

April 1, 1924.

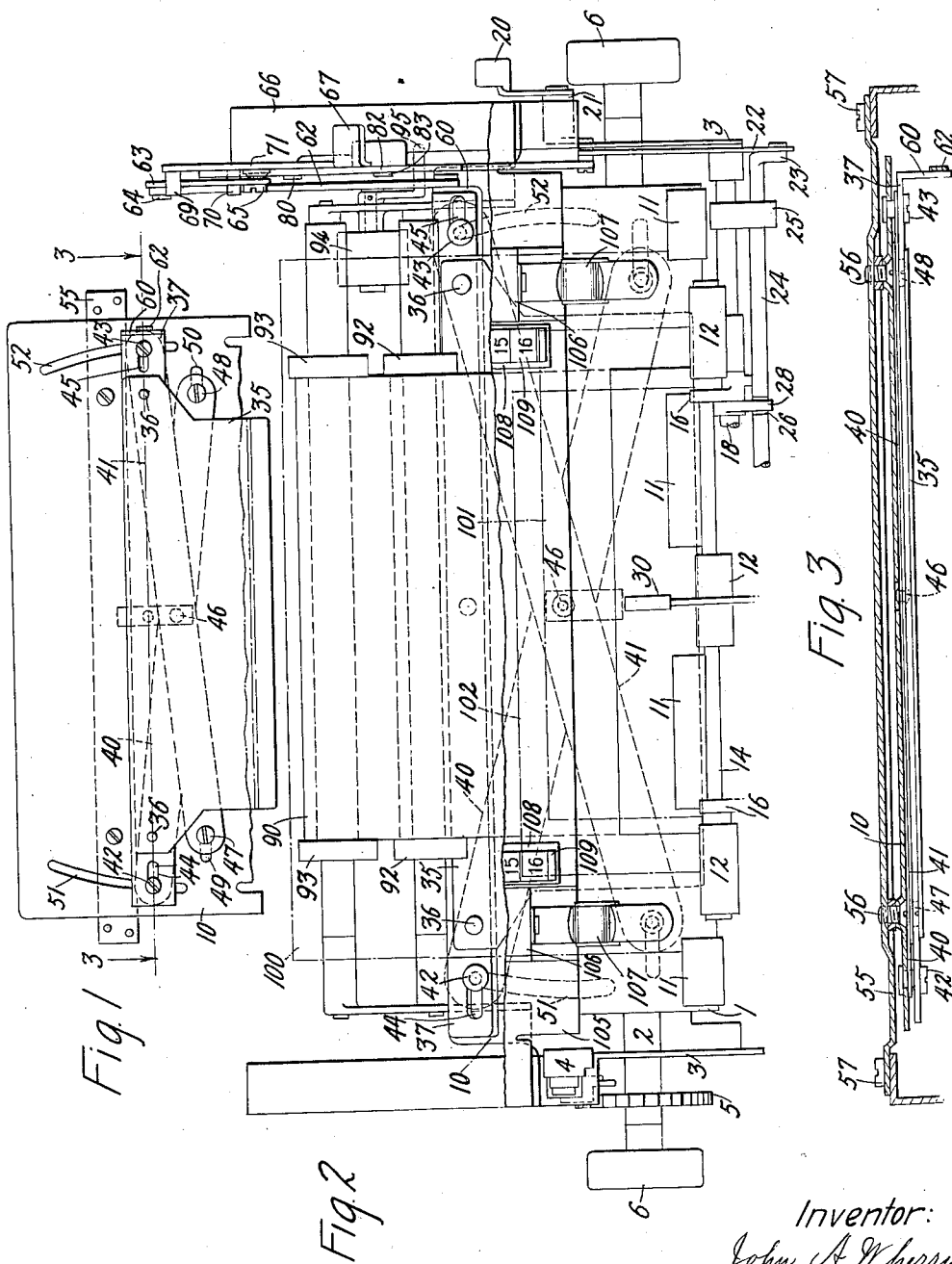
1,489,226

J. A. WHERRY

TYPEWRITING MACHINE

Filed Feb. 12, 1921

2 Sheets-Sheet 1



April 1 , 1924.

