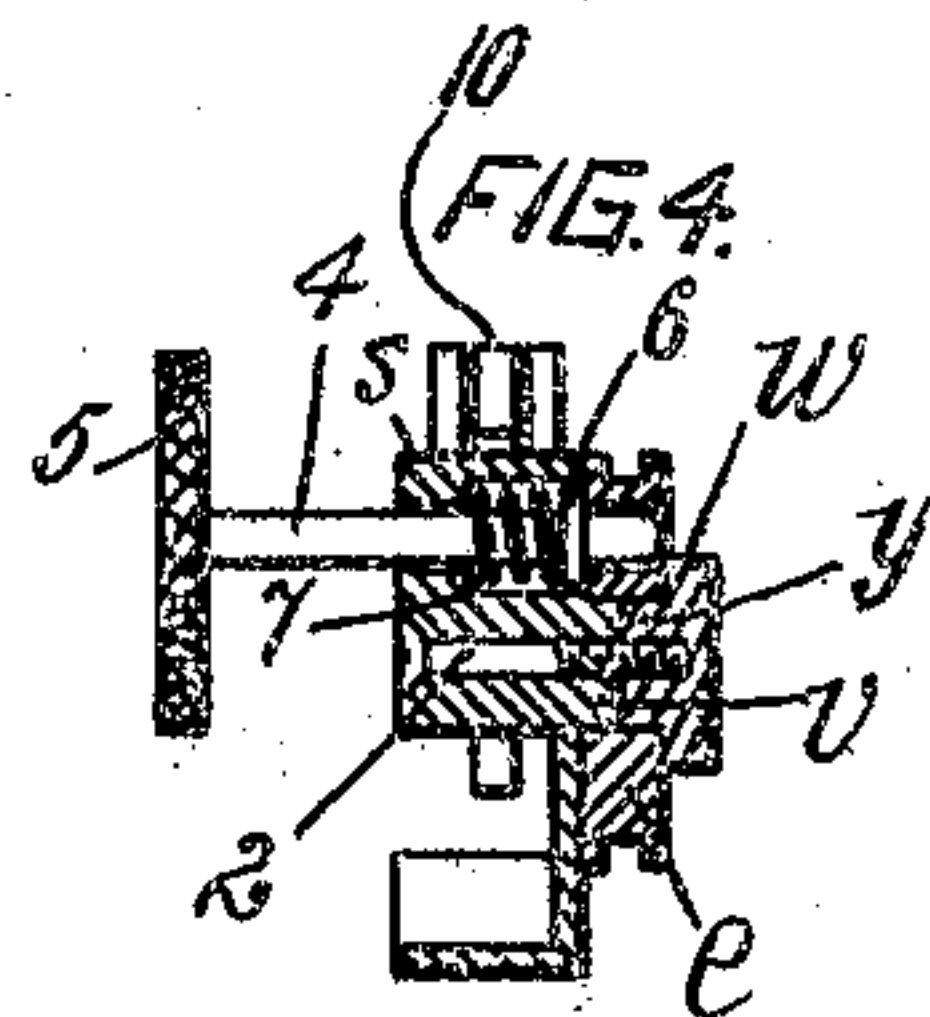
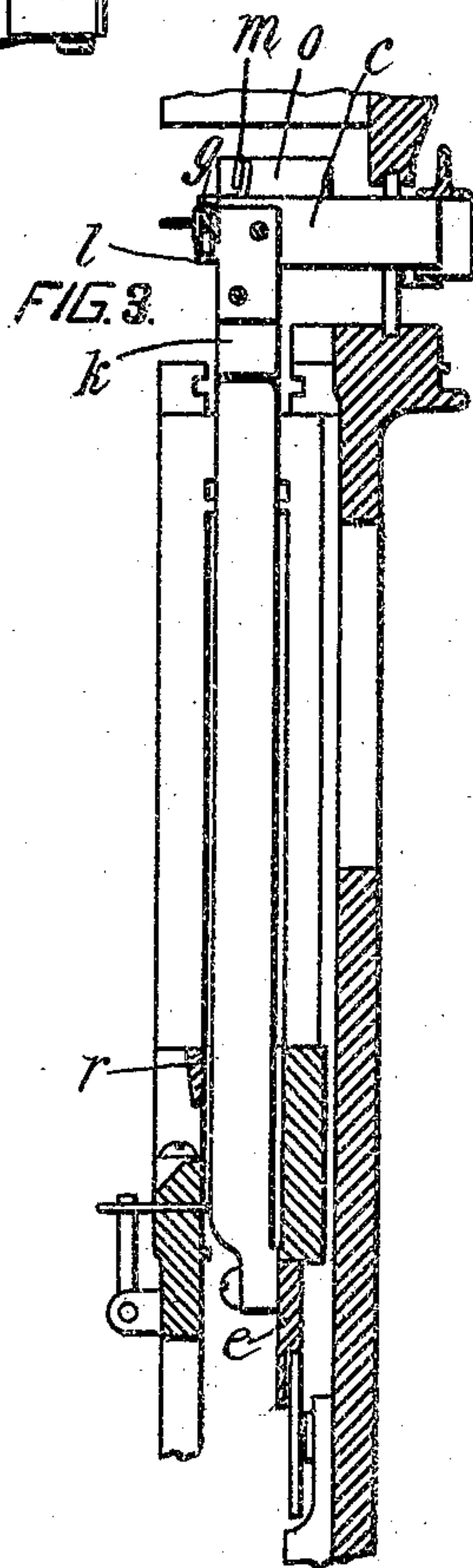
