

975,100.

Patented Nov. 8, 1910.  
2 SHEETS—SHEET 1.

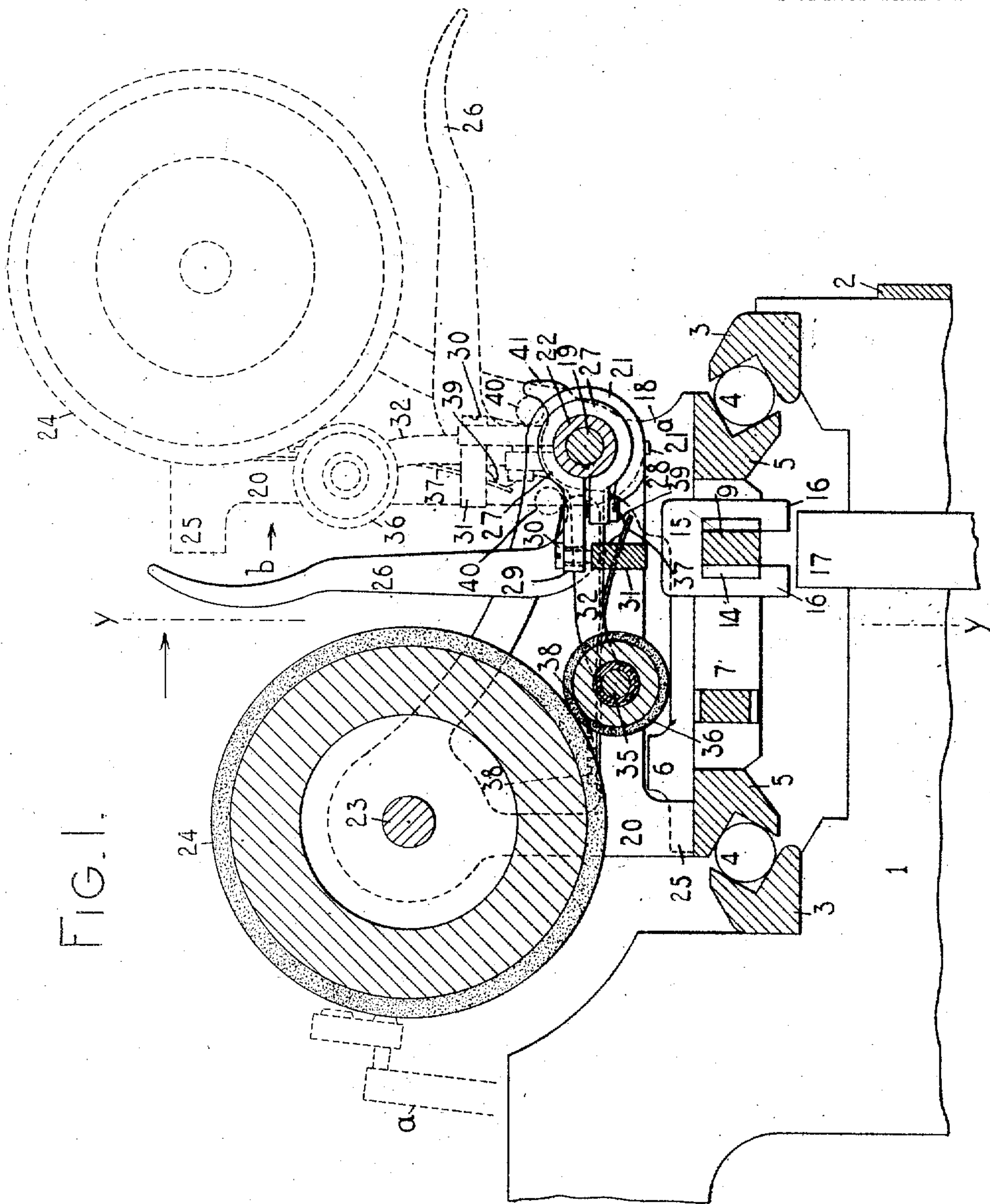


FIG. 1.

