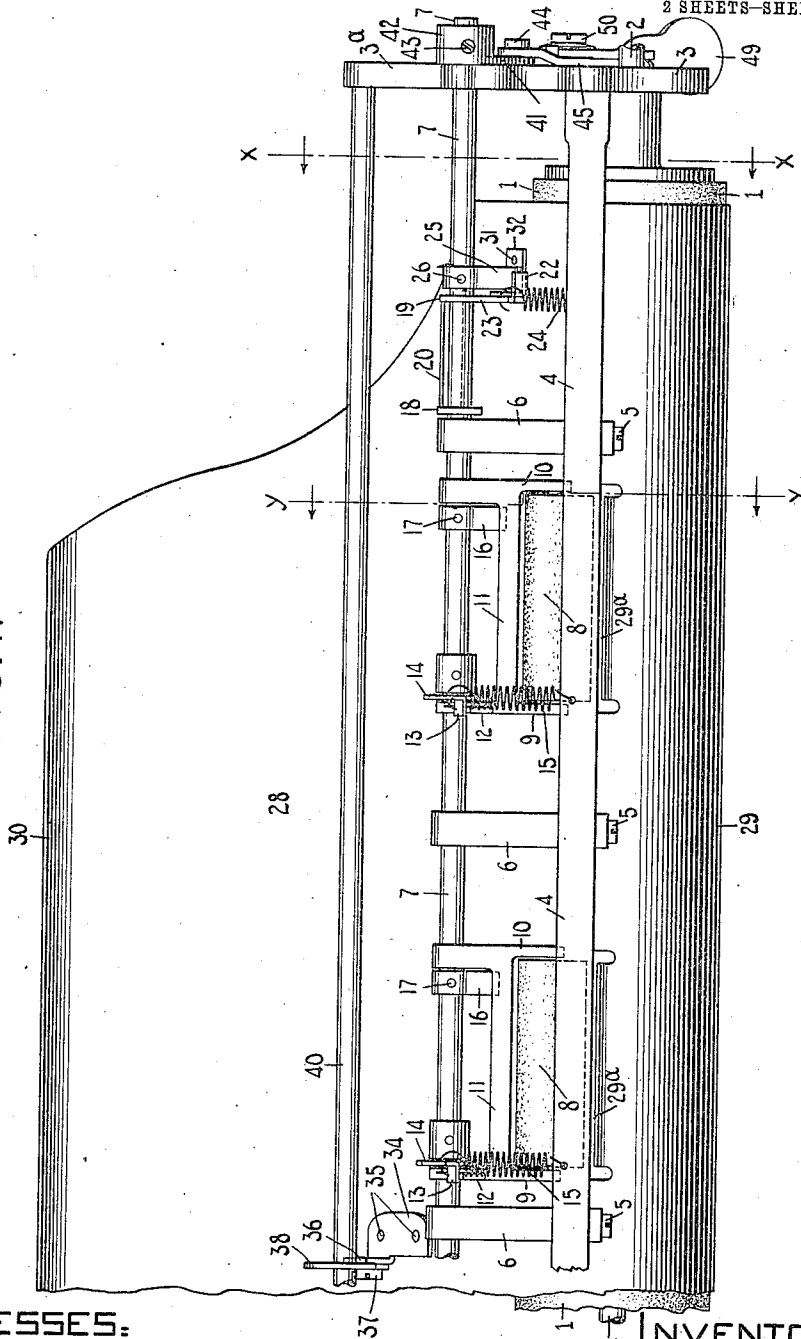


1,052,160.

Patented Feb. 4, 1913.

2 SHEETS-SHEET 1.

FIG. 1.



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1,052,160.

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2 SHEETS—SHEET 2.

