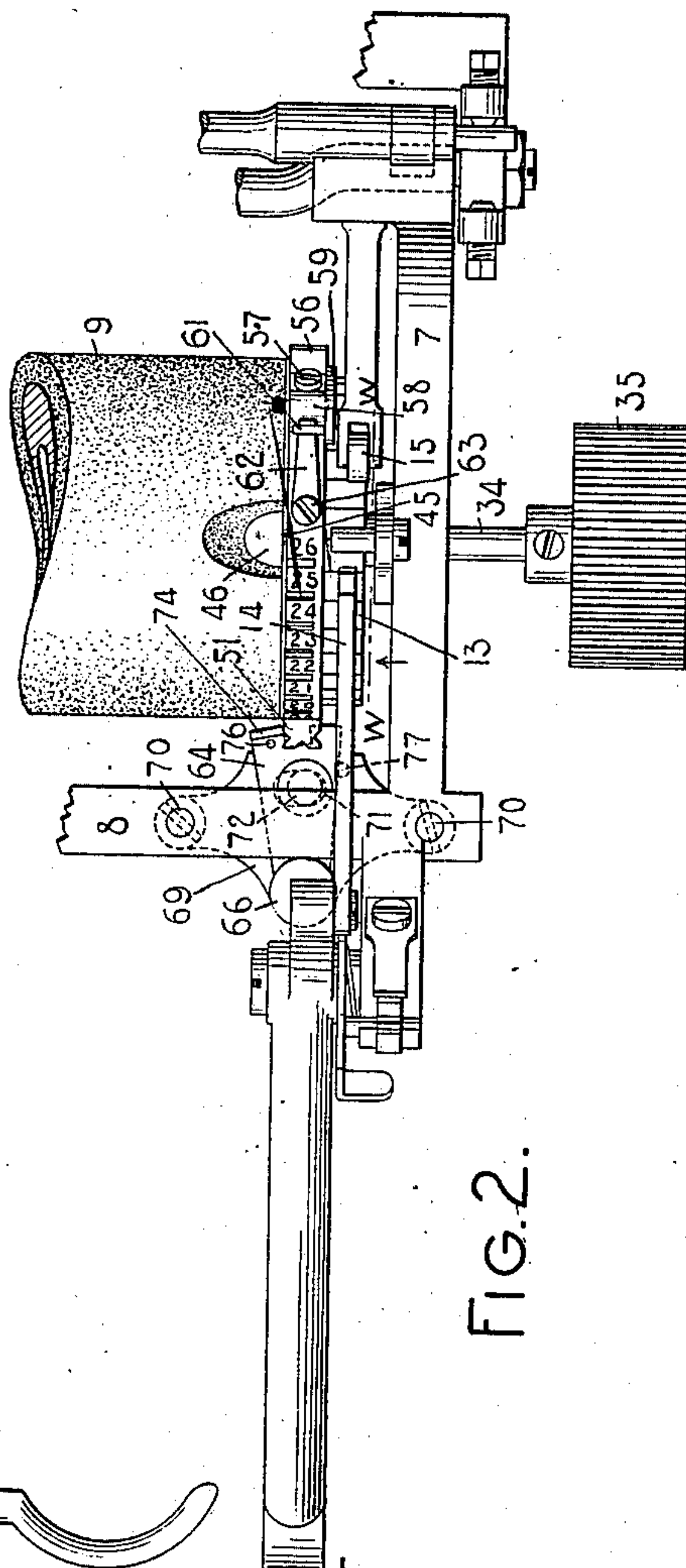
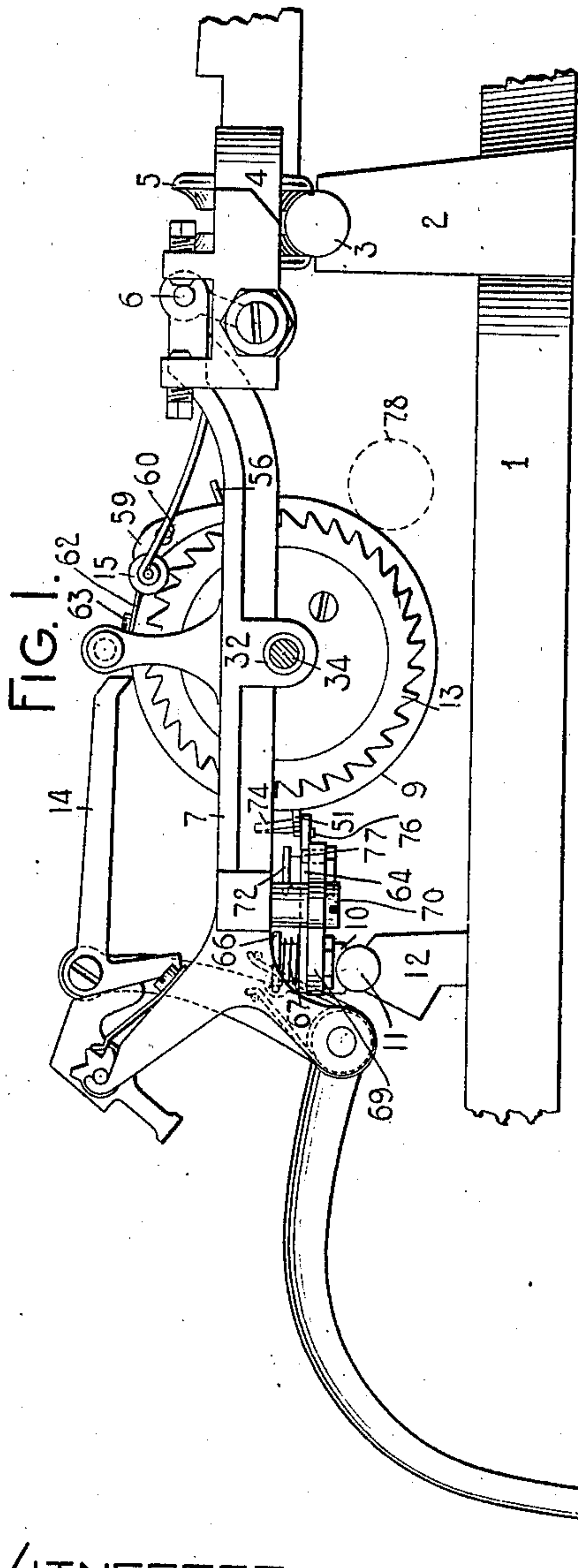


995,752.

C. B. YAW.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 26, 1906.

Patented June 20, 1911.

4 SHEETS-SHEET 1.



WITNESSES:

J. B. Reeves.
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INVENTOR:

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4 SHEETS-SHEET 2.

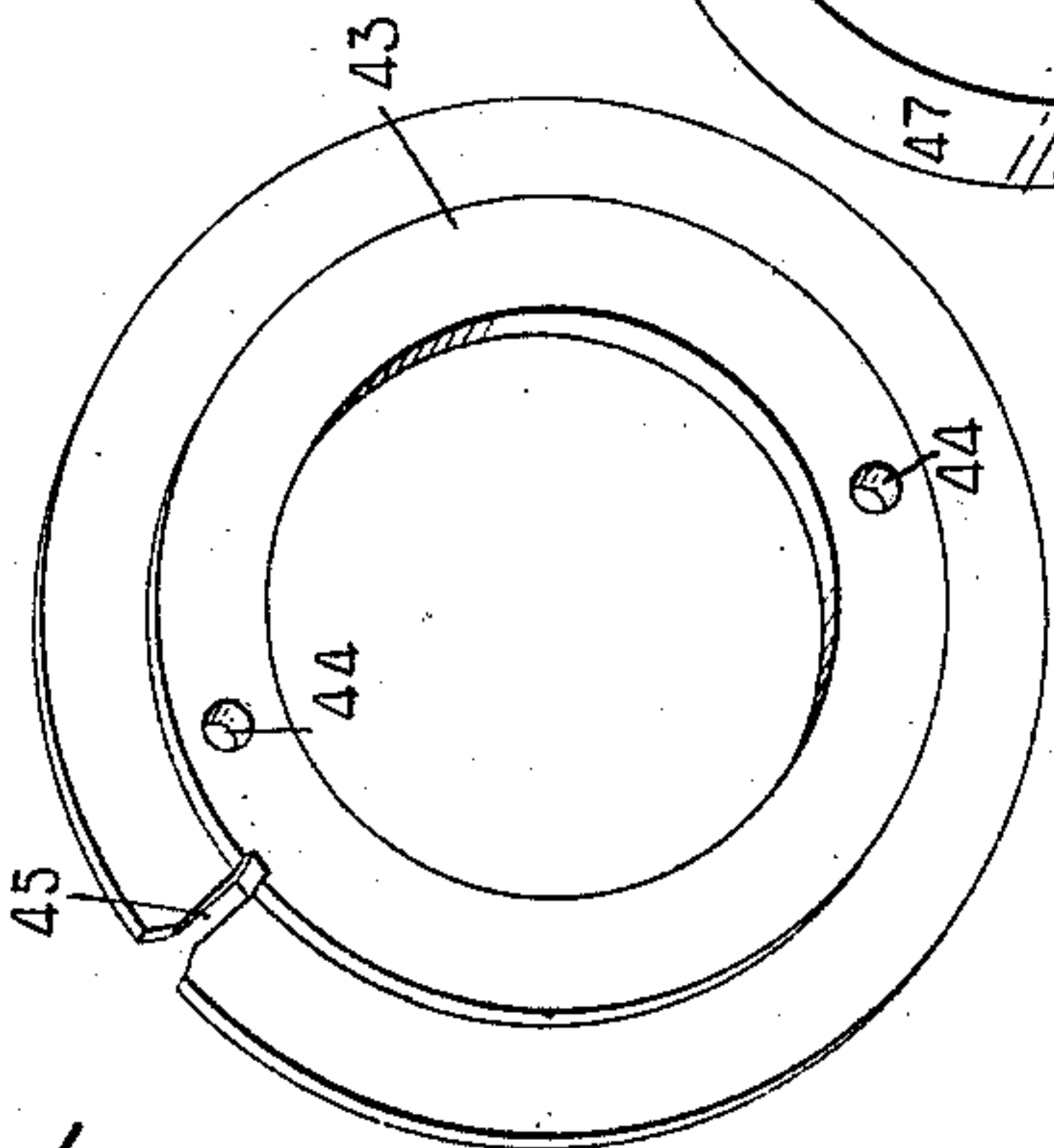


FIG. 3.

