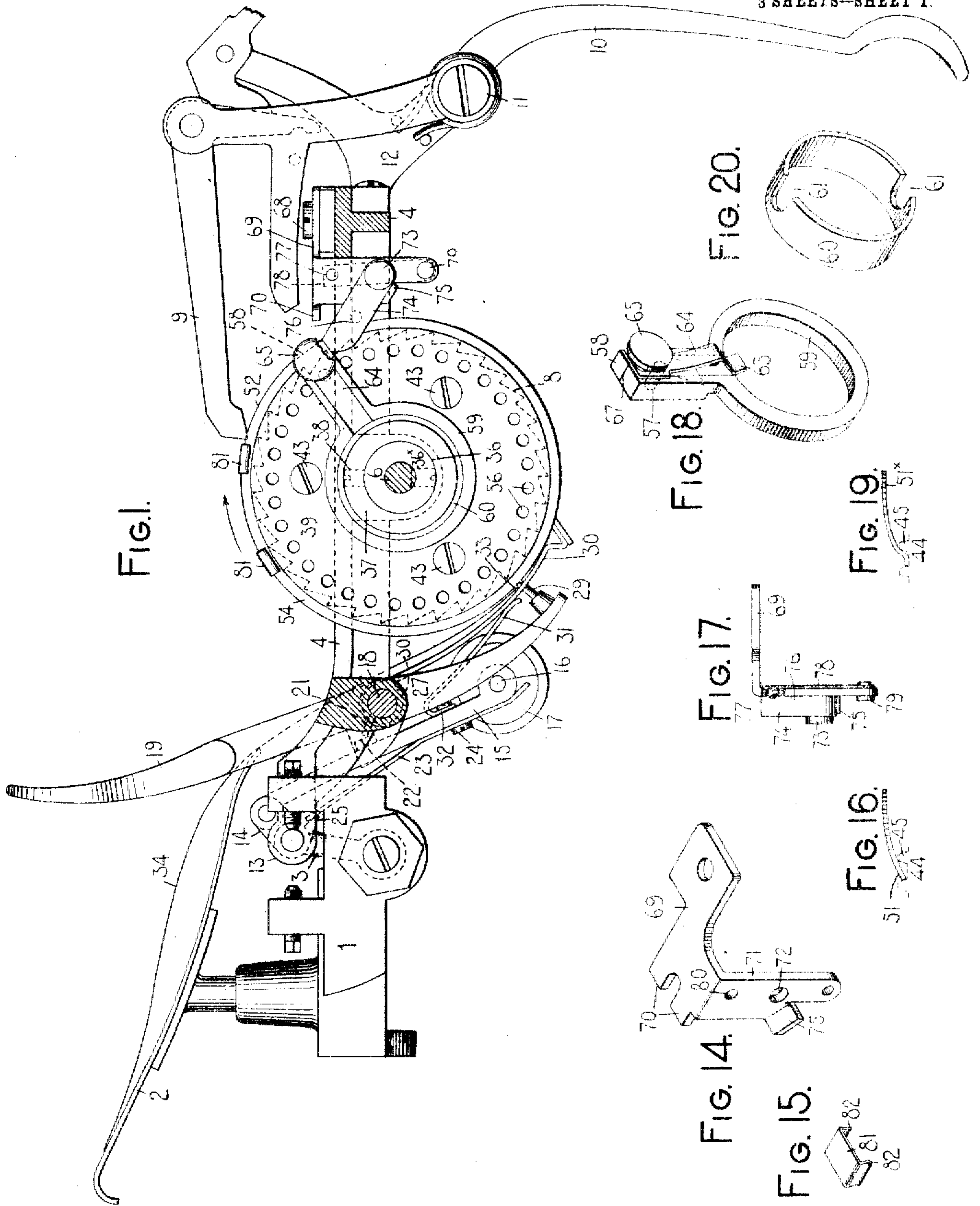


D. BRIGGS.
TYPE WRITING MACHINE.
APPLICATION FILED JUNE 7, 1902.

915,547.

Patented Mar. 16, 1909.

3 SHEETS—SHEET 1.



WITNESSES:

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INVENTOR:

Daniel Briggs
by Jacob Felsel
HIS ATTORNEY

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3 SHEETS—SHEET 2.

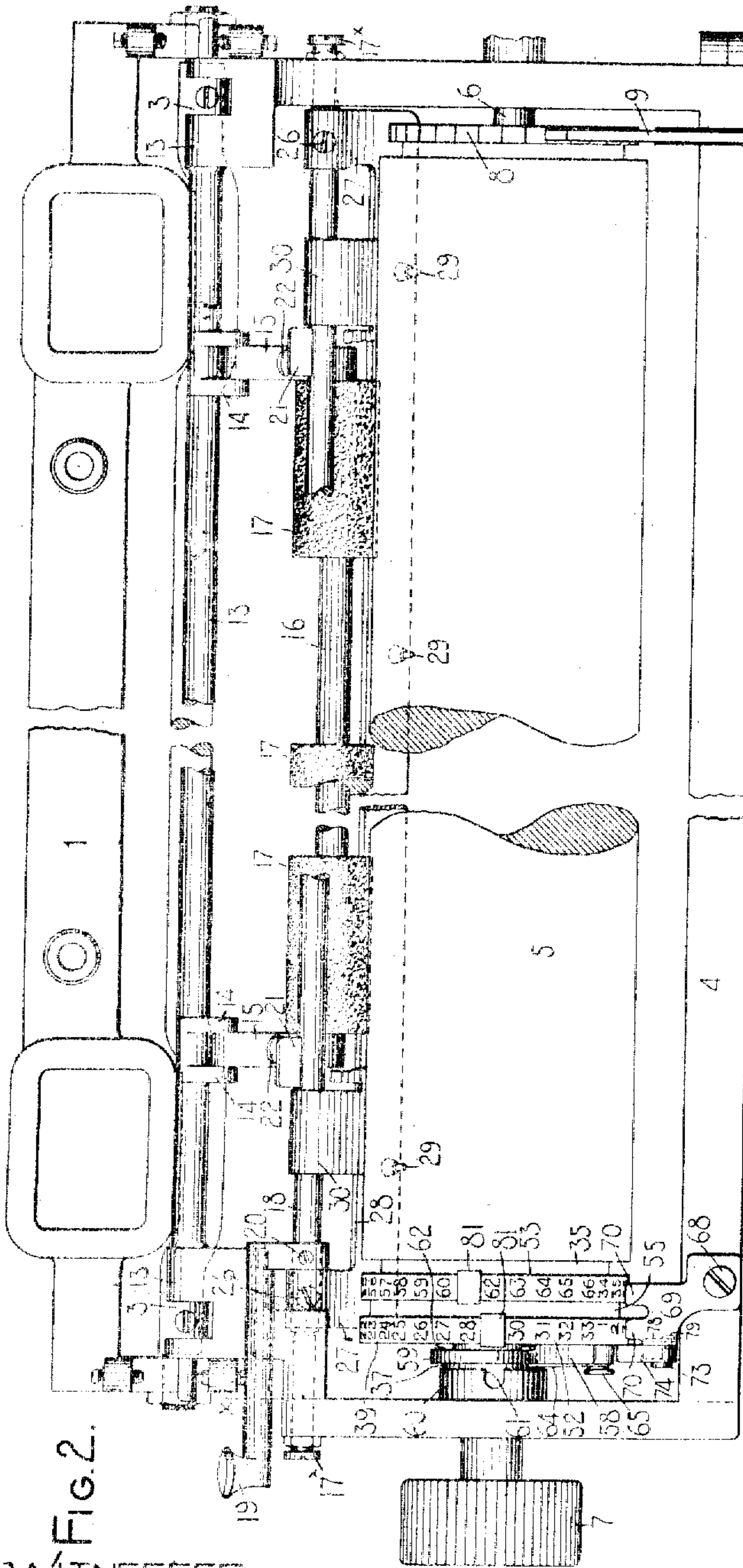


FIG. 2.

WITNESSES:

E. M. Kelley
Charles Smith

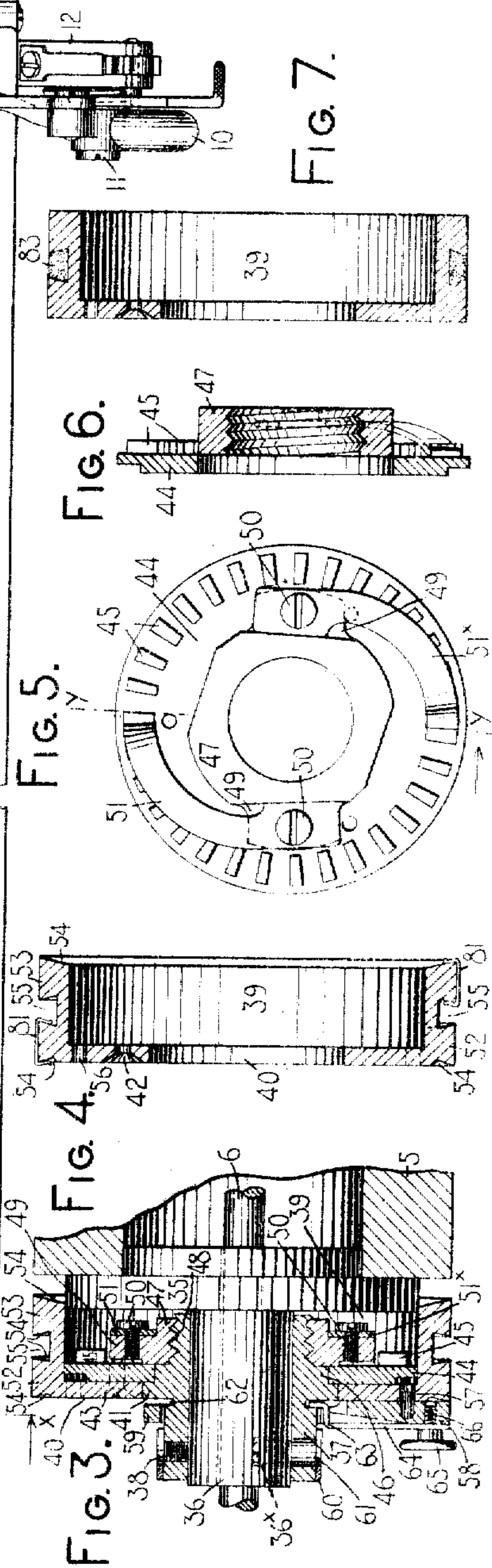


FIG. 3.

