No. 668,572. Patented Feb. 19, 1901.

W. J. BARRON.

TYPE WRITING MACHINE.

(Application filed June 22, 1900.)

(No Model.) 2 Sheets—Sheet 1.

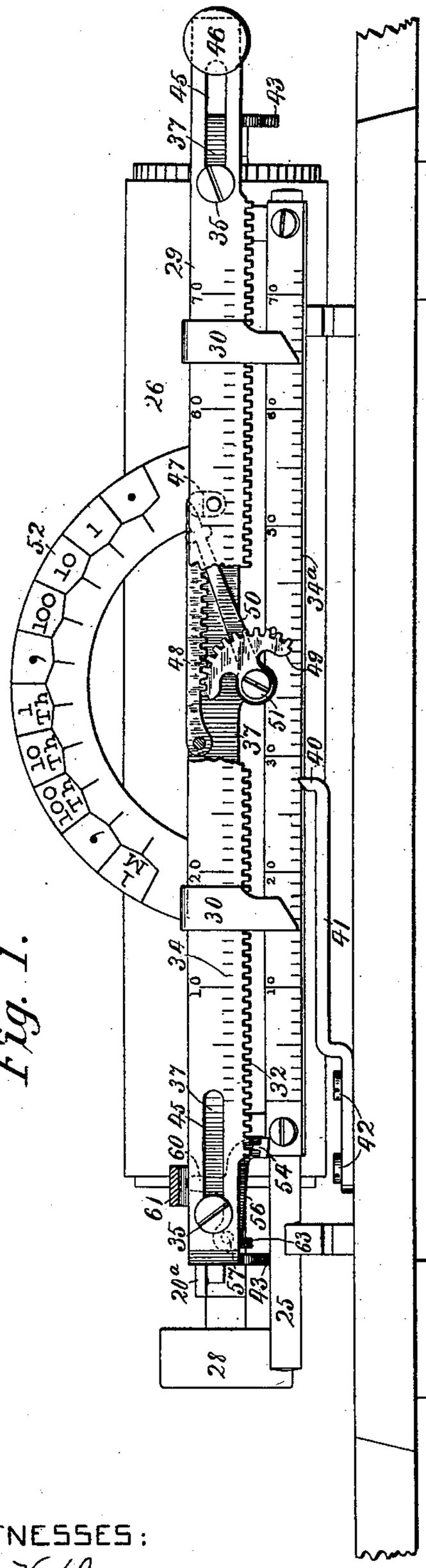

Fig. 1.