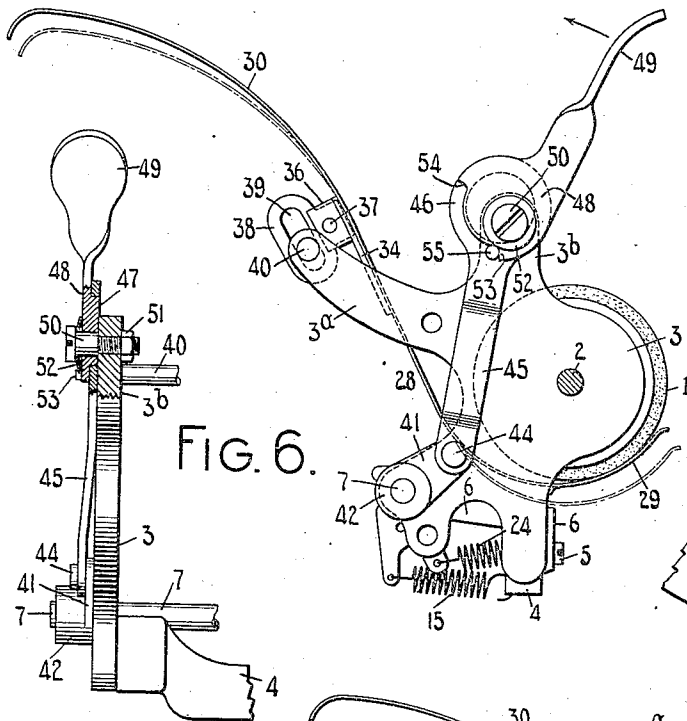


FIG. 2.

FIG. 6.

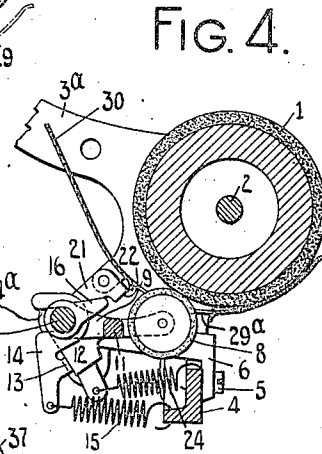


FIG. 4.

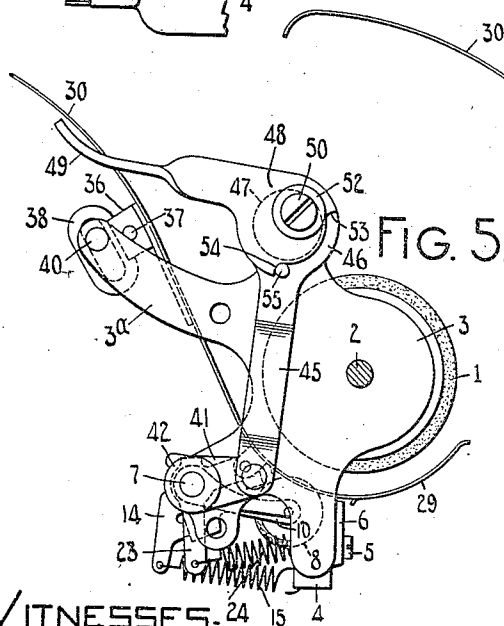


FIG. 5.

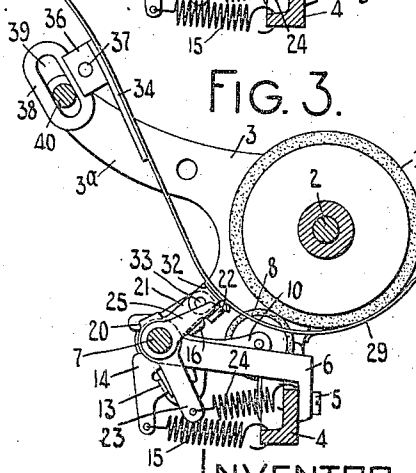


FIG. 3.

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UNITED STATES PATENT OFFICE.

ALFRED D. MAURY, OF ILION, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION
OF NEW JERSEY.

TYPE-WRITING MACHINE.

1,052,160.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed October 20, 1911. Serial No. 655,669.

To all whom it may concern:

Be it known that I, ALFRED D. MAURY, 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 especially to paper feeding and guiding mechanism for type-writing machines and devices for controlling the same.

One object of the invention is to provide a combined paper table and paper deflector which is mounted in a novel manner and is releasable in a novel way and to such a position as to facilitate the introduction of paper into the machine.

Another object is to provide novel releasing and locking devices for the paper table and deflector and for the paper feed rollers of the machine.

Another object is to combine the releasing operations of the novel paper table and deflector and of the feed rollers so that these elements may be released concurrently and locked in released position.

Other objects will hereinafter appear.

To the above ends my invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings which illustrate one form of my said invention as applied to the platen carrier of a No. 10 Remington front strike typewriting machine, Figure 1 is a fragmentary bottom plan view of the platen and platen carrier showing my invention applied thereto. Fig. 2 is a side elevation of the platen and platen carriage shown in Fig. 1, the left-hand finger wheel being sectioned away. Fig. 3 is a transverse sectional view, taken on a plane represented by the dotted line $x-x$ in Fig. 1 and looking in the direction of the arrows at said line. Fig. 4 is a transverse sectional view, taken on a plane represented by the dotted line $y-y$ in Fig. 1 and looking in the direction of the arrows at said line. Fig. 5 is a view corresponding with Fig. 2 but showing the feed rollers and paper de-

flexor and table locked off in released position. Fig. 6 is a fragmentary front view, partly in section, showing certain of the releasing and locking devices.