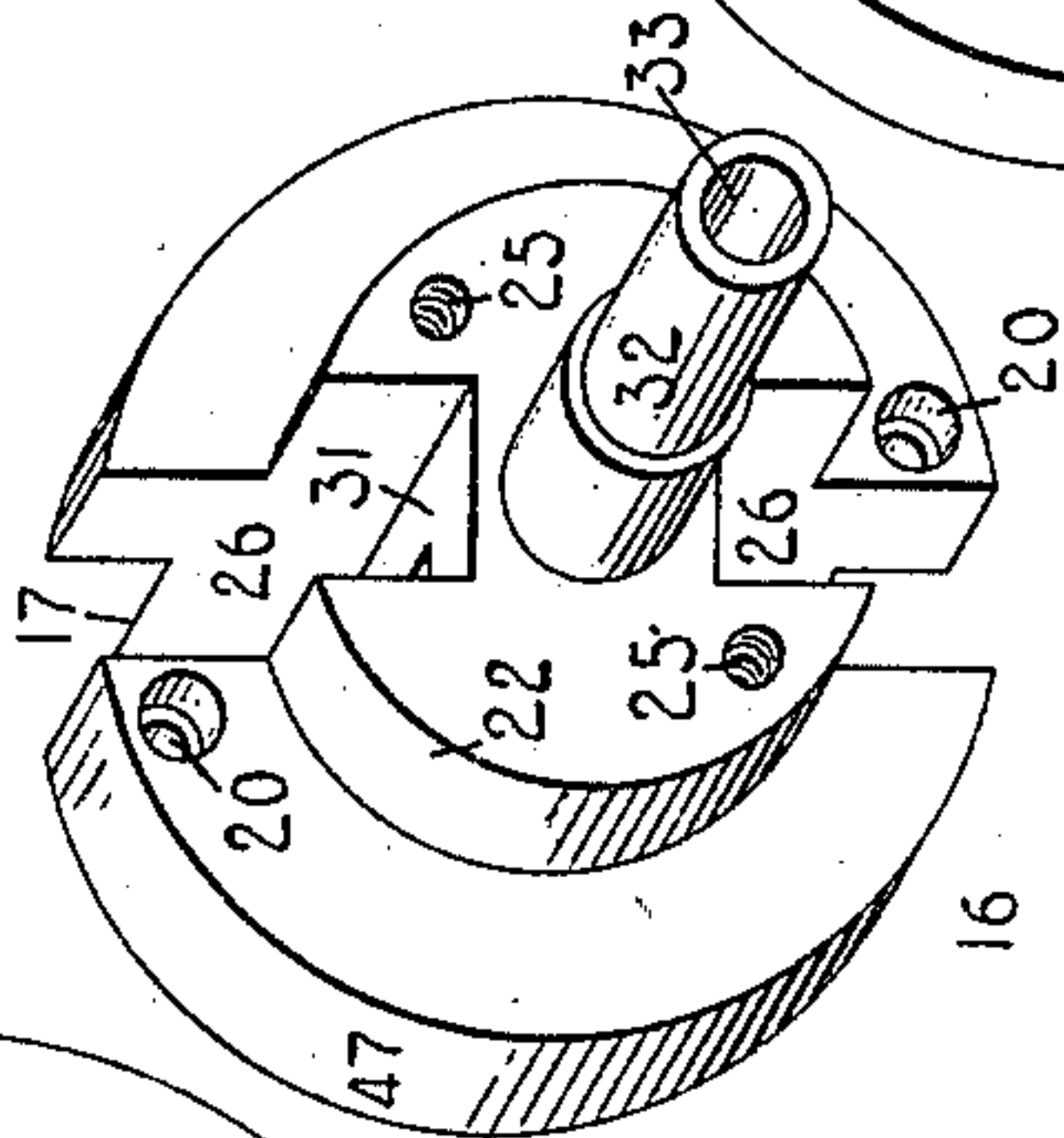


FIG. 4.

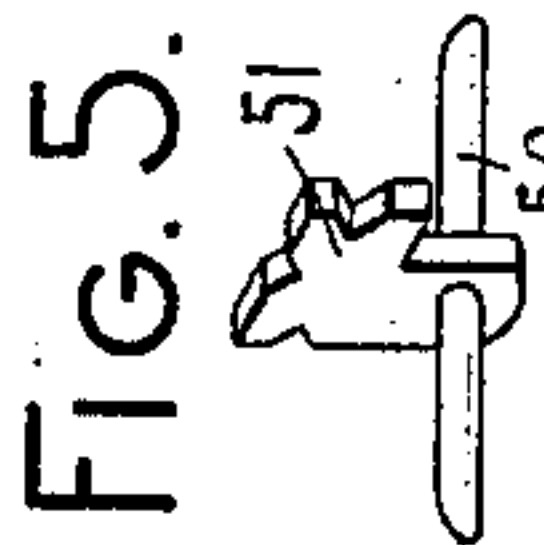


FIG. 5.

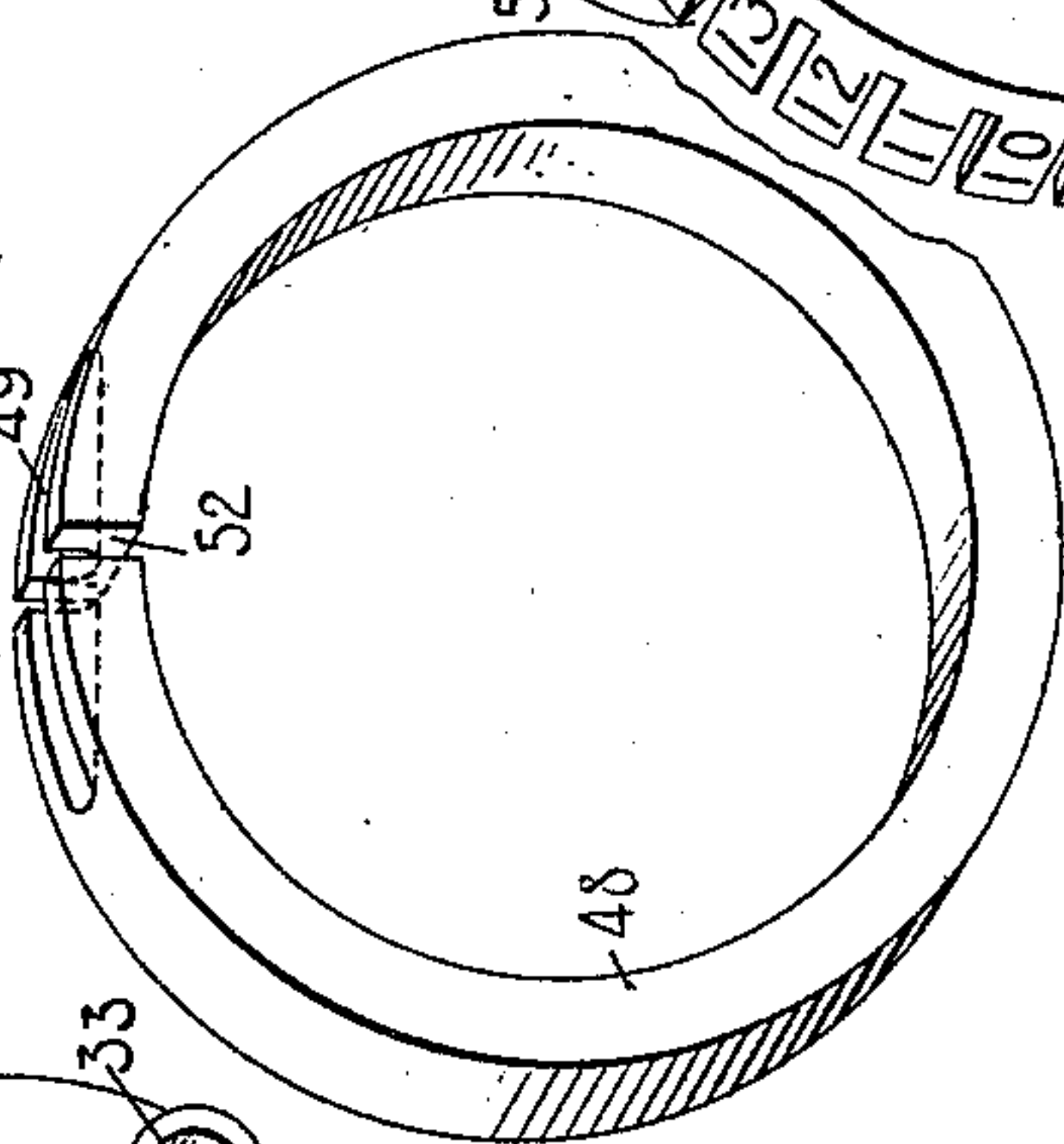
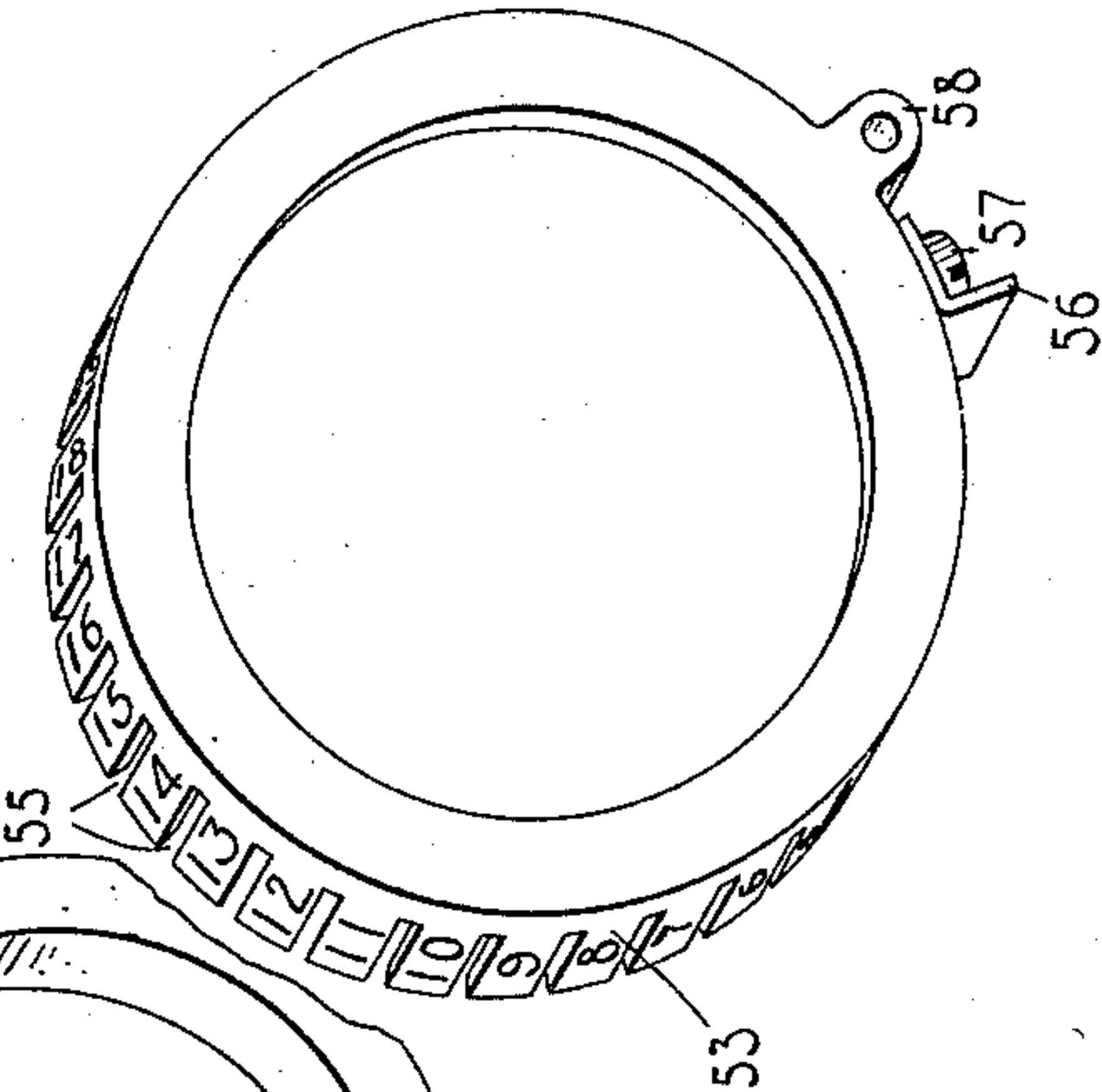


