G. A. SEIB.

TYPE WRITING MACHINE.

APPLICATION FILED NOV. 4, 1916.

1,317,760.

Patented Oct. 7, 1919.

3 SHEETS—SHEET 1.

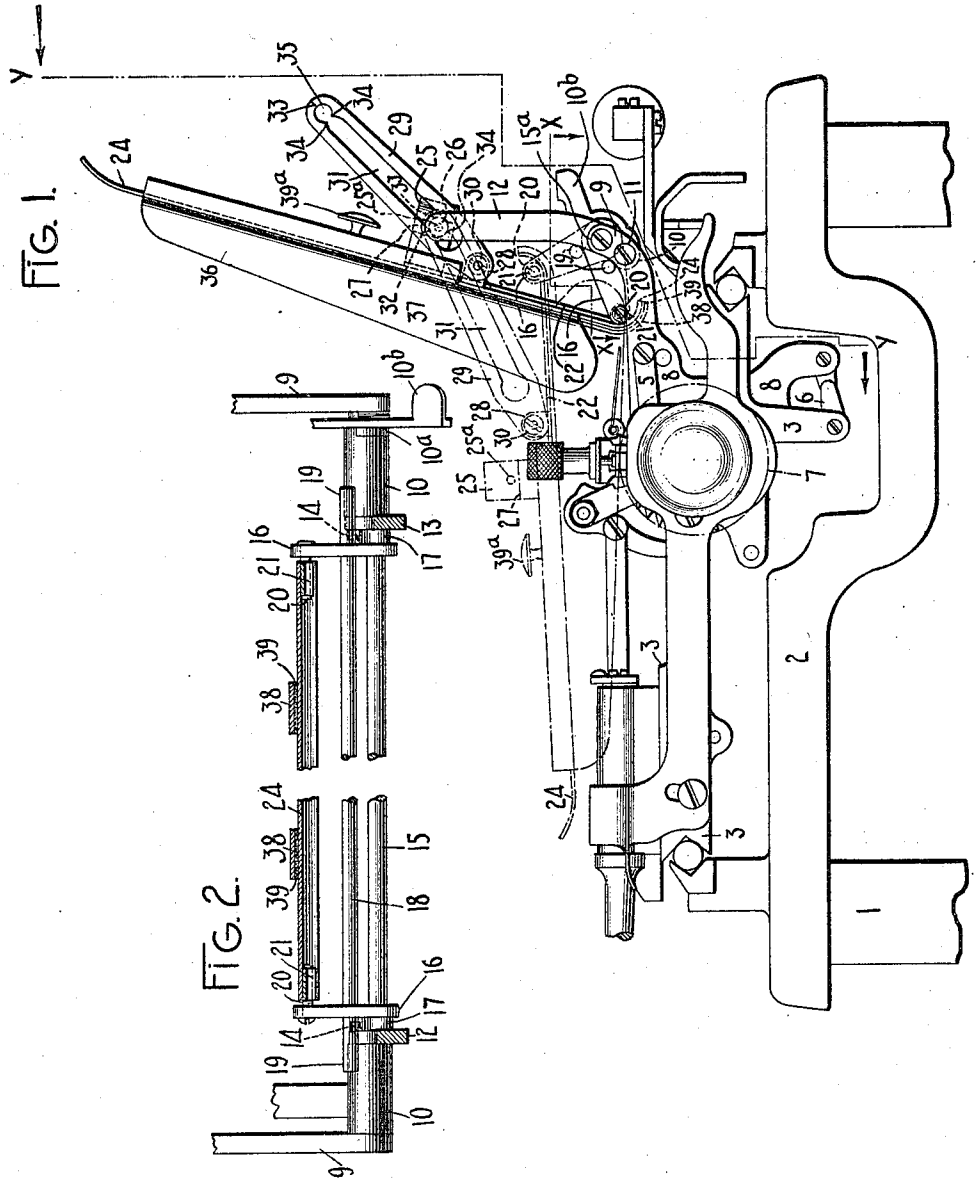


FIG. 1.

FIG. 2.

