A. A. SCHWARTZ.

PLATEN AND PRESSURE ROLL FEEDING MEANS.

APPLICATION FILED MAY 11, 1917.

1,270,979.

Patented July 2, 1918

3 SHEETS—SHEET 1.

Fig: 1.

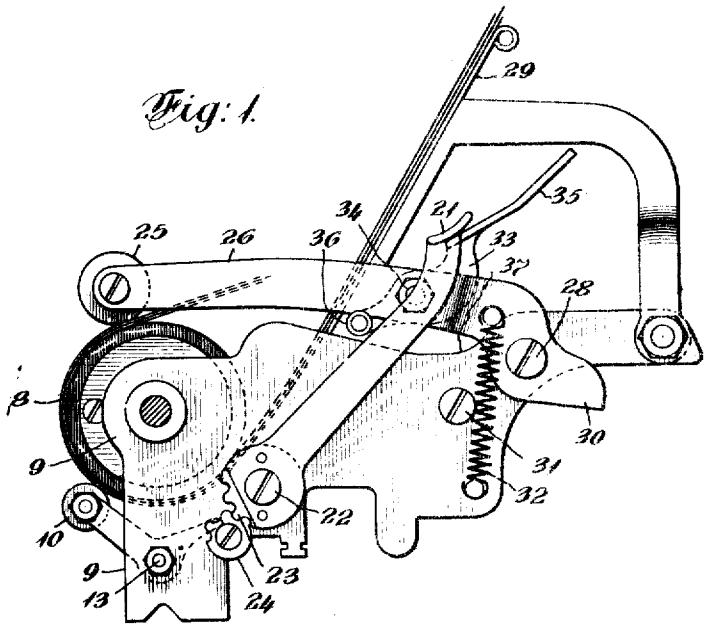
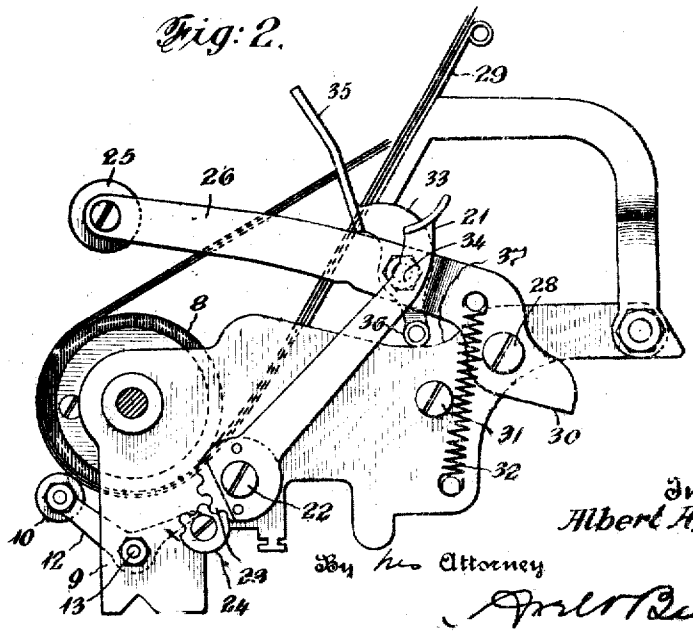


Fig: 2.



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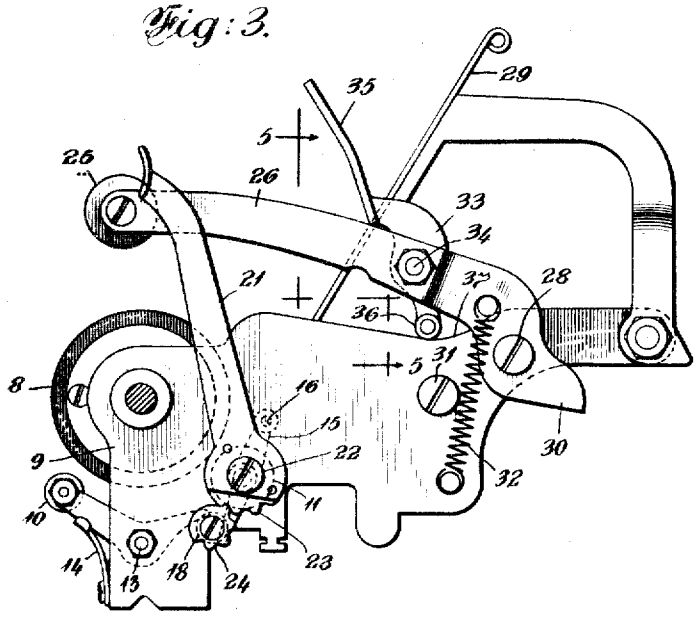
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3 SHEETS—SHEET 2.