In the drawings the platen 1 is supported on an axle 2 which bears in the end bars or plates 3 of a platen frame or carrier which further comprises a cross bar 4 extending under the platen lengthwise thereof and connecting the end bars. Secured by screws 5 to the front of the cross bar 4 are a plurality of angular supporting arms or brackets 6, said arms extending upward from the bar 4 and thence rearward over the same and between it and the platen and terminating in enlarged portions which are bored out to provide bearing openings for a rod or rock shaft 7, which also bears in the end bars 3. The rod or bar 7 provides a support for a combined paper table and deflector, hereinafter described, and also for the main feed or pressure roller. Said main feed roller comprises a plurality of sections 8 which are arranged in line with each other and cooperate with the platen at its rear underside. Each feed roll section 8 is supported in a carrier or holder which comprises side arms 9 and 10 and a connecting cross arm 11, the said arms extending horizontally rearward and being perforated to permit of the passage therethrough of the rod 7, the roller carriers bearing loosely on said rod. The arm 9 has a downward ear or extension 12 against which abuts a lip 13 projecting laterally from a hook-like member 14, which has an open slot 14^a adapting it to hook over and bear on the rod 7 close to the arm 9, as clearly shown in Figs. 1 and 4. The hook-like member 14 extends downward below the lip 13 and has connected to its the rear end of a coil spring 15, said spring extending forward and being anchored to an opening in the cross bar 4. The construction is such that the spring 15 constantly tends to draw the hook 14 forward and transmits its pressure through the lip 13 to the extension 12 of the feed roll carrier and thence to the feed roller, the latter being thus maintained normally in contact with the platen or the paper thereon by the spring 15. The hook 14, it will be observed, is a pressure transmitter and

is separate from the feed roller and its carrier or support so that it may be readily detached independently of the feed roller and its support by pushing the lower end of said hook 14 rearward and then unhooking the upper end by pushing it forward of the rod 7.

It will be understood that there are several feed roll sections, carriers therefor, and pressure transmitters 14. In the present instance four are employed although Fig. 1 shows but two of them, this figure illustrating the platen carrier as broken off at about the middle of its length so that only about half of it and of the platen is disclosed. Associated with each feed roller carrier is a releasing member in the form of an arm 16 which is pinned at 17 or otherwise secured to the rock shaft 7 and normally overlies the cross bar 11 but is separated therefrom, as shown in Fig. 4, so that when the shaft 7 is rocked, as hereinafter described, the arm 16 will cooperate with the bar 11 to force the carrier to swing downward against the spring 15 and move the feed roller to released or inoperative position.

Loosely mounted on the rock shaft 7 near each end thereof is a supporting bracket comprising end portions 18 and 19 and a connecting cross-bar 20, the end portions bearing on the rock shaft 7. The bracket portion 19 is angularly shaped, comprising an upwardly and forwardly extending arm 21 which terminates in a lateral lip 22 and further comprising a downward extension 23 which is connected by a coiled spring 24 with the cross bar 4. A releasing member or arm 25, pinned or otherwise secured at 26 to the rock shaft 7 and extends upward and forward therefrom, overlies the lip 22 and is adapted to cooperate therewith when the shaft 7 is rocked, to swing the supporting brackets just referred to, of which as has been stated there are two, support the lower end portions of a combined paper table and paper deflector member which is designated as a whole by the numeral 28. Said member 28 has a deflector portion 29 which lies close to the platen and is curved to conform to the shape thereof rather closely at the front underside of the platen, the deflector portion 29 terminating at the front of the machine somewhat below the printing line and close to the face of the platen. The deflector portion 29 is slotted, as indicated at 29^a, to provide openings through which the feed roller sections 8 may move toward and away from the platen. The paper table portion 30 of the deflector extends upward and rearward away from the platen at the rear side thereof and terminates at a considerable distance above and behind the platen. The lower portion of the combined member 28 has secured to it

