

1,052,524.

Patented Feb. 11, 1913.
3 SHEETS—SHEET 1.

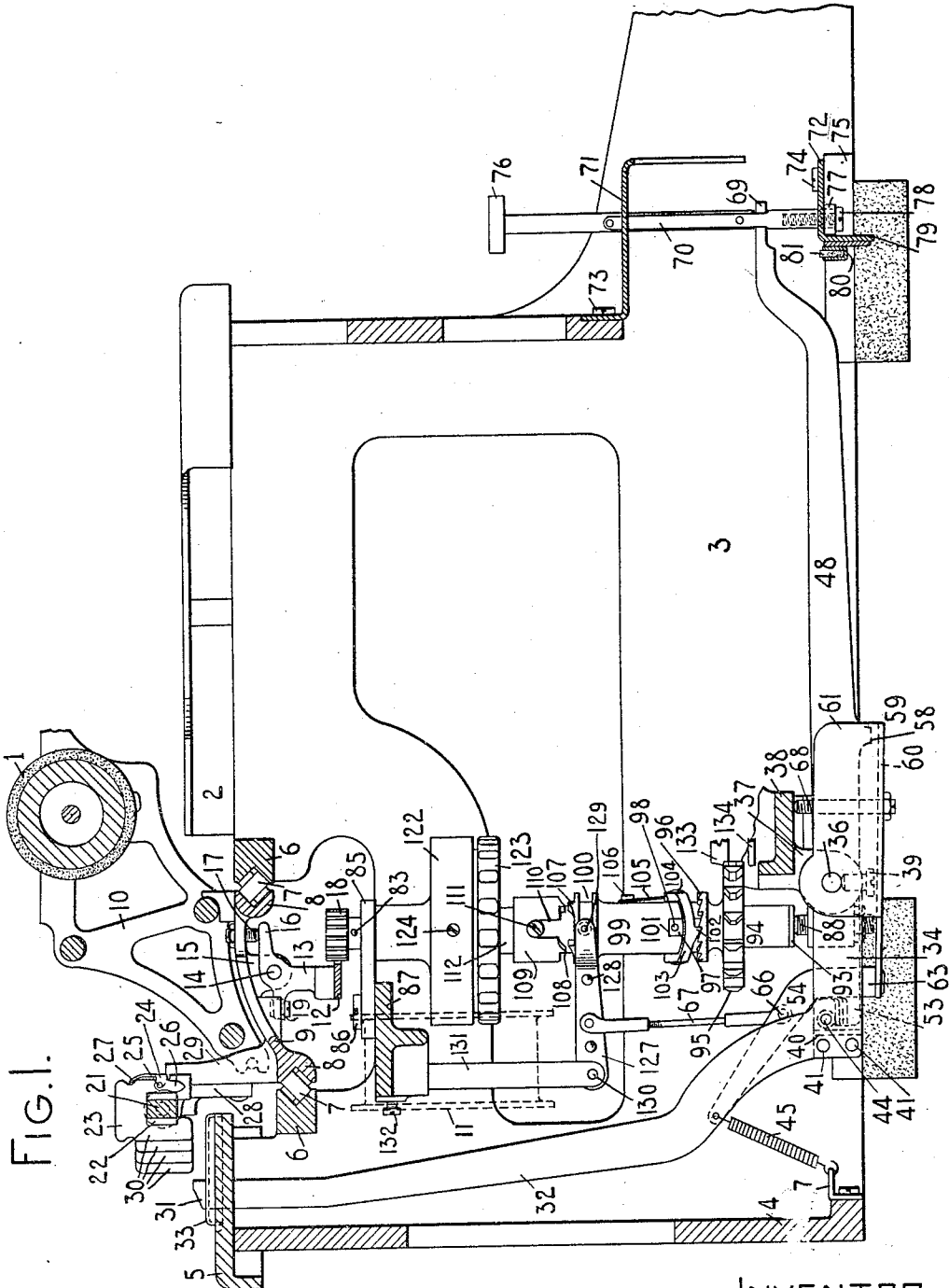


FIG. 1.

WITNESSES:

E. M. Wells

Charles Smith

INVENTOR:

Arthur W. Smith

By Jacob Fehel

HIS ATTORNEY

1,052,524.

FIG. 4.

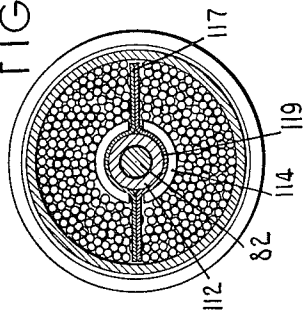


FIG. 5.

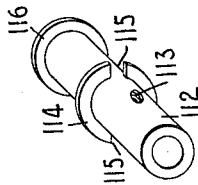


FIG. 3.