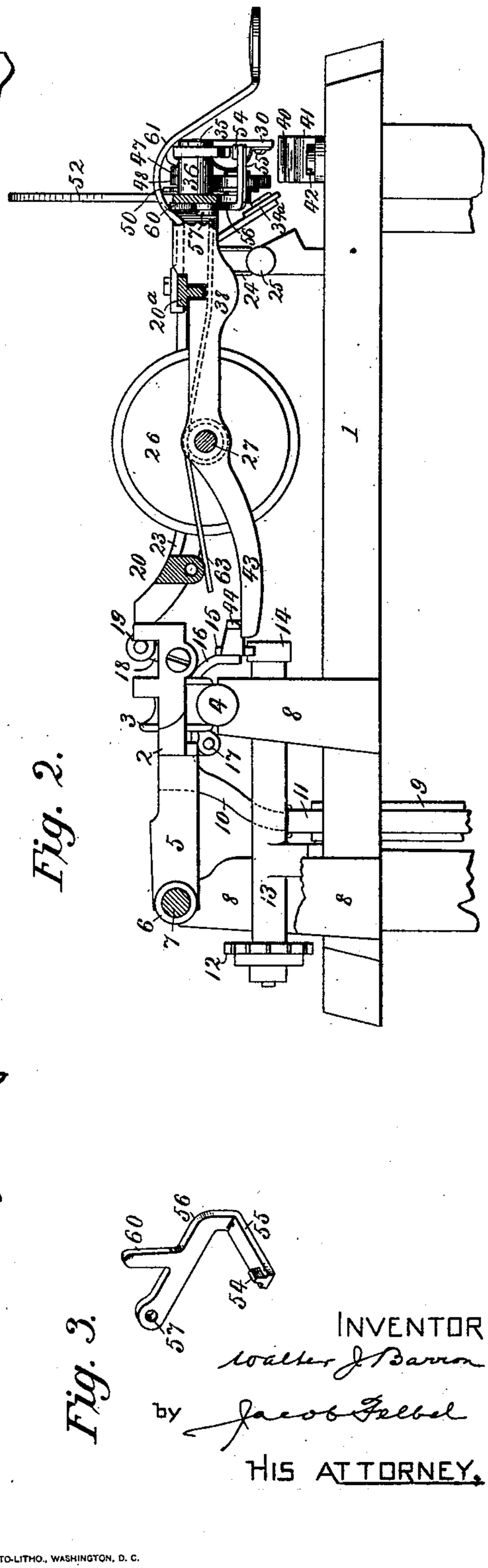

Fig. 2.

Fig. 3.

WITNESSES:
K. V. Donovan.
E. M. Wells

INVENTOR
Walter J. Barron
by Jacob Febel
HIS ATTORNEY.

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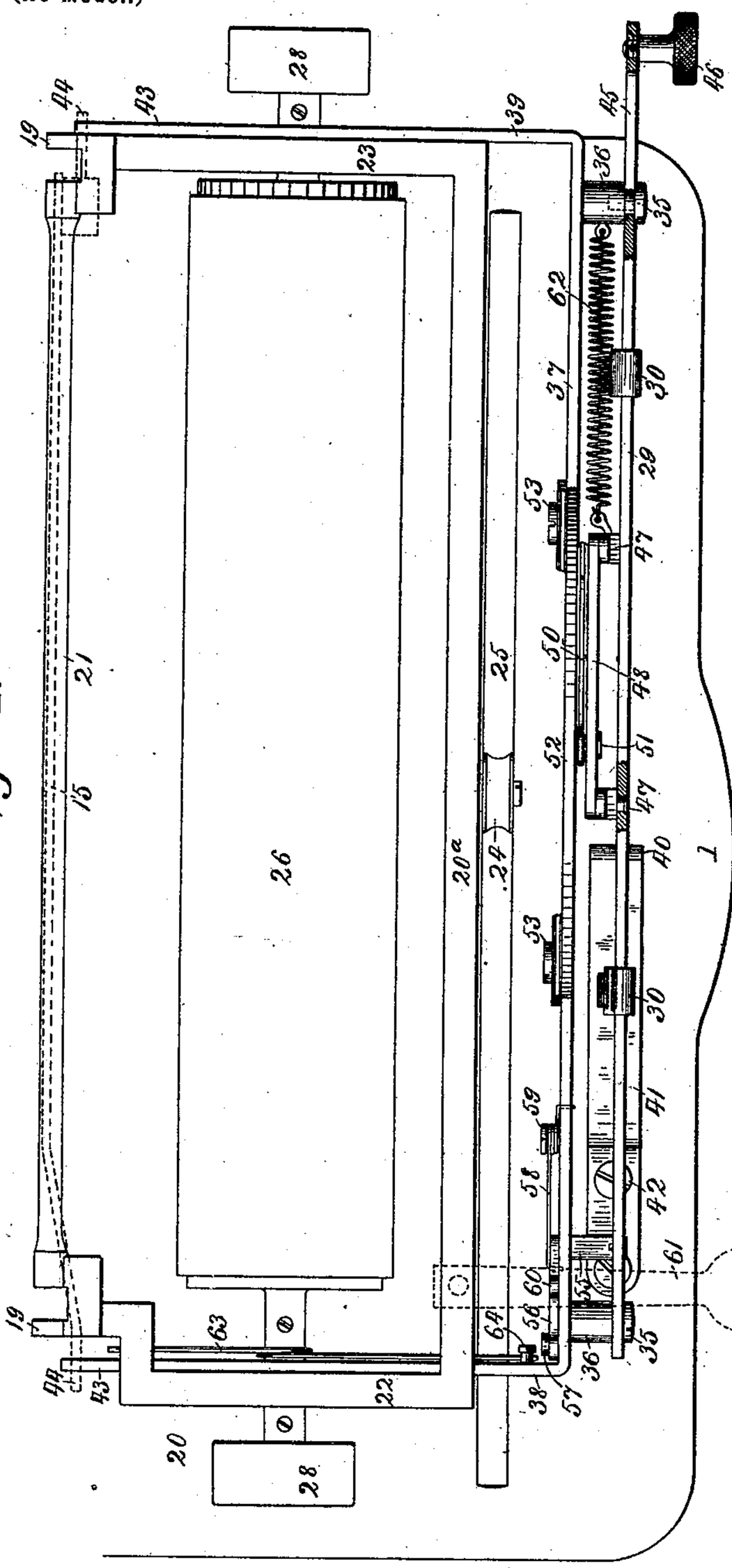

