Jan. 29, 1952 W. A. DOBSON 2,583,636

PLATEN SUPPORT AND FEED ROLL MECHANISM

Filed Feb. 12, 1949

2 SHEETS—SHEET 1

Fig. 1

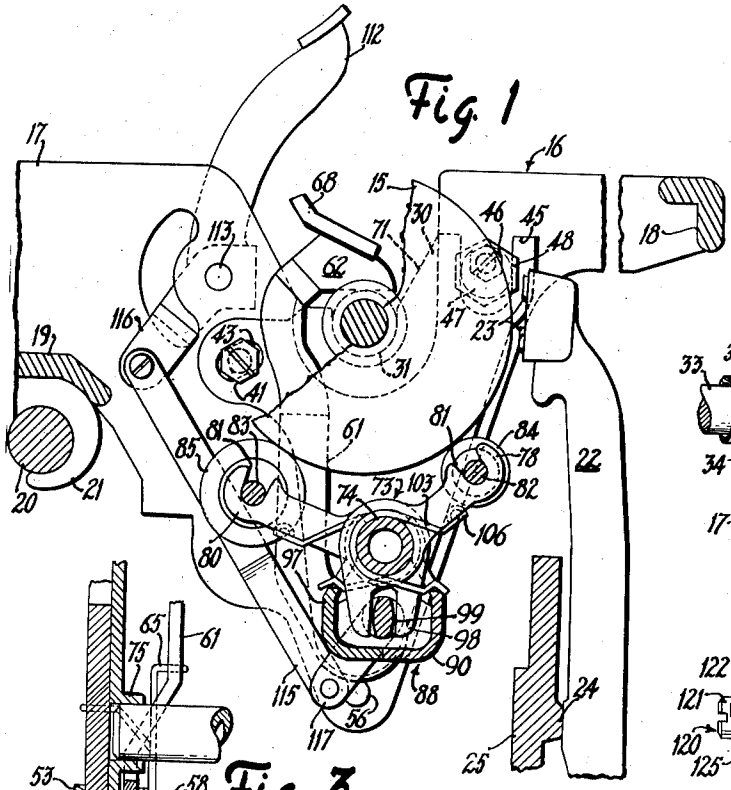


Fig. 2

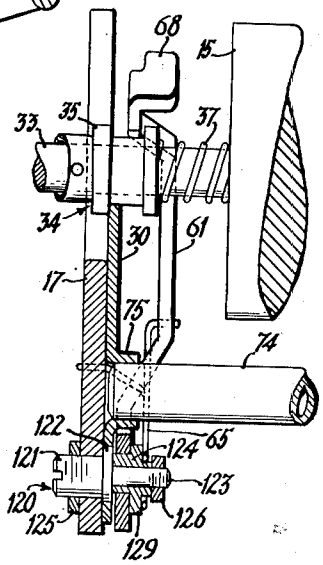


Fig. 3

Fig. 4

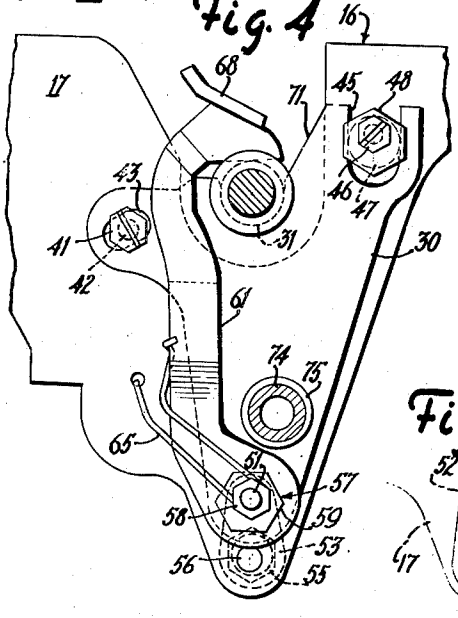


Fig. 5

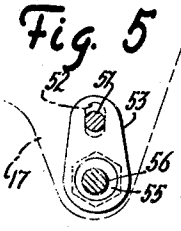
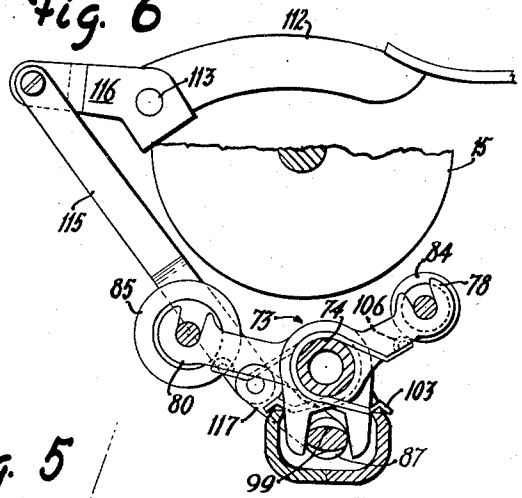