WITNESSES:

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*Charles E. Smith*

INVENTOR

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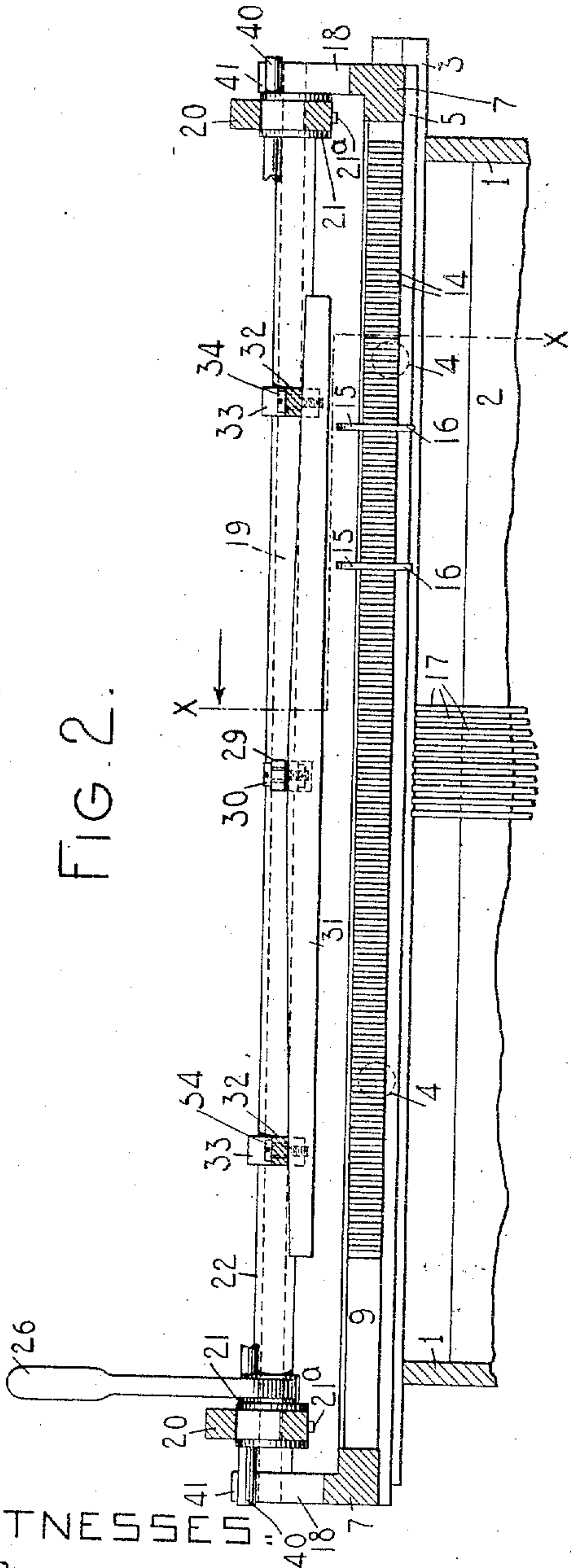
HIS ATTORNEY

