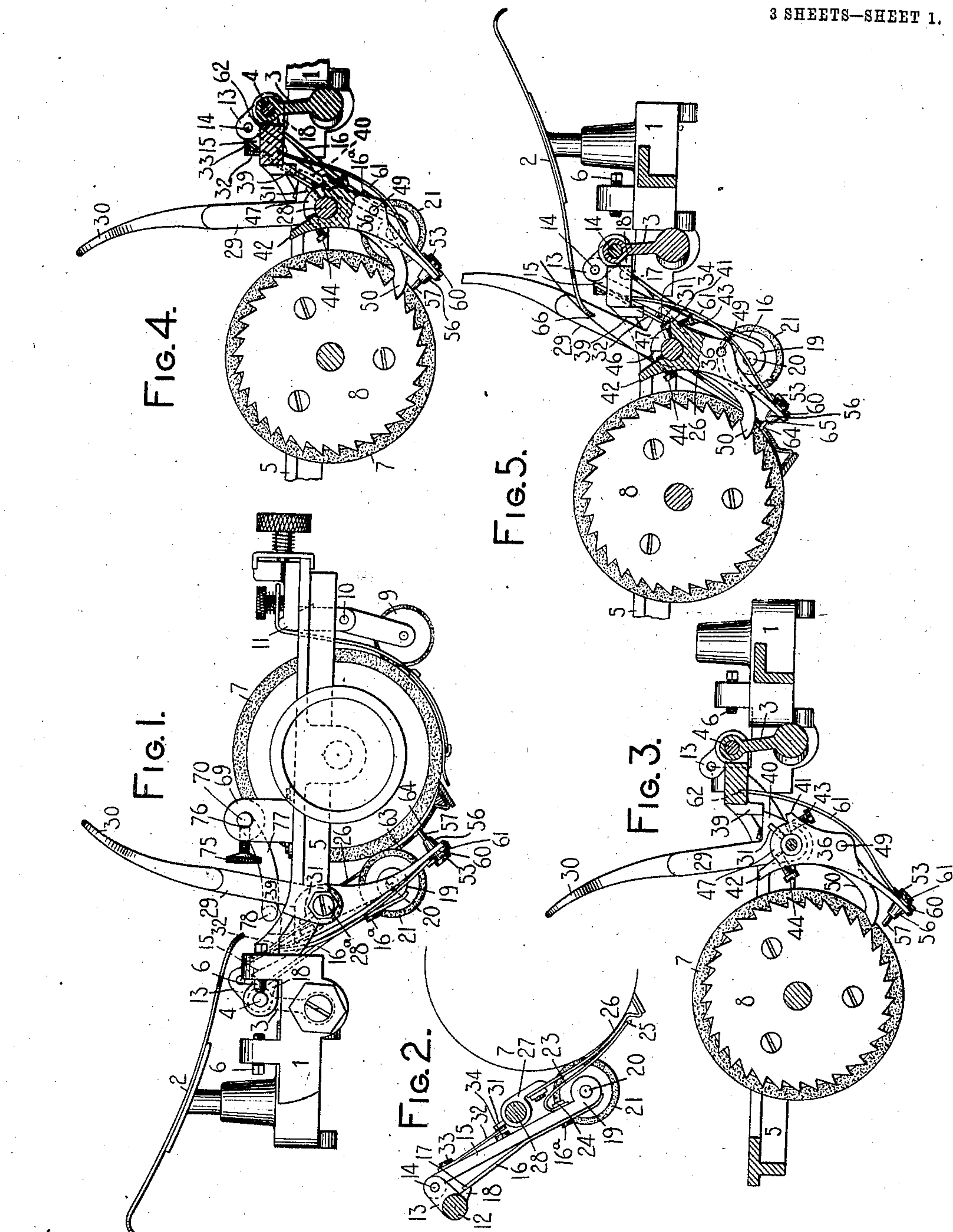


No. 849,834.

PATENTED APR. 9, 1907.

L. P. DISS.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 7, 1902.

3 SHEETS—SHEET 1.



WITNESSES.

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INVENTOR.
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3 SHEETS—SHEET 2.

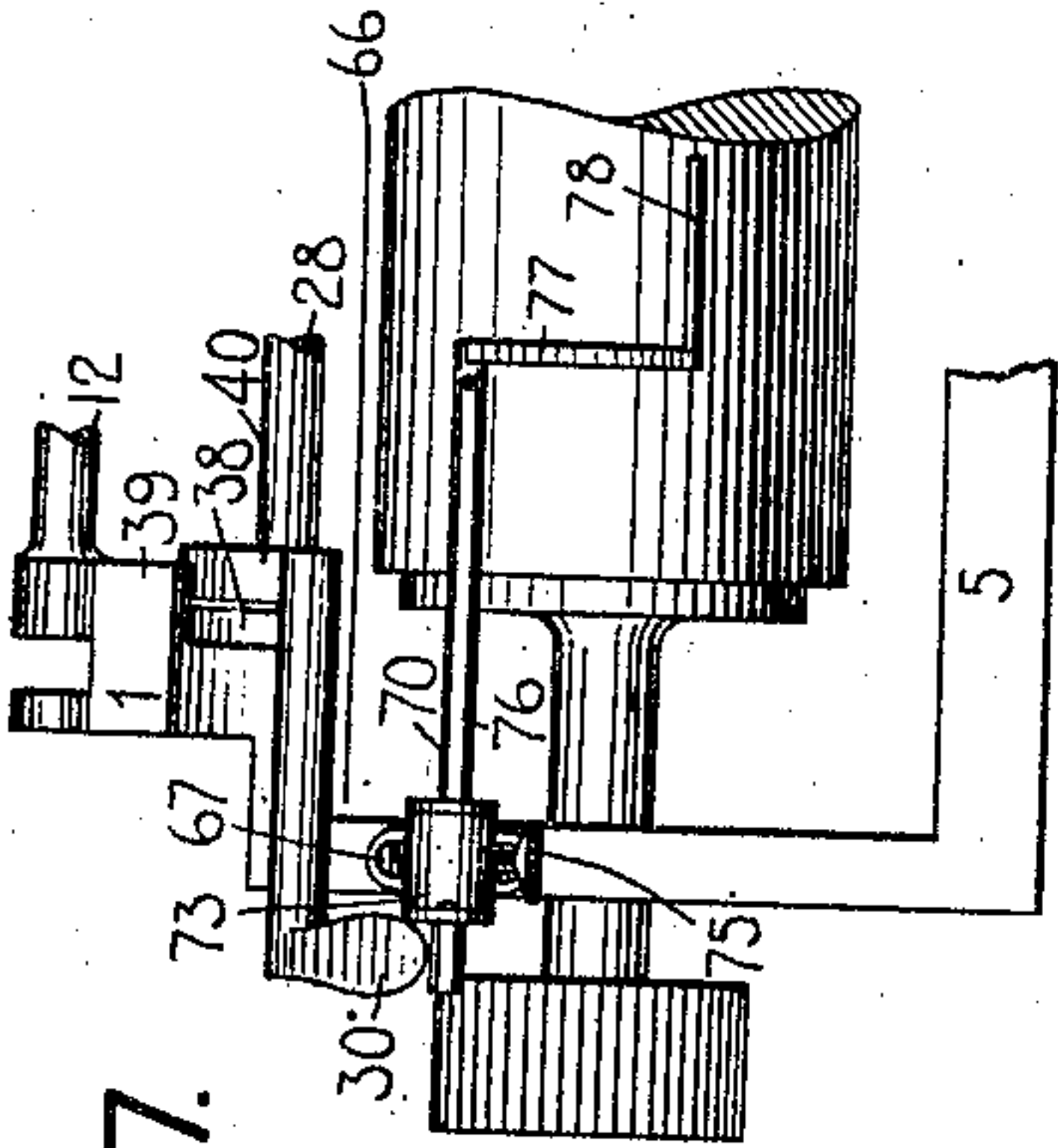


FIG. 7.

