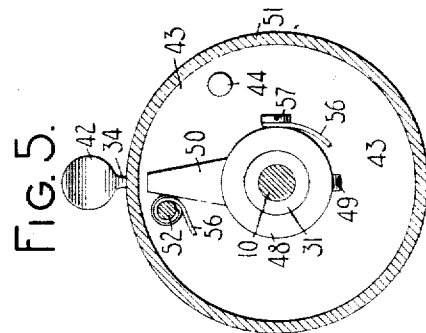
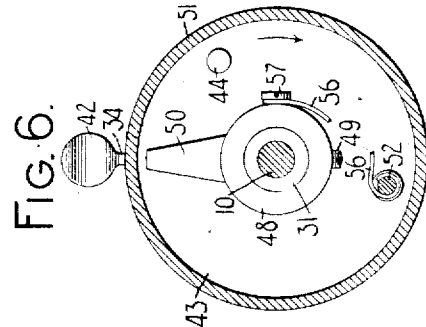
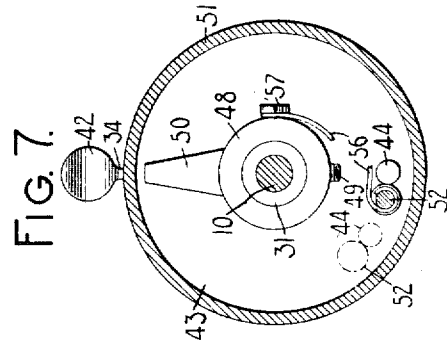
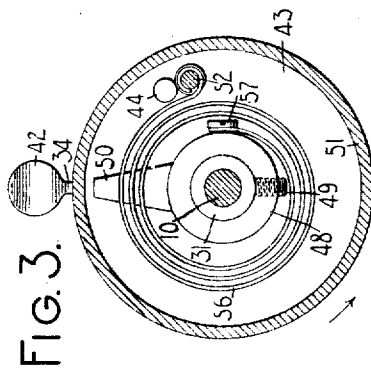
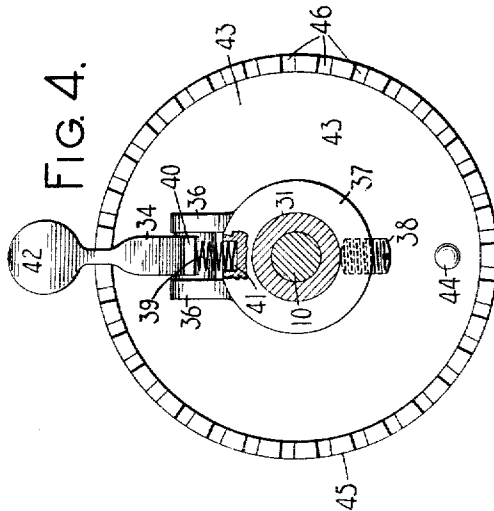


950,497.

Patented Mar. 1, 1910.

2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HERBERT H. STEELE, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPE-
WRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

950,497.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed May 19, 1906. Serial No. 317,784.

To all whom it may concern:

Be it known that I, HERBERT H. STEELE, citizen of the United States, and resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to billing mechanism for typewriting machines and more particularly to mechanism for doing condensed record work.

One object of my invention is to provide simple and efficient billing mechanism operative to aid in mechanically positioning the platen and with the aid of which "condensed record" and other billing work can be readily done without taxing the mind of the operator with mental calculations or the recollection of given indices or numerals.

Another object of my invention is to provide simple and efficient billing mechanism in the nature of an attachment which can be readily applied to existing forms of typewriting machines without changing the structural features of such machines.

A still further object of my invention is to provide billing mechanism for "condensed record" and other billing work in which the use of index numerals or indices may be entirely dispensed with.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of devices to be hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is an enlarged detail fragmentary sectional view of sufficient number of parts of one form of typewriting machine to show the features of my invention in their application thereto, the section being taken on the line $w-w$ of Fig. 2 and looking in the direction of the arrow at said line. Fig. 2 is an enlarged detail fragmentary end elevation showing a carriage mounted in place and the billing devices of my invention applied thereto. Fig. 3 is a detail transverse sectional view of a portion of the billing mechanism, the section being taken on the line $x-x$ of Fig. 1 and looking in the direction of the arrow at said line. Fig. 4 is a detail transverse sectional view of a portion of the billing mechanism, the section being taken on the line $y-y$ of Fig. 1 and looking in the direction of the arrow at said line. Figs. 5, 6 and 7 are views corresponding to Fig. 3 but showing different relations of the parts.

I have shown my invention applied to a Monarch typewriting machine to which my attachments may be readily connected without materially changing the structural features of said machine but it should be understood that the attachments may be applied to various styles of typewriting machines.

The top plate 1 of the machine supports upwardly extending fixed brackets 2 which support oppositely grooved carriage rails 3, 4 secured to the brackets by screws 5. A rear carriage bar 6 has oppositely grooved guide rails 7 in which anti-friction balls 8 are received, the balls likewise cooperating with the oppositely disposed fixed guide rails 3 and 4 to support and guide the carriage in its movement from side to side of the machine. Extending forwardly from the rear carriage bar 6 near each end thereof are end bars or arms 9 which together with the bar 6 constitute the platen frame or carriage. These end bars 9 are provided with bearings to support a platen shaft 10 to which a rotary platen 11 is secured. The type bars (not shown) strike upwardly and rearwardly in the usual manner and impact against the platen at the front side thereof so that the printing line is always in view of the operator. The left hand end of the platen has a platen head 12 secured thereto by wood screws 13, the platen head being formed with crown teeth 14 which constitute a line spacing wheel. A detent roller 15 is carried by a spring 16 secured by a screw 17 to an extension 18 on the left hand end bar 9 of the carriage. The left hand end bar is formed with a bearing 19 therein through which extends a rock shaft 20. A finger piece 21 is secured to the forward end of the rock shaft 20 and a crank arm 22 is secured to the rock shaft near the rear end portion thereof. A supporting arm 23 is loosely connected to move a limited dis-