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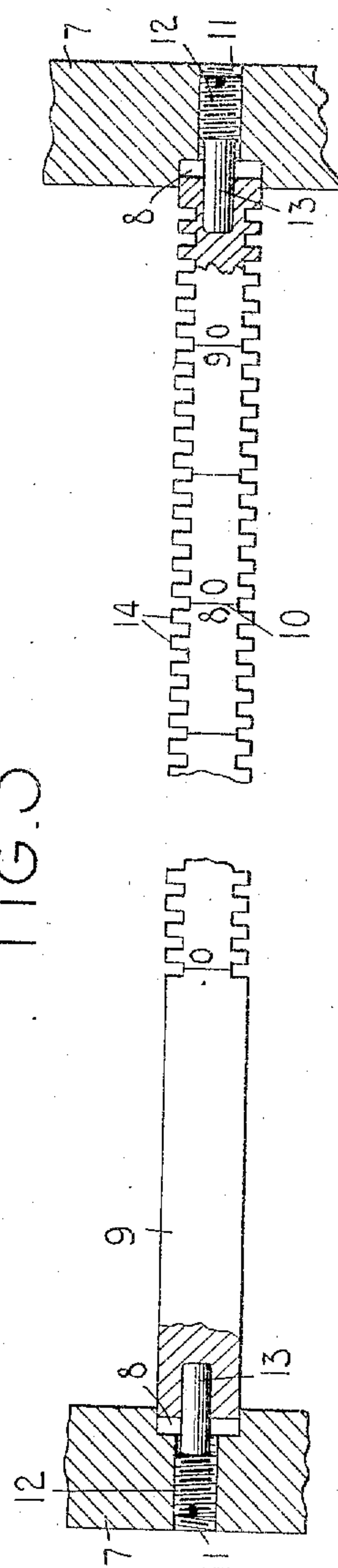
2 SHEETS-SHEET 2.

FIG. 2.



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FIG. 3.



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# UNITED STATES PATENT OFFICE.

CLIO B. YAW, OF ARLINGTON, NEW JERSEY, ASSIGNOR TO REMINGTON TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

975,100.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed July 30, 1909. Serial No. 510,405.

*To all whom it may concern:*

Be it known that I, CLIO B. YAW, a citizen of the United States, and resident of Arlington, in the county of Hudson and State of New Jersey, 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 to tabulating mechanism.

One object of my invention is to provide means whereby the tabulator may be embodied within the body of the machine and does not project beyond the outline of the frame of the machine, and to provide means whereby access may be readily had to certain of the tabulator stops by swinging back the platen.

A further object of my invention is to provide means for automatically locking certain of the tabulator stops against displacement when the platen is moved down to operative position.

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 particularly pointed out in the appended claims.

In the accompanying drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is an enlarged detail fragmentary vertical fore and aft sectional view taken on the line  $x-x$  of Fig. 2 and looking in the direction of the arrow at said line, the view showing a sufficient number of parts of one form of typewriting machine to illustrate my invention in its embodiment therein. Fig. 2 is a fragmentary vertical transverse sectional view of some of the parts shown in Fig. 1, the section being taken on the line  $y-y$  of Fig. 1 and looking in the direction of the arrow at said line. Fig. 3 is an enlarged detail plan view showing the column stop bar and the means for mounting the same, some of the parts being shown in section.

I have shown my invention embodied in the present instance in a front-strike machine wherein the type bars  $a$  strike against the front face of the platen, though it should be understood that from certain aspects of

my invention it may be embodied in other styles of typewriting machines.

The frame of the machine comprises side or end plates 1 united by a front cross plate (not shown) and a rear cross plate 2. Fixed guide rails 3 are supported on the side plates and are grooved on opposite sides for co-operation with anti-friction balls or rollers 4 which are likewise received in oppositely grooved rails 5 of a carriage truck 6. The carriage truck is thus supported for movement from side to side of the machine. The carriage truck is provided with end bars 7 having angular recesses 8 formed therein (see Fig. 3) for the reception of a column stop bar 9 squared at its ends for the reception in the squared openings 8 in the ends of the truck. The upper face of this bar is provided with indices 10 corresponding to the carriage scale. Tapped openings 11 extend through the end bars 7 of the truck and receive headless screws 12 with reduced unthreaded ends 13 which are received in openings in the ends of the column stop bar.

