

No. 784,444.

PATENTED MAR. 7, 1905.

B. C. STICKNEY.
TYPE WRITING MACHINE.
APPLICATION FILED DEC. 28, 1896.

FIG. 1.

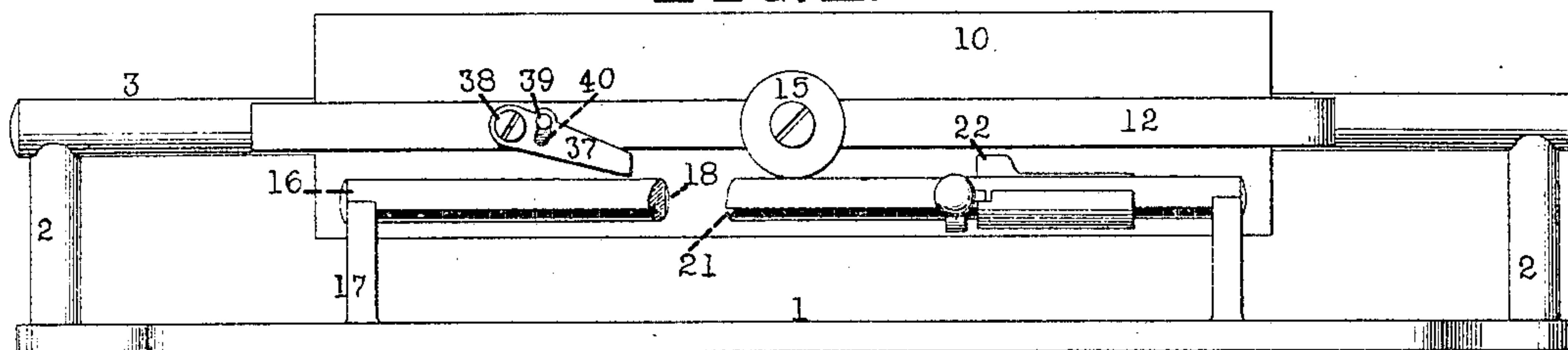


FIG. 2.