FIG. 6.

FIG. 7.



WITNESSES:

J. B. Reeves.
Wm. E. Smith

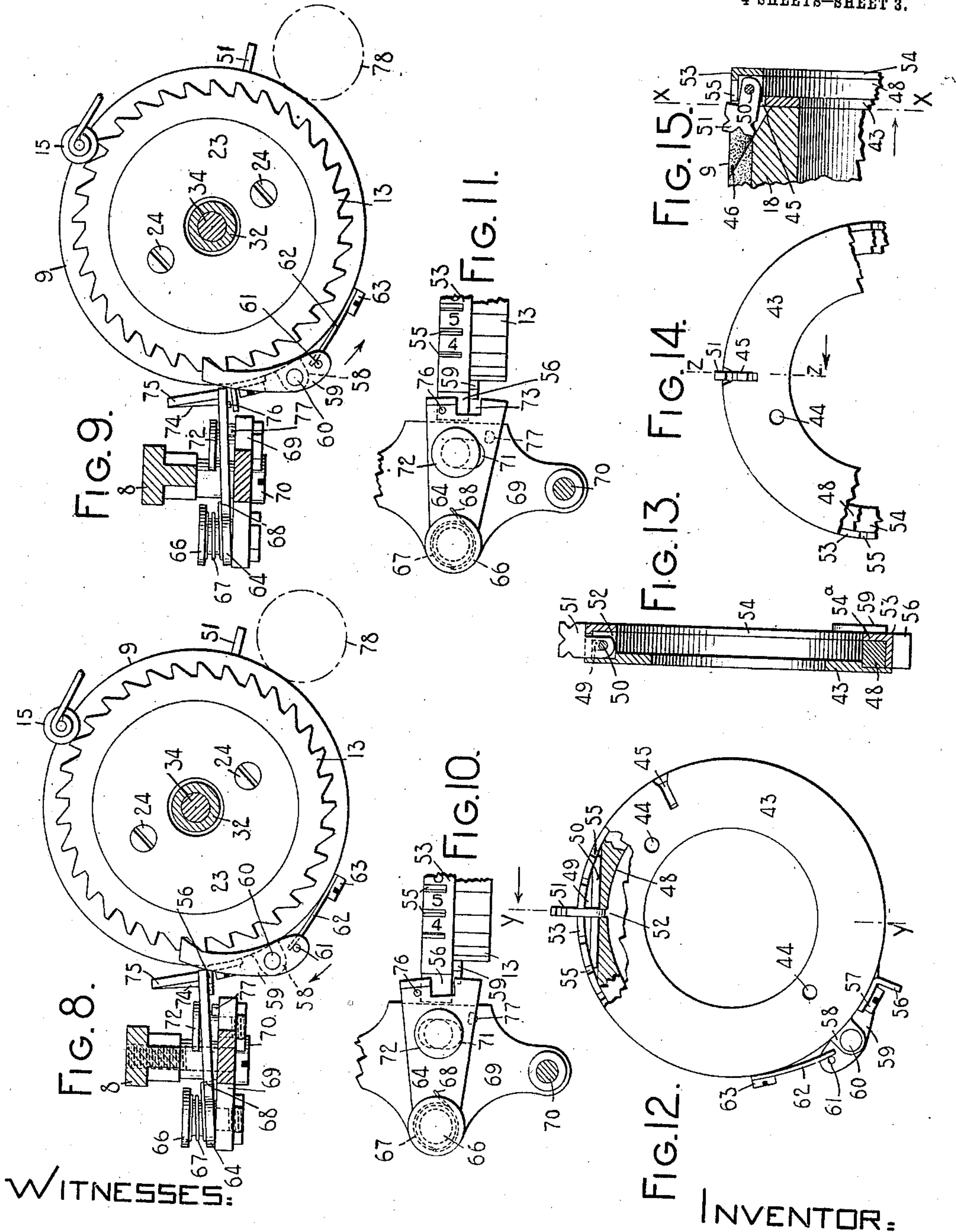
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C. B. YAW.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 26, 1906.

Patented June 20, 1911.
4 SHEETS—SHEET 3.



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FIG. 12.