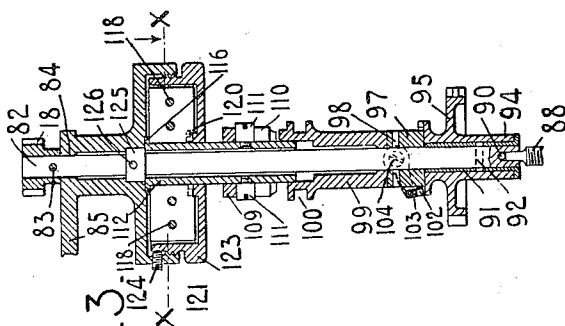
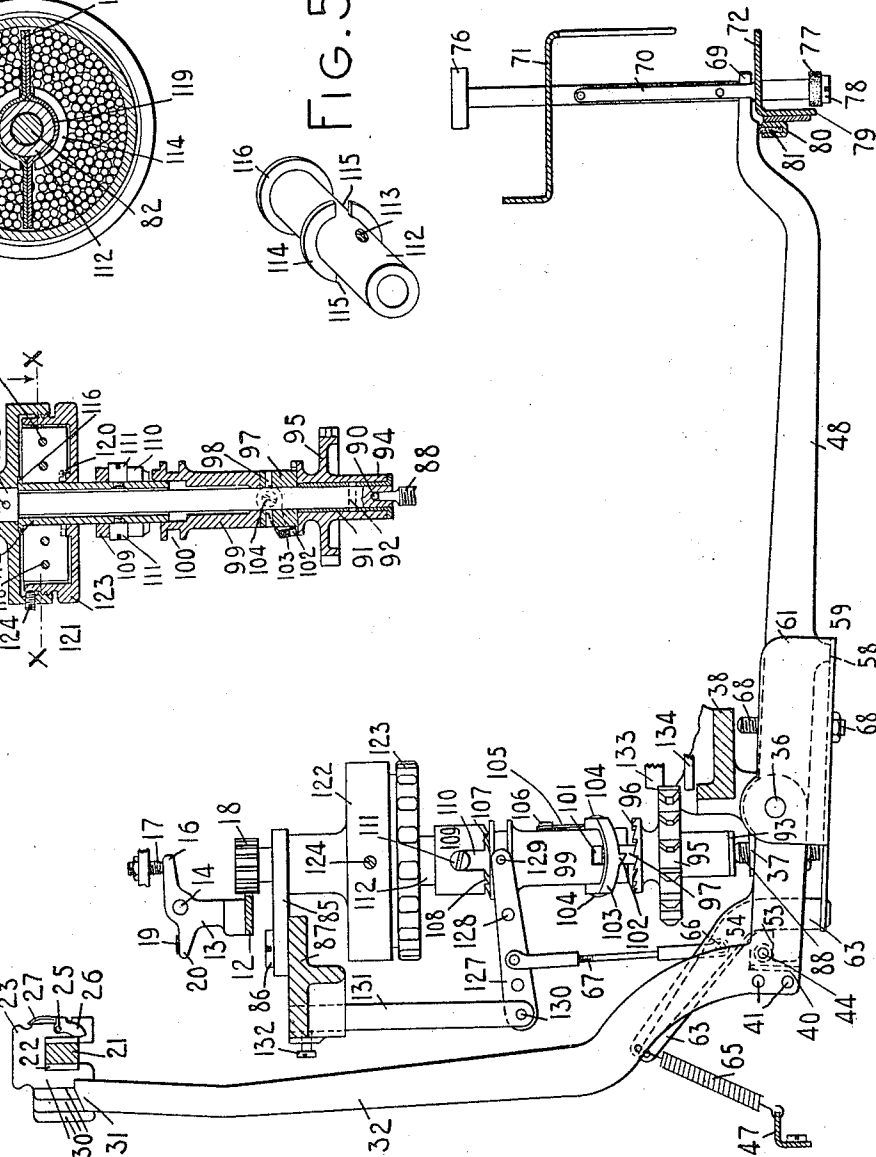


FIG. 2.



WITNESSES:

E. M. Wells.

Arthur W. Smith.

INVENTOR:

Arthur W. Smith

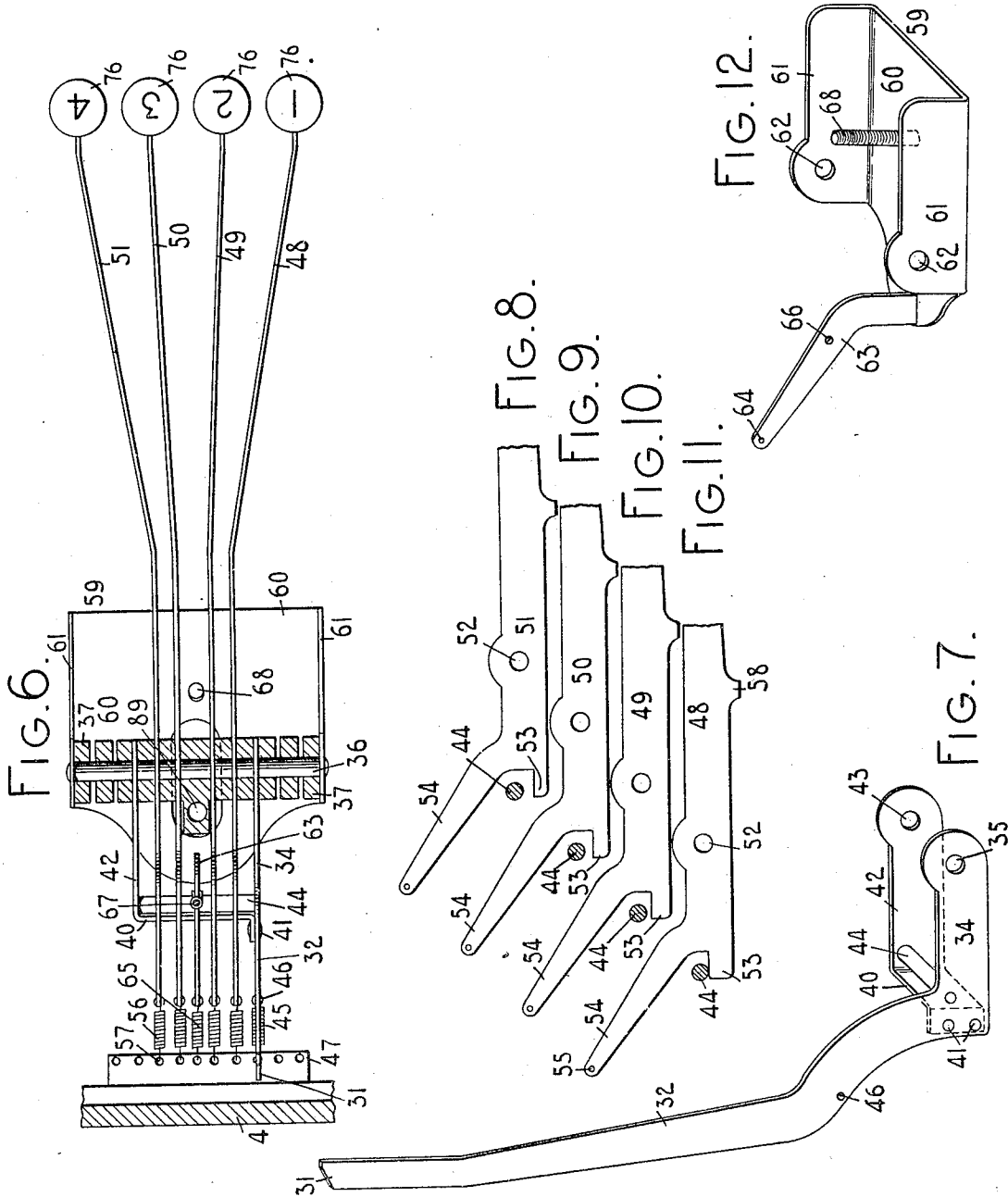
By Jacob Felbel

HIS ATTORNEY

1,052,524.

Patented Feb. 11, 1913.

3 SHEETS-SHEET 3.



WITNESSES:

E. M. Wells.
Charles E. Smith

INVENTOR:

Arthur W. Smith
By Jacob F. Bell

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

ARTHUR W. SMITH, OF NEW YORK, N. Y., ASSIGNOR TO YOST WRITING MACHINE COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

1,052,524.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed February 23, 1912. Serial No. 679,372.

To all whom it may concern:

Be it known that I, ARTHUR W. SMITH, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

The invention relates to typewriting machines and more particularly to tabulating mechanism and to means for retarding the travel of the carriage when the tabulating mechanism is actuated and the carriage is released thereby.

One object of the invention, generally stated, is to provide comparatively simple and efficient column selecting mechanism.

A further object of my invention, generally stated, is to provide comparatively simple and efficient carriage retarding mechanism which is rendered operative by an actuation of the tabulator.

Regarded from a more specific standpoint the main objects of the present invention are to provide means for releasing the shaft of the escapement wheel from operative connection with said wheel, and for connecting said shaft with the carriage retarding mechanism through a suitable clutch under control of the tabulating mechanism. By these means the use of separate driving mechanism, gearing, etc., for the retarding mechanism and separate connections for throwing the carriage out of control of the escapement mechanism and for throwing the retarding mechanism into operation is avoided. Moreover, in conjunction with the retarding mechanism a tabulator or column selecting mechanism is employed which is comparatively simple in construction and eliminates certain disadvantages found in constructions heretofore employed, all as will hereinafter more clearly appear.

To the above and other ends which will hereinafter appear, the 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 a fragmentary, vertical, fore and aft, sectional view of a typewriting machine embodying the invention; only so much of the typewriting machine being shown as is necessary to an understanding of the invention. Fig. 2 is a corresponding skeletonized view of the same but showing the parts disposed as they appear when the tabulator is actuated and the carriage retarding mechanism is thrown into use. Fig. 3 is a detail vertical sectional view taken centrally through the escapement wheel and retarding mechanism. Fig. 4 is a transverse sectional view of the same, the section being taken on the line $x-x$ of Fig. 1 and looking in the direction of the arrow at said line. Fig. 5 is an enlarged detail perspective view of the hollow shaft which carries the blades or arms of the stirring device. Fig. 6 is a detail plan view partly in section of the tabulator or column selecting mechanism. Fig. 7 is a detail perspective view of the column selecting stop and the frame which carries it. Figs. 8, 9, 10 and 11 are detail fragmentary side views, each showing the rear end portion of one of the column selecting key actuated levers, and the universal bar with which it coöperates. Fig. 12 is a detail perspective view of the universal frame, by an actuation of which the carriage is released from control of the escapement mechanism and the retarder is thrown into operation.

