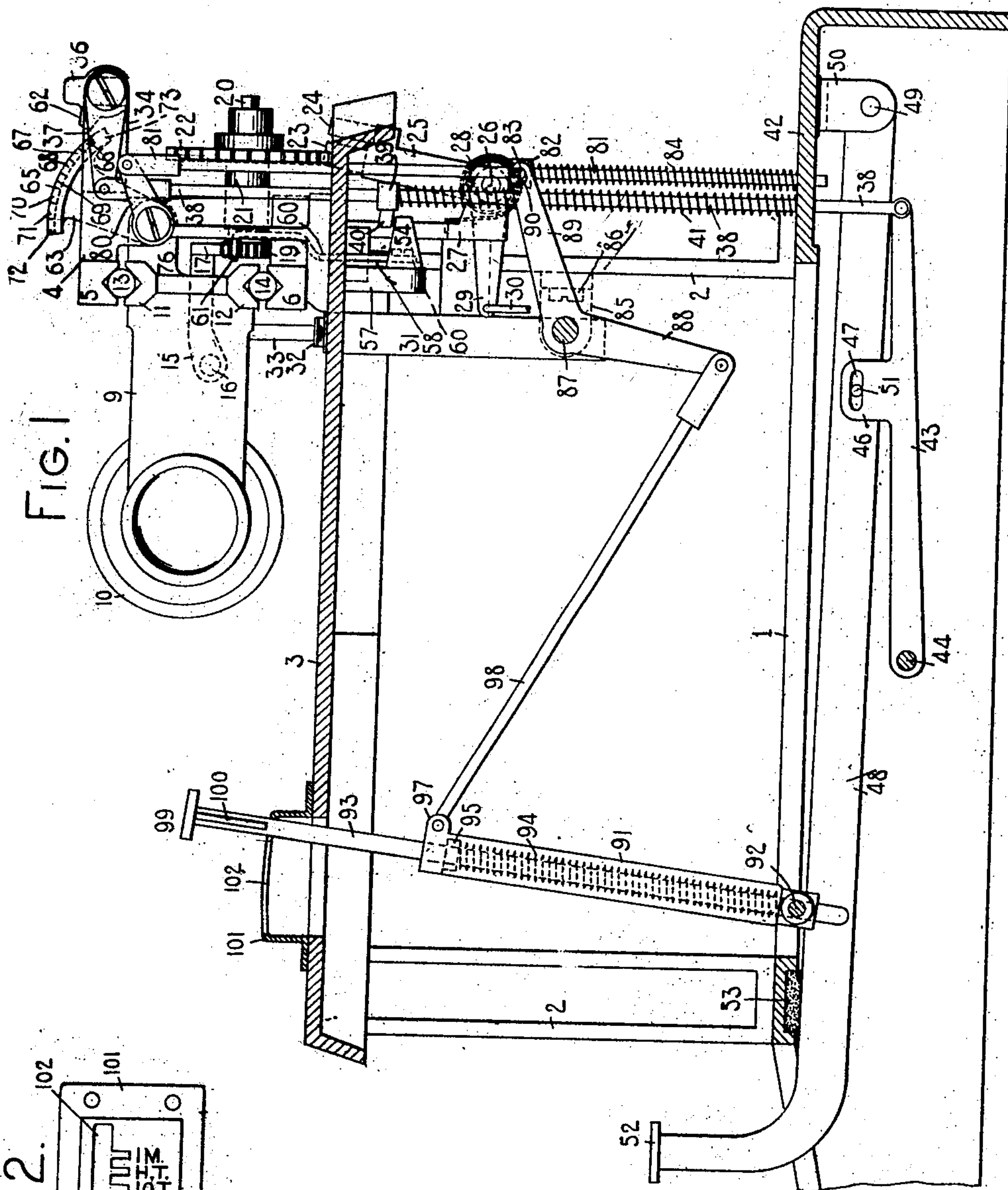


No. 876,379.

H. P. MOORREES.  
TYPE WRITING MACHINE.  
APPLICATION FILED JUNE 27, 1906.

PATENTED JAN. 14, 1908.

2 SHEETS—SHEET 1.



WITNESSES.

*E. M. Wells*  
*Charles E. Smith*

INVENTOR.

