

No. 843,545.

PATENTED FEB. 5, 1907.

C. P. MOSHER.
TYPE WRITING MACHINE.
APPLICATION FILED OCT. 11, 1904.

3 SHEETS—SHEET 1.

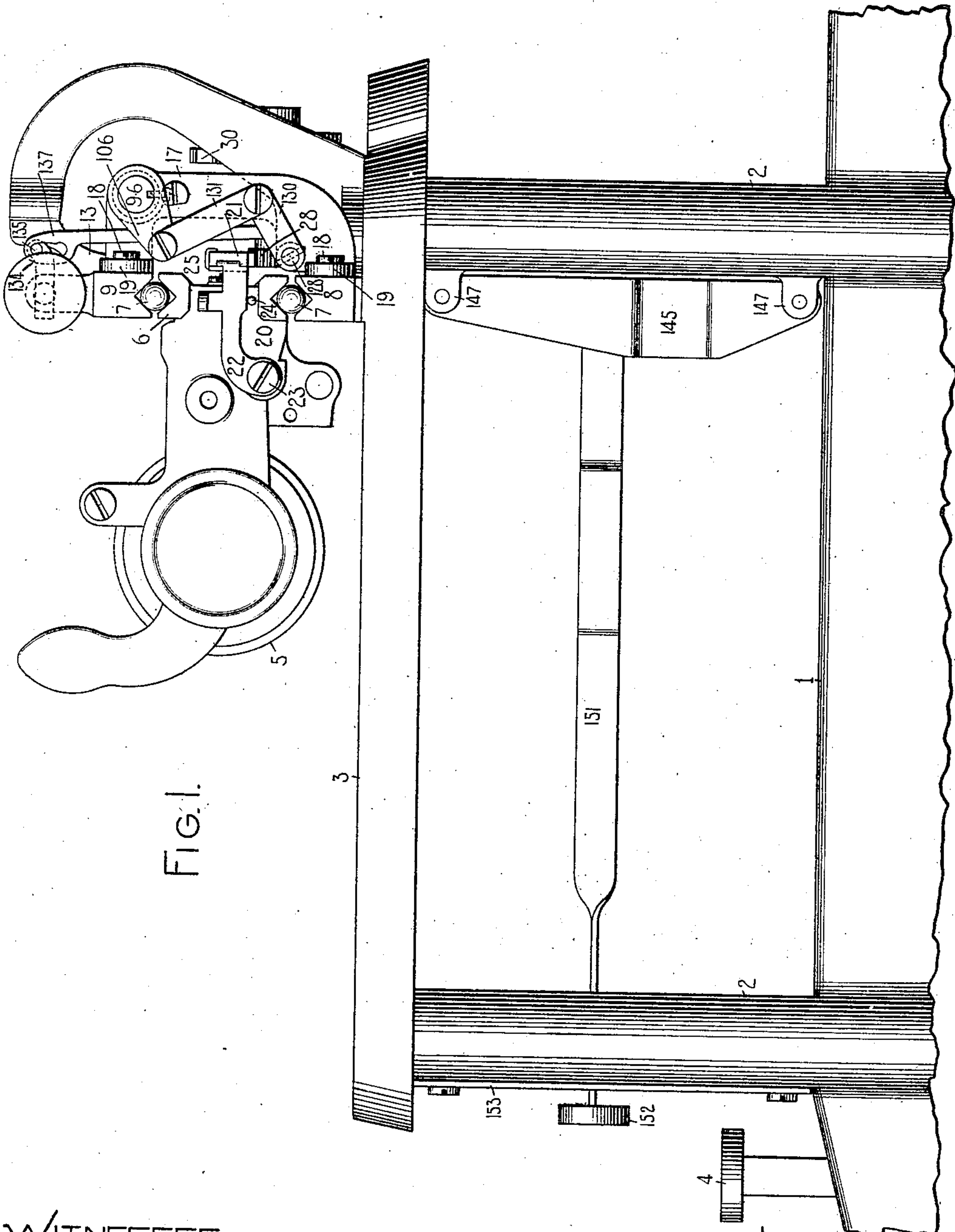


FIG. 1.