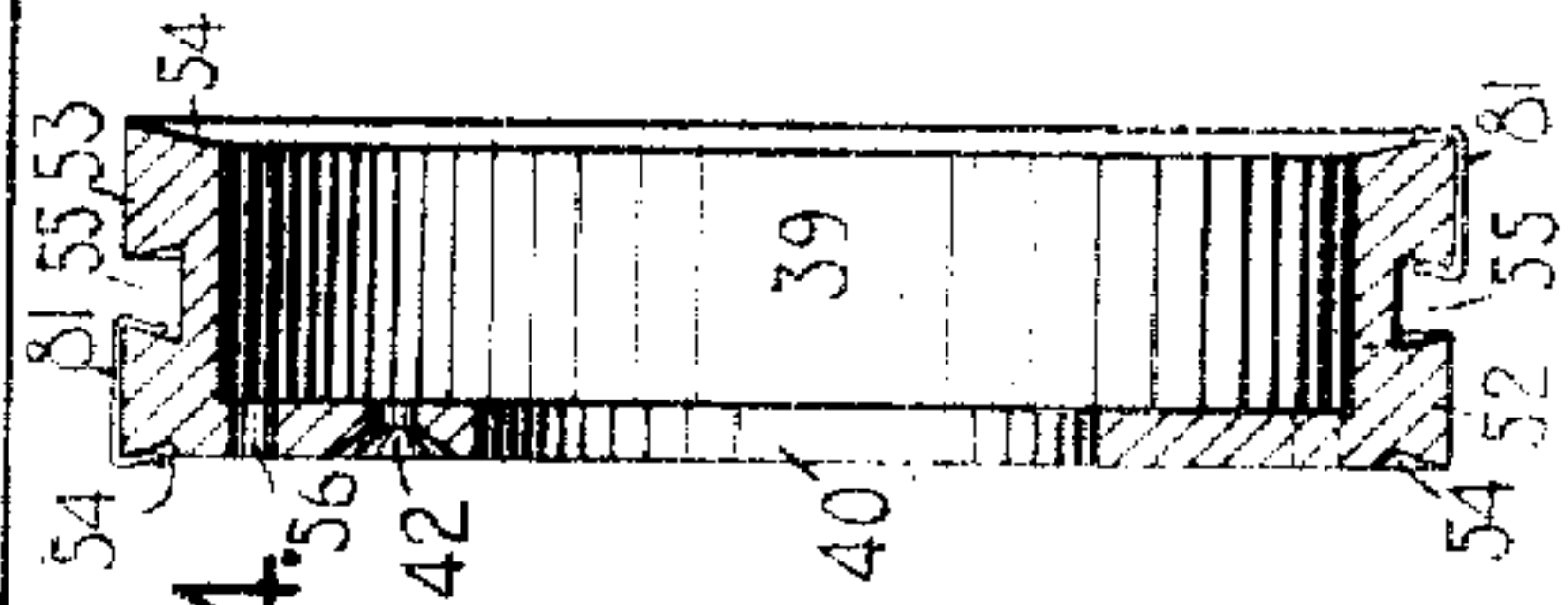


FIG. 4.

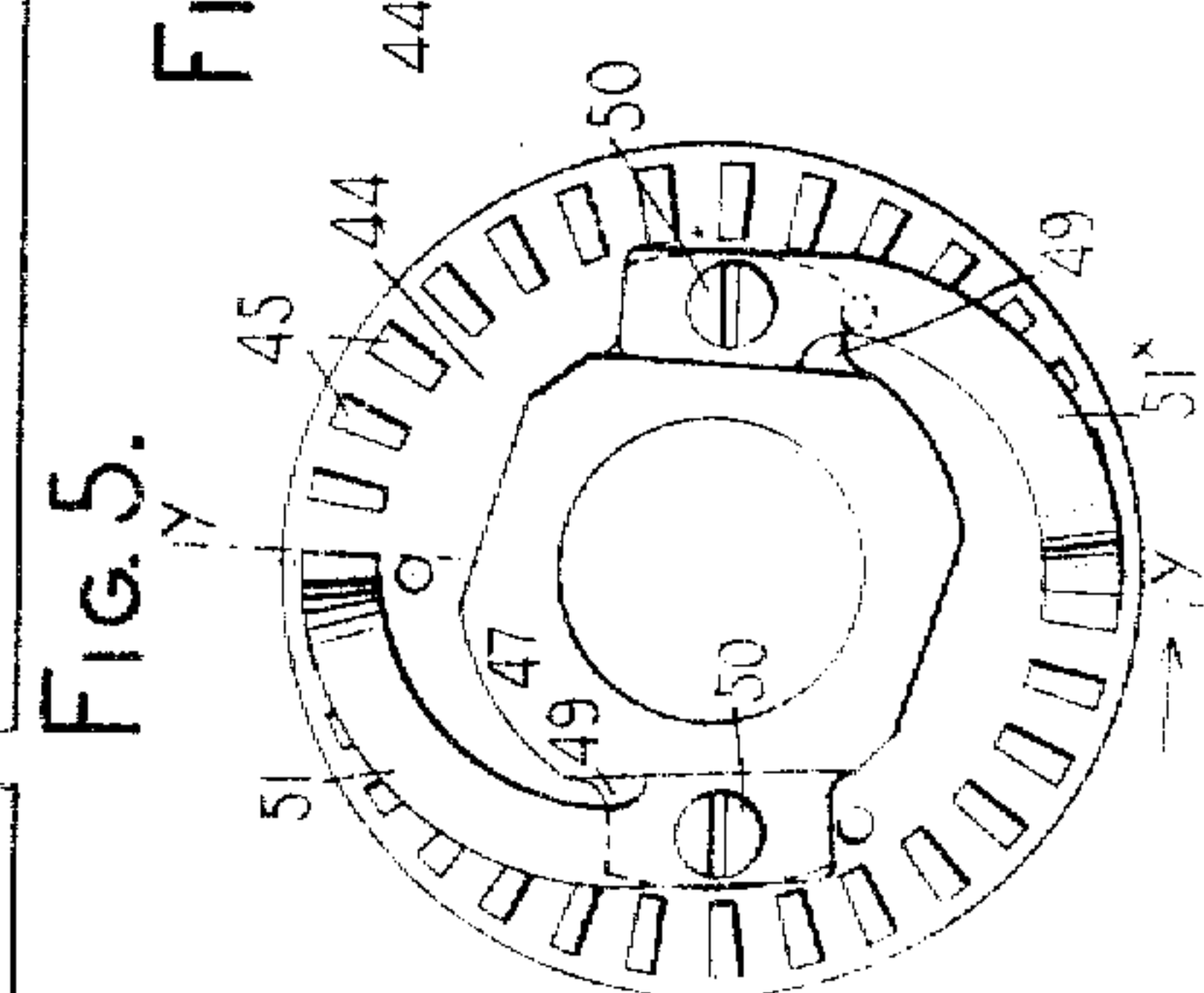


FIG. 5.

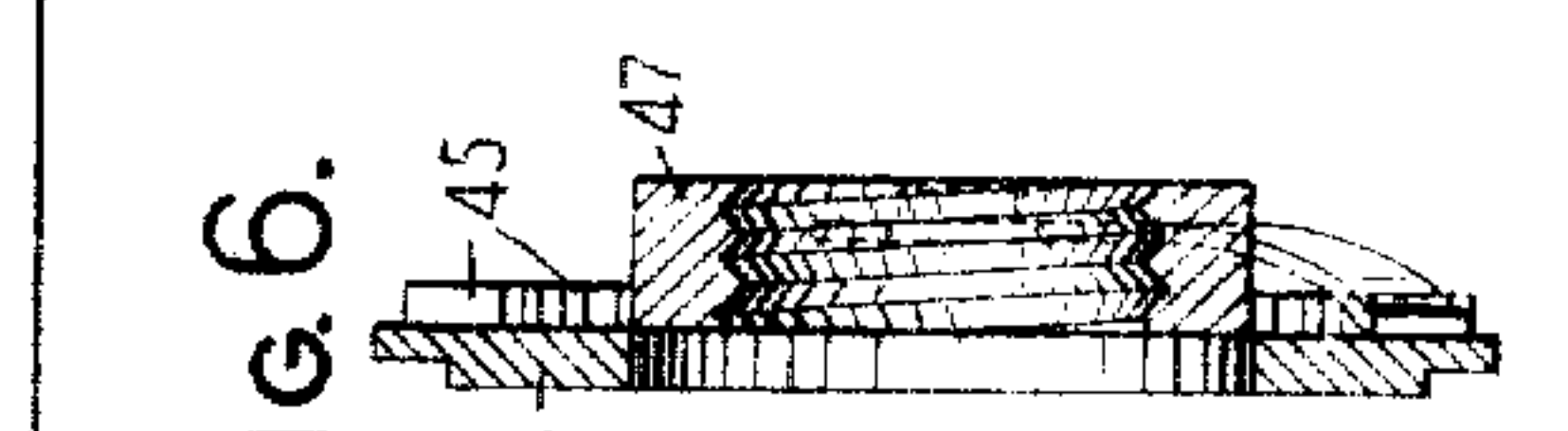


FIG. 6.

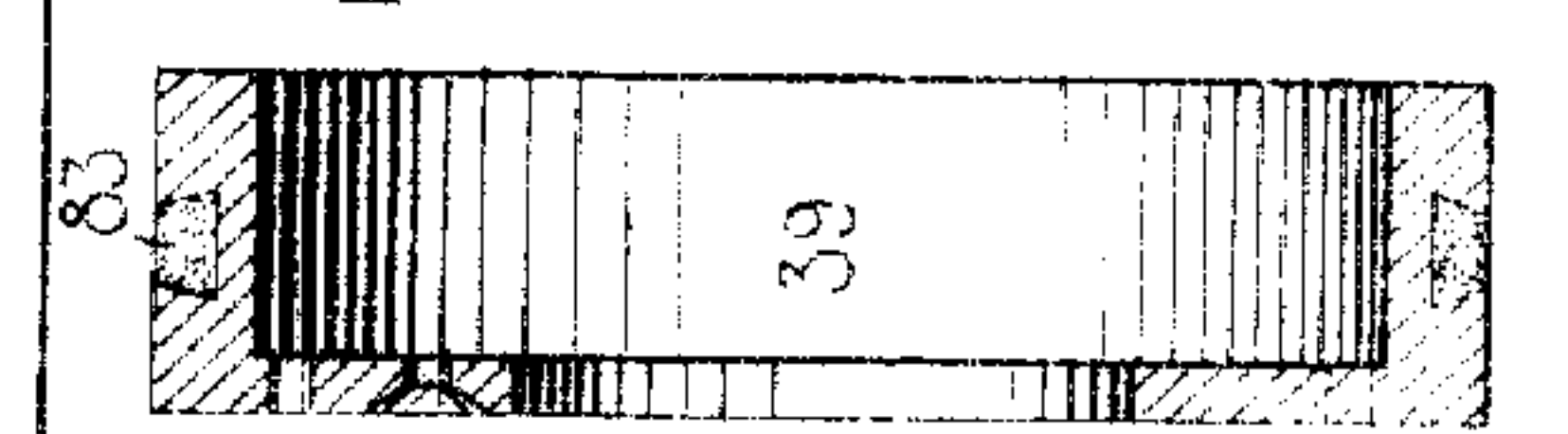


FIG. 7.

