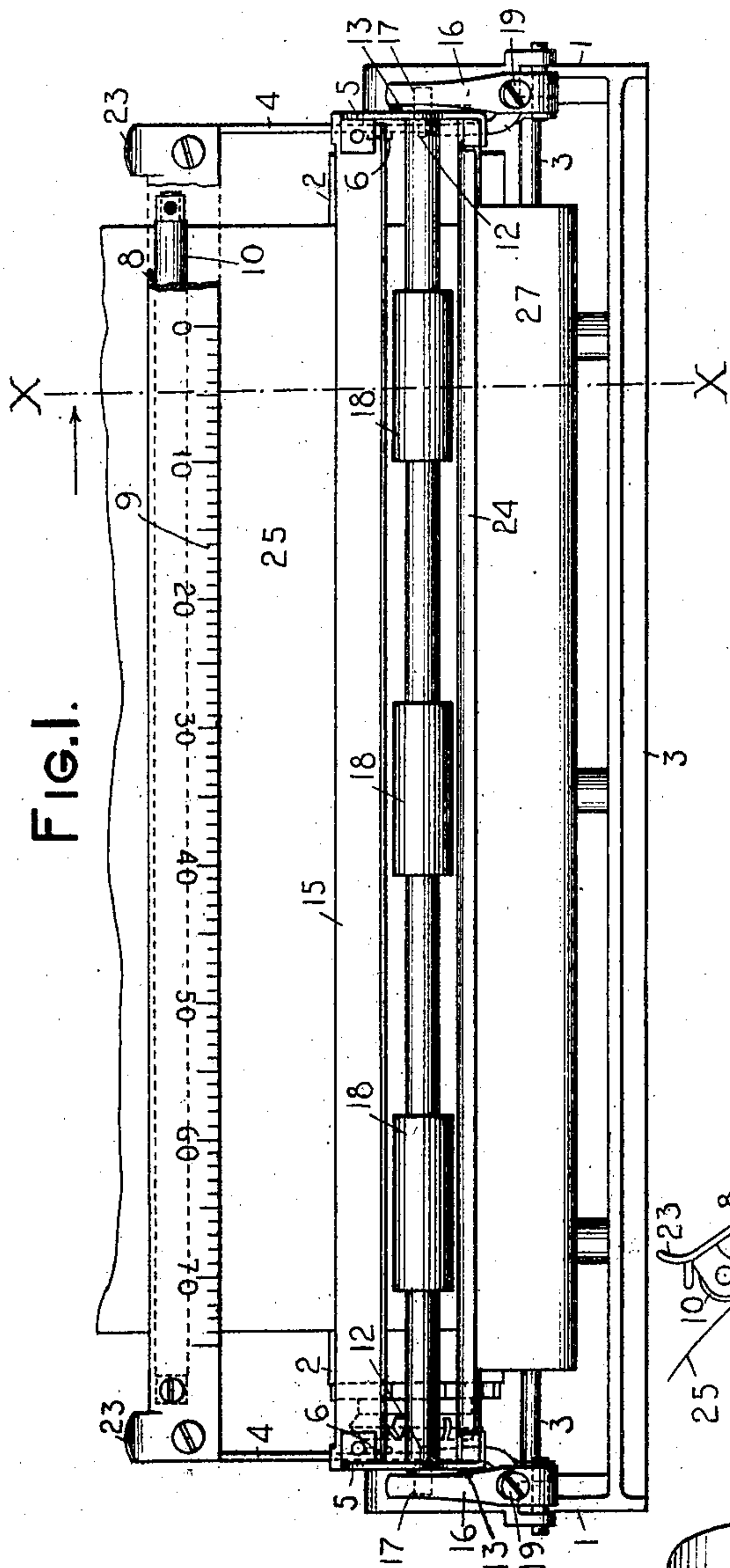


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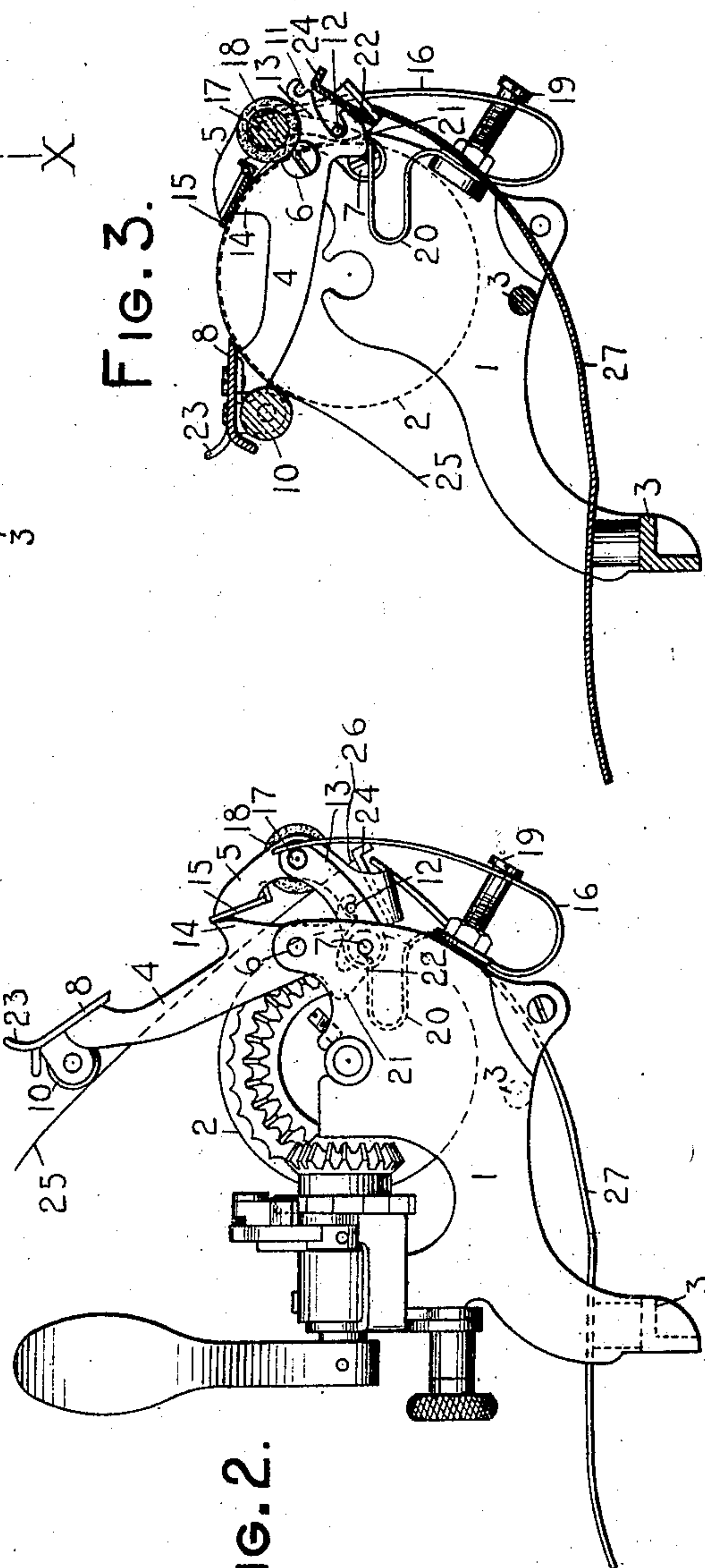
PATENTED MAR. 12, 1907.

B. A. BROOKS.
TYPE WRITING MACHINE.
APPLICATION FILED OCT. 19, 1901

2 SHEETS—SHEET 1.



10



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Fig. 2.

WITNESSES.

