June 5, 1951 C. H. BRADT 2,555,728

PAPER SUPPORTING, FEEDING AND SEVERING MEANS FOR CALCULATING AND THE LIKE MACHINES

Filed April 10, 1947 2 Sheets-Sheet 1

FIG. 1

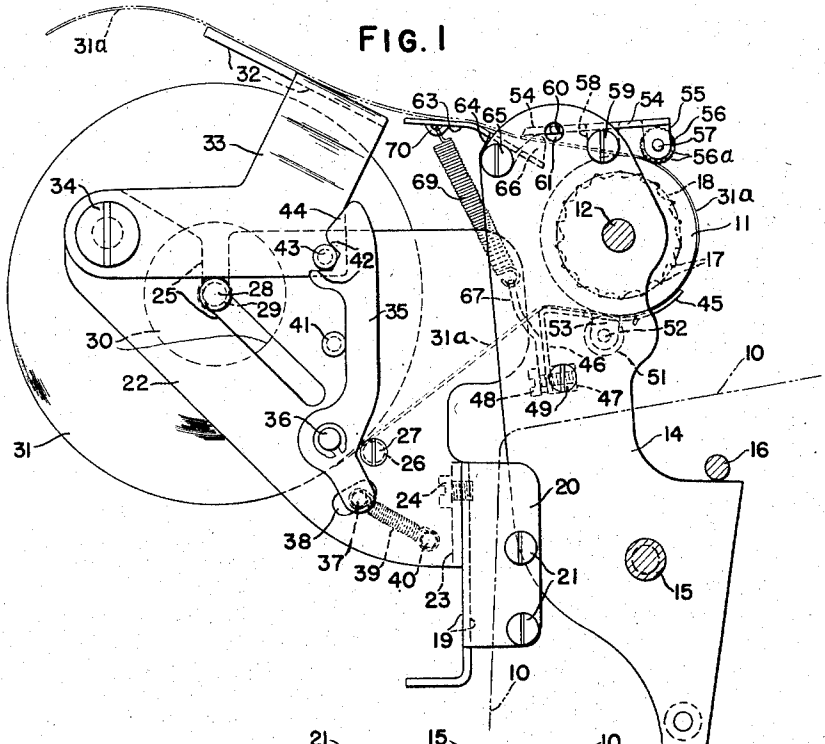

FIG. 2

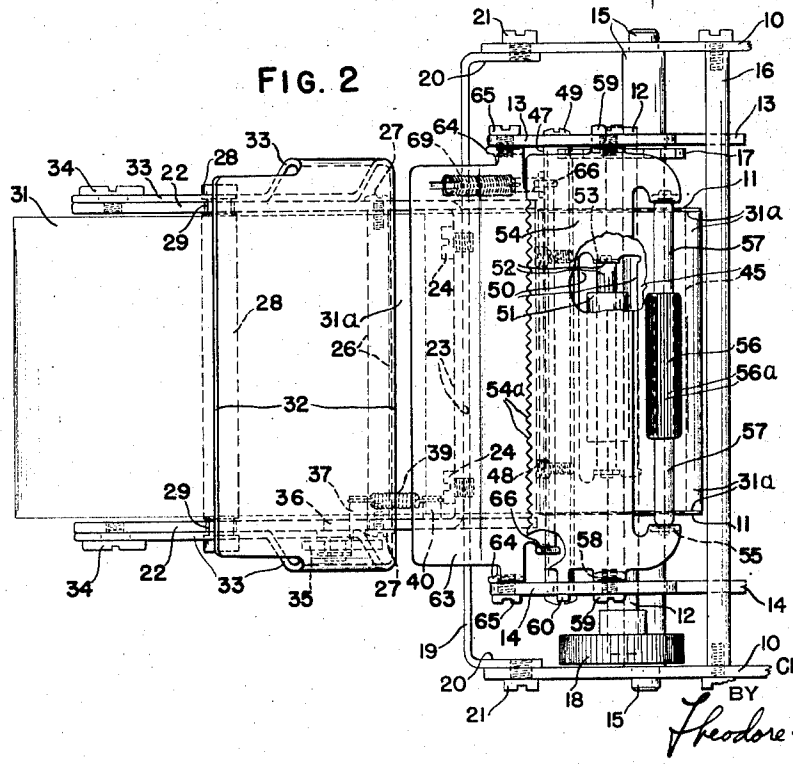

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FIG. 3

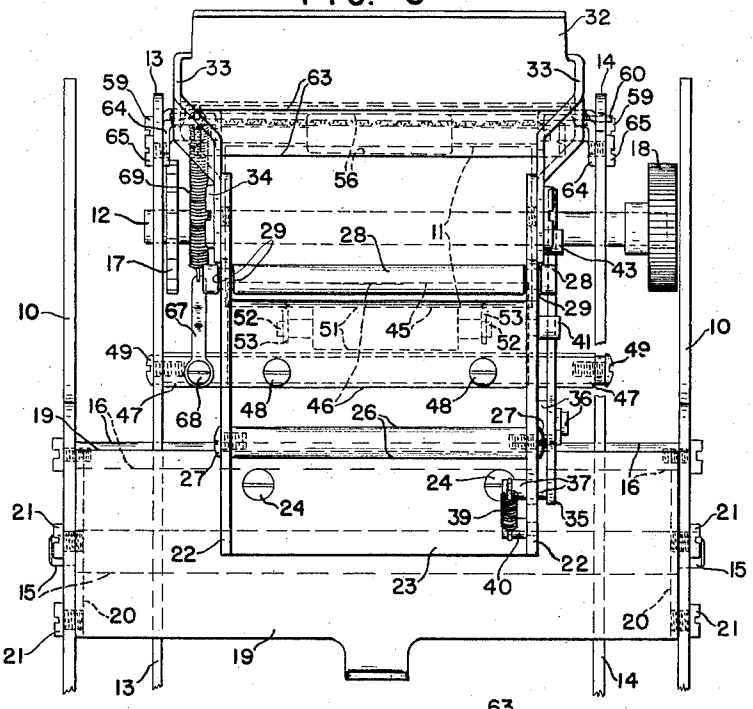
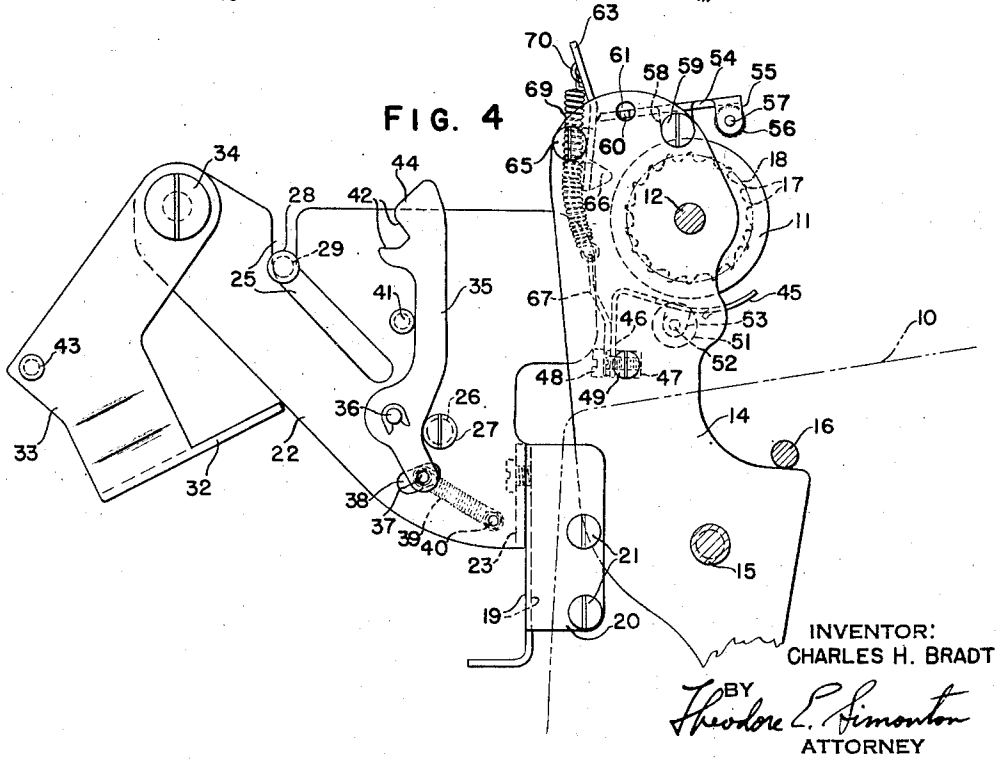


FIG. 4



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UNITED STATES PATENT OFFICE

2,555,728

PAPER SUPPORTING, FEEDING, AND SEVERING MEANS FOR CALCULATING AND THE LIKE MACHINES

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Application April 10, 1947, Serial No. 740,672

8 Claims. (Cl. 197—133)

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The general purpose of the invention is to provide improved paper supporting, feeding and severing means for calculating and like machines.

