

H. S. McCORMACK.
TYPE WRITING MACHINE.
APPLICATION FILED JAN. 30, 1909.

953,793.

Patented Apr. 5, 1910.

FIG. 1.

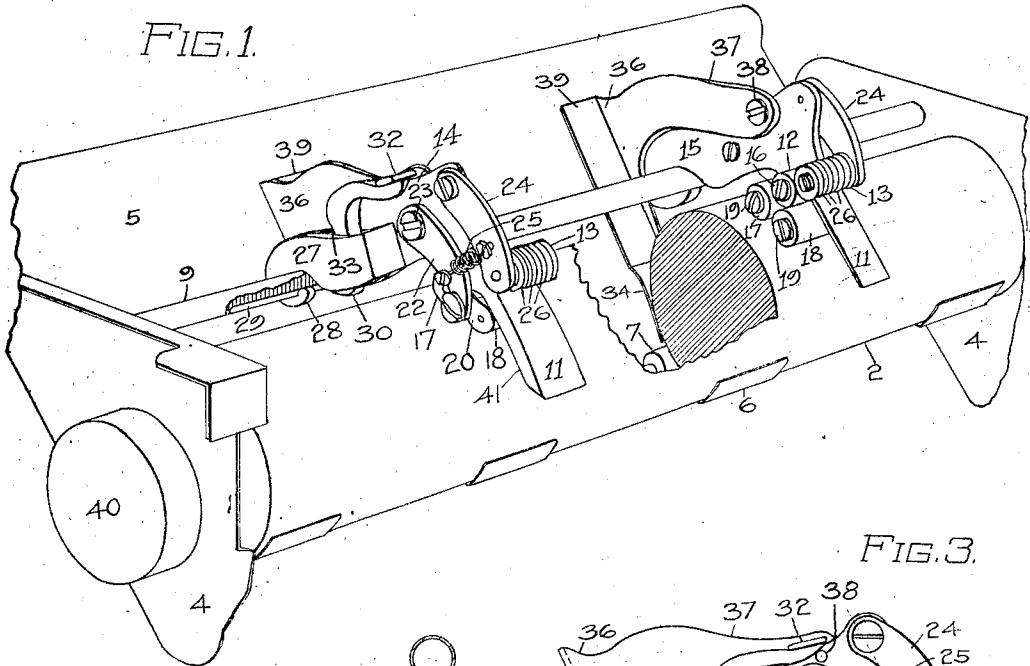


FIG. 3.

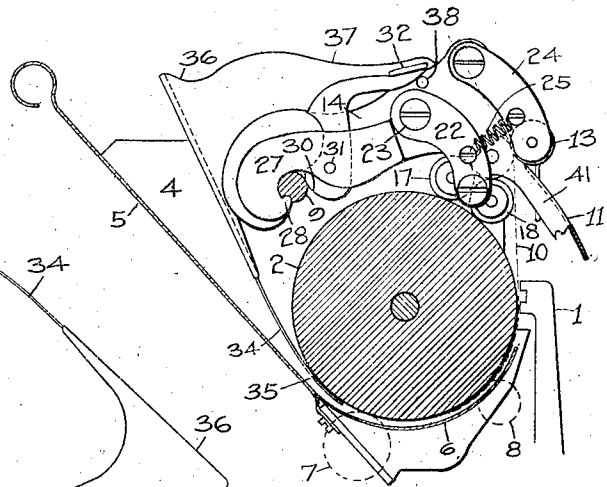


FIG. 2.

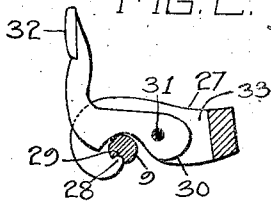


FIG. 4.