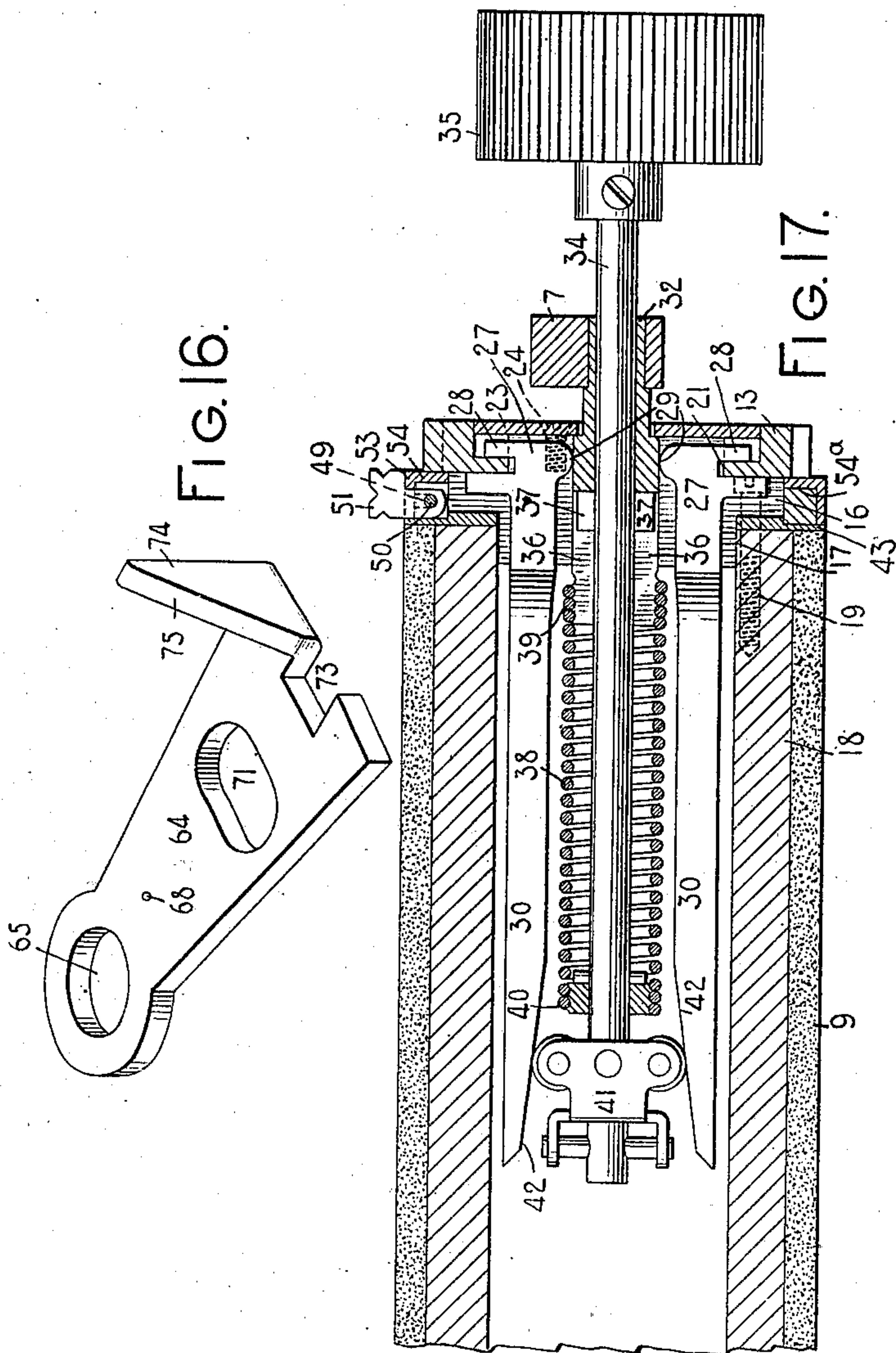
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995,752.

C. B. YAW.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 26, 1906.

Patented June 20, 1911.
4 SHEETS—SHEET 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CLIO B. YAW, OF NEW YORK, N. Y., ASSIGNOR TO WYCKOFF, SEAMANS & BENEDICT, OF
ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

995,752.

Specification of Letters Patent. Patented June 20, 1911.

Application filed November 26, 1906. Serial No. 345,106.

To all whom it may concern:

Be it known that I, CLIO B. YAW, citizen of the United States, and resident of the borough of Brooklyn, city of New York, in the county of Kings 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 typewriting machines and more particularly to billing mechanism.

One of the main objects of my invention is to provide simple and efficient billing mechanism particularly applicable for "condensed record" work, though certain of the features may be employed in constructions used for other purposes and they are shown but not specifically claimed except in combination with other features in a companion application filed of even date herewith, said companion application bearing Serial No. 345,107. Claims common to the two constructions are contained in the present case.

A further object of my invention is to provide billing mechanism by which billing or "condensed record" work may be accomplished mechanically, and with mechanical accuracy, without the necessity of taxing the mind of the operator with mental calculations or detracting the attention or taxing the eyes of the operator in observing indices or indicators.

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 described in the following specification and set forth in the appended claims.

In the accompanying drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is a fragmentary right-hand end elevation with the finger wheel sectioned away showing the upper portion of a typewriting machine with my invention applied thereto. Fig. 2 is a fragmentary top plan view of the same. Figs. 3 to 7, inclusive, are enlarged detail perspective views of portions of the billing devices. Fig. 8 is an enlarged vertical sectional view showing the billing devices and platen with parts shown in end elevation, the section being taken on the line $w-w$ of Fig. 2 and looking in the direction of the arrow at said line. Fig. 9 is a like view of the same showing a different ar-

rangement of the parts. Fig. 10 is an enlarged fragmentary top plan view of the parts shown in Fig. 8, these two views showing the same relation of the parts. Fig. 11 is a view corresponding to Fig. 10 but showing the parts disposed as they are positioned in Fig. 9. Fig. 12 is a side elevation partly in section of the parts shown in Fig. 13; Fig. 12 being a view corresponding to a section taken on the line $x-x$ in Fig. 15 and looking in the direction of the arrow at said line. Fig. 13 is a transverse sectional view of the parts shown in Fig. 12, the section being taken on the line $y-y$ of Fig. 12 and looking in the direction of the arrow at said line. Fig. 14 is a fragmentary elevation or end view of the parts shown in Fig. 12, but showing a different arrangement of said parts. Fig. 15 is a transverse sectional view of the same taken on the line $z-z$ of Fig. 14 and looking in the direction of the arrow at said line. Fig. 16 is a detail perspective view of the stop on the platen frame. Fig. 17 is a fragmentary sectional view taken centrally through the platen and showing various features of the construction applied to the platen. Fig. 18 is a developed plan view of the rotary stop carrying member.

While my invention is applicable to typewriting machines generally, I have shown it applied to a No. 6 Remington typewriting machine, sufficient of said machine being shown to illustrate my invention in its application thereto.

In the drawings, 1 indicates the top plate of the machine carrying upwardly extending lugs 2 on which a guide rod 3 is mounted. A carriage truck 4 of the usual construction carries rollers 5 which bear upon the guide rod 3. A platen frame is pivoted to the truck at 6, said platen frame comprising end bars 7 and a front cross-bar 8. A platen 9 is journaled in bearings in the platen frame. A roller 10 is carried by the front cross-bar of the platen frame and bears upon a shift rail 11 carried by upright arms 12 which may be shifted in the usual manner to effect a backward or forward shift of the platen to change the case position thereof.

A line spacing wheel 13 is operatively connected to the platen in a manner to be hereinafter described and the usual line spacing pawl 14 and spring pressed detent roller 15 cooperate with the line spacing

ratchet wheel to effect step-by-step line spacing movements thereof. I have shown in the present instance a line spacing wheel which is adapted to be connected with and
 5 disconnected from the platen by a clutch or fractional line spacing device of the character shown, described and claimed in the patents granted to Oscar Woodward, dated March 7th, 1905, Nos. 784,368 and 784,369.
 10 Upon reference to Figs. 4 and 17 it will be seen that the right-hand platen head 16 has a reduced portion 17 which is seated in the core 18 of the platen, the platen head being secured to the core by wood screws 19 which
 15 pass through openings 20 in the platen head and pass into the core. The line spacing wheel 13 is in the nature of a ring, the inner bearing surface 21 of which is seated on a reduced hub-like portion 22 of the platen
 20 head so that the line spacing wheel is free under certain conditions to turn on the platen head or rather to afford a rotation of the platen independently of the line spacing wheel. A securing plate 23 is rigidly con-
 25 nected to the outer end of the hub-like portion 22 by headed screws 24 which extend through openings in the securing plate and are received at their threaded ends in open-
 30 ings 25 in the platen head. The platen head is provided with oppositely disposed channels 26 in which gripping or clamping devices 27 are seated. Each of these clamping
 35 devices comprises a member which is bifurcated at one end to form clamping arms or jaws 28, a bearing portion 29 and a lever arm 30 which extends longitudinally of the platen.

The bearing portion 29 of each clutching device bears against the wall 31 of the chan-
 40 nel in which it is received. The platen head is provided with an outwardly extending nipple 32 which is received in a bearing opening in the right-hand side bar 7 of the platen frame as shown in Fig. 17. This
 45 nipple is hollow and its bore 33 is a continuous one which extends through the platen head for the reception of a spindle 34 provided at its outer end with a finger wheel 35. Extending laterally from the
 50 bore 33 are slots 36 on each side thereof in the platen head, thus forming spline grooves on each side of the bore which receive a spline 37 on the spindle 34 to connect the spindle and platen head to rotate together
 55 but to afford endwise movement of the spindle independently of the platen head. A contractile spring 38 surrounds the spindle within the core of the platen and is secured at one end to the platen head as in-
 60 dicated at 39, the opposite end of said spring being secured as at 40 to the spindle. The inner end of the spindle carries a device 41 which coöperates with inclined faces 42 on the lever arms 30 of the gripping devices.
 65 This construction is such that the spring 38

tends to spread apart the inner ends of the arms 30, thus effecting a clamping engage-
 ment between the gripping devices 27 and the line spacing platen wheel to connect the line spacing wheel with the platen. An in-
 70 ward movement of the finger wheel 35 will cause the device 41 to be moved to the left, thus releasing the pressure of the spring 38 on the gripping devices and enabling the platen to turn independently of the line
 75 spacing wheel which at this time is held by the spring-pressed detent roller 15. A plate or ring 43 which is shown in detail in Fig. 3 is secured to the core of the platen by the screws 19, the screws passing through open-
 80 ings 44 in said ring. The ring is provided with a slot 45 which is adapted to register under certain conditions with a cut-out 46 in the surface of the platen at the right-hand
 85 end thereof as shown in Figs. 2 and 15. A circular flange 47 is formed on the platen head and a ring 48, which is shown in detail in Fig. 6, is situated between the line spacing wheel and the plate 43 and receives
 90 a bearing on the periphery of the flange 47. This ring has a circumferential recess 49 therein for the reception of a pivot 50 of a combined locking device and stop 51, shown in detail in Fig. 5. A lateral or transverse
 95 recess or slot 52 is provided in the ring 48 to enable the stop 51 to move therein and to be turned on its pivot 50 as a center.

