

No. 891,806.

PATENTED JUNE 23, 1908.

G. A. SEIB.  
TYPE WRITING MACHINE.  
APPLICATION FILED FEB. 25, 1907.

2 SHEETS—SHEET 1.

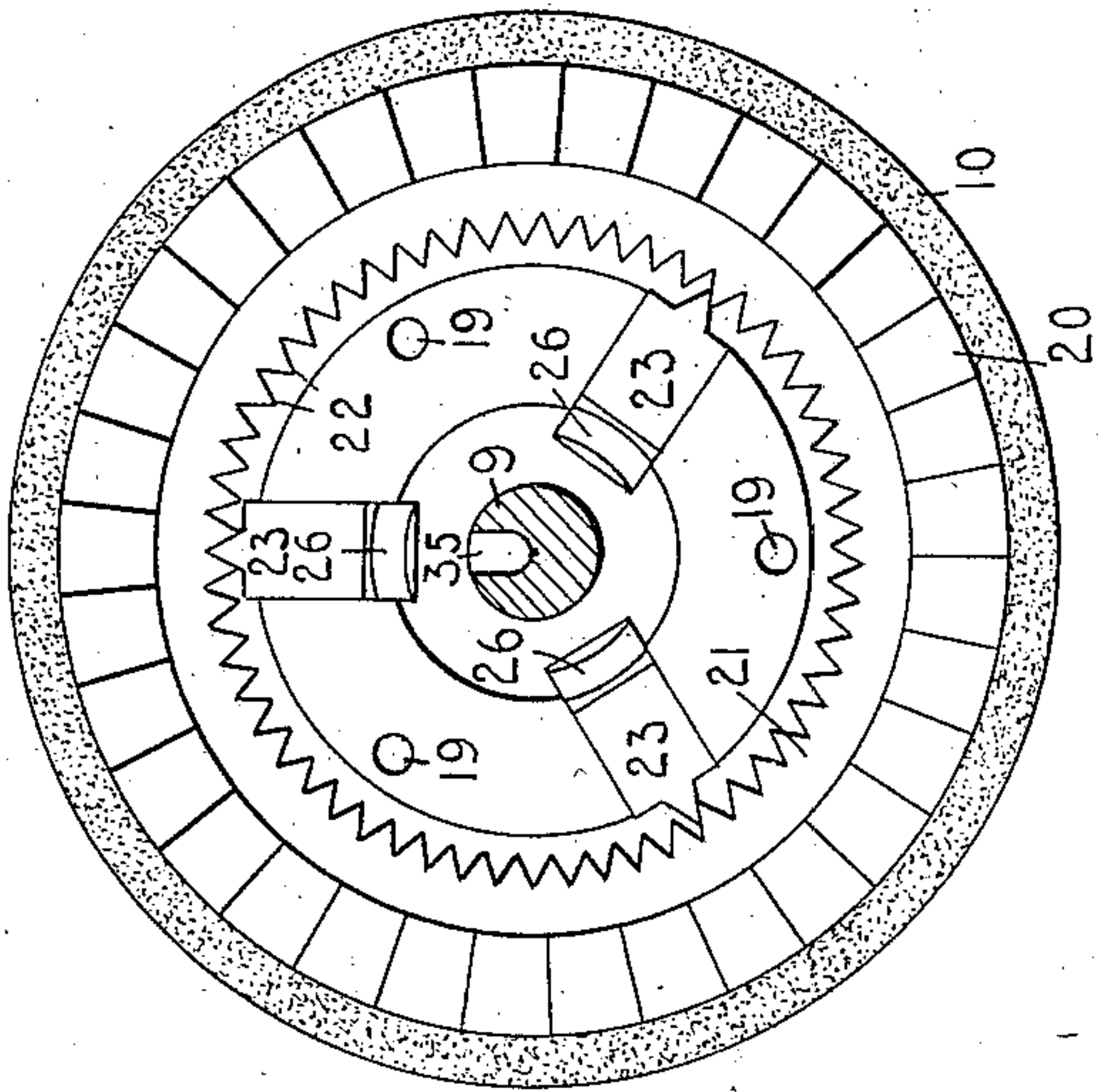


FIG. 3.

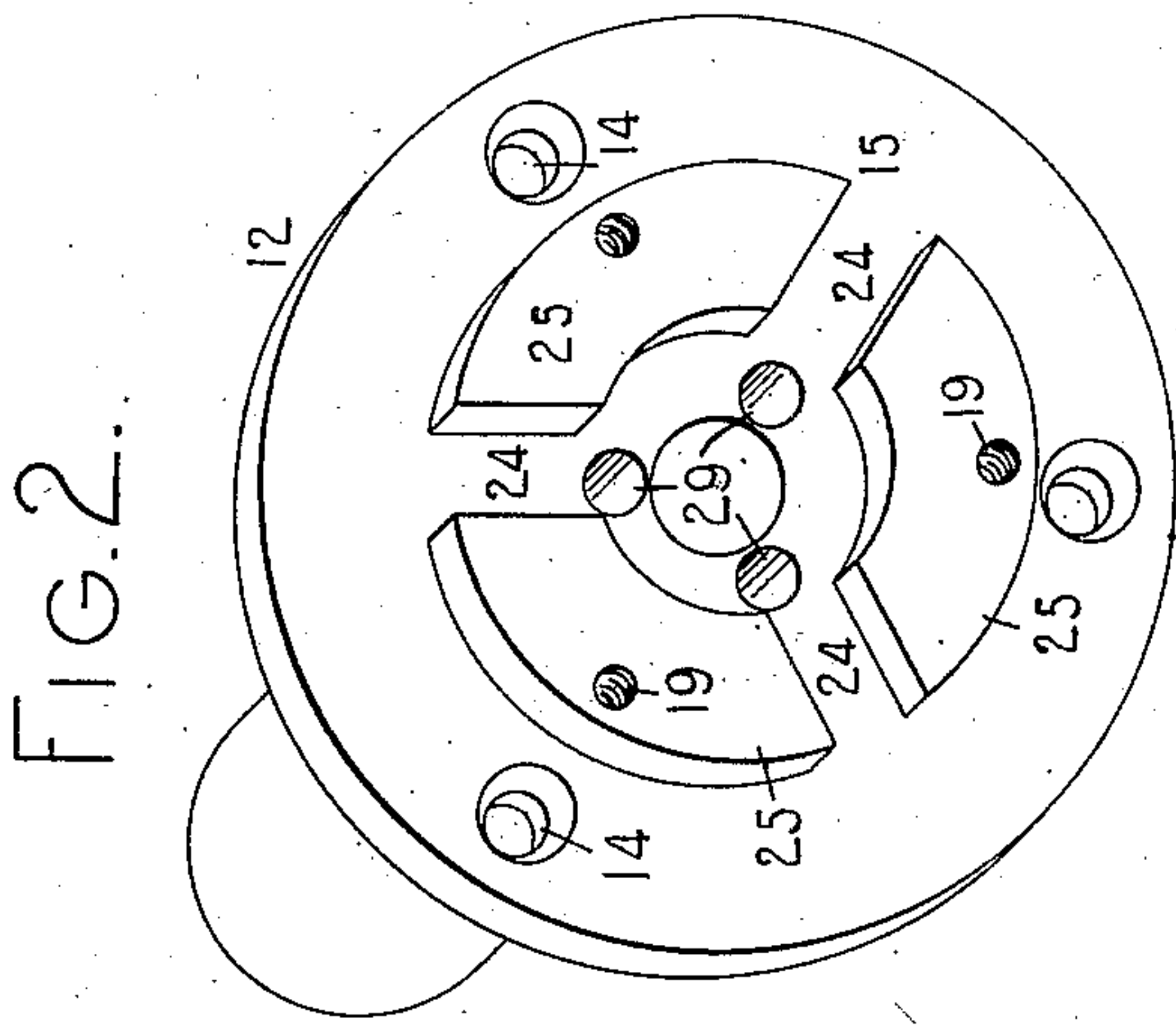


FIG. 2.