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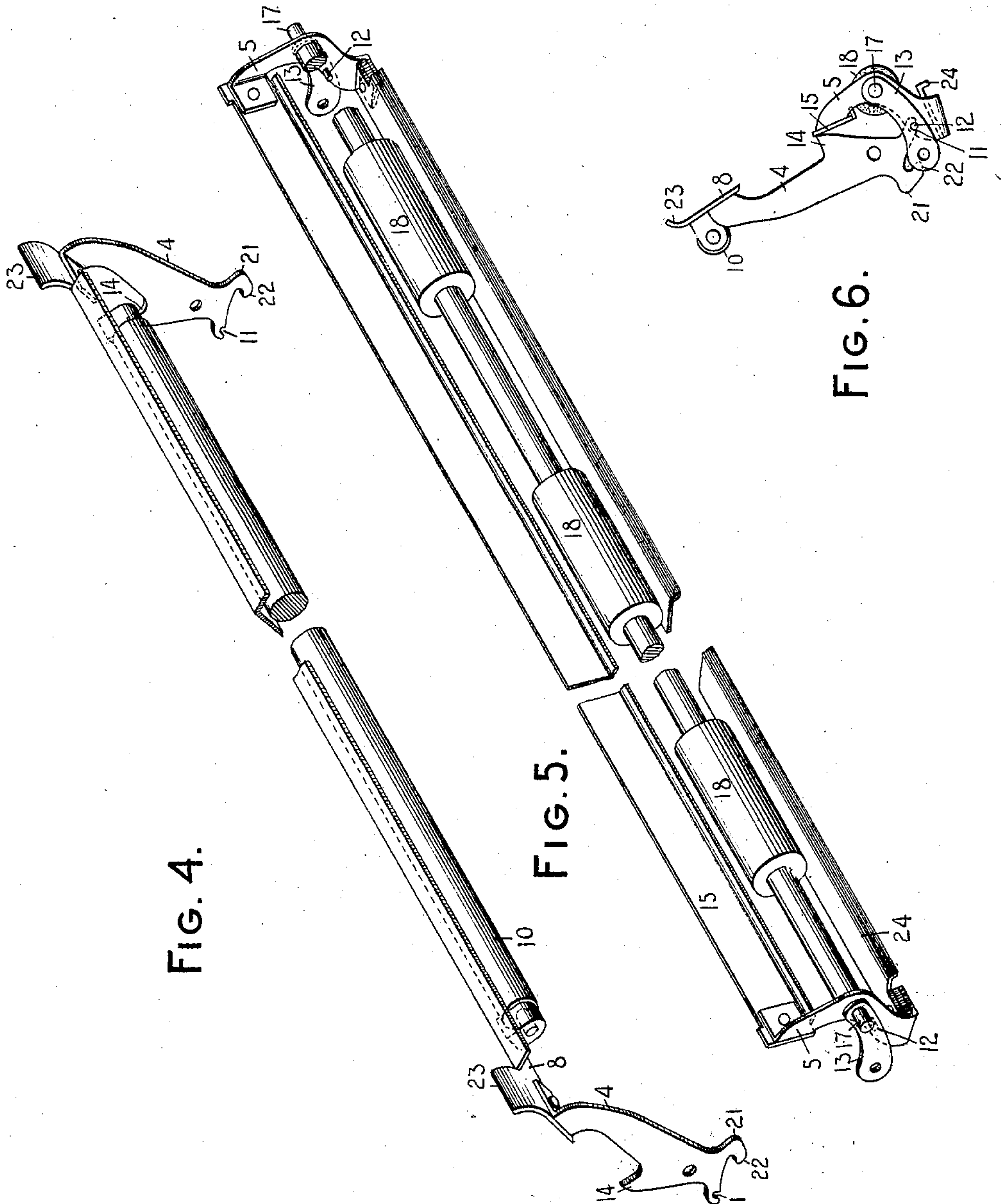
HIS ATTORNEY

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2 SHEETS—SHEET 2.



WITNESSES.

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UNITED STATES PATENT OFFICE.

BYRON A. BROOKS, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 846,978.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed October 19, 1901. Serial No. 79,188.

To all whom it may concern:

Be it known that I, BYRON A. BROOKS, a citizen of the United States, and a 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 paper gaging, guiding, and feeding mechanisms for type-writing machines.

The object of said invention is to provide simple and efficient means whereby the paper may be readily inserted in the paper-feed mechanism with assurance that the leading edge of the paper will always be started from the same point and that the paper will be properly positioned or "squared" therein and without the necessity of depending upon the eye or judgment of the operator to determine whether the paper is properly positioned or whether it is straight or not.

To these and other ends, which will hereinafter appear, my invention consists in the novel arrangement and combination of parts to be hereinafter described and claimed.