Fig. 4.

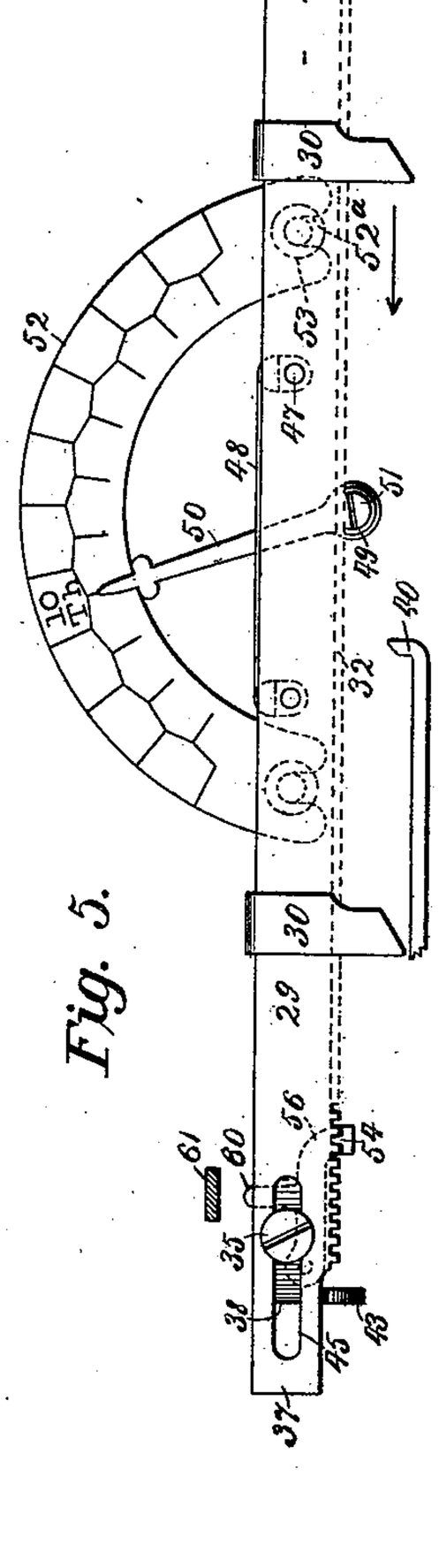

Fig. 5.

Fig. 6.

WITNESSES:
K. V. Donovan.
E. M. Wells.

INVENTOR
Walter J. Barron
by Jacob Fehr
HIS ATTORNEY.

UNITED STATES PATENT OFFICE.

WALTER J. BARRON, OF NEW YORK, (BROOKLYN,) NEW YORK, ASSIGNOR TO THE DENSMORE TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 668,572, dated February 19, 1901.

Application filed June 22, 1900. Serial No. 21,144. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. BARRON, a citizen of the United States, and a 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.

The object of the present invention is to provide a tabulating mechanism for type-writing and other machines which shall be made of few parts and readily placed upon existing machines and which shall enable the operator by a simple manipulation to release the paper or other carriage and move it rapidly to a point for beginning the writing of a number of any desired denomination.

The invention consists of certain features of construction, combinations of devices, and arrangements of parts, all as will be more fully hereinafter set forth, and particularly pointed out in the concluding claims.