tance relatively to a sleeve 24 received in the bearing 19 and which may be turned to different positions and secured in any adjusted position by a spring locking device 24^a (Fig. 2) in order to determine the extent of line spacing movement that may be given the platen at each actuation of the finger piece 21. A line spacing pawl 25 is pivoted at 26 to the arm 23. The line spacing pawl is recessed at 27 for coöperation with the crank arm 22 and is adapted to be forced by said arm to contact with the teeth of the line spacing wheel and to turn the wheel and platen after such engagement has been effected. A restoring spring 28 is connected at one end to a bearing 29 in which the rear end of the shaft 20 is received and is connected at its opposite end 30 to the hub of the crank arm 22.

The line spacing mechanism described is more fully shown and described in the patent to Henry W. Merritt No. 791,483, filed June 6th, 1905 and constitutes no part of my present invention.

The parts thus far described are embodied in the Monarch machine and further description thereof is deemed unnecessary.

I will now describe the billing attachments of my present invention.

One end of a supporting sleeve 31 is received in an opening in the left-hand end plate or arm 9 of the platen frame and is secured therein by a set screw 32 which is received in a threaded opening in the end plate and bears at its inner end against the supporting sleeve. A sleeve-like extension or hub 33 on the left-hand platen head bears at its outer end against the inner end of the sleeve 31 and thus prevents longitudinal movement of the platen in one direction, whereas the platen shaft 10 extends through the sleeve 31 and receives a bearing therein.

A spring pressed locking device or latch 34 is pivoted at 35 to lugs or bracket arms 36 which extend upwardly from and are secured to or formed as a part of a collar 37 which is received on the supporting sleeve 31 and is secured thereto by a set screw 38 received in a threaded opening in the collar and bearing at its inner end against the supporting sleeve 31. An expansion spring 39 bears at one end against an extension 40 on the locking device and is received at the other end in a cut-out or opening 41 in the collar 37; the tension of the spring being exerted to move the upper end of the locking device or latch 34 to the left in Fig. 1. The upper end of the locking latch is provided with a finger piece 42 by which it may be moved against the tension of its spring to disengage it from locking position as will hereinafter more clearly appear.

Adjacent to the locking latch is a so-called stop carrier 43 which is in the nature of a disk or shell and is provided with a

stop 44 which, in the present instance, is in the nature of a pin that projects laterally from one face of the disk or carrier 43 and is riveted in place on said carrier. The inner edge of the cylindrical portion 45 of the shell is notched at 46 to provide teeth which form a circular rack with which the locking device 34 is adapted to coöperate; an edge of the locking device being adapted to seat itself in any of the spaces 46 between the teeth of the rack and to lock the disk or shell against rotation in either direction. The shell 43 is adapted to turn freely around the axis of the platen and on its supporting sleeve 31 when the latch 34 is disengaged from the circular rack on the shell in order that the stop 44 thereon may receive a rotative adjustment around the axis of the platen. A hub 47 on the shell 43 bears against the outer face of the collar 37 and prevents an axial movement of the shell in one direction. A collar 48 is supported on the supporting sleeve 31 at the other side of the shell 43 and is held in place by a set screw 49 received in a threaded opening in the collar and bearing at its inner end against said sleeve, to hold the collar in place with the inner face thereof bearing against the shell 43 to prevent an outward axial movement thereof. The collar 48 is provided with an outwardly extending arm or stop 50. A second disk or shell 51 is arranged beside the shell 43 and bears at its inner face against the outer end of the collar 48 to prevent an inward axial movement of the disk. The disk 43 constitutes a rotary or oscillating carrier for a stop 52 which is in the nature of a pin that projects laterally from the member 51 and is adapted to contact with the stops 44 and 50. The shell 51 is adapted to rotate around the axis of the platen and is provided with an off-set hub 53 which receives a bearing on the reduced portion 54 of a member 55, the outer end of the hub 53 bearing against the enlarged portion of the member 55, thus preventing an outward axial movement of the shell or disk 51 on its bearing. A spring 56 is contained within the shell or stop carrier 51 and is connected at one end to the stop 52 and has its opposite end connected by a screw 57 to the collar 48. The tension of the spring 56 is exerted to turn the stop carrier 51 in the direction of the arrow in Fig. 3 to bring the stop 53 into contact with the stop 44 irrespective of the position to which said stop 44 may be adjusted by the rotative adjustment of the shell 43. It will be observed that the shell 51 constitutes a housing which surrounds or contains the spring 56, the stop 50, the stop 44 and the stop 52, all of said parts being inclosed by the shell 51. The shell or disk 51 is provided with an outwardly extending portion 58 having a central depression 59 with sloping or inclined