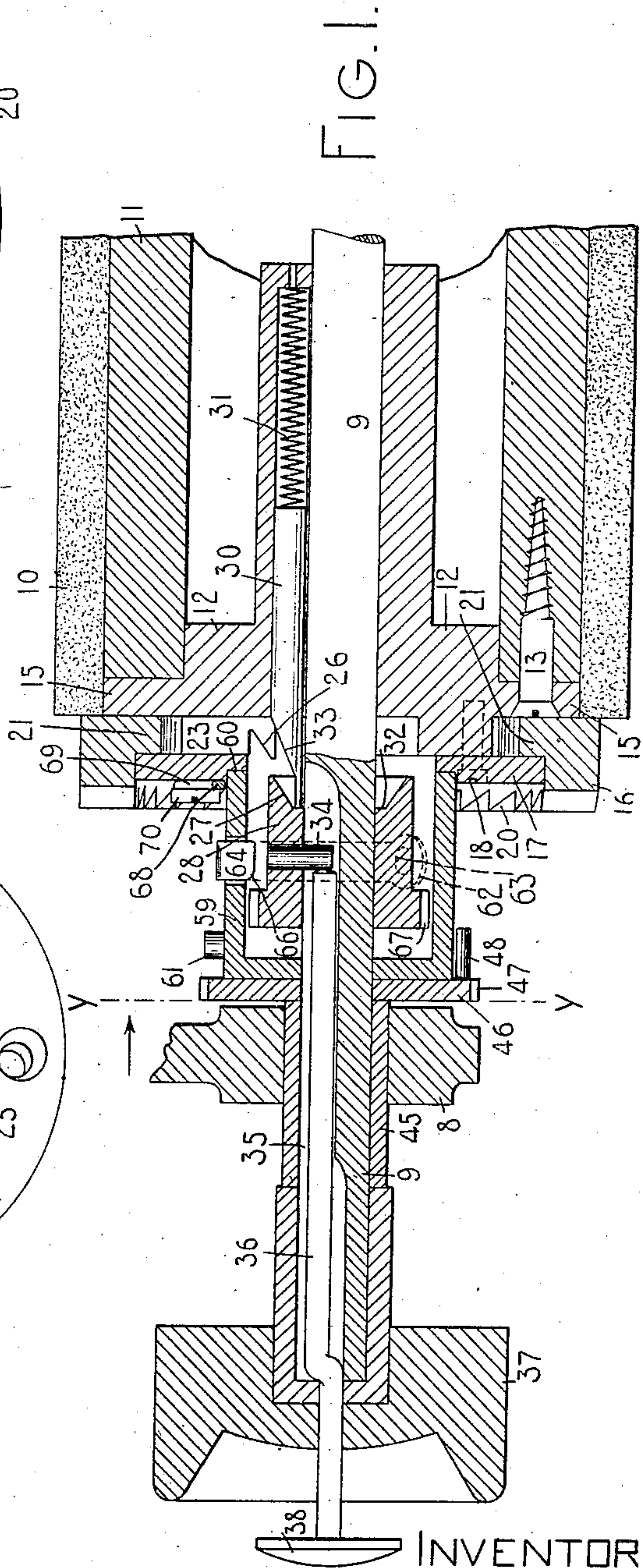


FIG. 1.

WITNESSES:

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INVENTOR

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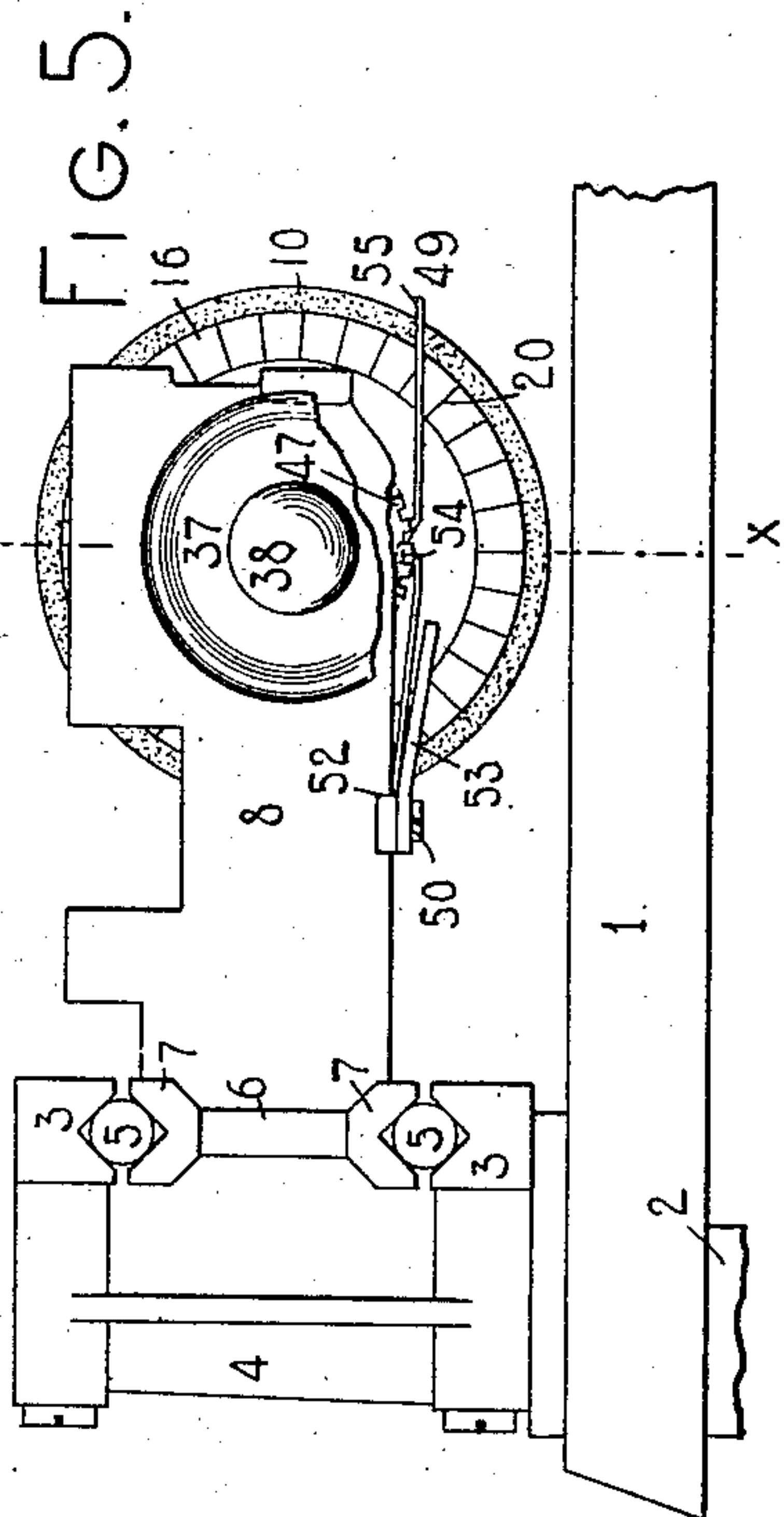