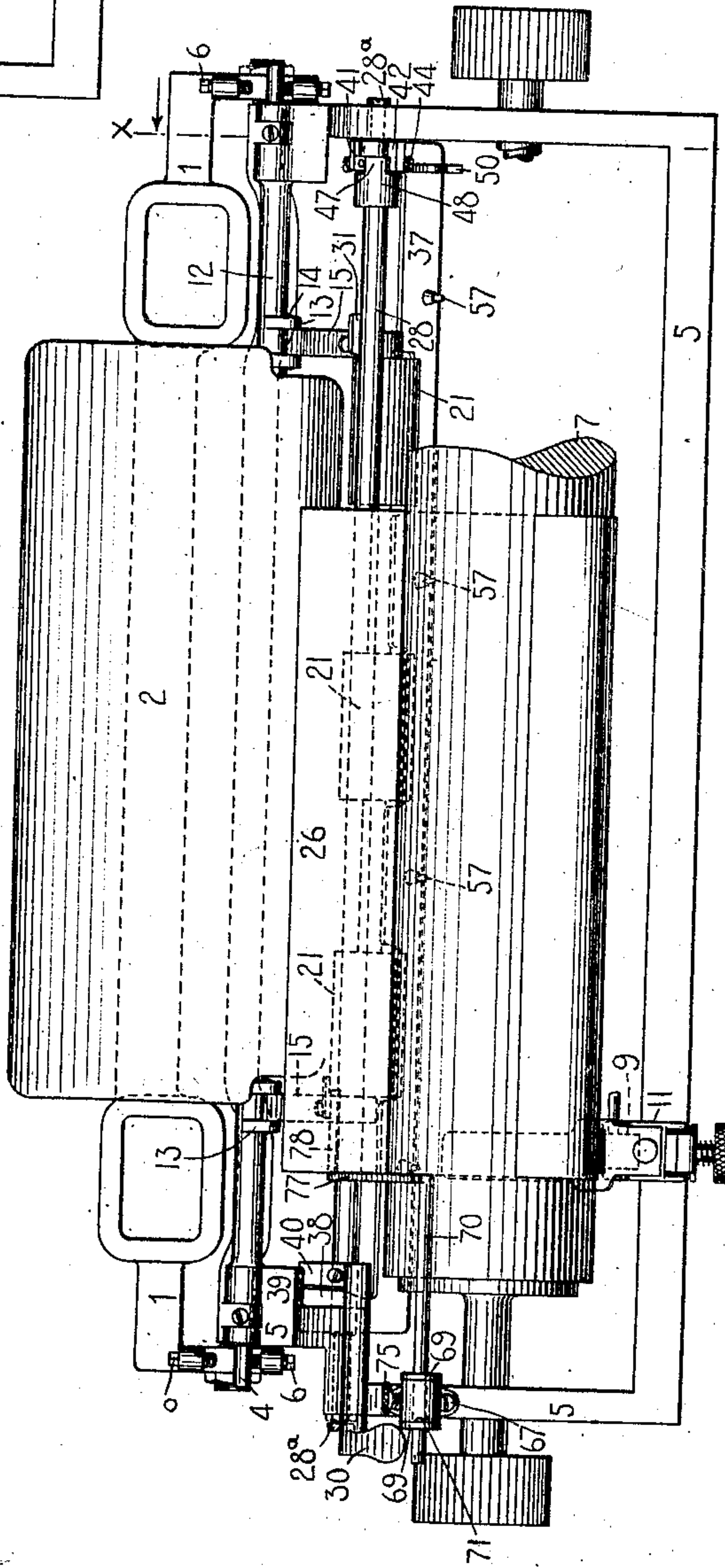


FIG. 6.

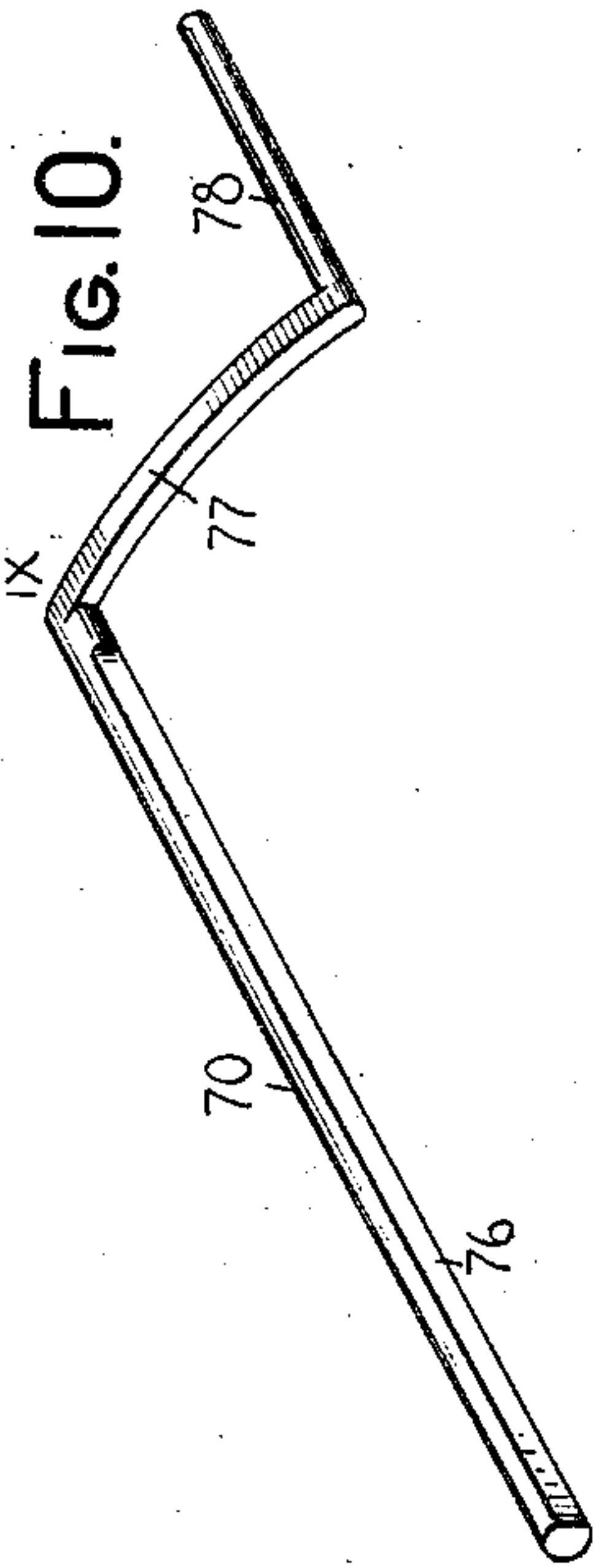


FIG. 10.