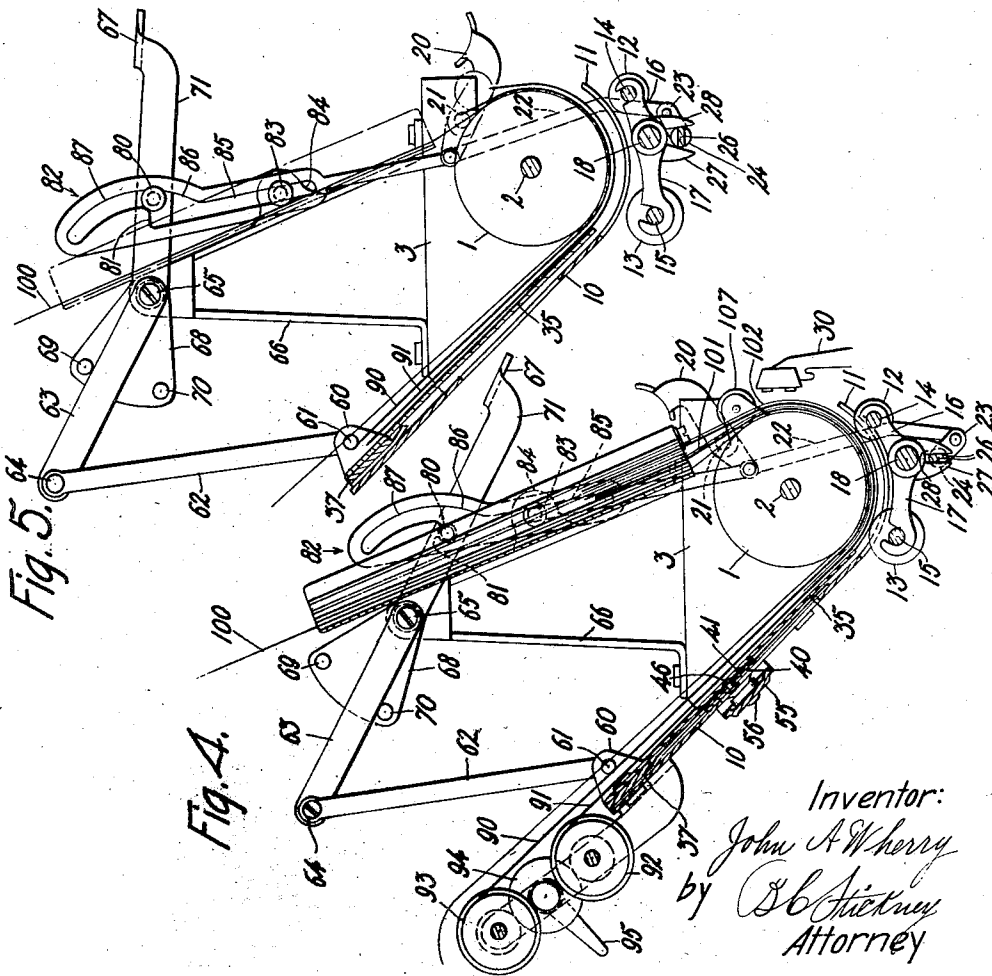
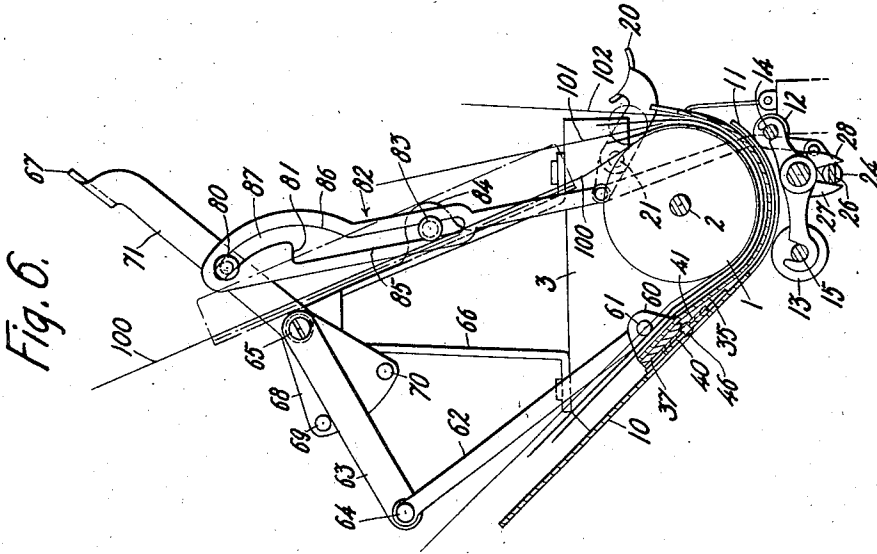
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2 Sheets-Sheet 2



Inventor:

John A Wherry

by S. B. Stickney
Attorney

Attorney

UNITED STATES PATENT OFFICE.

JOHN A. WHERRY, OF NEW ORLEANS, LOUISIANA, ASSIGNOR TO UNDERWOOD TYPE-
WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPEWRITING MACHINE.

Application filed February 12, 1921. Serial No. 444,306.

To all whom it may concern:

Be it known that I, JOHN A. WHERRY, a citizen of the United States, residing in New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Typewriting Machines, of which the following is a specification.

This invention relates principally to improved means for enabling the operator to insert sheets bottom end foremost at the front of a revoluble platen of a front-strike typewriting machine.