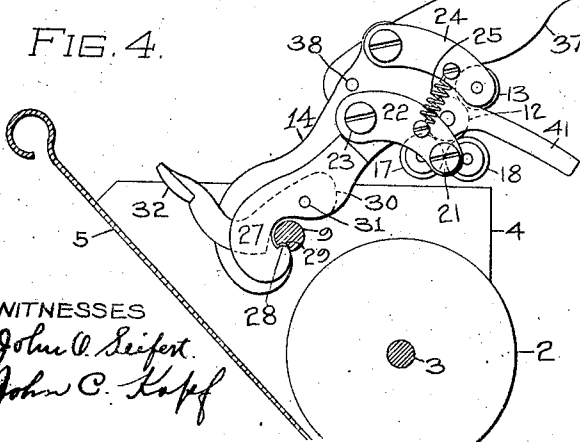
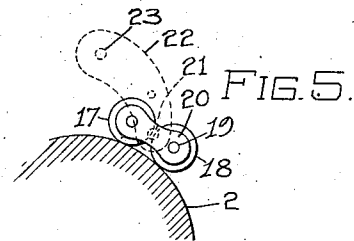


FIG. 5.



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HARRY S. McCORMACK, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

953,793.

Specification of Letters Patent.

Patented Apr. 5, 1910

Application filed January 30, 1909. Serial No. 475,195.

To all whom it may concern:

Be it known that I, HARRY S. McCORMACK, a citizen of the United States, residing in New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates principally to card-guiding devices for typewriting machines; although certain features thereof can be used as paper-feeding devices; and for the most part the invention is in the nature of an improvement on the mechanism shown in my pending application No. 461,412, filed November 6, 1908. In said application there was disclosed an auxiliary feeding device directly above the printing line in a front strike writing machine, whereby the card was drawn up from the printing line; a card-feeding roll being driven by a roll which ran directly upon the platen, so that after the bottom edge of the card had passed the usual platen pressure rolls, the auxiliary feeding device could be relied upon to draw the card up line by line until filled with writing.

One of the principal objects of the present invention is to render the auxiliary card feeding mechanism more positive and reliable in action.

The card feeding roll in the present invention is driven by two rolls which run upon the surface of the platen and independently of each other act upon said feeding roll, so that failure or unreliability of the latter is avoided. There is provided for said feeding-roll a companion roll which is spring pressed thereagainst, said companion roll being constructed for effective action by forming it of wood or hard material and providing it with peripheral grooves or ridges.

Another object is to render it convenient to employ card-feeding and such devices upon regularly constructed typewriting machines, without the necessity of dismantling the typewriting machine before attaching the card-feeding devices thereto. For this purpose the card-feeding rolls are mounted upon an arm or support, which has a claw

or key to hook into a longitudinal groove or keyway usually provided on a rod upon the platen frame, so that the device as a whole can be readily attached to the machine; and upon the arm is also pivoted a cramp to bear against said rod to lock the support firmly in working position with the drive rolls pressing upon the platen.

A further object of the invention is to facilitate the introduction of cards, paper, etc., between the platen and the usual pressure roll running on its under side. There is provided upon each of the supports above mentioned a spring finger which extends down behind the platen, and bears yieldingly against the same, to direct the card or sheet into the bite of the platen and the usual main pressure roll, and also to cooperate with the platen to feed the card or sheet downwardly to said roll. Said guiding-fingers are preferably used in connection with gages for the side edges of the card; and these gages and fingers are pivoted by means of arms to the supports before mentioned, so that they may be swung up to clear the usual rear paper shelf when attaching or detaching the devices from the machine.

Other objects and advantages will herein after appear.

In the accompanying drawings, Figure 1 is a perspective front view of the platen and platen frame of an Underwood front strike writing machine, showing the present improvements attached thereto. Fig. 2 shows the manner of releasing the main supports or arms to detach them from the machine. Fig. 3 is a sectional end elevation of the platen frame, illustrating the improvements in normal positions. Fig. 4 shows the manner of attaching or detaching the device. Fig. 5 shows the driving rolls and the arm upon which they are swiveled.