*Herman P. Moors*  
*By Jacob F. Fabel*  
HIS ATTORNEY

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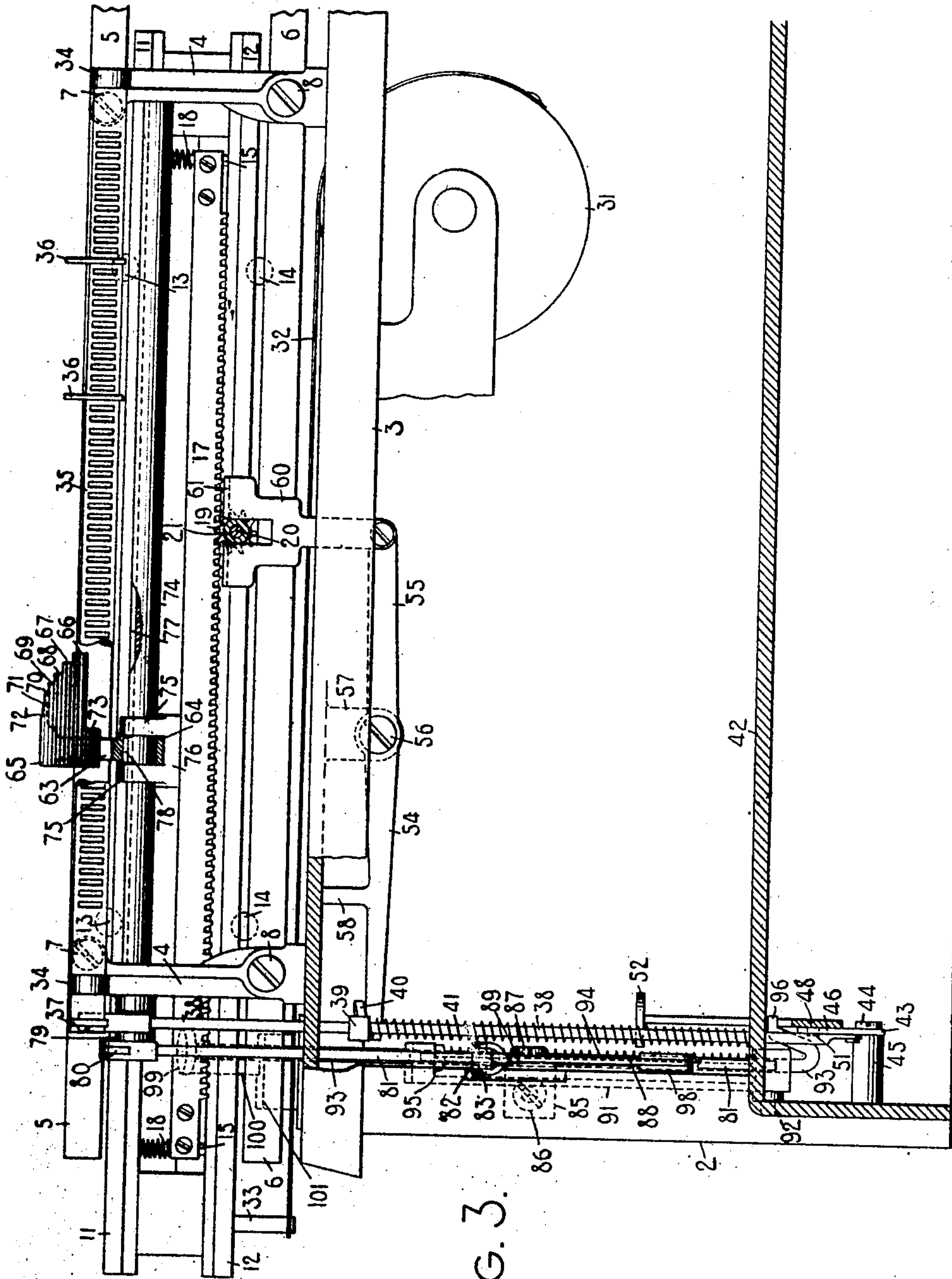


FIG. 3.

WITNESSES:

E. M. Wells.  
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# UNITED STATES PATENT OFFICE.

HERMAN P. MOORREES, OF WEEHAWKEN, NEW JERSEY, ASSIGNOR TO UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## TYPE-WRITING MACHINE.

No. 876,379.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed June 27, 1906. Serial No. 323,667.

*To all whom it may concern:*

Be it known that I, HERMAN P. MOORREES, citizen of the United States, and resident of Weehawken, 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.

This invention relates to improvements in tabulating mechanism of typewriting machines and it consists of the features of construction, combinations and arrangements of parts which are hereinafter described and specified in the appended claims.

On the accompanying sheets of drawings on which like reference numerals designate like parts in the different views, Figure 1 is a side and sectional elevation of mechanism forming part of a Monarch typewriting machine in which the invention is embodied; Fig. 2, a plan of a slotted plate, a vertical section of which is shown in Fig. 1 on and near the front of the top plate of the machine; and Fig. 3, a rear and sectional elevation of said mechanism, some of the parts being shown broken.

Although the invention is shown as it appears when embodied in a Monarch typewriting machine, it is to be understood that it may be applied to typewriting machines of various forms. Parts of the Monarch machine which are well known and which are shown, or partly shown, in the drawings, are the frame of the machine, the platen and platen carriage, the step-by-step feed mechanism, the column stop bar with column stops thereon, the tabulator key with the parts operative thereby to turn the column stop bar on its axis, and the carriage release lever and rack lifting device also operative by the tabulator key.

The frame of the machine comprises a base 1, posts 2 and a top plate 3. On and near the rear of the top plate two standards 4 are affixed and to these standards grooved guide rails 5 and 6 are attached by means of screws 7 and 8, the length of these guide rails being about equal to the width of the top plate. The platen carriage 9, in which the platen 10 is mounted, has formed on it at the back of the carriage grooved guides 11 and 12, and between the rail 5 and the guide 11 and between the rail 6 and the guide 12 are anti-friction balls 13 and 14.