In my pending application, No. 435,591, filed January 7, 1921, (now Patent No. 1,465,242, dated August 14, 1923), is shown a flexible temporary guide, preferably cloth or other fabric, which normally lies out of use back of the platen, but which may be carried forwardly under the platen and up in front thereof with its front edge somewhat above the printing point on the platen. The work-sheet is insertible bottom end first between the temporary guide and the platen, and may be thrust down around the platen as far as desired, usually to a position to begin the first line of writing. This is done while the temporary guide remains in its advanced position, and while the usual feed-rolls are cast off from the bottom of the platen. Thereupon the temporary guide-sheet is pulled rearwardly and restored to its normal idle position back of the platen, and the feed-rolls are restored to operate upon the work-sheet, whereupon the typing may proceed.

One of the objects of the present invention is to improve the construction and operation of the means for advancing the guide-sheet. The modified guide-sheet controller herein disclosed comprises a parallel motion device in the nature of two diagonal cross-bars pivoted together where they cross, and having pin-and-slot connections at their extreme ends, so as to carry the temporary guide-sheet forward and back in a straight path without skewing; and this parallel motion device is connected by a link to a key-lever mounted upon the typewriter carriage.

Another feature of the present invention relates to improved means for securing carbon copies of typed sheets. To this end, the carbon or other web of transfer material is preferably carried upon a roll back of the platen. When introducing the work-sheets,

the end of the carbon web stands about even with the end of the temporary guide-sheet at the front of the platen. The outer work-sheet, which is to receive the ink impressions, is introduced bottom foremost between the temporary guide-sheet and the carbon web, and pushed downwardly as far as required, while the guide-sheet and carbon web remain stationary. Then another work-sheet is introduced, bottom end foremost, between the carbon web and the platen, and pushed down as far as desired, while the remaining sheets remain stationary. It is believed to be broadly new to organize a typewriting machine with permanent provision for practicing the method of introducing a work-sheet bottom end first downwardly between the leading end of a carbon web and the front of the platen. The operation may be quickly performed, inasmuch as the end of the carbon web may be readily flexed forwardly to open a space for the introduction of the work-sheet. The use of the flexible temporary guide-sheet renders it practicable to use a carbon in this way, inasmuch as it affords means whereby that work-sheet which must lie outside of the carbon may readily be inserted and thrust down and back around the carbon web.

It will be also understood that more than one carbon web may be employed, and that work-sheets may be readily inserted, bottom end foremost, between the carbon webs. A separate spool may be provided for each carbon web, and provision may be made for winding the spools back simultaneously when required. The invention is not limited in all cases to carbon-spools or to carbon webs, inasmuch as it is believed to be new to organize a type-writing machine with permanent provision for the use of a plurality of carbon webs between a temporary guide-sheet and the platen, which webs may remain connected to the machine while typed work-sheets are removed and fresh sheets are introduced for receiving ink and carbon impressions.

Preferably a proof-sheet or condensed record-sheet remains in the machine while the work-sheets are typed and replaced by fresh work-sheets, so that a record of all transactions is preserved upon such proof-sheet, this record being made preferably by means of a carbon web. However, when such proof-sheet is not to be typed, a short

work-sheet may be introduced, bottom end foremost, between the inner carbon and the platen, as will be understood. This is believed to be a satisfactory method for introducing work-sheets between carbons in a round-platen typewriting machine and removing the work-sheets and replacing them by fresh ones while the carbon remains in the machine permanently, or until worn out.

More than two carbon webs may be employed, together with a corresponding number of spools on the platen-frame or support.

After the various work-sheets have been introduced between the guide-sheet and the carbon, and between the carbons, and also between the inner carbon and the platen, the temporary guide-sheet may be withdrawn to its idle position, and then the feed-rolls may be brought into use to hold the sheets to the platen for line-feeding and typing. After the work-sheets are typed, they may be withdrawn, and then the carbon webs, which have been line-spaced together with the work-sheets, may be retracted to their first positions, preferably by rolling up the webs on the spools; this being done while the feed-rolls remain cast-off. Then the temporary guide-sheet may be advanced to working position, whereupon fresh work-sheets may be inserted. Preferably the finger-piece which advances and returns the temporary guide-sheet is also connected to the feed-rolls, to insure that they are cast off preparatory to forward or backward movement of the guide-sheet.

Other features and advantages will hereinafter appear.

In the accompanying drawings, in which the invention is illustrated in connection with an Underwood typewriting machine,

Figure 1 is a front view of a bar carrying the temporary guide-sheet, and a parallel-motion linkage controlling the motion of the bar.

Figure 2 is a front view, the front collating table being partly broken away to disclose the underlying mechanism.

Figure 3 is a cross-section of the device shown in Figure 1, the section being taken about on the line 3—3 thereof.

Figure 4 is a vertical section, showing the guide-sheet in retracted position.

