A. S. DENNIS.

TYPE WRITING MACHINE.

APPLICATION FILED FEB. 26, 1913.

1,150,345. Patented Aug. 17, 1915.

FIG. 1.

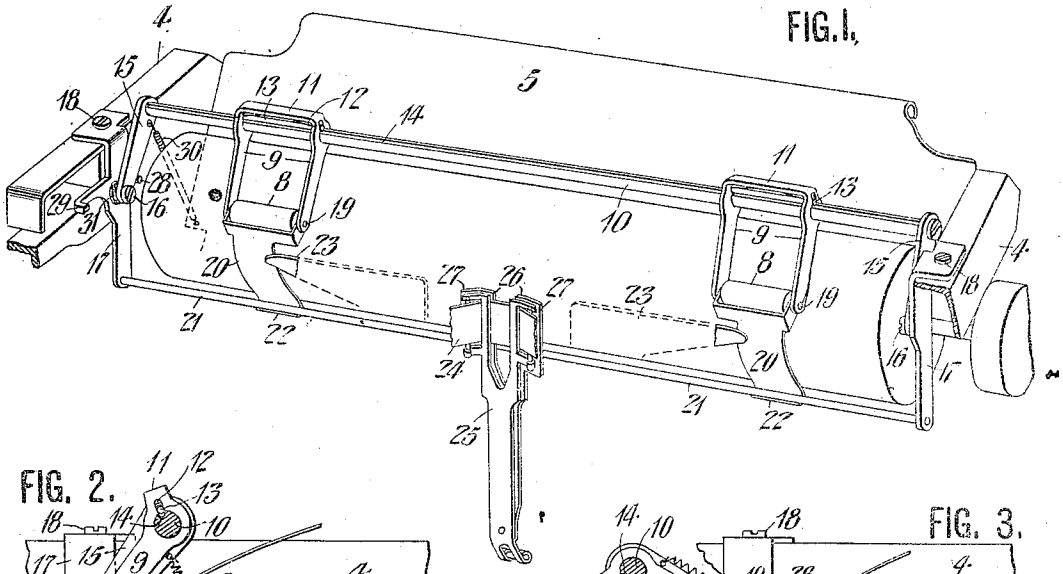


FIG. 2.

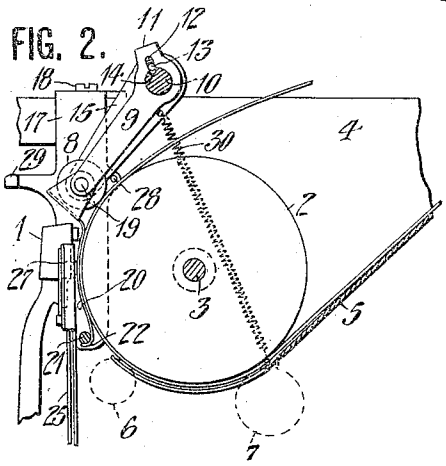
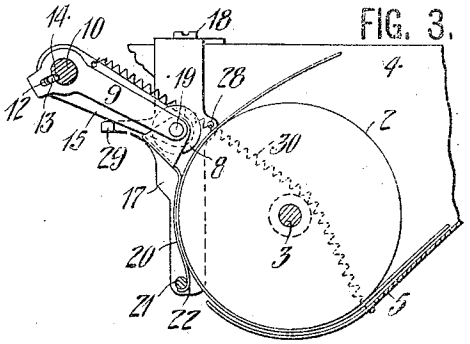


FIG. 3.



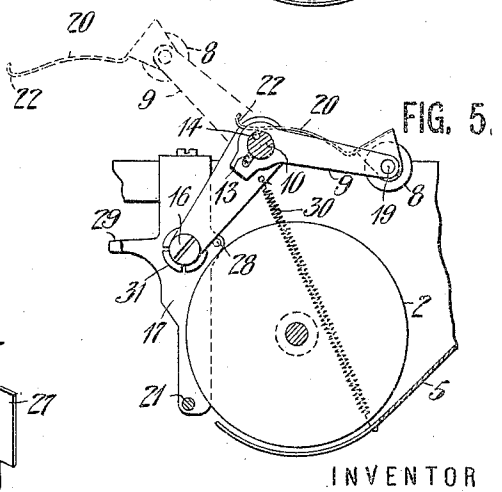


FIG. 4.