In the Underwood machine the types strike upon the front side of a revolvable platen 2, which is mounted by means of an axle 3 in the ends 4 of a platen frame, said ends connected by a paper shelf 5 inclining downwardly and forwardly to the under side of the platen and curving up around the same at 6 to guide the paper, etc., the

usual rear and front pressure rolls 7, 8 running upon the under side of the platen. The ends 4 are also connected by a fixed tie-rod 9 above and back of the platen and forward of the paper shelf.

The paper or card 10, feeding up past the printing line, is directed by a pair of suitable directrices 11 into the bite of two pairs of feeding rolls 12, 13, carried upon supports 14, 15. These supports are substantially similar, and carry corresponding parts, so that the description of one will suffice for both.

The roll 12, which is the main feeding roll, is pivoted by means of a stud or shoulder screw 16, which is fastened directly to the side of the support 14 or 15. In contact with the roll 12 run two driving rolls 17 and 18, which run upon the surface of the platen, each acting independently as a driver for the roll 12, so that positive movement of the latter is assured. The driving rolls 17, 18 are loosely mounted to accommodate themselves both to the surface of the platen and to that of the roll 12. Each of these driving rolls is pivoted upon a screw stud 19, the studs fixed in the ends of a plate 20 which between its ends is pivoted at 21 upon the free end of a lever 22, the latter pivoted at 23 to the support 15. The roll plate 20 can turn about pivot 21, to enable the rolls to bear with similar pressure upon the surface of the platen; and both rolls may move upon the arm 22 to accommodate themselves to the feeding roll 12; the joints being sufficiently loose to permit firm driving contact between the three rolls and also between the platen and the driving rolls; these three rolls preferably each made of soft rubber to give them a grip on one another, and also upon the surface of the platen.

The front driving roll 13 is carried upon a swinging arm 24, which is pulled by a spring 25 to press the roll 13 against the roll 12; said spring being also preferably connected to the arm 22 to hold the drive rolls up against the feeding roll 12; this provision being especially useful when the device is being attached to or detached from the machine. The roll 13 is made of wood or other hard material, and it is formed with peripheral grooves or corrugations 26 conducting to the positive feeding of the cards; these corrugations or ridges tending to crimp the cards and cause the latter to be gripped firmly by the main feeding roll 12.

The support 15 is in the form of a plate to the side of which is secured a block 27 having a hook or key 28, to fit in a groove or keyway 29 cut along the bottom of the rod 9, which is fixed to the platen frame. Fig. 4 shows the method by which the key 28 is inserted in the groove 29. Then the sup-

port is swung forwardly to the Fig. 3 position, and a cramp 30 pivoted at 31 upon the block 27 is swung by an integral finger-piece 32 to the Fig. 3 position, the cramp bearing on the front side of the rod 9 near the groove 29 and firmly locking the support to the rod with the guide rolls 17, 18 pressing firmly upon the platen; this locking being secured by a downward pressure on the finger-piece 32 at Fig. 3, the effect of which is to press said rolls down upon the platen at the same time that the support becomes finally locked upon the rod; so that the rolls are securely held under pressure against the platen. The block 27 is very thick, so as to give a broad bearing upon the rod 9, and especially in the groove 29, so that there is no liability of the support becoming loose or skewed upon the rod; and as additional security the cramp 30 with its finger-piece 32 is pivoted in a slot 33 which divides the block 27 into two portions; the bearing of the cramp 30 upon the rod 9 being therefore between said points of bearing of the hook or key 28 in the groove 29. The whole produces a powerful fastening, and liability of disarrangement of the device in use is avoided.

The supports 14, 15 with their appurtenances may be attached to the rod 9 at any point along the platen to accommodate cards or the like of different widths; and by simply lifting either finger-piece 32, to relieve the pressure on the rod 9, the support may be slid along the rod and again secured wherever desired.