In the accompanying drawings, Figure 1 is a front view of the top portion of a Remington No. 6 type-writing machine provided with a tabulating mechanism in accordance with my invention and showing the parts in normal position. Fig. 2 is a side elevation, partly in section, of said type-writing and tabulating mechanism and also showing the parts in normal position. Fig. 3 is a perspective view of a locking device. Fig. 4 is a plan view of the platen-carriage and tabulating devices. Fig. 5 is a front elevation of the column-stop bar and index, the parts being shown as adjusted to the ten-thousand position and the lock being shown in working position; and Fig. 6 is a detail view illustrating the manner of releasing the column-stop from engagement with the teeth provided upon the column-stop bar.

In the several views parts are omitted or broken away to more clearly exhibit the invention, and similar parts are designated by similar numerals of reference.

1 indicates a top plate or type-ring, and 2 a carriage having guide-rolls 3, which run upon a rail 4, and also having an arm 5, which engages a sliding collar 6 upon a rail 7, said rails being supported upon standards 8, rising from the top plate. The carriage is connected to a spring-drum 9 by an arm 10 and a strap 11 and is connected to an escapement or letter-feeding wheel 12 by a shaft, (arranged in housing 13,) a pinion 14, and a rack 15, the latter being mounted on arms 16, which are hinged to the carriage at 17. To the upper ends of a pair of arms 18, pivoted upon the carriage in front of the rail 4, is hinged at 19 a rectangular platen frame or carriage, which is generally designated as 20 and comprises front bar 20^a, rear bar 21, and end bars 22 and 23 and which is also provided with a front roll 24, running upon a shift-rail 25, and also carries a cylindrical platen 26, whose shaft or axle 27 is journaled in said end bars and is provided with finger-wheels 28.

The foregoing devices, as well as others which it is not necessary to illustrate, are well known in the Remington No. 6 type-writing machine.

Upon a bar 29 is supported a set of column-stops 30, the upper end of each stop hooking over the top edge of the bar and the lower end thereof projecting considerably below the bar and each stop being also provided both with a rearwardly-projecting tooth 31 for engaging a set of teeth or rack 32, formed or provided upon the lower edge of said bar, and also with a curved spring 33, the lower end whereof is fastened to the stop and the upper end whereof bears against the rear vertical face of the bar and serves to hold the tooth in engagement with the rack. The lower end of the stop may be drawn forward to disengage the tooth, Fig. 6, and the stop may be then adjusted to any desired position along said bar by reference to a scale 34, provided upon the front face thereof and corresponding to the usual carriage-scale 34^a, and may then be released, whereupon the tooth 31 will snap into engagement with the rack.

The column-stop bar 29 is supported, by means of screws 35, upon horizontal studs 36, projecting forwardly from the longitudinal front bar 37 of a U frame or bail, the side arms 38 39 whereof are pivoted upon the platen-shaft, so as to permit the bail to be swung downwardly to bring the column-stops into position for engaging an upwardly-pro-

jecting stop 40. The latter has a broad working face to accommodate the shifting movement of the platen-frame and is carried by an arm 41, secured upon the top plate 1 by screws 42. Each of the side arms 38 39 is prolonged at 43 to extend beneath arms or extensions 44, formed upon the rack-bar 15 of the carriage-feeding mechanism, whereby upon the depression of said bail the devices 43 lift the feed-rack out of engagement with the pinion 14, thus releasing the carriage, which is moved rapidly to the left by its propelling spring-drum 9 until arrested by engagement of a column-stop with the fixed stop 40. The screws 35 are shouldered and engage longitudinal slots 45, formed in said column-stop bar, near its ends, whereby the bar is enabled to have a limited independent endwise movement upon said depressible frame, a finger-piece 46 being provided, preferably at the right-hand end of the bar, for effecting such movement. Upon rearwardly-projecting studs 47, mounted upon said bar, is fixed a short horizontal rack 48, which meshes with a pinion 49, provided upon an index 50, said pinion and index being pivotally mounted upon a shouldered screw 51, which engages a threaded hole in said bar 37, so that when said column-stop bar is given an endwise movement said pinion and index are caused to rotate. A scale or quadrant 52 is secured by screws 53 upon the bar 37 and is provided with divisions corresponding to the various denominational positions to which the column-stop bar may be adjusted, so that by noting the division upon said quadrant to which said index points the operator is informed of the extent of adjustment of the column-stop bar.