From an inspection of Fig. 3 it will be observed that the ends of the column stop bar terminate short of the bottom walls of the opening 8 so that the screws 12 provide means for effecting a longitudinal adjustment of the column stop bar by turning one screw out and the other in, and the bar is held by said screws against longitudinal movement on the truck when the desired adjustment has been attained. The column stop bar is prevented from a rotative movement by the squared ends thereof being seated in the squared openings 8 in the truck. The column stop bar may be readily detached from the truck by withdrawing both of the screws 12 from the openings in which they are seated in the column stop bar.

The bar 9 is toothed as indicated at 14 on opposite sides thereof to provide interdental spaces between the teeth for the reception of bifurcated column stops 15, the depending arms 16 of which extend below the column stop bar and are coöperative with a suitable tabulating stop or stops which in the present instance are illustrated as a series of denominational stops 17 actuated by any suitable means, and each adapted to receive an upward movement into the path of the



depending arms 16 of the column stops. The character of the tabulating means which co-act with the column stops 15 is immaterial for the purpose of the present invention.

5 The ends of the truck are formed with upwardly extending lugs or projections 18 apertured to receive the ends of a shaft 19 which turn freely in the bearing openings in said lugs. A platen frame 20 has apertured portions 21 which surround and are fixed to the shaft 19 by pins 21<sup>a</sup> so that the platen frame and shaft 19 are fixed to turn together. The platen frame is likewise provided with bearing openings to receive a  
10 platen shaft 23 of a cylindrical platen 24. Depending feet 25 on the platen frame are adapted to rest upon the forward rail 5 of the carriage truck when the platen frame is in the normal position as shown in full  
15 lines in Fig. 1. A sleeve or hollow rock shaft 22 is adapted to turn freely on the shaft 19, and is provided with a finger piece or arm 26 fixed to the left-hand end of the hollow shaft and adapted to rotate it on the  
20 shaft 19. A split sleeve 27 (see Fig. 1) surrounds the hollow shaft 22 about midway in its length and has its ends united by a headed screw 28. An arm 29 extends forwardly from the split sleeve 27 and is apertured to receive a headed screw 30 which is received at its threaded end in a tapped  
25 opening in a bar 31 that extends longitudinally of the platen substantially throughout the length of the column stop bar as shown in Fig. 2. The end portions of this locking  
30 bar 31 coöperate with hangers 32 formed with sleeves 33 which surround and are loose upon the hollow shaft 22 so as to render them independently movable. Screws 34 loosely connect the hangers 32 with the bar  
35 31. The hangers 32 are adapted to receive the ends of a shaft 35 which supports paper feed rollers 36. A leaf spring 37 is secured by screws 38 to the platen frame and bears  
40 at its free end against a projection 39 on the arm or finger piece 26. The pressure of the spring is exerted to turn the finger piece 26 in the direction of the arrow *b* in Fig. 1, thus exerting a pressure which turns the  
45 hollow shaft 22 so as to effect an upward movement of the bar 31 and the latter pressing against the hangers 32 maintains the feed rollers in contact with the platen or the paper thereon. When the finger piece 26 is  
50 moved forwardly, in the opposite direction from that indicated by the arrow *b* in Fig. 1, the bar 31 will be moved downwardly, thus releasing the pressure on the hangers of the paper feed rollers and allowing the feed  
55 rollers to be cast off.

From an inspection of Figs. 1 and 2 it will be seen that the column stop bar 9 is situated beneath the platen frame and below the platen and that the so-called locking bar 31  
60 is normally maintained above the series of

column stops 15 and prevents the column stops from being moved upwardly far enough to disengage them from the column stop bar, so that the column stops cannot be displaced from the positions to which they  
70 are adjusted along the column stop bar when the platen and platen frame are in the normal positions shown in full lines in Fig. 1. Moreover, it will be understood that when the parts are in the full-line positions access  
75 to the column stops for the purpose of adjustment cannot be had. When, however, the platen frame is swung back to the dotted line position shown in Fig. 1 the column stops are uncovered, giving ready access to  
80 the column stops, to enable them to be adjusted, from the front of the machine to different positions along the column stop bar. Moreover, the act of swinging the platen back to the dotted line position carries the  
85 locking bar 31 to a position where it is no longer in coöperative relation with the column stops to maintain them locked on the column stop bar, so that they may at this time be readily removed and adjusted along  
90 the bar. When the platen is again swung down to the full line position in Fig. 1, the bar 31 is moved to the locking position, thus automatically locking the column stops against detachment from the column stop  
95 bar 29. In order to limit the swinging movement of the platen frame I have provided stop pins 40 on the platen frame which coöperate with upwardly extending stops 41  
100 formed on the bearing lugs 18 of the truck.