Specific purposes of the invention are to provide improved means for supporting a roll of paper in the machine, for feeding paper from the supported roll over a platen with which types are coactive for printing on the paper, for supporting the paper with its printed face uppermost after it is fed away from the platen to permit an operative to write upon the printed length of the paper, and for permitting the operative to readily tear off the printed length of paper at will.

Other specific purposes of the invention are to provide simple and efficient means for feeding the paper smoothly and in a straight path over the platen and which will quickly straighten out the paper if the operative does not correctly align the paper in originally threading it through the feeding means.

Other purposes and advantages of the invention will appear from the following detailed description of the preferred embodiment of the invention illustrated in the accompanying drawings, in which the improvements are shown incorporated in a known calculating machine which is otherwise constructed substantially as shown and described in the patent to Barrett, No. 1,811,840, granted June 30, 1931.

In the drawings:

Figure 1 is a fragmentary side elevation of the machine showing the improvements with a roll of paper mounted in the machine;

Figure 2 is a top plan view showing the parts and paper roll illustrated in Figure 1;

Figure 3 is a rear elevation of the paper handling means with the paper roll removed; and

Figure 4 is a view similar to Figure 1, showing the machine conditioned for mounting therein of a fresh roll of paper.

Only so much of the known machine is shown and will be described as is necessary for an understanding of the present invention. Said machine has a main frame which includes two parallel side plates 10 disposed in vertical planes and extending fore and aft of the machine. The platen 11 of the machine has its shaft 12 journalled in the parallel side plates 13 and 14 of a fore and aft rockable platen supporting frame which also includes a horizontal rock shaft 15 which is journaled in the main frame side plates 10 and is fixed to plates 13 and 14 with plates 13 and 14 parallel with and located between plates 10. The platen supporting frame 13—14—15 of the known machine is normally engaged wtih a stop rod 16 extending between and fixed to the main frame plates 10, and said platen supporting frame is rockable by suitable means from its normal position to carry the platen a short distance toward the front of the machine (toward

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the right as the machine is viewed in Figure 1) to press the paper against printing types which are settable by suitable means and covered by an inked ribbon for printing on the paper along a horizontal printing line at the front of the platen substantially midway the top and bottom of the platen. The platen 11 has fixed thereto at one end thereof a ratchet 17 which is actuative by suitable means to rotate the platen step by step for line spacing the paper. The platen is also rotative by the usual finger wheel 18 fixed on the platen shaft.

The improvements will now be described:

For mounting a roll of paper in the machine, the following means are provided. A sheet metal bar 19 extends across the rear of the machine behind and closely adjacent the platen supporting frame 13—14—15 below the platen and in rear of the rock shaft 15 of the platen supporting frame, said bar having forwardly extending end flanges 20 fastened to the main frame side plates 10 by screws 21.

A sheet metal bracket, comprising two substantially triangular side plates 22 and an integral connecting crossbar 23, has its crossbar 23 fastened to the rear face of bar 19 by screws 24 with said bracket located medially of the machine and extending rearward of the rockable platen supporting frame 13—14—15 with its side plates 22 lying in vertical planes parallel to those in which lie the main frame side plates 10 and the side plates 13 and 14 of the platen supporting frame. The upper edges of the bars 19 and 23 are located below the level of the bottom of the platen 11, and the side plates 22 of bracket 22—23 extend above the level of the upper edges of said bars 19 and 23. The upper edges of the side plates 22 of bracket 22—23 extend substantially horizontally at approximately the level of the platen shaft 12, and the lower edges of said side plates slope downward and forward from the rear ends of the upper edges of said plates to substantially the lower edge of the crossbar 23. The inner faces of the side plates 22 are spaced apart a distance corresponding substantially with the length of the roller platen 11 and are substantially co-planar with the end faces of said platen. Preferably, the front ends of plates 22 above bars 19 and 23 are extended forward over said bars to protrude within the platen supporting frame behind the platen.