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3 SHEETS—SHEET 3.

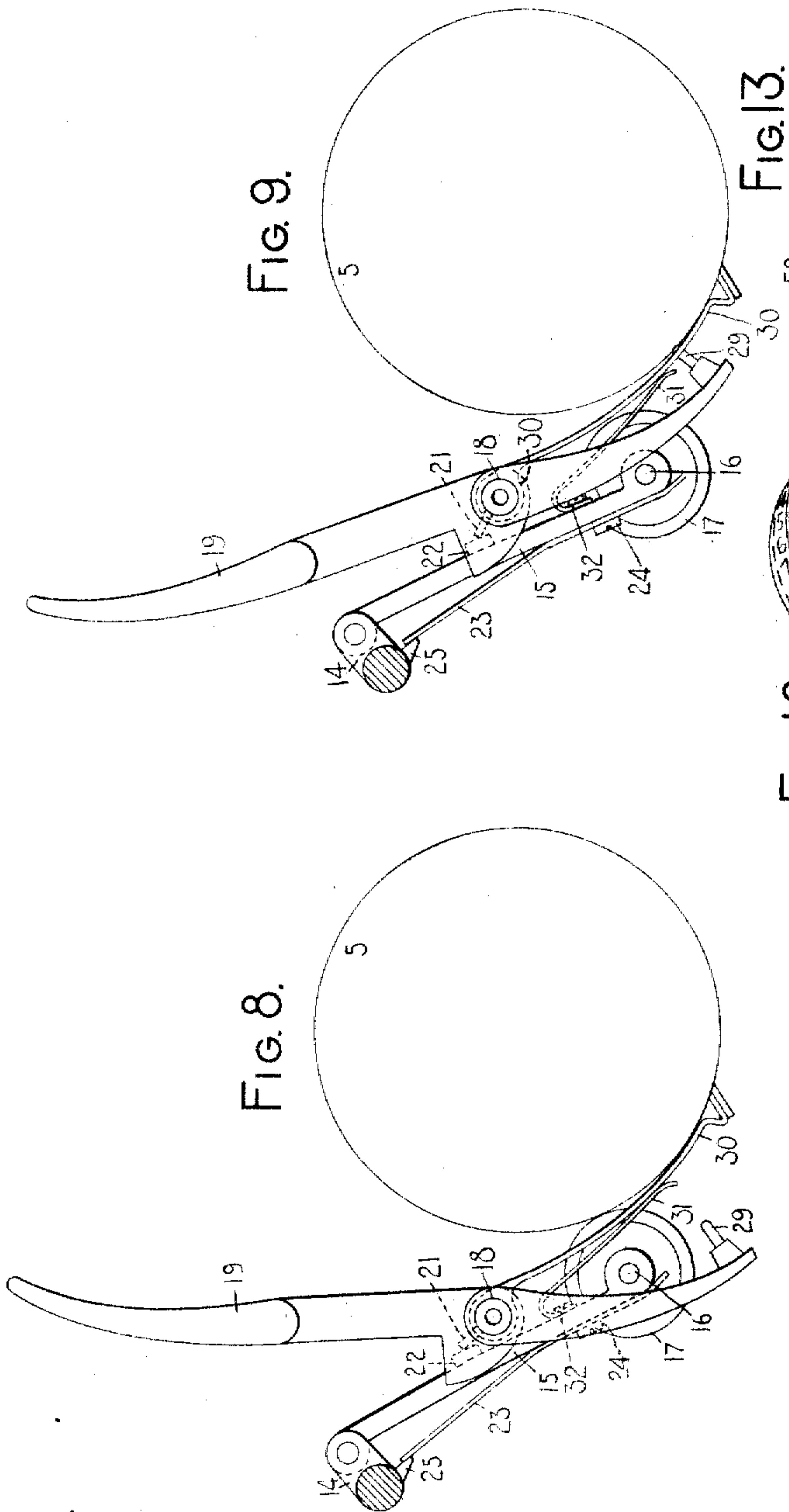


Fig. 13.

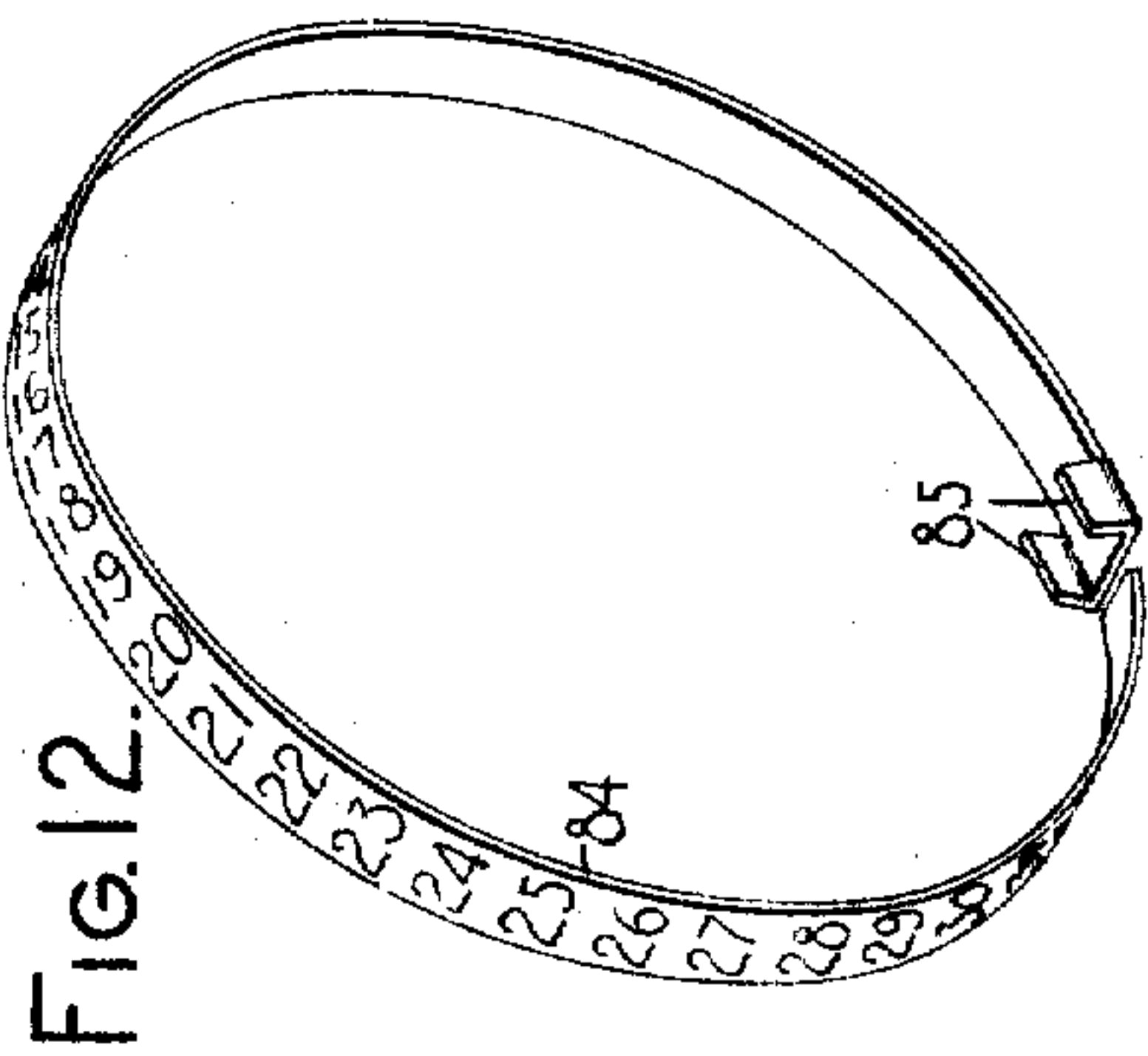
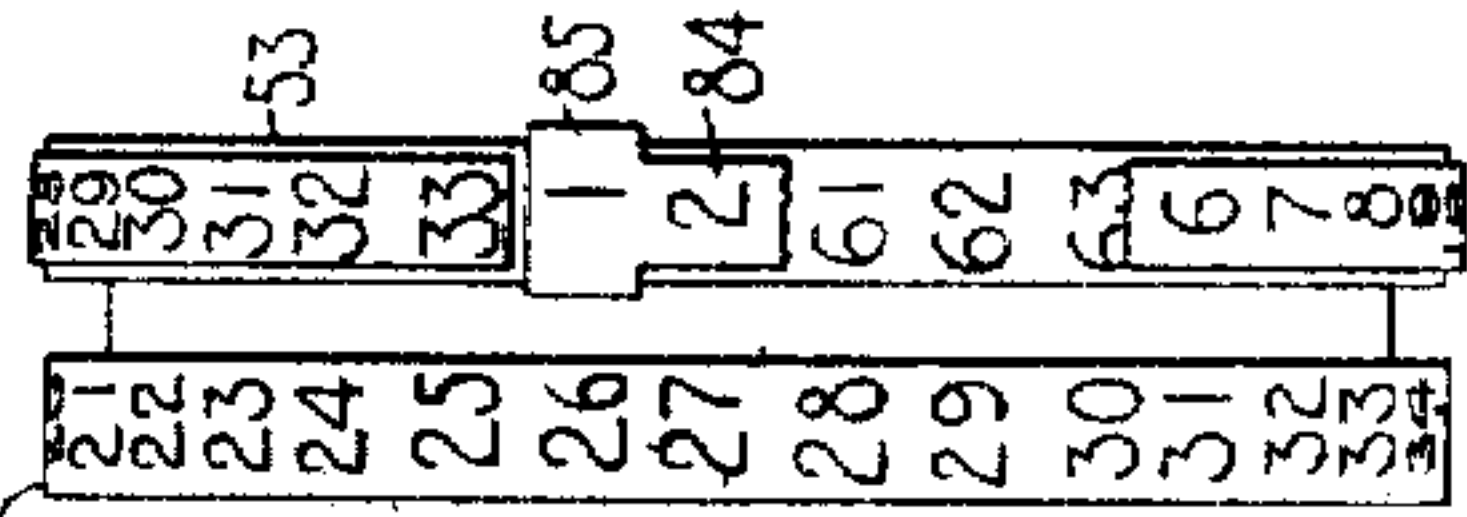


Fig. 11.