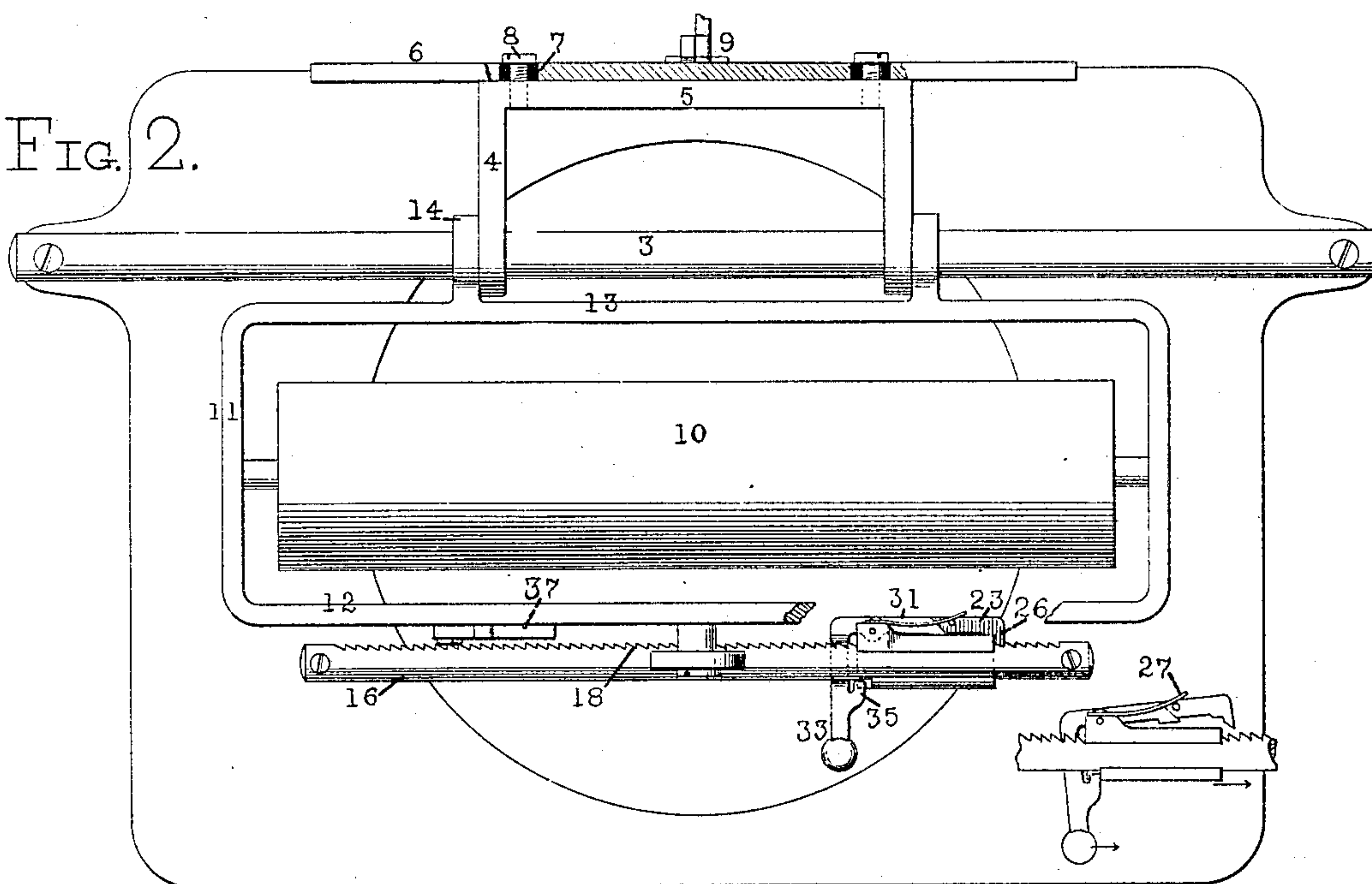


FIG. 3.