A so-called stop carrying device or ring 53 (shown in detail in Fig. 7) which is an-
 100 gular in cross section as shown in Figs. 13, 15 and 17 surrounds the ring 48. The inwardly extending flange 54 on said stop-carrying member receives a bearing on the circular flange 47 of the platen head and
 105 the inner face 54^a of said flange 54 bears against the ring 48. This stop carrying member and the ring 48 are situated between the line spacing wheel and the plate or ring 43 as shown in Fig. 17 and are pre-
 110 vented by said parts from moving longitudinally of the platen though they are loosely mounted on the platen head. The stop-carrying member 53 has a series of twenty-three slots 55 in one edge thereof to
 115 form a circular rack though a greater or less number of such slots may be provided. An index numeral is provided adjacent to each slot, the numerals beginning at "4" and ending at "26" as shown in Fig. 18,
 120 and being circularly arranged. That edge of the stop carrier in which the slots 55 are provided bears against the plate 43 so that when any one of the slots 55 in which the stop 51 may be seated, as shown in Figs.
 125 13 and 17, is brought into register with the slot 45 (see Figs. 2, 14 and 15), said stop may be turned on its pivot 50 to carry it out of the slot 55 into the slot 45 and into the cut-out portion 46 of the platen as
 130 shown in Fig. 15. This movement is effec-

tive to clear the stop 51 from the member 53 and to connect it and the ring 48 with the platen. The stop 51 may, therefore, be connected with the stop carrier 53 or with the platen 9, and a relative movement between the stop carrier and platen may be effected in order to bring any of the slots 55 opposite the slot 45 so that the stop 51 may be adjusted and may be seated in any one of the slots 55 in the stop carrier. If, for instance, the stop 51 be seated in the slot 55 adjacent to the index numeral "18" so as to lock the members 48, 51 and 53 together, and it is desired to seat the stop in the slot adjacent to the index numeral "23", the clutch which connects the platen and line spacing wheel is released, the platen is turned independently of the line spacing wheel, the latter being held by its spring roller detent 15 until the slot 45 is opposite the slot 55 in which the stop 51 is seated, and then the stop is turned on its pivot 50 to the position shown in Fig. 15. The platen clutch being released, the platen with the stop 51 and ring 48 to which it is pivoted may be turned independently of the member 53 and the line spacing wheel, to which the member 53 is operatively connected as will hereinafter more clearly appear. When the stop 51 is opposite the slot adjacent to the index numeral "23" the stop may be turned on its pivot 50 into the slot, thus disconnecting the stop from the platen and connecting the stop and the members 48 and 53 together as shown in Figs. 13 and 17. The stop carrier 53 also carries a stop 56 which is in the nature of an angle piece or bracket rigidly secured to the periphery of the stop carrier by a screw 57 as shown in Figs. 7 and 12. This stop is situated a distance corresponding to four teeth of the wheel 13 from the first slot 55 beneath the index numeral "4". A lug 58 also projects from the periphery of the stop carrier and a pawl 59 is pivoted at 60 to said lug. The tail of the pawl is provided with an inwardly projecting pin 61 against which the free end of the flat spring 62 bears, said spring being secured to the periphery of the stop carrier by a screw 63. The pawl 59 is situated to one side of the stop carrier 53 as shown in Figs. 2, 8 and 9 and the nose of the pawl coöperates with the teeth of the line spacing ratchet wheel, the spring 62 tending to force the pawl into engagement with said teeth. The disposition of the teeth of the line spacing wheel and the pawl 59 and the construction and arrangement of the parts are such that when the members of the platen clutch are in engagement, so that the line spacing wheel and platen turn together, a backward rotation of the platen in the direction of the arrow in Fig. 9, effected through either finger wheel, will cause the members 53, 51 and 48 to rotate with the

platen by reason of the positive engagement of the pawl 59 with the spacing wheel 13. When, however, a forward rotation of the platen is effected the members 51, 53 and 48 will tend to rotate with the platen by the frictional contact between the parts and the spring pressure of the pawl 59 on the teeth of the ratchet wheel 15. Under certain conditions, which will presently appear, the members 51, 53 and 48 may be arrested and the platen be allowed to rotate independently thereof.

A shiftable stop member 64, which is shown in detail in Fig. 16, is mounted on the platen frame for coöperation with the stops 51 and 56 carried by the platen. The stop 64 is formed with an opening 65 which receives a headed pin 66 of sufficient diameter to form a pivot on which the stop is adapted to turn so as to move axially of the platen and also to afford a slight vertical displacement of the stop from a position such as that shown in Fig. 1 to that shown in Fig. 8, there being sufficient play between the stop and its pivot to afford this vertical movement of the stop. A spring 67 is coiled about the pin 66 and is connected at one end to the stop as at 68 and at its opposite end to the head of the pin 66. This spring performs a two-fold function. It tends to turn the stop around its pivot and also to move it down and restore it to its normal position where it bears against the upper face of a bracket 69. This bracket constitutes a support for the stop 64 and for the pin 66 and is itself connected by screws 70 to the front cross bar 8 of the platen frame. The stop member 64 has an elongated slot 71 therein, which extends transversely to the length of the stop member and receives a headed guiding pin 72, which is carried by the bracket 69 and the head of which limits the upward movement of the rear or free end of the stop member as shown in Fig. 8. The stop is apertured or notched at 73 for purposes which will hereinafter appear, the notch 73 registering with the pawl 59 when the stop is in the position shown in Fig. 11. Projecting upwardly from the body portion of the stop is a finger 74 which is inclined on one edge thereof as indicated at 75 to form a cam.

From the foregoing description it will be understood that the stop 64 is capable of a lateral movement by swinging horizontally around the axis of its pivot 66 and is also capable of receiving a slight up and down movement, or a lateral movement, at right angles to its pivotal movement from a position such as that shown in Fig. 1, for instance, to that indicated in Fig. 8. From an inspection of Figs. 9 and 10 it will be seen that a small pin 76 extends downwardly from the under face of the stop 64 and that this stop pin is adapted to coöperate with

and engage the left-hand edge of the stop 56 on the stop carrier under certain conditions, as will presently appear. A stop pin 77 projects upwardly from the top face of the bracket plate 69 and the right-hand edge of the stop 64 is normally pressed against this stop pin to limit the movement of the stop 64 to the right. Normally the stop 64 is in the set position shown in Figs. 1 and 2, the stop being prevented from moving to the right under the pressure of its spring 67 by reason of the engagement of the right-hand side edge of the stop with the pin 77, the notch 73 in the stop being out of register at this time with the pawl 59. When the stop 56, rotating with the platen in the direction of the arrow in Fig. 8, comes into contact with the bottom of the stop 64, it elevates the rear or free end of the stop 64, moving it from the normal position shown in Fig. 1 to that illustrated in Fig. 8, thereby freeing the stop 64 from the pin 77. The act of disengaging the stop 64 from the pin 77 brings the stop 56 into the path of the pin 76 which projects to the left thereof from the under face of the stop 64.

When the stop 64 is released from the pin 77 in the manner described it will be turned on its pivot from the position shown in Fig. 2 to that shown in Fig. 10 where the body of the stop is over the pin 77. At this time the stop 64 is prevented from further movement to the right by the engagement of the pin 76 with the left-hand edge of the stop 56, the parts at this time being disposed as shown in Figs. 8 and 10. At this time the notch 73 in the stop 64 is out of register with the pawl 59 so that the pawl will be jammed in its engagement with the teeth of the line spacing wheel and this jamming of the pawl and the co-action of the stops 56 and 64 will prevent further forward rotation of the platen. From an examination of Fig. 8 it will be seen that at this time the detent roller 15 bears on the crown of one of the teeth of the line spacing ratchet wheel 13, the wheel having been moved slightly beyond the position where the detent roller is properly seated between two adjacent teeth of the line spacing wheel. As soon as the hand of the operator is released from the finger wheel, or forward pressure is relaxed thereon, the pressure of the detent roller 15 is effective to give the line spacing wheel and platen and the parts carried thereby a slight backward rotation, carrying the parts to the position shown in Fig. 9 where the detent is properly seated between two teeth of the line spacing wheel. This backward movement of the parts from the positions shown in Fig. 8 to those shown in Fig. 9 brings the stop 64 into contact with the top of the pin 77 before the backward movement of the parts is completed,

thus holding the stop 64 while a further backward movement of the stop 56 takes place. This further movement of the stop 56 is sufficient to disengage said stop from the pin 76 so that the stop 64 is free to be turned on its pivot 66 by the spring 67 from the position shown in Fig. 10 to the set position shown in Fig. 11, in order to bring the notch 73 in the stop 64 into register with the pawl 59 so that the stop will no longer contact with or jam the pawl and the pawl will be free to be vibrated around its pivot 60.

The mechanism described not only constitutes stop mechanism for arresting the platen in its backward rotation, but also constitutes means for automatically locking the pawl in engagement with the line spacing wheel, such locking being effected by a forward rotation of the platen. The locking of the pawl is effective to prevent a further forward rotation of the platen until forward pressure is relieved on the finger wheel when the parts will be automatically moved from the positions shown in Figs. 8 and 10 to the positions shown in Figs. 9 and 11, thereby automatically releasing the locking means so that the platen is free to be moved forwardly any desired extent by either of the finger wheels or by regular line spacing mechanism. During this forward feed movement of the platen, the platen and line spacing wheel turn together, whereas the members 53 and 48 are held against movement with the platen by the coöperation of the stops 56 and 64. This movement of the platen independently of the stop devices is effected notwithstanding the fact that the stop 64 is always in the path of the stops 51 and 56. The next backward rotation of the platen brings the stop 51 into contact with the inclined face 75 of the cam on the stop member 64, thus forcing the stop 64 against the pressure of the spring 67 around the pivot 66 until the pin 77 is cleared when the downward pressure of the spring 67 forces the stop down against the bracket plate 69 to the position shown in Figs. 1 and 2. In this position the pin 77 engages the right-hand edge of the stop 64 and holds it against the pressure of its spring 67, thus holding the stop in position where it will co-act with the stop 56 and with the pawl 59, in the manner hereinbefore described, at the next forward rotation of the platen.