WITNESSES

E. M. Wells.

Charles E. Smith

INVENTOR

George A. Seib

By Jacob Felbel

HIS ATTORNEY

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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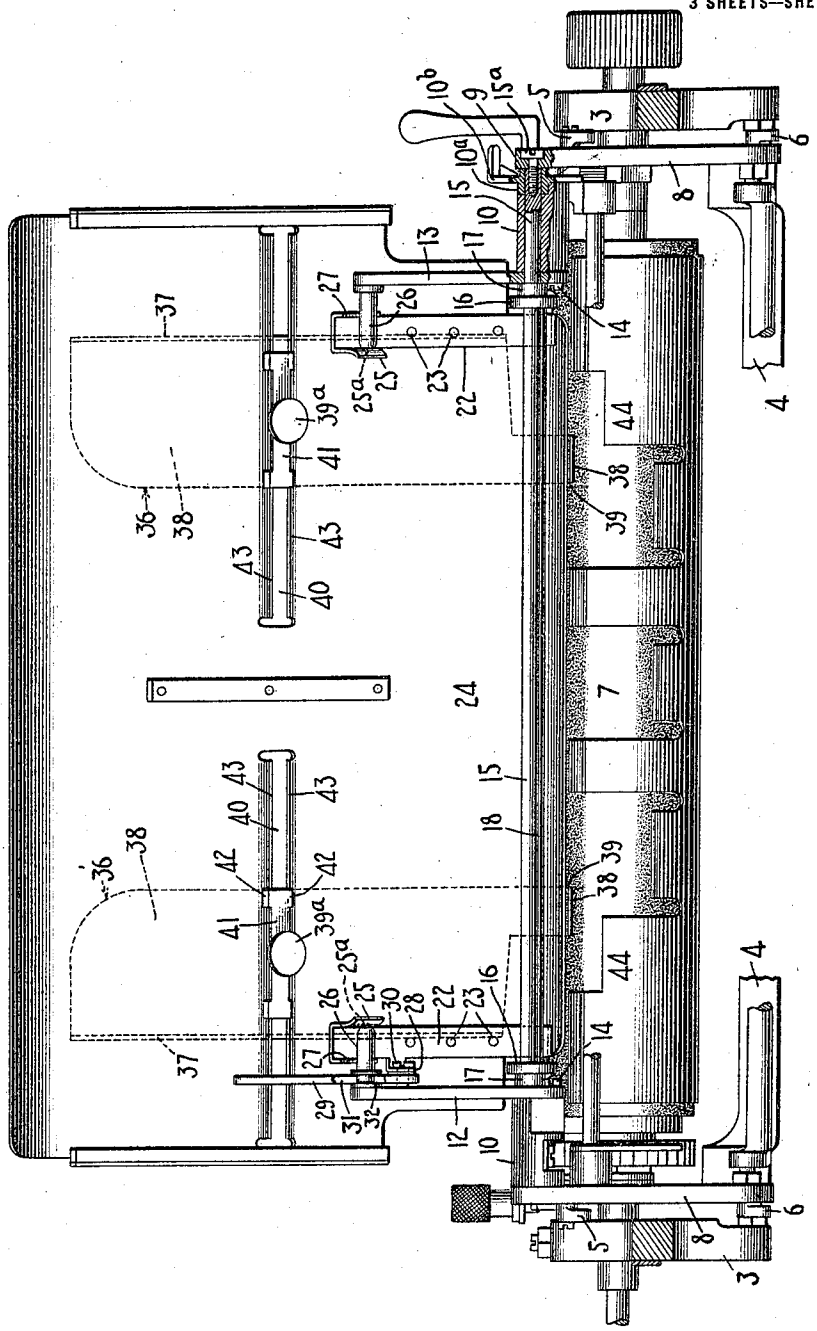
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3 SHEETS—SHEET 2.

FIG. 3.