WITNESSES:

E. M. Wells.
M. F. Hannweber

INVENTOR:

Charles P. Mosher

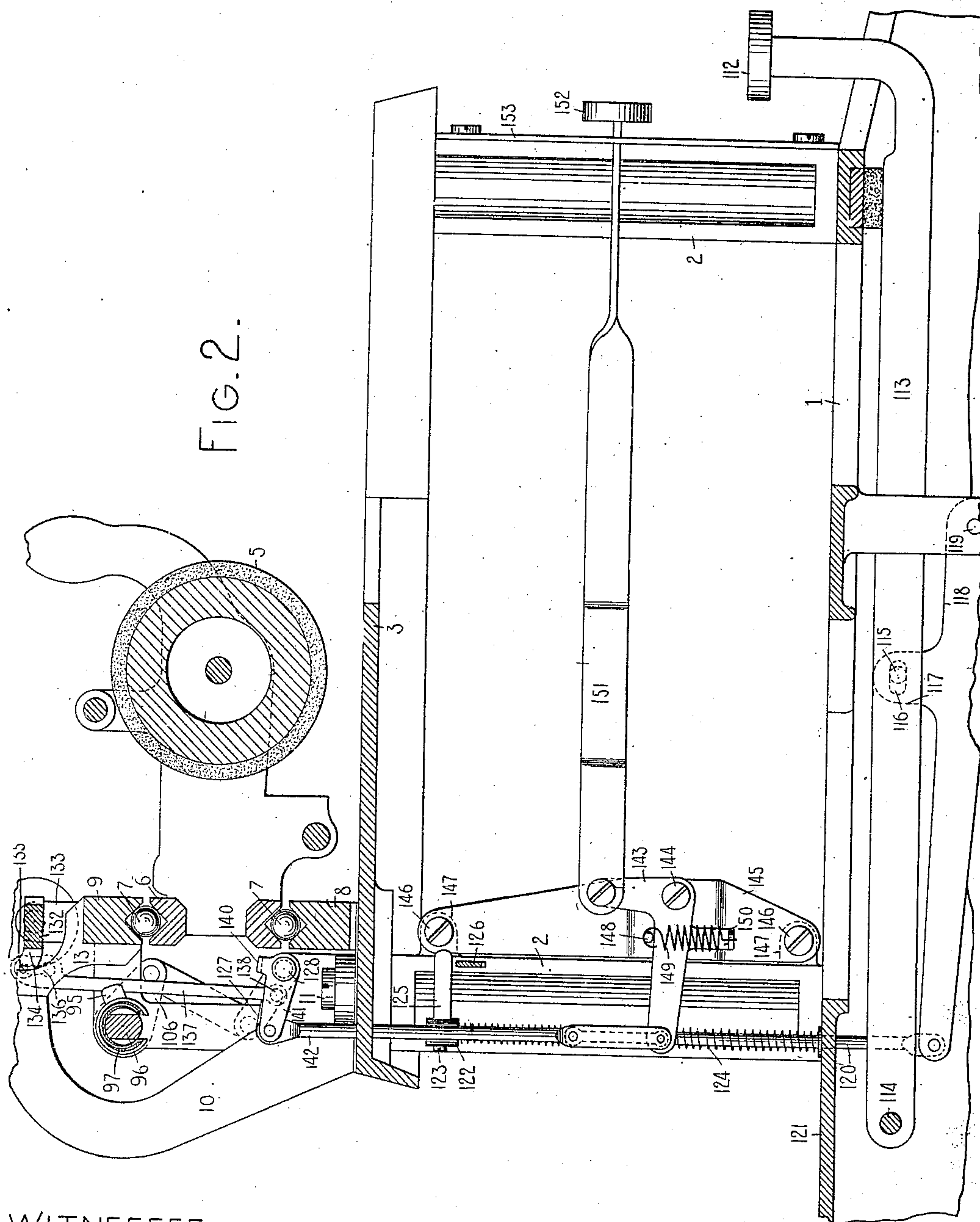
By Jacob Felbel
HIS ATTORNEY

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3 SHEETS--SHEET 2.