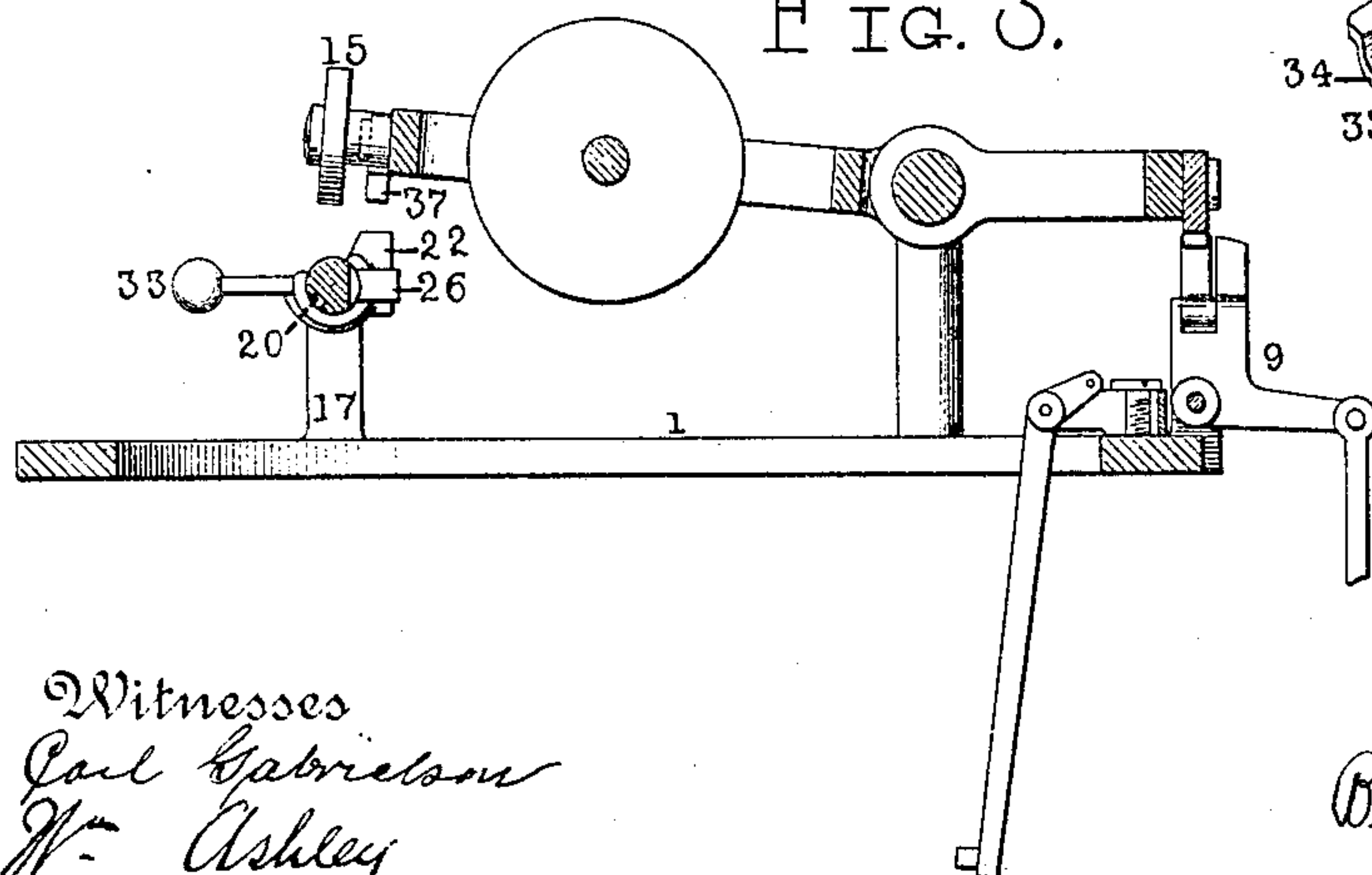


FIG. 4.

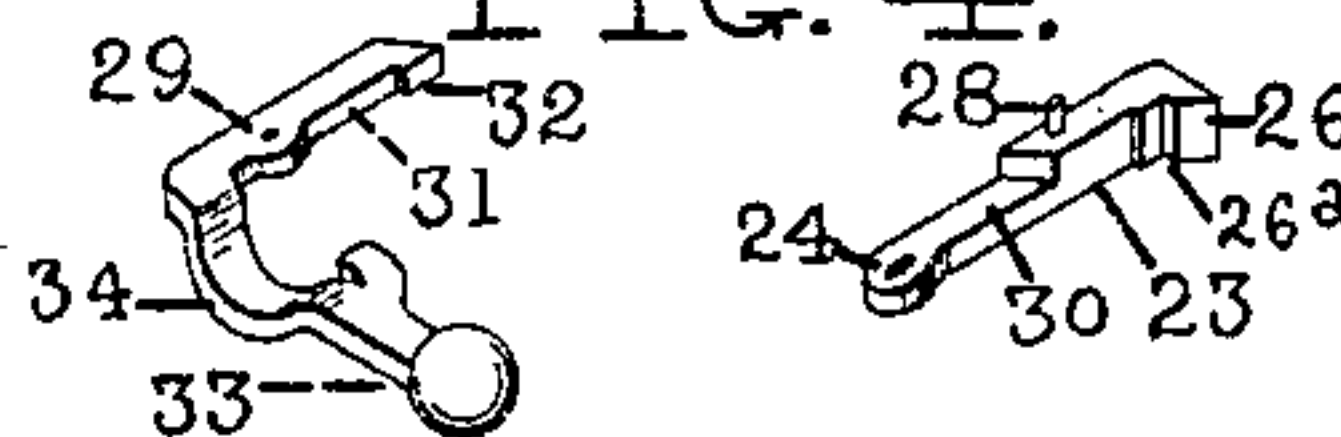
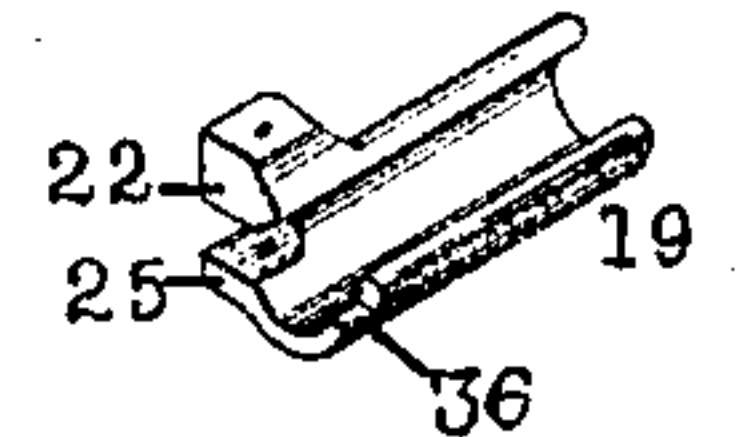