So far as the present invention is concerned, the printing instrumentalities and the means for actuating the same may be of any suitable character. The construction shown in the present instance, however, is embodied in a front strike typewriting machine in which a cylindrical platen 1 is carried by a suitable carriage and travels over the top plate 2 of the machine from side to side thereof, and in which the types are intended to strike against the front face of the platen. The frame of the machine comprises side plates 3, a rear cross plate 4, the top plate 2 hereinbefore referred to, and a top plate 5. Fixed oppositely grooved guide rails 6 are secured to the side plates 3 of the frame and receive anti-friction rollers 7 which are likewise received in oppositely grooved rails 8 of a carriage truck 9. In this manner the carriage is supported for

traveling movement from side to side of the machine. The truck 9 supports a platen frame 10 in which the platen 1 is mounted. The carriage is connected in the usual manner to a suitable spring drum 11 in the same general manner, for example, as in the No. 15 Yost machine. This spring drum is effective to move the carriage in a letter feed direction under control of the escapement mechanism. The escapement mechanism in the present instance comprises a feed rack 12 carried by depending arms 13 which are pivoted at 14 to lugs 15, which latter project downwardly from the truck 9. Forwardly extending arms 16, on the arms 13, are adapted to contact with set screws 17 and to limit the swinging movement of the rack forwardly into mesh or engagement with a feed pinion 18. A leaf-spring 19 bears upon a rearwardly projecting arm 20 on each of the arms 13, to normally maintain engagement between the feed rack and the pinion. The feed pinion 18 is controlled by a suitable escapement mechanism, as will hereinafter more clearly appear.

The tabulator mechanism comprises a column stop bar 21 provided with teeth 22 on opposite sides thereof. Column stops 23, which are preferably bifurcated flat sheet metal stops, are adapted to straddle the stop bar and to be received in the interdental spaces between the teeth 22 on the column stop bar, so that the column stops may be adjusted to different letter space positions throughout the length of the column stop bar. Each column stop carries a pivoted retaining device, designated as a whole by the reference numeral 24. Each of these devices is pivoted to its stop, as indicated at 25, and has an engaging portion 26 which is adapted to bear against the crown of an adjacent tooth 22 of the column stop bar when the column stop is in position thereon, to prevent an accidental displacement of the column stop from the bar. Each retaining device 24 is formed with a spring extension 27 adapted to bear against the forward edge of the associated column stop and press the engaging portion 26 of the retaining device against the column stop bar with sufficient pressure to prevent the accidental displacement of the column stop from the bar. The column stop bar 21 is mounted on suitable brackets 28 secured to upwardly extending lugs 29 formed on the carriage truck near the ends thereof; it being understood that the column stop bar extends throughout or substantially throughout the length of the carriage. It will be observed that the engaging portions 30 of the column stops extend rearwardly different distances from the column stop bar and that four column stops are shown in the present instance.

A single column selecting stop 31 is formed as a part of an upright arm or le-

ver 32, and extends through a guide slot formed in a plate 33 carried by the top plate 5 of the machine. From an inspection of Fig. 7 it will be seen that the arm 32 is formed as an upward extension of an arm 34 apertured at 35 for coöperation with a pivot rod 36. This pivot rod is received in a departing portion 37 of a cross bar 38 which is secured at its ends to the side plates 3 of the machine. The pivot rod 36 is secured in place in its bearing 37 by a set screw 39. The lever 32-34 has a cross arm 40 riveted thereto at 41. The arm 40 is extended to form an arm 42 parallel with and similar to the arm 34. The arm 42 is likewise perforated as at 43, for coöperation with the pivot pin 36. A universal bar 44 extends between the two supporting arms 34 and 42 and is riveted at its ends to said arms. It will be seen that the stop carrying frame thus formed is pivotally supported on the pivot rod 36 to afford a swinging movement of the arm 32 fore and aft of the machine. A contractile spring 45 is connected at one end, as at 46, to the arm 32, and at its opposite end to a plate 47 fixed to the rear cross plate 4 of the frame. The power of this spring is exerted to normally maintain the stop 31, or upper engaging portion of the lever 32, in the position shown in Fig. 1 and out of the path of the column stops 23. Four column selecting actuated levers 48, 49, 50 and 51 are received in slots in the supporting member 37 and are apertured at 52 for the reception of the pivot pin 36. The rear end portions of these levers are provided with engaging members 53 which extend beneath the universal bar 44 on the frame of the column selecting lever. From an inspection of Figs. 8, 9, 10 and 11 it will be seen that the engaging portions 53 on the different column selecting levers are of different widths, considered vertically, and that the upwardly engaging faces therefore are normally arranged at varying distances from the universal bar 44. By this arrangement varying degrees of lost motion are provided between the different key actuated column selecting levers 48, 49, 50 and 51 and the universal bar 44, for purposes which will hereinafter more clearly appear. Each of these column selecting levers is also provided with an upwardly and rearwardly extending arm 54, apertured at 55 for coöperation with one end of a contractile spring 56 which is connected at its opposite end as at 57 with the plate 47. Each of the column selecting key levers is also provided with a depending contact or engaging portion 58 which is adapted to coöperate with a universal carriage releasing device or member, designated as a whole by the reference numeral 59. This member comprises a plate-like cross-piece 60 and parallel side arms 61 which are apertured at 62 for coöperation