Referring to the accompanying drawings, wherein like reference characters represent corresponding parts in the several views, Figure 1 is a rear view of sufficient number of parts of a carriage of a type-writing machine to illustrate my invention, the parts being shown in the released position indicated in Fig. 2. Fig. 2 is an end view of the same. Fig. 3 is a transverse sectional view taken on the line X X of Fig. 1 and looking in the direction of the arrow in said figure, this view, however, illustrating the paper-feed devices in the clamped or operative position. Figs. 4 and 5 are respectively detail front and rear perspective views of the feed-roller-carrying frames to be hereinafter more fully described. Fig. 6 is a detail end view of the said frames in coöperative relation, the parts being shown in the positions represented at Fig. 2.

In the present instance I have illustrated my invention in connection with a top-strike machine of the general character shown in my Patent No. 677,110, dated June 25, 1901, though it should be understood that the invention is in no sense limited to such a ma-

chine, but may be used wherever found available.

The end plates 1 constitute portions of the platen-frame of the carriage in which the platen 2 is mounted and adapted to revolve. Said end plates, connected by suitable cross bars or rods 3, afford bearings for various portions of the paper-feed mechanism. The paper-feed mechanism is shown in the present instance as comprising two spring-pressed frames 4 and 5, Figs. 4 and 5, which are pivoted to the end plates, as indicated at 6 and 7, respectively, Figs. 2 and 3. The frame 4 carries a paper-blade 8, which is provided on its outer face with a scale 9, and carried by the blade at the under face thereof is a loosely-mounted paper-feed roller 10, which is normally maintained in contact with the platen, as indicated in Fig. 3. Each of the end plates of the frame 4 has an arm that extends to the rear of the pivot 6 of said frame and is notched, as indicated at 11, for coöperation with a pin 12, that is carried by an end plate of the frame 5 and extends inwardly therefrom, the pins and notches co-operating to lock the frames 4 and 5 in the positions indicated in Fig. 2, as will hereinafter more clearly appear. Outside of each end plate of the frame 5 is a link 13, one end of which is pivoted at 7 to the platen-frame, the other end of the link being pivoted at 17 to the frame 5, the link 13 thus pivotally connecting the frame 5 to the platen-frame. The roller and paper-blade-carrying frame 4 is provided with a nose, cam, or bearing-surface 14, which is adapted to bear against a paper-blade 15, carried by the frame 5. It will be understood that when the frame 4 is moved from the position indicated in Fig. 3 of the drawings to that shown in Figs. 2 and 6 the projection or nose 14 will cause the frame 5 to be moved with it until the arms on the frame 4, which have the notches 11 therein, are brought into contact with the pins 12, and said pins spring into notches 11 and arrest further backward movement of the frames 4 and 5 and lock them in the positions shown in Figs. 2 and 6. Springs 16 are adapted to bear against pivot-pins 17 for the links 13, which pins in the present instance are formed by the ends of the shaft or rod of the paper-feed rollers 18. From an inspec-

tion of Fig. 1 it will be seen that one of these springs 16 is carried at each end of the platen-frame and coöperates with its pin 17. While the tendency of the springs 16 is normally to maintain the frames in the positions indicated in Fig. 3, with the paper-feed rollers in contact with the platen, the frames when forced to the positions shown in Fig. 2 of the drawing will be retained in this position by the notches 11 engaging the pins 12, though a slight forward pressure on the frame 4 by the hand of the operator is sufficient to disengage the notches from the pins and to allow the springs to restore the frames 4 and 5 to the position shown in Fig. 3. The tension of the springs 16 upon the parts may be regulated by a set-screw 19, and a second spring 20 may be employed to bear upon the projection 21 on each of the side or end plates constituting portions of the frame 4. These springs 20 tend, further, to maintain the parts in each of the positions indicated in Figs. 2 and 3 by reason of their coöperation with the flattened portions 22 on each nose 21 when the parts are moved to the positions shown. Preferably I provide finger-pieces 23 on the frame 4 in order to facilitate the movement of the frames 4 and 5 by hand from the position shown in Fig. 3 to that indicated in Fig. 2, or vice versa.

