G. F. BALLOU.

TYPE WRITING MACHINE.

APPLICATION FILED FEB. 4, 1907.

903,434.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 1.

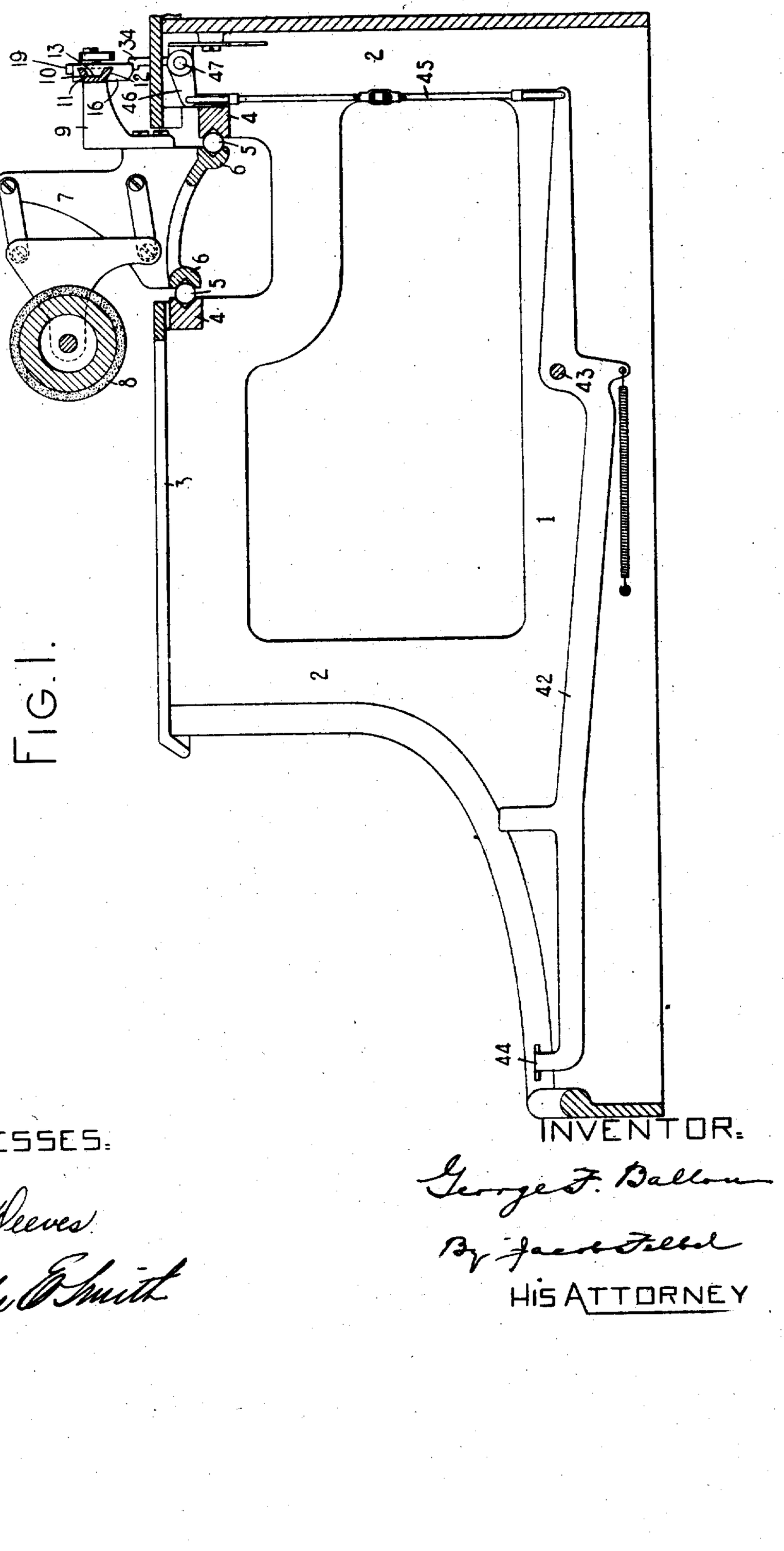

FIG. 1.

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2 SHEETS—SHEET 2.

FIG. 4.