Fig. 6



INVENTOR.
WILLIAM A. DOBSON
BY Jesse A. Holton
ATTORNEY

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2 SHEETS—SHEET 2

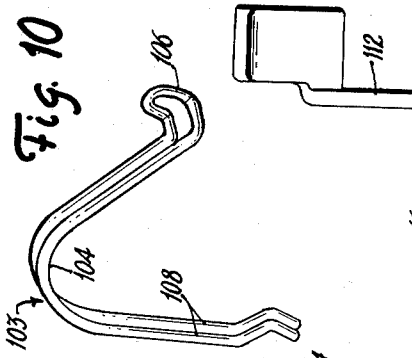


Fig. 10

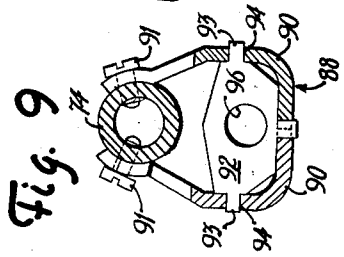


Fig. 9

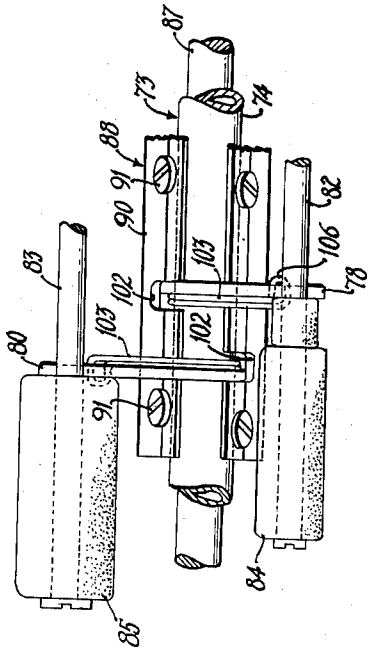


Fig. 8

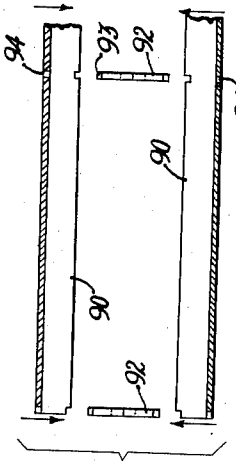


Fig. 11

Fig. 7

INVENTOR
WILLIAM A. DOBSON

BY Jesse A. Holton
ATTORNEY

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PLATEN SUPPORT AND FEED ROLL MECHANISM

William A. Dobson, West Hartford, Conn., assignor to Underwood Corporation, New York, N. Y., a corporation of Delaware

Application February 12, 1949, Serial No. 76,103

13 Claims. (Cl. 197—149)

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This invention relates to typewriting, a printing-adding, and similar record preparing machines, and particularly to devices in such machines for adjustably supporting a platen roll, as well as to paper feeding mechanisms, and to means for facilitating ready removal of the platen roll.

In the manufacture and service of the machines referred to hereinabove, it is highly desirable to provide for adjustment of the platen roll transversely of its axis upon its supporting structure. This desirability arises from manufacturing differences in machine parts, which make it impractical to obtain proper imprint conditions without effecting adjustments in the location of the platen.

It is therefore an object of the invention to provide simple, efficiently effective and manageable means to adjust the location of a platen roll, to the end of obtaining uniform and full-face imprints from the types at any point along a printing line on the platen.

It is a further object to provide for such efficient platen adjustment in association with provision which permits the platen to be readily removed, said provision embracing efficient platen hold-down means arranged to maintain a proper relation to the platen regardless of any adjustment that may be effected in the location of the platen.

Similarly, in connection with a machine having a readily removable platen, it is another object to provide platen adjusting means, and platen hold-down means in such cooperative association that an adjustment of the platen may be effected without interference or hindrance by the platen hold-down means.

In connection with the preceding objects, it is also an object to provide platen hold-down means which are adjustable independently of the platen adjusting means.

A still further object of the invention is to provide in a machine having provision for platen adjustment, a feed roll mechanism which retains its proper relation with the platen independently of any adjustment in location to which the platen may be subjected.

It is also an object of the invention to provide a feed roll supporting and releasing structure which is rugged, performs efficiently and reliably, and which is economically manufacturable.

Particularly, it is also an object to provide a feed roll supporting and releasing structure which is convenient to assemble and repair.