WITNESSES:

E. M. Wells.
M. F. Hannover.

INVENTOR:

Charles P. Mosher

By Jacob Feld

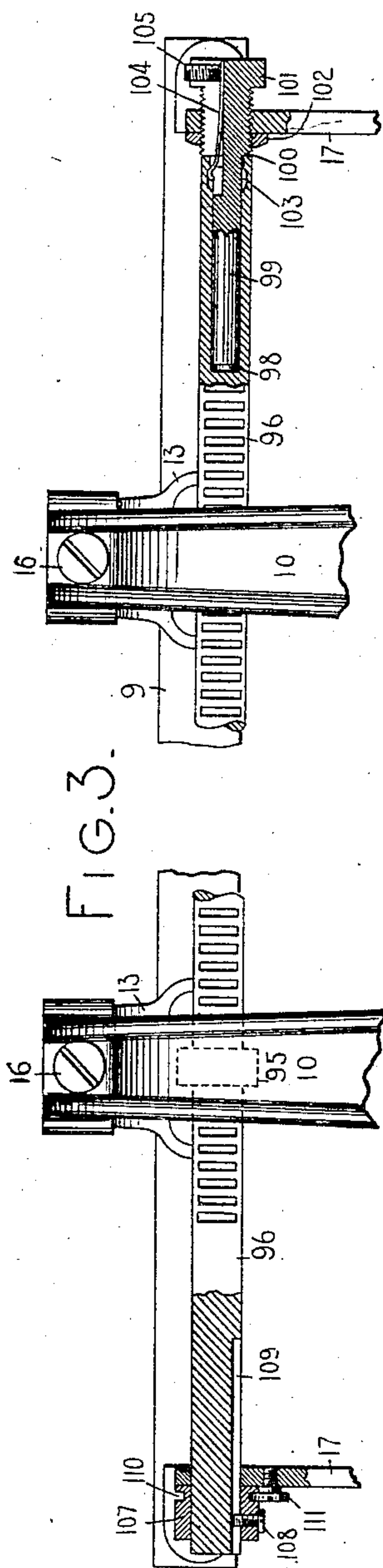
HIS ATTORNEY

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3 SHEETS—SHEET 3.



WITNESSES:

E. M. Wells.
M. F. Hannweber.

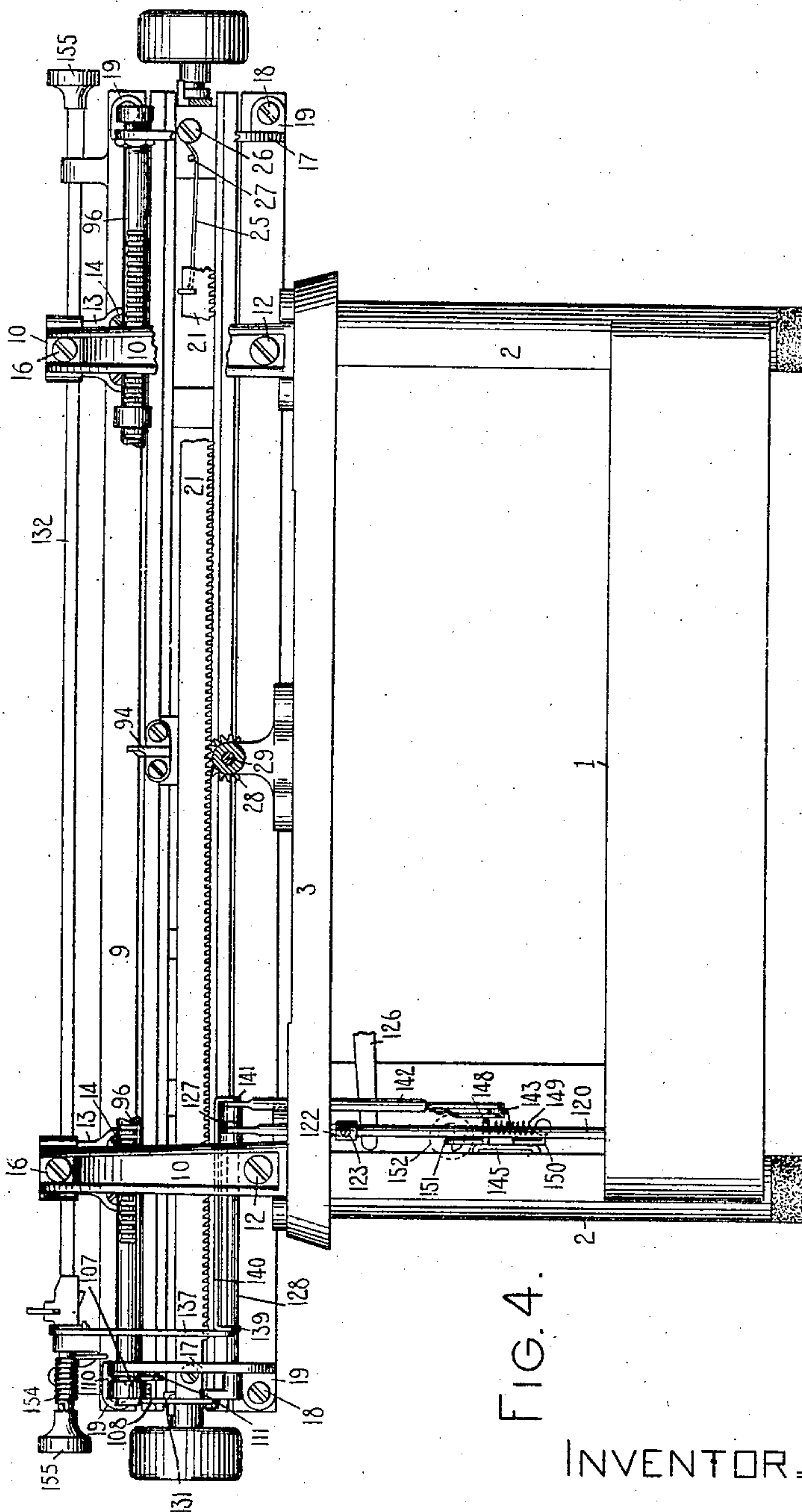


FIG. 4.

INVENTOR.

Charles P. Mosher

By Jacob Felbel

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES PHILO MOSHER, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE
MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A COR-
PORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 843,545.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Original application filed July 6, 1904, Serial No. 215,526. Divided and this application filed October 11, 1904. Serial No. 227,997.

To all whom it may concern:

Be it known that I, CHARLES PHILO MOSHER, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, 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, and more especially to tabulating and carriage-stop mechanism for such machines; and the object of this invention is to provide improved devices of the sort specified.

The present improvements are more especially useful in connection with a wide-carriage machine, and the invention is here shown applied to a Monarch type-writer having a wide carriage.

The invention includes novel supports for the carriage-rails, so as to accommodate a long tabulator-bar for use in connection with the wide carriage. There are also novel features in the manner in which the tabulator-bar is mounted in the framework of the machine and in the mechanism by which said bar is operated. There are also novel features in the mechanism whereby the margin-stop bar is operated to release the carriage from the margin-stops.

My invention consists in various features of construction and combinations and arrangements of parts, all as will be hereinafter more fully described, and particularly pointed out in the claims.

The present application is a division of my application, Serial No. 215,526, filed July 6, 1904.

One embodiment of my invention is illustrated in detail in the accompanying drawings, in which—

Figure 1 is an end elevation of a type-writing machine. Fig. 2 is a front to rear sectional view of the same. Fig. 3 is a detail view, in rear elevation, partly, in section; and Fig. 4 is a view of the machine in rear elevation.

I have shown my invention applied to the Monarch front-strike type-writer. The main frame of this machine comprises a base portion 1, from which rise posts 2, which support a top plate 3. Keys are mounted on the ends of key-levers, which are pivoted near the back of the machine and which oper-

ate upwardly and rearwardly, striking type-bars which carry types which strike against the front face of the platen 5. This mechanism is well known, and it has not been thought necessary to show it in the present case. A carriage-truck 6 has raceways formed in its upper and lower edges, and said truck is supported by antifriction balls or rollers 7, which run in said raceways and in coöperating raceways formed in a lower fixed rail 8 and an upper fixed rail 9. As shown, for example, in Fig. 4, the length of these rails exceeds the width of the main frame, and said rails are accordingly supported at points intermediate their ends by two brackets 10, which are secured to the top plate of the machine by screws 11, Fig. 2. In the present instance these brackets are shown formed with a U-shaped cross-section for the sake of lightness and stiffness. The lower rail 8 is secured to the brackets 10 by screws 12, Fig. 4, passing through said brackets and threaded into said rails. The upper rail 9 has two brackets 13 secured thereon. These brackets are rigidly secured to the brackets 10 by screws 16, Figs. 3 and 4, which pass through said brackets 10 and are threaded into said brackets 13. Each pair of brackets 10 and 13 constitutes, in effect, a single bracket rising from the top plate 3 and supporting the upper rail 9. This compound bracket has the arched or looped form shown in the drawings for a purpose which will appear hereinafter. The rails 8 and 9 are connected together near each end by a bracket or frame piece 17, which projects back from the rear surfaces of said rails, to which it is secured by screws 18, passing through ears 19 of said frame-piece and threaded into said rails. The carriage-truck 6 may be drawn across the machine by the usual spring-drum and connections or by any suitable means.