The carriage and platen are supported by

the standards 4 to which the carriage is connected by means of the grooved rails and guides and the anti-friction balls described, the platen and platen-carriage being movable back and forth over the top plate of the machine. On the inner face of each end of the platen frame or carriage an arm 15 is pivoted by a pin 16, these arms extending backward from their pivots between the guides 11 and 12, and to the rear ends of these arms is attached a feed bar 17. Springs 18 bearing on the arms 15 tend to keep these arms and the feed rack in their normal positions as they are shown in Figs. 1 and 2 of the drawings. The rack 17 normally engages a feed pinion 19 which is mounted on a shaft 20, this shaft having a bearing in a block or standard 21 which is fast on the top plate of the machine, and on the shaft 20 and operatively connected thereto in the usual manner is an escapement wheel 22. Feed dogs 23 and 24 which contact with the escapement wheel are mounted on an arm 25 of a dog rocker, said arm extending upward from a rock shaft 26 which has bearings in a bracket 27, this bracket being affixed to and extending downward from the top plate of the machine. On the rock shaft 26 is a coil-spring 28 which tends to keep the arm 25 in the position in which it is shown in Fig. 1, the stepping dog 23 then being engaged with the escapement wheel. An arm 29 which is fast on the rock shaft 26 and extends forward therefrom, is connected in the usual manner by a link 30 with a universal bar (not shown), on which the key levers of the type bars and the spacing key act when they are depressed.

The construction of the step-by-step feed mechanism just described is such that when the spacing key or a type actuating key is depressed the arm 25 is rocked forward and when the key is released this arm is restored to its normal position by the action of the spring 28, whereupon the carriage moves a letter space distance toward the left. The carriage is drawn toward the left, whenever the dog rocker is actuated as described, by the action of a spring drum 31 which is connected by a strap 32 with a stud 33 fixed to and projecting downward from the platen carriage near its right end.

Arms 34 are formed on the standards 4, these arms extending backward from the upper ends of the standards, and at the rear



ends of the arms are bearings in which a column stop bar 35 is mounted, a column stop or column stops 36 being secured on this bar by means which renders said stop or stops adjustable along the bar. The stop bar 35 extends through the right arm 34, and on the end of the bar near this arm is a crank arm 37 which is fast on the stop bar. A rod 38 is pivoted to the crank arm 37 and extends downward therefrom through the top plate into the base 1 of the frame. A collar 39 is fixed on the rod 38 below and near the top plate and on this collar is a projection 40. A coil spring 41, which surrounds the rod 38, bears at its upper and lower ends respectively against the collar 39 and the part 42 of the base of the frame, and tends to keep the rod 38, arm 37 and the column stop bar and stops described, in the positions in which they are shown in Fig. 1. The rod 38 is pivoted at its lower end to a lever 43, whose fulcrum is a screw 44 which extends through the lever into a projection 45 formed on the base of the frame, this lever having on it an ear 46 in which is a slot 47. A key lever 48 is pivoted by a pin 49 to a lug 50 which is fast on the base of the frame, and on this lever is fixed a pin 51 which extends through the slot 47 in the lever 43. The key lever 48 is provided with a finger button or key 52, and normally rests near its front end against a pad 53.

A lever having arms 54 and 55 is pivoted by a screw 56 to a lug 57 formed on the under side of the top plate 3, the arm 54 of this lever extending under the projection 40 of the collar 39 and having on it a stop 58 which normally rests against the under side of the top plate. The left arm 55 (as viewed from the front of the machine) of this lever is pivoted to the lower end of a rack-lifting device 60 which extends upward from the lever on opposite sides of the bearing 21 of the shaft 20, and has at its upper end horizontal portions 61 which rest normally under and near the feed rack 17.

The key-lever 48, when the finger button 52 is depressed, operates as does the ordinary tabulator key-lever of the Monarch machine to turn the stop bar on its axis so that the stop lug 62 of each column stop is moved downward, while the carriage is at rest, into the path of a cooperative stop which travels with the carriage in its movement from side to side of the machine, the lever 48 being also operative, through the collar 39 and projection 40, on the lever 54—55 to raise the rack lifting device 60 and disengage the rack 17 from the feed pinion 19, thus releasing the carriage from the control of the step-by-step feed mechanism. When the key-lever 48 is released the parts operated thereby are restored to their normal positions by the action of gravity and of the restoring springs 18 and 41. The tabulating mechanism which has

heretofore been applied to the Monarch machine comprises a stop which is fast on the platen carriage, and which is movable thereby into contact with the stop lug 62 of a column stop 36, when the stop bar has been turned as described by means of the tabulator key 48.