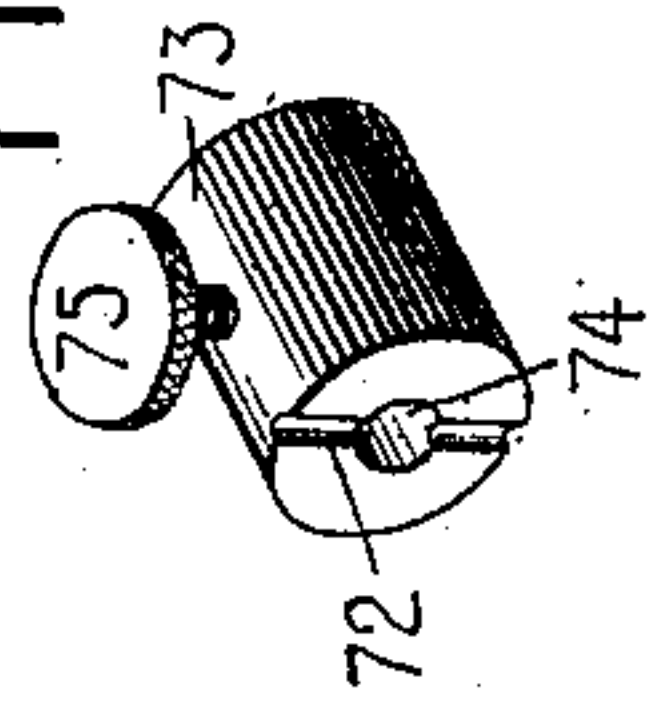


FIG. 9.

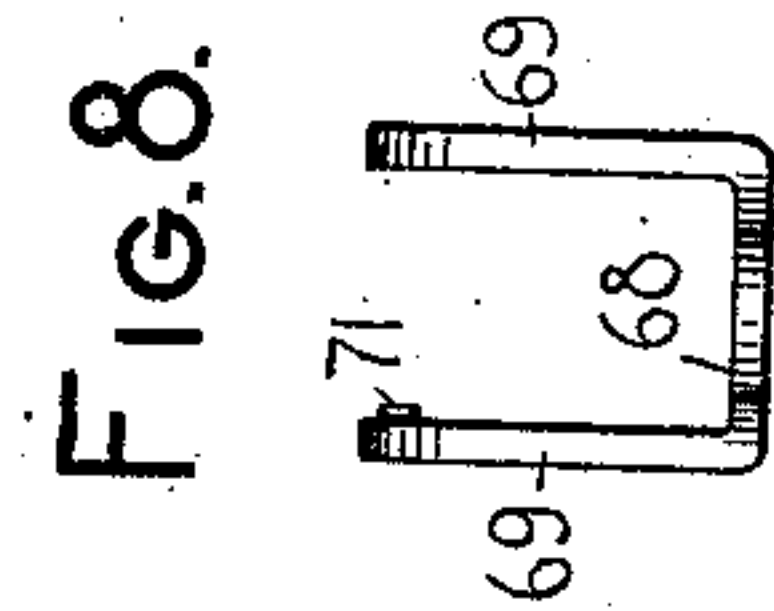


FIG. 8.

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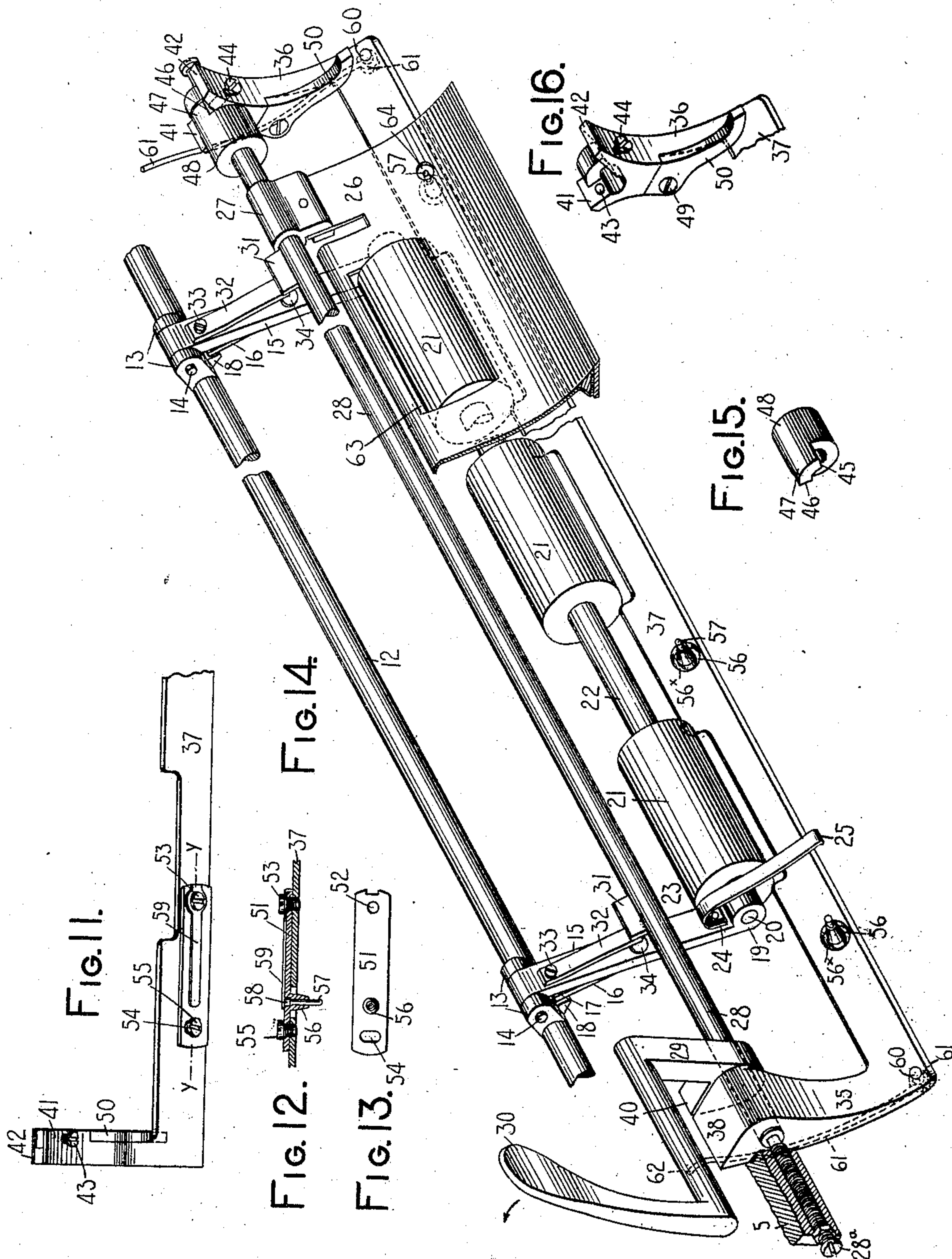
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No. 849,834.