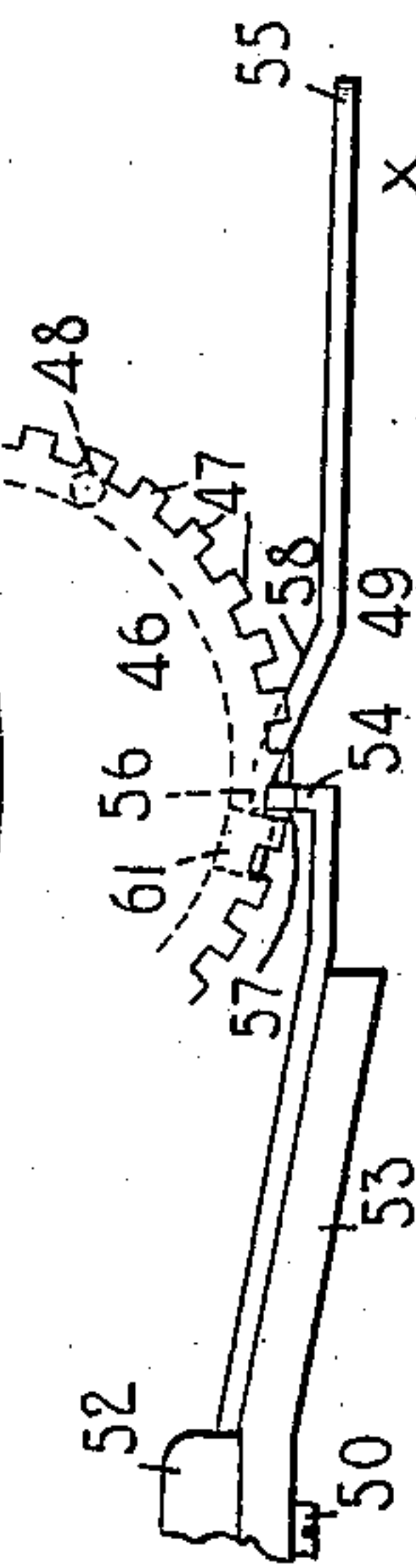
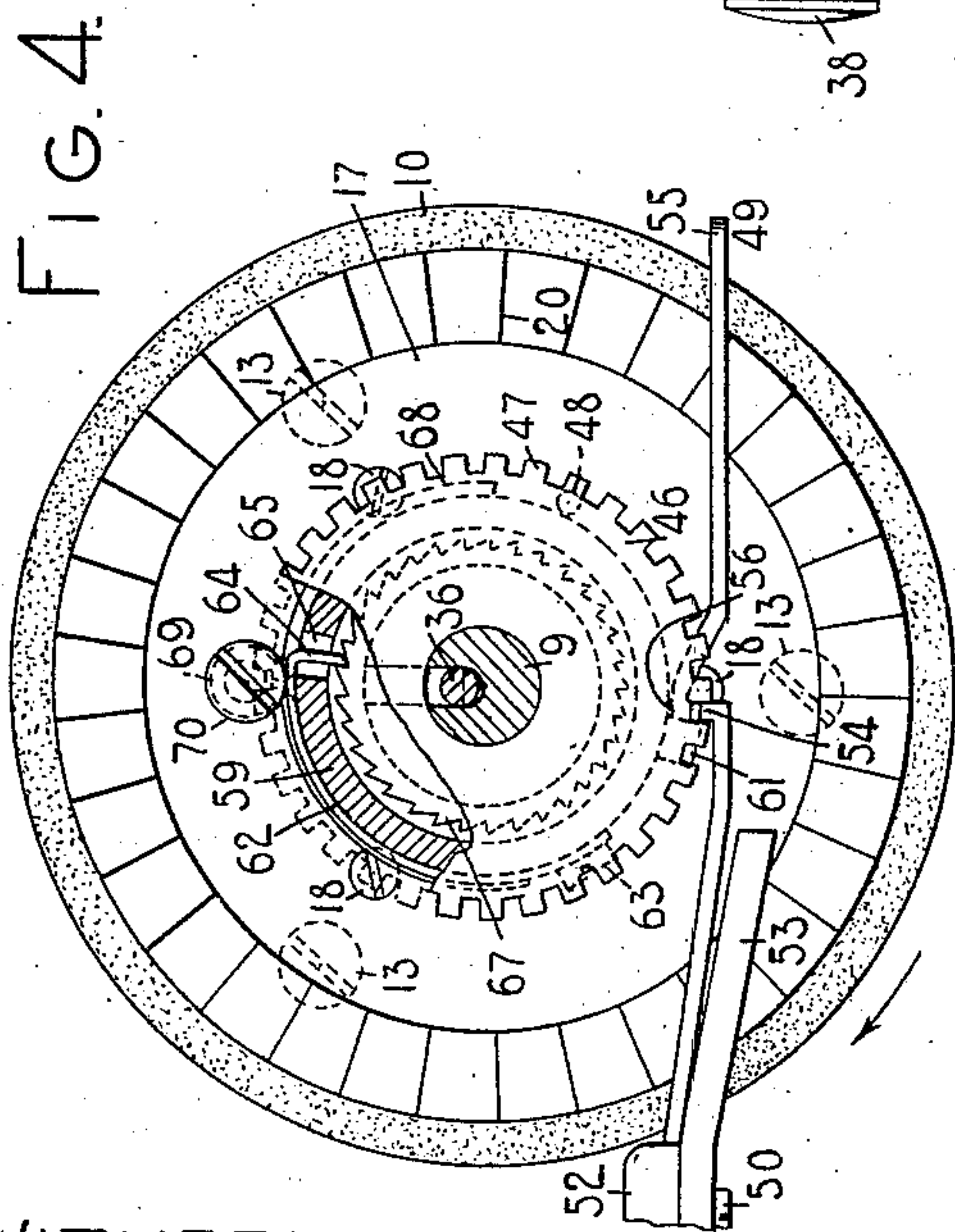
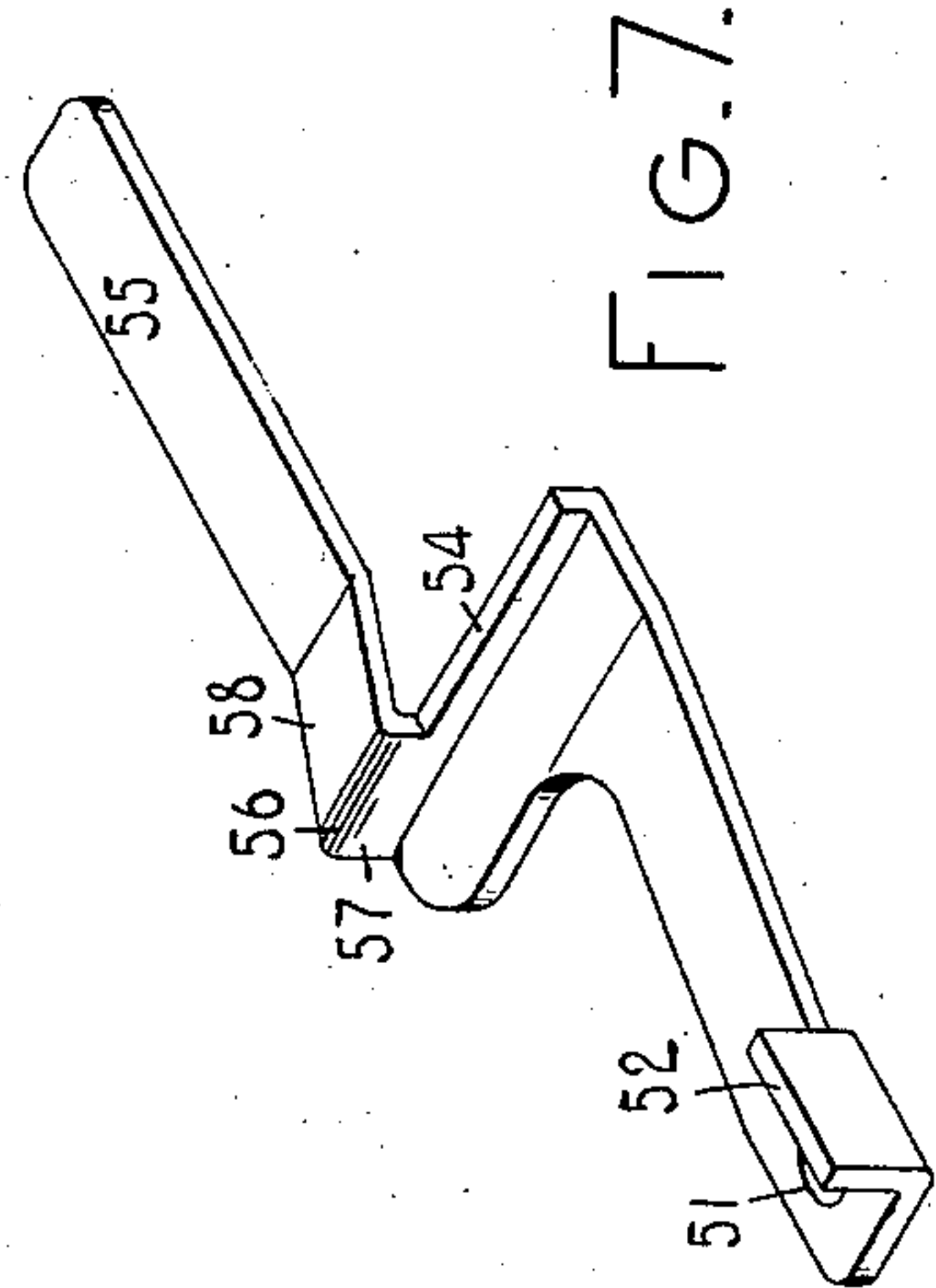
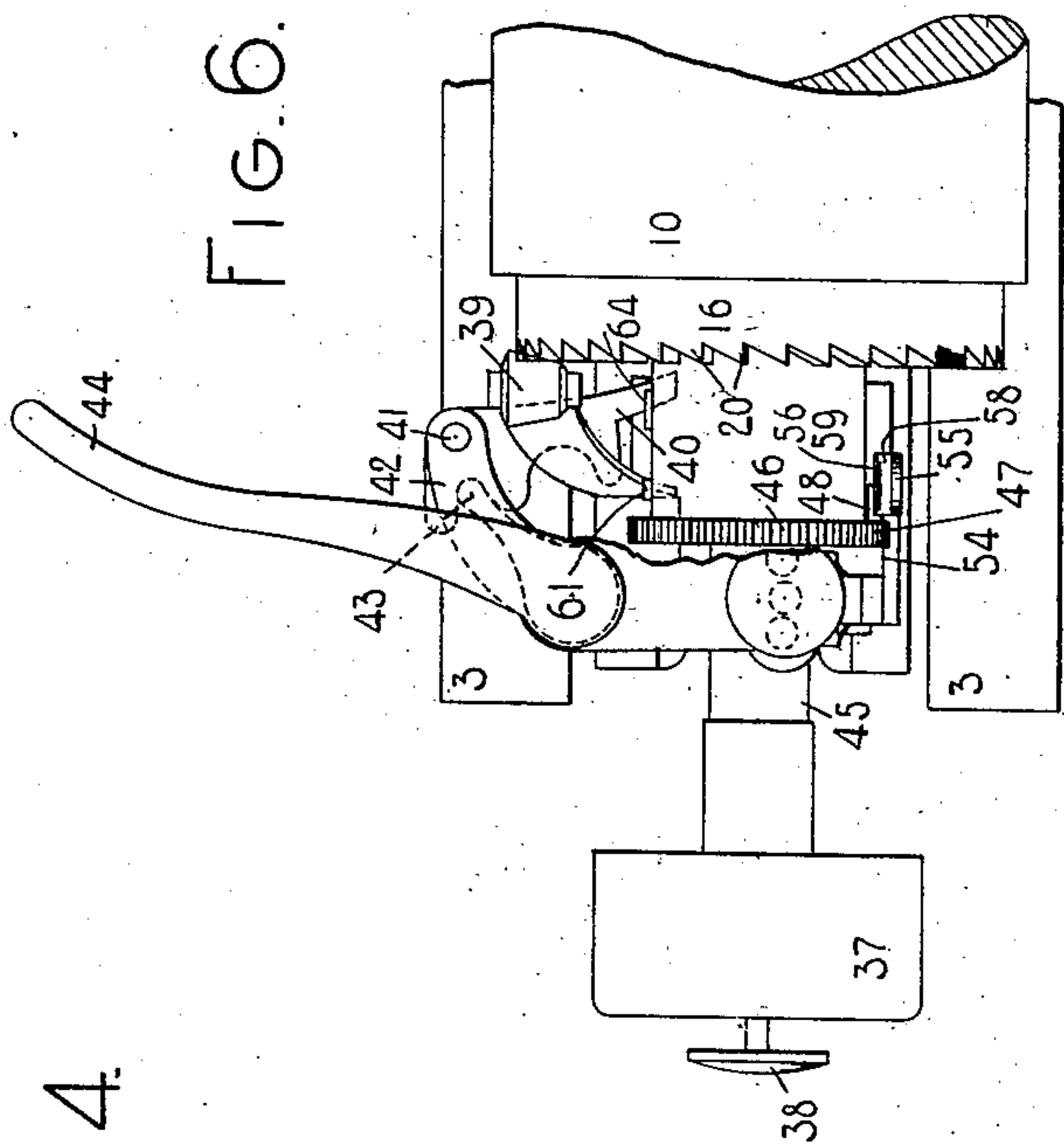
HIS ATTORNEY