FIG. 5.



Witnesses
Carl Gabrielson
W. Ashley

Inventor
Burnham & Strickney

UNITED STATES PATENT OFFICE.

BURNHAM C. STICKNEY, OF ELIZABETH, NEW JERSEY, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO UNION TYPEWRITER COMPANY, OF JER-
SEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 784,444, dated March 7, 1905.

Application filed December 28, 1896. Serial No. 617,157.

To all whom it may concern:

Be it known that I, BURNHAM C. STICKNEY, a citizen of the United States, and a resident of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to the margin-gage mechanism of type-writing machines; and its object is to improve the construction and simplify the operation thereof.

My invention consists in the provision of a releasing device for the margin-gage actuable by pressure in the direction in which the gage is to be moved; and it further consists in the features of construction and combinations of devices hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a front elevation of the margin-gage mechanism arranged in connection with the paper-carriage of a type-writing machine. Fig. 2 is a plan of the margin-gage and paper-carriage, the letter-spacing rack being partly broken away to expose its adjusting-slots and the front bar of the platen-frame being partly broken away to expose the margin-gage below. Fig. 3 is an end elevation of the gage and carriage, partly in section. Figs. 4 and 5 are perspective views of the releasing-lever, pawl, and sleeve.

In the various views similar numerals of reference designate similar parts.

1 designates the usual top plate of a type-writing machine, from which rise rear posts 2 to support the usual cylindrical hinge and guide rail 3, on which slides a paper-carriage comprising a rack-frame and a platen-frame hinged thereto, the hinge-joint being concentric with the guide-rail 3. The rack-frame comprises a pair of arms 4, extending rearwardly from the hinge and united at their rear ends by a cross-bar 5, to which the rack 6 is secured by screws 8, the holes 7 for the screws being elongated, so that the rack may be adjusted longitudinally upon the cross-bar.

Any suitable letter-spacing mechanism 9 is mounted upon the top plate in engagement with the rack 6 to permit the step-by-step movement of the paper-carriage under the pull exerted by the usual propelling-spring. (Not shown.)

The cylindrical platen 10 is suitably mounted in a rectangular frame consisting of end bars 11, front bar 12, and rear bar 13, from which project rearwardly ears 14, whereby the platen-frame is supported upon the rail 3 and also hinged to the rack-frame, so that the platen may be swung up to expose the writing.

The front bar 12 of the platen-frame is provided with a roll 15, which runs upon a cylindrical front rail or bar 16, supported upon standards 17, rising from the top plate. A lug or foot may be used in place of a roll.

Upon preferably the rear side of the front rail 16 is cut or formed a series of margin-gage teeth or stops 18 at intervals that by preference correspond with the teeth of the letter-spacing rack 6.

Arranged to slide upon the rail is a short sleeve 19, open at the top, so as to leave a clear runway for the roll 15 and so as to permit the sleeve to be slid along the rail beneath the roll. The sleeve encircles the rail for a sufficient distance to secure a firm grasp thereof, but fits the rail loosely, so that it may slide freely thereon. An inwardly-projecting pin 20 upon the sleeve engages a groove cut in the under front portion of the rail for its entire length to keep the sleeve in proper position. The rail thus constitutes a slideway along which the gage may be moved in either direction. It is not essential that the slideway should be a rail or that it should be a bar, as the margin-gage could be arranged to move along in a groove without departing from the spirit of my invention. It is not essential that the series of stops be cut in or upon the slideway so long as the margin-gage is arranged to move upon the slideway and engage any of the stops. It is not essential so far as a part of my invention is concerned that the margin-gage be arranged upon the framework of the machine, as the carriage

could be provided with a slideway and the gage be arranged thereon. The invention is adapted as well for machines in which the paper remains stationary and the types are
5 arranged upon a carriage.