with the pivot pin 36. A centrally disposed, upwardly and rearwardly directed, lever arm 63 is riveted at its lower end to the cross plate 60 of this device in the rear of the pivot pin 36. The rear end of this arm is apertured at 64 for coöperation with one end of a contractile spring 65 which is connected at its opposite end to the plate 47. The arm 63 is also apertured at 66 for pivotal connection with a two-part link 67 by which the carriage is released from the control of the escapement mechanism and is simultaneously placed under control of the carriage retarding mechanism, as will hereinafter more clearly appear. A set screw 68 is received in a tapped opening in the cross piece 60 and projects upwardly therefrom and is adapted to contact with the cross bar 38 when the parts are in the normal position, as shown in Fig. 1. From an inspection of this figure it will be seen that the engaging portions 58 on the key actuated column selecting levers normally extend above the cross plate 60 of the releasing device and are adapted to coöperate therewith at the last portion of the downward movement of the key actuated levers 48, 49, 50 and 51. This movement effects a turning movement of the member 59 on its pivot 36 to effect an upward movement of the arm 63, as indicated in Fig. 2. The same movement of the key-controlled lever, is effective to bring about an engagement between the engaging portion 53 thereof and the universal bar 44 to effect a rocking movement of the lever 32, and to move the column selecting stop 31 forwardly a given distance, depending on the particular key lever which is actuated. The extent of this forward movement of the stop 31 determines which column stop 23 the stop 31 will be brought into the path of. The forward end of each key controlled lever 48, 49, 50, 51 is provided with a reduced portion 69 which is received in a slotted portion of a key stem 70, which is guided in guide openings in upper and lower guide plates 71 and 72 respectively. The upper guide plate is secured to the frame of the machine by screws 73, whereas the lower guide plate is secured by screws 74 to inwardly projecting lugs 75 in the side plates of the frame. From an inspection of Fig. 6 it will be seen that the upper end of each key stem is provided with a column selecting key 76, and that these keys bear column selecting indices such as the numerals "1", "2", "3" and "4", the lowest numeral "1" being on the left-hand key and indicating the first column, and the highest numeral "4" being on the right-hand key and indicating the fourth column. The lower end of each key stem has a washer 77 thereon which is held in place by a headed screw 78, received in a tapped opening in the lower end of the key stem. Each of

these washers 77 is preferably made of fibrous material and is adapted to contact with the lower face of the plate 72, to limit the upward movement of its key stem and the parts controlled thereby. The plate 72 is bent downwardly at the rear portion thereof, as at 79, to form a support for a metallic casing 80, which is substantially U-shaped in cross section and is adapted to receive a felt pad 81 against which the lower edges of the key actuated levers 48, 49, 50 and 51 are adapted to bear to limit the downward movement thereof.

From an inspection of Figs. 2, 3, 4 and 5 it will be seen that the feed pinion 18 is fixed to an escapement wheel shaft 82 by a pin 83. This shaft receives a bearing at its upper end as at 84 in a bracket 85, which latter is secured by screws 86 to a cross bar 87 fixed to the side plates of the machine. The shaft 82 is supported at its lower end by a pivot screw 88 received in a tapped opening 89 in the member 37. The upper end of this screw coöperates with an anti-friction ball 90, contained in an opening in the lower end of the shaft 82. A sleeve 91 surrounds the shaft 82 at the lower end portion thereof, and is fixed to the shaft by a pin 92. The lower end of this sleeve is provided with an outwardly projecting flange 93 which constitutes a support with which the hub 94 of an escapement wheel 95 coöperates. The escapement wheel turns freely on the sleeve 91 and is provided with ratchet like clutch teeth 96 which extend upwardly therefrom. A spline 97 is fixed to the shaft 82 on opposite sides thereof by a pin 98 and bears at its lower end against the upper hub of the escapement wheel and within the line of the teeth 96, to prevent the escapement wheel from moving upwardly on the sleeve 91 and shaft 82.

A sleeve 99 surrounds the escapement wheel shaft 82 and is provided with a circumferential groove 100 therein. This sleeve 99 is slotted vertically on opposite sides as at 101 for the reception of the spline 97. This spline connection between the escapement wheel shaft 82 and the sleeve 99 is effective to lock the sleeve to rotate with the shaft although a vertical movement of the sleeve on the shaft may be effected. A clutch member or pawl 102 is formed on a yoke 103 which is pivoted at 104 on the sleeve 99. A light spring 105 is connected at one end to the yoke 103 and at its opposite end to the sleeve 99, by a screw 106. The force of this spring is exerted to turn the yoke 103 on its pivots to normally maintain the clutch tooth 102 in the lowermost or engaging position, and to maintain an engagement between the clutch tooth 102 and the clutch teeth 96 on the escapement wheel. The upper end of the sleeve 99 is likewise provided with ratchet-like clutch