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3 SHEETS—SHEET 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

LOUIS P. DISS, OF ILION, NEW YORK, ASSIGNOR TO WYCKOFF, SEAMANS & BENEDICT, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 849,834.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed March 7, 1902. Serial No. 97,062.

To all whom it may concern:

Be it known that I, LOUIS P. DISS, a citizen of the United States, and a resident of Ilion, in the county of Herkimer 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 generally to the paper-feeding mechanism of type-writing machines, and has for its main object to provide simple and efficient means for mechanically arresting the paper in the act of placing it upon the platen and so that the leading edges of all of the sheets shall start (in line-space direction by rotative movements of the platen) at a uniform or predetermined distance from the printing-point, said means being also adapted to enable the paper to be squared, so that it may start and run true.

Another object of my invention is to provide a simple and effective gage for the side edges of the sheets of paper, so as to predetermine the lateral position of the paper on the platen and obtain uniform widths of left-hand margin on the successive sheets in a given piece of work, all as will hereinafter more fully appear.

My invention consists in the various features of construction and combinations of devices now to be described, and particularly set forth in the appended claims.

In the accompanying drawings, wherein like reference characters designate corresponding parts in the various views and wherein parts have been omitted or broken away in various views to more clearly illustrate other features of the structure, Figure 1 is an end view of a type-writer carriage with my improvements shown as applied thereto. Fig. 2 is a fragmentary detail transverse sectional view showing certain of the parts illustrated in Fig. 1. Fig. 3 is a transverse sectional view taken at the line $x x$ of Fig. 6, but with the line-space ratchet-wheel added. Fig. 4 is a like view of the same, showing some of the parts in different positions. Fig. 5 is a view which corresponds to Fig. 3 except that some of the parts are shown in different positions and certain other parts are added. Fig. 6 is a plan view of the structure with parts broken away. Fig. 7 is

a fragmentary plan view of the left-hand end of the carriage, illustrating the side paper-guide in the inoperative position. Fig. 8 is an enlarged detail front elevation of the supporting yoke or bracket of said paper-guide. Fig. 9 is an enlarged detail perspective view of the block which is arranged between the arms of the bracket. Fig. 10 is a detail perspective view of the side paper-guide. Fig. 11 is a fragmentary bottom view of the paper-stop-carrying bar. Fig. 12 is a fragmentary longitudinal sectional view of the same, taken on the line $y y$ of Fig. 11, the view also illustrating one of the paper-stops. Fig. 13 is a detail face view of one of the paper-stop guides. Fig. 14 is an enlarged detail perspective view, with parts broken away, of the paper-feed rollers, the paper-stops, and their cooperating mechanism. Fig. 15 is an enlarged detail perspective view of the controlling-abutment for the paper-stop bar. Fig. 16 is a fragmentary detail perspective view of one of the stop-bar-carrying arms, together with the locking-pawl secured thereto.

I have illustrated my invention in its application to the carriage of a No. 6 Remington type-writing machine, though it should be understood that my improvements are applicable to other machines.

In the drawings, 1 designates a truck or carriage which is adapted to travel from side to side of the machine and which supports a paper-table 2. To this truck are pivoted links 3, which are pivoted at their upper ends to pins 4, carried by the platen-frame 5 and adapted to vibrate forward and back between adjustable pins or stops 6, that are carried by the truck, and thus permit the transverse shift of the platen-frame for upper and lower case writing. The platen-frame 5 has the usual revolubly-rotatory platen 7 and line-spacing ratchet-wheel 8, and cooperating with the platen are the usual auxiliary or margin feed-rollers 9, that are pivoted at 10 to the brackets 11, which may be adjusted longitudinally on the front cross-bar of the platen-frame. The back bar 12 of the platen-frame has ears 13 extending therefrom, and pivoted between these ears at 14 are arms 15, each of which has a spring 16 secured thereto at 16^a, and the free end 17 of each of said springs is adapted to bear upon

a rigid abutment 18, that is carried by the cross-bar 12. The lower ends of the arms 15 are provided with bearings 19 for the reception of a shaft 20, upon which the main paper-feed rollers 21 are adapted to revolve, the rollers being spaced apart by suitable spacing-sleeves 22. Each arm 15 likewise has a spring 23 secured thereto at 24, and the free end 25 of each spring is adapted to bear upon the under side of an apron 26 to at all times maintain the lower edge of the apron in contact with the platen. This paper apron is provided with bearings 27, which loosely surround a rock-shaft 28, that is seated to turn on screw-bearings 28^a, carried by the platen-frame 5, and is provided with a rigid arm 29, from which extends a finger-piece 30, by means of which the rock-shaft may be turned. Extending from the rock-shaft 28 are fingers 31, that are adapted to bear upon springs 32, that are secured at 33 to the arms 15, and when the free ends of these springs are compressed by the fingers 31 they are adapted to bear upon studs 34, which are carried by the arms 15. Loosely mounted upon the rock-shaft 28 are depending arms 35 36, which are connected at their lower ends by a longitudinally-arranged stop-carrying bar 37. The arm 35 is provided with a lug or stop 38, which is adapted to cooperate with a relatively fixed abutment 39, carried by the platen-frame to limit the movement of the arms and the stop-carrying bar in one direction. The arm 29 is also provided with a lug 40, which likewise cooperates with the said abutment 39 on the platen-frame to limit the movement of the arm and the rock-shaft in one direction. The arm 36, as will be seen upon reference to Fig. 16, is bifurcated at its upper end to form fingers 41 42, which have threaded openings therein for the reception of stop-screws 43 and 44, which project through the fingers and constitute adjustable means to cooperate with the walls 45 and 46 (see Fig. 15) of the projection 47, which extends outwardly from an end of a collar 48, that is secured to the rock-shaft 28. Secured at 49 to the arm 36 is a locking-dog 50, the nose of which is adapted to cooperate with the teeth of the ratchet-wheel 8 on the platen, as illustrated in Figs. 3, 4, and 5.

The stop-carrying bar 37 is provided at intervals throughout its length with stopping devices for the ends of the sheets. (See Figs. 11, 12, and 13.) 51 is a stop-guide plate perforated at 52 for the passage of a fastening-screw 53, whose point enters a threaded opening in the bar 37. The opposite end of the guiding-plate 51 is provided with a slot 54, through which a screw 55 passes to engage a threaded hole in the bar 37, for purposes which will presently appear. Projecting inwardly or rearwardly from the plate 51 is an apertured stud 56, which supports or forms a

bearing for a movable paper stop or pin 57. The said stud 56 projects through an enlarged opening 56^x in the bar 37, so as to afford lateral or sidewise adjustment of the plate 51 on and transversely of the bar and which adjustment is permitted by the slot-and-screw connection 54 55, which also constitutes in part the means for securing the guide-plate to the bar. The purpose of this adjustment is to enable all of the stops to be brought into proper alinement on the bar and so that they may all be brought into a single plane radiating from the axis of the platen in order that they may properly arrest the leading edge of the paper and mechanically square the paper on the platen. In other words, the stops may by these means be adjusted so as to bring them all in a line which is parallel with the printing-line and parallel with the axis of the platen.