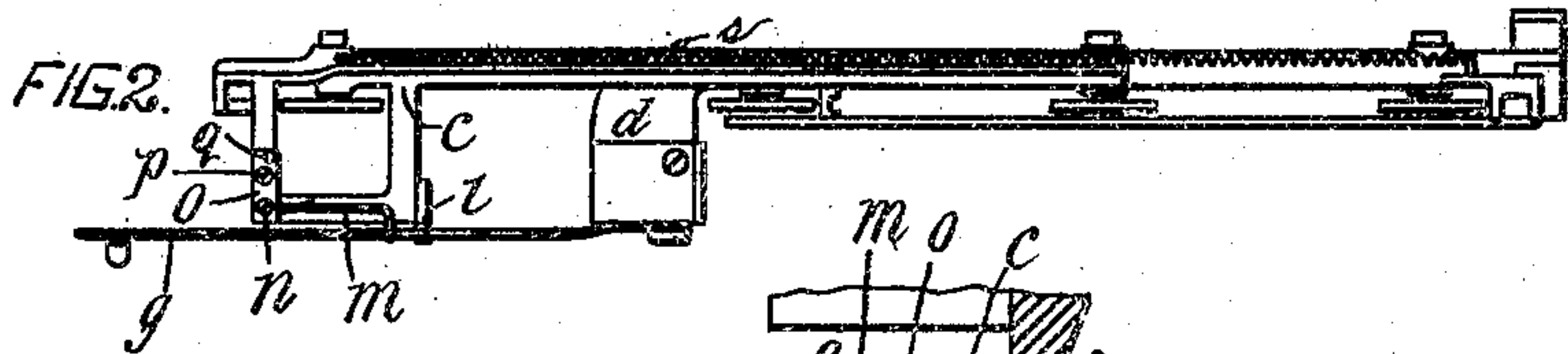
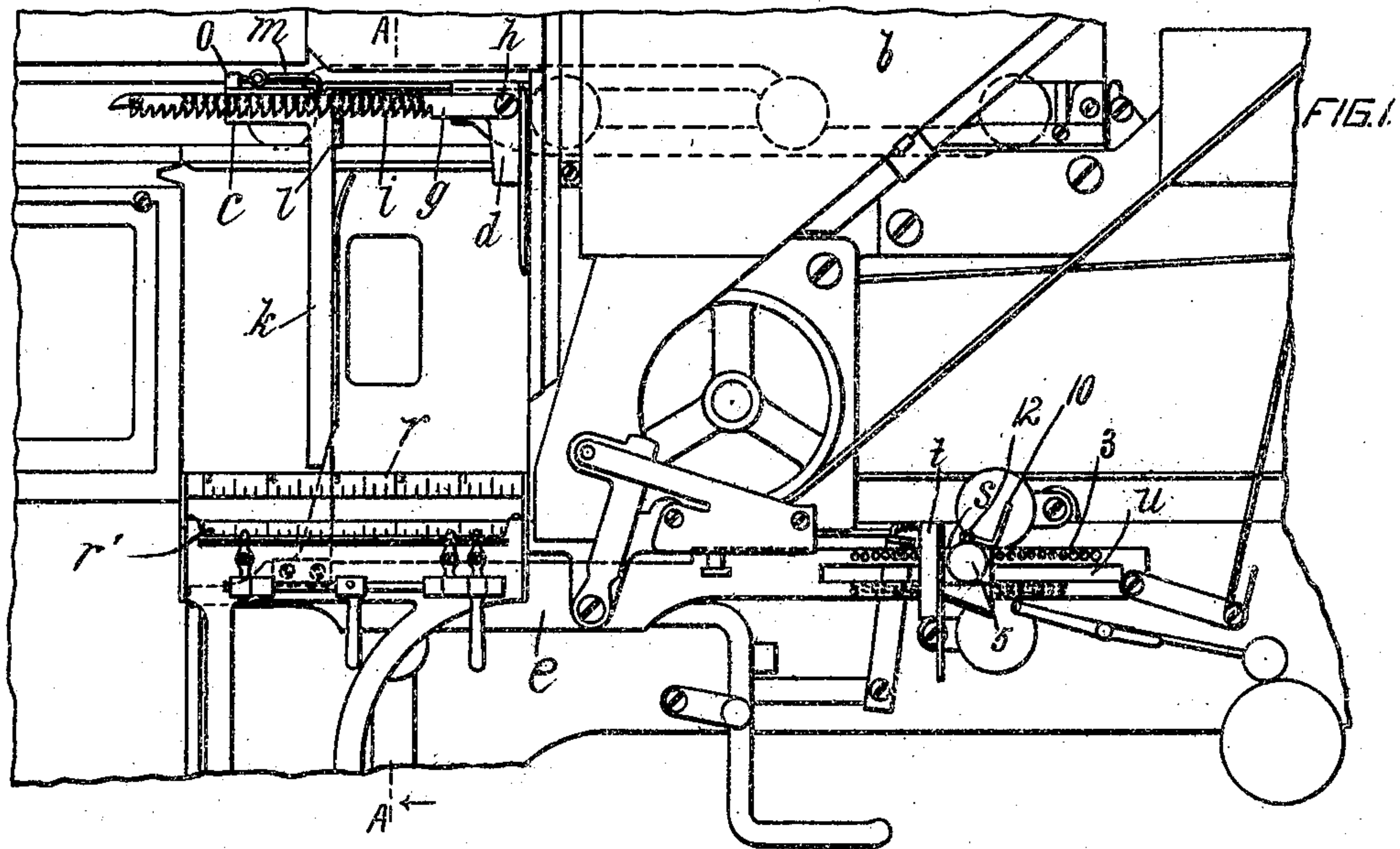