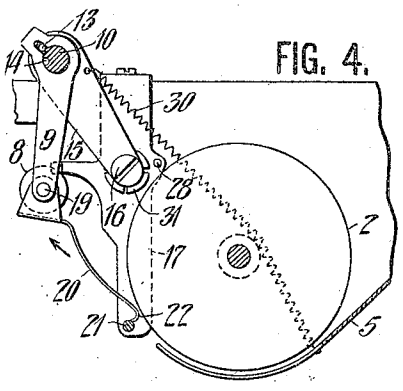
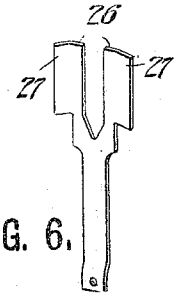


FIG. 5.

FIG. 6.



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ADOLPHUS S. DENNIS, OF LAKEWOOD, OHIO, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

1,150,345. Specification of Letters Patent. Patented Aug. 17, 1915.

Application filed February 26, 1913. Serial No. 750,735.

To all whom it may concern:

Be it known that I, ADOLPHUS S. DENNIS, a citizen of the United States, residing in Lakewood, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to paper-feeding devices for typewriting machines, and especially to means for feeding paper, cards, etc., at the front side of the platen.

It is usual in the Underwood typewriting machine to provide paper-guiding fingers at the front of the platen, said fingers extending back over the top of the platen, and there supported on a rod which extends along the platen. This rod and the rear portions of the paper fingers are sometimes in the way when the operator desires to hold a work-sheet down upon the top of the platen to make erasures.

Each paper finger usually has a roll which runs on the platen, and the portion of the finger which curves around the front of the platen does not usually contact with the same, and does not hold the sheet against the platen; and especially in feeding either cards or thick sheets, the said front paper fingers are sometimes found not to contribute material assistance.

One object of the present invention is to improve the machine in these respects; and to this end I have arranged along the platen, at the delivery side thereof, a rod which carries the front paper guides to permit their adjustment along the platen, but which is itself movable out of normal position to leave the upper part of the platen clear, for the convenience of the operator in making erasures upon the work-sheets or otherwise manipulating the same. One feature of this part of the improvements is that the front paper guides need not be withdrawn when said rod is removed from its normal position.

Each paper guide is in the form of a mount which is adjustable along the rod and carries a roll which is spring-pressed against the front of the platen. The rod is secured at its ends to swing arms, thus forming a bail; the bail swinging about an axis which may be either concentric with or a little eccentric to the axes of these front feeding rolls. If the bail swings about an axis concentric with said rolls, the latter will remain bearing on the platen when the rod is swung out of normal position; but by making the bail eccentric to the rolls, the latter may be withdrawn from the platen at the swinging of the bail from normal position.

Preferably there extends down from each adjustable mount a thin flexible leaf or band, which may be of metal, and which may lie directly in contact with the platen, and at its lower end may be caught upon a rod which extends along the front of the platen below the printing line. These bands may be tightened by the introduction of a card or work-sheet, and serve as efficient paper-feeders; while they may be adjusted where desired along the platen and still be held sufficiently taut by means of their engagement with said bottom rod. The bands being thin and lying right upon the platen, will pass safely behind the usual front platen scale and ribbon; and the ribbon carrier preferably has special guards to prevent the ribbon catching upon said bands.

Other objects and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a perspective view of the platen and the principal parts of an Underwood typewriting machine, as are necessary to illustrate my invention. Figs. 2, 3, 4 and 5 are right-hand sectional views of the same showing the parts in various positions. Fig. 6 is a perspective view of the guard for the ribbon carrier.

In the Underwood typewriting machine, types 1 strike against the front side of a revoluble platen 2, which is mounted by an axle 3 in the ends 4 of a platen frame, said frame being provided with a paper-shelf 5 and having the usual releasable front and rear bottom feeding rolls 6, 7.