Preferably the sleeve is provided with an enlargement 22, which serves as an abutment to limit the return movements of the paper-carriage in a manner presently to explained.

10 Arranged upon the sleeve and adapted to engage any of the stops 18 within the limit of its travel is a movable stop-tooth 26, which may be of any suitable construction, but which preferably is formed upon the right-
15 hand end of a vibratory arm 23, the tooth and the arm taken together constituting a pawl whereby the gage is locked against movement to the right at the impact of the paper-carriage. To secure the pawl to the sleeve, a
20 vertical pin is driven through a hole made in the abutment 22 and down through a corresponding hole made in an ear 25, arranged upon the sleeve below the abutment. The pawl is arranged between the ear and the abut-
25 ment, and the pin passes through a longitudinal slot 24 in the left-hand end of the pawl, whereby when the pawl is in engagement with a stop permits a slight movement of the sleeve to the right at the impact of the paper-carriage
30 until the right-hand rear edge thereof contacts with a shoulder 26^a, formed upon the stop-tooth 26, whereby the carriage is brought to a stop independently of the pin upon which the pawl is pivoted, so that a small pin may be
35 used without danger of injury thereto. Many other ways may be employed for supporting the stop-tooth upon the slideway.

The stop-tooth 26 is pressed into engagement with the stops 18 by means of a flat
40 spring 27, (shown only at Fig. 2,) one end thereof being fixed to the abutment 22 and the other bearing upon a vertical pin 28 upon the pawl-arm 23. When the margin-gage is pushed toward the left, the stop-tooth 26 will
45 ride over the stops 18, but when pushed in the opposite direction will lock therewith.

To release the tooth from the stops, so that the gage may be slid to the right, I have provided a releasing device which is actu-
50 able through pressure applied in the direction in which the gage is to be moved, whereby with a single motion made by the operator the gage may be both released and moved along the slideway. It is not essential that the push be
55 made in a direction precisely parallel with the slideway so long as the gage may be moved along the slideway by the same movement that effects its release from the stops.

I have preferably constructed the releasing
60 device with a handle, which is adapted to carry the gage along the slide in either direction.

I have devised various constructions for carrying out this part of my invention, but prefer that shown in the drawings, in which the
65 releasing device is made in the form of an

elbow-lever provided with a pivot-hole 29 near its bend and confined between the pawl and the abutment 22, a portion of the pawl-arm being cut away at 30 to make room for the arm
31 of the elbow-lever, the other arm 33 where-
70 of extends forwardly, being bent at 34 to pass beneath the rail in position to be reached by the operator. The elbow-lever has a bearing upon the pivot-pin of the pawl above referred to, the pin passing through the hole 29 there-
75 in. When the finger-piece or handle 33 is pushed toward the left, the arm 31 will bear upon the sleeve at 32, whereupon the handle and sleeve will move as one piece to the left along the slideway. The operating-lever 33
80 is provided with a short finger 35, which extends into a cut-away 36 in the sleeve, whereby the lever 33 is steadied and whereby a bearing is provided for the lever when pushed to-
85 ward the right.

The right-hand extremity of arm 31 is pointed, and the cut-away 30 in the pawl is beveled to match the point, as shown at Fig. 2, where-
by when the handle 33 is pressed to the left the pawl is permitted to vibrate (as it rides
90 over the stops 18) independently of the elbow-lever and whereby when the handle 33 is pushed to the right the pawl is swung rearwardly in unison with the arm 31 against pres-
95 sure of spring 27, so that the stop-tooth 26 is released from the series of stops 18 and the gage moves to the right, as shown by the diagram at the lower right-hand corner of Fig. 2.