The frame 5 in addition to the feed-rollers 18 is provided with what I term a "paper stop or gage" 24, which preferably is in the nature of a flat plate or bar that extends throughout or substantially throughout the length of the platen, though it may be notched or recessed at various points of its length to provide a set of stops or gages, which project from the bar. When the parts are in the positions indicated in Fig. 3 of the drawing, this paper-stop will be maintained in a position where it affords no obstruction to the free passage of the paper around the platen. When, however, the parts are moved to the positions indicated in Fig. 2, the angle which the plane of this stop bears to the surface of the platen is changed and the lower edge of the stop is brought closer to the platen and the stop is interposed in the path of the leading end or edge of the paper and constitutes an abutment stop or gage by means of which the paper can be straightened and properly and evenly fed on the platen, at the same time assuring that the successive sheets introduced into the machine will always be started from a given point, or, in other words, that the leading edges of successive sheets introduced into the machine will always be at a given distance from the printing-line and will be squared with relation thereto. This is clearly indicated in Fig. 2 of the drawing, wherein the paper 25 has its leading edge or end 26 resting upon the paper-stop. By having the paper-stop extend

throughout the length of the platen paper of various widths can be efficiently trued or straightened on the stop. After the paper has been inserted in the manner described, and as indicated in Fig. 2, the frame 4 is depressed, thereby releasing the notched portions 11 from the pins 12, and the parts will assume the positions shown in Fig. 3 of the drawing. It will be observed that when the parts are in these last-mentioned positions the paper is firmly clamped upon the platen and the feed-rollers are in coöperative relation to the platen to feed the paper forward therewith. It will likewise be seen that the paper-stop 24 has been moved beyond the effective faces of the paper-feed mechanism, or those faces thereof which contact with the paper, and has been moved to a position where it no longer affords an obstruction to the free movement of the paper. In other words, when the parts are in the positions shown in Fig. 2 the paper-stop 24 is adjacent to the platen, while the feed-rollers and blades are maintained away from the platen, whereas when the parts are in the positions shown in Fig. 3 the feed-rollers and blades are in contact with platen and the stop 24 is moved away from the platen. The paper-blades 8 and 15 coöperate with the paper upon opposite sides of the printing-line, as is clearly indicated in Figs. 1 and 3, so as to write on short sheets of paper or cards and so as to maintain the paper pressed against the platen at the printing-line.

From the foregoing description it will be observed that the feed-rollers are located in advance of the paper stop or gage 24 and that whenever the rollers are moved to a position where the paper is adapted to be readily inserted the paper-stop 24 is always effective to receive or coact with the leading end or edge of the paper and to act as an abutment to square it, and the paper may then be clamped in position on the platen without disturbing the arrangement of the paper attained with the aid of said stop. Furthermore, a single movement of the frame 4 is all that is required to withdraw all parts of the paper-feeding mechanism from coöperation or contact with the platen, and this same movement brings about the interposition of the paper-stop 24, so that it will constitute an abutment for the proper positioning of the paper.

In the broader aspects of my invention the paper-feeding roller or device 18 may be employed in coöperation with the platen without the other paper-feeding instrumentalities described, especially in the application of the invention to a bottom-strike or front-strike type-writing machine. It will be seen that the paper-stop 24 is beyond this roller or paper-feeding device 18, considered with relation to the direction of line-feed of the paper, and when the roller is forced away

from the platen the paper may be introduced between the face of the roller and the platen and properly positioned against the paper-stop 24. Then when the feeding device 18 is moved into coöperative feeding relation to the platen, as shown in Fig. 3, the effective face of the roller will clamp the paper to the platen without disturbing the arrangement of the paper.

10 In addition to the mechanism thus far described I may provide a paper-shelf 27, which receives the paper from the platen. It is obvious, however, that any suitable mechanism may be employed for this purpose.

15 While I have shown and described with considerable detail one form of mechanism embodying my invention, it should be understood that various changes in the structure may be made without departing from the spirit of my invention and in order to adapt the invention to various forms of type-writing machines.

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

1. In a type-writing machine, the combination of a platen, a paper-feeding device normally in contact with the platen, a paper-stop against which the leading edge of the paper is adapted to abut and arranged adjacent to said paper-feeding device, and means for moving the paper-stop toward the platen when the paper-feeding device is out of contact with the platen, the arrangement being such that the paper-stop may be brought to a position to arrest the paper when it is fed into the machine and past the said paper-feeding device.

2. In a type-writing machine, the combination of a platen, a paper-feeding device, a paper-stop against which the leading edge of the paper is adapted to abut, and means for withdrawing the paper-feeding device from contact with the platen and for interposing the paper-stop in the path of the leading edge of the paper.