WITNESSES

E. M. Wells.

Walter B. Smith

INVENTOR

George A. Seib

By Jacob Felbel

HIS ATTORNEY

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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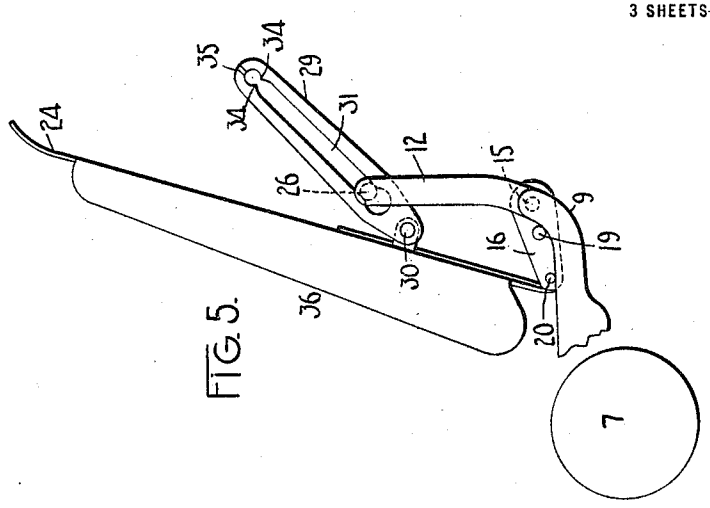


FIG. 5.

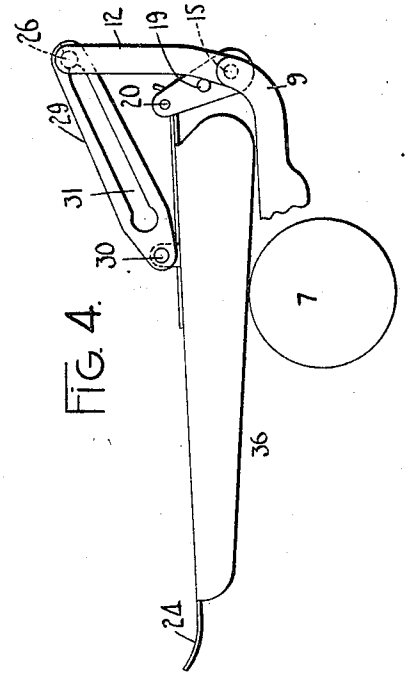


FIG. 4.

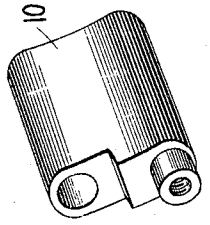


FIG. 6.

WITNESSES

E. M. Wells.

Walter E. Smith

INVENTOR

George A. Seib

By Jacob Felbel

HIS ATTORNEY

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE A. SEIB, OF ILION, NEW YORK, ASSIGNOR TO REMINGTON TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

1,317,760. Specification of Letters Patent. Patented Oct. 7, 1919.

Application filed November 4, 1916. Serial No. 129,461.

To all whom it may concern:

Be it known that I, GEORGE A. SEIB, citizen of the United States, and resident of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and more particularly to paper tables and means for mounting the same.

One of the main objects of my invention, generally stated, is to mount the paper table in such a manner that it may be moved from its normal position to a folded or substantially horizontally disposed position over the platen and in compact relation with the machine, even though the paper table be equipped with forwardly projecting side edge gages which ordinarily would obstruct the movement of the paper table to such compact relation.

To the above and other ends which will hereinafter appear my invention consists in the features of construction, arrangements of parts and combinations of devices set forth in the following description and particularly pointed out in the appended claims.

In the accompanying drawings wherein like reference characters indicate corresponding parts in the different views,

Figure 1 is a fragmentary side elevation showing the upper portion of a typewriting machine, with a paper table mounted on the carriage in accordance with my present invention.

Fig. 2 is a detail fragmentary sectional view of some of the parts, the section being taken on the line *x*—*x* of Fig. 1 looking in the direction of the arrows at said line.

Fig. 3 is a vertical transverse sectional view of the construction, the section being taken on the line *y*—*y* of Fig. 1 and looking in the direction of the arrows at said line.

Fig. 4 is a diagrammatic side view with parts omitted and illustrating the members as they appear when the paper table is in its folded position.

Fig. 5 is a like view of the same showing the parts as they appear when the paper table is in the normal or operative position.

Fig. 6 is an enlarged perspective view of the left-hand filler or block.

In the present instance, I have shown my invention embodied in a No. 11 Remington typewriting machine in which the invention may be readily incorporated without modifying, or materially modifying, the structural features of said machine as they now exist. It should be understood, however, that the invention may be embodied in various styles of typewriting machines.