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2 SHEETS—SHEET 2.



WITNESSES:

*M. F. Hannweber*

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FIG. 4a

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*George A. Seib*

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# UNITED STATES PATENT OFFICE.

GEORGE A. SEIB, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

No. 891,806.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed February 25, 1907. Serial No. 359,137.

*To all whom it may concern:*

Be it known that I, GEORGE A. SEIB, 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 typewriting machines and more particularly to billing mechanism therefor.

The object of said invention is to provide simple and efficient billing devices particularly adapted for doing "condensed record" work.

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

In the drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is an enlarged fragmentary detail sectional view taken on the line  $x-x$  of Fig. 5 and looking in the direction of the arrow at said line, the view illustrating the platen, certain of the billing devices and the associated parts. Fig. 2 is an enlarged detail perspective view of the left-hand platen head. Fig. 3 is an enlarged left-hand end view of the platen and parts of the platen clutch mechanism, the platen shaft being shown in section and the cover plate 17 removed. Fig. 4 is an enlarged detail sectional view with parts broken away, the view being taken on the line  $y-y$  of Fig. 1 and looking in the direction of the arrow at said line. Fig. 4<sup>a</sup> is a fragmentary end view corresponding to Fig. 4 and showing some of the parts illustrated in Fig. 4 in different positions from those shown in said figure. Fig. 5 is a fragmentary left-hand end view of the upper portion of the machine. Fig. 6 is an enlarged fragmentary front elevation showing the left-hand portion of the platen and the parts associated therewith. Fig. 7 is an enlarged detail perspective view of a combined stop and locking member to be hereinafter described.

I have shown my invention applied to a Monarch machine with which the devices of my invention can be readily employed without appreciably modifying the structural features of the typewriting machine.

The top plate 1 of the machine is supported by corner posts 2. Fixed carriage rails 3 are secured to standards 4 which project upwardly from the top plate. The rails 3 are grooved on opposite faces so as to cooperate with antifriction balls 5 which likewise cooperate with a carriage bar 6. The bar 6 has oppositely grooved rails 7 that co-act with the balls so that the carriage is supported by the ball bearings above the top plate to travel from side to side of the machine. End bars 8 are secured to and project forwardly from the carriage bar 6 and with said bar form a platen frame or carriage. The end bars 8 are apertured to provide bearings for a platen shaft 9 which supports and is secured in the usual manner to a rotary platen.

The platen comprises an outer sheath 10, an inner wooden core 11, a left-hand platen head 12, shown in detail in Fig. 2, and a right-hand platen head (not shown). The left-hand platen head is secured to the core 11 of the platen by headed wood screws 13 which extend through openings 14 in the flange 15 of the platen head and are screwed into the core 11. A line spacing wheel 16 which is in the nature of a ring is mounted to turn on the periphery of a cover plate 17 secured by screws 18 to the platen head, these screws taking into openings 19 in the platen head 12. The plate 17 prevents a movement of the line space wheel to the left, whereas the right-hand face of the line space wheel bears against the flange 15 on the platen head. The line spacing wheel 16 is provided with the usual crown teeth 20. An inwardly projecting flange 21 of the line spacing wheel is provided with inwardly projecting teeth 22 with which radially extending pawls or engaging devices 23 cooperate. These pawls are received in radial openings 24 formed between segmental projections 25 on the platen head 12 so that the pawls are guided in said openings in the sliding movements of the pawls into and out of engagement with the teeth 22. The inner end of each pawl 23 is provided with a beveled or inclined projection 26 with which the internally beveled face 27 of a sliding member 28 cooperates. The platen head 12 is formed with three parallel longitudinally extending channels 29 in which plungers 30 are received. Coiled expansion springs 31 are likewise received in these channels and each bears at one end against the bottom wall of



the channel and at its opposite end against the associated plunger 30 in order to force the plungers to the left in Fig. 1. The outer ends of the plungers bear against a wall 32 of the sliding member 28 so that the plungers are controlled in their movements by said sliding member. Each of the plungers has a beveled face 33 which coöperates with the inner end of the associated pawl 23, as shown in Fig. 1. The sliding member 28 is provided with an inwardly extending pin 34 which is received in a spline groove 35 in the platen shaft 9 so that the member 28 is adapted to slide longitudinally on the shaft 9, although the member 28 and shaft are locked to rotate together. A spindle 36 is received within the spline groove 35 and projects outwardly beyond the finger wheel 37 where the spindle is provided with a finger piece or button 38 by which it may be moved longitudinally of the platen. The inner end of the spindle bears against the pin 34 and a movement of the spindle to the right forces the sliding member 28 and the plungers 30 to the right against the pressure of the springs 31. This movement is effective to move the higher portions of the beveled faces 33 on the plungers away from the pawls 23 and to bring the beveled surface 27 of the sliding member 28 into contact with the beveled faces or inclined projections 26 on the pawls, thereby positively moving the pawls inwardly towards the axis of the platen and carrying the engaging noses of the pawls out of engagement with the teeth 22 on the line spacing ratchet wheel, so that the platen is at this time disengaged from the line spacing wheel and may be turned independently thereof. When pressure is released on the finger piece 38 the springs 31 force the plungers 30 to the left and restore the parts to the normal positions shown in Fig. 1.

The clutch mechanism thus far described is somewhat similar to that set forth and claimed in the application of Hubbard N. Joselyn, Serial No. 335,430, filed September 20th, 1906.

By reference to Fig. 6 it will be seen that the usual spring pressed detent roller 39 coöperates with the ratchet teeth 20 of the line spacing wheel and that said line spacing wheel is actuated by a line spacing pawl 40 pivoted at 41 to a pawl-carrier 42; the pawl being actuated by a crank arm 43 operatively connected with a finger piece 44. An actuation of the finger piece 44 is therefore effective to produce a line spacing movement of the platen in the usual manner. The line spacing mechanism is or may be of the character usually employed in the Monarch machine. The left-hand end portion of the platen shaft is received in a bearing sleeve 45 (Fig. 1) which in turn is received in an opening in the left-hand end bar 8 of the carriage. The inner end of this sleeve bears against a

stop carrier 46 which in the present instance is in the nature of a wheel having teeth 47 spaced and corresponding in number to the teeth of the line spacing ratchet wheel. This wheel 46 receives a bearing on the platen shaft and is provided with an inwardly extending stop pin 48.