One end of each pin or stop 57 is headed at 58 to limit its movement in the one direction, and a spring 59, which is secured in place by the screw 53, bears upon this head and normally maintains the pin in the projected position illustrated in Fig. 12. It will thus be seen that the paper-stops 57 are movable independently of the bar or carrier 37, that supports them through the bearing 56, attached to said bar, and that the stops receive a spring-pressure independently of said bar. Secured at 60 to each end of the bar is a spring 61, whose free end 62 is seated within an opening in the platen-frame 5, as indicated in Fig. 3. These springs 61 tend to force the stop-carrying bar toward the platen. These springs 61 are of lighter tension than the springs 32, which tend to maintain the rock-shaft 28 in the normal position, and thereby bring the wall 46 on the projection 47, carried by the rock-shaft, into contact with the screw or abutment 44, the result being that the higher tension of the springs 32 tends not only to maintain the rock-shaft 28 in the normal position, but at the same time they tend to maintain the stop-carrying bar away from the platen and the paper-stops 57 thereon out of contact with the platen, as indicated in Fig. 3 of the drawings. The arrangement of the stops 43 44 and the walls 45 and 46 is such that there is a limited independent movement of the rock-shaft and the stop-carrying bar, and while the latter is normally maintained out of the operative position by the springs 32 the springs 61, which are connected to the arms 15, tend normally to project the paper-feed rollers 21, carried by the arms, through apertures 63 in the paper-apron 26 and to maintain said feed-rollers in contact with the platen. When, however, the finger-piece 30 is moved in the direction of the arrow in Fig. 14, the rock-shaft 28 will be turned in the same direction, and thereby remove the stop, face, or wall 46 as an obstruction from

the path of the cooperating screw-stop 44, when the springs 61 will be effective to move the stop-carrying bar toward the platen, thus forcing the paper-stops 57 through the apertures 64 in the paper-apron and into contact with the platen. This same movement of the finger-piece 30 causes compression or flexure of the springs 32 until they reach contact with their cooperating studs 34. Up to this time no movement of the arms 15, which carry the main paper-feed rollers 21, has taken place. The lost-motion or limited independent movement of the parts thus afforded is sufficient to permit the paper-stops to be projected through the apertures 64 in the paper-apron and into contact with the platen and into such a position that they are interposed in the path of the leading end 65 of the paper 66, Fig. 5, as illustrated in Fig. 4, before the paper-feed rollers 21 are moved out of contact with the platen. The advance movement of the paper-stops having been effected in the manner stated, a further rearward movement of the finger-piece 30 will cause the arms 15 to be moved by the fingers or wings 31 on the rock-shaft, thus forcing the arms against the tension of their springs 16, and the rollers 21 will be moved out of contact with the platen. The tension and length of the springs 23 are such that the lower edge of the paper-apron will be maintained in contact with the platen, notwithstanding the fact that the arms 15, which carry said springs, are moved away from the platen so as to move the rollers 21 out of contact therewith for the insertion between said roller and the platen of the paper to be printed on, as shown at Fig. 5. During the forward movement of the stop-carrying bar 37 toward the platen the nose of the locking pawl or dog 50 will be moved toward the ratchet-wheel 8 on the platen, and when the bar 37 has completed its movement the locking-pawl will be in engagement between the teeth of the ratchet-wheel, thus locking it and the platen to which it is secured against rotation. When pressure upon the finger-piece 30 is released, the tension of the springs 16 will first force the paper-feed rollers 21 into contact with the platen by reason of the fact that the tension of the springs 16 is greater than that of the springs 32. When the paper-feed rollers have thus been forced into contact with the platen, then the springs 32 will be effective to afford a further and full restoration of the rock-shaft and the finger-piece to their normal positions, during which the face 46 of the projection 47 will contact with the pin 44, and thus force the stop-carrying bar, with the stops thereon, away from the platen and to a position where the stops are withdrawn and no longer constitute an obstruction to the introduction and free movement of the paper around the platen. It will be understood that at this time the

paper has been introduced and properly positioned against the paper-stops 57 and that the releasing of pressure on the finger-piece 30 permitted the feed-rollers 21 to properly clamp the paper against the platen without disturbing the adjustment or position of the paper and before the paper-stops were withdrawn from the path thereof.

While I have shown and described separate and independently-movable paper-stops 57, it should be understood, in so far as certain features of my invention are concerned, that a single continuous stop-bar which extends throughout or substantially throughout the length of the platen may be employed in their stead, and, if desired, this bar may be cut away at intervals throughout its length, so as to provide a series of integral paper-stops projecting beyond the face of the bar. So, also, stops may be employed which are not mounted on or made integral with a bar extending for the full length of the platen, but are so supported at intervals as to dispense with such a bar.

It will be seen that an adjustment of the screw-stops 43 and 44 regulates the extent of independent movement of the rock-shaft and the stop-carrying bar and that the stop 44 regulates the extent of throw of the stop-bar or the distance to which the stop-bar may be moved toward and away from the platen and that it therefore affords a means for determining the extent to which the stops 57 will be forced toward and away from the platen. Preferably this screw-stop 44 is so adjusted that the paper-stops 57 will bear upon the platen before the stop-bar reaches the full limit of its movement toward the platen, so that during this movement of the stop-bar and after the stops 57 reach contact with the platen the springs 59 will be flexed outwardly slightly; but their tension is always lighter than that of the springs 61. However, the screw-stop 44 may be adjusted so that a full movement of the finger-piece 30 in the direction of the arrow will only give a sufficient movement of the stop-bar to bring the stops 57 thereon into contact with the platen. By having the paper-stops 57 independently spring-pressed the contact of all of them with the platen is thereby rendered more certain. The springs 59 for the said stops are all of such strength that their combined tension will be less than that of the springs 61, so that if one stop should come in contact with the platen ahead of another it will not prevent the further movement of the frame or bar 37, and thereby prevent contact of the whole number of stops. While the springs 61 are stronger than all of the springs 59, the springs 32 are stronger than the springs 61, and hence acting on the wings or fingers 31 above the axis of the rock-shaft they will turn the latter (after the still heavier springs 16 have ceased to act) and cause the projection

47 to contact with the screw 44 (also above the axis of the rock-shaft) to rock the stop-frame and the stops thereon away from the platen and maintain them in such position. Inasmuch as the feeble springs 61 act against the tension of the springs 32, it will be seen that at the initial rocking movement of the shaft by the hand of the operator on the finger-piece 30, the power of the springs 32 over the springs 61 is removed and immediately the springs 61 cause the stop-bar frame to rock or vibrate independently on its pivots 28^a and the stop-pins 57 thereon to move into contact with the surface of the platen, and then as the rearward movement on the finger-piece is continued and the springs 32 are brought to bear down on their underlying studs 34 the feed-roller arms will be moved rearwardly against the tension of the strongest springs 16 of the series of springs, and the feed-roller or series of feed-rolls will be carried away from the platen, while the points of the pins remain in contact with the platen. The rearward movement of the hand-piece, rock-shaft, and connected parts is limited by the rearmost side or face 45 of the projection 47 striking against the screw-stop 43 in one of the side arms of the stop-frame. When the projection 47 thus contacts with the screw 43, the stop-frame cannot further turn on its pivots 28^a, because by this time the free end of the dog 50 has engaged the bottom of one of the tooth-spaces of the ratchet-wheel 8, and thus stopped the frame against further movement.