3. In a type-writing machine, the combination of a platen, a paper-feeding device, a paper-stop against which the leading edge of the paper is adapted to abut, means for moving the paper-stop toward the platen and beyond the contact-face of the feeding device and means for automatically locking the parts in such positions.

4. In a type-writing machine, the combination of a platen, a paper-feeding device, a paper-stop against which the leading edge of the paper is adapted to abut, means for withdrawing the paper-feeding device from contact with the platen and for simultaneously interposing the paper-stop in the path of the leading edge of the paper, and means for automatically locking the parts in such positions.

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

nation of a platen, a movable paper-stop and means for changing the angle which the plane of the abutting or contact face of said stop bears to the surface of the platen, whereby the stop in one position will afford an abutment for the leading edge of the paper and in another angular position will permit the paper to move freely past it.

6. In a type-writing machine, the combination of a platen, a movable paper-stop means for changing the angle which the plane of said stop bears to the surface of the platen, whereby the stop in one position will afford an abutment for the leading edge of the paper, but in the other position will permit the paper to pass by, a paper-feeding device which coöperates with said platen, and operative connections between the paper-feeding device and the paper-stop, whereby a movement of one of the parts to or from the operative position will cause a movement of the other.

7. In a type-writing machine, the combination of a platen, a movable paper-stop, means for changing the angle which the plane of said stop bears to the surface of the platen, whereby the stop in one position will afford an abutment for the leading edge of the paper but in the other position will permit the paper to pass by, a paper-feeding device which coöperates with said platen, operative connections between the paper-feeding device and the paper-stop whereby a movement of one of the parts to or from the operative position will cause a movement of the other, and means for locking the paper-feeding device out of operative position while the stop is in operative position.

8. In a type-writing machine, the combination of a platen, a movable paper-stop mounted independently of the platen and which extends substantially throughout the length thereof, said stop being adapted to constitute an abutment for the leading edge of the paper, and means for moving said paper-stop into the path of the paper as it is introduced into the machine.

9. In a type-writing machine, the combination of a platen, a movable paper-stop which extends substantially throughout the length of the platen and which is adapted to constitute an abutment for the leading edge of the paper, means for moving said paper-stop into operative position and means for automatically retaining the paper-stop in the position to which it is moved.

10. In a type-writing machine, the combination of a platen, a paper-feeding device co-operating therewith, a movable paper-stop which extends substantially throughout the length of the platen and which is adapted to constitute an abutment for the leading edge of the paper, means for moving the feeding device into and out of operative feeding relation with the platen, and operative connec-

tions between the paper-feeding device and the paper-stop, whereby a movement of the former out of operative feeding relation will effect a movement of the paper-stop into
5 arresting position.

11. In a type-writing machine, the combination of a platen, a paper-feeding device co-operating therewith, a movable paper-stop which extends substantially throughout the
10 length of the platen and which is adapted to constitute an abutment for the leading edge of the paper, means for moving the feeding device into and out of operative feeding relation with the platen, operative connections
15 between the paper-feeding device and the paper-stop and means for automatically locking the feeding device in inoperative position while the stop is in arresting position.

12. In a type-writing machine, the combination of a platen, a paper-feeding device,
20 and a paper-stop against which the leading edge of the paper is at all times adapted to abut when the paper-feeding device is out of coöperative relation with the platen.

13. In a type-writing machine, the combination of a platen, a paper-feeding device, a
25 paper-stop arranged beyond the feeding device and against which the leading edge of the paper is at all times adapted to abut when the paper-feeding device is out of operative
30 relation with the platen and means for moving said paper-feeding device out of operative relation with the platen; whereby the paper may be introduced past the feeding device
35 and arrested by the stop and then clamped upon the platen by the feeding device when the latter is restored to normal position.

14. In a type-writing machine, the combination of a platen, a plurality of feed-rollers
40 which coöperate therewith, means for moving said feed-rollers out of contact with the platen, a movable stop against which the leading edge of the paper is adapted to abut,
45 and means for controlling the movement of the paper-stop by the moving means for the feed-rollers.

