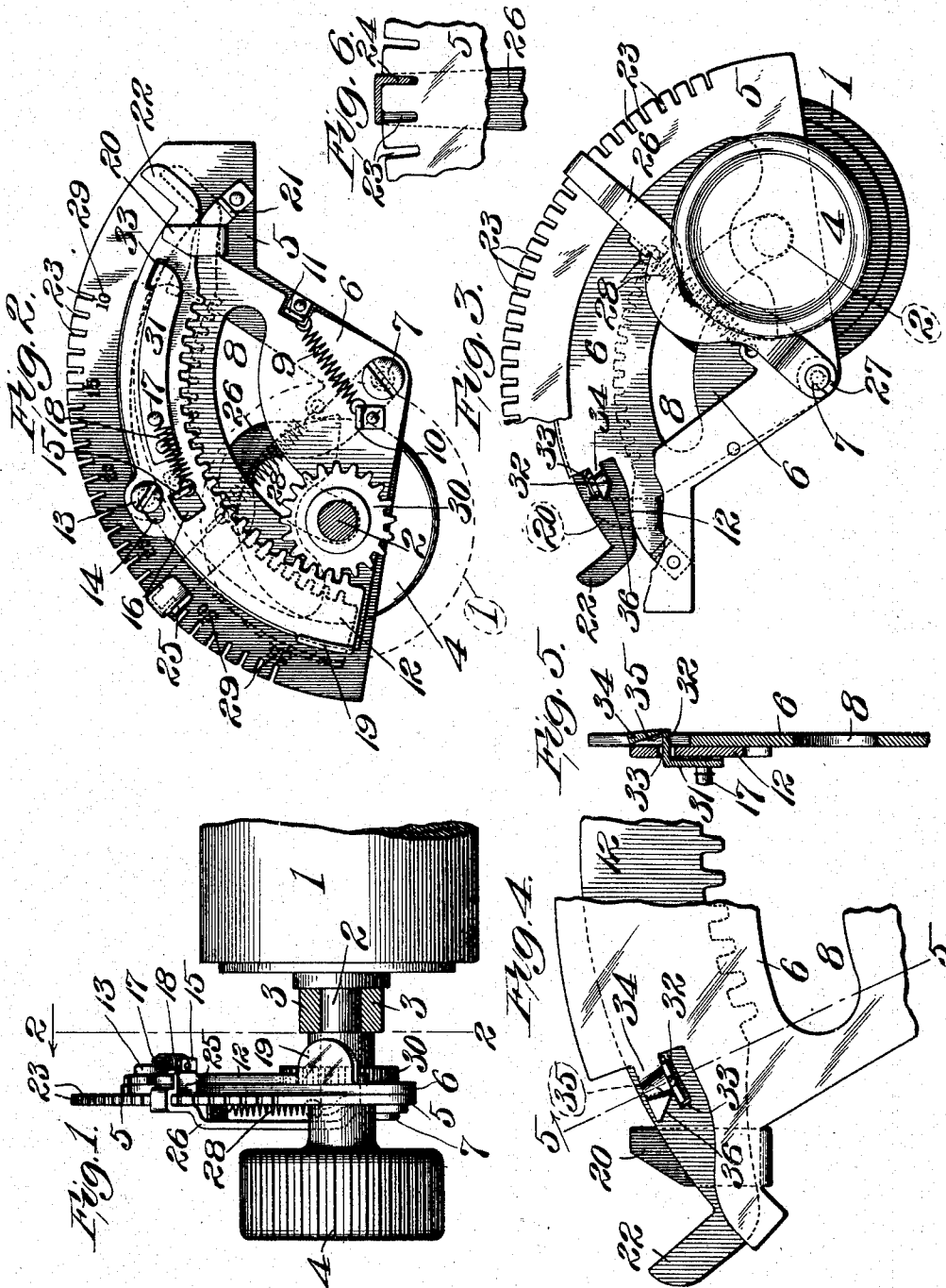


B. DYSART.
TYPE WRITING MACHINE.
APPLICATION FILED MAY 25, 1908.

949,224.

Patented Feb. 15, 1910.