While I have shown a sectional feed-roller in so far as certain features of my said invention are concerned, a single continuous feed or pressure roller may of course be used instead, and likewise in lieu of a roller a pressure-bar or series of pressure and feeding fingers may be employed, as is quite common in this art.

It will be understood that the paper-stops of my invention not only aid in squaring or properly positioning the paper on the platen, but they likewise insure that the paper will always start to be fed with the platen from the same point, and a subsequent actuation of the ordinary line-spacing mechanism (after the paper-stops are withdrawn and the paper-feed rollers are in contact with the paper) will feed the paper to the proper position to begin the first line of writing. It will be seen, therefore, that the device may be used without alteration in connection with a line counting or indicating device of the character shown, for instance, in the patent to Higham, No. 682,870, dated September 17, 1901, or with one like that shown in the patent to Atwood, No. 569,909, dated October 20, 1896.

Upon the left-hand end of the platen is secured at 67 a supporting-bracket 68, having

resilient arms 69, which are perforated for the reception of the rod 70 of a paper guide or gage. One of the arms 69 is provided with a laterally-extending lug 71, that is adapted to seat itself in either of the grooves 72 in a block or collar 73, which has a longitudinal bore 74, that is adapted to receive the rod 70 of the paper-gage. This block is likewise provided with a threaded opening extending transversely therethrough and communicating with the bore 74. A thumb-screw 75 has a threaded stem which is screwed into the opening and is adapted to bear at its inner end against the flattened portion 76 of the rod 70, and thus enable the rod and block to turn together. In assembling the parts it is merely necessary to project the rod 70 through the perforated bearing-arms 69 and through the bore 74 in the block which is contained between said arms. The rod will thus constitute a support for the block and will itself find a bearing in the arms 69, in which it may be turned with the block and maintained in either of the two positions to which it may be turned by the stud 71, that is adapted to bear in either of the grooves 72 in the block. This rod 70 may be adjusted in the direction of the length of the platen by moving it longitudinally in its bearings and through the block 73. When it is adjusted to the desired position, the screw 75 may be tightened, thus holding it against accidental longitudinal movement, but permitting the rod to turn freely on its axis with the block 73 for the purpose of the adjustment to be presently described.

The inner end of the rod 70 is provided with an arm 77, which extends at substantially right angles thereto, and at the termination of this arm 77 is provided a second arm 78, which extends in the direction of the length of the rod 70 and the platen. When the rod is turned to the position shown in Fig. 6 of the drawings, the arm 77 is brought into the path of the left-hand edge of the paper and constitutes a support therefor. At this time the arm 78 extends beneath the paper and insures that the left-hand edge of the paper will be brought into contact with the arm 77 and will not be deflected beneath it, and may thus afford a supporting-guide for the paper. When the rod 70 is turned in its bearings to the position indicated in Fig. 7, the arms 77 and 78 will be moved away from the path of introduction of the paper, and the arm 77 no longer constitutes an obstruction or abutment for the edge thereof, so that at this time the paper-gage is in the inoperative position. It will be observed from an examination of Fig. 7 that when the guide is moved to the position indicated therein envelops or paper of a width equal to or greater than the length of the platen may be inserted without interference by the pa-

per-guide. It will likewise be observed that in the movement of the paper-guide to and from the operative position the longitudinal adjustment thereof is in no way affected.

5 While I have illustrated but a single paper-gage, and at the left-hand end of the platen-frame, it will be understood that two such gages may be employed—one at each end of the platen. However, it is sufficient in most
10 instances to provide the single stop near the left-hand end of the platen.

From an examination of Fig. 6 it will be seen that the auxiliary or margin feed-rollers or paper feeding and guiding devices 9 may
15 be adjusted to a position to cooperate with the paper-gage just described. Thus, for instance, if a narrow letter-sheet is to be written upon the gage 77 may be adjusted to the desired position, as indicated in Fig. 6, and the
20 margin feed-roller or paper-feeding device 9 may be adjusted along the front rail of the platen-frame to a corresponding position, where it will cooperate with the left-hand edge of the paper. The parts having been
25 set in the positions described, the paper may be positioned so that the left-hand edge thereof will contact with the gage-arm 77, thus providing a relatively fixed stop for properly positioning the various sheets of the
30 same dimensions which may be introduced and also insuring that the left-hand margins of successive sheets shall be equal or uniform.

When the paper-gage arm 77 is in the position shown at Fig. 6, the pin or stud 71 lies
35 within the upper slot or groove 72 in the collar 73, and the resiliency or tension of the arm 69 holds the parts in this position against accidental displacement; but when the rod
40 70 and connected parts are turned to the position shown at Fig. 7 and the gage-arm 77 has been moved transversely of the platen the pin 71 occupies the other slot or groove
45 72 of the collar, which, however, is then uppermost, due to the previous rotation of the rod 70 and collar 73. In this turning movement the stud is first automatically cammed
50 out of the groove which it occupies by one of the walls thereof in the turning movement of the collar, and then at the completion of the rotation of the collar the said stud or pin snaps into the diametrically opposite groove when it comes up into alinement therewith.

By the use of the paper-stops 57 and the
55 paper-gage arm 77 at right angles to one another the paper may be quickly and accurately positioned with relation to the platen and readily squared while the main feed-rollers are out of contact with the platen, and
60 when the finger-piece 30 is released the paper is automatically clamped to the platen in the properly-adjusted position and the obstructing paper-stops 57 are automatically withdrawn.

65 Having described my invention, what I

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

1. In a type-writing machine, the combination with a rotary platen, of a side-edge paper-gage, that part of the gage by which
70 the paper is guided being movable transversely to the axis of the platen to an inoperative position.

2. In a type-writing machine, the combination with a rotary platen, of a side-edge paper-gage, that part of the gage by which the
75 paper is guided being movable transversely to the axis of the platen to an inoperative position, and means for holding the gage in either an operative or an inoperative position.
80

3. In a type-writing machine, the combination with a rotary platen, of a side-edge paper-gage, that part of the gage by which the
85 paper is guided being adjustable at different distances from the proximate end of the platen-frame and being movable, while it is adjusted at a particular distance from said
90 end of the platen-frame, from and back to its operative position.

4. In a type-writing machine, the combination of a platen, a paper-gage which is adjustable in the direction of the length and
95 intermediate the ends of said platen and against which a side edge of the paper is adapted to abut, and means which afford a movement of said gage at right angles to the
100 length of the platen and into and out of the operative position, the gage being over the platen and extending toward the front of the machine when it is in the inoperative position
105 and extending toward the rear of the machine when it is in the operative position, whereby when the gage is thrown out of the operative position, paper of a width equal to or greater than the length of the platen may be employed.