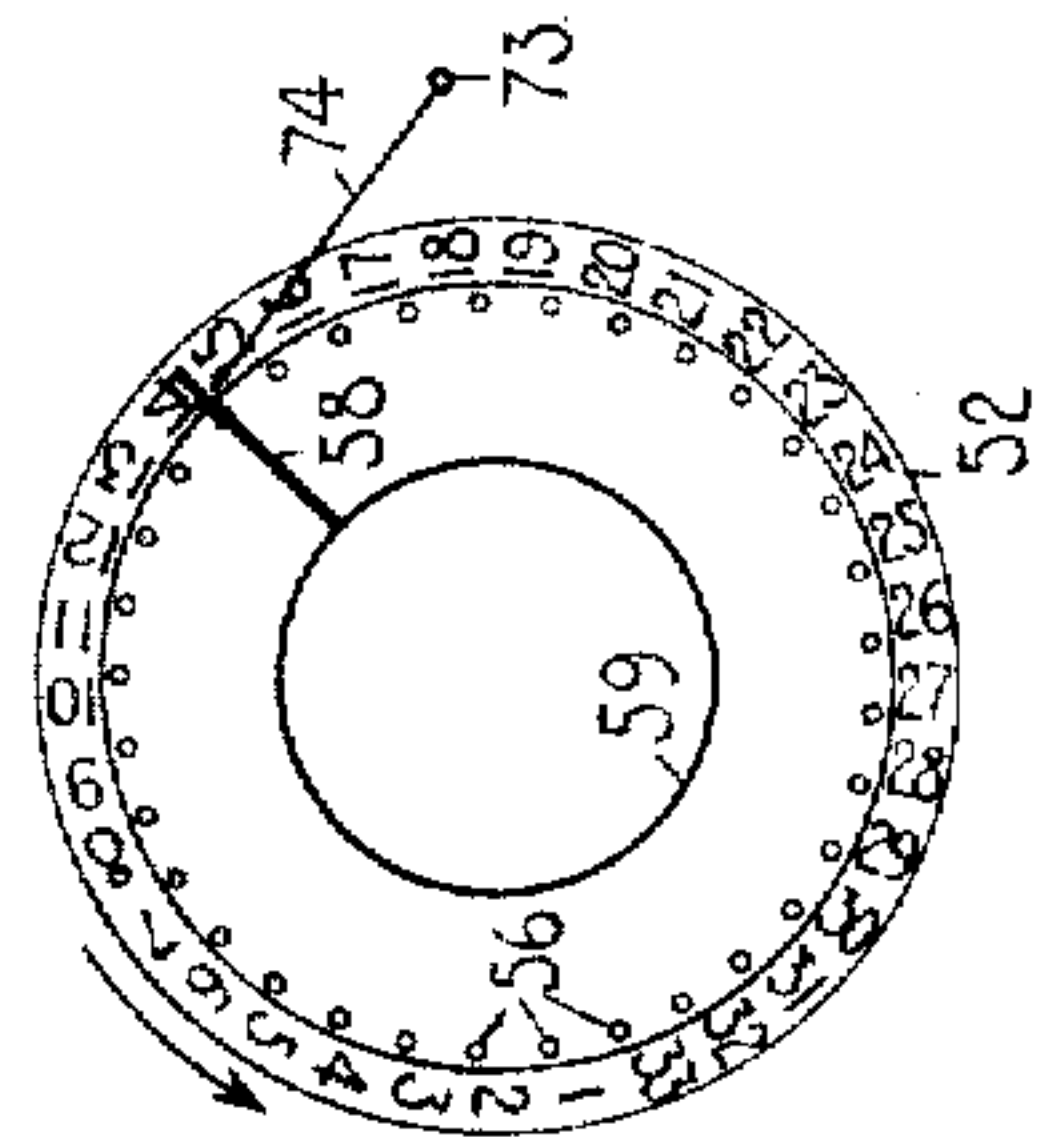
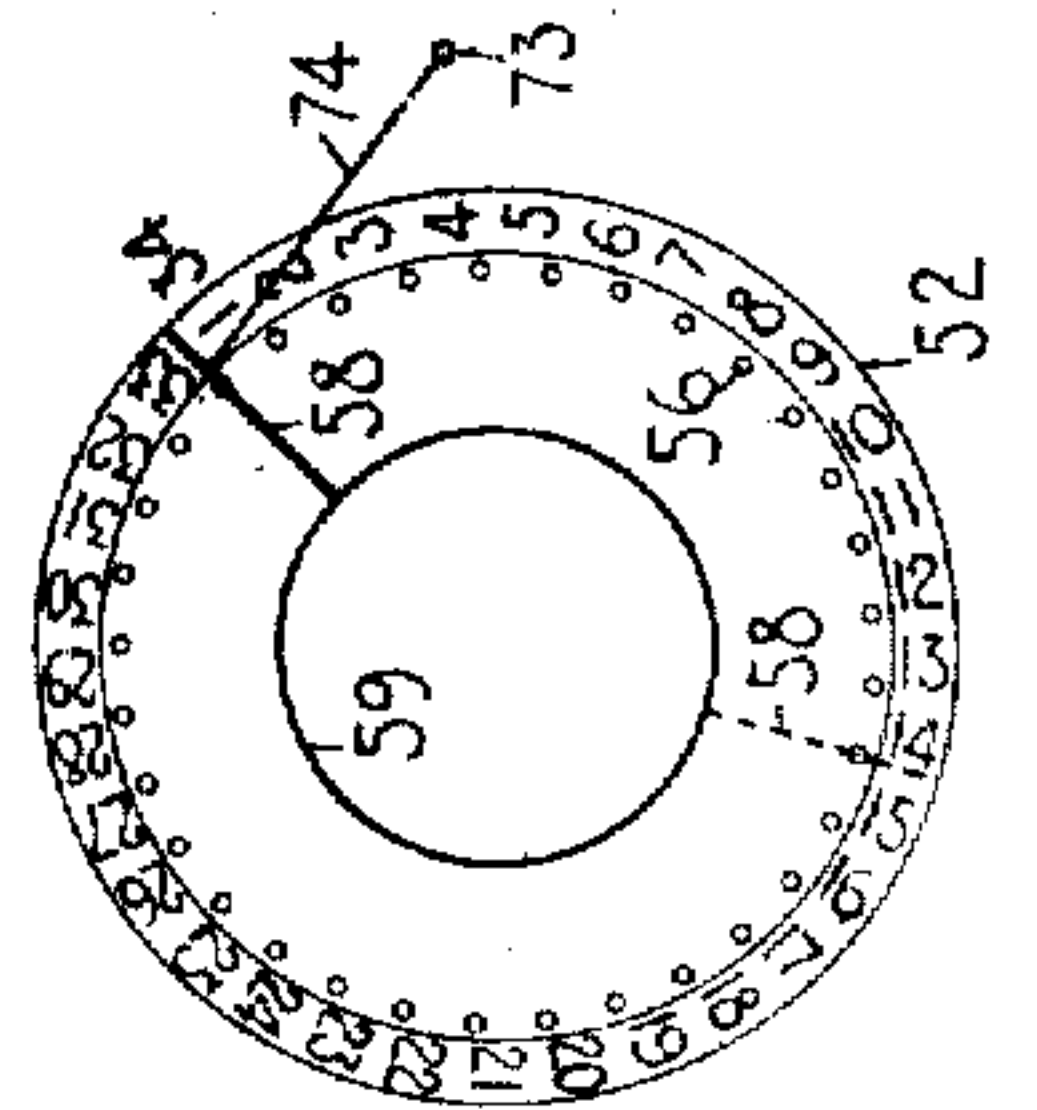


Fig. 10.



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By Jacob Felber

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UNITED STATES PATENT OFFICE.

DANIEL BRIGGS, OF NEW YORK, N. Y., ASSIGNOR TO WYCKOFF, SEAMANS & BENEDICT, OF
ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 915,547.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed June 7, 1902. Serial No. 110,614.

To all whom it may concern:

Be it known that I, DANIEL BRIGGS, 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 means for facilitating the writing of bills or invoices or accurately filling in partly printed blanks and for preparing condensed records, the object of the invention being to provide simple and efficient means of the character described and wherein little tax is placed upon the skill, judgment or memory of the operator and the sheet may be accurately and mechanically positioned in the machine to receive the type impressions at the proper point or points and so that the machine being once properly set, will afford uniform, neat and properly positioned work on the various bill heads (or other blanks) of the same character.

A further object of my invention is to provide a device whereby the operator may always start a line at a predetermined point and may at any time be made aware of the number of lines written and which may yet be written upon each sheet, and so that the operator may at any time ascertain the number of lines from the top or bottom of the sheet or may be enabled to consecutively and accurately number the lines, if desired, without counting or keeping the numbers thereof in mind.

A still further object of my invention is to provide a simple and efficient device for making typewriter records of sales or duplicates of invoices, the idea being to make a carbon record of a number of separate invoices on a single sheet, as will hereinafter more clearly appear.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of elements to be hereinafter described and claimed.

In the accompanying drawings which illustrate my invention: Figure 1 is a detail transverse sectional view through the carriage, with the devices of my invention shown applied thereto, the section being taken on the line $x-x$ of Fig. 2, and looking

in the direction of the arrow at said line. Fig. 2 is a detail plan view of the same with parts removed and broken away. Fig. 3 is an enlarged detail longitudinal sectional view taken through the left hand end of the platen. Fig. 4 is a transverse sectional view of the so-called index carrier. Fig. 5 is an inside face view of the pawl and ratchet mechanism between the carrier and platen. Fig. 6 is a transverse sectional view of the same, the view being taken on the line $y-y$ of Fig. 5, and looking in the direction of the arrow at said line. Fig. 7 is a transverse sectional view of the modified form of the index carrier embodying my invention. Fig. 8 is a diagrammatic end view of the platen and feed rollers and paper stops, the view illustrating the feed rollers in contact with the platen, or the normal disposition of the parts. Fig. 9 is a like view of the same showing an abnormal disposition of the parts or when the feed rollers are released. Figs. 10 and 11 are developed diagrams of the indicating device, the view showing but one series of index numerals. Fig. 12 is a perspective view of a ring employed for preparing condensed records. Fig. 13 is an edge view of index carrier, showing the condensed record ring clamped in place thereon. Fig. 14 is a detail perspective view of the combined pointer and bracket to be hereinafter more fully described. Fig. 15 is a perspective view of one of the indicators. Figs. 16 and 19 are fragmentary side views of the spring pawls which cooperate with the teeth of the index carrier. Fig. 17 is a front elevation of the combined bracket and pointer and the stop which is carried thereby. Fig. 18 is a detail perspective view of the rotative stop which moves with the index carrier. Fig. 20 is a detail perspective view of the ring which maintains the rotative stop against displacement.

In the accompanying drawings parts have been omitted or broken away in the various views for clearness of illustration and like reference characters designate like parts.

My invention is shown applied to the carriage of a No. 6 Remington machine, though obviously it may be applied to other types of machines and various changes may be made to facilitate such applications.