It will be seen that the tabulator of my invention is what may be termed a "built in" tabulator being contained wholly within the body of the machine and does not project beyond the outline of the frame as in  
105 most of the tabulators heretofore devised.

While I have shown and described the locking bar 31 as a part of the paper feed mechanism and whereby spring pressure is applied to the paper feed rollers and where-  
110 by the paper feed rollers may be cast off, it should be understood that the locking bar may be carried by the platen frame in any suitable manner and that its sole function may be to lock the column stops in place  
115 when the platen is in the operative position, so far as the broader aspects of my invention are concerned.

The paper feeding mechanism herein shown and described is claimed as such in a  
120 separate application, Serial No. 510,404 filed of even date herewith and is not claimed herein except in combination with the tabulating mechanism.

In a previously filed application Serial  
125 No. 507,920 filed by me on the 16th day of July, 1909, I have broad claims which cover swinging back a platen frame for giving access to an adjustable stop, the claims in the present application being restricted to fea-  
130



tures not embodied in said earlier application.

Various changes may be made without departing from the spirit and scope of my invention.

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

1. In a typewriting machine, the combination of a carriage, a platen carried by the carriage and mounted for swinging movement thereon, tabulator mechanism including an adjustable tabulator stop situated below the platen and accessible for the purpose of adjustment by swinging back said platen, and a cooperating stop normally out of the path of said tabulator stop.

2. In a front-strike typewriting machine, the combination of a carriage, a platen carried by and mounted for swinging movement thereon, an upwardly and rearwardly swinging type bar which strikes against the front face of the platen, tabulating mechanism including an adjustable tabulator stop situated below the platen and accessible for the purpose of adjustment by swinging back said platen, and a cooperating tabulator stop normally out of the path of the said adjustable stop.

3. In a typewriting machine, the combination of a carriage truck, a platen frame mounted for swinging movement on said truck, and tabulating mechanism comprising a stop rod carried by the truck and mounted below the platen, a tabulating stop mounted on and adjustable along said stop and accessible for the purpose of adjustment by swinging back the platen, and a cooperating tabulator stop normally out of the path of said adjustable stop.

4. In a front strike typewriting machine, the combination of a horizontally arranged carriage truck, a platen frame pivotally supported at the rear side of said truck for upward and downward swinging movements and also supported at the front portion of said truck, a stop rod carried by said truck and under said platen frame and forward of its pivotally supported portion, adjustable and removable tabulator stops mounted on said stop rod, and a plurality of cooperating stops arranged below said stop rod and normally out of the path of said removable and adjustable tabulator stops.

5. In a typewriting machine, the combination of a swinging carriage, tabulating mechanism including an adjustable tabulator stop, and means for automatically locking said tabulator stop against displacement when the carriage is swung down into operative position.

6. In a typewriting machine, the combination of a swinging carriage, tabulating mechanism including a toothed column stop bar, and a plurality of bifurcated column stops detachably mounted on and adjust-

able to different positions along said column stop bar, and means for automatically locking the column stops against displacement from said column stop bar when the carriage is swung down into operative position.

7. In a typewriting machine, the combination of a swinging platen frame, a member carried thereby, and tabulating mechanism including a tabulator stop which is held against displacement by said member on the platen frame when the latter is swung down into operative position.