Two brackets 20 project from the truck 6 toward the front of the machine, one of said brackets being near each end of said truck. A feed-rack 21, which lies back of the truck, is rigidly mounted at its ends on arm 22, which are pivoted on headed and shouldered screws 23, which are threaded into said brackets 20. The arms 22 normally rest on stop-pins 24, against which they are pressed by the weight of the parts and also by the tension of a spring or springs 25, Fig. 4. I

have shown two such springs, each of which passes over a screw 26, threaded into the truck 6 and under a pin 27 on said truck, and which presses at its free end on the rack-bar.

5 The rack-bar 21 is geared to a pinion 28, fixed on a shaft 29, which is journaled in the framework, and which has mounted thereon an escapement-wheel 30, which is controlled by escapement-dogs. (Not shown.)

10 I have made certain changes in the tabulator mechanism in order to adapt it to this machine, in which a long platen is used. A stop 94, Fig. 4, is secured to the rear face of the truck 6 and coöperates with a stop or

15 stops 95, Fig. 2, which is mounted on an oscillatory tabulator-bar 96 in the usual manner. This bar has notches or slots cut in its surface a letter-space distance apart, and any one of the stops 95 may be set in any one

20 of these notches. So far as my invention is concerned the column-stops may be of any desired construction. The column-stop bar 96 and the column-stops shown in the present instance are like those described in the

25 patent to Gabrielson, No. 784,317, March 7, 1905. The stop 95 is normally out of the path of the stop 94, but may be moved into the path of said stop by rocking the bar 96 toward the front of the machine. The bar

30 96 is mounted at or near its ends on the brackets 17 in a manner best shown in Fig. 3, which is a rear view of this portion of the mechanism. At its right-hand end the rod 96 passes loosely through an opening in one

35 of the brackets 17, and at its left-hand end said bar is formed with a central longitudinal opening 98, which fits loosely over a rod or pin 99, which is enlarged at its outer end, forming an annular shoulder 100, against

40 which the end of the bar 96 normally stands. The enlarged portion of the rod 99 is threaded through the left-hand bracket 17 and is formed at its end with a milled head 101. The bar 96 may be adjusted lengthwise by

45 turning said milled head, thus adjusting the position of the pin 99, which is secured in adjusted position by tightening a lock-nut 102. It is of course necessary that no stationary

50 part of the mechanism shall stand between the bar 96 and the truck, and it is for this reason that the brackets 10 have the arched or looped form shown in the drawings, so that the bar 96 may lie between said brackets and said truck. The bar 96 thus passes

55 through a sort of opening in the framework, and it may happen that it is desired to adjust one of the stops 95 to a position within this opening behind one of the brackets 10, as shown in Fig. 3. Of course the precise

60 form or contour of the bracket is not material so long as it provides the opening referred to. Where the term "arched" occurs in the claims, it is to be understood that the claims are not to be limited to the use of

65 brackets wherein the openings are formed or

bounded by curves. To facilitate this adjustment of the stops, the bar 96 is so mounted that it may be moved endwise, so as to bring the portions thereof which normally lie beneath the brackets to accessible

70 positions. The pin 99 is made of a length sufficient to permit of such motion. The opening 98 in the bar 96 is formed near the end of said bar with an annular groove or enlargement 103, into which extends the

75 curved end of a spring 104, which lies in a longitudinal slot formed for the purpose in the pin 99. Said spring is secured in position by a screw 105, threaded into said pin and engaging said spring. The rocking mo-