Fig: 3.



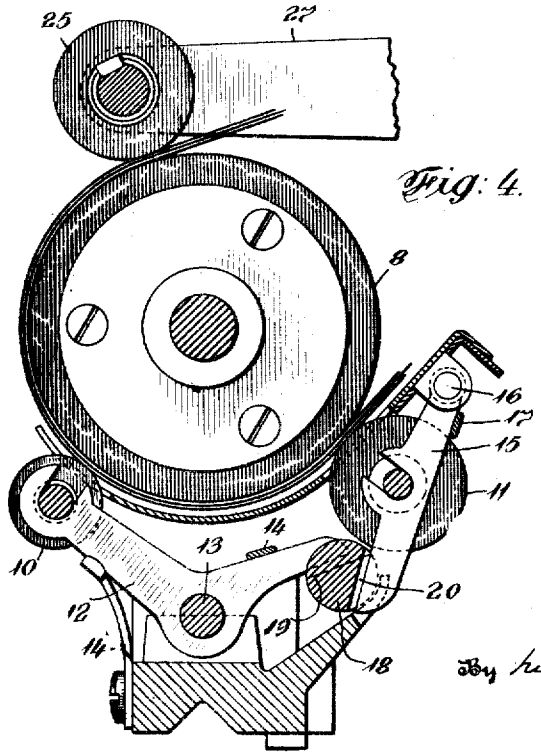
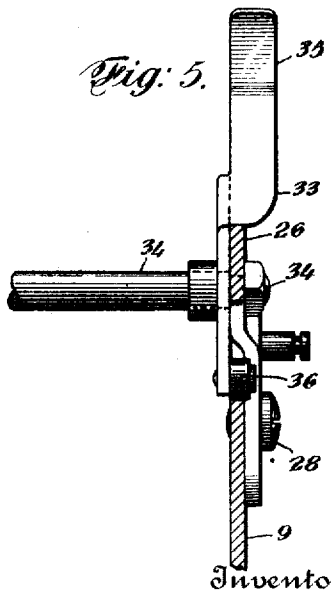


Fig: 4.

Fig: 5.



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3 SHEETS—SHEET 3.

Fig: 6.