Figure 5 is a view similar to Figure 4, and shows the device after the initial movement of the operating mechanism to cast off the feed-rolls.

Figure 6 is a view similar to Figures 4 and 5, and shows the device after completed movement of the operating mechanism, the feed-rolls being cast off and the guide-sheet being in forward or operative position.

A revoluble platen 1 is fixed upon an axle 2, journaled in the end walls 3 of the usual platen or shift frame. The platen

may be line-spaced by the usual line-space mechanism comprising a slide 4, a line-space handle (not shown) for the slide, and a line-space wheel 5 fixed to the platen axle 2. The platen may be rotated forwardly or backwardly by means of the usual finger-wheels 6 fixed on the ends of the axle 2. The platen-frame comprises also a forwardly and downwardly inclined rear paper-table 10, and a curved paper-apron 11 beneath the platen, and shown as forming a forward continuation of the rear paper-table. Front and rear feed-rolls 12 and 13 co-operate with the lower side of the platen through openings in the paper-apron, the front feed-rolls being mounted upon a front feed-roll shaft 14, and the rear feed-rolls upon a rear feed-roll shaft 15. The front feed-roll shaft 14 is carried by forwardly-projecting lever-arms 16, and the rear feed-roll shaft is similarly carried by rearwardly-projecting lever-arms 17. The lever-arms 16 and 17 are pivoted upon a transverse shaft 18 forming a lower tie-rod and are engaged by springs (not shown) which press the rolls 12 and 13 into gripping relation with the platen.

A cast-off device is provided for the feed-rolls, and comprises a finger-piece 20, pivoted at 21 on one of the platen-frame end walls 3 (shown here as the right wall), and connected by a link 22 to a short downwardly and forwardly extending crank-arm 23 on the adjacent end of a cam-shaft or rock-shaft 24, journaled in bearings 25, carried by the tie-rod 18, and provided with flattened cam portions 26 engaging between cam-lugs 27 and 28, which form downward extensions on the respective front and rear feed-roll arms 16 and 17. Downward pressure on the projecting end of the finger-piece 20 will operate to rotate the rock-shaft 24 through an angle of about 90 degrees for casting off the feed-rolls from their engaging or gripping position, shown in Figure 4, to their released or disengaged position, shown in Figure 5, in which latter position they will be detained by reason of the transverse locking position of the cams. In a typing operation, types carried by usual type-heads 30, one of which is shown at the printing position in Figure 4, strike upon the platen 1 at the printing line at the front thereof above the paper-apron 11. The parts so far described belong to the usual Underwood standard typewriting machine.

As set forth in the statement of invention, novel means are provided on the rear paper-table, whereby a blind or guide-sheet may be run up in front of the platen at will, so that work-sheets may be inserted, bottom end foremost, between the guide-sheet and the front of the platen. A blind or guide-sheet 35 (see Figure 1) is fixed by screws 36 to a transverse bar 37, to which is connected

a parallel motion linkage designed to give the bar 37 and sheet 35 a motion lengthwise of the rear paper-table without skewing, or other sidewise motion. Links 40 and 41 are pivotally and slidably connected at their upper ends to bar 37 by means of screws 42 and 43 passing through said links and operating in slots 44 and 45 in bar 37 and arcuate slots 51 and 52 in the rear paper-table. The links cross each other and are pivotally connected at 46, the lower ends of said links being pivotally and slidably connected to the rear paper-table 10 by screws 47 and 48 passing through said links and operating in slots 49 and 50, respectively. The rear paper-table 10 has fixed thereto, at the rear, a bar 55 by screws 56, said bar being attached to the platen-frame at its ends by screws 57.

From the above-described parallel motion linkage, it will be understood that a downward force applied at one side of bar 37 will move the entire bar downwardly while maintaining it in a horizontal position. Screws 42 and 43 will move to the lower ends of the curved slots 51 and 52 and to the outer ends of slots 44 and 45 (from the Figure 1 to the Figure 2 position), while the screws 47 and 48 will move to the inner ends of the slots 49 and 50. The sheet 35 attached to bar 37 can thus be pushed forwardly around the platen without skewing or other sidewise motion.

Means are provided on the platen-frame for operating the transverse bar 37 and its attached guide-sheet. The bar is provided at one end with an ear or flange 60, to which is pivotally connected at 61 an upwardly-extending link 62. A second link 63 is pivotally connected at one end to the end of links 62 at 64, and at the other end is pivoted on a pivot-stud 65, mounted in a supporting bracket 66, fixed upon the top of the adjacent end wall 3 of the platen-frame. The bracket and linkage are mounted upon the same side of the platen-frame as the feed-roll-release-lever for a purpose hereinafter to be described.