The carriage truck 1 supports a paper table 2 and is connected in the usual manner by links 3 to the carriage 4 in which a platen

5 is mounted to revolve with a shaft 6 and finger wheel 7. The right hand end of the platen has the usual line spacing ratchet wheel 8 secured thereto which coöperates with a line spacing pawl 9 adapted to be vibrated by a hand lever 10 pivoted at 11 to a bracket 12, that projects from the carriage 4. The cross bar 13 constitutes a part of the carriage and has upwardly projecting ears 14, between each pair of which, is pivoted a depending arm 15, the bars having bearings at their lower ends for a shaft 16 of the paper feed rollers 17 that are adapted to bear upon the platen and coöperate therewith to feed the paper. The carriage 4 is tapped at its ends to receive bearing screws 17^x which pass through the end bars of the carriage and are coned at their inner ends where they constitute bearings for a rock shaft 18 which has a crank arm or finger piece 19 rigidly secured thereto by a set screw 20. This rock shaft has laterally projecting fingers 21 extending therefrom, that are adapted to bear upon studs 22, carried by the arms 15. Springs 23 are secured to the arms by headed screws 24 and the upper free ends of these springs bear upon studs 25 carried by the fixed cross bar 13 of the carriage, and tend to force the feed rollers into contact with the platen and to normally maintain the finger piece in the position represented in Fig. 8.

The parts thus far described constitute portions of the No. 6 Remington machine, and need not be further described.

The rock shaft 18 has rigidly secured thereto near its ends, by set screws 26, depending arms 27 united by a bar or plate 28 that carries paper stops 29 throughout its length. These paper stops or pins 29 are adapted to be projected through openings in the paper apron 30, which is loosely supported on the shaft 18 and is maintained at its lower end in contact with the platen by springs 31 which bear against it and are connected by screws 32 to the arms 15. The tension of the springs 31 is such that the lower end of the paper apron will be maintained in contact with the platen whether the arms 15 be in the position illustrated in Fig. 8 or be moved to the position shown in Fig. 9.

It will be understood that the construction is such that when the finger piece 19 has moved toward the rear of the machine, as illustrated in Figs. 1 and 9, the feed rollers will be moved out of contact with the platen and the paper stops 29 will be moved into contact therewith, and that at such time the paper stops constitute abutments against which the lower or leading end 33 of the paper 34 is adapted to abut, so that the paper may be properly squared or positioned with reference to the printing line. The disposition of the paper stops 29 with relation to the feed rollers is such that when the

paper has been inserted as indicated in Fig 1, and pressure is relieved upon the finger piece 19, the feed rollers will be forced, by their springs 23, into contact with the platen, as indicated in Fig. 8 to clamp the paper between the feed rollers and platen and the paper stops 29 will, by the same movements, be moved out of the path of the leading end of the paper and the paper is free to be rotated with the platen.

Upon reference to Fig. 3, it will be observed that the usual left hand platen head 35 is connected to the platen and has an outwardly projected boss 36 extending therefrom. The boss is tapped to receive a screw 36^x that extends therethrough and bears at its inner end against a flattened portion of the shaft 6 to unite the platen head and platen to the shaft 6. Surrounding the boss is a sleeve or collar 37 which may be removably secured thereto by a set screw 38 that extends through a threaded opening in the sleeve or collar and bears at its inner end against the boss. A so-called index carrier, dial, disk or plate 39, which is shown in detail in Fig. 4, has a centrally apertured flange 40 that is seated upon a circumferential flange 41 projecting from the sleeve 37. This flange 40 is apertured at 42 for the reception of headed screws 43, the stems of which are received in threaded openings in the ring 44 that is provided with laterally extending teeth 45 on the inner face thereof. This ring 44 is seated upon a shoulder 46 on the sleeve 37 and when the screws 43 are in place, will unite the ring 44 and index carrier 39 and prevent an outward movement of the latter. An internally threaded collar 47 is received on the threaded portion 48 of the sleeve 37 and bears near its center upon the ring 44 and prevents an endwise movement thereof toward the platen. This sleeve 47 is provided with laterally extending flanges or ears 49, (see Fig. 5) which have threaded openings therein for the reception of the stems of the headed screws 50 which secure the spring pawls 51 and 51^x to the collar. The free end of the spring pawl 51 is adapted to engage the teeth 45 of the wheel 44 in the manner indicated in Fig. 16 to cause the index carrier to positively rotate with the platen in one direction, whereas the free end of the pawl 51^x is adapted to engage the teeth 45 of the wheel 44 in the manner indicated in Fig. 19, so as to cause the index carrier to be rotated with the platen in the opposite direction through frictional contact. In other words these means constitute pawl and ratchet mechanism intermediate of the platen and index carrier which causes the carrier to be positively moved with the platen in one direction and to permit an independent movement of the carrier and platen in an opposite direction when one of said parts is arrested, but which normally

through frictional contact, causes the platen and carrier to rotate together. The periphery of the carrier is divided in two rims 52, 53, with under-cut or inwardly sloping side walls 54, and an intervening space or circumferential groove 55 between the rims. Each of the rims 52 and 53 is provided with a series of circularly arranged indices, the indices of each series being spaced apart in substantial accordance with the spacing between the teeth of the line spacing ratchet wheel 8. Thus the rim 52 is provided with index numerals 1 to 33 progressively arranged around its periphery, whereas the rim 53 has the index numerals 34 to 66 arranged progressively around its periphery; the numerals 1 and 34 being in lateral alignment and the numerals 1 and 33 of the same series being situated a line space distance apart, whereas the numerals 34 and 66 of the other series are a line space distance apart. Again it will be observed that the lowest numeral of one series of indices (34 on the rim 53) is one line space distance in advance of the highest numeral of the other series (33 on the rim 52). By this arrangement, the platen may be continuously rotated and will indicate sixty-six lines on a single page where a long page is employed, the lines 1 to 33 being readable on the first rim and the lines 34 to 66 being readable on the other or inner rim.

The flange 40 of the index carrier has a series of circularly arranged apertures or perforations 56 (Fig. 1) which correspond in number to the number of indices in a single series on the index carrier and are spaced apart at distances which correspond to the spacing between the indices. These apertures are adapted to receive a pin 57 that is carried by a stop 58 which is provided with an annular portion 59 seated on the collar 37 and which is limited in its lateral displacement thereon by a ring 60 which is shown in detail in Fig. 20. The ring 60 is apertured on opposite sides at 61 to afford access to the screws 38, 36^x so that the collar 37 and the parts connected thereto may be removed as an entirety from the boss 36 on the platen head. The collar 37 is provided with a circumferential groove 62 which is adapted to receive an end 63 of a spring 64. This spring is secured at its opposite end to the stop 58 by a finger piece or button 65, the stem 66 of which is received in a threaded opening in the stop and thus rigidly secures one end of the spring thereto. The tension of this spring is exerted to maintain the pin 57 in one of the apertures 56 in the index carrier. A slight play of the annular portion or ring 59, however, between the ring 60 and the flange 41 on the collar 37 permits a movement of the stop 58 against the tension of the spring 64, thereby permitting the pin 57 on the stop to be withdrawn from the engaged aperture 56

in the carrier. The stop may then be rotated and the pin again be permitted to be seated in an aperture adjacent to the index numeral on the carrier to which it is desired to adjust the stop. In order to facilitate this adjustment of the stop it is provided on the outer end thereof with an indicating or index mark 67 (see Fig. 18) which is adapted to register with the bottom of the various index numerals on the carrier. When the pin 57 is seated in one of the apertures 56 as indicated in Fig. 3, the stop is locked to rotate with the carrier.

Secured to the front rail of the carriage 4 by a screw 68 is a bracket 69 which is shown in detail in Fig. 14. This bracket carries rearwardly extended portions 70 which constitute pointers that cooperate with the two series of index numerals on the rims 52 and 53 of the indicating device. The bracket 69 likewise carries a depending arm 71, which is apertured at 72 for the reception of a headed pivot pin 73, for a stop 74 (see Figs. 1 and 17). This stop is limited in its downward movement by an abutment or shoulder 75 that projects laterally from the depending arm of the bracket, so as to arrest the stop in the position shown in Fig. 1. This pivoted stop 74 has a recess at its inner face that cooperates with a pin 77 carried at the free end of a spring 78 which is secured at its lower end by a rivet 79. This pin extends through an opening 80 in the depending arm of the bracket and when seated in the recess 76 of the stop locks the stop in the uppermost position where it is out of the path of the cooperating stop 58 of the indicating device. When the stop is in the position shown in Fig. 1, that is to say when it is released from the lock pin 77, it bears against its abutment 75 by its own weight and is adapted to arrest the stop 58 when the latter is moved in the direction of the arrow in Fig. 1. When, however, the stop is turned in an opposite direction with the platen and indicating device it moves the stop 74 to one side and permits a continuous movement of the platen and indicating device in the direction of the feed of the platen.

Cooperating with the rims 52 and 53 are U-shaped indicators 81, one of which is shown in detail in Fig. 15 and the side arms 82 of which are bent slightly toward each other to clamp the indicators on the rims as illustrated in Fig. 4. These clamp-like indicators may be adjusted circumferentially of the rims and brought into register with any of the numerals of their respective series, for purposes which will hereinafter more clearly appear. The purpose of these indicators is to indicate the date line and name line of a bill, for instance, without the necessity of the operator keeping in mind the particular indices of the two series on the carrier where these lines occur, as will hereinafter more clearly appear. Instead of employing the

separate indicators 81 of the character described, the circumferential groove between the two rims may be filled in with a suitable compound such as white celluloid as indicated at 83 in Fig. 7, with the outer face thereof flush with the rims and forming a surface that will take lead pencil marks, which however, may be readily erased therefrom. This enables the operator to place lead pencil marks on the celluloid surface opposite the indices which indicate particular lines where it is desired to write, such for instance, as the date line and name line on a bill head.

In the operation of the device for filling in partly printed blanks, such as bill heads, the stop 58 is first set at the index "33" on the index carrier, by engaging the pin 57 with the appropriate hole in the head of the carrier so that the index mark 67 will be in line with the bottom of the index numeral. The platen is then rotated with the index carrier in the direction of the arrow in Fig. 1 until the stop 58 reaches contact with the cooperating stop 74 and arrests the further movement of the index carrier. The finger piece 19 may then be moved back to move the paper feed rollers out of contact with the platen and to simultaneously move the paper stop pins 29 into the path of the paper as indicated in Fig. 1. After the paper has been inserted and properly squared against the stops pressure on the finger piece 19 is released and the parts assume their normal positions indicated in Fig. 8. The platen may then be rotated in the direction of the arrow in Fig. 11 to advance the paper in the direction of its feed until the printed heading of the bill has been passed and the paper has been advanced to a point where the first item of the bill is to be written. The operator then observes the index number on the carrier which is in register with its fixed pointer 70. Let it be assumed that the printed heading of the bill occupies about seventeen or eighteen lines and that the first "item" in the bill is to be written at the twentieth line, then the index "20" on the carrier will be brought into register with the pointer 70 when that line is reached. The stop 58 is then released from the carrier and turned back twenty spaces from the numeral "34" to the dotted line position shown in Fig. 10, where it should be engaged with the carrier in register with the index numeral "14." The device is then set ready for use but before inserting a new bill head of the same character always turn the platen and index carrier back until the stop 58 is arrested by the stop 74 on the carriage. Next insert a bill head and turn the platen and carrier together until the index numeral "1" appears at the cooperating fixed pointer 70. The operator will then understand that the paper is in position to receive the first line of writing in the body of the bill and may continue un-

til all of the items have been written or until the bottom of the sheet has been reached. After the position where the first item is to be written has been located in the manner described the operator may observe what index numeral on the carrier is in register with the cooperating fixed pointer 70 when the paper is in the proper position to receive the "date line" in the bill, and should then move one of the indicators 81 into register or over said numeral. The same course is pursued as to the name line so that the indicators will, as they are successively brought into register with the fixed pointers 70 indicate the proper position of the date line and name line while the positions for the first line for the items is indicated when the index numeral "1" is brought into register with the fixed pointer 70. After the body of the bill is written the platen may be turned backward, or in the direction of the arrow in Fig. 1 to feed the bill head out of the machine. If the bill head is a long one and the backward rotation of the platen brings the stop 58 into contact with the stop 74, it will merely result in the stop 58 being arrested at the proper position for the next sheet whereas the platen may receive a continued independent rotation to feed out the sheet. When the modified indicator structure shown in Fig. 7 is employed, lead pencil marks on the marking surface 83 will indicate the positions of the date and name lines.