From the foregoing explanation it will be understood that the gage will remain stead-
100 fast at the impact of the paper-carriage, but that it will slide freely in either direction in response to pressure applied to the handle or finger-piece in the direction in which the gage is to be moved. I believe I am the first to
105 provide a margin-gage with a handle which may be manipulated to move the gage in either direction along the slideway by applying pressure to the handle in the direction in which the stop is to be moved, and I seek to cover
110 this improvement broadly herein and do not desire to be considered as limiting myself to a handle and releasing device having the general construction and operation set forth.

The paper-carriage is provided with an abut-
115 ment adapted to cooperate with the gage both to mechanically determine the operative position of the gage and also to thereafter limit the return movements of the paper-carriage. The abutment is made, preferably, in the form
120 of a gravity-pawl 37, pivoted at 38 to the front bar 12 of the platen-frame, which is provided with a stop-pin 39, that enters a slot 40 in the pawl, whereby the pawl is supported in normal position and prevented from exces-
125 sive vibration when the platen-frame is swiftly swung up.

To set the gage in working position, the paper-carriage is first brought to the position where the first letter of each line is to be
130

printed, and the handle is then pushed to the left to carry the gage along the slideway as far as it will go—that is, until it is checked by contact of projection 22 with pawl 37.

5 This mechanically determines the position of the gage and renders it unnecessary to provide a scale therefor. At each subsequent return movement the paper-carriage will be checked at the same place by contact of the
10 pawl-abutment 37 with the projection 22. If the paper-carriage were originally set at the position indicated at Figs. 1 and 2, the margin-gage would pass beneath the roll 15 owing to the opening in the top of sleeve 19, and the
15 roll would thereafter pass freely by the gage. By having the carriage-abutment arranged at the left of the roll I am enabled to secure an ample range of adjustment for the margin-gage without unduly prolonging the rail be-
20 yond the length required for the travel of the paper-carriage.

The paper-carriage may at any time be passed to the right beyond the margin-gage whenever the platen-frame is swung up to ex-
25 pose the writing, or it need be lifted from the front rail only a distance sufficient to enable the abutment 37 to clear the projection 22, as shown at Fig. 3, and upon the succeeding normal movement of the paper-carriage to the
30 left the abutment-pawl 37 will ride over the projection 22 and will then drop to working position.

When the margin-gage is no longer needed, the handle is pushed to the right, carrying the
35 margin-gage as far as it will go.

By constructing the gage to pass the front roll 15 I am enabled to secure a long range for the gage.

The letter-spacing rack 6 is provided with
40 longitudinal slots 7, so that the position of the paper-carriage, and thereby the position of the abutment thereon, may be adjusted for a slight distance with reference to the rack 18, as in practice there should be a slight recoil
45 or backlash of the paper-carriage after it strikes the margin-gage and before it is checked by the letter-spacing rack, and by means of the described adjustment the proper amount of recoil may be determined.

50 Some parts of my invention may be used without others, and I do not, therefore, desire to be limited to a machine embodying all portions of the invention.

It should be understood that various fea-
55 tures of construction are not essential to different portions of the invention in connection with which they are respectively described; but it is obvious that in numerous other instances departures may be made from the par-
60 ticular features of construction set forth without departing from the spirit of my invention, and I do not, therefore, desire, so far as certain features of my invention are concerned, to be limited to the particular con-
65 structions and arrangements herein set forth

It will be seen that the cooperating margin-stops are located at the front of the machine, where they are readily accessible to the operator from the front of the machine, that the adjustment of the adjustable stop may be con-
70 veniently effected, and that by an easy manipulation of the stops one may pass the other when the operator desires to write within the margin.

What I claim herein as new, and desire to
75 secure by Letters Patent, is as follows:

1. In a type-writer margin-gage mechanism, the combination with a carriage, a front rail therefor, and a series of stops cut upon said
80 rail, of a margin-gage arranged upon the rail and comprising both a tooth for engaging any of the stops to limit the return movements of the carriage, and a lever adapted to move the
85 gage in either direction along the rail independently of the stops by a single push thereon, the lever being movably mounted on the gage and the tooth being freely movable with and independently of the lever, substantially as set forth.