No. 794,670.

PATENTED JULY 11, 1905.

R. J. FOSTER.
LINOTYPE MACHINE.
APPLICATION FILED NOV. 20, 1903.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT JOHN FOSTER, OF MONTREAL, CANADA.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 794,670, dated July 11, 1905.

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To all whom it may concern:

Be it known that I, ROBERT JOHN FOSTER, of the city of Montreal, Province of Quebec, Canada, have invented certain new and useful
5 Improvements in Linotype-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

In linotype-machines of this type in universal use the carriage is usually made in two
10 parts adjustable toward and from one another and detachably connected together in any position (relatively to one another) to which they may be adjusted, one of such parts including in its constitutional elements a bar
15 which overlaps the other part and the latter part including in its constitutional elements the long delivery-finger, and means whereby the bar is connected to such latter part to cause the two parts to under certain condi-
20 tions move in unison and whereby the first-mentioned part is detachably connected in any position to which it may be adjusted from the other part; and it further relates to the device for setting or adjusting the assembly-
25 bar to accommodate a predetermined length of line.

The object of the invention is to prevent the breakage of either such long delivery-finger or the means for carrying it or the con-
30 nection therebetween when the long delivery-finger trips on a line of type not properly delivered or other obstructions and to facilitate the adjustment of such finger along the bar.

A further object of the invention is to enable an operator to adjust the assembly-bar with greater facility and minuteness to accommodate a predetermined length of line.

The invention may be said, broadly speaking, to consist of means adjustably connect-
40 ing the long delivery-finger to the part with which it moves, such means being adapted to be readily adjusted by manual action and at the same time yieldingly retain the finger in the position to which it may be adjusted; and
45 it further consists of a device for setting or adjusting the assembler-slide to accommodate a predetermined length of line, such device being adapted to coact with graduations upon the assembler-slide, whereby a positive ad-
50 justment of the length of line may be had,

which enables an operator to locate on the machine a degree equivalent to the length of line required and to move such device to the required point to enable the assembly-bar to accommodate a predetermined length of line. 55

The invention further consists of a device in conjunction with the means for adjusting the assembler-slide for varying the extent of adjustment.

For full comprehension, however, of my in-
60 vention reference must be had to the accompanying drawings, forming a part of this specification, in which similar reference characters indicate the same parts, and wherein—

Figure 1 is a view of a portion of the front
65 of a linotype-machine provided with my invention. Fig. 2 is a plan view of the delivery-carriages with my invention applied thereto. Fig. 3 is a transverse vertical sectional view of a portion of the machine, taken
70 on line A A, Fig. 1; and Fig. 4 is a transverse vertical sectional view of the assembler-slide and the adjustable stop carried thereby and to which my invention is applied.