Each side plate 22 of the bracket 22—23 is provided with a slot 25, which slots extend downward and forward of the machine from the upper edges of said plates at a point adjacent the rear ends of the plates toward a horizontal crossrod 26 and terminate above and to the rear of said rod. Rod 26 is parallel to and below and to the rear of the platen and is located to the rear of, and preferably slightly higher than, the upper edges of bars 19 and 23, said rod being fas-

tened to the side plates 22 of bracket 22—23 by screws 27. The slots 25 are directly opposed to each other transversely of the machine.

A metal shaft or spindle 28 of circular cross-section for journaling a roll of paper or paper tape is removably engaged in the slots 25 for rotation and for sliding up and down in the slots, said shaft having adjacent its opposite ends circumferential grooves 29 into which the side walls of slots 25 protrude. The shaft 28 is adapted to be slipped through the usual wooden core 30 upon which the usual roll of paper or paper tape 31 is wound and supplied for use in machines of the kind described, and the grooved ends of the shaft are then engaged in the upper ends of slots 25 to journal the roll of paper in bracket 22—23 with the periphery of the paper roll 31 resting on rod 26. As the free or unwound end portion 31a of the roll of paper is fed through the machine, the shaft 28 slides down the slots 25 until the paper supply is exhausted from core 30 which, when empty, engages rod 26 with the shaft at or approximately at the lower ends of the slots 25. The gravity seating of the roll 31 on rod 26 maintains tension on the unwinding paper and resists excessive spinning of the roll.

To latch a roll of paper in the bracket 22—23 and provide a writing table over which the unrolled and printed portion of the paper is fed or discharged printed face up to permit making of written notations on the printed portion of the paper, and also for guiding the discharged and printed portion of the paper over the paper roll, the following simple and compact means are provided.

A flat and rectangular sheet metal writing table and paper guiding plate 32 has extending therefrom a pair of side arms or legs 33 pivoted at their outer ends on shouldered pivot screws 34 threaded into the rear upper end portions of side plates 22 of bracket 22—23 with said side arms 33 at the outer faces of said side plates. The length of the side arms or legs 33 of the table 32 are such that the table will clear the periphery of full rolls of paper of the size with which the machine is to be supplied. At the outer face of one of the side plates 22 of bracket 22—23 a table supporting and latching lever 35 is pivoted intermediate its ends on a shouldered pivot stud 36 which is fixed to said side plate and protrudes horizontally and outwardly from said plate 22 so that the lever 35 may swing without striking the screw 27. Lever 35 has a stud 37 fixed to its lower end and extending through a clearance slot 38 in the adjacent bracket side plate 22, which stud is connected by a pull string 39 with a stud 40 fixed to said bracket plate. Spring 39 normally holds the latch lever 35 rocked against a stop stud 41 fixed to the adjacent bracket side plate 22. In this normal position of the latch lever, it is disposed substantially vertically. Near its upper end in its rear edge, said latch lever is formed with a notch 42 to receive a stud 43 fixed on one of the legs 33 of table 32.

The stud 43 and the latch lever 35 are so arranged that when stud 43, which is located between the table 32 and the axis of the table pivots 34, is engaged in notch 42 of the latch lever, the table 32 will be held by the latch lever against swinging movement with the table located above the paper roll and to the rear of the platen and above the level of the top of the platen and with the table inclined slightly upward and rearward away from the platen. Also in the latched position of the table 32, its legs 33 extend across slots 25 in bracket plates 22 over the ends of the paper roll journaling shaft 28 when a full roll of paper is inserted in the machine, and thus said table prevents accidental dislodgement of the paper roll from the machine while the table is latched in its normal position.

Preferably the latch lever 35 is provided with a cam edge 44 extending upward and forward from notch 42 to the upper end of the lever for engagement of said cam edge by stud 43 to automatically cam the upper arm of the latch lever forward as the table 32 is swung toward normal position. To permit removal of an empty roll core 30 and insertion of a full roll of paper, the table is unlatched and swung rearwardly and downwardly under bracket 22—23 into the position shown in Figure 4.