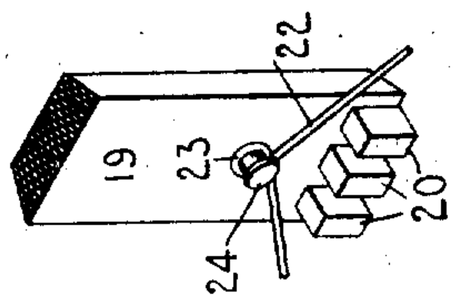
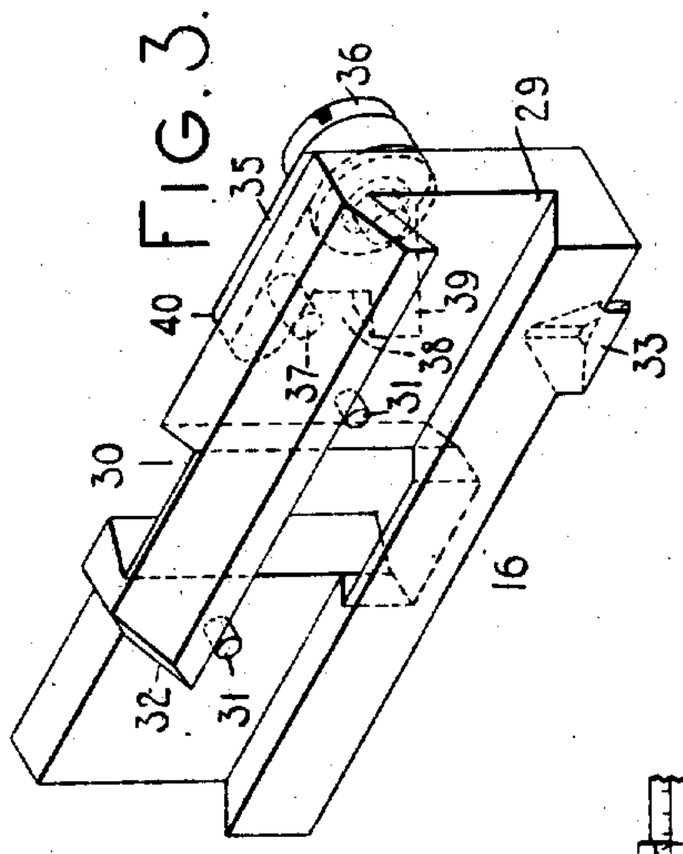


FIG. 3.



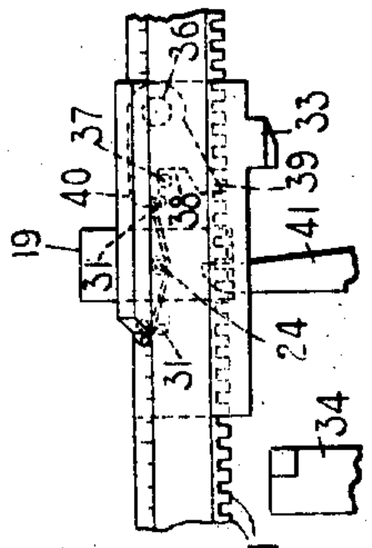


FIG. 7.

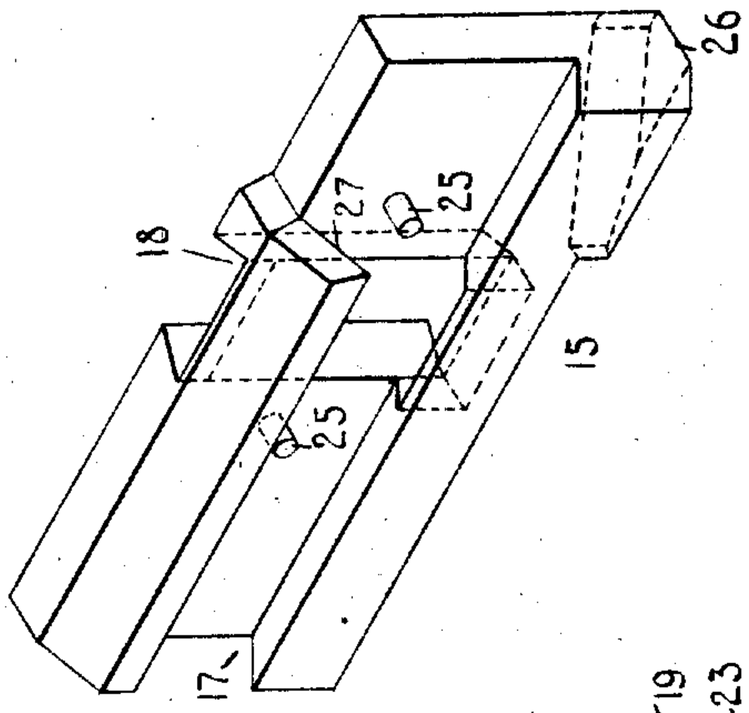


FIG. 2.