The mechanism in which this invention is embodied comprises a stop device which is cooperative with each of the column stops 36, and which takes the place of and performs the function of the stop above mentioned, which has heretofore been affixed to the carriage of the machine. The stop device herein shown also cooperates in a peculiar way with each of the column stops 36 to attain additional results, as will hereinafter more clearly appear. This device consists of a part or arm 63 having at one end an eye 64, and of a curved part or head 65 formed on the arm 63, the upper surface of the part 65 being a section of a cylindrical surface whose axis coincides with that of the eye 64. On the head 65 is formed a series of denominational stop-facets 66, 67, 68, 69, 70, 71 and 72 which are in parallel planes, the distance from one plane to the next being a letter space distance. I have shown seven such denominational stop-facets in the present instance but it should be understood that any desired number may be provided. Another column-stop-facet 73 is also formed on the head of this device, its plane being parallel to the planes of the denominational stop-facets. This stop device is mounted on a rock shaft 74 which has bearings in the standards 4, the shaft passing through the eye 64 of the stop device. This eye loosely fits between lugs 75 formed on a bracket 76 which is fast on the platen carriage; and the shaft 74 extends through these lugs and is loose therein. In this shaft is a groove 77 which extends from end to end thereof, and in the arm 63 of the stop device is a spline 78 which fits in the groove 75 and by means of which the stop device is so engaged with the shaft that when the shaft is turned on its axis the stop device will be turned with it. This device is so mounted on the shaft that the stop-facets mentioned are in planes which are at right angles to the axis of the platen, and the device is movable by the carriage towards the sides of the machine along the shaft 74, the spline 78 being loose enough in the groove 77 to enable the stop device to be easily moved by the carriage. On the end 79 of the shaft 74 is a crank arm 80 which is fast on the shaft and to which is pivoted a rod 81. This rod extends downward through the top plate and through the part 42 of the base of the frame, and fast on the rod between the top plate and the base is a block 82 having on it pivot pins or gudgeons 83. A coil spring 84, surrounding the rod 81 and bearing at its upper and lower ends respec-



tively against the block 82 and the base of the machine, tends to keep the rod 81, the shaft 74 and the stop device described, in the relative positions in which they are shown in the drawings. A bracket 85 is fastened to the right and rear post 2 of the frame by a screw 86, and to this bracket is pivoted by a shouldered screw 87 an angular lever having arms 88 and 89. The arm 89 of this lever is forked at its rear end and contains slots 90 through which the gudgeons 83 of the block 82 extend.

To the frame of the machine near the front and bottom thereof a guide 91 is pivoted by a pin 92, and in this guide which extends upward from the pivot 92, its upper end being a short distance below the top plate 3, is a rod 93 which extends through the guide from end to end and through a slot in the top plate 3. This rod fits in holes at the ends of the guide 91 and is movable endwise in the guide. Within the guide is a coil spring 94 which surrounds the rod 93 and bears at its lower end against the guide and at its upper end against a collar 95 affixed to the rod, the spring tending to keep the rod in the position in which it is shown in the drawings. The rod 93 is so bent below the guide 91 that it extends to the left of the guide as viewed from the front of the machine and over the tabulator key 48, the part 96 of the rod being directly above and a short distance from the upper edge of this tabulator key, as appears by Fig. 3. The guide 91 has on it at its upper end ears 97 to which is pivoted one end of a link 98, the other end of this link being pivoted to the arm 88 of the angular lever above described. A finger button or key 99 is attached to the upper end of the rod 93, and on the rod next to the finger button is a fin 100. A slotted plate 101, which has the form shown in Figs. 1 and 2, is attached to the top plate 3 and the rod 93 extends through the slot 102 in this plate, the lower end of the fin 100 being above and close to the upper surface of the plate when the rod is in its normal position. This plate has in it a series of recesses which open into the slot 102 and which are marked respectively, on Fig. 2, "1M.", "H.T.", "10T.", "1T.", "1H.", "10", "1", and which are made to fit the fin 100 on the rod 93. The rod 93 and the pivoted guide 91 together constitute a key lever which is operative to actuate the denominational stop device described, as will presently appear.

When it is desired to use the tabulating mechanism described merely for the purpose of arresting the carriage at a desired columnar position, the key 52 is depressed and the stop bar or rock shaft 35 is thereby turned so that the lugs 62 of the column stops 36 are brought into the path of the stop-facet 73, and the carriage is released from the escapement mechanism by the ac-

tion of the rack lifting device on the rack 17, this device being raised by the downward pressure of the projection 40 on the arm 54 of the lever 54—55. The carriage is then drawn to the left by the spring drum 31, the stop device on the shaft 74 being moved along this shaft by the carriage until the stop-facet 73 makes contact with the first column stop 36, whereupon the carriage is arrested. Then, when the tabulator key 52 is released this key and the parts actuated thereby, including the column stops 35 and the parts of the carriage release mechanism, are returned to their normal positions, so that the carriage is restored to the control of the step-by-step feed mechanism and the column stops are withdrawn from the path of the stop-facet 73.