2 SHEETS—SHEET 1.



Attest:
J. H. Schaefer
Friedrich Schaefer

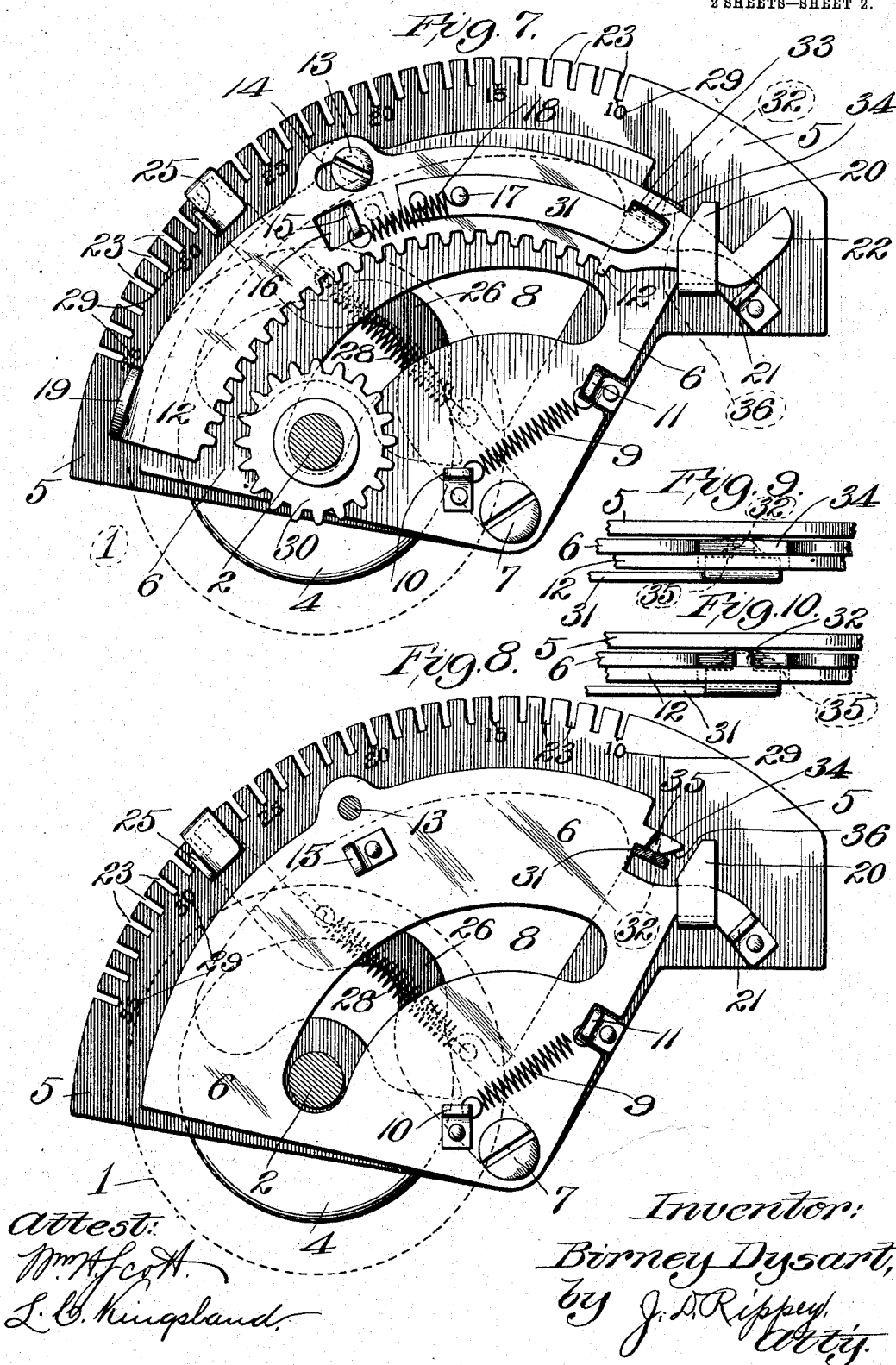
Inventor:
Birney Dysart,
by J. S. Rippey,
att'y.

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

BIRNEY DYSART, OF ST. LOUIS, MISSOURI, ASSIGNOR TO ADDING TYPEWRITER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

TYPE-WRITING MACHINE.

949,224.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed May 25, 1908. Serial No. 434,738.

To all whom it may concern:

Be it known that I, BIRNEY DYSART, a citizen of the United States, residing at St. Louis, Missouri, have invented a new and useful Type-Writing Machine, of which the following is a specification.