In the employment of my improved billing devices for "condensed record" work, I first set the adjustable stop 51 in accordance with the character of the work sheets or bill heads employed. A bill head of the character to be employed is first inserted in the machine and the platen is turned forwardly a tooth-space distance at a time until the bill is properly positioned to receive the first line of writing. The distance may be, by way of example, assumed to be the equivalent

lent of eighteen teeth of the line spacing wheel. In other words it may be assumed that it requires eighteen single line spaces of the platen to bring the bill head from the position where it is first introduced into the machine to proper position to receive the first line of writing. This fact having been determined the bill is withdrawn. The platen clutch is then released by pushing in the finger wheel 35 and the platen is rotated relatively to the line spacing wheel and the members 53 and 48 until the slot 45 and notch 46 are in register with the stop 51. The stop is then turned on its pivot 50 from the position shown in Fig. 17 to that shown in Fig. 15 where it is disconnected from the member 53 and is connected to turn with the platen. The clutch is still maintained released and the platen is turned until the stop slot 55 beneath the index numeral "18" on the stop carrier is in register with the slot 45 and the stop 51. The stop is then moved over into the slot beneath the index numeral "18" and the platen is turned to throw said slot and the slot 45 out of register and the stop 51 and members 53 and 48 will be connected to turn together. The platen is then turned backwardly until arrested by the stop 51 contacting with the stop 64 on the platen frame. A bill head or invoice sheet, a "condensed record" sheet and an interposed carbon sheet are then introduced into the machine with their leading edges together and the record sheet next to the platen. Or, if desired, the bill head may be given a "lead" in the usual manner to bring the first line of the first reproduced entry on the record sheet near the top thereof. The sheets having been introduced into the machine without disturbing the platen and so that the leading edge of the bill sheet will be within the bight between the feed rollers 78 and the platen, or at the line where the feed rollers contact with the platen. One of the finger wheels is employed to turn the platen forwardly until it is arrested by the coöperation of the stop 56 and pawl 59 with the stop 64. As soon as the platen has been arrested the hand of the operator is removed from the finger wheel and the parts are automatically moved back from the positions shown in Figs. 8 and 10 to the positions shown in Figs. 9 and 11. This results in automatically freeing the pawl 59 as hereinbefore described. The operator may therefore proceed at once to write the bill on the machine and a copy of the bill will be reproduced on the "condensed record" sheet through the interposed carbon.

After the bill is completed the operator gives the platen a double line spacing movement in order to provide a space between the last line of the bill reproduced on the record sheet and the first line of the next

bill to be reproduced thereon. The platen is then turned backwardly until the stop 51 strikes the stop 64 and arrests the platen. The written bill may then be removed without disturbing the record sheet and a new bill head introduced as before. The act of arresting the platen in its backward rotation by the stops 51 and 64 sets the stop 64 so that at the next forward rotation of the platen the stop 64 will be in position to co-act with the stop 56 and pawl 59. After the second bill is introduced into the machine the platen is turned forwardly until it is arrested by the coöperation of the stop 56 and the pawl with the stop 64. The operator may now proceed to write the second bill which will be reproduced on the record sheet with its first line situated a double line space distance from the last line of the copy of the preceding bill. This operation may be continued indefinitely or until the record sheet is filled when a new record sheet may be introduced as before.

After the stop 51 is once set for bill heads of a certain character no further adjustment of the parts is necessary until the bill heads of a different character, or bill heads with a different length of heading, are employed; and it merely requires a back and forth rotation of the platen until arrested to go back the required distance for a new bill and to bring the bill forward to the proper position to write the first line thereon.

The operation of the device, after the parts are properly set, is automatic and the mechanism is such that the work will be performed with mechanical accuracy without the necessity of taxing the mind of the operator with mental calculations, or taxing the eyes or diverting the attention of the operator from the work by the examination of index or indicating devices to determine how far to turn the platen.

The devices are simple in construction and efficient in use and can be readily applied to existing forms of typewriting machines without materially changing the structural features of such machines.

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 platen, stop devices acting to positively arrest the platen, and automatically operated means for rendering said stop devices inoperative to arrest the platen when it is moved in the same direction in which said stop devices are operative to positively arrest the platen, the actuation of said automatically operated means being brought about by the pressure of one of said stop devices on another.

2. In a typewriting machine, the combina-

tion of a platen, and platen arresting means comprising stop devices for first positively arresting the platen during its movement in one direction and then permitting a continued movement of the platen in the same direction, said platen arresting means including means whereby the pressure of one of said stop devices on another brings about an actuation of the parts to permit said continued movement.

3. In a typewriting machine, the combination of a platen, and platen arresting mechanism comprising stop devices operative to positively arrest the platen in its relative movements in both directions, and means for automatically throwing said stop devices into and out of operation, to arrest the platen in one direction and to thereafter afford a continued movement of the platen in the same direction, said means being rendered effective by the coöperation of said stop devices.

4. In a typewriting machine, the combination of a platen, and platen arresting mechanism comprising stop devices for positively arresting the platen in its movements in opposite directions, and automatically actuated means for controlling said stop devices to enable the platen to continue its movement in the same direction after it has been positively arrested, the actuation of said controlling means being brought about by the pressure of one of said stop devices on another.

5. In a typewriting machine, the combination of a platen; and means for arresting the platen comprising stop devices for positively arresting the platen in its movements in opposite directions, and automatically actuated means for controlling said stop devices to enable the platen to continue its movement in the same direction independently of said stop devices after the platen has been positively arrested, the actuation of said controlling means being brought about by the pressure of one of said stop devices on another.

6. In a typewriting machine, the combination with the platen, of stop mechanism including a stop carrier, means for causing the stop carrier to move with and to permit a movement of the platen independently thereof, an adjustable stop, and means for affording a disconnection of said adjustable stop from the stop carrier and for affording a connection of the adjustable stop to the platen and vice versa.

7. In a typewriting machine, the combination of a platen, a stop carrier, means for causing the stop carrier to move with and to afford a movement of the platen independently thereof, an adjustable stop, means for affording a disconnection of said adjustable stop from the stop carrier and for affording a connection of the adjustable

stop to the platen and vice versa, and a stop device coöperative with said first mentioned stop to arrest the platen.

8. In a typewriting machine, the combination with a platen having a stop receiving notch therein, of stop mechanism including a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, and a stop shiftable from the notch in the platen to any of the notches in the stop carrier.

9. In a typewriting machine, the combination with a platen having a stop receiving notch therein, of stop mechanism including a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, and means for operatively connecting the stop carrier with the platen.

10. In a typewriting machine, the combination with a platen having a stop receiving notch therein, of stop mechanism including a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, and means for operatively connecting the stop carrier to move with the platen during its movement in one direction and to afford a movement of the platen independently of the stop carrier in an opposite direction.

11. In a typewriting machine, the combination with a platen having a stop receiving notch therein, of stop mechanism including a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, and pawl and ratchet mechanism between said stop carrier and platen.

12. In a typewriting machine, the combination with a platen having a stop receiving notch therein, of stop mechanism including a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, a line spacing ratchet wheel, and a pawl carried by said stop carrier and coöperative with said line spacing wheel.

13. In a typewriting machine, the combination with a platen having a stop receiving notch therein, of stop mechanism including a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the

platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, a line spacing ratchet wheel, clutch mechanism between said line spacing ratchet wheel and platen, and a pawl carried by said stop carrier and coöperative with said line spacing wheel.

14. In a typewriting machine, the combination of a platen having a stop receiving notch therein, a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, a second stop fixed to the stop carrier, and a third stop that extends into the path of the two first mentioned stops.

15. In a typewriting machine, the combination of a platen having a stop receiving notch therein, a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, a second stop fixed to the stop carrier, a third stop that extends into the path of the two first mentioned stops, and pawl and ratchet mechanism between said stop carrier and platen.

16. In a typewriting machine, the combination of a platen having a stop receiving notch therein, a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, a second stop fixed to the stop carrier, a third stop that extends into the path of the two first mentioned stops, a line spacing ratchet wheel, and a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel.

17. In a typewriting machine, the combination of a platen having a stop receiving notch therein, a stop carrier having a series of notches therein any one of which is adapted to be brought into register with the notch in the platen, a stop shiftable from the notch in the platen to any of the notches in the stop carrier, a second stop fixed to the stop carrier, a third stop that extends into the path of the two first mentioned stops, a line spacing ratchet wheel, a clutch between said line spacing wheel and platen, and a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel.

18. In a typewriting machine, the combination with a platen, of stop mechanism including a line spacing ratchet wheel, a stop carrier, a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel.

19. In a typewriting machine, the combi-

nation with a platen, of stop mechanism including a line spacing ratchet wheel, a stop carrier, a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel, a stop carried by said stop carrier, and a coöperative stop in the path of said stop on the stop carrier.

20. In a typewriting machine, the combination of a platen, a line spacing ratchet wheel, a stop carrier, a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel, a stop carried by said stop carrier, a second stop fixed on the stop carrier, and a stop coöperative with said stops on the carrier during the rotation of the platen in opposite directions.

21. In a typewriting machine, the combination of a platen, a line spacing ratchet wheel, a stop carrier, a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel, a stop carried by and adjustable to different set positions on the stop carrier, a second stop fixed to said stop carrier, and a coöperative stop on the platen frame.