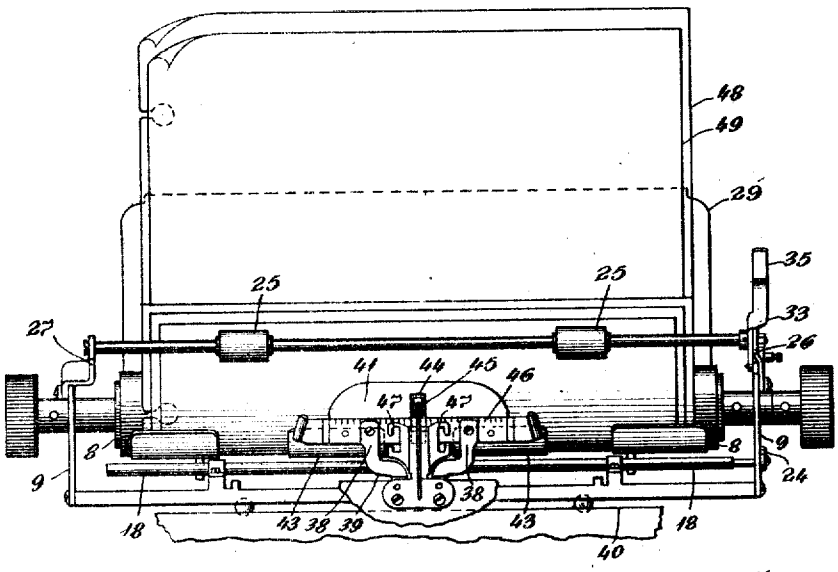
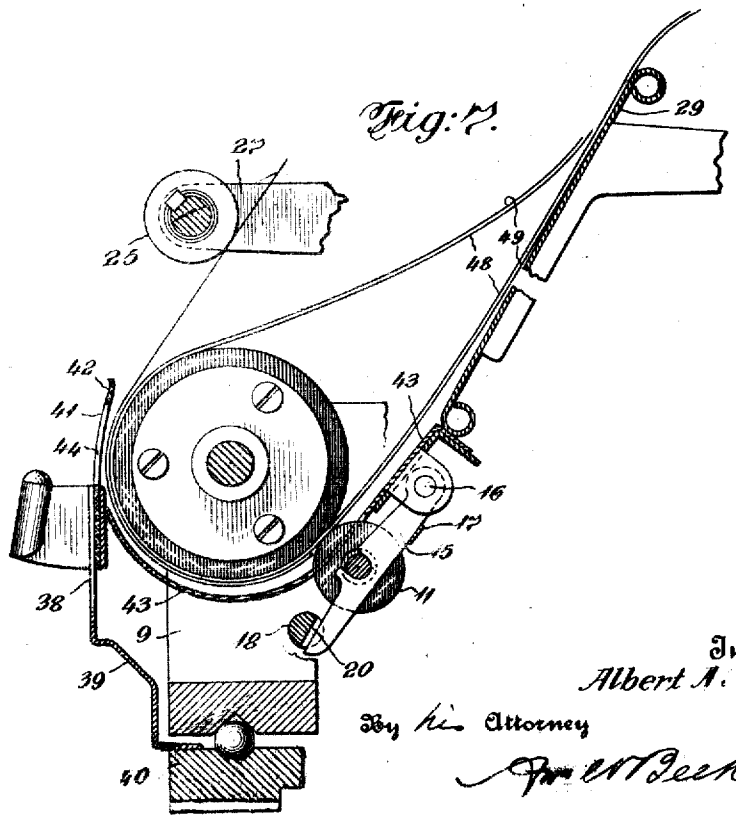


Fig: 7.



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UNITED STATES PATENT OFFICE.

ALBERT A. SCHWARTZ, OF NEW YORK, N. Y., ASSIGNOR TO ROYAL TYPEWRITER COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PLATEN AND PRESSURE-ROLL FEEDING MEANS.

1,270,979. Specification of Letters Patent. Patented July 2, 1918.

Application filed May 11, 1917. Serial No. 167,869.

To all whom it may concern:

Be it known that I, ALBERT A. SCHWARTZ, a citizen of the United States, and a resident of the borough of Bronx, in the city of New York, county of Bronx, and State of New York, have invented certain new and useful Improvements in Platens and Pressure-Roll Feeding Means, of which the following is a specification.

The present invention relates generally to typewriting machines and has more particularly reference to pressure feed means associated with the platen.

In an application Serial No. 167641 filed by E. B. Hess on the tenth day of May, 1917, there is disclosed a portion of a typewriting machine of the front-strike type in which there is lower pressure feed means engaging the platen below the line of print, and an overhead pressure roll for engaging the platen above the line of print, with suitable releasing means for both the lower and overhead pressure feed means, and an actuating member for operating both releasing means. In that application the parts are so arranged that the usual rock lever, which is utilized to actuate the releasing means for the lower pressure feed means, is provided with a pin or extension which rides under a cam member conveniently formed on one of the arms supporting the overhead pressure roll pivotally. The relation of these parts is such that the initial movement of the rock lever serves to raise the overhead pressure roll into an elevated sustained paper guiding position out of contact with the platen, and the subsequent movement of the rock lever serves to operate the releasing means for the lower pressure feed means. Means are further provided for withdrawing the pin or projection carried by the rock lever from its active cam engaging position so that the movement of the rock lever may act only to operate the releasing means for the lower pressure feed means without elevating the overhead pressure roll. If, however, the pin or projection has been withdrawn so as not to lift the overhead pressure roll, and the rock lever has been moved a sufficient distance to operate the lower pressure feed means, it is not possible to thereafter elevate the overhead pressure roll into a sustained paper guiding position out of contact with the platen without first bringing the lower pressure feed means again in contact with the platen. It will be noted, however, that in the construction disclosed in said application, the overhead pressure roll can be lifted manually at all times to its idle position.