This invention relates to typewriting machines, and more particularly to the paper-controlling mechanism whereby successive sheets of paper may be fed around the platen while a single carbon copy-sheet remains in the machine so as to receive carbon copies of all the matter recorded upon the successive sheets.

The object of the invention is to provide means for limiting and indicating the backward and forward rotation of the platen whereby the operator is enabled to introduce successive sheets of paper, such as bills, into the machine, and to adjust the successive sheets in such relation to a longer carbon-copy-sheet which remains in the machine during all the time that the successive sheets are being introduced, that carbon copies of the matter recorded on the various sheets successively so introduced will be produced at short intervals upon the same copy sheet, notwithstanding the fact that considerable portions of the front part of the bills themselves may be used as printed headings and forms.

By use of my improvement each bill may be written out and removed while the copy-sheet is retained in the machine, and successive bills may be introduced in such relation to the copy-sheet that the carbon record of each of the different bills follows closely after the carbon record of the preceding bill. As each bill is fed into the machine the said bill and the copy-sheet are fed forward one line space in advance of the last line of record on the copy-sheet, so that when the hand is removed from the platen-knob the paper is properly adjusted for the record on the new bill. It will be known in advance how much of the top of the bill is occupied by the printed heading; and consequently how far back the copy-sheet must be fed in order to let the printed heading of the bill lie in advance of the last record line on the copy-sheet. The device is provided with means whereby backward feed of the paper will be stopped in position so that the new bill may be started in with its printed heading in advance of the last record line on the copy-

sheet, and in such position that the first line for record thereon is one line space below the last line of copy on the copy-sheet. The platen is then rotated to feed the two sheets of paper forward in this relation to each other, and stopped in position to receive the first line of writing. The measuring and stop device stops rotation of the platen at the proper time so that there is no danger of the paper being stopped in wrong position. It will be noted that this measuring and stop device permits the platen to rotate forward one line space farther than the last line of writing on the copy-sheet, and that the paper will be accurately adjusted without special attention by the operator.

Another object of the invention is to provide mechanism constructed and operating in the manner described, and involving the features hereinafter described.

In the drawings Figure 1 is a front elevation of one end of a platen equipped with the present invention. Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1, looking leftward. Fig. 3 is a view of the end of the platen, showing my improvements in side elevations. Fig. 4 is an enlarged detail view of the rack and its support which limit rotation of the platen when the bills are being fed into the machine. Fig. 5 is a sectional view on the line 5—5 of Fig. 4, looking to the right. Fig. 6 is a detail view of a part of the adjustable latch-stop whereby backward and forward rotation of the platen is limited. Fig. 7 is an enlarged view corresponding to Fig. 2, showing the parts in their normal or idle position. Fig. 8 is a view similar to Fig. 7, the arcuate rack being removed, and the latch member carried by the rack being shown in section. Fig. 9 is a top or plan view of the latching devices by which the arcuate rack may be held in mesh with the pinion on the platen shaft. Fig. 10 is a view of the same devices when adjusted in latching position effectively to hold the rack in mesh with the pinion.

The platen 1 is of the usual cylindrical type, and is rigid upon a shaft 2 which is mounted in bearings 3 forming part of the platen frame. The usual knobs 4 are attached to the ends of the platen-shaft 2, and afford means for manual rotation of the platen forwardly and backwardly.

A plate or frame part 5 is attached to one

side of the platen carriage, the shaft 2 having bearing in said plate. The upper edge of the plate 5 is arcuate, as shown in Figs. 2 and 3. A plate 6 is pivoted to the plate 5 at 7, which is the center of the circle of which the edge of said plate 5 is a part. An arcuate slot 8 in the plate 6 receives the platen-shaft 2, and permits backward and forward oscillation of said plate on its pivot.