2. In a type-writer margin-gage mechanism,
90 the combination with a series of stops and a slideway of a margin-gage arranged upon the slideway and provided with a spring-pressed pivoted tooth and a handle independently pivoted and cooperating with said tooth;
95 the construction and arrangement being such that when the handle is pushed to carry the margin-gage in one direction the tooth will ride over the stops independently of the han-
100 dle, and when the handle is pushed to carry the margin-gage in the opposite direction the tooth is released from the stops, substantially as set forth.

3. In a type-writing machine, the combina-
105 tion with a platen-frame having a forward supporting-roll of a rail upon which the roll runs; a series of stops; a margin-gage movable by a single push in either direction along said rail and comprising a hand-lever and a
110 spring-pressed tooth freely pivoted to coact with said lever and adapted to engage any of the stops, to limit the return movements of the carriage, and so constructed and arranged as to leave a clear runway for the roll; an
115 abutment arranged upon the platen-frame and adapted to cooperate with the gage to limit the carriage return movements; provision being made to permit the carriage in its return movement to be moved past the mar-
120 gin-gage at the option of the operator; and the recited mechanism embracing a movable part to permit the subsequent movement of the carriage past the margin-gage in letter-space direction, substantially as set forth.

4. In a type-writing machine, the combina-
125 tion with a hinged platen-frame having a forward supporting-roll of a rail upon which the roll runs; a series of stops; a margin-gage arranged upon the rail and comprising a hand-lever and a spring-pressed tooth freely pivot-
130

ed to coact with said lever and adapted to engage any of the stops, to limit the return movements of the carriage, and so constructed and arranged as to leave a clear runway for the roll; an abutment arranged upon the platen-frame and adapted to cooperate with the gage to limit the carriage return movements; the construction and arrangement being such that the platen-frame may be swung up about its hinge to permit its return movement to be prolonged beyond the margin-gage; and the recited mechanism embracing a movable part to permit the subsequent movement of the carriage past the margin-gage in letter-space direction, substantially as set forth.

5. In a type-writing machine, the combination with a carriage provided with a supporting-roll, of a rail upon which the roll runs; a series of stops; and a margin-gage comprising a pivoted lever and a pivoted tooth and said gage being movable by a single push of the lever in either direction along said rail and adapted to move thereon past the roll and to engage any of the stops to limit the return movements of the carriage, substantially as set forth.

6. In a type-writing machine, the combination of a platen-frame having a forward supporting-roll and provided with a hinge; a rail upon which the roll runs; a series of stops; a margin-gage arranged upon the rail and so constructed and arranged as to leave a clear runway for the roll, and adapted to engage any of the stops to limit the return movements of the carriage; and a pawl arranged upon the platen-frame and adapted to ride over the gage when moved in letter-space direction, but to engage therewith when moved in the reverse direction; the construction and arrangement being such that the platen-frame may be swung up about its hinge to permit its return movement to be prolonged beyond the margin-gage, substantially as set forth.

7. In a type-writing machine, the combination with a platen-frame having an abutment of a front supporting-rail therefor having a longitudinal groove and a series of stops; and a margin-gage arranged upon the rail and provided with a part for engaging the groove and a tooth for engaging any of the stops, the construction and arrangement being such that the portion of the carriage which bears upon said rail is enabled to pass by said margin-gage in either direction, substantially as set forth.

8. In a type-writer margin-gage mechanism, the combination with a bar and a series of stops formed thereon and having inclined faces, of a margin-gage comprising a pawl and a releasing-lever; the pawl being adapted to move independently of the lever when moved in one direction, whereby the lever is not vibrated by the pawl when the pawl slips over the teeth, and to lock with said teeth when

pressed in the opposite direction, and the lever being adapted to unlock the pawl therefrom, substantially as set forth.

9. In a type-writer margin-gage mechanism, the combination with a slideway and a series of stops of a margin-gage arranged upon the slideway and provided with a pivot-pin, upon which are independently mounted both a pawl for engaging any of the stops to limit the return movements of the carriage, and a lever for releasing the pawl, substantially as set forth.