walls 60 which constitutes a clutch member for coöperation with a correspondingly shaped clutch member 61 that is formed as a part of a finger wheel 62. The finger wheel 62 is in the nature of a sleeve that surrounds and moves longitudinally on the member 55 which is secured to the platen shaft by a set screw 63 received in a threaded opening in the reduced portion of the member 55 and bearing at its inner end against the platen shaft 10 and in a cut-out portion 64 therein. The set screw 63 may be introduced and secured in place through openings 58^a, 65 and 66 formed respectively in the member 58, in the clutch member of the finger wheel 62 and in the hub 53 of the disk 51, these openings being adapted to be brought into register with each other and with the screw receiving opening in the reduced portion of the member 55 to form a passage for the admission of the screw 63. A spline 67 is secured to the member 55 and projects laterally therefrom into a spline groove 68 in the finger wheel 63, thus forming a splined connection between the platen shaft and finger wheel for locking the finger wheel against rotation relatively to the platen but affording a movement of the finger wheel in the direction of the axis of the platen. The construction thus described affords a movement of the finger wheel 62 longitudinally of the platen to effect a clutching engagement between the clutch members 58 and 61 in order to operatively connect the stop 52 to the platen and to compel said stop to rotate with the platen. An expansion spring 69 surrounds the hub 53 and bears at one end against the member 51 and at its opposite end against the inner end of the finger wheel 62 so that when an inward pressure is released on the finger wheel the spring 69 will move the finger wheel in the direction of the arrow in Fig. 1, thus separating the clutch members and disconnecting the stop 52 from operative connection with the platen.

From the foregoing description it will be seen that all of the parts of the billing device are arranged outside of the platen frame and are in the nature of attachments which can be readily applied to existing forms of typewriting machines, such as the Monarch, for instance, without modifying the structural features of said machine, the screws 32, 38, 49 and 63 holding all parts of the billing mechanism in place.

In the operation of the device it is necessary first to set the mechanism for the particular character of bill heads which are to be used in the machine. In order to do this it is necessary to effect a proper relative adjustment between the stops 44 and 50 which, in use, are in the nature of two fixed stops which coöperate with and limit the movement of the rotary stop 52. The stop

52 is arrested in its forward movement or during its movement in the direction of the arrow in Fig. 3 by the adjustable stop 44 and this stop 44 will therefore be termed the "forward stop", whereas the backward movement of the stop 52 is arrested by the fixed stop 50 and this last mentioned stop will be termed the "back stop". The relative adjustment between the forward and back stops may be effected in the following manner:—It may be assumed that the stops are in any position other than the correct one, such, for instance, as that shown in Fig. 3. A bill or invoice sheet of the character to be used in the machine is inserted with its leading edge in the bight between or at the intersection of the feed rollers 70 and the platen. The shell 51 is then turned rearwardly by hand from the position shown in Fig. 3 and against the tension of its spring, or in a direction opposite to that indicated by the arrow in said figure, until the rotary stop 52 carried thereby is brought into contact with the fixed back stop 50 as shown in Fig. 5. While the shell 51 is held in this position, the finger wheel 62 should be forced in the direction opposite to that indicated by the arrow in Fig. 1 to effect a clutching engagement between the clutch members 60 and 61. The operator should maintain this clutching engagement, by pressure exerted on the finger wheel, and at the same time turn the platen forwardly to bring the desired point, say, the date line on the invoice sheet, to the printing line. In other words, the platen should be turned forwardly until the desired point on the invoice sheet is in position to receive the first line of writing. This may be readily determined in visible writing machines by the operator observing when the desired point on the invoice sheet is brought to the printing line, the position of the paper relatively to the printing line being constantly under the observation of the operator in such machines. In a bottom strike or blind machine it will be necessary to swing the platen back in order to observe when the proper point on the invoice sheet has been brought to the printing line. The result of this forward movement of the platen is to turn the stop 52 to the position shown in Fig. 6. After this positioning of the invoice sheet has been effected pressure is still maintained on the finger wheel to keep the clutch members connected, and the finger piece 42 is moved to the left to disengage the latch in order to free the shell 43. The shell 43 is then turned rearwardly, or in a direction indicated by the arrow in Fig. 6 until the stop 44 strikes the stop 52. This movement of the stop 44 is from the position shown in Fig. 6 to that illustrated in full lines in Fig. 7. This relative adjustment of the stops gives the exact distance

from the feed rollers 70 to the printing line but as it is the custom to allow, say, three line space distances between entries on the record sheet a further adjustment of the disk 43 is effected. Thus, when the two stops 44 and 52 are in contact, as indicated in full lines in Fig. 7, the finger wheel is released and the shell 43 is given a further backward turning movement of, say, three teeth to bring it to the position shown in dotted lines in Fig. 7 and the shell is locked in this position by the latch 34. This additional movement of the shell 43 corresponds to three line spacing teeth of the ratchet wheel and is effected in order to move the stops 44 and 52 back a distance of three line spaces, or from the full to the dotted line position shown in Fig. 7 and thereby provide proper spacing between the different entries on the condensed record sheet as will hereinafter more clearly appear. The finger wheel is again moved to effect an engagement between the clutch members and while the clutching engagement is maintained the platen is given a rearward movement until the stop 52 is brought into contact with the fixed stop 50. The finger wheel is then released and the spring 56 will return the shell 43 and the stop 52 carried thereby to the normal position indicated in dotted lines at Fig. 7 where the stop 52 contacts with and is arrested by the stop 44. The stops have now been set in proper relation to cooperate with the particular character of bill heads or invoice sheets to be employed and a further setting of the stops is unnecessary until bill heads or invoice sheets of a different character are to be used. The condensed record and carbon sheets may now be introduced into the machine between the invoice sheet and the platen, with the carbon sheet between the invoice and record sheets and the leading edges of the record and carbon sheets brought to the bight between the feed rollers and platen. The platen may now be turned forwardly to bring the proper point on the invoice sheet to the writing line. The operator may then proceed to write the bill and during the writing operation the stop 52 will remain under its spring pressure in contact with the adjustable forward stop 44, the stop 52 being at this time disconnected from the platen.