80 tion of the bar 96 is controlled by an arm 106, Fig. 1, the hub 107 of which, Fig. 3, is mounted on said rod just outside the right-hand bracket 17. In order to permit of the longitudinal motion of the tabulator-bar

85 above referred to, the hub 107 is loosely mounted on said bar and is connected thereto by a pin or screw 108, which is threaded into said hub, and the inner end of which projects into a longitudinal slot 109 in the bar,

90 so that the hub and bar are constrained to turn together. The longitudinal motion of the bar 96 toward the right is limited by the engagement of the screw 108 with the end of the slot 109. In order to prevent the hub

95 107 from moving away from the bracket 17, said hub is formed with a peripheral groove 110, into which projects the head of a screw 111, which is threaded into said bracket.

The rocking motion of the bar 96 is con-

100 trolled by a tabulator-key 112, Fig. 2, which is mounted on the end of a key-lever 113, which is pivoted at its rear end at 114. A pin 115 projects from one side of said key-lever into a slot 116 in an ear 117 of a lever

105 118, the front end of which is pivoted at 119 to a bracket depending from a portion of the main frame. The lever 118 is connected at its rear end to the lower end of a link 120, which passes loosely through an opening in

110 the back shelf 121 of the main frame and extends above the top plate 3. The link 120 has a collar 122 fixed thereon by a set-screw 123, Fig. 2, and a coiled spring 124, compressed between said collar and the shelf 121,

115 holds said link in its normal position. Projecting from the collar 122 toward the front of the machine is an arm 125, which stands above a lever 126, so that when the tabulator-key is depressed said arm depresses said le-

120 ver, which operates a release device which raises the feed-rack out of engagement with its pinion. This release device is old and well known and is not shown herein. As

125 best shown in Figs. 2 and 4, the link 120 is pivoted at its upper end to the free end of an arm 127, which is fixed to and projects toward the back of the machine from a rock-shaft 128, which is journaled at one end in an

130 opening in one of the brackets 10 and at the

other in one of the brackets 17. An arm 130, Fig. 1, is fixed on the outside end of the shaft 128, and said arm is connected by a link 131 with the arm 106, which is mounted on the tabulator-bar 96. The construction is such that if the tabulator-key be depressed the link 120 will be drawn downward, the shaft 128 will be rocked toward the back of the machine, and the tabulator-bar 96 will be rocked toward the front of the machine, bringing the tabulator-stop into the path of the carriage-stop, the lever 126 releasing the carriage from the escapement mechanism. It will be perceived that the rock-shaft 128 has been interposed in the connections between the tabulator-key and the tabulator-bar in order to carry such connections out to the end of the long tabulator-bar used in this machine.

The margin-stops are mounted on an oscillatory bar 132, which is journaled in brackets 133, rising from the top stationary rail 9. This bar does not differ materially from the bar ordinarily used in the Monarch typewriter, except in that it is longer and the connections between said bar and the carriage-release key have been extended out to its end in a manner somewhat similar to those of the tabulator key and bar. The margin-stop bar has projecting from one end thereof toward the back of the machine an arm 134, Fig. 1, having a pin 135, which works in a slot 136 in the upper end of a link 137, the lower end of which is pivoted at 138, Fig. 2, to an arm 139, Fig. 4, of a yoke-frame 140, which is journaled on the rock-shaft 128. The yoke-frame 140 extends beyond the arm 127 of said rock-shaft and at its inner end has a rearwardly-projecting arm 141, Fig. 2, which is connected by a link 142 to the rearwardly-extending arm of a bell-crank lever 143, which is pivoted on a shouldered and headed screw 144, which is threaded into a bracket 145, secured to one of the rear posts of the main frame by screws 146, threaded into ears 147 of said post. Said rearwardly-extending arm of the bell-crank 143 is normally drawn against a stop-pin 148, projecting from the bracket 145, by a coiled spring 149, which is connected at one end to said stop-pin and at the other end to a bracket 150, depending from said bell-crank. Said bell-crank has an upwardly-extending arm, to which is pivoted a push rod or bar 151, which extends to the front of the machine and has a margin-release key 152, mounted on its front end. The forward end of the bar 151 is guided by an opening in a frame-piece 153, through which said bar loosely passes. The construction is such that if the release-key 152 be pushed toward the back of the machine the bell-crank 143 will be rocked, the link 142 will draw the arm 141 downward, rocking the yoke-frame 140 toward the back of the machine, thus pulling down

the link 137 and rocking the stop-bar 132 toward the back of the machine. This motion of the stop-bar permits the margin-stop to pass the cooperating stop on the framework in a manner which is old and well known. Said stop-bar is provided with the usual returning spring 154 and finger-buttons 155.