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Other objects and advantages of the invention will be apparent from the drawings and from the description which follows.

Referring now to the drawings illustrating by way of example a preferred embodiment of the invention:

Figure 1 is a left-hand sectional side elevation of a typewriting machine carriage taken along line 1—1 of Figure 7,

Figure 2 shows in front-sectional aspect a left end of a typewriting machine carriage, embodying a structure which constitutes a modification over what is shown in Figure 1,

Figure 3 is a fragmentary front-sectional view of the left end of the carriage seen in Figure 1,

Figure 4 is a sectional view similar to that seen in Figure 1, but taken very closely to the right end of the carriage, thus eliminating from view the feed roll mechanism,

Figure 5 is a fragmentary view of some of the parts seen in Figure 4,

Figure 6 is a left-hand sectional side elevation similar to Figure 1, but illustrating the feed roll mechanism in released condition,

Figure 7 is a fragmentary front-sectional view of the typewriting machine carriage seen in Figure 1,

Figure 8 is a fragmentary plan view of the feed roll mechanism seen in Figures 1 and 7,

Figure 9 is a side-sectional view of certain parts comprising a supporting structure for the feed roll mechanism,

Figure 10 is a perspective view of a feed roll pressure spring, and finally,

Figure 11 is a fragmentary plan view showing some of the parts seen in Figure 9 in separated relation.

In the drawings, a platen roll 15 is shown to be supported upon a carriage frame 16 which includes two spaced ends 17 that are connected at the front and the rear by integral, connecting members 18 and 19, respectively. At the rear the member 19 has downwardly reaching bearings 21 by which the carriage is guided upon a rail 20. Other carriage guiding means are provided along the front member 18, but are not shown.

Type bars 22, see Figure 1, are adapted to strike against the front side of the platen 15 in a conventional manner. The type bars include the usual upper and lower case types 23, and in their travels to print, reach the position illustrated in Figure 1, in contact against a usual stop ring 24 on a type bar supporting segment 25. Each type bar after contact with the stop

ring 24 flexes about the contact point with the stop ring 24, and whips against the platen with a controlled force, all in a well-known manner.

For equally intense impressions along the entire line of the platen, the latter must be appropriately located in a fore-and-aft relation with respect to the positions which the types 23 attain when the type bars contact the stop ring 24.

For full face contact of the types 23 it is also required that the platen roll 15 occupy a proper elevation with respect to the printing types 23.

It has been found impractical to manufacture the supporting structure for the platen and the type bar segment to such close tolerances as to establish the proper relation of the platen with respect to the printing types at mere assembly of the parts.

According to the invention the platen 15 is adjustably supported on each opposite carriage end 17 by an adjustable mounting plate 30. These plates are generally of a triangular shape, as shown in Figure 4, and have each a saddle formation 31 formed in a top side thereof. The projecting shaft ends 33 of the platen 15 are adapted to be seated in these saddle formations 31 through the intermediary of circumferentially grooved bushings 34, see Figure 7. Said bushings are slidably and turnably carried on the platen shaft ends 33, and are crowded outwardly into locating contact with collars 36 of usual platen turning knobs, not shown, by springs 37. When the platen is in place, the grooved portions of the bushings 34 rest upon the saddles 31, and each bushing, by an outer rim 35, cooperates with its associated mounting plate 30 to confine the platen 15 against end play on the carriage.

The adjustable platen mounting plates 30 are each fastened to the respective carriage end 17 at the three corner locations of the plates. Namely behind the platen axis, at each end of the carriage, a large headed screw 41 is screwed into the carriage end 17 to clamp the plate 30 against the inner side of the carriage end 17. Said screw 41 has a shank 42 which extends with appreciable clearance through an oversize perforation or slot 43 in the plate 30, whereby the position of the plate is variable to some extent.

Forwardly of the platen axis, each plate 30 has a vertically disposed open slot 45 wherein there is located a headed screw 46 surrounded by an eccentric 47 which fits opposite sides of the slot 45. Said eccentric is turnably adjustable on the shank of the screw 46 and has an enlarged hexagon head 48 by which it is conveniently turnable and which when the screw 46 is drawn up tightly will clamp the plate 30 against the inner side of the carriage end 17.