After the bill has been completed and reproduced through the interposed carbon on the record sheet, the finger wheel 62 may be moved to the right to effect a clutching engagement between the clutch members, thus connecting the stop 52 to rotate with the platen. The platen is given a rearward rotation while the stop 52 is thus clutched to the platen and the extent of rearward rotation of the platen is determined by the backward movement of the stop 52 which con-

tacts with the fixed back stop 50 and prevents further rearward movement of the platen. The clutch member may now be released and the pressure of the spring 56 will return the stop 52 to its normal position in contact with its stop 44. The extent of rearward movement of the platen thus effected is three line spaces less than the distance from the printing line to the feed rollers 70 and consequently the last written line on the record sheet will be returned to a point three line spaces in advance of the feed rollers to provide proper spacing between different items on the record sheet. The written invoice sheet may now be removed without disturbing the carbon and record sheets, or the written invoice sheet may be left in the machine and a second or a new invoice sheet introduced into the machine in front of or over the previously written invoice and with its leading edge at the point of intersection of the feed rollers and the platen. The operator may then turn the platen forwardly until the date line on the last invoice sheet introduced into the machine is brought to the printing line. The operator may then proceed to write on the new invoice sheet and the items will be reproduced through the carbon sheet, giving a carbon copy or record on the condensed record sheet. The first line of the last written or second invoice record on the condensed record sheet will appear three line space distances from the last written line of the preceding record on the condensed record sheet. This operation may continue indefinitely and when the invoice sheets are not removed from the machine after completing each of them they may be fed back and forth with the condensed record sheet of carbon until they are fed successively to a position where they can be readily removed from or will be fed forwardly out of the machine. With bill heads of the size usually employed this occurs during the writing of a third or fourth bill. In other words, when the third or fourth invoice sheet has been completed the first invoice sheet will be fed to a position where it can be readily removed from the machine or will be fed entirely out of the machine.

When one record sheet has been filled it may be removed from the machine, together with the carbon and such written invoice sheets as may be in the machine and a new carbon and invoice sheet may then be introduced into the machine as before and the platen turned forwardly until the proper point on the invoice sheet has been brought to the printing line and the operator may proceed to write the invoice or the record, carbon and invoice sheets may be introduced into the machine with the leading edges thereof together or the invoice sheet may be given a "lead" over the other sheets sufficient to bring the first line of the carbon

copy to be reproduced on the record sheet near the top or leading edge of said sheet and thus avoid an unnecessary space at the top of each record sheet. It will be understood that after the stops are once set in position for use with a given character or bill head sheet, it is merely necessary to turn the platen forwardly to feed each invoice sheet up so as to bring the date line thereof to the printing line and to write the bill; then to actuate the clutch and move the platen rearwardly until it is arrested by the co-operation of the stops 52 and 50; then insert the next bill as before and turn it forwardly until the first line to be written thereon is brought into register with the printing line, and so on the operation may be continued indefinitely.

From the foregoing description it will be understood that there are no means for arresting the platen in its forward rotation; that this is determined wholly by the operator observing when the proper point of the invoice sheet has arrived at the printing line but that the platen is positively arrested in its rearward or backward movement for the introduction of a new invoice sheet; that the extent of rearward movement of the platen when the clutch members are engaged is determined by the movement of the stop 52 from its normal position in contact with the stop 44 to the fixed or back stop 50; and that the adjustment of the stop 44 regulates the extent of the rearward movement of the platen. It will also be seen that I have provided simple and efficient billing mechanism to aid in producing the condensed record work and by which the platen may be mechanically positioned in its backward movement or by which the platen may be moved rearwardly a predetermined extent or to a predetermined point and that the platen is free to move forwardly any desired extent; and that there is no necessity for referring to indices or making mental calculations in the operation of the billing devices in order to actuate them for condensed record work.

Various changes may be made without departing from the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination of a rotary platen, a rotary stop that travels with and independently of the platen, a spring for effecting a forward rotation of the stop for returning the stop to its normal position independently of the platen, and stop devices cooperating with said stop for arresting the backward rotation of the platen.

2. In a typewriting machine, the combination of a rotary platen, a rotary stop that travels with and independently of the platen, a spring for returning the stop to

its normal position independently of the platen, stop devices cooperating with said stop for arresting the rotation of the platen, and clutching means between the platen and said first mentioned stop.

3. In a typewriting machine, the combination of a rotary platen, a rotary stop that travels with and independently of the platen, a spring for returning the stop to its normal position independently of the platen, stop devices cooperating with said stop for arresting the rotation of the platen, clutching means between the platen and said first mentioned stop, and hand actuated means operable at will to control said clutching means.

4. In a typewriting machine, the combination of a rotary platen, and a plurality of stops that co-act to arrest the backward rotation of the platen, certain of said stops being relatively adjustable and certain of said stops being spring returned forwardly to normal position independently of the platen and adapted to rotate with and to permit an independent rotation of the platen.

5. In a typewriting machine, the combination of a rotary platen, a plurality of stops that co-act to arrest the platen, certain of said stops being relatively adjustable and certain of said stops being spring returned to normal position independently of the platen and adapted to rotate with and to permit an independent rotation of the platen, and clutching means between the platen and the said certain of said stops which are adapted to rotate with the platen.

6. In a typewriting machine, the combination of a rotary platen, a plurality of stops that co-act to arrest the platen, certain of said stops being relatively adjustable and certain of said stops being spring returned to normal position independently of the platen and adapted to rotate with and to afford an independent rotation of the platen, clutching means between the platen and the said certain of said stops which are adapted to rotate with the platen, and hand actuated means operable at will for controlling said clutching means.