8. In a typewriting machine, the combination of a carriage, a platen frame mounted for swinging movement on the carriage, a platen carried by said platen frame, a bar which is carried by the platen frame, and tabulator mechanism comprising an adjustable tabulator stop with which said bar is in cooperative relation when the platen frame is swung down into operative position, to prevent the said stop from being displaced from its adjusted position.

9. In a typewriting machine, the combination of a carriage, a platen frame mounted for swinging movement on the carriage, a platen carried by said platen frame, a bar which is carried by the platen frame and extends longitudinally of the platen, and tabulating mechanism comprising a plurality of adjustable column stops with which said bar is in cooperative relation when the platen frame is swung down into operative position, to prevent the said stops from being displaced from their adjusted positions and which are released by said bar when the platen frame is swung back.

10. In a front-strike typewriting machine, the combination of a carriage, a platen frame mounted for swinging movement on the carriage, a platen carried by said platen frame, a type bar which swings upwardly and rearwardly and strikes against the front face of the platen, a bar which is carried by the platen frame, and tabulating mechanism comprising an adjustable tabulator stop which is situated below the platen and with which said bar is in cooperative relation when the platen frame is swung down into operative position, to prevent the said stop from being displaced from its adjusted position and which is released by said bar when the platen frame is swung back.

11. In a front-strike typewriting machine, the combination of a carriage truck, a platen frame mounted for swinging movement on said truck, a platen carried by said platen frame, a type bar which swings upwardly and rearwardly and strikes against the front face of the platen, a locking bar which is carried by the platen frame and swings with it, and tabulating mechanism including a column stop bar carried by said truck and situated below the platen, and a plurality



of column stops adjustably mounted on said column stop bar and with which column stops the locking bar is in coöperative relation when the platen frame is swung down into operative position, to prevent the column stops from being displaced from their adjusted positions.

12. In a front-strike typewriting machine, the combination of a carriage truck, a platen frame mounted for swinging movement on said truck, a platen carried by said platen frame, a type bar which swings upwardly and rearwardly and strikes against the front face of the platen, a locking bar which is carried by the platen frame and swings with it, said locking bar extending longitudinally of the platen, and tabulating mechanism including a toothed column stop bar carried by said truck and situated below the platen, and a plurality of bifurcated column stops detachably mounted on said column stop bar and adjustable to different points along said bar and with which column stops the locking bar is coöperative when the platen frame is swung down into operative position, to prevent the column stops from being removed from said stop bar.

13. In a typewriting machine, the combination of a carriage, a platen carried by the carriage and mounted for swinging movement thereon, tabulator mechanism including an adjustable tabulator stop situated below the platen and access to which for the purpose of adjustment may be gained by swinging back said platen, and means for automatically locking said tabulator stop against displacement from its adjusted position when the platen is turned down into operative position.

14. In a front-strike typewriting machine, the combination of a carriage truck, a platen frame mounted for swinging movement on said truck, an upwardly and rearwardly swinging type bar which strikes against the front face of the platen, a tabulating mechanism comprising a stop rod carried by the truck and mounted beneath the platen, a tabulating stop mounted on and adjustable along said stop rod and access to which stop for the purpose of adjustment is gained by swinging back the platen, and means for automatically locking said tabulating stop against displacement from its adjusted position when the platen is turned down into operative position.

15. In a typewriting machine, the combination of a carriage, a platen carried by the carriage and mounted for swinging movement thereon, paper feed mechanism comprising paper feed rollers, and a bar for casting off said rollers, tabulating mechanism including an adjustable tabulating stop situated below the platen and access to which for the purpose of adjustment may be gained by swinging back said platen, the said bar being in coöperative relation with the adjustable column stop when the platen is in the operative position, to automatically lock the column stop against displacement from the position to which it has been adjusted.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 29th day of July, A. D. 1909.

CLIO B. YAW.

Witnesses:

CHARLES E. SMITH,  
E. M. WELLS.