In some No. 11 Remington machines, such for example as those equipped with a Wahl adder or "cross-footer" it has been customary to employ a large paper table provided with forwardly projecting side edge gages. In these machines the paper table thus equipped could not be folded down over the platen because of the obstruction offered by the side guides or gages and the platen. This prevented the use of the machine in drop-cabinets, and also rendered it inconvenient to pack the machine in its case for shipping without first detaching the paper table.

By my present invention I provide simple and efficient means for overcoming these disadvantages, by enabling the paper table to be readily swung down over the platen into compact relation with the machine.

The frame of the machine, comprising corner posts 1 and top plate 2, supports the carriage in the usual manner for movement from side to side of the machine over the top plate. The carriage comprises the usual truck designated as a whole by the reference numeral 3, and the platen frame, designated as a whole by the reference numeral 4, the latter being connected to the truck by links 5 and 6 for case shifting movement. A platen 7 is carried by the platen frame 4, the shaft of the platen turning in bearings in the end plates 8 of the platen frame. These end plates are provided with rearwardly and upwardly extending arms 9 to which blocks 10 are secured by screws 11. The outer end of the left-hand filler or block 10, as shown in Fig. 6, is notched or cut-away for the accommodation of the hub 10^a of a spring-pressed key 10^b, which in practice cooperates with other parts of the machine having no relation to my present invention and not illustrated in the drawings. Two upwardly extending fixed arms or standards 12 and 13 are secured to the inner ends of the blocks 10 by screws 14 (see Fig. 2). The arms 12 and 13 and the blocks 10 are apertured to receive a tie-rod 15 tapped at its ends for headed screws 15^a, the shanks of

which extend through openings in the arms 9. The tie-rod 15 passes through both blocks 10 and also through the hub of said spring-pressed key or lever 10^b. This tie-rod thus provides additional means for connecting the blocks to the arms 9 and for preventing the blocks from turning on said arms and also for connecting the arms 12 and 13 to the blocks and preventing the arms from turning on the blocks. A pair of parallel links or arms 16 are apertured at their rear ends where they are received on the tie-rod 15 to provide a pivotal mounting for the links. Washers 17 surround the rod 15 outside of the arms 16, a washer being situated between each of said links 16 and the associated fixed upright arm 12 or 13. Each link 16 is apertured about midway in the length thereof to receive a tie-rod 18 which, as shown in Fig. 2, extends at its ends beyond the links to form stop pins 19. This tie-rod is soldered or otherwise fixedly secured in the openings in the links 16 so as to rigidly connect said links to swing together and in effect form a pivoted frame or member of the links 16 and tie-rod 18. The stop pins 19 on this frame co-act with the arms 12 and 13, and with the blocks 10 connected therewith, to limit swinging movements of the frame, as indicated in Fig. 1.

Projecting inwardly from the links or arms 16 are pivot pins 20, one at least of which is in the nature of a detachable screw pivot pin threaded into a tapped opening in its link 16. The pivot pins are received in bearings 21 formed on sheet metal bracket members 22. These brackets are riveted at 23 to the rear side of a paper table which table is designated as a whole by the reference numeral 24. In order to retain the paper table in its normal position, shown in full lines in Fig. 1, each bracket member 22 is provided with a spring-catch or latch. Each catch is in the nature of a spring finger 25 curved slightly to provide a cam face, which in its co-action with the associated pin 26 carried by the arm 12 or 13 causes the spring finger to be flexed slightly and the pointed end of the pin to be received in a depression 25^a in the spring finger. The paper table is thus automatically locked to the arms 12 and 13 and an accidental displacement of the paper table from its normal position around the pivotal center of the floating pivots 20 is prevented. In order to release the paper table it is merely necessary to exert sufficient forward pressure on the upper end of the paper table to overcome the pressure of the springs 25 and thus unseat the pins 26 from the depressions 25^a in the fingers.

To limit the rearward swinging movement of the paper table around the pivot pins 20 I have provided each bracket with a struck-up rearwardly projecting finger or stop 27, which co-acts with the associated pin or stop 26. The relation of the parts is such that when the stops 26 and 27 co-act to limit the movement of the paper table the ends of the pins will be seated in the depressions 25^a in the spring fingers 25 and lock the paper table in place.