The paper stops 29 not only square the paper but insure the delivery of the leading end thereof at a fixed point, so that when the platen is turned back until the stops contact after writing each bill the parts are positioned so as to start the various sheets or bills in exactly the same manner so that the writing thereon will be uniform and properly positioned on all of the sheets.

From the foregoing description it will be understood that the device may be readily set to indicate where lines of writing are to be inserted in partly printed blanks and that after the device is set the blanks may be quickly filled in and the written matter accurately positioned without the necessity of mental calculations or of depending on the skill or judgment of the operator.

The devices which constitute the subject-matter of the present invention are capable of a large variety of uses. Thus for instance the rim 53 on the carrier may be made independently rotatable and provided with indices similar to those on the rim 52 in order that condensed carbon records may be produced. I prefer for this purpose, however, to provide an independent split ring 84, as illustrated in Figs. 12 and 13, which is provided with clamping members 85 that engage the sides of the rim 53 and prevent a lateral displacement of the ring but permits it to be adjusted around the rim. The ring

84 may be attached to or removed from the rim 52 at will and has a series of index numerals thereon from "1" to "33" that are spaced apart the same as the corresponding index numerals on the rim 52. By this construction and by the frictional connection between the ring 84 and its carrier, the entire set or series of index numerals on the ring 84 may be shifted or adjusted relatively to the index numerals on the rim 52. Thus it will be seen that the part 84 constitutes a carrier having circularly arranged indices and that frictional means are provided for operatively connecting said carrier to the platen.

This device is intended more especially for use in making typewriter records of sales or duplicates of invoices, the idea being to make a carbon record of a number of separate invoices upon a single sheet. The latter cannot be placed in a machine in the same relation to all of the several invoice sheets, because in such a case the type impressions of one record would be made over those of another record and the whole would be undecipherable. It is necessary to have the records of several sales appear one below another upon the record sheet, and hence the several originals or invoice-blanks must be inserted in the machine one at a time in different relations to the single record sheet. The first invoice blank must be inserted, together with the record sheet, in such a manner that the carbon impressions shall be produced upon the record sheet near the top thereof. Then after the removal of the completed invoice from the machine the blank for the second invoice must be so inserted that the items shall appear at the usual place thereon, but below the previously written items upon the record sheet. Hence the relative positions of the second invoice and the record sheet must be quite different from the relative positions of the first invoice and the record sheet. After the second invoice is written and removed another invoice-blank must be inserted in a third position relatively to the record-sheet, so that the third sale shall appear upon said record sheet below the second sale, and so on. It would be difficult, if not impossible, to insert the record sheet and the second or third invoice blank in the machine together in such a relation that the carbon impressions would appear in the proper place upon the record sheet. This difficulty arises from the fact that the writing upon the record sheet is hidden by the overlying carbon sheet, so that it is impossible to determine just how far down the record sheet the top edge of the invoice blank should be placed. Moreover, it is always difficult to insert a number of sheets together in the machine unless their leading edges coincide. For these reasons it is desirable when manifold-

ing several sales upon a single record sheet to permit the latter to remain in the machine until filled, the several invoices being inserted and removed one at a time, that is to say, at first the record sheet, carbon sheet, and invoice are introduced all together. Then the invoice is written and afterward withdrawn without disturbing the record sheet or the carbon. Then a new invoice is introduced, written, and withdrawn, and then a third invoice is introduced, and so on.

In operating the device for preparing condensed records the stop 74, is first turned up to the inoperative position where it is maintained by the catch or pin 77 so that the index carrier is free to rotate with the platen to any desired extent in either direction. The ring 84 is then placed in position upon the rim 53 and adjusted so that corresponding numerals of both series will be in lateral alignment, that is to say, so that the numeral "1" on the band 84 will be in line with the numeral "1" on the rim 52. The leading edge of the invoice blank or bill head sheet is then introduced between the platen and feed rollers and advanced until the name line in the blank appears at the printing line which we will suppose is the fourteenth line. If desired, the invoice sheet, carbon and record sheet may be inserted together with their leading edges coinciding but this would leave an unnecessary blank space at the top of the carbon and record sheets corresponding to that occupied by usual printed heading. The object in feeding the invoice in advance of the carbon and record sheets is to give the former a lead over the latter, and so that the written matter will appear at the proper place on the invoice sheet and will appear near the top of the record sheet, thereby enabling the items of a number of bills to be placed on a single record sheet. After the proper lead of the bill or invoice sheet has been secured the platen is given a backward rotation for a distance of say six line spaces, which is sufficient to bring the name line on the blank back of the stops 29 when the carbon and record sheets may be introduced and the invoice, carbon and record sheets are then fed forward together six lines or until the "14" on the index carrier is in register with the pointer when the proper position has been reached for writing the name. The band 84 is then adjusted so that the numeral "1" thereon is fourteen points away from the numeral "1" on the rim 52 and corresponding numerals of both series will be fourteen points away from one another. The keys are then operated to write the name and the various items on the invoice sheet, a duplicate of which will be produced, through the carbon, at the top of the record sheet after which the platen is given a forward rotation for four or five line spaces to afford a space between the bill

written on the record sheet and the next bill
 to be transferred thereto, as will hereinafter
 more clearly appear. After the first bill or
 invoice blank has been completed in the
 5 manner stated it becomes necessary to with-
 draw it without disturbing the carbon and
 record sheets. This operation may be per-
 formed in the usual manner by first releasing
 the pressure or paper feed rollers and then
 10 withdrawing the invoice sheet while the rec-
 ord and carbon sheets are pressed against
 the platen by the thumb of the operator to
 prevent them from being disturbed during
 the withdrawal of the invoice sheet. The
 15 platen is now given a partial reverse rotation,
 then a new invoice blank is inserted and the
 platen is given a partial forward rotation,
 the movement of the platen in each direction
 being equal to fourteen spaces of the indices
 20 and line space ratchet wheel. In order to
 give the platen just this amount of rotation,
 it is only necessary to observe what index
 number upon the rim 52 stands opposite the
 fixed pointer 70, and then rotate the platen
 25 in a reverse direction until the corresponding
 number upon the band 84 stands opposite
 the pointer, it being understood that said
 numbers are exactly fourteen spaces or
 points apart, as above explained and that
 30 the purpose of the second series of indices is
 to avoid the necessity of either making men-
 tal calculations or counting the notches dur-
 ing the rotations of the platen. The for-
 ward feed of the platen for four or five line
 35 spaces, before the first written invoice sheet
 was withdrawn and the backward rotation
 of the platen for a distance of fourteen lines
 was sufficient to afford the requisite spaces of
 four or five lines between the bills trans-
 40 ferred to the record sheet. The second in-
 voice is then written and afterward with-
 drawn in the manner described and then the
 platen is rotated reversely fourteen spaces.
 The third invoice is introduced, and the keys
 45 are operated to write the entries and so on.
 It will be seen that by this operation the rec-
 ords of from one to ten invoices may be
 made upon a single record sheet, thus econ-
 omizing stationery and rendering the record
 50 much more convenient for reference. It
 will also be seen that the sheets are accu-
 rately positioned without the necessity of cal-
 culating or counting the spaces and that in-
 voices may be written and condensed records
 55 made with great facility. It is obvious that
 the number of copies and the point at which
 the writing is commenced upon the page may
 be easily and readily varied at will, in ac-
 cordance with the amount of space occupied
 60 by the note head, bill head, or other blank.

Another method of employing my con-
 struction for condensed record billing work,
 and by which the use of the circularly ar-
 ranged index numerals may be dispensed
 65 with entirely, is as follows:—The band 84 may

be removed or left in position as may be de-
 sired since in carrying out this method of con-
 densed record billing work the band is not
 employed. The stop 74 is first turned down
 to the operative position shown in Fig. 1 and 70
 the stop 58 is set and locked on the dial so as
 to contact with the stop 74 as shown in Fig. 1
 and at the same time be in register with the
 fixed pointer 70. It is immaterial at what in-
 dex numeral on the dial the stop 58 is set as 75
 the index numerals play no part in the opera-
 tion of the devices under this method of op-
 eration. The invoice sheet, record sheet and
 interposed carbon sheet are then introduced
 into the machine with the leading edges of
 all three sheets together against the stops 29.
 The sheets may then be clamped in position
 by the feed rollers and the platen fed for-
 wardly (carrying the dial 39 with it) until the
 first writing line on the invoice sheet is 85
 brought to the printing line, which is deter-
 mined by turning up the platen and observ-
 ing when the point on the invoice sheet
 where it is desired to begin the writing ar-
 rives at the printing line. One of the spring 90
 clips or indicators 81 is then secured to either
 rim of the dial 39 so that it registers with the
 fixed pointer 70. The operator may then
 proceed to write the bill which is reproduced
 on the record sheet through the interposed 95
 carbon sheet. When the bill or invoice has
 been completed the operator will line space,
 say twice, to provide proper space between
 the bill reproduced on the record sheet and
 the next succeeding bill to be written there- 100
 on. The dial, disk, plate or carrier 39 is then
 turned by hand independently of the platen
 until the indicator 81 is in register with the
 fixed pointer 70 and the platen is then turned 105
 backward (carrying the disk 39 with it) until
 the stop 58 is brought into contact with the
 stop 74 and into register with the fixed
 pointer 70 when a second invoice may be in-
 troduced into the machine and the platen is 110
 then fed forward (carrying the disk 39 with
 it) until the indicator 81 again registers with
 the fixed pointer 70. The operator may then
 proceed to write the bill or invoice and it will
 be reproduced on the record sheet; the top 115
 line of writing in the copy of the last written
 bill being located two line space distances
 from the last written line of the preceding
 bill reproduced on the record sheet. It is
 unnecessary to remove each bill or invoice
 sheet as it is completed. It may remain in 120
 the machine and be turned back and forth
 with the carbon and record sheet as each suc-
 cessive bill is introduced into the machine
 and written on until it is fed out of the ma-
 chine, which with bills of the ordinary length, 125
 takes place when the third bill is completed. In
 other words, when the third bill is completed
 and reproduced on the record sheet the first
 written bill will reach a point where it will be
 fed out of the machine or where it may be 130

readily removed therefrom without disturbing the other sheets in the machine.