teeth 107 which are fixed thereto. These teeth are adapted to engage corresponding clutch teeth 108 on the lower edge of a sleeve 109, slotted on opposite sides as at 5 110 for the reception of screws 111. The sleeve 109 is normally maintained in its lowermost position by its own weight but is adapted to be moved upwardly by reason of the pin and slot connection 110-111, by 10 which it is connected to the part which supports it. This part consists of a hollow shaft 112 which surrounds the escapement wheel shaft 82 and is tapped at 113 to receive the screws 111, by which the sleeve or 15 clutch section 109 is connected to turn with the hollow shaft but may receive a vertical movement independently thereof. This hollow shaft 112 is provided with a circumferential flange 114 that is slotted vertically at 20 115 on opposite sides thereof. A second circumferential flange 116 is formed on the hollow shaft at the upper end thereof. Two arms or blades 117 are formed by two strips of sheet metal which are riveted together at 25 118. These strips are bent outwardly near the center portions thereof to form a cylindrical bearing portion 119 which surrounds the hollow shaft, intermediate the flanges 114 and 116 thereon. The blades have small 30 cut-out portions 120 so that they may be supported on the hollow shaft in such a manner that the blades themselves may be received in the cut-outs 115 of the flange 114 to form an interlocking connection between 35 the blades and the hollow shaft to cause the two to turn together. A fixed drum, which is designated as a whole by the reference numeral 121, surrounds the blades and is apertured to receive and afford a free turning 40 movement of the hollow shaft therein. This drum comprises an upper section 122 which is formed as a part of the same casting as the bracket 85. This section is internally threaded for coöperation with threads on a cap-like lower section 123, that forms 45 the lower half of the drum. The escapement wheel shaft extends freely through this drum and hollow shaft, it being understood that the drum is maintained fixed by reason of its connection with the bracket 50 85. By reason of the threaded connection between the two members 122 and 123 of the drum a relative adjustment between them may be effected, and a set screw 124 is received in a tapped opening in the member 55 122 and bears at its inner end against the member 123, to hold the last mentioned member in the position to which it may be adjusted relatively to the member 122. A 60 collar 125 surrounds the shaft 82 of the escapement wheel and is fixed thereto by a pin 126. This collar is arranged above the hollow shaft 112.

The drum which contains the stirring 65 device, comprising the blades 117, contains

a suitable material such as shot, so as to resist a turning movement of the blades in the drum.

A release member 127 is in the form of two sheet metal strips riveted together at 70 128 and separated at the forward end to form a yoke. This yoke is provided with inwardly projecting pins 129 which are received in the circumferential groove 100 in the sleeve or clutch section 99. The rear 75 end of this member 127 is pivoted at 130 to a depending pin 131 received at its upper end in an opening in the cross bar 87, and fixed therein by a set screw 132.

The parts are normally disposed as indicated in Fig. 1. A depression of a column selecting key 76 is effective to move the corresponding actuating lever 48, 49, 50 or 51, thereby bringing the contact device 53 thereon into engagement with the 85 universal bar 44. An upward swinging movement of this bar causes the arm 32 to be moved forwardly a distance corresponding to the particular column selecting key which has been actuated. The extent of 90 forward movement of the stop portion 31 determines which column stop shall be brought into coöperation therewith, and what columnar position the carriage will be arrested in. The depression of the column 95 selecting key is likewise effective to turn the releasing device 59 on its pivot 36 to effect an upward movement of the link 67. This brings about an upward movement of the sleeve 99 from the position shown in 100 Fig. 1 to that indicated in Fig. 2. This movement of the sleeve effects a disengagement between the clutch members 102 and the coöperative clutch teeth 96 on the escapement wheel, thereby freeing the carriage 105 from the control of the escapement wheel and the escapement dogs 133 and 134 that coöperate therewith. The upward movement of the sleeve 99 likewise brings the clutch teeth 107 into engagement with the clutch teeth 108 on the member 109. 110 The effect of the engagement between these clutch members is to couple the sleeve 99 with the hollow shaft 112, so that a rotative movement of the escapement wheel shaft 115 82 at this time is effective to turn the hollow shaft and the blades 117 carried thereby, and render the carriage retarding device operative and effective to retard the movement of the carriage during the travel 120 thereof to the position where it is arrested by the stop 31, which as has been previously described, has been interposed in the path of one of the column stops 23.

From the foregoing description it will 125 be understood that a depression of one of the column selecting keys 76 is effective to determine the columnar position of arrest of the carriage. If, for example, the first 130 key from the left, bearing the index nu-

meral "1", be depressed the stop 31 will receive the longest extent of forward movement to bring it into the path of the first or left-hand column stop 23, thus arresting the carriage in the first columnar position; whereas if the right-hand or fourth column selecting key 76 be depressed the stop 31 will receive the shortest extent of forward movement so that it will be brought into the path of the engaging portion 30 on the fourth column stop, counting from left to right, thus enabling the first three column stops to pass the stop 31 and to effect an arrest of the carriage at the fourth columnar position. It will also be observed that in the tabulating operation the feed rack 12 remains in engagement with the feed pinion 18 and that the normally inoperative carriage retarding device is, by an actuation of the tabulating mechanism in the manner hereinbefore described, rendered operative to retard the carriage when the latter is freed from control of the escapement mechanism. It will also be understood that the escapement wheel shaft 82 is effective as such and is also effective to transmit motion to the stirring device contained within the fixed drum of the retarding mechanism, and that no separate gearing and transmitting mechanism is necessary to effect a transmission of movement from the carriage to the carriage retarding mechanism.