In recording calculating machines and the like which print upon paper withdrawn from a supply roll of paper mounted in the machine, considerable difficulty has long been encountered in feeding the paper over the platen in smooth contact with the platen to receive type impressions and also in feeding the paper past the platen in a straight path. Particularly with narrow webs of paper or paper tape, if the operator starts use of the machine with the paper slightly biased relatively to the platen, the paper jams and becomes mutilated, and the same occurs whenever the paper feed means tends to drive the paper faster near one edge than the other, thus causing biased travel of the paper relatively to the platen. An important purpose of the invention is to provide improved means which will avoid the above difficulties and feed paper from the roll 31 smoothly over the front of the platen 11 and discharge the paper over table 32, which means will feed the paper in a straight path which is not biased relatively to the platen, and which means will, if the paper is threaded past the platen on the bias by an operator, automatically draw the paper into its proper straight path in response to one line space advance of the paper or, at least, in response to a very few such advances. The very simple and compact means whereby these ends are accomplished and also whereby the paper may be readily severed between the platen 11 and the table 32 when desired, will now be described.

A sheet metal apron or table 45, which underlies the platen roller 11 and is curved to conform substantially to the periphery of the platen, has pendent from its rear edge a flange 46 which is fastened adjacent its lower edge to a rockable bar 47 by screws 48. The bar 47 has reduced ends of round cross section which are journaled in the side plates 13 and 14 of the platen supporting frame with said bar extending between said plates parallel to the platen shaft 12 under the platen in rear of the vertical plane in which the platen shaft lies. Retaining screws 49, the heads of which engage side plates 13 and 14, are threaded into the reduced ends of the rockable bar 47. The apron 45 underlies the platen from end to end, or substantially so, of the platen and is provided medially of its ends and of the ends of the platen roll with a longitudinal clearance slot 50 through which extends the upper part of a short paper feeding roller 51 which is fixed on a roller shaft 52 having reduced end portions journaled in ears 53 which are formed integral with the apron and depend therefrom at opposite ends of slot 50.

The paper guiding apron 45 supports the feed-

ing roller 51 parallel to the platen axis. The front edge of the apron is below the center line of the front half of the platen so as not to cover the printing line along the platen. The feeding roller is located medially of the ends of the platen roller and is much shorter than the platen roller, being preferably, and as shown, not more than half as long as the platen roller. Preferably the feeding roller 51 is supported by the apron to contact the platen roller, as shown, slightly to the rear of the vertical plane in which lies the platen shaft 12. Preferably, the feeding roller 51 is smooth faced and is a rubber faced roller.

A flat sheet metal combined feeding roller support and paper tear-off blade 54 extends between the side plates 13 and 14 of the platen supporting frame and overlies the platen roller and is spaced slightly above said platen roller. Medially of its ends, the support 54 is provided at its forward edge with a longitudinal recess at the ends of which depend ears 55 which are integral with the support.

A paper feeding roller 56 is fixed on a shaft 57 which is disposed parallel to the platen shaft and has reduced end portions journaled in ears 55. The feeding roller 56 is preferably of the same length as feeding roller 51. The roller 56, like roller 51, is disposed medially of the ends of the platen roller and is much shorter than the platen roller, being preferably not more than half as long as the platen roller. Preferably the roller 56 is a metal roller and it preferably has parallel minute longitudinal corrugations 56a extending from end to end of the roller.

The combined feeding roller support and paper tearing blade 54 is provided at its ends substantially midway its front and rear edges with integral pendent ears 58 pivoted on pivot screws 59 which are threaded inward through side plates 13 and 14 of the platen supporting frame above the level of the platen roller to rockably support blade 54 for tilting thereof above and out of contact with the platen roll about an axis which is parallel to the platen shaft. Blade 54 is pivoted behind the vertical plane in which the platen shaft is located, and said blade supports the feeding roll 56 to swing down into contact with the platen forward of said plane and above the printing line along the front of the platen.

When both of the feed rolls are engaged with the platen, or with paper passed over the front of the platen, the feed rolls and apron and blade do not obstruct the front of the platen. A stop lug 60 formed on one end of blade 54 is movable up and down in a hole 61 formed in platen frame side plate 14 and is engageable with the edge of the hole to limit rocking of said plate in a direction disengaging or casting off roll 56 from the platen, as shown in Figure 4. The rear edge of blade 54 is serrated as shown at 54a in Figure 2 to facilitate tearing off of paper along said edge, the serrated edge of the blade being located in advance of the table 32.

A sheet metal paper-guiding plate or table and feed roll controller 63 extends between the platen frame side plates 13 and 14 substantially from one to the other of said side plates and has spaced from both longitudinal edges thereof integral pivot ears 64 which are pendent from the end edges of said plate 63 and are journaled on pivot screws 65 which are threaded inward through said side plates to the rear of the pivot screws 59 of plate 54 and rearward of, and at a slightly lower level than, the rear edge of plate 54. At each end edge thereof adjacent the front edge thereof, table 63 is formed with an integral nose or lug 66, which lugs are adapted to engage under plate 54 between the rear edge and the pivotal axis of plate 54 and rock said plate 54 in one direction to press the feed roll 56 down on the platen as shown in Figure 1.