A combined stop and locking member designated as a whole by the reference numeral 49 and which is shown in detail in Fig. 7, is secured by a screw 50 to the bottom edge of the left-hand end bar 8 of the carriage, the screw passing through an aperture 51 in the combined stop and locking member. This member is in the nature of a spring plate and has an upwardly projecting lug or flange 52 which bears against the outer side of the left-hand end plate as shown in Fig. 5 in order to prevent the member 49 from turning on the screw 50 as a pivot. The screw 50 which secures the member 49 to the carriage also passes through an opening in a rigid arresting member or projection 53 to secure said projection to the carriage beneath the spring member 49. In the normal position of the parts, as shown in Figs. 4 and 5, the upper surface of the projection 53 is below the lower face of the spring member 49, but is arranged beneath said member so as to limit its downward movement. An engaging tooth 54 projects upwardly from the stop member and is adapted to be maintained seated between the teeth of the wheel 46 by the spring pressure of said member. A forwardly projecting finger piece 55 is formed on the member 49 in order to force it down into contact with the arresting member 53 as shown in Fig. 4<sup>a</sup> to effect a disengagement of the tooth 54 from between the teeth 47 on the wheel 46. An upwardly projecting stop 56 is provided on the member 49, said stop having a rear abrupt or straight face 57 and a forward inclined face 58 for purposes which will hereinafter more clearly appear. A cylindrical stop carrier 59 surrounds the platen shaft and receives a bearing at one end against the wheel 46 and at its opposite end in a cut-out or depression 60 formed in the outer face of the plate 17. This cylindrical stop carrier is provided with an outwardly projecting pin 61 which in its rotation is adapted to contact with the stops 48 and 56. The cylindrical stop carrier 59 has a leaf spring 62 secured thereto at one end by a screw 63, the body of the spring conforming to the contour of the cylinder and the free end thereof being bent inwardly at 64 to form a pawl which projects through an opening 65 in the cylinder, the outer corner or edge of the pawl 64 being slightly beveled as indicated at 66 in Fig. 1 for purposes which will hereinafter appear. The sliding member 28 hereinbefore described is formed at its left-hand end portion with fine ratchet teeth 67 disposed as shown in Fig. 4, the construc-



tion and arrangement of the parts being such that a movement of the finger piece 38 to the right not only effects a release of the line spacing ratchet wheel from the platen as hereinbefore described, but when said release is being effected one of the ratchet teeth 67 on the sliding member is forced into coöperation with the pawl 64. The purpose of the beveled or rounded corner 66 on the tooth or pawl 64 is to enable the ratchet teeth 67 to be readily brought into coöperation with the pawl 64 in the event of the pawl being slightly out of register with a space between said teeth and at the bases thereof. The construction of the parts is such that when the finger piece 38 is moved to the right to bring the pawl 64 and a ratchet tooth 67 into coöperative relation and to release the line spacing wheel from the platen, the cylindrical stop carrier 59 will be positively locked to turn with the platen and platen shaft during the rotation of the platen in a backward direction or in the direction of the arrow in Fig. 4. When, however, the platen is rotated in an opposite or forward direction the cylindrical stop carrier 59 will merely be turned with the platen and the sliding member 28 through the frictional engagement between the parts unless the stop 61 is in contact with the stop 56. In order to secure sufficient frictional engagement between the parts I employ a friction spring 68 (see Figs. 1 and 4), the free end portions of which embrace the cylinder and partly surround it and which is formed with a loop 69 in the central portion thereof for coöperation with a headed screw 70 that secures the spring to the plate 17 attached to the platen head. The friction of the spring bearing against the cylinder 59 tends to turn it with the platen. When the stop 61 meets an obstruction during its forward rotation with the platen, such as the stop 56, the stop 61 and its carrier will be arrested and the platen may continue its forward movement independently of said stop 61 and its carrier. When the parts are in the normal positions shown in Fig. 1 and no pressure is maintained on the finger piece 38 then the stop 61 is merely frictionally connected with the platen and does not obstruct its rotation in either direction.

From an inspection of Fig. 4<sup>a</sup> it will be understood that when the combined stop and locking member 59 is depressed to the position shown in said figure, it effects a release of the tooth 54 from engagement with the stop carrying wheel 46, but that this disengaging movement is insufficient to carry the stop 56 out of the path of the stops 48 and 61 for purposes which will presently appear. From what has been said it will be understood that the stop 48 may receive a rotative adjustment around the axis of the platen and is secured in its adjusted position by the tooth 54 of the combined locking and stop

device 49; that the stop 56 constitutes a fixed stop with which the stop 61 which travels with the platen coöperates, and that the relative adjustment between the stops 48 and 56 determines, under certain conditions, the extent of rotation of the platen in a backward direction. In other words, when the finger piece 38 is moved to the right to effect a coöperation between a ratchet tooth 67 and the pawl 64, backward rotation of the platen at this time enables the platen to be moved a distance corresponding to the distance of the travel of the stop 61 between the stops 56 and 48, the platen being arrested when the stops 61 and 48 are brought into coöperation.

Various methods may be employed for effecting a relative adjustment between the stops 48 and 56 or for "setting" the stops for the particular character of bill or invoice sheets to be employed. One method of setting the stops is as follows: The operator first depresses the finger piece 55 in order to release the wheel 46. The platen is then given a rearward rotation, the frictional action of the device 59 and of the platen shaft on the wheel 46 carrying this wheel with the platen until the stop 48 is arrested by contact with the stop 56 when the finger piece 55 is released and the wheel 46 and the stop 48 carried thereby will be locked in the position which they have been moved by the platen. This is merely for the purpose of getting the stop 48 temporarily out of a position where it will interfere with the proper adjustment of the stop 61. The operator then introduces a bill or invoice sheet of the character to be employed into the machine and steps the platen forward a line-space notch of the line spacing wheel at a time until that part of the bill where the first line of writing is to appear—usually the date line—reaches the printing point or line, the operator counting the number of spaces the platen has been rotated, which by way of example may be assumed to be twenty-six. The platen is then turned back twenty-six spaces, the number of spaces which it received in the forward movement of the platen to bring the date line on the bill to the printing point. This movement effects a movement of the stop 61 away from its coöperating stop 56 a distance of twenty-six spaces corresponding to that which the platen has just received. The finger piece 55 is now depressed releasing the wheel 46. The latter is then turned by hand in a direction opposite to the arrow in Fig. 4 until the stop 48 is brought into contact with the adjusted stop 61. The finger piece is then released, thus locking the stop 48 in its adjusted position. The stops 48 and 56 have now been adjusted a distance apart corresponding to the extent of backward rotation which the platen is to receive in order to take up a newly introduced bill after a bill has been completed as will pres-



ently appear. The bill sheet which has been employed for setting the stops is then removed without disturbing the platen and a bill sheet, record sheet and interposed carbon sheet are then introduced with their leading edges together or with a "lead" given to the bill sheet in the usual manner in order to bring the first line of writing on the record sheet near the top thereof. The platen is given a forward rotation in order to bring the date line on the bill to the printing point or line. This forward rotation of the platen is effective to carry the stop 61 frictionally with it into engagement with the stop 56.