22. In a typewriting machine, the combination with a platen, of stop mechanism including a line spacing ratchet wheel, a clutch between said line spacing wheel and platen, a stop carrier, and a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel.

23. In a typewriting machine, the combination of a platen, a line spacing ratchet wheel, a clutch between said line spacing wheel and platen, a stop carrier, a pawl carried by said stop carrier and coöperative with said line spacing ratchet wheel, a stop carried by and adjustable on said stop carrier, a second stop fixed on said stop carrier, and a coöperative stop on the platen frame.

24. In a typewriting machine, the combination with a platen, of stop mechanism for arresting the platen, said mechanism including a stop device carried by the platen, and a second coöperative stop device; and means whereby one of said stop devices will shift the other laterally.

25. In a typewriting machine, the combination with the platen and platen frame, of stop mechanism including three stop devices, certain of said stop devices being carried by the platen and certain of said stop devices being carried by the platen frame; the stop devices co-acting to arrest the platen in its rotation in opposite directions; and automatic means to effect a lateral movement of certain of said stop devices.

26. In a typewriting machine, the combination with the platen, of stop mechanism including three stops operative to limit the rotation of the platen in opposite directions, and means whereby one of said stops is moved laterally by another.

27. In a typewriting machine, the combination with the platen, of stop mechanism including three stops operative to limit the rotation of the platen in opposite directions, and means whereby one of said stops is moved laterally in opposite directions in consequence of the action on it of the other stops.

28. In a typewriting machine, the combination of a platen; a platen frame; three stop devices, certain of said stop devices being carried with the platen and certain of said stop devices being carried by the platen frame; the stop devices co-acting to arrest the platen in its rotation in opposite directions; and means to bring about a lateral movement of certain of said stop devices in one direction or another, depending on the direction of the rotation of the platen.

29. In a typewriting machine, the combination with a platen, of stop mechanism including a stop which rotates with the platen, a second coöperative stop, one of said stops being shiftable by the other, and means whereby when the shiftable stop is in one set position it will co-act with other parts to prevent a rotation of the platen and when in another set position will afford a rotation of the platen.

30. In a typewriting machine, the combination with a platen, of stop mechanism including a stop which rotates with the platen, a second coöperative stop, one of said stops being shiftable and the construction and arrangement of it being such that in one set position thereof it will co-act with the other parts to prevent a rotation of the platen and in another set position thereof will afford a rotation of the platen, and means for automatically effecting a movement of said shiftable stop, the rotation of the platen in one direction effecting a shifting of the shiftable stop to arrest the rotation of the platen, and a rotation of the platen in an opposite direction bringing about a shifting of the shiftable stop to another position to afford a further rotation of the platen.

31. In a typewriting machine, the combination of a platen, and means for arresting the platen, and means whereby the act of arresting the forward rotation of the platen through said arresting means renders the arresting means ineffective to prevent a further forward rotation of the platen and the act of rotating the platen in a backward direction again renders the arresting means effective to arrest the platen in its forward rotation.

32. In a typewriting machine, the combination of a platen, and means for arresting the platen, and means whereby said arresting means are rendered alternately effective and ineffective to arrest the platen in its forward rotation, the rotation of the platen in one direction rendering the said arrest-

ing means effective and the rotation of the platen in an opposite direction rendering said means ineffective.

33. In a typewriting machine, the combination with a platen, of stop mechanism comprising stop devices for arresting the platen in its rotation in opposite directions, said stop devices including a stop device shiftable to different positions, the rotation of said platen in opposite directions determining the position of said shiftable stop device, it being operative in one position to arrest the platen and inoperative in another position to arrest the platen in one direction.

34. In a typewriting machine, the combination of a platen, stop devices for arresting the platen in its rotation in opposite directions, said stop devices including a stop device shiftable to different positions, the rotation of said platen in opposite directions determining the position of said shiftable stop device, it being operative in one position to arrest the platen and inoperative in another position to arrest the platen, and pawl and ratchet mechanism between said platen and certain of said stop devices.

35. In a typewriting machine, the combination of a platen, stop devices for arresting the platen in its rotation in opposite directions, said stop devices including a stop device shiftable to different positions, the rotation of said platen in opposite directions determining the position of said shiftable stop device, it being operative in one position to arrest the platen and inoperative in another position to arrest the platen, a line spacing ratchet wheel, and a pawl operatively connected with certain of said stop devices and coöperative with the line spacing ratchet wheel.

36. In a typewriting machine, the combination of a platen, stop devices, and pawl and ratchet mechanism between certain of said stop devices and the platen, certain of said stop devices coöperating with the pawl to lock it in engagement with its ratchet wheel.

37. In a typewriting machine, the combination of a platen, stop devices, and pawl and ratchet mechanism between certain of said stop devices and the platen, certain of said stop devices coöperating with one another and with the pawl to lock it in engagement with its ratchet wheel and to prevent a rotation of the platen.

38. In a typewriting machine, the combination of a platen, stop devices including a shiftable device, and pawl and ratchet mechanism between certain of said stop devices and the platen, said shiftable device coöperating with said pawl and shiftable into and out of position for engagement with the pawl by the coöperation of said stop devices.

39. In a typewriting machine, the combi-

nation of a platen, stop devices including a shiftable device, and pawl and ratchet mechanism between certain of said stop devices and the platen, the shiftable device when in one position cooperating with said pawl and when in another position being inoperative to cooperate with said pawl.

40. In a typewriting machine, the combination of a platen, stop devices including a shiftable device, and pawl and ratchet mechanism between certain of said stop devices and the platen, said shiftable device when in one position being in the path of the pawl and being when in another position out of the path of the pawl.

41. In a typewriting machine, the combination of a platen, stop devices including a shiftable device, and pawl and ratchet mechanism between certain of said stop devices and the platen, said shiftable device when in one position being in the path of the pawl and being when in another position out of the path of the pawl, and means for automatically actuating said shifting device.

42. In a typewriting machine, the combination of a platen, stop devices, pawl and ratchet mechanism between certain of said stop devices and the platen, certain of said stop devices cooperating with one another and with the pawl to lock it in engagement with its ratchet wheel and to prevent a rotation of the platen, and means whereby the said stop device which cooperates with the pawl may be shifted into and out of operative relation to the pawl.

43. In a typewriting machine, the combination of a platen, stop devices including a shiftable device, pawl and ratchet mechanism between certain of said stop devices and the platen, said shiftable device cooperating with said pawl, and means cooperatively with said shiftable means for automatically shifting it into and out of operative relation to the pawl.

44. In a typewriting machine, the combination of a rotary platen, a stop carrier having a circular rack, circularly arranged indices associated with said rack, a stop adjustable on said rack, a stop fixed to said stop carrier, a cooperating stop connected with the platen frame, and constantly engaged pawl and ratchet mechanism between said stop carrier and platen.

45. In a typewriting machine, the combination with a rotary platen, of stop mechanism comprising a plate secured to the platen and having a notch therein, a circular rack, the opening in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, and a stop carried by said carrying member and movable from the notch in the plate into

a rack opening or from a rack opening into said notch in the plate when the two are brought into register.

46. In a typewriting machine, the combination with a rotary platen, of stop mechanism comprising a plate secured to the platen and having a notch therein, a circular rack, the opening in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, and a stop carried by said carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register, in order to lock the stop will either to the platen or to the rack and to prevent an accidental displacement of the stop from the notch or opening in which it is seated.

47. In a typewriting machine, the combination of a rotary platen, a plate secured to the platen and having a notch therein, a circular rack, each of the openings in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, a stop carried by said carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement of the stop from the notch or opening in which it is seated, a stop fixed to said rack, and a stop on the platen frame with which the two first mentioned stops cooperate.

48. In a typewriting machine, the combination with a rotary platen, of stop mechanism comprising a plate secured to the platen and having a notch therein, a circular rack, each of the openings in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, a stop carried by said carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement of the stop from the notch or opening in which it is seated, and a clutch between said circular rack and platen.

49. In a typewriting machine, the combination with a rotary platen, of stop mechanism comprising a plate secured to the platen and having a notch therein, a circular rack, the opening in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack,

a stop carried by said carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement of the stop from the notch or opening in which it is seated, and pawl and ratchet mechanism between said circular rack and platen.

50. In a typewriting machine, the combination of a rotary platen, a plate secured to the platen and having a notch therein, a circular rack, the openings in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, a stop carried by said carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement of the stop from the opening in which it is seated, a stop fixed to said rack, a stop connected with the platen frame and with which the two first mentioned stops cooperate, and pawl and ratchet mechanism and a clutch between said rack and platen.

51. In a typewriting machine, the combination of a rotary platen, a plate secured to the platen and having a notch therein, a circular rack, each of the openings in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, a stop carried by said carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement of the stop from the notch or opening in which it is seated, a stop fixed to said rack, a stop connected with the platen frame and with which the two first mentioned stops cooperate, a line spacing ratchet wheel, a clutch for connecting said line spacing wheel with or disconnecting it from the platen, and a pawl carried by said rack and cooperative with said line spacing ratchet wheel.

52. In a typewriting machine, the combination of a rotary platen, a plate secured to the platen and having a notch therein, a circular rack, the opening in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, a stop carried by said stop carrying member and movable from the notch in the plate

into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement from the notch or opening in which it is seated, a stop fixed to said rack, a stop connected with the platen frame and with which the two first mentioned stops cooperate, a line spacing ratchet wheel, a clutch for connecting said line spacing wheel with or disconnecting it from the platen, and a pawl carried by said rack and cooperative with said line spacing ratchet wheel, the stop connected with the platen frame being shiftable and cooperative with said pawl in one of its shifted positions.