When the key lever 48 is actuated as described by depressing the key 52, no angular movement is imparted to the stop device mounted on the shaft 74, the key lever 48 being movable from the part 96 of the rod 93 without affecting the position of this rod, or that of any of the parts of the mechanism which connects it with the shaft 74. If, however, it is desired to arrest the carriage at a denominational position, the denominational key 99 is drawn toward the front of the machine until the fin 100 is directly over that recess in the plate 101 which indicates the denominational position desired; and then the rod 93 is forced downward by pressure on the finger key 99, the fin 100 being pushed into the recess in the plate 101, and the rod 93 being depressed until the lower end of the fin makes contact with the top plate 3. With the forward movement of the denominational key 99 the guide 91 is turned on its pivot 92, the link 98 is drawn toward the front of the machine, the arm 89 of the angular lever draws the rod 81 downward, and the shaft 74 is rocked to such an extent that the desired denominational stop-facet is brought to a position where it will be in alignment with the stop lug 62 of the column stops 36 when the column stops shall have been turned to their operative positions. At the beginning of the downward movement of the rod 93 the fin 100 engages the plate 101 by entering the slot directly under the fin and co-acts with the rod 93 and plate 101 and other parts of the mechanism to lock the shaft 74 in the position to which it has been turned. Then, as the rod 93 is further depressed, the part 96 of this rod acts on the tabulator key lever 48 and the column stops are thereby turned to their operative positions and the carriage is released from the control of the escapement. Thereupon the carriage is drawn to the left by the spring drum until it is arrested by the co-action of the selected denominational stop-facet with the first column stop 36, the denominational stop device being moved along the shaft 74



by the carriage. The carriage is re-connected with the escapement mechanism and the several parts of the tabulating mechanism are restored to their normal positions as soon as pressure is removed from the denominational key 99, by the co-action of the restoring springs and by gravity, the rod 93 being forced upward by the spring 94 and its upper end being drawn backward by the pressure of the spring 84 on the block 82, which forces upward the rod 81, raising the rear end of the arm 89 of the angular lever, and turning the shaft 74 back to the position from which it was moved when the denominational key 99 was drawn forward.

It will be observed that when the parts of the tabulating mechanism described are in their normal positions the carriage may be advanced step-by-step under the control of the common feed mechanism, or may be moved back and forth by hand, without interference from the tabulator stops, the stop device mounted on the shaft 74 then being movable by the carriage along that shaft without being subject to contact with any of the column stops.

The invention may be embodied in other forms differing in various respects from the particular form shown and specifically described herein.

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

1. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means being composed of an actuating device, and separate connections operative thereby to transmit motion from said device to said stops.

2. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means being composed of an actuating device, and separate connections operative thereby to transmit motion from said device to said stops, the mechanism of one of said connections being operative independently.

3. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, said stops being supported on standards affixed to the frame of the machine, and means operative by hand to move both of said stops while the carriage is at rest.

4. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, said stops being supported on standards affixed to the frame

of the machine, and means operative by hand to move both of said stops while the carriage is at rest, said means including a common actuating device.

5. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means including two levers pivoted to the frame of the machine and connected with said stops respectively.

6. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means including an actuating device, and two levers connected with said stops respectively, said actuating device being operative on both of said levers.

7. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means including a pivoted guide and an actuating device arranged to slide thereon, said device being movable on the pivotal axis of the guide to actuate one of said stops and being movable endwise to actuate the other stop.

8. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means including a pivoted guide and an actuating device arranged to slide thereon, a lever on which said actuating device is operative, and connections operative by said guide and lever respectively to transmit motion to said stops.

9. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means comprising two keys mounted on the frame of the machine and operatively connected with said stops respectively.

10. In tabulating mechanism of a type-writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means comprising two keys connected with said stops respectively, one of the keys being operatively connected with both stops.

11. In tabulating mechanism of a type-



writing machine, the combination with the carriage of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops while the carriage is at rest, said means comprising two key levers connected with said stops respectively, one of the key levers being operative to actuate the other.

12. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means comprising an actuating device, and separate connections operative thereby to transmit motion from said device to said stops, one of said connections being adapted to actuate the carriage release mechanism.

13. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means comprising an actuating device, and separate connections operative thereby to transmit motion from said device to said stops, one of said connections being adapted to actuate the carriage release mechanism, and the mechanism of the last mentioned connection being operative independently.

14. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, said stops being supported on standards affixed to the frame of the machine, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest.

15. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, said stops being supported on standards affixed to the frame of the machine and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means including a common actuating device operative on said stops and the carriage release mechanism.

16. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the

carriage is at rest, said means including two levers pivoted to the frame of the machine and connected with said stops respectively, one of said levers being operatively connected with the carriage release mechanism.

17. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means including an actuating device, and two levers connected with said stops respectively, one of said levers being operatively connected with the carriage release mechanism, and said actuating device being operative on both of said levers.

18. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means including a pivoted guide and a device arranged to slide thereon, said device being movable on the pivotal axis of the guide to actuate one of said stops and being movable endwise to actuate the other stop, and being operative on the carriage release mechanism.

19. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means including a pivoted guide and a device arranged to slide thereon, said device being movable on the pivotal axis of the guide to actuate one of said stops, and being movable endwise to actuate the other stop and the carriage release mechanism.

20. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means including two keys mounted on the frame of the machine and connected respectively with said stops, one of said keys being connected with the carriage release mechanism.

21. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the



ate the carriage release mechanism while the carriage is at rest, said means including two keys connected respectively with said stops, one of the keys being operatively connected with both stops and with the carriage release mechanism.

22. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of two stops coöperative with each other to arrest the carriage, and means operative by hand to move both of said stops and to actuate the carriage release mechanism while the carriage is at rest, said means including two key levers connected with said stops respectively, one of the key levers being operative on the other key lever and the carriage release mechanism.

23. In tabulating mechanism, of a type-writing machine, the combination with the carriage of a shaft, a stop mounted on said shaft and movable by the carriage along said shaft, said stop being also movable angularly, another stop, and means operative by hand to move the last-mentioned stop while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

24. In tabulating mechanism of a type-writing machine, the combination with the carriage of a shaft supported on standards affixed to the frame of the machine, a stop mounted on said shaft and movable by the carriage along said shaft, said stop being also movable angularly, another stop, and means operative by hand to move the last-mentioned stop while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

25. In tabulating mechanism of a type-writing machine, the combination with the carriage of a shaft, a stop mounted on said shaft and movable by the carriage along said shaft, said stop being also movable angularly, a rock-shaft, another stop mounted on said rock-shaft and movable thereby angularly, and means operative by hand to turn said rock-shaft while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

26. In tabulating mechanism of a type-writing machine, the combination with the carriage of a shaft supported on standards affixed to the frame of the machine, a stop mounted on said shaft and movable by the carriage along said shaft, said stop being also movable angularly, a rock shaft, another stop mounted on said rock shaft and movable thereby angularly, and means operative by hand to turn said rock shaft while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

27. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rotary shaft, a stop engaged

with said shaft and movable by the carriage along said shaft, another stop, and means operative by hand to move the last-mentioned stop while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

28. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rotary shaft, a stop engaged with said shaft and movable by the carriage along said shaft, a rock shaft, another stop mounted on said rock shaft and movable thereby angularly, and means operative by hand to turn said rock shaft while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

29. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rock shaft, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another stop, and means operative by hand to move the last-mentioned stop and to turn said rock shaft while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

30. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rock shaft having bearings on standards affixed to the frame of the machine, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another stop, and means operative by hand to move the last-mentioned stop and to turn said rock shaft while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

31. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rock shaft, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another rock shaft, a stop mounted on the last-mentioned rock shaft and movable thereby angularly, and means operative by hand to turn said rock shafts while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

32. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rock shaft, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another rock shaft, a stop mounted on the last-mentioned rock shaft and movable thereby angularly, both rock shafts having bearings on standards affixed to the frame of the machine, and means operative by hand to turn said rock shafts while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

33. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a shaft, a stop mounted on said shaft and mov-



able by the carriage along said shaft, said stop being also movable angularly, another stop, and means operative by hand to move the last-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

34. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a shaft supported on standards affixed to the frame of the machine, a stop mounted on said shaft and movable by the carriage along said shaft, said stop being also movable angularly, another stop, and means operative by hand to move the last-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

35. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a shaft, a stop mounted on said shaft and movable by the carriage along said shaft, said stop being also movable angularly, a rock shaft, another stop mounted on said rock shaft and movable thereby angularly, and means operative by hand to turn said rock shaft and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

36. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a stop supported on standards affixed to the frame of the machine said stop being movable back and forth by the carriage and being also movable angularly, a rock shaft, another stop mounted on said rock shaft and movable thereby angularly, and means operative by hand to turn said rock shaft and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

37. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a rotary shaft, a stop engaged with said shaft and movable by the carriage along said shaft, another stop, and means operative by hand to move the last-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

38. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a rotary shaft, means normally tending to prevent said shaft from turning, a stop engaged with said shaft and movable by the carriage along said shaft, a rock shaft, another stop mounted on said rock shaft and movable thereby angularly, and means operative by

hand to turn said rock shaft and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

39. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a rock shaft, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another stop, and means operative by hand to move the last-mentioned stop and to turn said rock shaft and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

40. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a rock shaft having bearings on standards affixed to the frame of the machine, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another stop, and means operative by hand to move the last-mentioned stop and to turn said rock shaft and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

41. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a rock shaft, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another rock shaft, a stop mounted on the last-mentioned rock shaft and movable thereby angularly, and means operative by hand to turn said rock shafts and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

42. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a rock shaft, a stop engaged with said rock shaft and movable by the carriage along said rock shaft, another rock shaft, a stop mounted on the last-mentioned rock shaft and movable thereby angularly, both rock shafts having bearings on standards affixed to the frame of the machine, and means operative by hand to turn said rock shafts and to actuate the carriage release mechanism while the carriage is at rest, said stops being coöperative with each other to arrest the carriage.

43. In tabulating mechanism of a type-writing machine, the combination with the carriage of a tabulating stop, a set of stops, and means operative by hand to move said tabulating stop and said set of stops while the carriage is at rest, all of said stops being supported on standards affixed to the frame of the machine, and said tabulating stop being coöperative with each stop of said set to arrest the carriage.