Any movement of the platen to an extent greater than that necessary to carry the stops 61 into contact with the stop 56 merely results in moving the platen independently of the stop 61 which at this time is held in engagement with its fixed stop 56. The operator proceeds to write the bill and the written matter is copied on the record sheet through the interposed carbon. After the last line of the bill has been written the operator effects a double line spacing movement of the platen in order to provide for proper spacing between entries on the record sheet. Provision may be made however, for automatically compensating for this spacing in the first instance by deducting two or three spaces from the number of line spacing movements which the platen has received, and which it has been assumed in the present instance is twenty-six. Thus the operator instead of moving the platen rearwardly twenty-six spaces corresponding to the extent of forward movement thereof, will turn the platen rearwardly say twenty-four spaces, thus adjusting the stop 61 twenty-four spaces instead of twenty-six from the stop 56. A corresponding adjustment of the stop 48 will be effected when it is brought into contact with the stop 61. By an adjustment of the stops in this manner it is necessary to line space after each bill is written to provide proper spacing between copies of the bills on the record sheet. After a bill has been written the operator pushes the finger piece 38 to the right, thus effecting an engagement between the ratchet teeth 67 and the pawl 64, thereby positively connecting the stop 61 with the platen. A backward rotation of the platen is then effected while pressure is maintained on the finger piece 38 carrying the stop 61 from engagement with the fixed stop 56. This movement is continued until the stop 61 is brought into contact with the stop 48 and the platen is arrested. The complete bill sheet may then be removed without disturbing the carbon and record sheet and a new bill sheet may be introduced into the machine and a forward movement given to the platen until the date line is brought to the printing point or line. The operator then proceeds to write the bill as before and the

first line of the copy of the second bill on the record sheet will appear two line spaces 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, carbon and bill sheet may be introduced as before and the operation continued.

During the operation of the machine for ordinary purposes the platen may be rotated any desired extent forward or back in the usual manner, the billing devices in no way affecting the operation of the parts.

From certain aspects of my invention any suitable means may be employed for effecting an adjustment of the stop 48 and for locking it in its adjusted position and various other changes may be made without departing from 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 frame, a rotary platen, a stop that is rotative around the axis of the platen, means for securing said stop to the platen frame, whereby said stop may be held against movement in different positions to which it may be rotatively adjusted, a second stop fixed against rotation with the platen, a third stop, and means to positively rotate the last mentioned stop with the platen in one direction, said third stop being frictionally connected to rotate with the platen in the opposite direction and being operative on one of the other stops to arrest the platen.

2. In a typewriting machine, the combination of a platen frame, a rotary platen, a stop that is rotative around the axis of the platen, means for securing said stop to the platen frame, whereby said stop may be held against movement in different positions to which it may be rotatively adjusted, a second stop fixed against rotation with the platen, a third stop rotative around the axis of the platen, and pawl and ratchet mechanism between said third stop and the platen for positively turning the third stop with the platen in one direction and for enabling the platen to rotate independently of said third stop in the opposite direction.

3. In a typewriting machine, the combination of a platen frame, a rotary platen, two stops which are rotative around the axis of the platen, means for securing one of said stops to the platen frame in different positions to which it may be rotatively adjusted, means for positively connecting the other of said stops to rotate with the platen in one direction and for enabling the platen to rotate independently of the last mentioned stop in the opposite direction, and a third stop fixed against rotation with the platen and projecting into the path of said rotative stops.

4. In a typewriting machine, the combina-



tion of a rotary platen, a stop carrying disk rotative around the axis of the platen, a locking device for locking said disk in different positions to which it may be rotatively adjusted, a second stop rotative around the axis of the platen, means for positively connecting said second stop to rotate with the platen in one direction and for enabling the platen to rotate independently of the said second stop in the opposite direction, and a third stop which is attached to said locking device and which projects into the path of said second stop.

5. In a typewriting machine, the combination of a rotary platen, a platen frame, a stop carrying disk rotative around the axis of the platen, a latch for locking said disk against movement in different positions to which it may be rotatively adjusted, a second stop rotative around the axis of the platen, pawl and ratchet mechanism for positively connecting said second stop to rotate with the platen in one direction and for enabling the platen to rotate independently of the said second stop in the opposite direction, and a third stop which is carried by the platen frame and projects into the path of said second stop.

6. In a typewriting machine, the combination of a rotary platen, a stop carrying toothed disk rotatively adjustable around the axis of the platen, a latch for locking said toothed disk fixed in different positions to which it may be rotatively adjusted, a second stop carried by said latch, and a third stop that rotates around the axis of the platen and coöperates with said two first mentioned stops.

7. In a typewriting machine, the combination of a rotary platen, a stop carrying toothed disk rotatively adjustable around the axis of the platen, a latch for locking said toothed disk fixed in different positions to which it may be rotatively adjusted, a second stop carried by said latch, a third stop that rotates around the axis of the platen and coöperates with said two first mentioned stops, and pawl and ratchet mechanism between said third stop and the platen.

8. In a typewriting machine, the combination of a rotary platen, a platen frame, a stop carrying toothed disk rotatively adjustable around the axis of the platen, a latch carried by the platen frame for locking said toothed disk fixed in different positions to which it may be rotatively adjusted, a second stop carried by said latch, a third stop that rotates around the axis of the platen and coöperates with said two first mentioned stops, and means for positively connecting said third stop to rotate with the platen in one direction and for enabling the platen to rotate independently of said third stop in the opposite direction, whereby the platen

may be arrested at a predetermined point in its rotation in one direction and may be rotated to any desired extent in the opposite direction.

9. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen to different set positions, a stop carried by said carrier, and a combined stop and locking device operative to hold said carrier and the stop thereon motionless during the operation of the billing mechanism.

10. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen to different set positions, a stop carried by said carrier, and a combined stop and locking device coöperative with said carrier and the stop thereon, the stop of the combined stop and locking device projecting into the path of the stop on the carrier, and said device co-acting with the carrier to hold it in its adjusted position during the operation of the billing mechanism.

11. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen, a stop carried by said carrier, a combined stop and locking device coöperative with said carrier and the stop thereon, and a third stop rotative with the platen, the stop of said combined stop and locking device projecting into the path of both of the other stops, and said device co-acting with said carrier to hold it in its adjusted position during the operation of the billing mechanism.

12. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen, a stop carried by said carrier, and a combined stop and locking device coöperative with said carrier and the stop thereon, the stop of the combined stop and locking device projecting into the path of the stop on the carrier, and said device co-acting with the carrier to hold it in its adjusted position during the operation of the billing mechanism, the construction and arrangement of the parts being such that said combined stop and locking device can be moved to disengage the stop carrier without removing the stop on said device out of the path of the other stop.

13. In a typewriting machine, the combi-



nation of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen, a stop carried by said carrier, a combined stop and locking device coöperative with said carrier and the stop thereon, and a third stop rotative with the platen, the stop of said combined stop and locking device projecting into the path of both of the other stops, and co-acting with said carrier to hold it in its adjusted position during the operation of the billing mechanism, the construction and arrangement of the parts being such that said combined stop and locking device can be moved to disengage the stop carrier without removing the stop on said device out of the path of said third stop which is rotative with the platen.