Under certain conditions, it is advantageous to be able to first release the lower pressure feed means and then thereafter to lift the overhead pressure roll into its sustained paper guiding position above the platen.

The main object of this invention is to produce a construction in which said overhead pressure roll may be lifted into a sustained paper guiding position regardless of the position of the lower pressure feed means. Another object of this invention is to permit of the introduction of work to be acted upon not only from the rear of the platen but also from the front thereof in a front-strike typewriting machine having lower pressure feeding means and an overhead pressure roll.

Accordingly one feature of the invention consists in having the actuating means for the overhead pressure roll lifting means independent of the actuating means which control the lower pressure feed means. Another feature of the invention resides in having a movable member mounted on the arms which carry the overhead pressure roll, which movable member by its engagement with the framing that supports the platen serves to elevate the overhead pressure roll into a sustained paper guiding position out of contact with the platen. In the preferred form herein disclosed said movable member consists of a pivotally supported member carried by the arms of the overhead pressure roll and the framing is conveniently provided with a cam surface with which said pivotally supported member engages, so that when it is turned around its pivot, the overhead pressure roll will be elevated into the sustained paper guiding position. Another feature of the invention consists in providing a fixed plate in front of the platen just below the printing point, said plate not partaking of the transverse movement of the platen and being located substantially at the central portion of the platen when the latter is in its mid-position transversely, and to mount on said plate a transparent card-guide which extends upwardly but which does not follow the contour of the

platen circumferentially so that it forms a trough for the introduction of work to be acted upon from the front of the machine. Combined with the foregoing is a lower pressure feed means which consists of a rear pressure feed roll below the line of printing and a paper pan extending from said rear pressure feed roll up to the point where the plate is located at the front of the platen, together with an overhead pressure roll which may be elevated into a sustained paper guiding position to permit the introduction of work in the rear thereof and thence downward between the transparent paper guide and platen at the front of the machine.

In the accompanying drawings the invention is disclosed in a concrete and preferred form and in these drawings:

Figure 1 is an end elevation of a platen and associated pressure feed means embodying the invention, with the platen shaft in section and with the parts shown in the position which they normally occupy during the operation of the machine.

Fig. 2 is a view similar to Fig. 1, showing the lower feed pressure means in engagement with the platen but with the overhead pressure roll in its elevated sustained paper guiding position.

Fig. 3 is a view similar to Figs. 1 and 2 but shows the lower pressure feed means as well as the overhead pressure roll out of contact with the platen.

Fig. 4 is an enlarged vertical sectional view of the platen and associated elements taken just inside the end framing and showing one of the arms for the overhead pressure roll, as well as the actuating means for the release of the upper and lower rolls, removed.

Fig. 5 is a vertical sectional detail view on the line 5—5 of Fig. 3.

Fig. 6 is a front elevation of a platen and its associated elements illustrating a modification of the invention disclosed in the first five figures and with the rock lever for operating the release means of the lower pressure feed means omitted for the sake of clearness.

Fig. 7 is a vertical transverse sectional view of some of the parts shown in Fig. 6.

Referring first to the form of the invention shown in Figs. 1 to 5 inclusive, 8 indicates a platen of any suitable construction mounted in the usual way in the framing 9 and having associated with it a lower pressure feed means here taking the form of a lower front pressure feed roll 10 and a lower rear pressure feed roll 11, both of which are located below the line of print. In the particular form herein disclosed the lower front roll 10 is mounted in a lever 12 pivotally supported at 13 and normally urged into engagement with the platen by means of the springs 14. The lower rear roll 11 is mounted in a pendent lever 15 pivotally supported at 16 and normally urged into contact with the platen by means of the spring 17. Suitable releasing means for said lower pressure feed rolls here take the form of a releasing cam bar 18 rotatably mounted in the carriage frame in a well-known manner and having cam portions, here taking the form of notches 19 and 20, into which extend the ends of the levers 12 and 15 so that when the said releasing cam bar is turned, it will move the lower feed pressure rolls out of engagement with the platen. The actuating or controlling means for said releasing means here take the following form. 21 indicates a rock lever suitably supported on the stud 22 of the framing and carrying a gear sector 23 which meshes with the gear sector 24 on the end of the releasing cam bar 18. It will be understood that by turning the rock lever from the position shown in Fig. 1 to the position shown in Fig. 3, the releasing cam bar 18 is turned and the lower pressure feed rolls moved out of contact with the platen.