Upon the front of the platen run pressure rolls 8 which are similarly mounted and operated and which serve as feeding rolls for the work-sheets or cards, being of special value for this purpose when the work-member is beyond the grip of the lower feed rolls. Each roll 8 is journaled upon a mount comprising a pair of arms 9 extending forwardly from a rod 10 around which the mount is adjustable, the arms 9 being connected by a cross piece 11; and a spring 12 bearing against said cross piece 11 holds

a key 13 in a longitudinal groove 14 in the rod 10 to hold the pressure roll 8 against the platen; said key being guided in slots in said arms 9. Said rod is fastened at its ends to a pair of arms 15 to form a bail which is hinged or pivoted at 16 to brackets 17 fixed by screws 18 upon the platen frame ends 4, said brackets extending down between the platen and the platen frame ends. These screw pivots 16 may be concentric with the pivots 19 of the front pressure rolls 8, so that when the rod is swung forwardly out of normal position to the position seen at Fig. 3, the rolls will either remain on the platen or near the same. The nearness of the rolls to the platen when the rod 10 is swung forwardly depends on the length of the arms 9. Thus, by making the arms 9 shorter, the rolls 8 would be carried a corresponding distance away from the platen, but without substantially affecting the normal position of the rolls against the platen when the rod 10 is in the Fig. 2 position.

The pivots 16 are preferably a little eccentric to the pivots 19, so as to draw the rolls a little away from the platen, thus to facilitate adjustment of the work-sheet when required, as seen in Fig. 3. It will be seen at Fig. 3, that the top of the platen is left clear, which is a great convenience for the operator in making erasures. It will be also noticed that when the parts are in normal position at Figs. 1 and 2, there is no liability of obstruction of the sheets as they emerge from the control of the front rolls 8; the sheets are not liable to foul either with the rod 10 or with the mounts on which the rolls are pivoted.

It will be seen that the device is readily applicable to existing machines, and is simple and strong.

Each mount can be rocked upon the rod 10 to swing the rolls entirely away from the platen, so that the operator has the choice either of swinging the rod forwardly while leaving the rolls on or near to the platen, or else of swinging the mounts and rolls upwardly as at Fig. 5.

Preferably there extends downwardly from the lower or forward end of each mount, a short band 20 which is preferably flexible and springy, and may consist of a very thin steel spring, although any other material may be used. The lower end of this band may be caught upon the rod 21, which at its ends is fixed in the lower ends of the brackets 17. Preferably these bands are held taut against the platen, and this, it will be understood, is done without releasing the pressure of the rolls 8. On the contrary, the pull of the band may augment the pressure of said rolls.

The bands are efficient paper feeders, and taken in connection with the rolls, make a very satisfactory device for this purpose. The lower ends of the bands may be only slightly hooked around the rod 21, as at 22, and this will permit the bands to be unhooked when it is desired to swing up the arms 9 as at Fig. 5. In order to unhook them, it is only necessary to swing the rod 10 forward a little from the Fig. 2 to the Fig. 3 or 4 position, and then swing the mounts around the rod to the Fig. 5 position. At any time it will be seen that either front paper guide may be adjusted to any position required along the platen.

The bands 20, being thin and lying snugly against the platen, readily pass behind the usual front scales 23, and they may also easily slip behind the usual ribbon 24 and vibrator 25, and the latter may have guards 26, one at each side of the printing point. The guards may be secured at their lower ends in any suitable manner upon the ribbon vibrator, so as to leave a space between the vibrator and the guards for the introduction of the ribbon; and the guards may, at their upper edges, flare forwardly as at 27, so as to be engaged and cammed backwardly toward the ribbon, to prevent the latter from being caught by said bands.

One bracket 17 has fast thereon a stop pin 28 against which the swing arm 15 strikes to limit the backward throw of the rod 10. and one bracket 17 comprises a forwardly extending arm having a lateral lug 29, which lies in the path of the swing arm 15 and forms a stop to limit the forward throw of said rod 10. The rod 10 is normally drawn to its rearmost position by means of a spring 30, which is anchored in the paper table 5; and a friction washer 31 serves to hold the rod 10 in its forward position, as seen in Figs. 3 and 4, against the tension of said spring.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination, with a rotary platen and its frame; of a pressure roll located above the printing line; and a rod carrying said roll and mounted on said frame for bodily lateral movement away from the platen, to give free access to the upper portion of the latter, while keeping said roll close to the peripheral surface of the platen and substantially immovable sidewise.