44. In tabulating mechanism of a type-



writing machine, the combination with the carriage of a tabulating stop, a set of stops including another tabulating stop and a series of denominational stops, means operative by hand to move said first-mentioned stop while the carriage is at rest, and means operative by hand to move said set of stops while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when said first-mentioned stop only is moved by hand, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when all of said stops are moved by hand.

45. In tabulating mechanism of a type-writing machine, the combination with the carriage of a tabulating stop, a set of stops including a series of denominational stops, said set of stops being movable by the carriage towards the sides of the machine, and means operative by hand to move said tabulating stop and said set of stops while the carriage is at rest, said tabulating stop being cooperative with each stop of said set to arrest the carriage.

46. In tabulating mechanism of a type-writing machine, the combination with the carriage of a tabulating stop, a set of stops including another tabulating stop and a series of denominational stops, said set of stops being movable by the carriage towards the sides of the machine, means operative by hand to move said first-mentioned stop while the carriage is at rest, and means operative by hand to move said set of stops while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when said first-mentioned stop only is moved by hand, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when all of said stops are moved by hand.

47. In tabulating mechanism of a type-writing machine, the combination with the carriage of a rock shaft, a stop mounted on said rock shaft and movable thereby angularly, another rock shaft, a set of stops, including a series of denominational stops and movable angularly by the last-mentioned rock shaft, said rock shafts having bearings on standards affixed to the frame of the machine, and means operative by hand to turn said rock shafts while the carriage is at rest, said tabulating stop being cooperative with each stop of said set to arrest the carriage.

48. In tabulating mechanism of a type-writing machine, the combination with the carriage of two rock shafts having bearings on standards affixed to the frame of the machine, a tabulating stop mounted on one of said rock shafts and movable thereby angularly, a set of stops, including another tabulating stop and a series of denominational stops, movable angularly by the other rock shaft, means operative by hand to turn the

rock shaft of the first-mentioned stop while the carriage is at rest, and means operative by hand to turn the other rock shaft while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when the rock shaft of the first-mentioned stop only is turned, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when both of said rock shafts are turned.

49. In tabulating mechanism of a type-writing machine, the combination with the carriage of a tabulating stop, a device having a set of stop-facets formed thereon, said tabulating stop and said device being supported on standards affixed to the frame of the machine, and means operative by hand to move said tabulating stop and said device while the carriage is at rest, said tabulating stop being cooperative with each of said stop-facets to arrest the carriage.

50. In tabulating mechanism of a type-writing machine, the combination with the carriage of a tabulating stop, a device having a set of stop-facets formed thereon, said device constituting another tabulating stop and a series of denominational stops, means operative by hand to move said first-mentioned stop while the carriage is at rest, and means operative by hand to move said device while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when said first-mentioned stop only is moved by hand, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when said device and first-mentioned stop are moved by hand.

51. In tabulating mechanism of a type-writing machine, the combination with the carriage of a tabulating stop, a set of stops including another tabulating stop and a series of denominational stops, and actuating means connected with said stops and operative by hand while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when one only of these stops is moved by hand, and one of said tabulating stops and a denominational stop being cooperative to arrest the carriage when all of said stops are moved by hand.

52. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop, a set of stops, and means operative by hand to move said tabulating stop and said set of stops and to actuate the carriage release mechanism while the carriage is at rest, all of said stops being supported on standards affixed to the frame of the machine, and said tabulating stop being cooperative with each stop of said set to arrest the carriage.

53. In tabulating mechanism of a type-



writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop, a set of stops, including another tabulating stop and a series of denominational stops, means operative by hand to move said first-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, and means operative by hand to move said set of stops while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when said first-mentioned stop only is moved by hand, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when all of said stops are moved by hand.

54. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop, a set of stops including a series of denominational stops, said set of stops being movable by the carriage towards the sides of the machine, and means operative by hand to move said tabulating stop and said set of stops and to actuate the carriage release mechanism while the carriage is at rest, said tabulating stop being cooperative with each stop of said set to arrest the carriage.

55. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop, a set of stops, including another tabulating stop and a series of denominational stops, said set of stops being movable by the carriage towards the sides of the machine, means operative by hand to move said first-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, and means operative by hand to move said set of stops while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when said first-mentioned stop only is moved by hand, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when all of said stops are moved by hand.

56. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a rock shaft, a stop mounted on said rock shaft and movable thereby angularly, another rock shaft, a set of stops, including a series of denominational stops, movable angularly by the last-mentioned rock shaft, said rock shafts having bearings on standards affixed to the frame of the machine, and means operative by hand to turn said rock shafts and to actuate the carriage release mechanism while the carriage is at rest, said tabulating stop being cooperative with each stop of said set to arrest the carriage.

57. In tabulating mechanism of a type-writing machine, the combination with the

carriage and carriage release mechanism, of two rock shafts having bearings on standards affixed to the frame of the machine, a tabulating stop mounted on one of said rock shafts and movable thereby angularly, a set of stops, including another tabulating stop and a series of denominational stops, movable angularly by the other rock shaft, means operative by hand to turn the rock shaft of the first-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, and means operative by hand to turn the other rock shaft while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when the rock shaft of the first-mentioned stop only is turned, and said first-mentioned stop and a denominational stop being cooperative to arrest the carriage when both of said rock shafts are turned.

58. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism of a tabulating stop, a device having a set of stop-facets formed thereon, said tabulating stop and said device being supported on standards affixed to the frame of the machine, and means operative by hand to move said tabulating stop and said device and to actuate the carriage release mechanism while the carriage is at rest, said tabulating stop being cooperative with each of said stop-facets to arrest the carriage.

59. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop, a device having a set of stop-facets formed thereon, said device constituting another tabulating stop and a series of denominational stops, means operative by hand to move said first-mentioned stop and to actuate the carriage release mechanism while the carriage is at rest, and means operative by hand to move said device while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when said first-mentioned stop only is moved by hand, and said first-mentioned stop and the denominational stops being cooperative to arrest the carriage when said device and first-mentioned stop are moved by hand.

60. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop, a set of stops including another tabulating stop and a series of denominational stops, and actuating means connected with said stops and with the carriage release mechanism and operative by hand while the carriage is at rest, said tabulating stops being cooperative with each other to arrest the carriage when one only of these stops is moved by hand, and one of said tabulating stops and a denominational



stop being coöperative to arrest the carriage when all of said stops are moved by hand.

61. In tabulating mechanism of a type-writing machine, the combination with the carriage of a stop, an actuating device including a part pivoted to the frame of the machine near the front and bottom of the frame, and another movable part extending above the pivoted part and the top plate of the machine, means for transmitting motion from the pivoted part of said device to said stop, means operative by the other part of said device to release the carriage, and another stop coöperative with the aforesaid stop to arrest the carriage.

62. In tabulating mechanism of a type-writing machine, the combination with the carriage of a stop, an actuating device including a guide pivoted to the frame of the machine near the front and bottom of the frame, and a part extending above said guide and the top plate of the machine and movable with said guide on its pivotal axis, and endwise along said guide, means for transmitting motion from said guide to said stop, means operative by the other part of said device moved endwise to release the carriage, and another stop coöperative with the aforesaid stop to arrest the carriage.

63. In tabulating mechanism of a type-writing machine, the combination with the carriage of a shaft, a device engaged with said shaft and movable by the carriage along said shaft, said device having on it a series of denominational stop-facets, a key connected with said shaft and operative thereon to turn said device to as many positions as there are denominational stop-facets on said device, means coöperative with the key to keep said device from turning as the carriage travels, and a stop coöperative with each of said denominational stop-facets to arrest the carriage.

64. In tabulating mechanism of a type-writing machine, the combination with the carriage of a shaft, a device engaged with said shaft and movable by the carriage along said shaft, said device having on it a series of denominational stop-facets, a key provided with a movable stem, said key being connected with said shaft and operative thereon to turn said device to as many positions as there are denominational stop-facets on said device and the stem of said key having on it a fin, a plate having recesses therein into which said fin is movable, and a stop coöperative with each of said denominational stop-facets to arrest the carriage.

65. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a shaft, a device engaged with said shaft and movable by the carriage along said shaft, said device having on it a series of denominational stop-facets, a key connected with said

shaft and operative thereon to turn said device to as many positions as there are denominational stop-facets on said device, said key being further movable to actuate the carriage release mechanism, and a stop coöperative with each of said denominational stop-facets to arrest the carriage.

66. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a shaft, a device engaged with said shaft and movable by the carriage along said shaft, said device having on it a series of denominational stop-facets, a key pivotally mounted on the frame of the machine and connected with said shaft, the key being movable on its pivotal axis to turn said device to as many positions as there are denominational stop-facets on said device, and being also movable in a rectilinear path to actuate the carriage release mechanism, and a stop coöperative with each of said denominational stop-facets to arrest the carriage.

67. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop movable by hand operative means while the carriage is at rest, a shaft, a device engaged with said shaft and movable by the carriage along said shaft, said device having on it a series of denominational stop-facets, each coöperative with said tabulating stop to arrest the carriage, and a key connected with said shaft and operative thereon to turn said device to as many positions as there are denominational stop-facets on said device, said key being also operative to move said tabulating stop and to actuate the carriage release mechanism.

68. In tabulating mechanism of a type-writing machine, the combination with the carriage and carriage release mechanism, of a tabulating stop movable by hand operative means while the carriage is at rest, a shaft, a device engaged with said shaft and movable by the carriage along said shaft, said device having on it a series of denominational stop-facets, each coöperative with said tabulating stop to arrest the carriage, and a key pivotally mounted on the frame of the machine and connected with said shaft, the key being movable on its pivotal axis to turn said device to as many positions as there are denominational stop-facets on said device, and being also movable in a rectilinear path to actuate the carriage release mechanism and said tabulating stop.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 25th day of June A. D. 1906.

HERMAN P. MOORREES.

Witnesses:

E. M. WELLS,

M. F. HANNWEBER.