25 indicates an overhead pressure roll above the line of print of the platen suitably mounted in the arms 26 and 27 which are pivotally supported at the point 28 of the framing in rear of the paper table 29. The amplitude of movement of the arms 26 is such that the overhead pressure roll 25 may be moved from a position in contact with the platen to an idle position above the paper table, the upward movement being limited by the extension 30 which engages the stop 31 on the framing. A spring 32 connects the framing and the arms 26, 27 in such a manner that it will urge the overhead pressure roll into either its active platen engaging position or into its idle elevated position once the pivotal point is passed. The releasing and actuating means for the overhead pressure roll in this case takes the following form. 33 is a member pivotally mounted on the arms 26, 27 by means of the tie rod 34, said member having at its upper end a handle portion 35 and at its lower end a roller 36. Formed on the framing 9 is a cam portion 37 of such a contour that when the member 33 is turned on its pivotal point 34 from the position shown in Fig. 1 to the position shown in Figs. 2 and 3, the overhead pressure roll will be elevated into a sustained paper guiding position as shown, which position is at a point intermediate its platen engaging position and its idle overhead position. Should it be desired to elevate the overhead pressure roll still further, that may of course be done by manually lifting the arms to the idle position in a manner well understood.

Turning now to the modification shown in Figs. 6 and 7, it will be understood that the

overhead pressure roll is here controlled by the same actuating means as is shown in Figs. 1, 2, 3 and 5, the member 33 being indicated in Fig. 6. It will further be understood that a member similar to the rock lever 21 is also utilized to operate the sector 24 on the end of the releasing cam bar 18. In the modification shown in Figs. 6 and 7, however, the lower pressure feed means take the following form. The lower rear pressure roll 11 mounted in the lever 15 pivoted at 16 and controlled by the spring 17 is retained and may be released by turning the releasing cam bar 18 in the manner previously described. However, the lower front pressure feed roll is here omitted and in place thereof is utilized a plate 38 disposed horizontally just below the line of print in front of the platen. Said plate 38, however, is not mounted to move with the platen transversely but is carried by the bracket 39 which is suitably supported on the lower stationary rail 40 of the carriage race means.

Carried by the plate 38 or the bracket 39 is a transparent card-guide 41 which extends adjacent to the platen on both sides of and above the printing point. The upper end 42 of this card-guide is curved outwardly as shown, or, to put it differently, it does not follow the contour of the platen. The result is that it forms a trough for the introduction of work to be acted upon from the front of the machine. In order to guide the work which may be inserted from the front of the machine properly in its relation to the platen, the paper pan 43, which is suitably mounted in the carriage supporting the platen, extends in the form of a guide underneath the platen and up to the point where the plate 38 is located, so that a continuous circumferential channel is produced by the platen, the paper guide 41, the plate 38 and the paper pan 43. The paper guide 41 is provided with an opening 44 at the printing point so that the type indicated at 45 in Fig. 6 may place its impression upon the impression receiving material on the platen. It will also be understood that the plate 38 is suitably cut out in a well-known manner to permit access of the type to the work on the platen, and, further, that this plate 38 may carry a scale as indicated at 46 in the usual manner. 47 indicates ribbon vibrating means of a known construction.

From the foregoing it will be readily understood that the lower pressure feed means and the overhead pressure roll can be released entirely independently of each other,—that is to say, the rock lever 21 may be actuated to release or to permit the return of the lower pressure feed means regardless of whether the overhead pressure roll occupies the position shown in Fig. 1 or the position shown in Figs. 2 and 3; and that, further, the member 33 may be actuated, regardless of the position of the lower pressure feed means, to elevate the overhead pressure roll into its sustained paper guiding position, or to permit its return into contact with the platen; and that there is no sequence of operation between the release of the lower pressure feed means and the overhead pressure roll.