A tooth or detent 54 is carried upon a forwardly-extending portion 55 of an arm 56, which is pivoted at 57 upon the rear face of the bar 37 of the depressible column-stop frame, said tooth standing normally just under the column-stop bar 29, but out of engagement therewith, and said arm 56 being maintained in its normal elevated position by a spring 58, coiled around a screw 59 and bearing up at one end against the under side of the bar 37 and at the other end against the under side of said arm 56. The latter is provided with an upwardly-extending ear 60, which contacts with the under side of a handle 61, usually fixed upon said platen-frame, which limits the upward movement of said pivoted arm, and hence of said tooth 54.

A draw-spring 62 is connected at one end to the right-hand stud 36 and at its other end to one of the studs 47, provided upon the column-stop bar, and serves to return the latter to normal position after longitudinal adjustment. A separate spring 63 is coiled about the left-hand platen-hub and bears up at its rear end against the under side of a portion of the platen-frame and at its forward end against a stud or screw 64, fixed upon the left-hand arm 38 of the depressible column-stop frame, and serves to raise the latter to normal position after a downward movement thereof.

In operation the position of the columns upon the page may be predetermined by adjustment of the stops 30, which are successively swung forward out of engagement with the teeth 32, Fig. 6, and adjusted along the bar 29 by reference to the scale 34, the spring 33 causing the tooth 31 to snap into reëngagement when the stop is let go. The finger-piece or key 46 is then operated to slide the column-stop bar to the left and rotate the index 50 until the latter stands centrally of that division upon the segmental scale 52 whose denomination corresponds to that of the number to be written, and then said key is depressed and the entire column-stop frame swung downwardly about the platen-axle, thus bringing the column-stops down into a position for engaging the abutment 40 upon the framework and through the arms 43 lifting the rack 15 out of engagement with the pinion 14, thus freeing the carriage and enabling it to move along rapidly under the influence of its spring-drum 9 until the carriage is arrested by the contact of a column-stop with the said abutment 40. During the initial portion of said depression of the column-stop bar one of the notches formed in the lower edge thereof engages with the tooth 54, which thereafter locks said bar against endwise movement independently of the carriage, and hence insures the maintenance of the endwise adjustment of said bar relatively to said carriage during the rapid movement of the latter when released from the control of its letter-feeding devices. In other words, the column-stop bar after endwise adjustment thereof and during its transverse movement is automatically locked, so that the adjustment of said bar is not disturbed. Said tooth 54 should be so arranged as to engage the set of notches or teeth 32 on the column-stop bar before the rack 15 of the carriage-escapement mechanism is released from the pinion 14. Upon the key 46 being released from pressure the column-stop frame is raised by the spring 63, permitting the rack 15 to drop into reëngagement with the pinion 14 and disengaging the column-stop 30 from the abutment 40, and the spring 62 serves to slide the column-stop bar reversely, thereby rotating the pinion 49 and index 50 to normal position. The tension of the spring 62 should be relatively weaker than that of the spring 63, so as to insure the reëngagement of rack 15 with pinion 14 before the column-stop bar is retracted. The locking device 54 is disengaged from the rack 32 upon the column-stop bar during the upward movement of the latter by reason of the contact of ear 60 with the handle 61, fixed upon the carriage 20. The foregoing operation is repeated in order to bring the carriage to the proper denomi-

national position for beginning the writing of the desired number in the next column, and so on.

The quadrant 52 may be provided upon its rear face with a scale from which the commas are omitted or with any other desired scale, and the ends may be slotted, as at 52ª, Fig. 5, to facilitate detaching and attaching the quadrant.

It will thus be seen that I have contrived a tabulating mechanism which is simple in construction and operation, inexpensive to manufacture, and which can be adapted readily to existing types of machines.

Parts of the improvements may be used without others, and many changes may be made in the details of construction and arrangement within the scope of the invention.

Although I have illustrated the invention in connection with a type-writing machine, yet certain of my improvements are also applicable to adding-machines in which it may be desirable to move a carriage quickly to different denominational positions.

Certain broad subject-matter herein shown and described but not claimed is set forth and claimed in another application, Serial No. 21,034, filed by me June 21, 1900.