A retractile spring 9 connects a stud 10 on the plate 6 with a stud 11 on the plate 5 and acts to hold the said plate 6 in its rearward position, as shown in Fig. 2, and to move said plate to such position after forward oscillation thereof, as hereinafter described. A sector or rack 12 is supported against the face of the plate 6 by a pin or screw 13 which extends through a slot 14 in said rack approximately midway of its ends. The length of this slot is approximately that of one line space, the purpose of which will hereinafter appear. A stud 15 on the plate 6 projects through a slot 16 in the sector or rack 12 and is connected with a stud 17 on the rack by a spring 18 which holds the rack in its forward position. The stud 17 is rearward from the pivoted support 13 so that the tendency of the spring 18 is to raise the front end of the rack 12. A lateral extension 19 at the front end of the rack affords means for manually depressing the same in opposition to the spring. The rear side of the plate 6 has an upwardly extended projection 20 constituting a guide and support to prevent lateral bending of the rack, and a projection 21 on the plate 5 serves as an abutment for the end of the plate 6 to prevent backward movement thereof from its idle position. A projection 22 extends vertically from the rear end of the rack 12 nearly to the edge of the plate 5. The edge of the plate 5 is provided with a series of radial notches 23 to receive a tooth 24 depending from a lateral extension 25 on the upper end of a stop-member 26. Said stop-member has a slot 27 (Fig. 3) at its lower end to receive the rod 7 which acts as a pivot for the plate 6 and as fastening means whereby the plate 5 is fastened to the platen carriage or frame. The member 26 may be moved longitudinally to disengage the tooth 24 from any notch, and to permit oscillation thereof to any desired position. A spring 28, of the retractile type, connects the member 26 with the plate 5, thereby actuating said member in such a way as to hold the tooth 24 in any notch in which it may be engaged. The notches 23 are formed at half-space or line-space intervals, and, to facilitate the adjustment of the stop-member 26 to any desired position, a scale 29 may be formed on the side of the plate 5 to designate the number of line-spaces or half-line-spaces thereon. A pinion 30 is attached on the shaft 2 adjacent to the plate 6 and in

position that the rack 12 will mesh therewith when the front end of said rack is depressed, as shown in Fig. 2. Normally the rack is sustained in its upper position as shown in dotted lines in Fig. 2, being then disengaged from the pinion so that the platen may be rotated freely and to unlimited extent in either direction.

A leaf spring 31 is attached to the face of the rack 12 and has a projection 32 extending through a slot 33 in the rack. Said projection 32 extends under a projection 34 on the plate 6 when the rack is in its normal or idle position as shown in dotted lines in Fig. 2. A groove 35 in the projection 34 receives the end of the projection 32 on the spring, and, when the front end of the rack is depressed to mesh with the pinion 30, the said projection 32 slides along the beveled surface of the groove 35 until it passes above the projection 34, as shown in Fig. 3. This occurs at the same time that the rack comes fully into mesh with the pinion, thereby holding said elements in engagement. The lower corner of the projection 34 is cut away or beveled as indicated at 36.

Assuming that the copy-sheet is in the machine and it is desired to insert a new bill, the parts are in the position shown in Fig. 2, except that the rack is in the position shown by dotted lines instead of in mesh with the pinion 30. The operator manually depresses the end of the rack 12 until it is fully in mesh with the pinion 30, the projection 32 then resting against the upper edge of the projection 34, thereby holding rack in mesh with the pinion. The stop-member 36 having been adjusted in the notch 23 corresponding to the number of spaces occupied by the printed matter on the bill-heading, the platen is then rotated to feed the copy-sheet backward, the operator giving no attention to the distance of rotation since the platen will be stopped in exactly the correct position by the projection 22 striking against the arm 25 of the stop-member 26. Then the new bill which is to be inserted is adjusted in position to be fed into the machine, after which the platen is rotated as required to feed the sheets of paper forwardly, the rack 12 being operated rearwardly until the plate 6 carrying said rack strikes its abutment 21 and is stopped. At this point the copy-sheet is in the same position that it occupied when the last line was recorded thereon. The platen, however, may be rotated one line-space farther, this being permitted by the slots 14, 16 and 33, thereby bringing the copy-sheet and the new bill forward in position for a new line of record. Rotation of the platen will be stopped exactly at the required position by the rack 12 coming to the limit of its free movement and against the supporting pin 13, so that the operator need give no attention to the paper, 130

it being predetermined just to what extent the paper should move in order to feed the printed heading past the printing line.