For convenience in introducing the cards or sheets of paper, there is carried upon each support a highly yielding spring finger 34, which extends down between the paper shelf 5 and the introductory side of the platen, and at its lower end bears against the platen, to direct the paper into the bite of the platen and the main feed rolls 7; said lower end of the spring finger bearing firmly against the platen at 35 to cooperate therewith in feeding the card or sheet to said roll. Said spring finger is preferably used in cooperation with a gage 36 for the side edge of the card or sheet, said gage 36 being formed upon an arm 37, which is pivoted at 38 upon each of the supports 14 and 15; and the metal of the arm being bent to form a plate 39 upon which the card or sheet may rest as it is being introduced into the machine; the finger 34 forming a continuation of or attached to the lower end of said plate 39. These gages 36 are of course adjustable along the platen with the supports 14, 15, to accommodate cards or sheets of different widths. A card or sheet is introduced by passing it down between the plate 39 and the platen, and pressing it down between the fingers 34 and the platen. Then the platen is turned by a knob 40, and said fin-

gears cooperate with the platen to feed the card or sheet forwardly to the bite of the roll 7; whereupon the platen and roll feed the card forwardly to the bite of the roll 8; whereby the card is fed up to position to be written upon. The card in emerging from the machine passes up behind the directrices 11 (which may be provided with side guards or flanges 41 corresponding to the gages 36). By these directrices the card or sheet is caused to enter the bite of the auxiliary feed rolls 12, 13, and the latter, which are revolved by the platen and the rolls 17, 18, feed the card up from the printing line, and are especially useful after the lower edge of the card or sheet has passed up beyond the usual roll 8. When it is desired to use the machine for other purposes, the finger-pieces 32 are turned up to the Fig. 2 position, and the supports 14 and 15 are swung back to the Fig. 4 position and the devices are withdrawn from the machine.

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 typewriting machine, the combination with a platen and a feeding roll mounted away from the platen and cooperating with means to bite the card or paper and feed it from the platen, of a pair of rolls running on the platen and both engaging said feed roll to drive the same.

2. In a typewriting machine, the combination with a platen and a feeding roll mounted away from the platen and cooperating with means to bite the card or paper and feed it from the platen, of a pair of rolls running on the platen and both engaging said feed roll to drive the same; said pair of drive rolls loosely mounted to permit them to adjust themselves to the feed roll.

3. In a typewriting machine, the combination with a platen and a feeding roll mounted away from the platen and cooperating with means to bite the card or paper and feed it from the platen, of a pair of rolls running on the platen and both engaging said feed roll to drive the same; said pair of drive rolls pivoted upon the ends of a lever or plate which between its ends is pivotally and loosely connected to a support.

4. In a typewriting machine, the combination with a platen and a feeding roll mounted away from the platen and cooperating with means to bite the card or paper and feed it from the platen, of a pair of rolls running on the platen and both engaging said feed roll to drive the same; said pair of drive rolls pivoted upon the ends of a lever or plate which is pivoted between its ends to an arm, the latter pivoted upon a support to permit movement of the drive rolls toward and away from the feed roll.

5. In a typewriting machine, the combination with a platen and a feeding roll mounted away from the platen and cooperating with means to bite the card or paper and feed it from the platen, of a pair of rolls running on the platen and both engaging said feed roll to drive the same; said pair of drive rolls pivoted upon the ends of a lever or plate which is pivoted between its ends to an arm, the latter pivoted upon a support to permit movement of the drive rolls toward and away from the feed roll, and a spring to draw said drive rolls against said feed roll.

6. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, an arm extending from said rod toward the printing line on the platen, a pair of contiguous feeding rolls mounted on said arm, and a driving roll running upon the platen and engaging one of said feeding rolls to cause the latter to feed cards forwardly from the printing line.

7. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, an arm extending from said rod toward the printing line on the platen, a pair of contiguous feeding rolls mounted on said arm, and a pair of rolls running on the platen and both engaging one of said feeding rolls to drive the same, for feeding cards or the like forwardly from the printing line.

8. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, an arm extending from said rod toward the printing line on the platen, a pair of contiguous feeding rolls mounted on said arm, a driving roll running upon the platen and engaging one of said feeding rolls to cause the latter to feed cards forwardly from the printing line, and a directrix leading from the platen to the bite of said feeding rolls.

9. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame, a feeding roll mounted upon a stud or pivot which is fixed upon said support, a second feeding roll loosely mounted on said support and pressed against the first feeding roll, and a drive roll loosely mounted on said support to run upon the platen and engage the first feeding roll.

10. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame, a feeding roll mounted upon a stud or pivot which is fixed upon said support, a second feeding roll loosely mounted on said support and pressed by a spring against the first feeding roll, and a pair of drive rolls

loosely mounted on said support to run upon the platen and engage the first feeding roll.

11. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame, a feeding roll mounted upon a stud or pivot which is fixed upon said support, a second feeding roll loosely mounted on said support, and a pair of drive rolls loosely mounted on said support to run upon the platen and engage the first feeding roll; yielding means being provided for holding said second feeding roll and both of said driving rolls against the first feeding roll.

12. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame, a feeding roll mounted upon a stud or pivot which is fixed upon said support, a second feeding roll carried upon an arm which is pivoted upon said support, a pair of drive rolls mounted on a second arm pivoted on said support, and means to press said arms toward the first feeding roll.

13. In a typewriting machine, the combination with a revoluble platen, of a card-feeding device on the delivery side of the platen and comprising a feeding roll of soft material, a driving roll to run upon the platen and engage said feeding roll, and a second feeding roll of hard material to engage the first feeding roll; the second feeding roll provided with circumferential grooves or ridges for the purpose specified.

14. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried by the platen, a feeding roll mounted on said support, a second feeding roll, a spring pressing the second feeding roll against the first, and a driving roll running upon the platen and engaging with the first of said feeding rolls.

15. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried by the platen, a feeding roll mounted on said support, a second feeding roll, a spring pressing the second feeding roll against the first, and a driving roll running upon the platen and engaging with the first of said feeding rolls; the second feeding roll being mounted upon an arm which is pivoted upon said support.

16. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried by the platen, a feeding roll mounted on said support, a second feeding roll, a spring pressing the second feeding roll against the first, and a driving roll running upon the platen and engaging with the first of said feeding rolls; said support and rolls being adjustable together along the platen.

17. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried by the platen, a

feeding roll mounted on said support, a second feeding roll, a spring pressing the second feeding roll against the first, a driving roll running upon the platen and engaging with the first of said feeding rolls, said support and rolls being adjustable together along the platen, and a directrix leading from the printing line to the bite of said feeding rolls.

18. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod supported on the platen frame and extending along the platen and provided with a longitudinal key-way, an arm extending from said rod toward the printing point and detachably hooked onto said rod, and having a projection or key to fit in said key-way, a cramp having a finger-piece and pivoted upon said arm to engage the rod to lock said arm thereon against turning, and paper-feeding or guiding devices carried by said arm.

19. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod supported on the platen frame and extending along the platen and provided with a longitudinal key-way, an arm extending from said rod toward the printing point and detachably hooked onto said rod, and having a projection or key to fit in said key-way, a cramp having a finger-piece and pivoted upon said arm to engage the rod to lock said arm thereon against turning, and devices carried by said arm to guide the paper up or back from the printing point.

20. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod supported on the platen frame and extending along the platen and provided with a longitudinal key-way, an arm extending from said rod toward the printing point and detachably hooked onto said rod, and having a projection or key to fit in said key-way, a cramp having a finger-piece and pivoted upon said arm to engage the rod to lock said arm thereon against turning, and paper-feeding or guiding devices carried by said arm; said arm divided by a slot into two parts between which said cramp is pivoted.

21. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod extending along the platen and supported on the platen frame, an arm or support detachably connected to said rod, a cramp for rigidly holding the arm upon the rod at different points along the latter, a card-feeding device carried by said arm and including a feeding roll, and a driving roll also carried upon said arm to run upon the platen and in contact with said feeding roll.

22. In a typewriting machine, the combination with a revoluble platen, a platen

frame and a roll running upon the platen at the introductory side thereof, of thin yielding spring fingers mounted at the introductory side of the platen to press against the latter, said fingers extending close to said roll to direct the sheets into the bite of the roll and platen and also to press the sheets against the platen to cooperate therewith to feed them toward said roll, and gages for the side edges of the sheets to which said spring fingers are connected, said gages adjustable along the platen.

23. In a typewriting machine, the combination with a revoluble platen, a platen frame and a roll running upon the platen at the introductory side thereof, of thin yielding spring fingers mounted at the introductory side of the platen to press against the latter, said fingers extending close to said roll to direct the sheets into the bite of the roll and platen and also to press the sheets against the platen to cooperate therewith to feed them toward said roll; each of said spring fingers depending from the lower end of a guide plate secured upon the platen frame and extending downwardly and forwardly toward the under side of the platen.

24. In a typewriting machine, the combination with a revoluble platen, a platen frame and a roll running upon the platen at the introductory side thereof, of thin yielding spring fingers mounted at the introductory side of the platen to press against the latter, said fingers extending close to said roll to direct the sheets into the bite of the roll and platen and also to press the sheets against the platen to cooperate therewith to feed them toward said roll; each of said spring fingers depending from the lower end of a guide plate secured upon the platen frame and extending downwardly and forwardly toward the under side of the platen; each of said guide plates connected to a gage for the side edge of the paper and adjustable therewith along the platen.

25. In a typewriting machine, the combination with a revoluble platen, a platen frame and a roll running upon the platen at the introductory side thereof, of thin yielding spring fingers mounted at the introductory side of the platen to press against the latter, said fingers extending close to said roll to direct the sheets into the bite of the roll and platen and also to press the sheets against the platen to cooperate therewith to feed them toward said roll, gages for the side edges of the sheets to which said spring fingers are connected, said gages adjustable along the platen, and means connected to each of said gages and adjustable therewith for guiding the paper up from the printing line.

26. In a typewriting machine, the combination with a revoluble platen and a platen

frame, of a support carried upon the platen frame and adjustable along the platen, card-feeding means including a roll carried upon said support, a drive roll mounted on the support to run upon the platen and turn said feeding roll, a side gage for the card or sheet also carried upon said support at the introductory side of the platen; said support being detachably mounted upon a rod extending along the platen, and releasable means to fasten the support upon the rod.

27. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame and adjustable along the platen, card-feeding means including a roll carried upon said support, a drive roll mounted on the support to run upon the platen and turn said feeding roll, a side gage for the card or sheet also carried upon said support at the introductory side of the platen, said support being detachably mounted upon a rod extending along the platen and having a claw or key to engage a longitudinal groove in the rod, and a pivoted cramp to lock against the rod.

28. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame and adjustable along the platen, card-feeding means including a roll carried upon said support, a drive roll mounted on the support to run upon the platen and turn said feeding roll, and a side gage for the card or sheet also carried upon said support at the introductory side of the platen; said support also carrying a spring finger to bear against the platen on its introductory side close to the usual paper-feeding roll, to direct the card or sheet into the bite of the roll and platen, and to cooperate with the platen to feed the sheet or card.

29. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a support carried upon the platen frame and adjustable along the platen, card-feeding means including a roll carried upon said support, a drive roll mounted on the support to run upon the platen and turn said feeding roll, and a side gage for the card or sheet also carried upon said support at the introductory side of the platen; said support being detachably mounted upon a rod extending along the platen; said support also carrying a spring finger to bear against the platen on its introductory side close to the usual paper-feeding roll, to direct the card or sheet into the bite of the roll and platen, and to cooperate with the platen to feed the sheet or card; said spring finger and gage being carried upon an arm which is pivoted upon said support to enable them to be swung up out of the way when detaching said support from said rod.