Claims directed to the tabular mechanism are included in a separate divisional application filed Aug. 7, 1912, Serial No. 715,590.

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

1. In a typewriting machine, the combination of a power driven carriage, an escapement wheel, a shaft therefor, a normally inoperative carriage retarder, and means operable at will for effecting an operative connection between said retarder and said shaft to render the retarder operative.

2. In a typewriting machine, the combination of a power driven carriage, an escapement wheel, a shaft therefor, a normally inoperative carriage retarder, and means operable at will for effecting a disconnection between said shaft and the escapement wheel and for simultaneously effecting an operative connection between said shaft and the retarder to render the latter operative.

3. In a typewriting machine, the combination of a power driven carriage, an escapement wheel, a shaft therefor, a normally inoperative carriage retarder, a clutch member operatively connected with the retarder, a second clutch member operatively connected with the escapement wheel, a clutch device splined to said shaft, and means for moving said clutch device out of engagement with the escapement wheel and

into engagement with said carriage retarder to release the carriage from control of the escapement mechanism and to render the retarder operative.

4. In a typewriting machine, the combination of a power driven carriage; an escapement wheel; a shaft therefor; a normally inoperative carriage retarder comprising two members, one of which is rotative and the other of which is fixed; a tabulator; and means controlled by said tabulator for effecting an operative connection between said shaft and the rotative member of said retarder when said tabulator is actuated.

5. In a typewriting machine, the combination of a power driven carriage; an escapement wheel; a shaft therefor, a normally inoperative carriage retarder comprising two members, one of which is a drum and the other of which is a device contained within said drum and one of which members is fixed and the other rotative; a tabulator; and means controlled by said tabulator for releasing the carriage from control of the escapement mechanism and for simultaneously effecting an operative connection between said shaft and the rotative member of said retarder.

6. In a typewriting machine, the combination of a power driven carriage; escapement mechanism including an escapement wheel, and a shaft for the escapement wheel; a normally inoperative carriage retarder comprising a drum, a stirring device contained within said drum, a mass of material contained within said drum, one of the stirring device and drum elements being rotative; and means for disconnecting said shaft from said escapement wheel and for connecting the shaft with said rotative element.

7. In a typewriting machine, the combination of a power driven carriage; escapement mechanism including an escapement wheel, and a shaft for the escapement wheel; a normally inoperative carriage retarder comprising a fixed drum through which said shaft extends, a hollow shaft which surrounds the shaft of the escapement wheel and extends into said drum, retarding means carried by said hollow shaft within the drum; and clutch means which are effective to disconnect the escapement wheel shaft from the escapement wheel and to operatively connect the escapement wheel shaft with said hollow shaft.

8. In a typewriting machine, the combination of a power driven carriage; escapement mechanism including an escapement wheel, and a shaft for the escapement wheel; a normally inoperative carriage retarder comprising a fixed drum through which said shaft extends, a hollow shaft which surrounds the shaft of the escapement

wheel and extends into said drum, retarding means carried by said hollow shaft within the drum; a double clutch splined to the shaft of the escapement wheel; a clutch member connected with said hollow shaft; a clutch member connected with the escapement wheel; and means for shifting the double clutch out of engagement with the clutch member of the escapement wheel and for shifting it into engagement with the clutch member of the hollow shaft.

9. In a typewriting machine, the combination of a power driven carriage, an escapement wheel, a shaft therefor, a normally inoperative carriage retarder, a double clutch member splined on said shaft, a cooperative clutch member connected with the escapement wheel, a clutch member connected with an element of said carriage retarder, and means for shifting said double clutch member out of engagement with the cooperative clutch member of the escapement wheel and for shifting said double clutch member into engagement with its cooperative clutch member connected with an element of the retarder.

10. In a typewriting machine, the combination of a power driven carriage, a rack carried by the carriage, a pinion normally in mesh with said rack and driven thereby, a normally inoperative carriage retarder, and key controlled means operable at will to operatively connect said retarder with said pinion and render the retarder operative thereby and to simultaneously release the carriage while said rack and pinion are maintained in mesh.

11. In a typewriting machine, the combination of a power driven carriage; a normally inoperative carriage retarder comprising a fixed drum, a stirring device rotative within said drum, and material contained within said drum and with which said stirring device cooperates; a pinion normally geared to be moved by the carriage; and a key controlled means operable at will for effecting an operative connection between said stirring device and said pinion.

12. In a typewriting machine, the combination of a power driven carriage and a normally inoperative carriage retarder comprising a driving shaft geared to rotate as the carriage travels, a drum through which said shaft extends, a hollow shaft which surrounds said driving shaft and which extends into said drum, a clutch member connected with said driving shaft, and means for shifting said clutch member into clutching engagement with said hollow shaft.

13. In a typewriting machine, the combination of a power driven carriage; and a normally inoperative carriage retarder comprising a driving shaft geared to rotate as the carriage travels, a drum through which said shaft extends, a hollow shaft which

surrounds said driving shaft and which extends into said drum, stirrer arms on said hollow shaft, a mass of material contained within the drum and with which said stirrer arms cooperate, a clutch member connected to turn with said driving shaft but movable longitudinally thereof, a companion clutch member connected with said hollow shaft, and means for shifting said first mentioned clutch member into engagement with the clutch member on the hollow shaft.