At a considerable distance below the platen axis, in a low corner of each plate 30, see particularly Figures 1, 3, 4 and 7, there is another adjusting and fastening device. This fastening device comprises a screw stud 51 which is riveted to and projects from a flat element 53, laterally inwardly through a vertically disposed short slot 52 in the carriage end 17. The elements 53 are each contiguous to the outer side of the related carriage end 17 and are in the form of short pitmans extending below the screw studs 51. In a perforation of each pitman there is a headed eccentric 55 which is borne adjustably turnable on a screw 56 that extends into the carriage end. It will be seen that the position of the screw stud 51 is variable for elevation by turning the eccentric 55 and that the screw 56 when drawn up tightly will secure the adjustment of the eccentric

55 and thus the pitman 53 with the projecting screw stud 51. Just inside of each platen mounting plate 30 each stud 51 carries an eccentric 57, and still further inside a nut 58. Each of the eccentrics 57 includes an enlarged hexagon portion 59 by which it is turnable for adjustment, and upon the eccentrics proper there are mounted on each side of the carriage a platen hold-down or lock-down lever 61, each having a hook formation 62 for overlying the platen mounting bushing 34 in the circumferential groove thereof. By appropriately adjusting the eccentric 57, the proper hold-down condition of the hook formation 62 with respect to the bushing 34 can be conveniently established. Tightening of the nut 58 will draw the eccentric firmly against the plate 30, the latter of which in turn will be clamped firmly against the inner side of the related carriage end 17.

From the above it will be seen that when a vertical adjustment of the platen is to be effected at one of the ends of the carriage, the screws 41 and 46 at such end will preparatorily be slightly loosened, however, without disturbance to the position of the eccentric 47. Also the nut 58 and the screw 56 therebelow is slightly loosened. To effect the adjustment the eccentric 55 is then turned to impart an upward or downward movement to the pitman 53, whichever may be required. The screw stud 51 being horizontally confined by the slot 52 will take a vertical line of adjustment. During the stated adjusting process, the platen mounting plate 30 is guided vertically at its upper end by the eccentric 47 in cooperation with the slot 45. Following the stated adjustment the screw 56 is drawn tight, and the plate may be clamped fast to the carriage end by tightening the screws 41, 46 and the nut 58.

In order to effect a fore-or-aft adjustment of the platen the screws 41, 46 and the nut 58 are loosened. Thereupon the eccentric 47 in front of the platen axis is turned to swing the plate 30 about the location of the screw stud 51 rearwardly or forwardly, as required. The plate 30 is then locked in position by drawing the screws 41, 46 and the nut 58 tight.

It will be seen that by the described structure the platen 15 is efficiently and accurately adjustable at both ends to obtain uniform, full-face imprints of desired intensity along the entire writing line thereon.

The platen lock-down levers 61 reach upwardly from their eccentric supports 57 to the rear of the platen shaft ends 33, and include hook formations 62 that reach forwardly over the bushings 34. Each of the platen lock-down levers 61 is resiliently urged forwardly to swing into platen lock-down position as seen in Figures 1 and 4. This is done by springs 65 of bight form which each have one leg anchored in a perforation of the carriage end 17 and another leg arranged to press resiliently against the rear of the lock-down lever 61. The bight of the spring straddles a reduced concentric portion formed on the eccentric element 57 directly adjacent the nut 58, said nut and reduced concentric portion forming together a circumferential groove to keep the spring in place. The edge of the hook formation 62 bearing on the bushing 34 is arranged to have a slight camming down action upon the bushing 34 as the lever 61 is spring-moved forwardly. The eccentrics 57 upon which the lock-down levers are pivotally mounted are normally locked against turning by the nut 58 being drawn tightly

thereagainst. To bring about the proper platen lock-down condition of a lock-down lever 61, the nut 58 is loosened slightly and the eccentric 57 is appropriately turned so that the forward movement of the lock-down lever 61 will be limited by crowding-down action of the cam edge of the hook formation 62 upon the bushing 34. Obviously after the proper adjustment has been made the nut 58 is drawn tight. The platen is readily removable by swinging of the lock-down levers 61 rearwardly by means of finger pieces 68.

The same platen, or another of different hardness or other property is adapted to be mounted in the machine by forcing it downwardly into place, the bushings 34 being directed to glide downwardly along faces 71 of the plates 30 and being adapted to wedge the hooks 62 transitorily rearwardly. As the bushings become seated, the springs 65 will cause the hooks 62 to close tightly over the bushings 34 to hold the platen turnably in position.

It will be understood that the platen by the means described is adjustable at either end for elevation or fore and aft, or both, and that during any such adjustment the lock-down levers 61 will move unitarily with the platen mounting plates 30. Thus the lock-down levers 61 will in no way be a hindrance in effecting an adjustment to the plates, and the prevailing lock-down adjustment will be retained. Conversely, adjustment of the lock-down levers 61 will have no influence whatever on the prevailing adjustment of the platen supporting plates 30.