15. In a type-writing machine, the combination of a platen, a plurality of feed-rollers
50 which coöperate therewith, means for simultaneously moving all of said feed-rollers out of contact with the platen, a movable paper-stop against which the leading edge of the paper is adapted to abut, means for controlling the movement of the paper-stop by
55 the moving means for the feed-rollers, and mechanism for automatically locking the feed-rollers away from the platen.

16. In a type-writing machine, the combination of a platen, a movable spring-pressed
60 frame, one or more paper-feed rollers carried by said frame and adapted to coöperate with the platen, a paper-stop against which the leading edge of the paper is adapted to abut,
65 and means for moving the frame and simul-

taneously conveying the paper-stop into effective position to constitute an abutment for the paper.

17. In a type-writing machine, the combination of a platen, a movable spring-pressed
70 frame, one or more paper-feed rollers carried by said frame and adapted to coöperate with the platen, a paper-stop carried by said frame and adapted to constitute an abutment against which the leading end of the
75 paper may abut, and a second movable feed-roller-carrying frame which coöperates with and is adapted to move the first-mentioned frame.

18. In a type-writing machine, the combination of a platen, a movable spring-pressed
80 frame, one or more paper-feed rollers carried by said frame and adapted to coöperate with the platen, a paper-stop carried by said frame and adapted to constitute an abutment against which the leading end of the
85 paper may abut, a second movable feed-roller-carrying frame which coöperates with and is adapted to move the first-mentioned frame, and means for automatically locking
90 both of said frames in position where the rollers are maintained out of contact with the platen and the paper-stop is in the path of the leading end of the paper.

19. In a type-writing machine, the combination of a platen, paper-feeding mechanism
95 therefor, said paper-feeding mechanism comprising separate frames, presser-bars or paper-blades carried by said frames and located on opposite sides of the printing-line, paper-feed rollers carried by each of said frames,
100 and a paper-stop carried by one of said frames and adapted to be moved to a position where it will constitute an abutment for the leading edge of the paper when the frame carrying it
105 is moved in one direction and to be moved out of such position when the frame carrying it is moved in an opposite direction.

20. In a type-writing machine, the combination of a platen, paper-feeding mechanism
110 therefor, said paper-feeding mechanism comprising separate spring-pressed movable frames, the movement of one of which controls the movement of the other, presser-bars or paper-blades carried by said frames and
115 located on opposite sides of the printing-line, a scale upon one of said paper-blades, paper-feed rollers carried by said frames, a paper-stop carried by one of said frames and adapted to be moved to a position where it will
120 constitute an abutment for the leading edge of the paper when the frame carrying it is moved in one direction, and means for automatically locking the frames in such position, whereby the paper-blades and feed-rollers
125 are maintained away from the platen.

21. In a type-writing machine, the combination of a platen, paper-feeding mechanism
therefor, said paper-feeding mechanism comprising separate movable frames, presser-bars
130

or paper-blades carried by said frames and located on opposite sides of the printing-line, paper-feed rollers carried by said frames, and a paper-stop carried by one of said frames and adapted to be moved so as to change the angle which the plane of said stop bears to the surface of the platen.

22. In a type-writing machine, the combination of a platen, paper-feeding mechanism therefor, said paper-feeding mechanism comprising separate spring-pressed frames, presser-bars or paper-blades carried by said frames and located on opposite sides of the printing-line, paper-feed rollers carried by said frames, a paper-stop carried by one of said frames and adapted to be moved to a position where it constitutes an abutment for the leading edge of the paper when the frame carrying it is moved in one direction, and means for adjusting the tension of the springs upon said first-mentioned frame.

23. In a type-writing machine, the combination with a platen and suitable paper-feeding mechanism therefor, of a movable frame, a paper-stop carried by said frame and adapted to constitute an abutment for the leading edge of the paper throughout the length of the platen when the frame is in one position and to permit the free passage of the paper when the frame is in another position.

24. In a type-writing machine, the combination with the cylinder or platen and a horizontal scale or paper-retainer, of a gage or stop located and operating rearwardly of the horizontal scale or paper-retainer, independent of and coöperative with the cylinder or platen for entering the paper into the machine and positively horizontally positioning the paper in the machine.