Pivoted upon the stud 65 is a lever having a forwardly-extending arm 71 provided with a finger-piece 67, and a rearwardly-extending arm in the form of a segment 68, provided at its extreme outer limits with pins 69 and 70 adapted to lie one on either side of link 63. It can readily be seen that, by raising finger-piece 67, pin 69 presses link 63 downwardly to push transverse bar 37 and sheet 35 around the platen, and that, by lowering finger-piece 67, pin 70 presses link 63 upwardly to raise bar 37 and draw the guide-sheet rearwardly.

To allow for easy movement of the guide-sheet, it is desirable to throw off the feed-rolls, before such movement begins. The mechanism for effecting this purpose comprises a headed stud 80 adapted to engage

beneath a shoulder or offset 81 formed near the upper end of substantially vertical operating link 82, the lower end of which forms an upward extension of the link 22 operating the feed-roll rock-shaft 24, so that, by moving link 82 upwardly, it is possible to release the feed-rolls. The link 82 is guided by means of a headed stud or pin 83 projecting from an ear 84 formed on the bracket 66 and engaging in a straight guide-slot 85 extending longitudinally of link 82. The guide-slot 85 is extended upwardly to form an arcuate front wall 86 below the offset 81 and to form an arcuate guide-slot 87 above the offset, the curve of the arcuate wall and the guide-slot being concentric with the axis of the pivot-stud 65 in the position of parts shown in Figure 6.

In order to cast off the feed-rolls preparatory to the forward movement of the guide-sheet 35, the finger-piece 67 is lifted from its depressed position, shown in Figure 4, toward the raised position thereof, shown in Figure 6. During the initial part of this movement and until the intermediate stage illustrated in Figure 5 is completed, the link 82 will be raised by reason of the engagement of stud 80 with the shoulder 81, thereby casting off the feed-rolls, and during this initial upward movement of the finger-piece 67 the lost motion between pin 69 and link 63 will be taken up, no movement being imparted to link 63. At the intermediate stage shown in Figure 5, by reason of the angular forward movement of stud 80, and the substantially straight upward movement of the link 82 guided by stud 83, the operating stud 80 will slip off the shoulder 81 into the arcuate slot 87 at substantially the same time that pin 69 contacts with link 63 (see Figure 5). Further or continued upward movement of the operating handle or finger-piece 67 will have no effect upon the feed-rolls, since the link 82 remains in the position shown in Figure 5, the feed-rolls being cast off. Upon continued upward movement of finger-piece 67, the stud 80 will ride idly in slot 87, but pin 69 will rotate the outer end of link 63 downwardly to the position shown in Figure 6, forcing link 62 downwardly and hence bar 37. The guide-sheet 35 is moved forwardly around the platen, the parallel motion linkage previously described operating to lead the sheet forwardly without skewing or other uneven motion.

For withdrawing or retracting the guide-sheet 35, the finger-piece is moved downwardly from the Figure 6 to the Figure 4 position. The downward movement of finger-piece 67 will result in stud 80 riding down the entire length of arcuate slot 87 and along the arcuate wall 86. The stud engages no part of the operating link 82 which therefore remains in the Figure 6

position. In the initial downward movement of the finger-piece 67, the lost motion between pin 70 and link 63 will be absorbed; the continued downward movement of the finger-piece will cause pin 70 to rotate link 63 upwardly, and hence draw link 62 upwardly to retract to the rearward position the bar 37 and the sheet 35. To lower the link 82 so that shoulder 81 again engages stud 83, the finger-piece 20 is rocked upwardly, thus drawing link 82 downwardly and restoring the feed-rolls to gripping position.

To enable several duplicate copies to be made, a plurality of carbon-sheets 90, 91 are fed over the rear paper-table from rollers 92, 93, mounted on the rear table. An idler roller 94, which may be of rubber, is adapted to contact with the rollers 92, 93 outside the limits of the carbon-sheets, and is provided with a handle 95 for rewinding the carbon-sheets when a bill or form has been typed.

In the operation of the device, the guide-sheet 35 is thrust forwardly to the Figure 6 position, the feed-rolls being removed in the same operation, and the carbon-sheets are drawn off their rollers until their front edges stand a short distance above the printing point. Various work-sheets 100, 101 and 102, which may be respectively a record-sheet, a ledger-sheet and a bill-sheet, are then inserted bottom end foremost between the carbon-sheets, the outer work-sheet being inserted between the guide-sheet and the first carbon-sheet, and the inner work-sheet being inserted between the last carbon-sheet and the platen, and are pushed around the platen to the first line to be typed. The upper edges of the various work-sheets may be collated upon a table mounted on the platen-frame at the front thereof, said table being described in detail in my Patent, No. 1,324,632, granted December 9, 1919, but shown here in a general way with details omitted. Said table comprises a base 105 fixed to the front of bracket 66 and having brackets 106 fixed thereto, each of said last-named brackets having a depending pressure-roll 107 adapted to press against the front of the platen. The lowest of the pack of work-sheets (sheet 100) is designed to pass beneath the brackets 106 and be held in place by the pressure-rolls 107. Mounted on each bracket 106 is a lower clamp 108 and an upper clamp 109. The second work-sheet 101 is designed to pass beneath clamp 108 and be held at one edge, here shown as the right edge. The third or top sheet 102 (the outer sheet around the platen) passes beneath clamp 109 and is here shown held at the left edge. The clamp 109 is provided with graduations upon its upper face to facilitate the relative adjustment of the sheets. When the sheets have been adjusted, the guide-sheet 35 is withdrawn by de-