It will be observed that the brackets which support the stationary carriage-rails are arched away from the carriage in order to accommodate the tabulator devices, that the column stop-bar is situated within the arches of said brackets, and that the stop 94 on the carriage moves through the arches of said brackets during the traverse of the carriage.

Various changes in the details of construction and arrangement may be made without departing from the gist of my several improvements.

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

1. In a type-writing machine, the combination of a carriage; a stationary rail for supporting said carriage; a bracket secured to the main frame and supporting said rail; a tabulator-bar lying between said bracket and said carriage; a tabulator-stop on said bar; and a cooperating stop on said carriage.

2. In a type-writing machine, the combination of a carriage; a stop mounted on said carriage; a rail for supporting said carriage; a bracket for supporting said rail; a bar lying between said bracket and said carriage; and a stop adapted to cooperate with said carriage-stop and mounted on said bar.

3. In a type-writing machine, the combination of a carriage; a stop on said carriage; two parallel stationary rails for supporting said carriage; a bracket for supporting one of said rails; a bar lying between said bracket and said carriage; and a stop adjustably mounted on said bar and adapted to cooperate with said carriage-stop.

4. In a type-writing machine, the combination with the main frame, of a carriage; two parallel rails for supporting said carriage, the length of said rails exceeding the width of said main frame; brackets mounted on said main frame and supporting one of said rails; a bar lying between said brackets and said carriage; and a stop adjustably mounted on said bar.

5. In a type-writing machine, the combination of a carriage; two parallel rails for supporting said carriage, one of said rails being disposed above the other; brackets supported by the main frame behind said rails; a bar lying between said brackets and said carriage; a stop adjustably mounted on said bar; and a cooperating stop mounted on the carriage.

6. In a type-writing machine, the combination with the carriage, of a stationary rail for supporting said carriage; a bracket for

supporting said rail intermediate its ends, said bracket being arched to leave a space between the bracket and the carriage; a bar lying in the space between the bracket and the carriage; a stop adjustably mounted on said bar; and a cooperating stop mounted on the carriage.

7. In a type-writing machine, the combination of a carriage; a pair of stationary rails for supporting said carriage, one of said rails being disposed above the other; a pair of brackets for supporting the upper rail, said brackets being connected to said rail between the ends of the latter and being arched to leave a space between the brackets and the carriage; a bar lying between said brackets and said carriage; a stop adjustably mounted on said bar; and a cooperating stop mounted on the carriage.

8. In a type-writing machine, the combination with the main frame, of carriage-rails the length of which exceeds the width of said main frame; a carriage mounted on said rails; brackets near the ends of said rails; a bar supported by said brackets; a stop adjustably mounted on said bar; and rail-supports, said bar lying between said rail-supports and said carriage.

9. In a type-writing machine, the combination of a carriage; a rail for supporting said carriage; a bracket for supporting said rail intermediate its ends; a bar lying between said bracket and said carriage; a stop adjustably mounted on said bar; and a cooperating stop mounted on said carriage; said bar being movable endwise to facilitate the adjustment of said adjustable stop beneath said bracket.

10. In a type-writing machine, the combination with the framework, of a carriage; a bar passing through an opening in said framework and having a stop adjustably mounted thereon, said bar being movable in such wise that the part of said bar that normally lies within said opening may be withdrawn from said opening to facilitate the adjustment of the stop; and a cooperating stop on the carriage.

11. In a type-writing machine, the combination with the framework, of a carriage; a bar, a portion of which lies in an opening in the framework; a stop adjustably mounted on said bar; said bar being mounted for limited endwise movement, so that the portion thereof which normally lies within said opening may be withdrawn to facilitate the adjustment of said stop; and a cooperating stop on the carriage.

12. In a type-writing machine, the combination with the frame-work, of a carriage; a stop on said carriage; a stop-bar mounted on the framework and extending through an opening in said framework; a stop adjustably mounted on said bar; means for affording an endwise movement of said bar to facilitate

the adjustment of said stop within said opening; and means for rocking said bar to move said adjustable stop into and out of the path of said carriage-stop.