The free end portion, as 31a, of the roll of paper 31 is threaded under the platen over apron 45 and feed roll 51, thence up over the front of the platen, then rearward over the platen under blade 54 and feed roller 56, and thence rearward over table 63 whose rear edge, when table 63 is in normal position, is close to the front edge of table 32 and is level with or very slightly higher than the front edge of table 32, as shown in Figure 1. As the paper is printed and line spaced, it will be fed or discharged rearward over table 32 which overlies the rolled supply of unused paper 31. Table 32 supports the paper printed face up so that an operative may write data on the paper.

To releasably hold both of the feed rolls 51 and 56 yieldingly pressed to the periphery of the platen, or to the unwound portion of the paper passing the platen, the following means are provided.

An upstanding metal arm 67 is fastened at its lower end by a screw 68 (Figure 3) to the rockable bar 47 which carries the apron 45. An overcenter spring 69 is fastened at one end to the upper end of arm 67 and is fastened at its other end to table 63 at 70 near the rear edge of table 63. Spring 69 is a helically wound pull spring and is so connected at its ends with the arm 67 and table 63 that its line of pull travels from in front of the axis of pivots 65 of table 63 to in rear of said axis as the table 63 is rocked from the position shown in Figure 4 to the position shown in Figures 1 to 3.

In the position of the table 63 shown in Figures 1 to 3, the line of pull of the spring is radial to the pivotal axis of the rockable bar 47, or substantially so, and the spring force is thus applied lightly to the lower feed roll 51 to hold said roll yieldingly pressed lightly to the platen, while at the same time, the spring force is applied much more strongly to the upper feed roll 56 by the lever action of table 63 and blade 54 to strongly yieldingly press said upper feed roll 56 to the platen.

In manual rocking of the table 63 by an operative from the position shown in Figures 1 to 3 toward that shown in Figure 4, the axial line of the spring 69 crosses the pivotal axis of the table 63 whereupon the spring rocks the table 63 and apron 45 into their respective positions shown in Figure 4, and holds them there until the operative rocks table 63 far enough back toward its position shown in Figures 1 to 3 to cause the axial line of the spring to re-cross the pivotal axis of table 63, whereupon the spring will restore said table and apron 45 to their respective positions shown in Figures 1 to 3. In the position of Figure 4, it will be noted that the front edge of table 63 is pressed against spring 69 approximately midway the ends of the spring and has slightly bowed said spring rearward. The line of pull of the spring from the middle of the spring to table 63 at 70 holds the table in its position of Figure 4, while the line of pull of the spring from the lowermost edge of the tilted table 63 to the apron 45 passes through the pivotal axis of the apron and holds the apron positioned as shown in Figure 4, with feed roll 51 rocked away from the platen. To rock the upper feed roll 56 away from the platen,

the operative has only to lift up the front of the rockable blade 54 or press down on the rear part of said blade and hold the blade in its limit rocked position determined by stop 60 and shown in Figure 4, while introducing the leading end of the paper between said roll 56 and the platen.

From the foregoing description and from the drawings, it will be observed that, when a free end portion 31a of paper from a rolled supply 31 is threaded through the machine and the feed rolls are applied, the paper is gripped to the platen roller 11 above and below the printing line respectively by the upper feed roll 56 and the lower feed roll 51; that the upper feed roll 56 presses the paper to the platen slightly forward of the highest part of the platen and the lower feed roll 51 presses the paper to the platen slightly rearward of the lowest part of the platen; that the upper feed roll 56 is yieldingly pressed to the platen much more strongly than the lower feed roll 51; that preferably, as shown, the upper feed roll 56 is longitudinally corrugated for maximum traction on the paper and the lower feed roll 51 is smooth faced; that both feed rolls are of the same length and are of much shorter length than the platen roll 11, the length of the feed rolls not exceeding half the length of the platen roll and being preferably, as shown, less than half the length of the platen roll; and that the short feed rolls are located precisely medially of the ends of the platen roll with both ends of each of the feed rolls equidistant from adjacent ends of the platen roll.