7. In a typewriting machine, the combination of a rotary platen, and three cooperating stops, one of said stops being adapted to rotate with and independently of the platen and being spring returned to normal position independently of the platen and another of said stops co-acting with said spring returned stop to arrest the rotation of the platen.

8. In a typewriting machine, the combination of a rotary platen, and three cooperating stops, one of said stops being adapted to rotate with and independently of the platen and being spring returned to normal position independently of the platen and another of said stops co-acting with said

spring returned stop to arrest the rotation of the platen, the two stops with which the spring returned stop co-acts being relatively adjustable.

9. In a typewriting machine, the combination of a rotary platen, three coöperating stops, one of said stops being adapted to rotate with and independently of the platen and being spring returned to normal position independently of the platen, and clutching means between the platen and said spring returned stop, and another of said stops co-acting with said spring returned stop to arrest the rotation of the platen.

10. In a typewriting machine, the combination of a rotary platen, three coöperating stops, one of said stops being adapted to rotate with and independently of the platen and being spring returned to normal position independently of the platen, clutching means between the platen and said spring returned stop, and hand actuated means operable at will for controlling said clutching means, whereby the clutch can be operated at will to cause the stops to co-act to arrest the platen or to enable the spring returned stop to be returned to normal position and allow the platen to turn independently thereof.

11. In a typewriting machine, the combination of a rotary platen, a stop that has a rotative adjustment to different set positions around the axis of the platen, a fixed stop, and a single spring restored stop that rotates with and permits a rotation of the platen independently thereof and which rotates between and co-acts with said first mentioned stops to limit the extent of rotation of the platen according to the adjustment of said adjustable stop.

12. In a typewriting machine, the combination of a rotary platen, a stop that has a rotative adjustment to different set positions around the axis of the platen, a fixed stop, a single spring restored stop that rotates with and affords a rotation of the platen independently thereof and which rotates between and co-acts with said first mentioned stops to limit the extent of rotation of the platen according to the adjustment of said adjustable stop, and a hand actuated clutch operable at will to operatively connect the said rotary stop with or to disconnect it from the platen.

13. In a typewriting machine, the combination of a rotary platen, a stop that has a rotative adjustment to different set positions around the axis of the platen, a fixed stop, a single spring restored stop that rotates with and permits a rotation of the platen independently thereof and which rotates between and co-acts with said first mentioned stops to limit the extent of rotation of the platen according to the adjustment of said

adjustable stop, a clutch for operatively connecting said rotary stop with and disconnecting it from the platen, and a finger wheel fixed against rotation relatively to the platen but movable axially thereof to control said clutch.

14. In a typewriting machine, the combination of a rotary platen, a rotary stop that travels with and independently of the platen, a spring for returning the stop to its normal position, stop devices coöperating with said stop for arresting the rotation of the platen, a clutch for operatively connecting said spring returned stop with and disconnecting it from the platen, and a finger wheel fixed against rotation relatively to the platen but movable axially thereof to control said clutch.

15. In a typewriting machine, the combination of a rotary platen, a plurality of stops that co-act to arrest the platen, certain of said stops being relatively adjustable and certain of said stops being spring returned to normal position and adapted to rotate with and to permit an independent rotation of the platen, a clutch for operatively connecting said spring returned stop or stops with and for effecting a disconnection thereof from said platen, and a finger wheel fixed against rotation relatively to the platen but movable axially thereof to control said clutch.

16. In a typewriting machine, the combination of a rotary platen, a stop carrying disk adjustable to different fixed positions, a fixed stop independent of said disk, a spring restored rotary stop that moves between the stop on said disk and said fixed stop, and means for connecting said rotary stop with and disconnecting it from the platen at will.

17. In a typewriting machine, the combination of a rotary platen, a stop carrying disk adjustable to different fixed positions, a fixed stop independent of said disk, a rotary stop that moves between the stop on said disk and said fixed stop, a clutch member connected with said rotary stop, a finger wheel fixed against rotation relatively to the platen but movable axially thereof, and a clutch member connected with said finger wheel and coöperating with said first mentioned clutch member.

18. In a typewriting machine, the combination of a rotary platen, a stop carrying disk adjustable to different fixed positions, a fixed stop independent of said disk, a spring restored rotary stop that moves between the stop on said disk and said fixed stop, and a hand actuated clutch for operatively connecting said rotary stop to and disconnecting it from the platen.

19. In a typewriting machine, the combination of a rotary platen, a stop carrying disk adjustable to different fixed positions

around the axis of the platen, a fixed stop independent of said disk, a spring restored rotary stop that moves around the axis of the platen between the stop on said disk and said fixed stop, a finger wheel, and means controlled by said finger wheel for connecting said rotary stop with and disconnecting it from the platen at will.

20. In a typewriting machine, the combination of a rotary platen, a stop carrying disk adjustable to different fixed positions around the axis of the platen, a fixed stop independent of said disk, a spring restored rotary stop that moves around the axis of the platen between the stop on said disk and said fixed stop, a clutch member connected with said rotary stop, a finger wheel fixed against rotation relatively to the platen but movable axially thereof, and a clutch member connected with said finger wheel and cooperating with said first mentioned clutch member.

21. In a typewriting machine, the combination of a rotary platen, a disk that is adapted to be turned to different set positions around the platen axis, a stop fixed to said disk, means for locking the disk against movement in any position to which it may be turned, a permanently fixed stop independent of said disk, an oscillating stop that turns around the platen axis and is adapted to oscillate between said first mentioned stops, means for connecting said oscillating stop with and disconnecting it from the platen at will, and a spring for returning said oscillating stop to normal position.