The magazine *b*, the parts *c* and *d* of the
75 delivery-carriage, and assembler-bar *e* are in the main of usual construction.

A ratchet-toothed bar *g* is pivoted at one end, as at *h*, to and is a constitutional part of
80 the part *d* of the carriage, the teeth *i* thereof being formed in the lower edge and disposed a pica pitch apart. The long delivery-finger *k* has a rigid pawl *l* secured thereto near the upper end thereof and in position to engage
85 the teeth of and support such ratchet-bar in a horizontal position. A coiled spring *m*, bearing upon this ratchet-bar, has its opposite end connected by a binding-screw *n* in a perforation
90 in a block *o*, secured by a screw *p* and dowel-pin *q* upon the part *c* of the carriage. This construction provides a carriage one part where-
95 of has an elongation (the bar *g*) which overlaps the other part and the connection just described between the long delivery-finger, (forming a portion of said other part,) and this
bar enables the former to be moved longitudinally of the bar the full length thereof to its free end.

The adjustable stop *s* acts in conjunction with
100 a rigid stop *t* to determine the length of line,

as usual; but according to my invention I slot the assembler-slide, as at *u*, and form the adjustable stop with a key *v*, adapted to fit slidably into such slot, while a retaining-plate *w* is provided and is formed with a key *y*, adapted to fit into the slot at the opposite side of the assembler-slide. A retaining-screw 2 is threaded through the adjustable stop into the retaining-plate, thereby securing the said parts together and connecting the stop slidably to the assembler-slide. This adjustable stop is caused to automatically lock itself in any position to which it may be adjusted along the assembler-slide by a series of perforations 3 in the upper portion of the latter, and a pin-pawl 4, provided with a head 5 and a rigid collar 6, is located in a boring in the adjustable stop between the inner end thereof and such rigid collar. An expansile helical spring 7 bears and yieldingly retains the end of this pin-pawl in the perforation with which it is caused to register. These perforations are preferably disposed a pica apart, or if the ratchet-bar is otherwise graduated the perforations will be spaced accordingly, it being necessary to have the graduations of the ratchet-bar and assembler-slide correspond. At times it is desirable to adjust the adjustable stop a distance more or less than one pica or the multiple thereof or whatever graduation may be adopted, and to enable this to be done I hinge an angular bar or bent piece 10, as at 12, to the top of the adjustable stop and adapt it to either lie upon the top of the latter or to be swung to a position having its end hanging down over the side of the adjustable stop which comes in contact with the rigid stop, thus enabling such bent bar to be interposed and reduce to the extent of its thickness the distance the assembly-bar is moved. This auxiliary stop is preferably one-half em in thickness, although the thickness thereof may be varied according to requirements.

The scales *r* and *r'* are intended to enable the operator to center or justify the line to be cast, particularly when tabular matter is being set.

A coiled spring *s* is connected at one end to one part of the carriage and at its opposite end to the other part of such carriage and the function thereof is to yieldingly lightly retain the parts of the carriage with a tendency to come together, thus retaining the rigid pawl 7 in the engagement with the particular tooth of the rack with which it engages.

The operation of my invention is as follows: When the carriage is returning after a line has been delivered, and if the long delivery-finger should happen to catch upon the top of a delivered line of type which owing to some defect in the action of the machine or other cause has not been lowered into alinement with the mold, it will rest in contact with the top of the type and allow the ratchet-bar to run from it, thereby preventing the breakage

which would occur if the bar and finger were either temporarily or permanently rigidly connected together. Before the end of the bar can reach the finger the machine will be automatically stopped as usual, owing to the line of type not having been lowered into alinement with the mold.

The advantages attendant upon the use of my invention, besides obviating the danger of breakage, as above pointed out, are that the long delivery-finger can be adjusted to different positions without other manual action being required than to simply move it to the point in graduations representing the length of line required to be formed, while the adjustment of the adjustable stop under the guidance of graduations corresponding to the graduations on the ratchet-bar enables a positive adjustment of the length of line to be made with the least possible loss of time. A further advantage is that owing to the flat ratchet-bar bearing upon the flat side of each of the carriage parts the unsteadiness heretofore experienced in the carriage is obviated, thus also obviating the chance of any portion of the carriage or parts carried thereby tripping upon parts of the machine they have to pass.