pressing finger-piece 67, the feed-rolls are applied by raising finger-piece 20, and the typing may proceed. When a bill or form is completed and the feed-rolls thrown off, the finished copies are withdrawn from the machine and the guide-sheet is again thrust forwardly. The carbon-sheets are retracted to their initial position by operating handle 95, and new work-sheets are inserted, bottom end foremost, between the various carbon-sheets, between the last carbon-sheet and the platen, and between the guide-sheet and the first carbon-sheet. If one of said sheets is a proof-sheet or record-sheet it may remain in the machine while several bill-sheets and ledger-sheets are typed, and may be part of a continuous web which may be conveniently supplied from a roll conveniently located.

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 front-strike typewriting machine, in combination, a cylindrical platen, a paper-apron to co-operate with the lower part of the platen, a front-insertion device to guide the bottom edge of a work-sheet inserted at the delivery side of the platen between the platen and the paper-apron, a carbon-sheet roll so located at the rear of the platen that the outer end of the carbon-sheet may be drawn forward to lie along the inner face of the work-sheet guided by said device and to guide the bottom edge of a second front-inserted work-sheet around the bottom of the platen, and means to turn said roll to rewind said carbon-sheet to its initial position for typing, preparatory to inserting fresh work-sheets.
2. In a front-strike typewriting machine, in combination, a platen, a rear paper-table associated therewith, a plurality of transfer-web rolls arranged to deliver the webs thereon substantially along the upper surface of the paper-table, and having cylindrical friction members forming extensions thereof, and rewinding means comprising a cylindrical friction member engaging the cylindrical friction members connected with said transfer-web rolls, so that, upon actuation of the rewinding means in the proper direction, all of said transfer-web rolls will be rotated to rewind the transfer-webs thereon.

3. In a front-strike typewriting machine, in combination, a platen, a rear paper-table associated therewith, a transfer-web roll positioned so that the upper surface of the paper-table is substantially tangential thereto, and a front-insertion device to direct the lower edge of a work-sheet between the forward edge of the paper-table and the platen.

4. In a front-strike typewriting machine,

in combination, a platen, a rear paper-table associated therewith, a transfer-web roll positioned so that the upper surface of the paper-table is substantially tangential thereto, and a front-insertion device normally positioned at the rear of the platen and movable to a position to receive the lower edge of a work-sheet between the same and the platen, to facilitate the insertion of the lower edge of a work-sheet between the forward edge of the paper-table and the platen.

5. In a front-strike typewriting machine, in combination, a revoluble platen, a paper-table at the rear of the platen, a paper-apron beneath the platen, a guide-sheet above the rear table and insertable from the rear between the platen and the paper-apron, a transverse bar to which said guide-sheet is attached at its upper edge, and a manually-operable linkage pivotally connected to said bar for actuating said bar longitudinally of the paper-table, to move the guide-sheet forwardly to a position in which its forward edge projects at the front of the platen beyond the paper-apron for guiding a work-sheet downwardly at the front of the platen between the platen and said guide-sheet, said linkage being operable to retract said bar and guide-sheet.

6. In a front-strike typewriting machine, in combination, a revoluble platen, a paper-table at the rear of the platen, a paper-apron beneath the platen, a guide-sheet above the rear table and insertable from the rear between the platen and the paper-apron, a transverse bar to which said guide-sheet is attached at its upper edge, a manually operable linkage pivotally connected to said bar for actuating said bar longitudinally of the paper-table, to move the guide-sheet forwardly to a position in which its forward edge projects at the front of the platen beyond the paper-apron for guiding a work-sheet inserted downwardly at the front of the platen between the platen and said guide-sheet, said linkage being operable to retract said bar and guide-sheet, and a parallel motion linkage between said table and said transverse bar to insure longitudinal movement along said table of said bar and guide-sheet without skewing.