According to still another feature of the invention, a feed roll mechanism, generally designated by the reference character 73, is arranged below the platen, and is supported in a manner to retain its proper operating relation with respect to the platen 15 regardless of any adjustment which may be given the latter. To this end the stated feed roll mechanism 73 is supported on a rod 74 which extends intermediate the two platen supporting plates 30. Said rod 74 preferably is tubular and accommodated at opposite ends in ferrule-like protuberances 75 formed in the adjustable plates 30. One end of the rod 74, see Figure 7, is preferably rigidly united to the ferrule 75 by brazing, welding or otherwise fastening it thereto, a welding joint being indicated at 76. The other end of the rod 74, seen in Figure 3, has a sliding fit in the associated ferrule 75. Thus the rod 74 is rigidly associated with the right-hand platen mounting plate 30, and can not turn, while the association with the plate 30 at the other end of the carriage is such as to allow the plate 30 to be drawn tightly into fixed association with the adjacent carriage end 17.

Upon said rod 74, at various points therealong, and respectively reaching forwardly and rearwardly therefrom are front feed roll supporting arms 78 and rear feed roll supporting arms 80. See particularly Figures 7 and 8. These arms 78 and 80 are bifurcated, as at 81, to receive shafts 82, 83, whereon front and rear feed rolls 84 and 85 respectively are carried to turn freely.

In Figure 7, inasmuch as a mid-portion of the carriage is broken away, only two front and two rear feed rolls are shown, but, obviously there may be as many feed rolls on the shafts 82, 83 as the length of the carriage dictates, and there may be as many additional feed roll supporting arms 78, 80 as are required to furnish the shafts 82, 83 with proper intermediate support.

A feed roll release shaft 87 is rockably housed within an elongate sheet metal shell 88 which

extends along and is rigidly associated with the rod 74. As is best seen in Figure 9, said housing 88 may be composed of two elongate sheet-metal members 90 that are substantially L-shaped in cross section, feet portions facing each other. Said members 90 are attached oppositely to the front and rear sides of the rod 74, as by screws 91, or otherwise. The housing 88 constitutes an elongate stiff shell and the rod 74 and the shell mutually give reinforcement to each other. The two members 90 which comprise the housing 88 are rigidly joined at various locations therealong by cross-webs or walls 92 having protuberances 93 reaching forwardly, rearwardly and downwardly through perforations 94 in the members 90. For increased strength some or all of the cross walls 92 may be more firmly joined to the shell members 90 as by a swedging operation upon the protuberances 93. The cross walls 92 are perforated as at 95, see Figure 9, to provide bearings for the feed roll release shaft 87 at various points therealong.

The arms 78 which carry the front feed rolls 84 comprise parts of levers which include arms 97 extending downwardly to the rear of the feed roll release shaft 87. Similarly the arms 80 which carry the rear feed rolls 85 are parts of levers which comprise arms 98 which extend downwardly in front of said feed roll release shaft. Each of the levers comprising the arms 78 and 80 are located along the rod 74 in transverse, narrow clearances 102 provided at required points in the members 90 of the housing 88. These clearances 102 are of sufficient width to accommodate adjoiningly to one side of each arm 78, 80 a wire spring 103 which may be of the general form seen in Figure 10, and which may include a bight portion 104 extending 180° around the rod 74. One lateral side of each clearance 102 is straight opposite to the side of the arm where the spring 103 is accommodated, and at the side where the spring 103 is accommodated the clearance is in each case narrowed locally, as at 105, see Figure 7, for close lateral confinement of the feed roll carrying arm. Laterally offset ends 106 of the springs 103 press upwardly against the related feed roll carrying arms. The springs 103 for the front feed rolls extend around the rear side of the rod and from there forwardly for reaction against the base of the clearance 102 in the front member 90 of the housing 88. The springs 103 for the rear feed rolls are like those for the front feed rolls, but extend oppositely thereto around the front side of the rod 74 and react against the base of the clearance 102 in the rear member 90. Normally, the feed roll carrying arms 78, 80, under the urge of the springs 103, press the feed rolls 84, 85 into paper feeding contact with the platen, as seen in Figure 1.

It will be noted that the springs 103 are adapted to be placed readily into position after the rest of the feed roll mechanism 73 is fully assembled. Moreover, the design of the spring 103 renders them readily replaceable, and in cases where the nature of the work requires extra heavy feed roll pressure, stronger springs may be substituted conveniently by the serviceman. Preferably springs of different strength are kept in stock by the retailer, and are preferably supplied electroplated in different strength identifying colors.