When the rotation of the platen is stopped in this manner, the projection 32 on the rack 12 is carried rearwardly beyond the end of the projection 34, and as soon as the platen-knob is released the spring 18 draws the rack forwardly the distance of its free movement. This action raises the front end of the rack out of mesh with the pinion 30, and draws the projection 32 again under the projection 34, and leaves the platen free for unlimited rotation in either direction. These parts are of such dimensions that the platen may be rotated more than a complete revolution, so that quite large headings may be fed past the printing line and the paper properly adjusted without special attention. The forward rotation, in any instance, is just one space more than the backward rotation, thereby feeding the paper the required distance beyond the last line on the copy-sheet and automatically stopping the paper in exactly the proper position for a new line of record without additional rotation of the platen. This dispenses with the necessity of turning the platen one additional line space after the stop device is released, which is usual in other devices for this general purpose.

I am aware that there may be variations from the construction and arrangement shown and described without in the least departing from the spirit and scope of the invention. Therefore I do not restrict myself to identical features of construction or arrangement, but

What I claim and desire to secure by Letters Patent is—

1. The combination with the platen, and the platen shaft, of a pinion on the platen shaft, a rack, means for holding said rack in idle position, means whereby said rack may be held in mesh with said pinion, means for stopping backward rotation of the platen when said rack is in mesh with the pinion, and means for stopping forward rotation of the platen at a point in advance of that from which backward rotation started.

2. The combination of a platen arranged to hold paper, and the platen shaft, of a pinion on the platen shaft, a rack adapted to be moved into and out of mesh with the pinion, an adjustable stop to limit movement of the rack in one direction, and a stop to limit movement of the rack in the opposite direction after the rack passes its initial position.

3. The combination with a platen, and a platen shaft, of a pinion on the platen shaft, a rack movable into and out of mesh with the pinion, and stops to limit longitudinal movement of said rack in each direction from its initial position.

4. The combination with a platen, and a platen shaft, of a pinion on the platen shaft, a rack movable longitudinally in both directions from its idle position, and also movable into and out of mesh with the pinion, and stops to limit longitudinal movement of the rack in each direction from its idle position.

5. The combination with the platen, and the platen shaft, of a pinion rigid on the platen shaft, a rack movable longitudinally in both directions from its initial position, means for holding said rack in mesh with the pinion, and a scale to indicate the scope of movement of the rack when the platen is rotated and the rack is in mesh with the pinion.

6. The combination with the platen, and the platen shaft, of a pinion on the platen shaft, a pivotally mounted support, a spring holding said support in idle position, a rack pivoted to said support and being movable into and out of mesh with said pinion, said rack also being movable longitudinally with respect to said support, a spring holding said rack in idle position, and a stop limiting longitudinal movement of said rack relative to said support, substantially as specified.

7. The combination with a platen, and a platen shaft, of a pinion rigid on the platen shaft, a rack movable into and out of mesh with the pinion, means for holding the rack in mesh with the pinion, an adjustable stop to limit backward movement of the paper when the rack and pinion are enmeshed, and a stop to stop rotation of the platen when the paper is fed forward one line-space beyond the position it occupied when the rack was moved into mesh with the pinion.

8. The combination with the platen, and the platen shaft, of a pinion rigid on the platen shaft, a gear element movable into and out of mesh with the pinion and movable thereby when the platen rotates, a scale to indicate the distance of movement in one direction, and means for disengaging the gear element from the pinion when the said gear element moves in the opposite direction beyond its starting point.

9. The combination with a platen, a platen shaft, and a pinion on said shaft, of an adjustable stop, a scale indicating the position of said stop with respect to line space movements of said platen, a rack movable into and out of mesh with said pinion, a projection on said rack arranged to engage with said adjustable stop effectively to stop rotation of the platen in one direction when said rack is in mesh with said pinion, and a stop to limit movement of the rack and rotation of the platen in the other direction, substantially as specified.

10. The combination with a platen, and a platen shaft, of a pinion rigid on the platen

shaft, a pivoted support, a rack supported by said pivoted support and being movable relative thereto, means for supporting said rack out of mesh with said pinion, a latch device whereby said rack may be held in mesh with said pinion, and stops to limit rotation of the platen when the rack is in mesh with the pinion.

11. The combination with the platen, and the platen shaft, of a pinion, a rack adapted to mesh with the pinion, and stops to limit rotation of the platen when said rack moves longitudinally a predetermined distance in either direction from its starting point.