When the overhead pressure roll is elevated into the paper guiding position shown in Fig. 2 or in Fig. 7, it is possible to insert material from the front of the machine. In the case of the construction shown in Figs. 1 to 5 inclusive, this would be done in case it were desired to make an erasure on the first sheet of manifold sheets. In these circumstances it will be readily understood how a card may be inserted back of the first sheet and may be brought down around the platen to the printing point when an erasure can be made upon the first sheet without leaving any impression upon the manifold sheets back of the first sheet. In the case of Fig. 7, it will be understood how a short sheet to be printed upon may be inserted from the front of the machine and may be be brought around the platen while the lower pressure feed means still retain firm pressure upon sheets inserted from the back of the machine. For instance, in billing work it is frequently desired to make out the original copies of bills on short sheets but to preserve carbon copies of a number of bills on one long sheet. Such a condition is shown in Fig. 7 in which 48 indicates the long sheet and 49 the long carbon sheet which have been introduced from the rear of the machine. Now by elevating the overhead pressure roll into its paper guiding position, a short sheet may be inserted back of said overhead pressure roll and in between the platen, the card-guide 41, the plate 38 and paper pan 43, without in any manner disturbing the alinement of the sheets already held by the lower pressure feed means. Then, by lowering the overhead pressure roll, the short sheet will be held firmly thereby. During the subsequent operation of the machine, the long sheets will be fed both by the upper and lower roll, while the short sheet will be fed only by the overhead roll.

With the foregoing construction it is of course also possible to release the lower pressure feed means, both in the construction of Figs. 4 and 7, regardless of the position of the overhead pressure roll.

The member 33 has been specifically described as being mounted on the arms 26—27. It is evident, however, that it could be mounted on the carriage end plate or elsewhere on the machine and by engagement with the arms 26—27 cause the lifting of the overhead pressure roll, so long as this movement is independent of the movement of the rock lever 21.

I claim:

1. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll pivotally supported in the framing, and a member carried by the arms and engaging with the framing for lifting the pressure roll out of contact with the platen.

2. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll pivotally supported in the framing, and a member carried by the arms and engaging with the framing for lifting the pressure roll out of contact with the platen and for sustaining it in a paper guiding position above the platen.

3. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll pivotally supported in the framing, a cam on the framing, and a member mounted to move with the arms and engaging with the cam for lifting the pressure roll out of contact with the platen.

4. A platen, an overhead pressure roll for engagement with the platen above the line of print, lower pressure feed means, framing for supporting the platen, arms carrying said pressure roll pivotally supported in the framing, and a member, pivotally mounted on the arms and carried thereby engaging with the framing for lifting the pressure roll out of contact with the platen independently of the lower pressure feed means.

5. A platen, an overhead pressure roll for engagement with the platen above the line of print, lower pressure feed means, framing for supporting the platen, arms carrying said pressure roll pivotally supported in the framing, and a member, pivotally mounted on the arms and carried thereby engaging with the framing for lifting the pressure roll out of contact with the platen and for sustaining it in a paper guiding position independently of the lower pressure feed means.

6. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll pivotally supported in the framing, a cam on the framing, and a member pivotally supported on the arms and engaging with the cam on the framing for lifting the pressure roll out of contact with the platen.

7. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll, pivotally supported in the framing, permitting the pressure roll to be swung from a position in engagement with the platen to an idle elevated position, and a movable member carried by the arms for engaging the framing to lift and sustain the pressure roll in an intermediate paper guiding position out of contact with the platen.

8. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll, pivotally supported in the framing, permitting the pressure roll to be swung from a position in engagement with the platen to an idle elevated position, and a member pivotally supported on the arms and carried thereby for engaging the framing to lift and sustain the pressure roll in an intermediate paper guiding position out of contact with the platen.

9. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll, pivotally supported in a framing, permitting the pressure roll to be swung from a position in engagement with the platen to an idle elevated position, a movable member mounted to move with the arms for engaging the framing to lift the pressure roll into a sustained intermediate paper guiding position out of contact with the platen, said member permitting the pressure roll to be elevated still higher into its idle position by manual operation.

10. A platen, an overhead pressure roll for engagement with the platen above the line of print, framing for supporting the platen, arms carrying said pressure roll, pivotally supported in the framing, permitting the pressure roll to be swung from a position in engagement with the platen to an idle elevated position, and a member pivotally supported on the arms for engagement with the framing to lift the pressure roll into an intermediate sustained paper guiding position out of contact with the platen, said member permitting the roll to be elevated to its idle position by manual operation.

Signed at New York city, in the county of New York, and State of New York, this 8th day of May, 1917.

ALBERT A. SCHWARTZ.