As particularly well shown in Figure 10, the spring 103 preferably embodies two parallel wire portions 108 extending from a looped portion which comprises the tension-supply end 106. This parallel-wire spring structure lends a lively action

over a wide release-range of throw. In register with the lateral locations of the arms 97, 98, which extend vertically from the feed roll carrying arms, the feed roll release shaft 87 is notched to provide cam faces 99. From Figure 1 it will be seen that the downwardly extending feed roll release arms 97, 98 are normally out of contact with the cam faces 99 on the feed roll release shaft 87 permitting free contact of the feed rolls with the platen. In order to release the feed rolls from the platen, the shaft 87 is given approximately a quarter turn, from the position seen in Figure 1 to the position seen in Figure 6. This will spread the downwardly extending arms 98, 97 against the tension of the springs 103, and consequently the feed rolls 84, 85 will be released from the platen as seen in Figure 6.

The means for turning the shaft is substantially conventional in structure. It includes a feed roll release lever 112 which is pivotally carried on the right carriage end 17, as at 113, and which has an arm 116 reaching inwardly through a perforation in the carriage end. Downwardly from said arm 116 extends a link 115 which is communicative with a crank arm 117 that is right-angularly bent from the shaft 87.

The rod 74 is supported and brazed to the right-hand platen mounting plate 30 in such a relation that the feed rolls 84, 85 bear appropriate relation with the platen in either applied or released position, as seen in Figures 1 and 6. Particularly also the cam faces 99 of the feed roll release shaft 87 are slightly clear of the cooperating feed roll release arms 97, 98 when the feed rolls are applied. It is to be noted that adjustment of the platen supporting plates 30 on the carriage ends 17 for satisfaction of proper imprint requirements will in no way affect the desired relationship of the feed roll mechanism 73 with respect to the platen. This is because the feed roll mechanism partakes in the adjustment of the platen mounting plates, and the position of the feed rolls with respect to the platen mounting saddles 31 is thus not affected.

The described feed roll mechanism 73 is adapted to be assembled very conveniently. Preferably, the front and rear shell members 90 are first assembled in a manner indicated in Figure 11, with the various cross walls 92 introduced therebetween. Some or all of the protuberances 93 on the cross walls are then preferably staked to hold this composite structure together. Upon dropping the feed roll supporting arms 78, 80, loosely into the clearances 102, the shaft 74 is passed lengthwise between the upper portions of the two shell members 90 and through the holes in the various feed roll arms 78, 80. The shell 88 is then secured to the rod by the screws 91. Following this the feed roll release shaft 87 is longitudinally passed into the shell, through the perforations 96 in the cross walls 92 thereof, and care is taken that the appropriate arms 97, 98 become located in black and in front of the shaft 87. A retainer ring or collar 114 finally placed upon the left end of the shaft 87, in cooperation with the crank end 116 at the other end of the shaft, will keep the shaft laterally located in the assembly.

In Figure 2 is shown a simplified structure whereby to adjust the platen mounting plate 30 vertically. A bolt 120 has a portion 121 turnably fitting a hole in the carriage end 17, and has just inwardly of the said carriage end an eccentric enlargement 122 turnably fitting a hole in the plate 30. The bolt 120 includes further a thin shank portion 123 which is concentric with the bolt portion 121. Upon said shank portion 123 there is turnably fitted an eccentric 124, similar to the aforedescribed eccentric 57. Said eccentric 124 fits a hole in the hook element 61, and has a hexagon head 129. A nut 125 normally locks the bolt fast on the carriage end 17, while a nut 126 normally locks the eccentric 124 against a shoulder afforded by the eccentric bolt enlargement 122. The hook element 61 is swingably carried upon the eccentric 124.

To effect a vertical adjustment of the plate 30, the nuts 125, 126 are first loosened, and while the eccentric 124 is held against turning, the bolt 120 is turned, as by a screwdriver, to cause the eccentric enlargement 122 of the bolt to raise or lower the plate 30, as required.

Adjustment of the hook element 61 is preferably effected while the nut 125 is in tightened condition to draw the eccentric bolt enlargement 122 into rigid association with the carriage end 17. Then, while the nut 126 is slightly loosened, the eccentric 124 is given the required turning adjustment to render the hook element 61 properly cooperative with the platen bushing 34. The nut 126 is tightened thereafter to secure the adjustment.

It is to be understood that the invention is not restricted to machines wherein the platen is carriage-carried, but applies to any record preparing machine wherein impressions are made along a platen.

The invention is susceptible of modification, comprehends other constructions, and is intended to cover such modfiications or departures as may be within the purposes of the improvements or the scope of the following claims.

I claim:

1. In a machine having printing elements, a platen whereagainst said elements are adapted to be operated to effect impressions, means to support said platen at opposite ends, comprising, two spaced frame members, a plate on each one of said frame members having an open platen seating formation therein, and means to mount said plates for adjustment transversely of the platen on said frame members for bringing about the proper relation of the platen with respect to the printing elements, means carried on said plates to hold releasably the platen in place upon said seating formations, and means to adjust said holding means upon said plates for proper holding action on the platen, said releasable holding means and the adjusting means therefor remaining unaffected on the plates for any adjustment of the latter.