near each end, as by rivets 31 (Fig. 1) or otherwise, an angular bracket 32 which is pivotally connected at 33 with the upper end portion of the arm 21 of the associated supporting bracket 18—20. The upper portion of the combined member 28 is supported at about midway of its length, the supporting devices comprising an angular bracket 34 which is riveted at 35 or otherwise secured to the rear face of the member 28 and provides a rearwardly extending ear 36 to which is screwed or otherwise secured at 37 a slotted member or guide 38, the slot 39 of said guide being elongated and receiving a cross rod 40 which is secured at its ends to rearward extensions 3^a on the end bars of the platen carrier. The slot 39, it will be observed, is downwardly and forwardly inclined at an angle of something like 60° from the horizontal, and the disposition of the pivots or pins of the connection 33 with respect to the axial center of the rock shaft 7 is such that they will move downward and forward when operated as hereinafter described, in a path parallel substantially with the angle of the slot 39. Consequently the combined paper table and deflector will have what is commonly referred to as a parallel motion, that is, points or parts of it will move in parallel paths.

In order to release the feed roller and the combined paper table and deflector, means are provided comprising a crank arm 41 which has a hub 42 screwed at 43 to the rock shaft 7 outside the left-hand end bar 3 (Fig. 1). The crank arm 41 normally extends forward and upward, as shown in Fig. 2, and is pivotally connected at 44 with the lower end of a member 45 which is in the nature of an eccentric strap, the upper end of the member 45 being enlarged, as indicated at 46, and being provided with a circular opening in which fits an eccentric boss 47 projecting inward from the lower end portion of an eccentric member 48, said member having an upward extension which is twisted to provide a finger piece or releasing device 49. The eccentric member 48 bears on a headed shouldered screw 50 which has a shouldered bearing portion and a reduced threaded portion which screws into a tapped opening in an upward extension 3^b of the left-hand end bar 3 and is locked in place by a check nut 51 (Fig. 6). Interposed between the head of the screw 50 and the outer face of the member 48 is a cupped washer 52 which is held under tension against the outer face of the member 48 and exerts friction tending to oppose the turning of said member. As will be apparent from a consideration of Figs. 2, 5 and 6, the eccentric proper 47 is mounted eccentrically of the axis of the screw 50 so that when the eccentric member 48 is turned the eccentric proper will co-act with the

strap 45, 46, to communicate up and down movement to the latter, which thereby acts on the crank 41 to rock the shaft 7. The body portion of the member 48 is cut away to provide stop shoulders 53 and 54 which co-act with a lateral stop pin 55 on the strap 45—46 to limit turning movements of the eccentric member.

Figs. 2, 3 and 4 illustrate the normal positions of the various parts. Referring to these figures it will be observed that the eccentric devices are positioned or set through the co-action of the stops 53 and 55; that the feed rollers are engaged with the platen and that the deflector 29 is also engaged therewith at the front lower side thereof; also that the pivotal supporting points 33 are above and forward of the axis 7 while the lower portion of the guide slot 39 is in coöperation with the guiding and supporting rod 40. Suppose now the operator pushed the finger piece 49 rearward from the Fig. 2 to the Fig. 5 position. This operation lowers the eccentric proper 47, causing the same to move the eccentric strap downward, the movements continuing until the parts are arrested by the co-action of the stop 54 with the stop pin 55. This brings the eccentric nearly on a dead center and owing to this fact and also partly to the friction of the washer 52, the parts will be maintained set or locked in the Fig. 5 position. The downward movement of the eccentric strap turns the crank arm 41 downward and forward, rocking the shaft 7 in the same direction and causing the arms 16 to co-act with the cross arms 11, as heretofore described, to release the feed rollers 8. Concurrently the arms 25 will act against the lips 22 to rock the supports 18—20 against the springs 24, this movement of said supports causing the pivotal connections 33 to swing downward and forward and communicating the parallel motion aforesaid to the combined paper table and deflector, the upper end of which is guided and controlled during this movement by the inclined guide slot 39 and the co-acting guide rod or fixed element 40. The movement communicated to the combined paper table and deflector is comparatively slight and yet results in a movement of the deflector away from the platen in what may be termed a radial direction so that as shown in Fig. 5 and as indicated by dotted lines in Fig. 2, an opening of substantially uniform width is provided at the under and forward sides of the platen through which one or a considerable number of sheets of paper may be readily inserted and guided smoothly and without obstruction forward under the platen and upward in the direction of the printing point at the front side thereof. The advantage of thus bodily releasing the deflector and mov-

ing it to an abnormal position in which it is substantially concentric with the platen will be apparent when compared with prior constructions in which the deflector is swung or rotated around a single pivot in such a way that when released, instead of being substantially concentric with the platen, its forward portion inclines toward the platen so as in a way to obstruct the advance of the paper as it was inserted, this disadvantage being especially marked when more than one sheet, or what is termed a pack, required insertion and adjustment. The parts are restored to normal position by pulling the finger piece 49 forward from the Fig. 5 to the Fig. 2 position.