25. In a type-writing machine, the combination with a platen, of a device for pressing paper against the platen, a gage for squaring the leading edge of the paper relatively to the printing-line, said gage normally out of use; means for releasing said pressure device, and means connected to said releasing means throwing said gage into use.

26. In a type-writing machine, the combination with a platen, of a device for pressing paper against the platen, a gage at the platen for squaring the leading edge of the paper relatively to the printing-line, said gage normally out of use; means for both releasing said pressure device and simultaneously throwing said gage into working position.

27. In a type-writing machine, the combination with a platen, and a platen-frame, of a device for pressing paper against the platen, a gage at the platen for squaring the leading edge of the paper relatively to the printing-line, said gage normally out of use; and a single key upon the platen-frame and connected to means for both releasing said pressure device and throwing said gage into working position.

28. In a type-writing machine, the combination of a platen, a paper-feed roller pivotally mounted to swing into and out of contact with the platen, a paper-stop pivoted to swing into and out of operative position, hand-actuated means for controlling said swinging movements of the feed-roller and paper-stop, and operative connections between said feed-roller and paper-stop.

29. In a type-writing machine, the combination of a platen, a paper-feed roller pivotally mounted to swing into and out of contact with the platen, a paper-stop pivoted to swing into and out of operative position, and hand-actuated means for automatically swinging the paper-stop into position to arrest the leading edge of the paper when the feed-roller is moved out of contact with the platen.

30. In a type-writing machine, the combination of a platen, a platen-frame, a paper-feed roller pivotally supported on the platen-frame to swing into and out of contact with the platen, a paper-stop for arresting the leading edge of the paper, said stop being pivoted on the platen-frame to swing into and out of operative position, and means for automatically moving the stop into operative position when the paper-feed roller is moved out of coöperation with the platen.

31. In a type-writing machine, the combination of a platen, a paper-feed roller, a hand-actuated cam for moving said feed-roller away from the platen, and a stop for the leading edge of the paper and which is automatically moved into the operative position by an actuation of said cam.

32. In a type-writing machine, the combination of a platen, a paper-feeding device, a paper-stop, and means for automatically rendering the paper-stop effective to arrest the paper when the paper-feeding device is moved out of contact with the platen.

33. In a type-writing machine, the combination of a platen, a paper-feeding device, a paper-stop, means for automatically rendering the paper-stop effective to arrest the paper when the paper-feeding device is moved out of contact with the platen, and means for locking said paper-feeding device in the released or inoperative position and for maintaining the stop in the operative position.

34. In a type-writing machine, the combination of a platen, a paper-feed roller coöperating therewith, a gage for squaring the leading edge of the paper, means for releasing said feed-roller and for automatically moving the gage into operative position, and means for locking the feed-roller in the released position and for maintaining the gage in the operative position.

35. In a type-writing machine, the combination of a platen, a paper-feed roller coöperating therewith, a gage adapted to arrest the leading edge of the paper after it has

passed said feed-roller, means for releasing said feed-roller and for automatically moving the gage into operative position, and means for automatically locking the feed-roller in the released position and for maintaining the gage in the operative position.

36. In a type-writing machine, the combination of a platen, parallel paper-feed rollers cooperating therewith, a gage for squaring the leading edge of the paper relatively to the printing-line, and means for releasing said parallel feed-rollers by a single operation and for automatically moving the gage into operative position.

37. In a type-writing machine, the combination with a revoluble platen, of rollers for pressing the paper against the platen, a key for throwing off said pressure-rollers, and a paper-gage normally away from the platen, but movable toward the platen by said key at the roller-releasing operation, so as to afford an abutment or gage against which the leading edge of the paper may be squared relatively to the printing-line.

38. In a type-writing machine, the combination with a platen, of a gage for squaring

the leading edge of the paper relatively to the printing-line, said gage being normally in a position of disuse, a yielding device cooperating with said gage, and key-controlled means for locking said gage away from the platen.

39. In a type-writing machine, the combination with a platen, of a pressure-roller, a key for effecting the release of the pressure-roller, means being provided whereby the key is detained in working position, a gage normally in a position of disuse, for squaring the leading edge of the paper relatively to the printing-point, and means for enabling said key by its roller-releasing movement to cause the movement of said gage toward the platen.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 14th day of October, A. D. 1901.

BYRON A. BROOKS.

Witnesses:

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