7. In a front-strike typewriting machine, in combination, a revoluble platen, a paper-table at the rear of the platen, a paper-apron beneath the platen, a guide-sheet above the rear table and insertable from the rear between the platen and the paper-apron, a transverse bar to which said guide-sheet is attached at its upper edge, a manually operable linkage pivotally connected to one end of said bar for actuating said bar longitudinally of the paper-table, to move the guide-sheet forwardly to a position in which its forward edge projects beyond the

paper-apron for guiding a work-sheet inserted downwardly at the front of the platen between the platen and said guide-sheet, said linkage being operable to retract said bar and guide-sheet, a parallel motion linkage between said table and said transverse bar to insure longitudinal movement along said table of said bar and guide-sheet without skewing when the operative force is applied to one end of the bar, said parallel motion linkage comprising crossed and pivoted links, said links having pivotal lost-motion connections at their upper ends to said transverse bar and similar connections at their lower ends to said table, said table having substantially longitudinal slots, and means passing through the upper ends of said links and co-operating with said slots to guide the movement of said links when said manually-operable linkage is actuated.

8. In a front-strike typewriting machine, in combination, a revoluble platen, a paper-table at the rear of the platen, a paper-apron beneath the platen, a guide-sheet above the rear table and insertable from the rear between the platen and the paper-apron, a transverse bar to which said guide-sheet is attached at its upper edge, said bar having an upstanding flange at one end thereof, an upwardly extending link pivoted at one end to said flange and adapted to reciprocate longitudinally of said table to actuate said guide-sheet rearwardly, and also forwardly to a position in which its forward edge projects at the front of the platen beyond the paper-apron for guiding a work-sheet inserted downwardly at the front of the platen between the platen and said guide-sheet, and manually operated means for operating said reciprocable link.

9. In a front-strike typewriting machine, in combination, a revoluble platen, a paper-table at the rear of the platen, a paper-apron beneath the platen, a guide-sheet above the rear paper-table and insertable from the rear between the platen and the paper-apron, a transverse bar to which said guide-sheet is attached at its upper edge, said bar having an upstanding flange at one end thereof, an upwardly extending link pivoted at one end to said flange and adapted to reciprocate longitudinally of said table to actuate said guide-sheet rearwardly, and also forwardly to a position in which its forward edge projects at the front of the platen beyond the paper-apron for guiding a work-sheet inserted downwardly at the front of the platen between the platen and the guide-sheet, and manually operated means for operating said reciprocable link, said means comprising an intermediate link pivotally connected at one end to said reciprocable link and pivotally mounted on a fixed axis at the other end, and an operating lever having connections with said in-

intermediate link to rotate the latter upwardly or downwardly to operate the reciprocable link.

10. In a front-strike typewriting machine, in combination, a revoluble platen, a paper-table at the rear of the platen, a paper-apron beneath the platen, feed-rolls co-operating with the under side of the platen, means for releasing said feed-rolls, a guide-sheet above the rear paper-table and insertable from the rear between the platen and the paper-apron, a transverse bar to which said guide-sheet is attached at its upper edge, said bar having an upstanding flange at one end thereof, an upwardly extending link pivoted at one end to said flange and adapted to reciprocate longitudinally of said table to actuate said guide-sheet rearwardly, and also forwardly to a position in which its forward edge projects at the front of the platen beyond the paper-apron for guiding a work-sheet inserted downwardly at the front of the platen between the platen and the guide-sheet, manually operated means for operating said reciprocable link, said means comprising an intermediate link pivotally connected at one end to said reciprocable link and pivotally mounted on a fixed axis at the other end, an operating lever having connections with said intermediate link to rotate the latter upwardly or downwardly to operate the reciprocable link, and means for releasing the feed-rolls to allow free movement of the guide-sheet before the reciprocable link is operated to actuate the guide-sheet forwardly, said last-named means comprising operating connections between the operating lever and the feed-roll release mechanism for casting off the feed-rolls during the initial part of the movement of said operating lever, and a lost-motion connection between said operating lever and said intermediate link effective while the feed-rolls are being cast off.

11. In a front-strike typewriting machine, the combination of a revoluble platen, a flexible temporary sheet-guide normally in a retracted position, means to advance said temporary sheet-guide up in front of the platen whereby a work-sheet may conveniently be introduced bottom end first between the temporary guide and the platen preparatory to retracting the temporary guide and typing on the work-sheet, and a mounted roll of carbon paper or transfer material, the leading end of the transfer material being led forwardly beneath the platen and up in front thereof, between said temporary guide and the platen, to enable said work-sheet to be introduced between the temporary guide and the transfer material, and to enable a second work-sheet to be introduced bottom end first between the transfer material and the platen.

12. In a front-strike typewriting machine,

the combination with a revoluble platen and means at the end portions thereof to engage and guide the side portions of a record-sheet, of a mounted roll of carbon or transfer material which is led forwardly beneath the platen and up in front thereof, the web occupying a field between said paper-guiding devices, so that the leading end of the web may be laid back or flexed away from the platen, to permit the insertion of a work-sheet bottom end first between the platen and the web, means being provided for guiding a work-sheet bottom end first outside of the web and down around the platen.