14. In a typewriting machine, the combination of a rotative platen; a line spacing wheel adapted to turn with the platen and to afford a rotation of the platen independently thereof; a clutch for connecting said line spacing wheel and platen; hand actuated clutch controlling means; and billing devices which are rendered operative by an actuation of said clutch controlling means, said billing devices comprising stops; and means for rendering the stops effective to arrest the platen in its rotation in one direction and for enabling it to turn to any desired extent in the opposite direction.

15. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising stop devices, pawl and ratchet mechanism between certain of said stop devices and the platen to lock the parts to rotate together in one direction and to enable one part to rotate independently of another in the opposite direction, and spring restored hand actuated controlling means operable independently of the rotation of the platen for throwing parts of the pawl and ratchet mechanism into and out of coöperative relation at will.

16. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising stop devices, pawl and ratchet mechanism between certain of said stop devices and the platen, for causing the parts to move together in one direction and enabling them to move independently of one another in an opposite direction, a part of said pawl and ratchet mechanism being movable longitudinally of the platen, and a finger piece for controlling such movement of said part.

17. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a plurality of coöperative stops for arresting

the platen, a stop carrier, a pawl, a ratchet, the pawl and ratchet causing the parts to move together in one direction and enabling them to move independently of one another in an opposite direction, one of said pawl and ratchet members being movable longitudinally of the platen to bring the pawl and ratchet into or out of coöperative relation, and a finger piece for effecting such relative movement between the pawl and ratchet.

18. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a plurality of coöperative stops for arresting the platen, a cylindrical stop carrier, a pawl carried by said stop carrier, a ratchet wheel contained within said cylindrical stop carrier, the pawl and ratchet wheel causing the parts to move together in one direction and enabling them to move independently of one another in an opposite direction, and hand actuated means operable independently of the rotation of the platen for effecting a relative movement between said ratchet wheel and pawl to bring them into and out of coöperative relation.

19. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising a plurality of coöperative stops for arresting the platen, a cylindrical stop carrier, a pawl carried by said stop carrier and projecting through an opening in said cylindrical stop carrier, a ratchet wheel contained within said cylindrical stop carrier and movable independently thereof, and hand actuated means for effecting a movement of said ratchet wheel to bring it into and out of coöperative relation with said pawl.

20. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising three stops, a carrier for one of said stops, said carrier having a rotative adjustment around the axis of the platen to different set positions and relatively to another of said stops which is maintained fixed against movement with the platen, a second carrier which is arranged to travel with the platen and carries another or the third of said stops, and pawl and ratchet mechanism between the traveling carrier and the platen and effecting a movement of the parts together in one direction and allowing a movement of one of the parts independently of the other in the opposite direction.

21. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising three stops, a carrier for one of said stops, said carrier having a rotative ad-



justment around the axis of the platen and relatively to another of said stops which is maintained fixed against movement with the platen, a second carrier which is arranged to travel with the platen and carries another or the third of said stops, pawl and ratchet mechanism between the traveling carrier and the platen for causing a movement of the parts together in one direction and allowing a movement of one of the parts independently of the other in the opposite direction, and hand actuated means for throwing parts of said pawl and ratchet mechanism into and out of cooperative relation.

22. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising three stops, a carrier for one of said stops, said carrier having a rotative adjustment around the axis of the platen and relatively to another of said stops which is maintained fixed against movement with the platen, a second carrier which is arranged to travel with the platen and carries another or the third of said stops, pawl and ratchet mechanism between the traveling carrier and the platen for causing a movement of the parts together in one direction and allowing a movement of one of the parts independently of the other in the opposite direction, and hand actuated means operable at will and independently of the rotation of the platen for effecting a relative movement between the parts of the pawl and ratchet mechanism to render such mechanism operative or inoperative as may be desired.

23. In a typewriting machine, the combination of a rotative platen and billing devices for determining the extent of rotation of the platen, said billing devices comprising three stops, a carrier for one of said stops, said carrier having a rotative adjustment around the axis of the platen and relatively to another of said stops which is maintained fixed against movement with the platen, said fixed stop having means for locking said carrier against movement in different positions to which it may be relatively adjusted, a second carrier which is arranged to travel with the platen and carries another or the third of said stops, and pawl and ratchet mechanism between the traveling carrier and the platen for causing a movement of the parts together in one direction and allowing a movement of one of the parts independently of the other in the opposite direction.

24. In a typewriting machine, the combination of a rotative platen, a line spacing wheel adapted to turn with the platen and to enable the platen to rotate independently thereof, a clutch for connecting said line spacing wheel and platen, and billing devices which are rendered operative when a particular movement is imparted to a part

of said clutch, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen, a stop carried by said carrier, and a combined stop and locking device operative to hold said carrier and the stop thereon motionless during the operation of the billing devices.

25. In a typewriting machine, the combination of a rotative platen, a line spacing wheel adapted to turn with the platen and to enable the platen to rotate independently thereof, a clutch for connecting said line spacing wheel and platen, and billing devices which are rendered operative when a particular movement is imparted to a part of said clutch, said billing devices comprising a stop carrier rotatively adjustable around the axis of the platen, a stop carried by said carrier, and a combined stop and locking device cooperative with said carrier and the stop thereon, the stop of the combined stop and locking device projecting into the path of the stop on the carrier, and said device co-acting with the carrier to hold it motionless in its adjusted position during the operation of the billing devices.

26. In a typewriting machine, the combination of a rotative platen, a line spacing wheel adapted to turn with the platen and to enable the platen to rotate independently thereof, a clutch for connecting said line spacing wheel and platen, and billing devices which are rendered operative when a particular movement is imparted to a part of said clutch, said billing devices comprising pawl and ratchet mechanism thrown into and out of operation by a part of said clutch.

27. In a typewriting machine, the combination of a rotative platen, a line spacing wheel adapted to turn with the platen and to enable the platen to rotate independently thereof, a clutch for connecting said line spacing wheel and platen, and billing devices which are rendered operative when a particular movement is imparted to a part of said clutch, said billing devices comprising stops for arresting the platen, pawl and ratchet mechanism between certain of said stops and the platen, and means controlled by the movement of a part of the clutch into and out of its operative position for rendering the pawl and ratchet mechanism operative or inoperative.

28. In a typewriting machine, the combination of a rotative platen, a line spacing wheel adapted to turn with the platen and to enable the platen to rotate independently thereof, a clutch for connecting said line spacing wheel and platen, and billing devices which are rendered operative when a particular movement is imparted to a part of said clutch, said billing devices comprising three stops, two of said stops being relatively adjustable, certain of said stops being maintained fixed and certain other of said stops



being arranged to travel with the platen for a limited distance, pawl and ratchet mechanism between said traveling stop or stops and the platen, and means operable by a part of  
5 said clutch for throwing said pawl and ratchet mechanism into and out of operation.

Signed at Syracuse, in the county of Onon-

daga and State of New York this 21st day of February A. D. 1907.

GEORGE A. SEIB.

Witnesses:

W. J. LOGAN,

JOHN H. HANSEL.