22. In a typewriting machine, the combination of a rotary platen, a disk that is adapted to be turned to different set positions around the platen axis, a circular rack carried by said disk, a locking device connected with the platen frame or carriage and cooperating with said circular rack to lock the disk in its adjusted position and against movement relatively to the platen frame, a stop carried by said disk, a permanently fixed stop independent of said disk, an oscillating stop that turns around the platen axis and is adapted to oscillate between said first mentioned stops, and means for connecting said oscillating stop with and disconnecting it from the platen at will.

23. In a typewriting machine, the combination of a rotary platen, a disk that is adapted to be turned to different set positions around the platen axis, a circular rack carried by said disk, a locking device connected with the platen frame or carriage and cooperating with said circular rack to lock the disk in its adjusted position and against movement relatively to the platen frame, a stop carried by said disk, a permanently fixed stop independent of said disk, an oscillating stop that turns around

the platen axis and is adapted to oscillate between said first mentioned stops, means for connecting said oscillating stop with and disconnecting it from the platen at will, and a spring for returning said oscillating stop to normal position.

24. In a typewriting machine, the combination of a rotary platen, a disk that is adapted to be turned to different set positions, a circular rack connected with said disk, a spring pressed hand controlled locking latch cooperating with said circular rack to lock the disk in any position to which it may be turned, a stop carried by said disk, a second fixed stop, a stop that oscillates between said first mentioned stops, and means for connecting said oscillating stop with and disconnecting it from the platen.

25. In a typewriting machine, the combination of a rotary platen, a disk that is adapted to be turned to different set positions, a circular rack connected with said disk, a spring pressed hand controlled locking latch cooperating with said circular rack to lock the disk in any position to which it may be turned, a stop carried by said disk, a second fixed stop, a stop that oscillates between said first mentioned stops, means for connecting said oscillating stop with and disconnecting it from the platen, and means for automatically returning said oscillating stop to normal position when it is disconnected from the platen.

26. In a typewriting machine, the combination of a rotary platen, two relatively adjustable stops fixed relatively to the platen frame, a movable spring returned stop that is adapted to cooperate with said fixed stop and which moves with and permits an independent rotation of the platen, and means operable at will and effective at any position of rotation of the platen to cause a connection or disconnection between said movable stop and the platen.

27. In a typewriting machine, the combination of a platen, three stops, and cooperative means to determine the extent of motion and effect an arrest of the platen, certain of said stops being spring restored to normal position independently of the platen.

28. In a typewriting machine, the combination of a platen, three stops, and cooperative means to determine the extent of motion and effect the arrest of the platen and to enable the platen to move independently of said stops, two of said stops being relatively adjustable and certain of said stops being spring pressed to move independently of the platen.

29. In a typewriting machine, the combination of a rotary platen, three stops, and cooperative means to arrest the platen at a predetermined point in its backward rotation and to permit a forward rotation of the platen independently of said stops, cer-

tain of said stops being relatively adjustable and certain of said stops being spring restored to normal position independently of the platen.

30. In a typewriting machine, the combination of a rotary platen, three stops, and cooperative hand actuated clutching means operable at will to cause a connection or disconnection between certain of said stops and the platen, to arrest the platen at a predetermined point in its backward rotation and to afford a forward rotation of the platen independently of said stops, certain of said stops being relatively adjustable and certain of said stops being spring restored to normal position.

31. In a typewriting machine, the combination of a rotary platen, three cooperative stops, a finger wheel, and means controlled by said finger wheel to effect a connection or disconnection between certain of said stops and the platen to arrest the platen after said predetermined extent of backward rotation has been effected, certain of said stops being relatively adjustable to determine the extent of backward rotation which may be given the platen and certain of said stops being spring restored to normal position.

32. In a typewriting machine, the combination of a rotary platen, three cooperative stops, and means to effect a connection or disconnection between certain of said stops and the platen to arrest the platen after said predetermined extent of backward rotation has been effected, and to permit a free forward rotation of the platen to any desired extent, two of said stops being relatively adjustable to determine the extent of backward rotation which may be given the platen and certain of said stops being spring restored to normal position.

33. In a typewriting machine, the combination of a rotary platen, three cooperative stops, a finger wheel fixed against rotation relatively to the platen but movable axially thereof, a clutch member connected to said finger wheel, a clutch member connected to certain of said stops to effect a connection or disconnection between certain of said stops and the platen, to permit a predetermined extent of backward rotation of the platen and to arrest the platen after said predetermined extent of backward rotation has been effected, certain of said stops being relatively adjustable to determine the extent of backward rotation which may be given the platen and certain of said stops being spring restored to normal position.

34. In a typewriting machine, the combination of a rotary platen, cooperative stops for arresting the rotation of the platen, certain of said stops being rotative, means for causing the rotative stop or stops to turn with the platen in one direction, and spring means for causing said rotative stop or stops

to turn in the opposite direction independently of the platen.

35. In a typewriting machine, the combination of a rotary platen, cooperative stops for arresting the rotation of the platen, certain of said stops being rotative, means for causing the rotative stop or stops to turn with the platen in one direction to effect an arrest of the platen and to permit an independent movement of the platen to any desired extent in the opposite direction, and spring means for causing said rotative stop or stops to turn in one direction independently of the platen and to be arrested at a predetermined point by the cooperation of certain of said stops.

36. In a typewriting machine, the combination of a rotary platen, a disk having a circular rack, said disk being adapted to turn on the platen axis and to permit an independent turning movement of the platen in either direction, means carried by the platen frame or carriage and cooperating with said circular rack to prevent a turning movement of said disk in either direction, and cooperative stops for arresting the platen, certain of said stops being carried by said disk.