13. In a front-strike typewriting machine, the combination of a revoluble platen, a flexible temporary sheet-guide normally in a retracted position, means to advance said temporary sheet-guide up in front of the platen, whereby work-sheets may conveniently be introduced bottom end first between the temporary guide and the platen, and to retract the same when such introduction is completed, and means at the intake side of the platen to support rolls of transfer-webs from which the webs may be led forwardly beneath the platen and up in front thereof, between said temporary guide and the platen, and interleaved between work-sheets introduced between the temporary guide and the platen.

14. In a front-strike typewriting machine, the combination of a revoluble platen, a flexible temporary sheet-guide normally in a retracted position, means to advance said temporary sheet-guide up in front of the platen, whereby work-sheets may conveniently be introduced bottom end first between the temporary guide and the platen, and to retract the temporary guide when such introduction is completed, means at the intake side of the platen to support rolls of transfer-webs from which the webs may be led forwardly beneath the platen and up in front thereof, between said temporary guide and the platen, and interleaved between work-sheets introduced between the temporary guide and the platen, and means for rewinding said transfer-web rolls simultaneously.

15. In a front-strike typewriting machine, the combination with a revoluble platen and a rear paper-table, of front-insertion means, and means to support rolls of transfer-webs adjacent the rear paper-table, so that the webs may be led therefrom between the paper-table and the platen and brought into interleaved relation with work-sheets introduced by said front-insertion means.

16. In a typewriting machine, the combination with a cylindrical platen, of a frame or support therefor, and means permanently mounted upon said frame or support to carry a roll or supply of transfer web or material in position to permit the

leading end of the web to be carried under the platen and up in front thereof, provision being made at the front of the platen for holding work-sheets upon the platen in a proper manner to receive the type impressions, said provision affording a movement of a leading end of the transfer web forwardly away from the platen to permit a work-sheet to be thrust bottom end first down back of the web.

17. In a typewriting machine, the combination with a cylindrical platen, of a frame or support therefor, means permanently mounted upon said frame or support to carry a roll or supply of transfer web or material in position to permit the leading end of the web to be carried under the platen and up in front thereof, provision being made at the front of the platen for holding work-sheets upon the platen in a proper manner to receive the type impressions, said provision affording a movement of a leading end of the transfer web forwardly away from the platen to permit a work-sheet to be thrust bottom end first down back of the web, and said provision also including an outer guide for a sheet thrust bottom end first down in front of the transfer web, whereby work-sheets with an intervening transfer web may be collated in front of the platen, and releasable means to hold the sheets against the platen for the typing operation.

18. In a front-strike typewriting machine, the combination with a revoluble platen and a frame or support therefor, of a plurality of carbon-rolls upon said frame in position to permit the leading ends of the carbon webs to be led around beneath the platen and up in front thereof, and a sheet-guide at the front of the platen constructed to permit the required laying-back movement of the webs to facilitate the introduction of a work-sheet bottom end first between the guide and the carbon webs and another work-sheet between the carbon webs.

19. In a front-strike typewriting machine, the combination with a revoluble platen and a frame or support therefor, of a plurality of carbon-rolls upon said frame in position to permit the leading ends of the carbon webs to be led around beneath the platen and up in front thereof, a sheet-guide at the front of the platen constructed to permit the required laying-back movement of

the webs to facilitate the introduction of a work-sheet bottom end first between the guide and the carbon webs and another work-sheet between the carbon webs, said guiding means being in the form of a flexible web mounted upon said frame or support for advancing to and retiring from working position, releasable means to press the work-sheets against the under side of the platen, and a spool or device for carrying a roll of work-paper to form a proof-sheet, whereby work-sheets may be introduced and typed and withdrawn and replaced by the fresh work-sheets while the carbon or transfer webs remain in the machine permanently or until worn out.

20. In a front-strike typewriting machine, the combination with a revoluble platen and a frame or support therefor, of a transfer-web roll upon said frame in position to permit the leading end of the transfer-web to be led around beneath the platen and up in front thereof, and a sheet-guide at the front of the platen constructed to facilitate the introduction of a work-sheet bottom end first between the guide and the transfer-web and another sheet between the transfer-web and the platen, said guiding means being in the form of a flexible web mounted upon said frame or support for advance to and retraction from working position.

21. In a front-strike typewriting machine, the combination with a revoluble platen and a frame or support therefor, of a carbon-roll upon said frame in position to permit the leading end of the carbon web to be led around beneath the platen and up in front thereof, a sheet guide at the front of the platen constructed to facilitate the introduction of a work-sheet bottom end first between the guide and the carbon and another sheet between the web and the platen, said guiding means being in the form of a flexible web mounted upon said frame or support for advance to and retraction from working position, releasable means to press the work-sheets against the underside of the platen, and a spool or device for carrying a roll of work-paper to form a proof-sheet.

JOHN A. WHERRY.

Witnesses:

FRANK A. ROBINSON,
H. M. WEST.