5. In a type-writing machine, the combination of a platen, a platen-frame, a paper-gage which is pivoted to the platen-frame
110 and is adjustable in the direction of the length and intermediate the ends of said platen and against which a side edge of the paper is adapted to abut, the pivot of said gage affording a movement of said gage at
115 right angles to the length of the platen into and out of the operative position, the gage being over the platen and extending toward the front of the machine when it is in the inoperative position and extending toward the
120 rear of the machine when it is in the operative position, whereby when the gage is thrown out of the operative position it no longer constitutes an abutment for a side edge of the paper and paper of a width equal
125 to or greater than the length of the platen may be employed thereon, and spring-pressed means for retaining said gage in either the operative or inoperative position.

6. In a type-writing machine, the combination with a rotary platen, of a side-edge paper-gage, that part of the gage by which the paper is guided being movable transversely to the axis of the platen to an inoperative position, and means for holding the gage in either an operative or an inoperative position.

nation of a platen, a platen-frame, and a paper-gage secured to the left-hand end of said platen-frame, said gage comprising a pivoted rod or bar which is longitudinally adjustable in the direction of the length of the platen and a projection which extends from said rod at substantially right angles to its length and which is adapted to constitute a gage for one side edge of the paper, and spring-pressed means for retaining the gage in the operative or inoperative position when the rod is turned on its pivotal center.

7. In a type-writing machine, the combination of a platen, a platen-frame, spring-bearing arms carried by said frame, a pivoted block carried by said bearing-arms, one of said parts being provided with a pin and the other with a slot to maintain the block in either one of two positions to which it may be moved, and a paper-gage which comprises a rod that extends longitudinally of the platen, and an arm projecting from said rod at substantially right angles to the length thereof, so as to constitute an abutment for one side edge of the paper, said rod being seated in said block and said bearing-arms and adjustable longitudinally therein, and adapted to turn in the bearing-arms and thus permit a movement of the angular arm into and out of operative position.

8. In a type-writing machine, the combination of a platen, a paper-feed roller which is movable into and out of contact with the platen, a paper-stop which is movable into and out of contact with the platen, and means for enabling a movement of said stop into contact with the platen before the said feed-roller is moved out of contact therewith.

9. In a type-writing machine, the combination of a platen, a paper-feed roller which is movable into and out of contact with the platen, a paper-stop which is movable into and out of contact with the platen, and means for enabling the feed-roller to contact with the platen or the paper thereon before the stop is moved out of contact therewith.

10. In a type-writing machine, the combination of a cylindrical platen mounted on a horizontal axis, a stop-bar extending lengthwise of the platen and movable toward and from the axis thereof, and a series of paper-stops mounted on the bar, said stops being separately movable in directions transverse to that of the movement of the bar to adjust them in alinement and render their alinement parallel to the axis of the platen.

11. In a type-writing machine, the combination of a platen, a stop-bar, independently-spring-pressed paper-stops carried by said bar, and independent means for adjusting said stops on the bar.

12. In a type-writing machine, the combination of a rotary platen mounted on a horizontal axis, a stop-bar extending from end

to end of the platen and movable toward and from the cylindrical surface of the platen, and a series of paper-stops mounted on said bar, said paper-stops being separately movable transversely of the bar to adjust them in alinement and render their alinement parallel to the axis of the platen.

13. In a type-writing machine, the combination of a cylindrical platen mounted on a horizontal axis, a stop-bar extending lengthwise of the platen and movable toward and from the cylindrical surface of the platen, a series of adjustable holding devices on the bar, and a series of paper-stops mounted in said holding devices.

14. In a type-writing machine, the combination of a platen, a movable stop-bar, stop-guides which are carried by said bar, means for adjusting said guides relatively to one another and in a direction transverse to the length of the bar, and spring-pressed paper-stops which are movable in said guides.

15. In a type-writing machine, the combination of a platen, a movable stop-bar which extends substantially throughout the length of the platen and is perforated at intervals throughout its length, stop-guides which extend through said perforations in the stop-bar, means for adjusting said stop-guides relatively to one another and in a direction transverse to the length of the bar, a headed paper-stop movable in each of said guides, and a spring which bears upon the head of each of said stops and normally maintains it in the projected position.

16. In a type-writing machine, the combination of a platen, a paper-feed roller which coöperates therewith, a paper-stop which is out of contact with the platen when the paper-feed roller is in contact therewith, hand-operated means for moving said paper-feed roller out of contact with the platen, and means controlled by such movement for moving the paper-stop into contact with the platen in advance of the movement of the paper-feed roller away from the platen.

17. In a type-writing machine, the combination of a platen, a movable spring-pressed carrier, independently-spring-pressed paper-stops carried by said carrier and means which afford a movement of the carrier to move the spring-pressed pins into and out of contact with the platen.

18. In a type-writing machine, the combination of a platen, paper-feeding devices which coöperate with said platen, means for moving said paper-feeding devices toward and away from the platen, a movable carrier, spring-pressed paper-stops carried by said carrier, and means which are controlled by the moving means to afford a movement of the carrier, and thus cause the spring-pressed pins to be moved toward and away from the platen.

19. In a type-writing machine, the combi-

nation of a platen, a paper-feeding device which coöperates with said platen, hand-operated spring-restored means for moving said paper-feeding device into and out of contact with said platen, a movable spring-pressed carrier, paper-stops carried by said carrier and spring-pressed independently thereof, and means which are controlled by said moving means for retaining the carrier against the tension of its spring and the paper-stops away from the platen when said moving means are positioned to permit the paper-feeding device to contact with the platen, and for permitting said stops to be forced into contact with the platen when the moving means are so positioned that the paper-feeding device is moved away from the platen.

20. In a type-writing machine, the combination of a platen, a paper-feeding device which coöperates therewith, a paper-stop, means for moving one of said parts toward or away from the platen, and means for affording a movement of one of said parts by and in an opposite direction to that of the other and for permitting the paper-stop to have a movement toward the platen in advance of the movement of the paper-feeding device away from the platen.

21. In a type-writing machine, the combination of a platen, paper-feed rollers which coöperate therewith, means for moving said feed-rollers into and out of contact with the platen, a movable bar, spring-pressed paper-stops carried by and movable independently of said bar, a spring for forcing the bar toward the platen to bring the paper-stops into contact therewith, and means controlled by said moving means for rendering the spring of the bar effective to move it toward the platen and the stops thereon into contact with the platen.

22. In a type-writing machine, the combination of a platen, paper-feed rollers which coöperate therewith, means for moving said feed-rollers into and out of contact with the platen, a bar which has a limited movement independently of said movements of the feed-rollers, paper-stops carried by said bar, a spring for forcing the bar toward the platen to bring the paper-stops into contact therewith, and means controlled by said moving means for rendering the spring of the bar effective to move it toward the platen and the stops thereon into contact with the platen in advance of the movement of the feed-rollers away from the platen.