The operation described above may continue indefinitely, and the stop 58 and indicator 81 when once set for a bill of a given character need not be changed or reset until bills of a different size or bills having a different size heading are employed.

It will be understood that in accordance with this method of employing my device, the index numerals are not used and the operator has no calculations to make in setting the parts and there is no tax on the memory of the operator, the position of the sheets and the platen and the relative location of one sheet to another and to the platen being determined mechanically by the stops 58 and 74 and the indicators 81 and 70.

From the foregoing it will be seen that the part 39 constitutes a plate, disk, or rotary device, the diameter of which is substantially co-extensive with the diameter of the platen; that this rotary device is adapted to turn on a center that is coincident with the center of rotation of the platen; that the arm which carries, or of which the stop 58 forms part, is also mounted to turn on a center which is coincident with the center of rotation of the platen and that the pawl and ratchet between the part 39 and the platen establishes an operative connection between the stop 58 (and the arm which carries it) and the platen.

For numbering lines consecutively it is merely necessary to adjust the parts in the manner hereinbefore described, so that the numeral "1" of the indices will be brought into position to indicate the first line of writing and the index numeral for each subsequent line will be automatically brought into register with the pointer 70, thus indicating to the operator at all times the number of the line which is at the printing point or center. Obviously therefore, it will likewise indicate the distance from the first line to the line being printed, as well as the distance or number of lines from that which is at the printing center to the bottom of the page. For instance, if thirty lines are to be written on the page, and the index numeral "28" is in register with the pointer 70 it will indicate to the operator that two lines may yet be written on the page.

While my invention is shown in its application to a No. 6 Remington machine, and the devices of my invention may be applied to either a No. 6 or 7 Remington machine, without changing the structural features of those machines, it should be understood that the devices may be applied to other characters of typewriting machines and that accordingly many changes may be made in the devices without departing from the spirit of my invention and certain features of the invention may be used without the others. Thus from certain aspects of my

invention the ring 84 may or may not be employed, in accordance with the character of work to be done.

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

1. In a typewriting machine, the combination of a platen, a carrier having circularly arranged indices, a stop carried by and adjustable with relation to said carrier, and a cooperating stop on the carriage.

2. In a typewriting machine, the combination of a platen, a carrier having circularly arranged indices, a combined adjustable stop and index or pointer which cooperates with said carrier and is adapted to register with said indices, and a cooperating stop on the carriage.

3. In a typewriting machine, the combination of a platen, a carrier, movable with and independently of the platen and having circularly arranged indices thereon, a combined adjustable stop and pointer which moves with the carrier and is adapted to register with said indices, and a cooperating stop on the carriage which permits a free rotation of the carrier in one direction and limits the rotation thereof in an opposite direction.

4. In a typewriting machine, the combination of a platen, a carrier rotative with said platen and having a series of circularly arranged indices thereon, and additional indicating means carried by the carrier for indicating during the rotation of the platen and said carrier when a predetermined point on the sheet is brought to the printing line.

5. In a typewriting machine, the combination of a platen, a carrier which is adapted to rotate with said platen and having a series of circularly arranged indices thereon, and an indicator carried by the carrier and adjustable circumferentially thereof and with reference to the indices thereon for marking any of the individual indices of the series, whereby the operator is informed when, during the rotation of the platen, a predetermined point on the sheet is brought to the printing line.

6. In a typewriting machine, the combination of a platen, a carrier which is adapted to rotate with said platen and having two series of circularly arranged indices thereon, and two indicating devices carried by said carrier for marking any of the indices of each series.

7. In a typewriting machine, the combination of a platen, a carrier which is adapted to rotate with said platen and having a series of circularly arranged indices thereon, an adjustable indicator carried by said carrier and adapted to register with any of said indices, said indicator comprising a clamp which is movable peripherally on the carrier, and a relatively fixed pointer.

8. In a typewriting machine, the combination of a platen, a carrier, two rims which are spaced apart with two series of circumferen-

tially arranged indices, one on each rim, and independently adjustable indicators carried by said rims and adjustable circumferentially thereon to bring the indicators into register with the indices on their respective rims.

9. In a typewriting machine, the combination of a platen, a carrier having circularly arranged indices thereon, pawl and ratchet mechanism between said platen and the carrier, an adjustable stop which is movable with the carrier, and a cooperating stop which is operable to arrest the carrier in its movement in one direction and to permit a free movement thereof in an opposite direction.

10. In a typewriting machine, the combination of a platen, a carrier adapted to rotate with the platen and having circularly arranged indices thereon, a stop which is adapted to rotate with the platen, a cooperating relatively fixed stop, and means for moving and maintaining one of said stops out of the path of the other.

11. In a typewriting machine, the combination of a rotative platen, a carrier which is provided with circularly arranged line space indices and with a series of circularly arranged apertures, an independently rotative stop, means carried by said stop for engaging any of the said apertures to lock the stop to rotate with the carrier, and a relatively fixed cooperating stop.

12. In a typewriting machine, the combination of a rotative platen, a carrier which is provided with two series of circularly arranged line space indices and with a series of circularly arranged apertures, means for permitting an independent rotation of the platen and carrier in one direction and for causing the two to rotate together in an opposite direction, an independently rotative stop, means carried by said stop for engaging any of the said apertures to lock the stop to rotate with the carrier, and a relatively fixed cooperating stop.

13. In a typewriting machine, the combination of a rotative platen, a carrier which is provided with two series of circularly arranged line space indices and with a series of circularly arranged apertures, means for permitting an independent rotation of the platen and carrier in one direction, and for causing the two to rotate together in an opposite direction, an independently rotative stop, spring pressed means carried by said stop for engaging any of the said apertures to lock the stop to rotate with the carrier, and a relatively fixed cooperating stop which is adapted to arrest the rotative stop and carrier in their movement in one direction and to permit a free movement thereof in an opposite direction.

14. In a typewriting machine, the combination of a rotative platen, a rotative carrier

which is provided with circularly arranged line space indices, a stop which is adjustably connected to and adapted to rotate with said carrier, pawl and ratchet mechanism between the platen and carrier, and a relatively fixed cooperating stop.

15. In a typewriting machine, the combination of a rotative platen, a rotative carrier which is provided with circularly arranged line space indices, a stop which is circularly adjustable on and adapted to rotate with said carrier, indicating means carried by stop and adapted to register with the indices to afford a positioning of the stop with reference thereto, pawl and ratchet mechanism between the platen and carrier, a relatively fixed cooperating stop, and a relatively fixed index or pointer which cooperates with the indices on the carrier.

16. In a typewriting machine, the combination of a rotative platen, a rotative carrier which is provided with two series of circularly arranged line space indices, a stop which is circularly adjustable on and adapted to rotate with said carrier, indicating means carried by stop and adapted to register with the indices to afford a positioning of the stop with reference thereto, indicating means carried by the carrier to afford an indication of a line to be written, pawl and ratchet mechanism between the platen and carrier, a relatively fixed cooperating stop which permits a free rotation of the carrier in one direction and arrests its rotation in an opposite direction, and a relatively fixed index or pointer which cooperates with the indices on the carrier.

17. In a typewriting machine, the combination of a platen, a platen head having a boss, a collar removably secured to said boss, a carrier adapted to rotate on the collar, circularly arranged indices and teeth on said carrier, and one or more pawls carried by the boss and cooperating with the said circularly arranged teeth.

18. In a typewriting machine, the combination of a platen, a platen head having a boss, a collar removably secured to said boss, a carrier adapted to rotate on the collar, circularly arranged indices and teeth on said carrier, one or more pawls carried by the boss and cooperating with the said circularly arranged teeth, a stop which is movable with the carrier, and a cooperating relatively fixed stop.

19. In a typewriting machine, the combination of a platen, a platen head having a boss, a collar removably secured to said boss, a carrier adapted to rotate on the collar, circularly arranged indices and teeth on said carrier, a relatively fixed pointer which cooperates with said indices, one or more pawls carried by the boss and cooperating with the said circularly arranged teeth, a rotative stop which is adapted to turn on said collar, means

for adjustably connecting said stop to the carrier, an index on said stop which is adapted to register with the indices on the carrier to afford a positioning of the stop with reference to said indices, and a cooperating stop which is adapted to arrest the movement of the rotative stop and carrier in one direction and to afford an independent movement of the platen after the carrier is arrested and to permit a free rotation of the rotative stop, the carrier and the platen in an opposite direction.

20. In a typewriting machine, the combination of a platen, a platen head having a boss, a collar removably secured to said boss, a carrier adapted to rotate on the collar, two series of circularly arranged indices on said carrier, a relatively fixed pointer which cooperates with said indices, clamp-like indicators carried by and adjustable on said carrier, one of said indicators being adapted to register with the different indices of a single series, one or more pawls carried by the boss and cooperating with the said circularly arranged teeth, a rotative stop which is adapted to turn on said collar, spring pressed means for adjustably connecting said stop to the carrier, an index on said stop which is adapted to register with the indices on the carrier, to afford a positioning of the stop with reference to said indices, and a cooperating stop which is adapted to arrest the movement of the rotative stop and carrier in one direction and to afford an independent movement of the platen after the carrier is arrested and to permit a free rotation of the rotative stop, the carrier and the platen in an opposite direction.

21. In a typewriting machine, the combination of a platen, a line spacing index carrier adapted to rotate with said platen, the said carrier comprising two rims with an intervening space and inwardly sloping walls on said rims, indices on the peripheries of the rims, and U-shaped indicators with side arms which are bent toward one another and are adapted to engage the rims, whereby the indicators may be carried by and adjusted on the rims.

22. The combination of a platen, a carrier having two series of circularly arranged indices thereon, and a removable ring with a circular series of indices thereon which is adapted to cover one circular series of indices on the carrier and which is adjustable relatively to the other circular series of indices on said carrier.

23. The combination of a platen, a carrier which is adapted to rotate with said platen and to be maintained fixed with relation to the rotation thereof, a circular series of indices thereon, a stop carried by and adjustable relatively to the carrier, a cooperating stop, a ring having a circular series of indices which correspond to those on the carrier,

said ring being carried by and adjustable circumferentially on the carrier, and a relatively fixed pointer which cooperates with the indices on said carrier and ring.