53. In a typewriting machine, the combination of a rotary platen, a plate secured to the platen and having a notch therein, a circular rack, each of the openings in said rack being adapted to register with the notch in said plate, a stop carrying member adapted to move with and independently of said rack, a stop carried by said stop carrying member and movable from the notch in the plate into a rack opening or from a rack opening into said notch in the plate when the two are brought into register in order to lock the stop at will either to the platen or to the rack and to prevent an accidental displacement of the stop from the opening in which it is seated, a stop fixed to said rack, a stop connected with the platen frame and with which the two first mentioned stops cooperate, a line spacing ratchet wheel, a clutch for connecting said line spacing wheel with or disconnecting it from the platen, a pawl carried by said rack and cooperative with said line spacing ratchet wheel, the stop connected with the platen frame being shiftable and cooperative with said pawl in one of its shifted positions, and said combination including means for automatically shifting said shiftable stop.

54. In a typewriting machine, the combination of a platen, a stop carrier, a stop shiftable to engage either the platen or the stop carrier, and means which cooperate with said stop to arrest the platen.

55. In a typewriting machine, the combination of a platen, a stop carrier, a stop shiftable to engage either the platen or the stop carrier, and means which cooperate with said stop to arrest the platen, said means including pawl and ratchet mechanism between said stop carrier and platen.

56. In a typewriting machine, the combination of a platen, a stop carrier, a stop shiftable to engage either the platen or the stop carrier, and means which cooperate with said stop to arrest the platen, said means including a line spacing ratchet wheel, and a pawl carried by the stop car-

rier and coöperative with said line spacing wheel.

57. In a typewriting machine, the combination of a platen, a stop carrier, a stop 5 shiftable to engage either the platen or the stop carrier, and means which coöperate with said stop to arrest the platen, said means including a line spacing ratchet wheel, a pawl carried by the stop carrier and co- 10 operative with said line spacing wheel, and a clutch between the line spacing wheel and platen.

58. In a typewriting machine, the combination of a platen, a stop carrier that is 15 mounted to turn with or to afford a rotation of the platen independently thereof, a stop shiftable to engage either the platen or the stop carrier, a second stop carried by the stop carrier, and a coöperative stop on the 20 platen frame.

59. In a typewriting machine, the combination of a platen, and means for arresting the platen, said platen arresting means comprising a stop that is shiftable in two direc- 25 tions at substantially right angles to each other, the movement of the stop in one of said directions bringing about the movement of the stop in the other direction.

60. In a typewriting machine, the combination of a platen, means for arresting the platen, said platen arresting means comprising a stop that is shiftable in two directions at substantially right angles to each other, the movement of the stop in one of said di- 35 rections bringing about the movement of the stop in the other direction, and means for automatically restoring said stop to its normal position after it has been shifted.

61. In a typewriting machine, the combination of a rotary platen, and means for arresting said platen, said platen arresting means comprising a stop, and means for automatically shifting said stop axially of the platen in one direction by a turning of 45 the platen in one direction and for automatically shifting the stop axially of the platen in the opposite direction by a rotation of the platen in the opposite direction.

62. In a typewriting machine, the combination with a rotary platen, of stop mechanism comprising stop devices for arresting the platen, one of said stop devices being shiftable for a limited extent when the stop devices are brought into coöperation but al- 50 ways remaining in the path of the other stop devices, and means coöperative with said shiftable stop to render the stop devices ineffective to arrest the platen in one direction when said shiftable device is in one po- 55 sition.

63. In a typewriting machine, the combination of a platen; and means for arresting the platen, said means comprising a shiftable stop having an aperture therein, and

pawl and ratchet mechanism, and means 65 whereby the pawl is jammed in the ratchet and the platen is arrested when the pawl coöperates with the shiftable stop and the platen is free to be rotated when the pawl registers with the aperture in said shiftable 70 stop.

64. In a typewriting machine, the combination of a platen, and means for arresting the platen, said means comprising a shiftable stop having an aperture therein, 75 and pawl and ratchet mechanism, the construction and arrangement being such that the pawl is jammed in the ratchet and the platen is arrested when the pawl coöperates with the shiftable stop, and the platen is 80 free to be rotated when the pawl registers with the aperture in said shiftable stop, and automatically actuated means for shifting said stop to bring either the body of the stop or the aperture into register with said pawl. 85

65. In a typewriting machine, the combination of a stop mounted on the platen frame for movement in two directions at right angles to each other, means for locking the stop against movement in one direc- 90 tion, and a movable stop coöperative with said first mentioned stop to move it in the other direction and to free it from its locking means.

66. In a typewriting machine, the combination of a stop mounted on the platen 95 frame for movement in two directions at right angles to each other, means for locking the stop against movement in one of said directions, a movable stop coöperative with 100 said first mentioned stop to move it in the other direction and to free it from its locking means, and coöperative means for holding said stops in engagement with each other when the first mentioned stop is disengaged 105 from its locking means.

67. In a typewriting machine, the combination of a stop mounted on the platen frame for movement in two directions at right angles to each other, means for lock- 110 ing the stop against movement in one of said directions, a movable stop coöperative with said first mentioned stop to move it in the other direction and to free it from its locking means, coöperative means for holding 115 said stops in engagement with each other when the first mentioned stop is disengaged from its locking means, and means for automatically effecting a disengagement of the stops from each other. 120

68. In a typewriting machine, the combination of a platen, and billing devices for controlling the extent of rotation of the platen, said billing devices comprising three stops, one of said stops being a shiftable stop 125 that is movable limited distances in two directions at substantially right angles to each other, and the other two stops coöperating

with the shiftable stop, a fixed locking pin with which the shiftable stop coöperates, and a locking pin on the shiftable stop and with which one of said coöperative stops co-acts.

69. In a typewriting machine, the combination of a platen, and billing devices for controlling the extent of rotation of the platen, said billing devices comprising three stops, one of said stops being a shiftable stop that is movable limited distances and the other two stops coöperating with the shiftable stop, a fixed locking pin with which the shiftable stop coöperates, a locking pin on the shiftable stop and with which one of said coöperative stops co-acts, and means for shifting said shiftable stop first in one direction and then in the other.

70. In a typewriting machine, the combination of a platen, and billing devices for controlling the extent of rotation of the platen, said billing devices comprising three stops one of said stops being a shiftable stop that is movable limited distances, the other two stops coöperating with the shiftable stop, a fixed locking pin with which the shiftable stop coöperates, a locking pin on the shiftable stop and with which one of said coöperative stops co-acts, and means for shifting said shiftable stop first in one direction and then in the other, the direction in which said shiftable stop is shifted depending on the direction of rotation of the platen.

71. In a typewriting machine, the combination of a platen, and billing devices for controlling the extent of rotation of the platen, said billing devices comprising three stops one of said stops being a shiftable stop that is movable limited distances and the other two stops coöperating with the shiftable stop, a fixed locking pin with which the shiftable stop coöperates, a locking pin on the shiftable stop and with which one of said coöperative stops co-acts, one of said coöperative stops effecting a movement of the shiftable stop in one direction and the other coöperative stop bringing about a movement of the shiftable stop in the opposite direction.

72. In a typewriting machine, the combination of a platen, stop devices for arresting the platen, one of said stop devices being shiftable mounted and shiftable by another of said stop devices, and automatically operated means for rendering said stop devices inoperative to arrest the platen when it is moved in the same direction in which the said stop devices are operative to arrest the platen in its movement in one direction, the actuation of said automatically operated means being brought about by the coöperation of said stop devices.

73. In a typewriting machine, the combination of a platen, and platen arresting means comprising stop devices for first arresting the platen during its movement in one direction and then permitting a continued movement of the platen in the same direction, one of said stop devices being shiftable mounted and shiftable by another of said stop devices, said platen arresting means including means whereby the co-operation of said stop devices to effect a shifting movement of the shiftable mounted stop brings about an actuation of the parts to permit said continued movement.

74. In a typewriting machine, the combination of a platen, and platen arresting mechanism comprising stop devices for first arresting the platen during its movement in one direction and then permitting a continued movement of the platen in the same direction, one of said stop devices being shiftable mounted and shiftable by another of said stop devices, said platen arresting means including means whereby certain of said stop devices are automatically controlled by the shifting of said shiftable mounted stop to effect an arrest and permit the continued movement specified.

75. In a typewriting machine, the combination of a platen, and platen arresting mechanism comprising stop devices for arresting the platen in its movement in opposite directions, and automatically actuated means for controlling said stop devices to enable the platen to continue its movement in one direction after it is arrested, one of said stop devices being shiftable mounted and shiftable by another of said stop devices, the actuation of said controlling means being brought about by the coöperation of said stop devices and by the shifting of said shiftable mounted stop.

76. In a typewriting machine, the combination of a platen, means for arresting the platen comprising stop devices for arresting the platen in its movement in opposite directions, one of said stop devices being shiftable mounted and shiftable by the other of said stop devices, and automatically actuated means for controlling said stop devices to enable the platen to continue its movement in one direction independently of said stop devices and after the platen has been arrested, the actuation of said controlling means being brought about by the coöperation of said stop devices and by the shifting of said shiftable mounted stop.

77. In a typewriting machine, the combination of a rotative platen; and billing mechanism for arresting the rotation of the platen, said mechanism comprising stop devices normally operative to positively arrest the rotation of the platen in both di-

reactions, certain of said stop devices being normally operatively connected to move concurrently with the platen in the rotative movements of the latter, and automatically
5 operating means for rendering said stop devices inoperative to arrest the platen.

Signed at the borough of Manhattan, city

of New York, in the county of New York, and State of New York, this 23d day of November A. D. 1906.

CLIO B. YAW.

Witnesses:

E. M. WELLS,

J. B. DEEVES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