2. In a typewriting machine, the combination, with a rotary platen and its frame; of a pressure roll located above the printing line; a paper guide extending downwardly from said roll; and a rod carrying said roll, said rod being pivotally mounted on said frame to swing bodily in an arcuate path away from the platen, to give free access to the upper portion of the latter, while keep-

ing said roll and said guide close to said platen and substantially stationary.

3. In a typewriting machine, the combination, with a rotary platen and its frame; of a paper guide embracing a portion of said platen; a fixed rod having one end of said guide engaged therewith, to hold the guide close to the platen; a rod arranged to swing bodily in an arcuate path away from the platen, to give free access to the upper portion of the latter, and having the other end of said guide connected therewith; a pair of swing arms, to which the ends of the second-named rod are secured, pivoted on said frame; and means associated with said second-named rod for holding the second-named end of said guide close to said platen.

4. In a typewriting machine, the combination, with a rotary platen and its frame; of a pressure roll located above the printing line; a rod carrying said roll and arranged to swing bodily in an arcuate path away from said platen, to give free access to the upper portion of the latter; and swinging supporting means for said rod pivoted on said frame and having its pivotal axis nearly in line with the axis of said roll, whereby said roll will be kept close to the peripheral surface of said platen and substantially immovable sidewise during the swinging movement of said rod.

5. In a typewriting machine, the combination, with a rotary platen and its frame; of a rod movable bodily away from said platen to give free access to the upper portion thereof; a pair of arms mounted on said rod; a pressure roll carried by said arms at their free ends and located above the printing line; and swing arms pivoted on said frame and carrying said rod, said swing arms and said roll-carrying arms having approximately the same length and extending in approximately the same direction from said rod, so that their pivotal axes are caused to substantially aline, whereby said roll will be kept close to the peripheral surface of the platen and substantially immovable sidewise during the swinging movement of said rod.

6. In a typewriting machine, the combination, with a rotary platen and its frame; of a paper guide embracing a portion of said platen and provided with a hook; a rod with which said hook is releasably engaged; a second rod; swing arms carrying the second rod and pivoted on said frame, to permit said second rod to be swung bodily in an arcuate path away from said platen, to give free access to the upper portion of the latter; a connection between said second rod and said guide; and a spring normally holding said second rod in position to keep said guide close to said platen.

7. In a typewriting machine, the combination, with a rotary platen and its frame; of swing arms pivoted on said frame; a rod connecting said swing arms and movable bodily with the same away from said platen, to give free access to the upper portion of the latter; a mount on said rod; and a paper guide pivotally connected to the free end of the mount and normally disposed close to the platen in position to coact therewith, said mount extending in the same direction from said rod as said swing arms, whereby said guide is permitted to remain substantially stationary during the swinging movement of the rod.

8. In a typewriting machine, the combination, with a rotary platen and its frame; of swing arms pivoted on said frame; a rod connecting said swing arms and movable bodily with the same away from the platen, to give free access to the upper portion of the latter; a mount on said rod comprising a pair of spaced arms; and a pressure roll and a paper guide connected one above the other to the free ends of the mount arms, said mount arms extending parallel with the swing arms, whereby said roll and said guide are kept close to said platen during the swinging movement of said rod.

9. In a typewriting machine, the combination, with a rotary platen and its frame; of a rod located above the printing line and movable bodily in an arcuate path away from the platen, to give free access to the upper portion of the latter; swing arms pivoted on said frame and carrying said rod; a mount on said rod extending in the same direction therefrom as said arms; and a pressure roll journaled in said mount and having its axis very nearly in line with the pivots of said swing arms, whereby said roll will be moved just clear of the peripheral surface of said platen during the movement of the swing arms.

10. In a typewriting machine, the combination, with a rotary platen and its frame; of a bail pivoted on said frame for swinging movement away from said platen, to give free access to the upper portion of the latter; a mount carried by said bail; a pressure roll journaled in said mount and having its axis very nearly in line with the pivots of said bail, whereby said roll will be moved just clear of the peripheral surface of said platen during the swinging movement of the bail; and a spring connected to said bail, to normally hold said roll against the platen.