It will further be observed that by my present invention I provide in combination with a platen, a paper guiding device which has a paper table portion and a paper deflecting portion; that the paper deflector is curved to conform substantially to the curvature of the platen; that means are provided for affording movement of said deflector away from the platen such that the points or parts of said deflector follow substantially straight parallel paths; that the movement of the deflector away from the platen is a bodily movement as distinguished from a mere movement around a pivotal center, all of the parts or points moving substantially the same extent; that by the movement of the deflector from the platen a substantially uniform opening is obtained which in the present instance is at the under and forward sides of the platen; that the paper device or member is movably supported at two points one above the other, said points being at the rear of the platen; that the movement of the device is in an inclined path downward and forward relatively to the platen; that means are provided for locking or maintaining the device in released or abnormal position; that in released or abnormal position the deflector is substantially concentric with the platen; and that a paper controlling device or feed roller is associated with a pressure transmitter which in the present instance is a member 14 which operates as a lever, transmitting spring pressure between the feed roller or controlling device.

Various other changes besides those specified may be made without departing from my present invention.

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

1. In a typewriting machine, the combination of a platen, pressure roll devices, a paper deflector curved to conform to the platen, and means for affording movement of said paper deflector bodily away from the platen, all the points upon said deflector moving in substantially straight paths during such bodily movement, said pressure

roll devices and said paper deflector being supported independently of each other and being separately controlled.

2. In a front strike typewriting machine, the combination of a platen, a paper deflector supported at the rear of the platen and curving around the under and forward sides thereof and terminating a short distance below the printing point, pressure roll devices, and means for affording movement of said deflector bodily away from the platen, such bodily movement resulting in the provision of an opening of substantially uniform width between the platen and the deflector at the under side of the platen, said pressure roll device and said paper deflector being supported independently of each other and being separately controlled.

3. In a typewriting machine, the combination of a platen, a paper deflector coöperative therewith, pressure roll devices, and means for affording movement of said deflector away from the platen so that all of the points of said deflector move substantially equal extents, said pressure roll devices and said paper deflector being supported independently of each other and being separately controlled.

4. In a front strike typewriting machine, the combination of a platen, a paper deflector curving around the under and forward sides thereof and terminating a short distance below the printing point, pressure roll devices, and means for affording movement of said deflector in a straight inclined path downward and forward relatively to the platen, said pressure roll devices and said paper deflector being supported independently of each other and being separately controlled.

5. In a typewriting machine, the combination of a platen, a paper deflector curved to conform substantially to the curvature thereof, pressure roll devices, means for affording movement of said deflector bodily and in a substantially straight path away from the platen, and means for retaining said deflector in abnormal position, said pressure roll devices and said paper deflector being supported independently of each other and being separately controlled.

6. In a front strike typewriting machine, the combination of a platen, a paper deflector supported at the rear of the platen and curving around the under and forward sides thereof and terminating a short distance below the printing line, pressure roll devices, means for affording movement of said deflector bodily away from the platen to provide an opening of substantially uniform width between the platen and the deflector at the under side of the platen, all of the points of said deflector moving substantially equal extents to provide such uniform opening, and means for retaining the

deflector in abnormal position, said pressure roll devices and said paper deflector being supported independently of each other and being separately controlled.

7. In a typewriting machine, the combination of a platen, a combined paper table and deflector, pressure roll devices, means for affording bodily movement of said combined paper table and deflector away from and toward the platen and such that all of the parts of said table and deflector move substantially equal extents, and means for retaining said combined paper table and deflector in abnormal position, said pressure roll devices and said combined table and deflector being supported independently of each other and being separately controlled.

8. In a typewriting machine, the combination of a platen, a combined paper table and deflector, and means for affording bodily movement and for preventing a mere pivotal movement of said combined paper table and deflector away from and toward the platen.

9. In a typewriting machine, the combination of a platen, a paper deflector curved to conform substantially to the curvature of the platen and normally contiguous thereto, pressure roll devices, and means for affording movement of said deflector to an abnormal position away from the platen in which abnormal position the deflector is substantially concentric with the platen, the parts of said deflector all moving substantially the same extent, said deflector and said pressure roll devices being supported independently of each other and being separately controlled.