23. In a type-writing machine, the combination of a platen, paper-feed rollers which coöperate therewith, hand-operated spring-restored means for moving said feed-rollers into and out of contact with the platen, a bar which has a limited movement toward and away from the platen independently of said movements of the feed-rollers, spring-pressed paper-stops carried by and movable

independently of said bar, a spring for forcing the bar toward the platen to bring the paper-stops into contact therewith, and means controlled by said moving means for rendering the spring of the bar effective to move it toward the platen and the stops thereon into contact with the platen in advance of the movement of the feed-rollers away from the platen.

24. In a type-writing machine, the combination of a platen, spring-pressed paper-feed rollers, a hand-operated rock-shaft with means thereon for moving the feed-rollers out of contact with the platen, a paper-stop, a spring which tends to force said stop toward the platen, and means carried by the rock-shaft for maintaining the paper-stop away from the platen when feed-rollers are in contact therewith.

25. In a type-writing machine, the combination of a platen, spring-pressed paper-feed rollers, pivoted arms on which said rollers are carried, a hand-operated rock-shaft with means thereon for moving the arms to force the feed-rollers out of contact with the platen, a paper-stop, a spring which tends to force said stop into contact with the platen, and means carried by the rock-shaft for maintaining the paper-stop against the tension of its spring and away from the platen when feed-rollers are in contact therewith.

26. In a type-writing machine, the combination of a platen, spring-pressed paper-feed rollers, a hand-operated rock-shaft with means thereon for moving the feed-rollers out of contact with the platen, a paper-stop, a spring which tends to force said stop toward the platen, and means carried by the rock-shaft for maintaining the paper-stop away from the platen when feed-rollers are in contact therewith and for permitting the stop to move toward the platen in advance of the movement of the feed-rollers away therefrom.

27. In a type-writing machine, the combination of a platen, spring-pressed paper-feed rollers, a hand-operated rock-shaft with means thereon for moving the feed-rollers out of contact with the platen, a paper-stop, a spring which tends to force said stop toward the platen, means carried by the rock-shaft for maintaining the paper-stop away from the platen when feed-rollers are in contact therewith, and adjustable means for determining the extent to which the paper-stop is maintained away from the platen.

28. In a type-writing machine, the combination of a platen, spring-pressed paper-feed rollers, a hand-operated rock-shaft with means thereon for moving the feed-rollers against the tension of their spring and out of contact with the platen, a movable bar, spring-pressed paper-stops carried thereby, a spring which tends to force the bar toward the platen and the stops on the bar into con-

tact with the platen, and means carried by the rock-shaft for maintaining the bar away from and the stops out of contact with the platen when the feed-rollers are in contact therewith.

29. In a type-writing machine, the combination of a platen, an apertured paper-apron, spring-pressed paper-feed rollers, which are adapted to project through apertures in the apron and into contact with the platen, a hand-operated rock-shaft with means thereon for moving the feed-rollers against the tension of their spring and out of contact with the platen, a movable bar, spring-pressed paper-stops carried thereby, and which are adapted to project through apertures in the apron and into contact with the platen, a spring which tends to force the bar toward the platen and the stops on the bar into contact with the platen, and means carried by the rock-shaft for maintaining the bar away from and the stops out of contact with the platen when the feed-rollers are in contact therewith.

30. In a type-writing machine, the combination of a platen, paper-feed rollers which cooperate therewith, a spring which exerts a tension upon said rollers to maintain them in contact with the platen, a rock-shaft, hand-operated means for turning said rock-shaft, means on the shaft for moving the feed-rollers against the tension of their spring and out of contact with the platen, a swinging bar which extends longitudinally of and substantially throughout the length of the platen, paper-stops which are carried by the bar, a spring which tends to force the bar toward and the stops thereon into contact with the platen, and means carried by the rock-shaft for maintaining the bar away from and stops out of contact with the platen when the feed-rollers are in contact therewith.

31. In a type-writing machine, the combination of a platen, paper-feed rollers which cooperate therewith, a spring which exerts a tension upon said rollers to maintain them in contact with the platen, a rock-shaft, hand-operated means for turning said rock-shaft, means on the shaft for moving the feed-rollers against the tension of their spring and out of contact with the platen, a swinging bar which extends longitudinally of and substantially throughout the length of the platen, paper-stops which are carried by the bar, a spring which tends to force the bar toward and the stops thereon into contact with the platen, and means carried by the rock-shaft for maintaining the bar away from and the stops out of contact with the platen when the feed-rollers are in contact therewith and for permitting the bar to move toward and the stops to contact with the platen in advance of the movement of the feed-rollers away from the platen.

32. In a type-writing machine, the combination of a platen, an apertured paper-apron, paper-feed rollers which are adapted to project through apertures in the apron and into contact with the platen, a spring which exerts a tension upon said rollers to maintain them in contact with the platen, a rock-shaft, hand-operated means for turning said rock-shaft, means on the shaft for moving the feed-rollers against the tension of their spring and out of contact with the platen, a swinging bar which extends longitudinally of and substantially throughout the length of the platen, paper-stops which are carried by the bar and which are adapted to project through apertures in the apron and into contact with the platen, a spring which tends to force the bar toward and the stops thereon into contact with the platen, and means carried by the rock-shaft for maintaining the bar away from and the stops out of contact with the platen when the feed-rollers are in contact therewith.

33. In a type-writing machine, the combination of a platen, a fixed apertured paper-apron, paper-feed rollers which are carried by pivoted arms and are adapted to project through apertures in the apron and into contact with the platen, a spring which exerts a tension upon said rollers to maintain them in contact with the platen, a rock-shaft, hand-operated means for turning said rock-shaft, means on the shaft for moving the feed-rollers against the tension of their spring and out of contact with the platen, a swinging bar which extends longitudinally of and substantially throughout the length of the platen, independently-movable spring-pressed paper-stops which are carried by the bar and which are adapted to project through apertures in the apron and into contact with the platen, a spring which tends to force the bar toward and the stops thereon into contact with the platen, and means carried by the rock-shaft for maintaining the bar away from and the stops out of contact with the platen when the feed-rollers are in contact therewith and for permitting the bar to move toward and the stops to contact with the platen in advance of the movement of the feed-rollers away from the platen.

34. In a type-writing machine, the combination with the cylinder or roller-platen of the machine, of gage or stop pins, each pin having a separate endwise-bearing spring giving the pin a cushion action in engaging the cylinder or roller-platen.

35. In a type-writing machine, the combination with a rotary platen, of a side-edge gage mounted on an axis parallel to that of the platen, the gage being angularly movable on its axis to an inoperative position.

36. In a type-writing machine, the combination with a rotary platen, of a side-edge

paper-gage mounted on an axis parallel to that of the platen, the gage being angularly movable on its axis to an inoperative position, and means for holding the gage in either an operative or inoperative position.

37. In a type-writing machine, the combination of a side-edge paper-gage mounted on an axis parallel to that of the platen, said gage being angularly movable to an inoper-

ative position and being adjustable lengthwise of the platen.

Signed at Ilion, in the county of Herkimer and State of New York, this 1st day of March, A. D. 1902.

LOUIS P. DISS.

Witnesses:

RALPH W. GOUGH,
LUCIUS J. ROBSON.