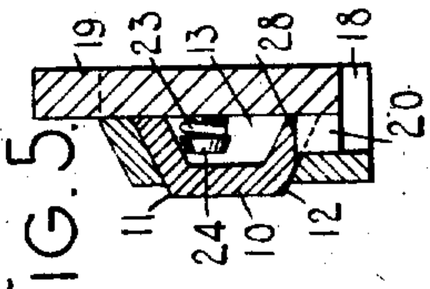


FIG. 5.

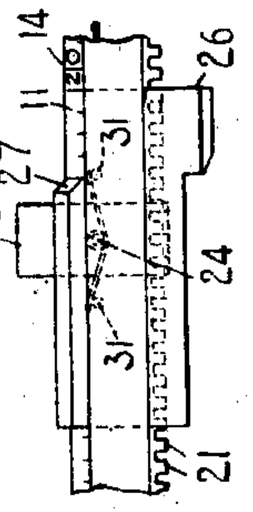


FIG. 6.

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UNITED STATES PATENT OFFICE.

GEORGE F. BALLOU, OF NEW YORK, N. Y., ASSIGNOR TO YOST WRITING MACHINE COMPANY OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 903,434. Specification of Letters Patent. Patented Nov. 10, 1908.

Application filed February 4, 1907. Serial No. 355,767.

To all whom it may concern:

Be it known that I, GEORGE F. BALLOU, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York 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 typewriting machines and more particularly to carriage stop mechanism. The object of said invention is to provide simple and efficient mechanism of the character specified.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of devices to be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front to rear vertical sectional view of part of the typewriting machine with the carriage stop mechanism of my invention applied thereto. Fig. 2 is an enlarged detail perspective view of a margin stop constructed according to my invention. Fig. 3 is a similar view of a line lock stop embodying my invention. Fig. 4 is an enlarged detail perspective view of a locking member and its spring applicable to either of the stops shown in Figs. 2 and 3. Fig. 5 is a transverse sectional view taken through a stop, locking member and stop rod; the parts being shown assembled in this view. Fig. 6 is a detail fragmentary front elevation of a margin stop mounted upon the stop rod. Fig. 7 is a like view of the line lock stop and the associated parts.

While I have shown my invention applied to a front-strike machine it should be understood that it may be employed in various styles of typewriting machines.

The frame of the machine comprises a base 1 provided with corner posts 2 and a top plate 3. The frame supports grooved guide rails 4 which coöperate with anti-friction balls or rolls 5 received in grooves in bars 6 of a platen carriage 7, a platen being indicated at 8. Projecting rearwardly from the carriage near each end thereof are bracket arms 9 which support a stop bar 10. The stop bar is of dove-tail form with the inclined sides 11 and 12 situated respectively at the top and bottom. The bar is recessed at one side throughout its length, as indicated at 13. The inclined side or face 11 of the stop bar is provided with a scale or indices 14 by which the margin stop 15 and line lock stop 16 may properly be set as will hereinafter more clearly appear.

The margin stop 15 has a dove-tail opening 17 extending longitudinally thereof for the reception of the stop bar, the groove or opening 17 being open at the forward side of the stop. Extending at right angles to the groove 17 is a dove-tail groove 18 which extends transversely through the stop and is adapted to receive a dove-tail locking device 19 shaped to conform to and adapted to slide in the opening 18 transversely of the slot or groove 17.

The lower end of the locking member is provided with teeth 20 which co-act with teeth 21 formed at the lower edge of the stop bar in order to lock the stop against longitudinal movement on the bar. The teeth 20 of the locking device are normally maintained seated between the teeth 21 of the stop bar by a spring 22 which is coiled at the center thereof as at 23 about a pin 24 which projects forwardly from the locking member. The free ends of this spring 22 bear on top of pins 25 which project forwarly from the body of the stop and into the dove-tail groove 17 thereof.

A projecting lug or stop face 26 is provided on the margin stop for coöperation with suitable co-acting means on the frame of the machine for arresting the carriage in its movement to the right. An indicating edge 27 is provided on the margin stop for coöperation with the indices 14 of the scale on the stop bar in order to facilitate the proper setting of the margin stop.

From an inspection of Fig. 5 it will be seen that the pin 24 by which the spring 22 is connected with the locking member projects into the recess 13 in the stop bar and is adapted to abut the inner lower face of said recess to limit the downward movement of the locking member 19, the upward movement of the locking member being limited by the contact of the teeth 20 with the bottom walls 28 of the spaces between the teeth 21 of the stop bar.