What I claim is as follows:

1. In a line-casting machine, the combination with a delivery-carriage comprising a pair of parts, one of said parts being elongated and overlapping the other part, a pair of members adapted to receive the line of type between them one of said members being carried by one of said parts and the other carried by the other part, of means for yieldingly connecting the said parts to one another said means being adapted to retain the said parts and the members carried thereby in position to support the line of type while it is being delivered, and the said second-mentioned part being adapted to automatically bodily move the full length of the first-mentioned part when pressure in excess of that of the line of type is brought to bear upon it.

2. In a line-casting machine, the combination with a delivery-carriage comprising a pair of parts and a pair of delivery-fingers, one carried by one of such parts and the other by the other part, of a connection between the said parts of the carriage such connection being adapted to be automatically broken for the purpose of enabling one of the said parts of the carriage to automatically move away from the other part, for the purpose set forth.

3. In a line-casting machine, the combination with a delivery-carriage and a delivery-finger, and means for supporting such delivery-finger, of a ratchet-and-pawl connection between such carriage and finger, for the purpose set forth.

4. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such finger, of

a toothed bar carried by such carriage, and a tooth carried by such finger in position to engage the teeth of said bar, for the purpose set forth.

5 5. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such finger, of a ratchet-bar carried by such carriage, a pawl carried by such finger in position to engage
10 the teeth of said ratchet-bar, and means effecting a yielding engagement between such ratchet-bar and pawl for the purpose set forth.

6. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such delivery-finger, of a toothed bar pivoted at one end to the carriage, and a rigid tooth mounted upon the finger in position to be engaged by the teeth of the bar.

20 7. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such delivery-finger, of a ratchet-bar pivoted at one end to the carriage, a rigid pawl mounted upon the
25 finger in position to be engaged by the teeth of the ratchet-bar, and a spring adapted to cause the ratchet-bar to bear yieldingly upon the pawl.

8. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such delivery-finger, of a ratchet-bar pivoted at one end to the carriage, a rigid pawl mounted upon the finger in position to engage the teeth of the
30 ratchet-bar, and a spring mounted upon the support for the finger and bearing upon the ratchet-bar for the purpose set forth.

9. In a line-casting machine, the combination with a pair of delivery-carriages, a delivery-finger secured rigidly to one of such carriages, of a ratchet-bar pivoted at one end to the other carriage, a pawl mounted rigidly upon the finger in position to be engaged by the teeth of the ratchet-bar, and a spring
40 mounted upon the first-mentioned carriage and bearing upon the ratchet-bar for the purpose set forth.

10. In a line-casting machine, the combination with an assembler-slide having a series of
50 engaging devices upon the portion thereof adjacent to one end, a graduated scale marked upon the assembler-slide and parallel to said engaging devices for the purpose of denoting the distances covered by the latter, and a rigid
55 stop in close proximity to said slide and ad-

jacent to the graduated portion thereof, of an adjustable stop carried by the graduated portion of such slide and adjustable along both the series of engaging devices and the graduations, and means securing such adjustable
60 stop in any position to which it may be adjusted.

11. In a line-casting machine, the combination with an assembler-slide having a regular series of perforations in the portion thereof
65 adjacent to its end which is opposite to the assembly, a graduated scale marked upon the assembler-slide and parallel to said regular series of perforations for the purpose of denoting the distances covered by the latter, and
70 a rigid stop adjacent to the perforated portion of such slide, of an adjustable stop carried by the perforated portion of said slide and movable along both the series of perforations therein and the scale thereupon, and a yield-
75 ing pin carried by such adjustable stop and adapted to be inserted and yieldingly retained in whichever of the series of perforations it registers with.

12. In a line-casting machine, the combination with an assembler-slide and a rigid stop in close proximity thereto of an adjustable stop carried by and adjustable longitudinally of such slide, and an auxiliary stop movably carried by such adjustable stop and adapted
80 to be moved to and from a position upon the bearing-face of such movable stop, for the purpose set forth.

13. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such finger, of a graduated toothed bar carried by such carriage, and a tooth carried by such finger in position to engage the teeth of said bar, for the purpose set forth.
95

14. In a line-casting machine, the combination with a delivery-carriage, a delivery-finger, and means for supporting such finger, of a ratchet-bar carried by such carriage and graduated in picas, a pawl carried by such finger in position to engage the teeth of said ratchet-bar, and means effecting a yielding engagement between such ratchet-bar and pawl for the purpose set forth.
100

In testimony whereof I have affixed my signature in presence of two witnesses.
105

ROBERT JOHN FOSTER.

Witnesses:

WILLIAM P. McFEAT,
FRED J. SEARS.