The right-hand bracket 22 is provided with a struck-up rearwardly projecting ear 28 to which one end of a link 29 is pivoted by a headed screw 30. This link is slotted longitudinally at 31 to receive the pin 26 on the arm 12 at that portion of the pin where it is provided with a peripheral groove 32. The link 29 is split at 33 so that the members on opposite sides of the slot may be sprung away from each other. The rear end portion of the slot 31 in the link is slightly contracted to provide oppositely disposed cam-like members 34, the distance between said members being less than the diameter of the bearing portion of the pin 26 received in the slot 31. This provides a substantially circular bearing portion 35 in the rear end of the slot 31 in which the associated pin may be received when the sides of the link are sprung apart by the action of the parts 34 on the pin. As soon as the parts 34 pass the pin the side members of the link will spring together, inclosing the pin within the part 35 by spring pressure. The link thus constitutes a spring catch or latch, which in its coöperation with the associated pin 26 prevents an accidental longitudinal displacement of the link on the pin, and locks or holds the paper table against accidental displacement from its abnormal position, represented in Fig. 4 and in dotted lines in Fig. 1. The link and pin also limit the movement of the paper table to abnormal position, assisted by the stop pins 19 which limit the movement of the frame 16—18.

In the present instance I have provided forwardly projecting side edge gages or guides on the front face of the paper table, and which ordinarily would interfere with the paper table being swung down from its normal position to a substantially horizontal position over the platen, and into compact relation with the machine. However, by mounting the paper table in accordance with my present invention these guides and the platen do not interfere with or obstruct the movement of the paper table into such compact relation. Thus, it will be seen that a pair of right-angled side edge gages are mounted on the front face of the paper table. Each gage is designated as a whole by the reference numeral 36, and is provided with a flange 37. The plane of this flange extends at right-angles to the plane of the paper table substantially throughout the height of the table, and the lower end thereof is not far from the platen. A flat portion 38 of each gage lies on the front face

of the paper table and is faced with felt at 39 where it contacts with the table. Each member 38 is tapped to receive the forward end of a thumb screw 39ª which extends from the rear of the paper table through a slot 40 therein. A shoulder on each screw bears against a bowed leaf-spring 41, the stem of each screw passing through an opening in the associated spring. Each spring 41 has lugs or flanges 42 formed on the end portions thereof for coöperation with rearwardly turned flanges 43 which form the walls of the slots 40 in the paper table. The springs are thus held against turning movement and provide resilient means for holding the guides frictionally on the paper table against accidental displacement from the positions to which they may be adjusted along the table.

It will be understood that the paper table is normally disposed in an upright position in the rear of the platen, as shown in Fig. 5 and in full lines in Fig. 1, when the machine is in use, and directs the work sheets to the introductory side of the platen and to the bight between the platen and paper apron 44.

Should the operator desire to fold the paper table over the platen, and into compact relation with the machine, preparatory to lowering the machine in a drop-cabinet or packing the machine for transportation, it is merely necessary to exert a sufficient forward pull or pressure on the upper end of the paper table to disconnect the paper table from the control of the spring latches 25. As a forward and downward swinging movement of the paper table takes place around the floating pivots 20, the link 29 will be moved along the associated pin 26. This movement of the paper table is independent of the frame 16—18 and will continue until the forward edges of the side edge gages reach the surface of the platen. At or about this time the sides of the link 29 will be sprung apart to receive the associated pin 26 in the bearing opening 35 therein, and further independent movement of the paper table on the pivots 20 will be prevented. Continued downward pressure exerted on the upper end of the paper table will be directed against the frame 16—18, causing a swinging movement thereof and causing the lower end of the paper table to swing upwardly around the tie-rod 15 to the position shown in Fig. 4 and indicated in dotted lines in Fig. 1. This movement will continue until the dotted line position is reached when the stop pins 19 engage the arms 12 and 13 to limit a further movement of the frame and the paper table carried thereby. At this time the link 29 and its pin 26 act as stops to prevent a downward pivotal movement of the paper table around the floating pivots 20, and also act to lock the paper table against accidental upward displacement from its abnormal position, shown in Fig. 4 and in dotted lines in Fig. 1. The link 29 and its pin 26 are, as hereinbefore explained intended to limit the independent movement of the paper table around its pivots 20, and cause the pressure exerted against the paper table to be directed against the pivoted frame 16—18 after a given extent of independent movement has been given the paper table. It will be understood, nevertheless, that in the construction as shown and described, the side edge gages bearing against the platen assist in causing the pressure exerted against the paper table to swing the frame 16—18 to the position shown in Fig. 4 and in dotted lines in Fig. 1; the paper table operating at this time as a lever fulcrumed against the platen at the points of contact of the side edge guides therewith. It may be desirable therefore to form each member 37 of the guides with an off-set ear where it contacts with the platen in order to present a flat surface for contact with the platen instead of an edge of each part 37.