10. In a type-writer margin-gage mechanism, the combination with a slideway and a series of stops of a margin-gage arranged upon the slideway and provided with a tooth for engaging any of the stops to limit the return movements of the carriage, and provided with an elbow-lever independently of the tooth, one arm thereof being adapted to release the tooth from the stops, and the other arm thereof being formed into a handle, substantially as set forth.

11. In a type-writer margin-gage mechanism, the combination with a carriage-track and a series of stops of a margin-gage arranged upon the carriage-track and comprising a pivotally-mounted pawl adapted to engage any of the stops, to limit the return movements of the carriage, and an independently-mounted lever for both swinging the pawl out of engagement with the stops and moving the gage along the carriage-track, substantially as set forth.

12. In a type-writer margin-gage mechanism, the combination of a carriage-track having a series of stops formed thereon; a sleeve arranged upon the carriage-track; a tooth arranged upon the sleeve and adapted to engage any of the stops; and a lever arranged upon the sleeve independently of the tooth and adapted to release the tooth from the stops, substantially as set forth.

13. In a type-writing machine, the combination with a platen-frame provided with a front roll of a cylindrical grooved rail upon which the roll runs; a series of stops cut in the rail; and a sleeve open at the top arranged upon the rail and provided with a tooth for engaging any of the stops, to limit the return movements of the carriage, and also provided with means for engaging said groove, substantially as set forth.

14. In a type-writing machine, the combination with a platen-frame provided with a forward roll, of a grooved rail upon which the roll runs, a series of stops, and a margin-gage arranged upon the rail and adapted to pass beneath the roll and to engage any of the stops to limit the return movements of the carriage, and also provided with means for engaging said groove, substantially as set forth.

15. In a type-writing machine, the combination with a platen-frame provided with a forward roll, and an abutment arranged upon the platen-frame at the left of the roll, of a

grooved rail upon which the roll runs, a series of stops, and a margin-gage arranged upon the rail and adapted to pass by the roll to contact with the abutment, and adapted to engage
 5 any of the stops and also provided with means for engaging said groove, substantially as set forth.

16. In a type-writing machine, the combination with a margin-gage and a series of stops
 10 therefor, of a carriage provided with a longitudinally-adjustable letter-spacing rack, substantially as set forth.

17. In a type-writing machine, the combination of a carriage having a roller at the front
 15 thereof, a track or bar upon which said roller bears, teeth on said track or bar, a slide that is cut away at one side to afford a free movement of the roller past it and which is mounted for adjustment along said track or bar, a
 20 margin-stop formed on the slide to limit the movement of the carriage to the right, a pawl pivoted to said slide and engaging the teeth on said track or bar, and a handle for said pawl.

25 18. In a type-writing machine, the combination of a carriage having a roller at the front thereof, a track or bar upon which said roller bears, ratchet-teeth on said track or bar, a slide that is cut away at one side to afford a
 30 free movement of the roller past it while bearing on said rail and which is mounted for adjustment along the track or bar, a margin-stop formed on the slide to limit the movement of

the carriage to the right, a pawl pivoted to said slide and engaging the ratchet-teeth on
 35 said track or bar, to afford a free movement of the slide in one direction and to normally prevent a movement thereof in an opposite direction, a handle for said pawl, and a cooperating margin-stop on the carriage. 40

19. In a type-writing machine, the combination of a carriage having a roller at the front thereof, a track or bar upon which said roller
 45 bears, teeth on said track or bar, a slide that is cut away at one side to afford a free movement of the roller past it and which is mounted for adjustment along said track or bar, a margin-stop formed on the slide to limit the movement of the carriage to the right, a pawl pivoted to said slide engaging the teeth on
 50 said track or bar, a handle for said pawl, and a cooperating margin-stop on the carriage, one of said stops being movable into and out of cooperative position, whereby the stops normally cooperate to arrest the carriage in
 55 its movement to the right and afford a free movement of one stop past the other in the movement of the carriage to the left.

Signed at Elizabeth, in the county of Union and State of New Jersey, this 26th day of December, A. D. 1896. 60

BURNHAM C. STICKNEY.

Witnesses:

JOSEPH F. JAQUITH,
 WM. C. SEXTON.