2. In a machine having printing elements, a platen roll whereagainst said elements are adapted to be operated to effect impressions, means to support said platen roll at opposite ends, comprising, two spaced frame members, a supporting plate on each one of said frame members for the platen roll, and means to mount each of said plates on its frame member for individual adjustment transversely of the platen roll including means for bringing about the proper elevational relation of the platen roll with respect to the printing elements, feed rolls for paper-feeding cooperation with the platen roll, and a feed roll supporting structure extending between said two supporting plates and having at opposite ends association with the platen-roll supporting plates to retain a substantially unaltered elevational relation with respect to the axis of the platen roll regardless of

the individual adjustments of said plates on said frame members.

3. The structure set forth in claim 2, said mounting means including, adjustable eccentric means to adjust each plate fore and aft, and adjustable eccentric means to adjust each plate for elevation.

4. In a machine having front-strike printing elements, a platen roll whereagainst said elements are adapted to be operated to effect impressions, means to support said platen roll at opposite ends comprising, two spaced frame members, a supporting plate for the platen roll on each one of said frame members, each plate having an upwardly open seating formation therein for removal of the platen roll, and means to mount each of said plates for individual adjustment on its related frame member for bringing about the proper fore-and-aft and elevational relation of the platen roll with respect to the printing elements, means carried on each of said plates for adjustment bodily therewith, to hold releasably the platen roll in place on the seating formations, feed rolls for paper-feeding cooperation with the platen roll, and a feed roll supporting structure extending between said two platen-roll supporting plates and having association therewith to cause its elevational relation with respect to the axis of the platen roll as defined by the platen seating formations to remain substantially unaltered for any adjustment given to the individual plates. said releasable platen holding means, in view of being carried on said plates, retaining each its proper platen holding relation on its plate for any adjustment of the individual plates effected.

5. In a machine having printing elements, a platen roll whereagainst said elements are adapted to be operated to effect impressions, means to support said platen roll at opposite ends, comprising, two spaced frame members, a supporting plate on each one of said frame members for the platen roll, and means to mount said plates for adjustment transversely of the platen roll on said frame members for bringing about the proper relation of the platen roll with respect to the printing elements, feed rolls for paper-feeding cooperation with the platen roll, and a feed roll supporting structure having rigid association with one of said plates, and having with the other plate an extendable connection of a nature to allow differences in the spacing of the two plates lengthwise of the platen roll, said feed roll supporting structure partaking of the adjustment of the plates at the carriage ends.

6. In a machine having printing elements, a platen whereagainst said elements are adapted to be operated for imprint effecting action, means to support said platen at opposite ends, comprising, two spaced frame members, a supporting plate for the platen on each one of said frame members, and means to mount said plates on said frame members for adjustment transversely of the platen roll, to bring about the proper relation of the platen roll with respect to the printing elements, said adjustable mounting means comprising for each plate at a location appreciably below the platen axis, a means to adjust the plate vertically but with capacity for swinging fore-and-aft adjustment generally about the location of such adjusting means, said adjustable mounting means comprising additionally above each said vertical adjusting means, means to adjust the related plate in a fore-and-aft direction, swingably about the general location of the vertical adjusting means, and with capacity for some vertical adjustment by the latter.

7. The structure set forth in claim 6, including, an open platen seating formation on each of said plates, and a platen hold-down device carried on each said plate.

8. In a machine having printing elements, a platen roll whereagainst said elements are adapted to be operated for imprint effecting action, means to support said platen roll at opposite ends comprising, two spaced frame members, a supporting plate on each one of said frame members for the platen roll, and means to mount said plates for adjustment transversely of said platen roll, on said frame members, for bringing about the proper relation of the platen roll with respect to the printing elements, feed rolls for paper-feeding cooperation with said platen roll, and a supporting and releasing structure for said feed rolls carried by said plates for adjustment therewith transversely of the platen roll, comprising a rod extending intermediate the said plates, a plurality of feed roll supporting arms carried swingably on said rod to apply and release said feed rolls, said arms forming levers with down-reaching arms, a feed roll release cam shaft cooperatively associated with said down-reaching arms below said rod, an elongate shell carried by said rod and extending lengthwise thereof to encase the down-reaching arms and said shaft, said shell having transverse clearances wherein said feed roll supporting arms are located releasably swingable on said rod, and means in said shell to mount said release shaft for pivotal, feed roll releasing movement.