37. In a typewriting machine, the combination of a rotary platen, a disk having a circular rack, said disk being adapted to turn on the platen axis and to permit an independent turning movement of the platen in either direction, means carried by the platen frame or carriage and cooperating with said circular rack to prevent a turning movement of the said disk in either direction, cooperative stops for arresting the platen, certain of said stops being carried by said disk, and means for fixing certain other of said stops to rotate with the platen while the disk remains fixed, whereby an arrest of the rotation of the platen may be effected.

38. In a typewriting machine, the combination of a rotary platen, a disk having a circular rack, said disk being adapted to turn on the platen axis and to permit an independent turning movement of the platen in either direction, hand controlled means connected to or carried by the platen frame or carriage and cooperative with said circular rack at different points in its rotation to prevent a turning movement of the said disk in either direction, and cooperative stops for arresting the platen, certain of said stops being carried by said disk.

39. In a typewriting machine, the combination of a rotary platen, a disk having a circular rack, said disk being adapted to turn on the platen axis and to permit an independent turning movement of the platen in either direction, a hand controlled latch pivoted to the platen frame or carriage and cooperative with the teeth on said circular rack at different points in its rotation to pre-

vent a turning movement of said disk in either direction, and coöperative stops for arresting the platen, certain of said stops being carried by said disk.

5 40. In a typewriting machine, the combination of a rotary platen, a disk adapted to be adjusted around the axis of the platen and to remain fixed during the turning of the platen, a circular rack on said disk, a
10 latch carried by the platen frame or carriage and coöperative with said circular rack to lock the disk against movement relatively to the platen frame or carriage and to hold the
15 disk in any position to which it may be adjusted, a stop carried by said disk, coöperative stop devices, and means associated therewith for rendering said stops operative to limit the movement of the platen.

41. In a typewriting machine, the combination of a rotary platen, a disk adapted to be adjusted around the axis of the platen and to remain fixed during the turning of the platen, a circular rack on said disk, a
25 latch carried by the platen frame or carriage and coöperative with said circular rack to lock the disk against movement relatively to the platen frame or carriage and to hold the disk in any position to which it may be
30 adjusted, a stop carried by said disk, a relatively movable stop device, and means for connecting said stop device to turn with the platen.

42. In a typewriting machine, the combination of a rotary platen, a disk adapted to be adjusted around the axis of the platen and to remain fixed during the turning of the platen, a circular rack on said disk, a
35 latch carried by the platen frame or carriage and coöperative with said circular rack to lock the disk against movement relatively to the platen frame or carriage and to hold the disk in any position to which it may be
40 adjusted, a stop carried by said disk, a fixed stop, a relatively movable spring restored stop, and means for effecting at will a connection between said last mentioned stop and the platen to turn the spring restored stop
45 against the pressure of its spring and for arresting the platen at a given point in its rotation.

43. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, a third coöperative stop, a restoring spring for normally maintaining two of
55 said stops in contact, and disconnectible means for effecting a connection between certain of said stops and the platen to separate the normally contacting stops and limit the movement of the platen after it has
60 turned a predetermined extent.

44. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, a third coöperative stop, a restoring spring for normally maintaining two of
65 said stops in contact, and a hand actuated

clutch operable at will for effecting a connection between certain of said stops and the platen to separate the normally contacting stops and limit the movement of the platen after it has turned a predetermined extent. 70

45. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, a spring restored traveling stop movable between said forward and back stops to limit the rotation of the platen, and
75 disconnectible means for connecting said traveling stop with the platen.

46. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, a spring restored traveling stop
80 movable between said forward and back stops to limit the rotation of the platen, and hand actuated means operable at will for connecting said traveling stop with the platen. 85

47. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, means for effecting an adjustment between said forward and back stops, a spring restored traveling stop movable between said
90 forward and back stops to limit the rotation of the platen, and means operable at will for connecting said traveling stop with the platen.

48. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, means for effecting a relative rotative adjustment between said stops and around the axis of the platen, a coöperative
95 spring restored traveling stop that turns around the axis of the platen and is movable between said forward and back stops to limit the rotation of the platen, and means for operatively connecting said traveling stop with and disconnecting it from the platen. 100 105

49. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, means for effecting a relative rotative adjustment between said stops and around the axis of the platen, a coöperative
110 spring restored traveling stop that turns around the axis of the platen and is movable between said forward and back stops to limit the rotation of the platen, and means for operatively connecting said traveling stop with and disconnecting it from the platen, the construction and operation of the parts being such that a forward rotation of the platen to any desired extent is afforded, whereas the platen is arrested in its back-
120 ward rotation after a predetermined extent of movement has taken place.

50. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, a disk which carries one of said
125 stops, means for affording a rotative adjustment of said disk and for locking it in its adjusted position, a rotary stop that co-acts with said forward and back stops to limit the rotation of the platen, a spring which 130

tends to maintain said rotary stop in contact with the forward stop, and means operable at will for effecting an operative connection or disconnection between said rotary stop and platen.

51. In a typewriting machine, the combination of a rotary platen, a forward stop, a back stop, a disk which is adapted to turn around the axis of the platen and which carries one of said stops, means carried by the platen frame or carriage for affording a rotative adjustment of said disk and for locking it in its adjusted position, a rotary stop that turns around the axis of the platen and co-acts with said forward and back stops to limit the rotation of the platen, a spring which tends to turn said rotary stop and to maintain it in contact with the forward stop, means operable at will for effecting an operative connection or disconnection between said rotary stop and platen.

52. In a typewriting machine, the combination of a rotary platen, two stop carrying disks, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, means for locking one of said disks to the platen frame or carriage, and means operable at will to operatively connect the other disk to rotate with the platen.