10. In a front strike typewriting machine, the combination of a platen, a combined paper deflector and paper table member, a support to which the lower portion of said member is pivotally connected, devices for supporting and guiding the upper portion of said member, and means for moving said member relatively to the platen.

11. In a typewriting machine, the combination of a platen, a paper guiding device for guiding the paper downward behind the platen and thence around the platen and upward at its forward side, a movable support to which the lower portion of said guiding device is pivotally connected, and a relatively fixed support and guide for the upper part of said device.

12. In a typewriting machine, the combination of a platen, pressure roll devices, a paper guiding device having an inclined portion for guiding the paper downward behind the platen and a curved portion for guiding the paper thence around the platen and upward at its forward side, and means for affording movement of the inclined portion substantially in the plane in which it normally lies and of the curved portion so that all of the points thereof at the front

lower side of the platen move away from the platen substantially equal distances, said paper guiding device and said pressure roll devices being supported independently of each other and being separately controlled.

13. In a typewriting machine, the combination of a platen carrier, a platen thereon, a paper guiding device for guiding the paper part way around the platen, and supports for said device, said supports comprising a rod or shaft on the platen carrier, supporting members pivoted on said rod, brackets near each end of said device which are pivotally connected to said supporting members, and means connected to said rod for controlling said members.

14. In a typewriting machine, the combination of a platen carrier, a platen thereon, a paper guiding device for guiding the paper part way around the platen, and supports for said device, said supports comprising a rod or shaft on the platen carrier, spring pressed supporting members pivoted on said rod, brackets near each end of said device which are pivotally connected to said supporting members, arms on said rod or shaft operative on said supporting members, and hand controlled means for actuating said arms to move said guiding device away from the platen.

15. In a typewriting machine, the combination of a platen carrier, a platen thereon, a paper guiding device for guiding the paper partway around the platen, and supports for said device, said supports comprising a rod or shaft on the platen carrier, supporting members pivoted on said rod, brackets near each end of said device which are pivotally connected to said supporting members, an additional support for said guiding device with which said guiding device has a lost motion connection, and means connected to said rod and operating independently of said additional support to control said members.

16. In a typewriting machine, the combination of a platen carrier, a platen thereon, a paper guiding device for guiding the paper partway around the platen, and supports for said device, said supports comprising a rod or shaft on the platen carrier, supporting members pivoted on said rod, brackets near each end of said device which are pivotally connected to said supporting members, a rod or bar on the platen carrier, and a slotted bracket on said guiding device engaging said rod or bar.

17. In a typewriting machine, the combination of a platen carrier, a platen thereon, a paper guiding device comprising a paper table and a paper deflector, said de-

vice extending upward behind the platen, a lost motion connection between said device and the platen carrier near the upper end of said device, and a support for said device lower than said lost motion connection, said support being pivotally connected to said platen carrier and also to said device.

18. In a front-strike typewriting machine, the combination of a platen, a paper deflector supported at the rear of the platen and curving around the under and forward sides thereof and terminating a short distance below the printing point, means for affording movement of said deflector bodily away from the platen so as to provide an opening of substantially uniform width between the platen and the deflector at the under side of the platen, the parts of said deflector all moving substantially the same extent during said bodily movement, and a releasable feed roller coöperative with the platen through an opening in said paper deflector, said feed roller and said paper deflector being supported independently of each other and being separately controlled.

19. In a typewriting machine, the combination of a platen, paper controlling devices coöperative therewith, means for releasing said devices comprising an eccentric strap connected to said controlling devices, a hand operated eccentric coöperative with said strap, stops for said eccentric and said strap, and a friction spring coöperative with said eccentric.

20. In a typewriting machine, the combination of a platen carrier, a platen thereon, a rock shaft, a feed roller supported thereby, a paper guiding device, means on said rock shaft for releasing said feed roller and said guiding device, and hand operated devices for turning said rock shaft comprising a crank arm on said rock shaft, an eccentric strap pivotally connected to said crank arm, and an eccentric coöperative with said strap and provided with a finger piece.

21. In a typewriting machine, the combination of a platen carrier, a platen thereon, a rod or shaft on said platen carrier, a paper controlling device pivotally supported on said shaft, a lever member separately pivoted on said shaft and contactive with said controlling device, and a spring connected to said lever member.

Signed at Ilion, in the county of Herkimer and State of New York, this 18th day of October, A. D. 1911.

ALFRED D. MAURY.

Witnesses:

JOHN D. LUKE,

THOMAS R. QUATFE.