13. In a type-writing machine, the combination with the carriage having a stop, of a bar which is slidably mounted at one end in the framework; a pin which supports the other end of said bar by a telescope connection, said pin being threaded through a part of the framework of the machine and having a shoulder that is engaged by the end of said bar, whereby said pin serves both as a support for said bar and as a means for adjusting said bar; and a stop adjustably mounted on said bar.

14. In a type-writing machine, the combination with the carriage having a stop, of a bar which is slidably mounted at one end in the framework; an adjustable pin which supports the other end of said bar by a telescope connection and which limits the longitudinal motion of said bar, whereby said pin serves both as a support for said bar and as a means for adjusting said bar; and a stop adjustably mounted on said bar.

15. In a type-writing machine, the combination of an oscillatory and endwise-movable bar; a stop adjustably mounted on said bar; a carriage having a stop adapted to cooperate with said adjustable stop; an arm on said bar adapted to oscillate said bar to move said adjustable stop into the path of said cooperating stop; means for preventing said arm from moving with said bar when the latter is moved endwise; and a key connected with said arm.

16. In a type-writing machine, the combination with the framework, of a carriage; a bar which is partially covered by a part of the machine; a stop adjustably mounted on said bar, said bar being mounted for limited endwise movement so that the portion thereof which is normally covered may be withdrawn to facilitate the adjustment of said stop; a detent for holding said bar in its normal position; and a stop on said carriage cooperating with said adjustable stop.

17. In a type-writing machine, the combination with the main frame, of carriage-rails, the length of which exceeds the width of said main frame; an oscillatory bar supported near the ends of said rails; a stop adjustably mounted on said bar; an arm on said bar near one end thereof; a key mounted in the main frame; and connections between said key and said arm, said connections including a rock-shaft for carrying the motion derived from said key out to said arm near the end of the stop-bar.

18. In a type-writing machine and in tabulating mechanism, the combination of a carriage; tabulator mechanism comprising a stop mounted on said carriage; a stationary rail for said carriage; and brackets on the main

frame supporting said stationary rail, said brackets being arched away from the carriage over the path of said stop.

19. In a type-writing machine and in tabulating mechanism, the combination of a carriage; two stationary rails for said carriage; brackets on the main frame supporting said stationary rail; and tabulator mechanism comprising a part mounted on the carriage and projecting therefrom, said brackets between said rails arching away from said carriage around the path of said tabulator part.

20. In a type-writing machine and in tabulating mechanism, the combination of a carriage; two stationary rails for said carriage lying one above the other; tabulator mechanism comprising a part mounted on the carriage and projecting toward the rear of the machine; and brackets on the main frame supporting said rails, said brackets being arched toward the rear of the machine around the path of said tabulator part.

21. In a type-writing machine and in tabulating mechanism, the combination of a carriage; a stationary rail for said carriage; arched brackets supporting said stationary rail; and tabulator mechanism comprising a movable part which runs through the arches of said brackets.

22. In a type-writing machine, the combination of a carriage; a stationary rail for said carriage; arched brackets supporting said stationary rail; and a stop device

mounted on the carriage and moving during the traverse of said carriage through the arches of said brackets.

23. In a type-writing machine, the combination of a carriage; two stationary rails for supporting said carriage; arched brackets for supporting said stationary rails; and a stop device projecting from said carriage and moving during the traverse of said carriage through the arches of said brackets.

24. In a type-writing machine and in tabulating mechanism, the combination of a carriage; a stationary rail for said carriage; arched brackets for supporting said stationary rail; and tabulator mechanism comprising a column-stop bar having one or more column-stops and a cooperating stop, one of said stops being mounted on the main frame and the other on the carriage and said brackets arching over said column-stop bar.

25. In a type-writing machine and in tabulating mechanism, the combination of a carriage; carriage rails or tracks; tabulating devices; and rail or track supporting brackets made in arch form to accommodate said tabulating devices.

Signed at Syracuse, in the county of Onondaga and State of New York, this 6th day of October, A. D. 1904.

CHARLES PHILO MOSHER.

Witnesses:

WILLARD C. HAY,
EARL D. CRAMER.