30. In a typewriting machine, the combination with a revoluble platen and a platen

nation with a platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, a support detachably mounted on said rod, a paper or card guide carried upon said support and extending toward the printing line on the platen, a side gage for the paper or card also carried by said support at the introductory side of the platen, and releasable means to fasten the support upon the rod.

31. In a typewriting machine, the combination with a platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, a support detachably mounted on said rod, a paper or card guide carried upon said support and extending toward the printing line on the platen, and a side gage for the paper or card also carried by said support at the introductory side of the platen, and a finger also carried by said support and extending down around the platen into proximity with the usual paper-feeding roll, to direct the card or sheet into the bite of said roll and platen.

32. In a typewriting machine, the combination with a platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, a support detachably mounted on said rod, a paper or card guide carried upon said support and extending toward the printing line on the platen, and a side gage for the paper or card also carried by said support at the introductory side of the platen, and a finger also carried by said support and extending down around the platen into proximity with the usual paper-feeding roll, to direct the card or sheet into the bite of said roll and platen; said finger movable upwardly upon said support to clear the usual paper shelf when detaching the support from said rod.

33. In a typewriting machine, the combination with a platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, a support detachably mounted on said rod, a paper or card guide carried upon said support and extending toward the printing line on the platen, and a side gage for the paper or card also carried by said support at the introductory side of the platen, and a finger also carried by said support and extending down around the platen into proximity with the usual paper-feeding roll, to direct the card or sheet into the bite of said roll and platen; said side gage and finger being carried upon an arm pivoted on said support to enable them to be swung up to clear the usual paper shelf when the support is being detached from the rod.

34. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod extending along the platen, a side gage extending from the rod to the

introductory side of the platen, a feeding or guiding device extending from the rod toward the printing line on the platen; both of said devices detachably mounted upon said rod; and releasable means for securing said devices upon said rod.

35. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod extending along the platen, a side gage extending from the rod to introductory side of the platen, a feeding or guiding device extending from the rod toward the printing line on the platen, both of said devices detachably mounted upon said rod, and means for clamping the devices to the rod.

36. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, an arm detachably mounted upon said rod and extending therefrom toward the printing line on the platen, releasable means for securing said arm upon said rod, a driving roll pivoted on said arm to run upon the surface of the platen, and means mounted on said arm and including a feeding roll operated by said driving roll, for feeding cards forwardly from the printing line.

37. In a typewriting machine, the combination with a revoluble platen and a platen frame, of a rod mounted on the platen frame and extending along the platen, an arm detachably mounted upon said rod and extending therefrom toward the printing line on the platen, a driving roll pivoted on said arm to run upon the surface of the platen, and means mounted on said arm and including a feeding roll operated by said driving roll, for feeding cards forwardly from the printing line; said arm having a claw or key to engage a longitudinal groove in the rod, and also having a pivoted cramp to bear upon the rod to lock said arm thereto.

38. The combination with a revoluble platen, a platen frame and a rod on the platen frame and extending along the platen, of a support on said rod, a feeding device carried upon said support to bear upon the platen, and a cramp pivoted on said support to engage said rod and having a finger-piece extending forwardly from its pivot and depressible to force the cramp against the rod, so that the act of depressing the key to lock the support upon the rod produces a pressure of said feeding device upon the platen.

39. The combination with a revoluble platen, a platen frame and a rod on the platen frame and extending along the platen, of a support on said rod, a feeding device carried upon said support to bear upon the platen, and a cramp pivoted on said support to engage said rod and having

a finger-piece extending forwardly from its pivot and depressible to force the cramp against the rod, so that the act of depressing the key to lock the support upon the rod
5 produces a pressure of said feeding device upon the platen; said rod having a groove and said support having a lock or key to

engage said groove, and said cramp bearing against the face of said rod close to said groove.

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