9. In a machine having printing elements, a platen roll whereagainst said elements are adapted to be operated for imprint effecting action, means to support said platen roll at opposite ends comprising, two spaced frame members, a supporting plate on each one of said frame members for the platen roll, and means to mount said plates for adjustment transversely of said platen roll, on said frame members, for bringing about the proper relation of the platen roll with respect to the printing elements, feed rolls for paper-feeding cooperation with said platen roll, and a supporting and releasing structure for said feed rolls carried by said plates for adjustment therewith transversely of the platen roll, comprising, a rod extending intermediate the said plates, and having rigid association with at least one of the said plates, and having an association with the other plate at least to partake thereat in the transverse adjustments of such plate, a plurality of feed roll supporting arms carried swingably on said rod to apply and release said feed rolls, said arms forming levers with down-reaching arms, a feed roll release cam shaft cooperatively associated with said down-reaching arms below said rod, an elongate shell carried by said rod and extending lengthwise thereof to encase the down-reaching arms and said shaft, said shell having transverse clearances wherein said feed roll supporting arms are located releasably swingable on said rod, and means in said shell to mount said release shaft for pivotal, feed roll releasing movement.

10. In a machine having a platen roll, feed rolls for paper-feeding cooperation with said platen roll, and a supporting and releasing structure for said feed rolls, comprising, a rod extend-

ing along the underside of the platen, a plurality of feed roll supporting arms carried swingably on said rod to apply and release said feed rolls, said arms forming levers with down-reaching arms, a feed roll release cam shaft cooperatively associated with said down-reaching arms below said rod, an elongate shell having rigid association with said rod and extending lengthwise thereof for encasing the down-reaching arms and said shaft, at the front, the back and the bottom, said shell having transverse clearances wherein said feed roll supporting arms are located releasably swingable on said rod, and means in said shell at spaced locations therein to mount said release shaft for pivotal, feed roll releasing movement.

11. In a machine having a platen roll, front and rear feed rolls for paper-feeding cooperation with said platen roll, and a supporting and releasing structure for said feed rolls comprising, a rod extending along the underside of the platen, a plurality of feed roll supporting arms accommodated swingably on said rod and reaching forwardly and rearwardly respectively to support the said front and the said rear feed rolls, down-reaching arms forming levers together with the forwardly and rearwardly reaching arms, a feed roll releasing cam shaft cooperatively associated with said down-reaching arms below said rod, an elongate shell extending lengthwise of said shaft to house the down-reaching arms and said shaft, at the front, the back and the bottom, the down-reaching arms of the levers which have forwardly and rearwardly reaching arms respectively reaching downwardly in back and downwardly in front of said shaft, said shell having transverse clearances wherein said feed roll supporting arms are located releasably swingable on said rod, and means in said shell to mount said release shaft for pivotal, feed roll releasing movement.

12. In a machine having a platen roll, feed rolls for paper-feeding cooperation with said platen roll, and a supporting and releasing structure for said feed rolls, comprising, a rod extending along the underside of the platen, a plurality of feed roll supporting arms carried swingably on said rod to apply and release said feed rolls, said arms forming levers together with down-reaching arms, a feed roll release cam shaft cooperatively associated with said down-reaching arms below said rod, an elongate shell having rigid association with said rod and extending lengthwise thereof to encase the down-reaching arms and said shaft, at the front, the back and bottom, said shell having

transverse clearances wherein said feed roll supporting arms are located releasably swingable on said rod, means in said shell to mount said release shaft for pivotal feed roll releasing movement, and a spring of bight-form accommodated readily applicable and removable in each clearance alongside each feed roll supporting arm, each spring having an upwardly pressing end underlying the associated feed roll supporting arm and extending from there over and around to the bottomside of the rod for anchorage and reaction on the shell.

13. In a machine having a platen roll, feed rolls for paper-feeding cooperation with said platen roll, and a supporting and releasing structure for said feed rolls, comprising, a rod extending along the underside of the platen, a plurality of feed roll supporting arms having each a pivot hole whereby it is swingably accommodated on said rod to apply and release said feed rolls, said arms forming levers with down-reaching arms, a feed roll release cam shaft cooperatively associated with said down-reaching arms below said rod, an elongate shell associated with said rod to extend lengthwise thereof to encase the down-reaching arms and said shaft, at the front, the back and the bottom, said shell having longitudinal front wall and rear wall portions in fitting association with said rod and having transverse clearances wherein said feed roll supporting arms are located releasably swingable on said rod, assembly of the stated structure being feasible by end-wise passage of said rod between said longitudinal wall portions with the feed roll supporting arms substantially in place in the shell clearances for passage of the rod through the said hole, and means in said casing to mount said release shaft for pivotal, feed roll releasing movement.

WILLIAM A. DOBSON.

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