement with the catch, an angular lever movable by the carriage, and a link connecting said lever with said latch.

12. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other, and the rack being movable to disengage it from the pinion, the combination with said carriage feed mechanism, the universal bar, and tabulating mechanism, of automatic locking means operative on the rack and universal bar during a tabulating movement of the carriage, said locking means including a catch, a latch mounted on a fixed support and movable into engagement with the catch, a movable stop-guide, and a connection between said stop-guide and said latch.

13. In a typewriting machine, the combination with the type keys and tabulating mechanism including a movable stop guide, of automatic key-locking means operative on the type keys during a tabulating movement of the carriage, and releasing mechanism operative to release the type keys when the carriage is arrested, said key-locking means and releasing mechanism including two cooperative locking devices one of which is connected with said stop guide and movable thereby from engagement with the other.

14. In a typewriting machine, the combination with the type keys and tabulating mechanism including a movable stop guide, of automatic key-locking means operative on the type keys during a tabulating movement of the carriage, and releasing mechanism operative to release the type keys when the carriage is arrested, said key-locking means and releasing mechanism including a catch operatively connected to a tabulating stop, and a latch cooperative with said catch and connected with said stop guide.

15. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other and one of these parts being separately movable to disengage it from the other, the combination with said carriage feed mechanism and tabulating mechanism including a movable stop guide, of automatic locking mechanism operative on said separately movable part of the carriage feed mechanism, said locking mechanism including two cooperative devices one of which is connected to and movable by said stop guide.

16. In a typewriting machine provided with carriage feed mechanism comprising a rack and pinion, each normally engaged with the other and one of these parts being separately movable to disengage it from the

other, the combination with said carriage feed mechanism and tabulating mechanism including a movable stop guide, of automatic locking mechanism operative on said separately movable part of the carriage feed mechanism, said locking mechanism including a catch affixed to a tabulating stop, and a latch cooperative with said catch and connected with said stop guide.

17. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other and the rack being movable to disengage it from the pinion, the combination with said carriage feed mechanism, the universal bar, and tabulating mechanism including a movable stop guide, of automatic locking mechanism operative on said rack, a device operative on the universal bar, and a connection between said device and said locking mechanism, said locking mechanism including two devices one of which is connected with and movable by said stop guide.

18. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other and the rack being movable to disengage it from the pinion, the combination with said carriage feed mechanism, the universal bar, and tabulating mechanism including a movable stop guide, of automatic locking mechanism operative on said rack, and a device operative on the universal bar and connected with said locking mechanism, said locking mechanism including a catch, a latch movable into engagement with the catch, an angular lever movable by said stop guide, and a link connecting said lever with said latch.

19. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other and the rack being movable to disengage it from the pinion, the combination with said carriage feed mechanism, the universal bar, and tabulating mechanism including a movable stop guide, of automatic locking mechanism operative on said rack, and a device operative on the universal bar and connected with said locking mechanism, said locking mechanism including a catch, a latch movable into engagement with the catch, and a connection between said stop guide and said latch.

20. In a typewriting machine provided with carriage feed mechanism comprising a rack and a pinion, each normally engaged with the other and the rack being movable to disengage it from the pinion, the combination with said carriage feed mechanism, the universal bar, and tabulating mechanism including a movable stop guide, of automatic locking mechanism operative on

said rack, and a device operative on the universal bar and connected with said locking mechanism, said locking mechanism including a catch operatively connected with a
5 tabulating stop, a latch movable into engagement with the catch, and a connection between said latch and said stop guide.

Signed at Hingham, in the county of Plymouth and State of Massachusetts 1909.

WALTER J. BARRON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."