To return the paper table to its normal position, it is merely necessary to raise the upper end of the paper table, now presented foremost to the operator, and at this time the spring link 29 will exert sufficient force in its engagement with its pin 26 to cause the pressure exerted against the paper table first to swing the frame 16—18 and return it to normal position, where it is arrested by the pins 19. This insures a restoration of the frame comprising the links 16 to normal position before the independent movement of the paper table around the pivots 20 takes place. Continued pressure will cause the spring link 29 to be disengaged from the pin 26 and enable the paper table to receive an independent pivotal movement on the pivot pins 20 back to normal position, where the pins 26 will engage the spring fingers 25 and lock the paper table against accidental displacement from such position and will also prevent any swinging movement of the frame 16—18.

It will be understood that the paper table in its movement from and to normal position receives a pivotal movement around two centers, one around the floating pivots 20, and the other around the pivot or tie-rod or fixed center 15; that in the movement of the paper table from its normal working position into compact relation with the machine, the lower end of the paper table will receive an upward swinging movement when the paper table is swung down; that the effect of this movement is to elevate the point of pivotal connection (20) on which the paper table swings; that the pivots 20 are in the nature of floating pivots on which the paper table is mounted for pivotal move-

ment independently of the frame 16—18; that stops 29 and 26 and 26 and 27 limit this independent movement of the paper table, whereas the stops 19 and the parts which co-act therewith limit the swinging movement of the frame or member 16—18; that spring locking means are provided for holding the paper table against accidental displacement from either of the extreme positions to which it may be moved; and that these locking means operate automatically.

While a paper table mounted in accordance with my present invention is available for use, and particularly advantageous, when side edge gages are employed on the front face of the paper table, it should be understood that my invention is not restricted to such a construction and that various changes may be made without departing from the invention.

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

1. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table arranged with its lower end in the rear of the platen and operative to direct a work sheet forwardly to the introductory side of the platen, a floating pivot on which said table is mounted for movement forwardly and downwardly over the platen, and automatically operating locking means for holding the paper table against movement while in both normal and folded positions.

2. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table, a pivoted member on which said paper table is mounted for independent pivotal movement, which construction enables the paper table to be swung from its normal position to a substantially horizontally disposed abnormal position over the platen, an automatically operating catch which locks the paper table against accidental displacement from its normal position, and an automatically operating catch which locks the paper table against accidental displacement from its abnormal position.

3. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table arranged with its lower end at the rear of the platen to feed paper thereto at the introductory side thereof, a sliding link on the carriage and pivotally connected to the paper table, and rigidly connected parallel links pivoted on the carriage and on which the paper table is also pivoted.

4. In a typewriting machine, the combination of a carriage, a platen carried thereby, a pivoted paper table carried by the carriage, a side edge gage carried by the paper table and extending forward from the front face thereof to a position where it would ordinarily engage the platen and prevent the paper table from swinging from an upright position, and automatically operating means which enable the pivotal center of the paper table to be shifted so that the gage and platen offer no obstruction to the paper table swinging to a substantially horizontal position.

5. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table arranged with its lower end in the rear of the platen and operative to direct a work sheet forwardly to the introductory side of the platen, a member pivoted to the carriage and on which the paper table is pivoted for independent movement, stops for limiting the movement of said member, and stops for limiting the independent movement of the table on said member.

6. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table arranged with its lower end in the rear of the platen and operative to direct a work sheet forwardly to the introductory side of the platen, rigidly connected parallel links pivoted to the carriage and on which the paper table is pivoted for independent movement, means for limiting the pivotal movement of said links, and means for limiting the independent pivotal movements of the paper table on said links.

7. In a typewriting machine, the combination of a carriage; a platen carried thereby; a paper table; and means for mounting said paper table on the carriage so that it may be swung forwardly and downwardly from its normal position of use to a substantially horizontally disposed position over the platen, said means comprising means for affording a movement of the paper table on two pivotal centers, and means for compelling the movement of the table to be effected around one of said pivotal centers after it has completed a part of its movement around the other pivotal center.

8. In a typewriting machine, the combination of a carriage; a platen carried thereby; a paper table arranged with its lower end in the rear of the platen and operative to direct a work sheet forwardly to the introductory side of the platen; and means for mounting said paper table on the carriage so that it may be swung forwardly and downwardly from its normal position of use to a substantially horizontally disposed position over the platen, said means comprising a frame pivoted to the carriage and on which said paper table is pivoted for independent movement, and means for insuring a pivotal movement of said frame after a given extent of independent movement of the paper table on the frame.

9. In a typewriting machine, the combination of a carriage; a platen carried thereby; a paper table; and means for mounting said paper table on the carriage so that it may be swung from its normal position to a sub-

stantially horizontally disposed position over the platen, said means comprising a frame pivoted to the carriage and on which said paper table is pivoted for independent movement, means for insuring a pivotal movement of said frame after a given extent of independent movement of the paper table on the frame, said last mentioned means comprising a slotted link pivoted to the paper table, and a pin carried by a fixed part of the carriage and received in the slot in said link.

10. In a typewriting machine, the combination of a carriage; a platen carried thereby; a paper table; and means for mounting said paper table on the carriage so that it may be swung from its normal position to a substantially horizontally disposed position over the platen, said means comprising a frame pivoted to the carriage and on which said paper table is pivoted for independent movement, means for insuring a pivotal movement of said frame after a given extent of independent movement of the paper table on the frame, said last mentioned means comprising a slotted link pivoted to the paper table, a pin carried by a fixed part of the carriage and received in the slot in said link, and a spring catch on the link which engages said pin.

11. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table, a pivoted member on which said paper table is mounted for independent pivotal movement, and means which causes the pressure on the table to move it to be exerted to move the pivoted member after a given extent of independent pivotal movement has been given the paper table.

12. In a typewriting machine, the combination of a carriage, a platen carried thereby, a paper table arranged with its lower end in the rear of the platen and operative to direct a work sheet forwardly to the introductory side of the platen, means for mounting said paper table so that it may swing independently of the carriage forwardly and downwardly from its normal position to a substantially horizontally disposed position around two different pivotal centers, and means which cause the paper table to move around one center after it has moved around the other center a given distance.

13. In a typewriting machine, the combination of a carriage, a platen, a pair of forwardly extended pivoted arms, a paper table pivoted at its lowermost end to the forward ends of said pivoted arms, and a sliding and swinging guide-link pivoted at one end to the paper table at a point above the pivotal point of connection of said table to said pivoted arms.

14. In a typewriting machine, the combination of a carriage, a platen, a pair of uprights, a pair of forwardly extended arms pivoted to said uprights, a slotted link slidably and pivotally connected with one of said uprights, and a paper table pivotally connected to said pivoted arms and to said slotted link.

15. In a typewriting machine, the combination of a carriage, a paper table mounted for movement on the carriage from its normal upright position to an abnormal substantially horizontally disposed position, locking means for preventing an accidental displacement of the table from said abnormal position, said locking means comprising a slotted link pivoted to the paper table and carrying a spring catch, and a relatively fixed pin carried by the carriage and received in the slot in said link and coöperative with said spring catch.

Signed at Ilion, in the county of Herkimer, and State of New York, this 2nd day of November, A. D. 1916.

GEORGE A. SEIB.

Witnesses:
MARY C. GLEASON,
CLARENCE M. SLAWSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."