12. The combination with the platen, and the platen shaft, of a pinion attached to the platen shaft, a rack adjustable into and out of mesh with said pinion, means for rotating said platen effectively to feed the paper forwardly one line space while said rack and pinion are engaged, and means to stop rotation of the platen forwardly when it rotates the distance to feed the paper forwardly one line space past its starting point while said pinion and rack are engaged, substantially as specified.

13. The combination with the platen, and the platen shaft, of a pinion attached to the platen shaft, a rack adjustable into and out of mesh with said pinion, means for rotating said platen effectively to feed the paper forwardly one line space while said rack and pinion are engaged, means to stop rotation of the platen forwardly when it rotates the distance to feed the paper forwardly one line space past its starting point while said rack and said pinion are engaged, and automatic means to disengage the rack from said pinion after the platen stops, substantially as specified.

14. The combination with the platen, and the platen shaft, of a pinion on the platen shaft, a pivoted support, a rack supported by and movable relative to said pivoted support, means normally holding said rack disengaged from said pinion, means for holding said rack in mesh with said pinion, and means to stop movement of the rack in a backward direction after it moves a distance corresponding to a movement of the platen for feeding the paper a line space.

15. The combination with the carriage end plate, the platen, and the platen shaft, of a pivoted support, devices for entraining said support with the platen shaft, a stop pivoted to said end plate, means for locking said stop in position to be engaged by said entraining devices and thereby limit rotation of the platen to feed the paper backwardly, and devices whereby said entraining devices will be released from said platen shaft after the platen has been turned to feed the paper a line space beyond its initial position, substantially as specified.

16. The combination with the platen, and the platen shaft, of a pinion attached to the platen shaft, a rack adjustable into and out of mesh with said pinion, means effective to stop rotation of the platen when it has been turned to feed the paper a predetermined distance backwardly, and means to stop rotation of the platen while said pinion and rack are enmeshed when said platen is turned to feed the paper forwardly one line space past the point from which it started backwardly, substantially as specified.

17. The combination with a revoluble platen, a platen shaft supporting said platen, and a pinion secured on the platen shaft, of a rack, means for latching said rack in engagement with said pinion, means for rotating said platen effectively to feed the paper to present a new line for record while said rack and pinion are enmeshed, and a stop preventing the platen from rotating beyond the new printing line while said rack and pinion are enmeshed, substantially as specified.

18. The combination with the platen, and the platen shaft, of a pinion on the platen shaft, a support, a rack pivoted to said support, a spring effective to retain said rack out of mesh with said pinion, a spring latch member carried by said rack, a projection on said support whereby said latch may be engaged effectively to hold said rack in mesh with said pinion, and an adjustable stop limiting rotation of said platen in feeding the paper backwardly when said rack and pinion are enmeshed.

19. The combination with the platen, and the platen shaft, of a pinion attached to the platen shaft, a rack adjustable into and out of mesh with said pinion, latching means operable to hold said rack in mesh with said pinion, means effective to stop rotation of the platen when it has been turned to feed the paper a predetermined distance backwardly, and means to stop rotation of the platen while said pinion and rack are enmeshed when said platen is turned to feed the paper forwardly one line space past the point from which it started backwardly, substantially as specified.

20. The combination with the platen, and a platen shaft, of a pinion attached to the platen shaft, a rack adjustable into and out of mesh with said pinion, latching means operable to hold said rack in mesh with said pinion, means effective to stop rotation of the platen when it has been turned to feed the paper a predetermined distance backwardly, means to stop rotation of the platen while said pinion and rack are enmeshed when said platen is turned to feed the paper forwardly a predetermined distance past the point from which it started backwardly, and means effective to disengage said rack from

said pinion after rotation of said platen is stopped as aforesaid, substantially as specified.

21. The combination with the platen, and
5 the platen shaft, of a pinion on said shaft, a rack adjustable into and out of mesh with said pinion, means effective to stop rotation of the platen when it has been turned to
10 feed the paper a predetermined distance backwardly, and automatic means to disengage said rack from said pinion when said platen has been rotated to feed the paper

forwardly a single line space past the point from which it started backwardly, substantially as specified.

15

In testimony whereof, I hereunto affix my signature to this specification this 23rd day of May, 1908, in the presence of two witnesses.

BIRNEY DYSART. [L. s.]

Witnesses:

L. C. KINGSLAND,
J. D. RIPPEY.