11. In a typewriting machine, the combination, with a rotary platen and its frame; of a rod fixed in said frame below the printing line; a bail pivotally connected with said frame above the printing line; a paper guide releasably engaged with said rod and extending upwardly therefrom and connected with said bail; and a spring connected to said bail, to normally hold said guide

against the platen, said guide being releasable from said rod and movable away from said platen when said bail has been swung against the tension of said spring.

12. In a typewriting machine, the combination, with a rotary platen and its frame; of means for guiding a work-sheet around the bottom of the platen; a rod located adjacent the point where the sheet leaves said guiding means; a sheet guide releasably engaged with said rod and extending upwardly therefrom; a bail pivoted on said frame above said rod; and arms carried by said bail and having a pivoted connection with the upper end of said sheet guide, the pivotal connection between said arms and said sheet guide being approximately in line with the points of connection between said bail and said frame, whereby the bail may be swung into position to permit the release of said sheet guide from said rod.

13. In a front-strike typewriting machine, the combination with a platen and a platen frame, of a rod on said frame below the printing point, a bail mounted on said frame, a paper-guiding member extending toward said bail from said rod and having a hook to engage said rod, and a pivotal connection between said paper-guiding member and said bail, so that when said bail is swung forwardly to release said paper-guiding member from the platen, said hook may be released.

14. In a typewriting machine, the combination with a platen frame and a rotary platen thereon, of a paper guide, and a support to which said guide is pivotally connected, said support mounted on the platen frame for movement toward and from the platen without moving the paper guide off the platen, and said guide movable toward and from the platen.

15. In a typewriting machine, the combination with a platen frame and a rotary platen thereon, of a paper guide, and a support by which said guide is carried, said support mounted on the platen frame for movement toward and from the peripheral surface of the platen without moving the paper guide either off the platen or sidewise on said platen.

16. In a typewriting machine, the combination with a rotary platen and a platen frame, of a supporting rod extending longitudinally over the platen frame, arms connected to support said rod and pivoted to the platen frame eccentrically of said platen to permit said rod to be swung in an arcuate path toward and from said platen, arms pivoted on said rod to swing about the same, and paper guides pivoted to said last-named arms for movement therewith, and normally bearing against the platen, the pivots of the first-named arms being substantially in line with those of said guides, to permit said rod to be swung without lifting said guides.

17. In a typewriting machine, the combination, with a rotary platen and its frame; of a pressure roll arranged to run upon the platen above the printing line; and a rod disposed above said roll and connected to carry the same, said rod being pivotally mounted in said frame for bodily lateral swinging movement in an arcuate path away from said platen, to give free access to the upper portion of the latter, while keeping said roll close to the peripheral surface of said platen and substantially immovable laterally with respect to the platen.

18. In a typewriting machine, the combination, with a rotary platen and its frame; of a bail pivoted on said frame eccentrically of said platen for swinging movement away from the platen, to give free access to the upper portion thereof; and a pressure roll to run upon said platen, carried by said bail and platen for swinging movement away from the platen, to give free access to the upper portion thereof; and a pressure roll to run upon said platen, carried by said bail and having its axis disposed approximately in line with the pivots of the said bail, whereby said roll will be kept close to the peripheral surface of said platen and substantially immovable sidewise during the swinging movement of the bail.

19. In a typewriting machine, the combination, with a rotary platen and its frame; of a bail pivotally mounted on said frame for swinging movement away from the platen, to give free access to the upper portion of the latter; a paper guide connected with said bail and having a hooked end; and a rod mounted in said frame and releasably engaged by the said hooked end of the guide, to hold said guide against the platen.

20. In a typewriting machine, the combination, with a traveling platen; of a ribbon vibrator in front of the platen having a slotted portion through which the ribbon extends; a member secured to said ribbon vibrator and having flared guards disposed directly behind the slots in said slotted portion; the ribbon passing between the ribbon vibrator and the guards; and a paper guide connected to travel with said platen and arranged to pass directly behind said guards, so as to engage and cam the same forwardly, to prevent the ribbon from fouling upon said paper guide.

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Witnesses:
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