53. In a typewriting machine, the combination of a rotary platen, two stop carrying disks, a stop coöperating with the stops on said disk to effect an arrest of the platen after a predetermined extent of rotation, means for locking one of said disks to the platen frame or carriage, a clutch member connected with the other disk, a co-operating clutch member, and a finger wheel connected to said last mentioned clutch member.

54. In a typewriting machine, the combination of a rotary platen, two stop carrying disks, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, means for locking one of said disks to the platen frame or carriage, a clutch member connected with the other disk, a finger wheel fixed against rotation relatively to the platen but movable axially thereof, and a clutch member carried by said finger wheel and adapted to coöperate with said clutch member on the disk.

55. In a typewriting machine, the combination of a rotary platen, two stop carrying disks arranged side by side and adapted to turn around the axis of the platen, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, a latch on the platen frame for locking one of said disks against movement relatively thereto, and

means operable at will to operatively connect the other disk to rotate with the platen.

56. In a typewriting machine, the combination of a rotary platen, two stop carrying disks arranged side by side and adapted to turn around the axis of the platen, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, a latch on the platen frame for locking one of said disks against movement relatively thereto, a clutch member connected with the other disk, a coöperating clutch member, and a finger wheel connected to said last mentioned clutch member.

57. In a typewriting machine, the combination of a rotary platen, two stop carrying disks arranged side by side and adapted to turn around the axis of the platen, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, a latch on the platen frame for locking one of said disks against movement relatively thereto, a clutch member connected with the other disk, a finger wheel fixed against rotation relatively to the platen but movable axially thereof, and a clutch member carried by said finger wheel and adapted to coöperate with said clutch member on the disk.

58. In a typewriting machine, the combination of a rotary platen, two stop carrying disks, a stop coöperative with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, means for locking one of said disks to the platen frame or carriage, a spring for turning the other disk and restoring it to normal position, and means operable at will to operatively connect the spring restored disk to rotate with the platen.

59. In a typewriting machine, the combination of a rotary platen, two stop carrying disks, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, means for locking one of said disks to the platen frame or carriage, a clutch member connected with the spring restored disk, a coöperating clutch member, and a finger wheel connected to said last mentioned clutch member.

60. In a typewriting machine, the combination of a rotary platen, two stop carrying disks, a stop coöperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, means for locking one of said disks to the platen frame or carriage, a spring for turning the other disk and restoring it to normal position, a clutch member connected with the spring restored disk, a finger wheel fixed against rotation relatively to the

platen but removable axially thereof, and a clutch member carried by said finger wheel and adapted to cooperate with said clutch member on the disk.

5 61. In a typewriting machine, the combination of a rotary platen, two stop carrying disks arranged side by side and adapted to turn around the axis of the platen, a stop cooperating with the stops on said disks to effect an arrest of the platen after a predetermined extent of rotation, a latch on the platen frame for locking one of said disks against movement relatively thereto, a spring for turning the other disk and restoring it to normal position, a clutch member connected with the spring restored disk, a finger wheel fixed against rotation relatively to the platen but movable axially thereof, and a clutch member carried by said finger wheel and adapted to cooperate with said clutch member on the disk.

62. In a typewriting machine, the combination of a rotary platen, a platen shaft, a finger wheel splined to the platen shaft, a clutch member carried by the finger wheel, three co-acting stops, certain of said stops being spring restored, and a clutch member connected with said spring restored stop or stops and which is cooperative with the clutch member on the finger wheel.

63. In a typewriting machine, the combination of a rotary platen, a shell which is adapted to rotate with and to turn independently of the platen, a stop projecting from said shell, two cooperating stops contained within said shell and cooperating with the stop thereon, and means operable at will for operatively connecting said shell with or disconnecting it from the platen.

40 64. In a typewriting machine, the combination of a rotary platen, a shell which is adapted to rotate with and to turn independently of the platen, three cooperating stops contained within said shell, certain of said stops being connected with said shell and certain of said stops being connected with the platen frame or carriage, and means for effecting a connection and disconnection between said shell and platen.

50 65. In a typewriting machine, the combination of a rotary platen, a shell which is adapted to rotate with and to turn inde-

pendently of the platen, three cooperating stops contained within said shell, certain of said stops being connected with said shell and certain of said stops being connected with the platen frame or carriage, a clutch member connected with said shell, and a cooperative hand actuated clutch member operatively connected with the platen.

66. In a typewriting machine, the combination of a rotary platen, a shell which is adapted to rotate with and to turn independently of the platen, a spring for turning said shell and restoring it to normal position, a stop projecting from said shell, two cooperating stops contained with said shell and cooperating with the stop thereon, and means operable at will for operatively connecting said shell with or disconnecting it from the platen.

67. In a typewriting machine, the combination of a rotary platen, a shell which is adapted to rotate with and to turn independently of the platen, a spring for turning said shell and restoring it to normal position, three cooperating stops contained within said shell, certain of said stops being connected with said shell and certain of said stops being connected with the platen frame or carriage, and means for effecting a connection and disconnection between said shell and platen.

68. In a typewriting machine, the combination of a rotary platen, a shell which is adapted to rotate with and to turn independently of the platen, a spring for turning said shell and restoring it to normal position, three cooperating stops contained within said shell, certain of said stops being connected with said shell and certain of said stops being connected with the platen frame or carriage, a clutch member connected with said shell, and a cooperative hand actuated clutch member operatively connected with the platen.

Signed at Syracuse, in the county of Onondaga, and State of New York, this 17th day of May A. D. 1906.

HERBERT H. STEELE.

Witnesses:

JOHN S. MITCHELL,
W. J. LOGAN.