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

1. In a type-writing and tabulating mechanism, the combination of a carriage, a bar arranged thereon and extending longitudinally thereof and independently adjustable endwise, a series of column-stops independently adjustable along said bar, and means for locking said bar in its adjusted position.

2. In a type-writing and tabulating mechanism, the combination of a carriage, a series of independently-adjustable column-stops constructed to travel with the carriage, means for adjusting said column-stops simultaneously to different denominational positions, a pivoted index connected to said stops, and a segmental scale.

3. In a type-writing and tabulating mechanism, the combination of a carriage, a series of independently-adjustable column-stops constructed to travel with the carriage, means for adjusting said stops simultaneously in the direction of their travel and independently of the carriage to different denominational positions, and a pivoted index also constructed to travel with the carriage.

4. In a type-writing and tabulating mechanism, the combination of a carriage, a bar arranged thereon and extending longitudinally thereof and adjustable independently of the carriage, a series of column-stops independently adjustable along said bar, means for variably adjusting said bar, and an index connected to said bar.

5. In a type-writing and tabulating mechanism, the combination of a carriage, a bar arranged thereon and extending longitudinally thereof and independently adjustable endwise, a series of column-stops independently adjustable along said bar, means for variably adjusting said bar in the direction of its length, and a pivoted index also arranged upon said carriage and connected to said bar by toothed gearing.

6. The combination of a carriage, a frame thereon, a stop arranged upon said frame and adjustable to different denominational positions in a direction parallel with the run of the carriage, means for moving said stop and frame transversely, a locking device, and a stop arranged upon the framework.

7. The combination of a carriage, a stop arranged thereon and adjustable to different denominational positions in a direction parallel with the run of the carriage, a spring for returning said stop to normal position from said adjusted position, means for moving said stop transversely, a separate spring for returning said stop after such transverse movement, a locking device, and a stop arranged upon the framework.

8. In a type-writing and tabulating mechanism, the combination of a carriage, a series of independently-adjustable column-stops constructed to travel with the carriage, means for moving said stops simultaneously in the direction of their travel and independently of the carriage to different denominational positions, means for moving said stops in a direction transverse to the direction of their travel, means for locking said stops in their adjusted position, and a stop arranged upon the framework.

9. In a type-writing and tabulating mechanism, the combination of a carriage, a bar arranged thereon and extending longitudinally thereof and independently adjustable endwise, a lock for said bar, a series of column-stops independently adjustable along said bar, means for moving said bar transversely, and a stop arranged upon the framework.

10. In a type-writing and tabulating mechanism, the combination of a carriage, a bar arranged thereon and extending longitudinally thereof and independently adjustable endwise, a lock for said bar, a series of column-stops independently adjustable along said bar, a key for depressing said bar, and a stop arranged upon the framework beneath said bar.

11. In a type-writing and tabulating mechanism, the combination of a carriage, as 20, a frame hinged upon the carriage, a bar supported upon said frame and constructed to move independently endwise, a lock for said bar, and a series of column-stops independently adjustable along said bar.

12. In a type-writing and tabulating mechanism, the combination of a carriage, as 20, a bail hinged upon said carriage, a column-stop bar 29 having slots 45, means arranged upon said bail for engaging said slots to support said bar and permit its endwise movement, and a spring-pressed locking device pivotally supported upon said bail.

13. In a type-writing and tabulating mechanism, the combination of a carriage, a bar supported upon the carriage, and movable endwise and transversely independently of the carriage, a series of column-stops independently adjustable upon said bar, a key for said bar, and an index.

14. In a type-writing and tabulating mechanism, the combination of a carriage, a bar arranged upon said carriage and carrying a series of independently-adjustable column-stops, an index also arranged upon said carriage, connections from said index to said bar, means for causing said bar to move in a direction transverse to its length, and a lock for said bar.

15. In a type-writing and tabulating mechanism, the combination of a carriage, frame 37, 38, 39, endwise-movable bar 29 supported upon said frame, index 50 connected to said bar 29, and a locking device mounted upon said frame for engaging said bar.

16. In a type-writing and tabulating mechanism, the combination of a carriage, a bar thereon, a series of column-stops and a key on said bar, means for enabling said key to move said bar both endwise and transversely, an index, and a locking device.