When the platen roll is line spaced, or otherwise turned, to feed paper from the roll 31, the paper is fed around the platen roll between the platen roll and the lower feed roll preponderantly by a pulling feeding action of the platen roll and the upper feed roll 56 by reason of the much more powerful feeding grip they exert on the paper than that exerted on the paper by the platen roll and the lower feed roll 51. The two short feed rolls press the paper to the platen roll only across a narrow medial part of the width of the paper web or tape leaving wide marginal portions of the paper web or tape free of feed roll pressure, and by reason of its shortness each feed roll will exert a uniform pressure, or substantially so, on the paper from end to end of the feed roll.

As a result of the described construction and arrangement, the paper is kept pulled snugly and smoothly up around the front of the platen in intimate contact with the periphery of the platen without bulges or creases to receive the type impressions, and also is fed in a straight path crossing the platen roll parallel with the ends of the platen roll, thus avoiding biased travel of the paper relatively to the platen roll which would cause jamming of the paper and mutilation thereof. The central draft on the paper in feeding keeps the paper traveling over the platen roll in a true path. If the operative threads the paper over the platen in a biased path and applies the feed rolls and then actuates the feed mechanism to feed the paper, the feed mechanism will quickly and automatically pull the biased web of paper into its true straight path and keep it there.

It also will be observed that the improved paper handling means consists of a compact arrangement of parts of simple and inexpensive construction.

Although I have thus described my invention in detail in the best form in which it is known to me, in accordance with the patent statutes, it will be evident to those skilled in the art that changes and modifications may be made without departing from the spirit of my invention. I desire to be limited, therefore, only by the scope of the appended claims.

I claim:

1. In a machine of the class described, the combination of a platen roller rotatively journaled in the machine and extending horizontally and transversely of the machine for backing paper to receive type impressions along a horizontal printing line at the front of the platen roller, two paper feeding rollers mounted in the machine in tandem for rotation about axes parallel with the platen roller and for movement of one thereof into and out of engagement with the platen roller below said printing line and movement of the other one thereof into and out of engagement with the platen roller above said printing line, said paper feeding rollers being much shorter than the platen roller and arranged medially of the ends of the platen roller, means for yieldingly urging both paper feeding rollers to the platen roller and arranged to urge the uppermost one thereof to the platen roller with much greater force than the other one thereof, said means being manually disableable at will from urging said feeding rollers to the platen roller, means for rotatively journaling a supply roll of paper in the machine behind the platen roller with the roll extending horizontally transversely of the machine for withdrawal of paper therefrom for feeding of the withdrawn paper first between the platen roller and lower feeding roller and thence between the platen roller and upper feeding roller, a writing table pivotally mounted in the machine for movement into and out of a paper supporting position at the rear of the platen roller in which said table will overlie a roll of paper supported by said paper roll journaling means and will support printed face uppermost paper fed from the platen, and means for latching said table in paper supporting position, said table being coactive with said paper roll journaling means to latch a roll of paper in the machine when the table is latched by said latching means.

2. In a machine of the class described, the combination of a platen roller rotatively journaled in the machine and extending horizontally transversely of the machine for backing paper to receive type impressions along a horizontal printing line at the front of the platen roller, a paper feeding roller mounted in the machine for rotation about an axis parallel to the platen roller and for lateral movement into and out of engagement with the platen roller below said printing line, a second paper feeding roller mounted in the machine for rotation about an axis parallel to the platen roller and for lateral movement into and out of engagement with the platen roller above said printing line, said platen roller being much longer than said feeding rollers and extending equal distances beyond both ends of each feeding roller, means for yieldingly urging said paper feeding rollers to the platen roller with a much greater force applied to said second paper feeding roller than to the first mentioned paper feeding roller, and means for mounting a rolled supply of paper in the machine for feeding of paper from said supply upward past the front of the platen roller with said paper passing from the rolled supply first between the platen roller and the first mentioned feeding roller and

then between the platen roller and said second feeding roller.