14. In a typewriting machine, the combination of a carriage, a series of graduated column stops, a single cooperative variably movable column selecting stop, a series of independently operable keys, means controlled thereby for variably moving said single column selecting stop into the path of different of said graduated column stops, to arrest the carriage in different columnar positions determined by the key which is actuated, a universal bar actuated by any of said keys, a carriage retarder, and means controlled by said universal bar for releasing the carriage from control of its escapement mechanism and for simultaneously throwing the carriage retarder into operation.

15. In a typewriting machine, the combination of a power driven carriage, a series of graduated column stops carried thereby, a pivoted frame carrying a column selecting stop and a universal bar, a series of key actuated column selecting levers which are cooperative with said universal bar to effect varying extents of movement of said frame and varying extents of movement of the column selecting stop into the paths of the graduated column stops, escapement mechanism, normally inoperative carriage retarding mechanism, clutch mechanism operative to release the carriage from control of the escapement mechanism and for operatively connecting the carriage with the carriage retarding mechanism, a universal release bar or frame controlled by said column selecting key actuated levers, and an intermediate connection between said universal release frame and said clutch mechanism.

16. In a typewriting machine, the combination of a power driven carriage, a series of graduated column stops carried thereby, a pivoted frame carrying a column selecting stop and a universal bar, a series of key actuated column selecting levers which are cooperative with said universal bar to effect varying extents of movement of said frame and varying extents of movement of the column selecting stop into the paths of the graduated column stops, a rack carried by the carriage, a pinion normally in mesh with said rack, a shaft driven by said pinion, an escapement wheel, normally inoperative carriage retarding mechanism, clutch mechanism operative to release the shaft from con-

trol of said escapement wheel and for oper-
atively connecting said shaft with the car-
riage retarding mechanism, and means con-
trolled by said key actuated column selecting
5 levers for controlling said clutch mechanism.

17. In a typewriting machine, the combi-
nation of a power driven carriage, a series
of graduated column stops carried thereby,
a pivoted frame carrying a column selecting
10 stop and a universal bar, a series of key
actuated column selecting levers which are
coöperative with said universal bar to effect
varying extents of movement of said frame
and varying extents of movement of the
15 column selecting stop into the paths of the
graduated column stops, a rack carried by
the carriage, a pinion normally in mesh with
said rack, a shaft driven by said pinion, an
escapement wheel, normally inoperative car-
20 riage retarding mechanism, clutch mecha-
nism operative to release the shaft from con-
trol of said escapement wheel and for oper-
atively connecting said shaft with the car-
riage retarding mechanism, a pivoted uni-
25 versal release bar or frame with which all
of said key controlled column selecting levers
are coöperative, and intermediate actuating
connections between said release frame and
said clutch mechanism.

30 18. In a typewriting machine, the combi-
nation of a power driven carriage; escape-
ment mechanism therefor including an es-
capement wheel shaft; a normally inoper-
ative carriage retarder comprising a drum
35 which surrounds said escapement wheel shaft
and which contains a material, and a de-
vice contained within said drum to co-act
with said material; and means operable at
will for effecting a connection or disconnec-
40 tion between said escapement wheel shaft
and one of said device and drum elements to
render the retarder operative.

19. In a typewriting machine, the combi-
45 nation of a power driven carriage; escape-
ment mechanism therefor including an es-
capement wheel shaft; carriage retarding
mechanism comprising a drum which is fixed
against movement and which surrounds said

escapement wheel shaft, a rotative device
contained within said drum, and material 50
within the drum on which said rotative de-
vice acts to retard the carriage; and means
operable at will for effecting a connection or
disconnection between said escapement wheel
shaft and said rotative device.

20. In a typewriting machine, the combi-
55 nation of a power driven carriage; escape-
ment mechanism therefor comprising an es-
capement wheel, shaft, and an escapement
wheel; a double clutch fixed to rotate with
60 the escapement wheel shaft and shiftable to
effect an operative connection between the
escapement wheel shaft and the escapement
wheel or to disconnect said parts as may be
desired; and a normally inoperative retarder 65
with which said double clutch is adapted to
coöperate when the clutch is actuated to re-
lease the shaft from the escapement wheel.

21. In a typewriting machine, the combi-
70 nation of a power driven carriage; escape-
ment mechanism therefor comprising an es-
capement wheel shaft, and an escapement
wheel; carriage retarding mechanism com-
prising a fixed drum which surrounds the
escapement wheel shaft, material contained 75
within said drum, and a stirring device con-
tained within the drum and coöperative with
said material to retard the travel of the
carriage; a double clutch which is fixed to
turn with the escapement wheel shaft and is 80
effective to operatively connect the escape-
ment wheel shaft and escapement wheel to
turn together, and means for operatively
connecting the double clutch with said stir-
ring device when the double clutch discon- 85
nects the escapement wheel shaft from the
escapement wheel.

Signed in the borough of Manhattan, city
of New York, in the county of New York
and State of New York this 21st day of Feb- 90
ruary, A. D. 1912.

ARTHUR W. SMITH.

Witnesses:

E. M. WELLS,
CHARLES E. SMITH.