17. The combination of a carriage, an escapement mechanism therefor, a stop arranged upon said carriage and adjustable to different denominational positions, means for adjusting said stop, a lock for maintaining the adjustment of said stop, and mechanism controlled by said adjusting means for releasing said carriage from the control of said escapement mechanism.

18. In a type-writing and tabulating mechanism, the combination of a carriage, an escapement mechanism therefor, a series of independently-adjustable column-stops constructed to travel with the carriage, means for adjusting said stops simultaneously to different denominational positions in the direction of the travel and independently of the carriage, a lock for maintaining said adjustment, and a carriage-release mechanism controlled by said adjusting means.

19. In a type-writing and tabulating mechanism, the combination of a carriage, an escapement mechanism, a bar arranged upon said carriage and extending longitudinally thereof, a series of column-stops independently adjustable along said bar, means for adjusting said bar endwise independently of said carriage, a lock for maintaining said adjustment, and a carriage-release mechanism controlled by said adjusting means.

20. The combination of a carriage, escapement mechanism, a stop arranged thereon, a key connected to said stop and movable in one direction for adjusting the latter to different denominational positions, and a carriage-releasing mechanism operated by an independent movement of said key in a transverse direction.

21. In a type-writing and tabulating mechanism, the combination of a carriage, escapement mechanism, a bar arranged upon said carriage and extending longitudinally thereof, a series of column-stops independently adjustable along said bar, a key arranged upon said bar for moving the latter to different denominational positions, an index connected to said bar, and a carriage-release mechanism controlled by said key.

22. The combination of a carriage, escapement mechanism, a carriage-releasing mechanism, a stop arranged upon said carriage and adjustable to different denominational positions, a lock for maintaining said adjustment, means for moving said stop transversely and simultaneously operating said carriage-releasing mechanism, and a stop arranged upon the framework.

23. In a type-writing and tabulating mechanism, the combination of a carriage, escapement mechanism, carriage-releasing devices, a bar arranged upon said carriage and carrying a series of independently-adjustable column-stops, means for adjusting said bar longitudinally, a lock for maintaining said adjustment, means for operating said bar transversely and simultaneously operating said carriage-releasing mechanism, and a stop arranged upon said framework.

24. In a type-writing and tabulating mechanism, the combination of a carriage, escapement mechanism, a bar arranged upon said carriage and extending longitudinally thereof and adjustable endwise independently of the carriage, a lock for maintaining said adjustment, a series of column-stops independently adjustable along said bar, a key for depressing said bar, carriage-releasing devices operated by said key, and a stop arranged upon the framework beneath said bar.

25. In a type-writing and tabulating mechanism, the combination of a carriage, as 20, escapement mechanism, a frame hinged upon the carriage, a bar supported upon said frame and constructed to move independently endwise, a lock for detaining said bar, a series of column-stops independently adjustable along said bar, carriage-releasing devices operated by said frame, and a stop arranged upon the framework.

26. In a type-writing and tabulating mechanism, the combination of a carriage, as 20, carriage-escapement mechanism including rack 15, a bail hinged upon said carriage, column-stop bar 29 having slots 45 and also provided with a rack, means arranged upon said bail for engaging said slots to support said bar and permit its endwise movement, locking-tooth 54, and extensions 43 provided upon the bail for releasing said rack.

27. The combination of a carriage, escapement mechanism, carriage-releasing mechanism, a stop, a key operatively connected to said stop and to said release mechanism and constructed to adjust said stop and operate said release mechanism, and a lock for maintaining the adjustment of said stop.

28. The combination of a carriage, an endwise-adjustable and transversely-movable toothed bar carrying a series of independently-adjustable column-stops, and an independently-mounted lock constructed to engage said teeth at the transverse movement of said bar.

29. The combination of a carriage, a stop mounted on an endwise-movable bar and adjustable to different denominational positions, an index connected to said bar, and a reversible scale to be traversed by said index.

Signed in the borough of Manhattan, city of New York, in the county of New York and State of New York, this 20th day of June, A. D. 1900.

WALTER J. BARRON.

Witnesses:
K. V. DONOVAN,
E. M. WELLS.