3. A machine of the class described having extending transversely thereof a horizontally disposed and rotatively journaled platen roller for backing paper to receive type impressions at the front of the platen roller, a paper deflector overlying the platen roller and extending across and rockable about an axis which is parallel to the platen roller, a paper feeding roller which is journaled in said deflector forward of the deflector axis for rotation about an axis parallel to the platen roller and is rockable by said deflector into and out of engagement with the platen roller adjacent the highest part of the platen roller, a paper guiding apron underlying the platen roller and extending across and rockable about an axis which is parallel to the platen roller, a second paper feeding roller which is journaled in said apron forward of the apron axis for rotation about an axis parallel to the platen roller and is rockable by said apron into and out of engagement with the platen roller adjacent the lowermost part of the platen roller, a member extending across and manually rockable about an axis parallel to and in rear of that of the deflector, said member having a part at one side of its axis engageable under the deflector between the axes of said member and deflector to force the deflector-carried paper feeding roller downward to the platen with a lever action, and a pull spring having its lower end connected with the paper guiding apron above and to the rear of the apron axis and its upper end connected to said member at the opposite side of the axis of the member from said deflector engaging part of the member, said spring being movable by said member to two positions, in one of which positions said spring holds said member rocked to apply the deflector-carried feeding roller and also holds the apron rocked to apply the apron-carried paper feeding roller with said spring pulling on the apron substantially radially to the apron axis and extending behind the axis of said member, and in the other of which positions said spring extends downward from said member in front of the axis of said member to its connection with the apron with the apron held rocked by the spring with the apron-carried feeding roller lowered from the platen roller and with said member held engaged below its axis with said spring and with the deflector freed of upward pressure of said member thereagainst.

4. A machine of the class described having extending transversely thereof a horizontally disposed and rotatively journaled platen roller for backing paper to receive type impressions at the front of the platen roller, a paper guiding apron underlying the platen roller and rockable about an axis parallel to the platen roller, a paper feeding roller which is journaled in the apron forward of the apron axis for rotation about an axis parallel to the platen roller and for engagement with the lower part of the platen roller to feed forwardly paper introduced between the platen roller and apron at the rear thereof, an up and down extending pull spring connected at its lower end with the apron, a member extending across and manually rockable about an axis parallel with that of the platen roller and connected at one side of said axis with the upper end of said spring to shift said spring to respectively apply the apron-carried feeding roller to and lower it away from the platen roller, a paper deflector for deflecting paper rearward over the platen roller and mounted with said deflector overlying the platen roller and extending across and rockable about an axis parallel to the platen roller, a second paper feeding roller journaled in said deflector forward of the deflector axis for rotation about an axis parallel to the platen roller and for engagement with the upper part of the platen roller to feed paper rearward between the platen roller and deflector, said manually rockable member being arranged to engage under the deflector between the axes of said member and deflector to press the deflector-carried feeding roller to the platen roller while said member is positioned to cause said spring to apply the apron-carried feeding roller to the platen roller.

5. A machine, as claimed in claim 4, in which the platen roller is much longer than the paper feeding rollers and extends equal distances beyond both ends of each paper feeding roller.

6. A machine, as claimed in claim 4, wherein said manually rockable member is a paper supporting table over which paper is rearwardly dischargeable from between the platen roller and the deflector, which table faces upwardly with its forward edge close to the upper part of the platen when said table is engaged under the deflector with said spring positioned to apply the paper feeding rollers to the platen roller.

7. A machine, as claimed in claim 4, having a spindle for journaling a supply roll of paper, a pair of supports in rear of the platen roller and apron and spaced transversely of the machine to receive a supply roll of paper therebetween with said spindle extending axially of the roll, said supports being slotted downward from their upper edges to provide a pair of opposed slots and said spindle having annular grooves in which the walls of said slots are engaged, means to support at its periphery a roll of paper mounted on said spindle, a writing table having a pair of legs pivoted to said supports for swinging of said writing table to an upwardly facing position behind the platen roller to overlie a supply roll on said spindle and support paper to receive written matter as the paper is discharged rearwardly from the platen roller, and a latch for latching the table in said upwardly facing position, the legs of the writing table extending across the slots in the spindle supports in the latched position of the table to prevent withdrawal of the spindle from the slots.

8. A machine, as claimed in claim 4, in which the deflector has a serrated rear edge for tearing off by an operative of desired lengths of paper discharged rearward from between the platen roller and deflector.

CHARLES H. BRADT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,213,189	Hart	Jan. 23, 1917
1,270,979	Schwartz	July 2, 1918
1,508,836	Degener	Sept. 16, 1924
1,693,708	Dobson	Dec. 4, 1928
1,750,363	Schmid	Mar. 11, 1930
2,052,566	Haines	Sept. 1, 1936
2,136,671	Butler	Nov. 15, 1938
2,287,768	Eckstein	June 30, 1942