24. The combination of a platen, a carrier which is adapted to rotate with said platen and to be maintained fixed with relation to the rotation thereof, a circular series of indices thereon, a stop carried by and adjustable relatively to the carrier and to the indices thereon, a cooperating stop carried by a relatively fixed portion of the machine and which permits a free movement of the carrier stop past it in one direction and arrests the movement thereof in an opposite direction, a ring having a circular series of indices which correspond to those on the carrier, said ring being carried by and adjustable circumferentially on the carrier, and a relatively fixed pointer which cooperates with the indices on said carrier and ring.

25. The combination of a platen, an index carrier which is adapted to rotate therewith, a circular series of indices on said carrier, a split ring with means thereon for adjustably and removably securing said ring to the carrier, and a series of circularly arranged indices on said ring.

26. The combination of a platen, an index carrier which is adapted to rotate therewith, two rims which project from said carrier, a circular series of indices on each of said rims, a split ring with clamping means thereon for adjustably and removably securing said ring to one of said rims so as to cover the indices thereon, and a series of circularly arranged indices on said ring which correspond to series of uncovered indices on the other rim.

27. The combination of a platen, an index carrier which is adapted to rotate therewith and to be maintained fixed with relation to the rotation thereof, two rims which project from said carrier, a circular series of indices on each of said rims, a split ring with clamping means thereon for adjustably and removably securing said ring to one of the rims so as to cover the indices thereon, a series of circularly arranged indices on said ring which correspond to series of uncovered indices on the other rim, a stop on the carrier, a cooperating stop on a relatively fixed portion of the machine and which is normally in the path of the stop on the carrier, and means for maintaining one of said stops out of the path of the other.

28. The combination of a platen, an index carrier, pawl and ratchet mechanism between said platen and carrier, circularly arranged fixed indices on said carrier, a removable ring which has a circular series of indices thereon, and which is carried by and adjustable on the carrier, a stop carried by and adjustable on the carrier, and a cooperating relatively fixed stop.

29. The combination of a platen, an index

carrier which is positively moved with the platen in its rotation in one direction and is moved therewith by frictional contact during the rotation of the platen in an opposite direction, circularly arranged indices fixed on said carrier, a removable ring which has a circular series of indices thereon and which is carried by and adjustable circumferentially on the carrier, a movable stop carried by and adjustable on the carrier, and a cooperating relatively fixed stop which arrests the movable stop in its rotation in one direction and permits it to rotate freely past it during the movement of the movable stop in an opposite direction.

30. The combination with a rotative platen and its shaft, of a disk having rotative adjustment on the shaft and provided with circumferential scale marks or graduations, and a pointer carried by and having angular adjustment on said disk.

31. In a typewriting machine and billing mechanism, the combination of a cylindrical platen, a plate having a series of openings therein, a stop that is adapted to receive an adjustment and to be secured in its adjusted position within any of said openings, a stop which cooperates with said adjustable stop, and means for causing the plate and the adjustable stop to travel together with the platen until the two stops cooperate and to allow the platen to be turned farther in the same direction to any desired extent independently of said plate and adjustable stop.

32. In a typewriting machine, the combination of a platen, a plate having a series of openings, a stop that is pivoted so that it may be turned to different positions with reference to said plate, means carried by said stop for engaging the openings in the plate to secure said stop in different adjusted positions, a cooperating stop to determine the extent of rotary movement of the platen, and means for causing the plate and the adjustable stop to travel together with the platen until the two stops cooperate and to allow the platen to be turned farther in the same direction to any desired extent independently of said platen and adjustable stop.

33. In a typewriting machine, the combination of a cylindrical platen, a plate provided with a series of openings therein, an arm that is mounted to turn on the pivotal axis of the platen, a locking pin which is carried by said arm and is adapted to engage in any of the openings in said plate, a stop carried by or forming part of said arm, and a second stop which cooperates with said first mentioned stop, the construction and arrangement being such that the plate and the adjustable stop travel together with the platen until the two stops cooperate and that thereafter the platen may be turned farther

in the same direction independently of said plate and adjustable stop.

34. In a typewriting machine, the combination of a cylindrical platen, a disk the center of which is coincident with the axis of rotation of said platen, a series of engaging openings in said disk, a pivoted arm, the pivotal center of which is coincident with the pivotal axis of the platen, a spring-pressed locking device that is adapted to engage in any of said openings to lock said arm to the disk, a stop carried by or formed as a part of said arm, and a second stop which cooperates with said first mentioned stop.

35. In a typewriting machine, the combination of a cylindrical platen, a disk the center of which is coincident with the axis of rotation of said platen and is provided with a series of engaging openings, said disk having a diameter which is substantially co-extensive with the diameter of the platen, an arm which is pivoted to turn on the axis of rotation of the platen, a locking device which is adapted to engage the openings in said disk and which is carried by said arm, a stop carried by or formed as a part of said arm, and a second stop which is adapted to cooperate with said first mentioned stop.

36. In a typewriting machine, the combination of a cylindrical platen, a plate which is mounted to turn around an axis coincident with the axis of rotation of said platen, a series of engaging openings in said plate, a pivoted arm, the pivotal center of which is coincident with the axis of rotation of the platen, a locking device which is carried by said arm and is adapted to engage in the openings in said disk, and a second stop which cooperates with said first mentioned stop.

37. In a typewriting machine and billing mechanism, the combination of a cylindrical platen, a member, means for operatively connecting said member to move with or to allow an independent movement of the platen after said member is arrested, a stop which is adjustably connected to said member, and a second stop which cooperates with said first mentioned stop.

38. In a typewriting machine, the combination of a cylindrical platen, a member which is adapted to rotate with the platen and to afford a relative rotation of the platen, said member being mounted for movement on the axis of rotation of the platen, engaging openings in said member, a pivoted arm, the pivotal center of which is coincident with the axis of rotation of the platen, a locking device carried by said arm and adapted to engage in the openings in said member, a stop carried by or formed as a part of said arm, and a second stop that cooperates with said first mentioned stop.

39. In a typewriting machine, the combination of a cylindrical platen, a line spacing

ratchet wheel therefor, a member, means for causing said member to turn with or to allow a relative turning movement of the platen, a series of engaging openings in said member, 5 said openings being arranged at distances apart which correspond substantially to the spacing between the teeth of the line spacing wheel, a stop which is adapted to be adjusted to different positions with reference to said 10 member, means for engaging the different openings in said member in order to lock the stop in its adjusted position, and a second stop that coöperates with the first mentioned stop.

15 40. In a typewriting machine, the combination of a cylindrical platen, a line spacing wheel, a disk which is substantially of the same diameter as the platen, and which is 20 mounted to turn on the axis of rotation of the platen and to turn with and to afford an independent rotation of the platen, the disk having a series of engaging openings which are spaced apart to correspond substantially to the spacing of the teeth of the line spacing 25 wheel, a pivoted arm, the pivotal center of which is coincident with the axis of rotation of the platen, a spring-pressed locking device carried by said arm and adapted to engage in the openings in said disk, a stop carried by or formed as a part of said pivoted 30 arm, and a second stop which coöperates with said first mentioned stop.

41. In a typewriting machine, the combination of a cylindrical platen, line spacing 35 mechanism therefor, and stop devices independent of the line spacing mechanism, part of the stop devices being connected with the platen to rotate therewith to a predetermined extent and then to be arrested without interfering with the further rotation of 40 the platen in the same direction.

42. In a typewriting machine, the combination of a cylindrical platen, line spacing 45 mechanism therefor, platen rotating determining stop devices independent of the line spacing mechanism, said stop devices comprising a stop that is adapted to rotate with the platen, a coöperating stop that is adapted to be maintained fixed relatively to said 50 first mentioned stop, and means for connecting the rotatable stop with the platen so that the platen may be rotated independently of said stop when it has been arrested by the relatively fixed stop.

55 43. In a typewriting machine, the combination of a cylindrical platen, line spacing mechanism therefor, auxiliary stop devices, said auxiliary stop devices comprising a stop that is adapted to rotate with the platen and 60 to afford a rotation of the platen independently thereof, pawl and ratchet mechanism between said stop and platen, and a coöperating stop that may be held relatively fixed.

65 44. In a typewriting machine, the combi-

nation of a cylindrical platen, line spacing mechanism therefor, auxiliary stop devices for limiting the rotation of the platen, said auxiliary stop devices comprising a stop that is adapted to rotate with and to afford an 70 independent rotation of the platen, pawl and ratchet mechanism between said stop and platen, a coöperating stop that may be maintained relatively fixed, and means for affording a relative adjustment between said 75 stops.

45. In a typewriting machine, the combination of a cylindrical platen, a stop that is adapted to turn on the axis of rotation of said platen and to turn with and to afford an 80 independent rotation of the platen, pawl and ratchet mechanism for effecting an operative connection between the platen and said stop, and a coöperating stop that is adapted to be maintained relatively fixed to limit the move- 85 ment of said first mentioned stop.

46. In a typewriting machine, the combination of a cylindrical platen, an arm which is pivoted on the axis of rotation of said 90 platen, a stop carried by or formed as a part of said arm, pawl and ratchet mechanism between said arm and platen to establish an operative connection between them and to afford a rotation of the platen independently of said arm, and a second stop that co- 95 operates with said first mentioned stop.

47. In a typewriting machine, the combination with a rotary platen, of billing mechanism comprising stop devices, and pawl and ratchet and frictional means coöperating 100 with certain of said stop devices.

48. In a typewriting machine, the combination with a rotary platen, of billing mechanism comprising stop devices, frictional 105 means for rotating certain of said stop devices in one direction with the platen, and pawl and ratchet mechanism for rotating certain of said stop devices in an opposite direction with the platen.

49. In a typewriting machine, the combination with a rotary platen, of billing mechanism comprising an adjustable stop, a co- 110 operating fixed stop, means for positively connecting said adjustable stop to rotate with the platen in one direction, and means for 115 frictionally connecting said adjustable stop to rotate with the platen in an opposite direction.

50. In a typewriting machine, the combination of a platen, a platen shaft, a spring 120 plate and an indicating wheel which is free to turn around the platen shaft and against which the spring plate bears to cause the indicating wheel to turn with the platen shaft or to afford an independent movement of the 125 platen and indicating wheel.

51. In a typewriting machine, the combination of a platen, a carrier having circularly arranged indices thereon, and a friction spring between said platen shaft and carrier. 130

52. In a typewriting machine, the combination of a platen, a platen shaft, a carrier which is adapted to turn around the platen shaft and which has circularly arranged indices thereon, and a friction spring fixed against longitudinal movement along said platen shaft and cooperating with the carrier to cause said carrier to rotate with the platen and platen shaft and to afford an independent relative movement of the platen and carrier.

53. In a typewriting machine, the combination of a platen, a platen shaft, a friction plate which is fixed against movement longitudinally of the shaft, and an indicating wheel

which is free to turn around the platen shaft and against which the friction plate bears to cause the indicating wheel to turn with the platen shaft or to afford an independent movement of the platen and indicating wheel.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 5th day of June A. D. 1902.

DANIEL BRIGGS.

Witnesses:

K. V. DONOVAN,
E. M. WELLS.