In assembling the parts the locking member 19 with the spring 22 disconnected therefrom is first moved upwardly into the dove-tail groove 18 and the loop 23 of the spring 22 is then placed on the

pin 24 and the free ends of the spring are sprung into position on top of the pins 25. The locking member is then depressed so as to carry the teeth 20 out of the dove-tail groove 17 of the stop and the stop bar is introduced into the dove-tail groove 17. When pressure is released on the locking member 19 the pressure of the spring 22 will force it upwardly, thereby bringing the teeth 20 on the locking member into engagement with the teeth on the stop bar to lock the stop in the desired position.

The line lock stop is formed in the same general manner as the margin stop. Thus the stop 16 has a longitudinally extending dove-tail groove 29 and a dove-tail groove 30 extending at right angles to the first mentioned groove for the reception of a locking member 19. Pins 31 are provided for coöperation with the spring 22. An indicating edge 32 coöperates with the indices on the scale of the stop bar. A line lock operating projection 33 extends downwardly from the line lock stop and co-acts with a member 34 to effect an actuation of the line lock mechanism. A trip 35 is pivoted by a headed shouldered screw 36 to the rear side of the line lock stop 16. A pin 37 projects from the rear face of the stop 16 and is received in an opening 38 between two arms or stops 39 and 40 respectively of the trip in order to limit the movement of the trip around its pivot. The arm 39 of the trip coöperates with a bell trip 41 operatively connected to the alarm mechanism.

A key lever 42 is pivoted at 43 to the frame of the machine and is provided with a finger key 44. The rear end of this key lever is connected to an upright link 45 which in turn is connected at its upper end to a crank arm 46 connected to a rock shaft 47 which carries the member 34 of the line lock mechanism. Depression of the key 44 effects an upward movement of the link 45, thus rocking the shaft 47 and turning the member 34 towards the rear of the machine and out of the path of a line lock stop in order to release the line lock mechanism.

It will be understood that the member 10 is a channeled stop bar; that the stop is likewise channeled as at 17; that the channel 13 in the stop bar faces the channel of the stop, the bar being dove-tailed into the channel of the stop and that the channel in the stop bar forms a housing for the latch spring 22 and its mounting 24.

From the foregoing description it will be seen that the stop mechanism of my invention is simple in construction, each stop and its locking means consisting of but three pieces, the stop, the locking member and spring; that these parts may be readily assembled by merely placing the parts together and mounting them on the stop bar in the manner described; that after the parts have been placed on the bar as described and the bar secured to the carriage there is no liability of the parts becoming detached, deranged or broken. It will also be seen that by placing the scale on the face 11 of the dove-tail stop bar an inclined face is presented for the scale which may be readily viewed by the operator, as will be apparent from an inspection of Fig. 1, thereby facilitating a proper adjustment of the line lock and margin stops.

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

1. In a typewriting machine, the combination of a stop having a dove-tail groove therein, a stop bar shaped to be received in said dove-tail groove and having a recess in one face thereof, a locking latch carried by said stop and operative to lock the stop to said bar, and a spring for said latch, said spring being received in the recess in said bar.

2. In a typewriting machine, the combination of a stop having dove-tail grooves therein at substantially right angles to each other, a dove-tail stop bar received in one of the dove-tail grooves in said stop and provided with teeth thereon and a recess along one side thereof, a dove-tail locking member received in the other dove-tail groove in the stop and provided with teeth which engage the teeth on said stop bar, and a spring intermediate said stop and locking member and contained in the recess in said stop bar.

3. In a typewriting machine, the combination of a stop having dove-tail grooves therein at substantially right angles to each other, a dove-tail stop bar received in one of the dove-tail grooves in said stop and provided with teeth thereon and a recess along one side thereof, a dove-tail locking member received in the other dove-tail groove in the stop and provided with teeth which engage the teeth on said stop bar, pins projecting from said stop and locking member into said recess, and a spring coöperative with said pins and operative to normally maintain the teeth on the locking member in engagement with teeth on said bar.

4. In a typewriting machine, the combination of a stop bar recessed in one side thereof throughout its length, a stop carried by said bar and having a dove-tail groove therein at substantially right angles to the length of said bar, a dove-tail locking member received in the dove-tail groove in said stop, and a spring between said stop and locking member, said spring being received within the recess in said bar.

5. In a typewriting machine, the combination of a paper carriage, a channeled stop bar, a channeled stop, the channel of the stop bar facing the channel of the stop and the stop embracing and sliding on the stop bar, the stop bar being dove-tailed into the channel

of the stop, and a spring-pressed latching device carried by the stop and provided with teeth which engage teeth on the stop bar, the channel in the stop bar forming a housing for the latch spring and its mounting.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York this 26 day of February, A. D. 1907.

GEORGE F. BAILLOU.

Witnesses:
E. M. WELLS,
M. F. HANNWEBER.