(No Model.) 2 Sheets—Sheet 1.

C. D. HUGHES.

TYPE DISTRIBUTING MACHINE.

No. 572,705. Patented Dec. 8, 1896.

Fig. 1,

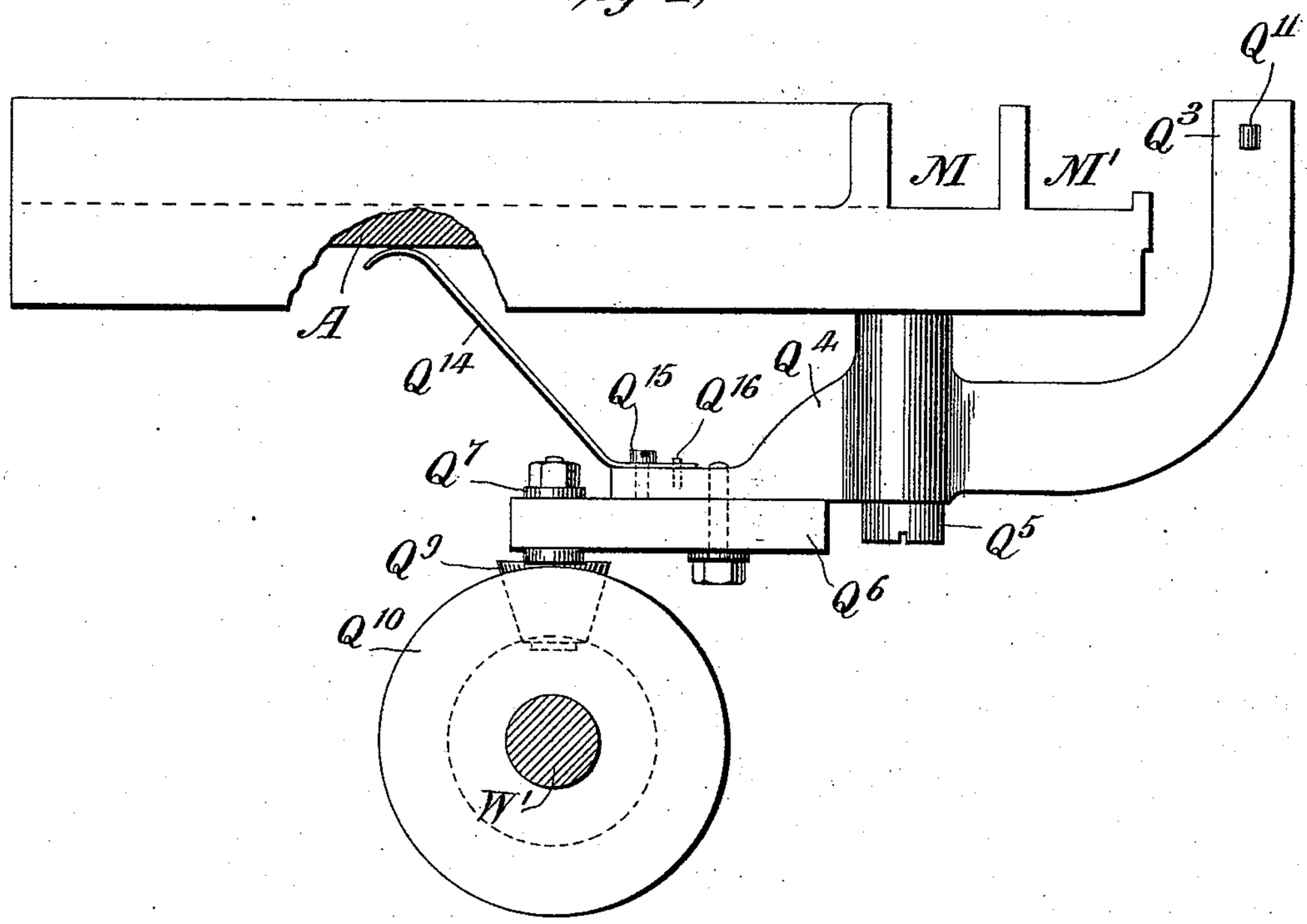
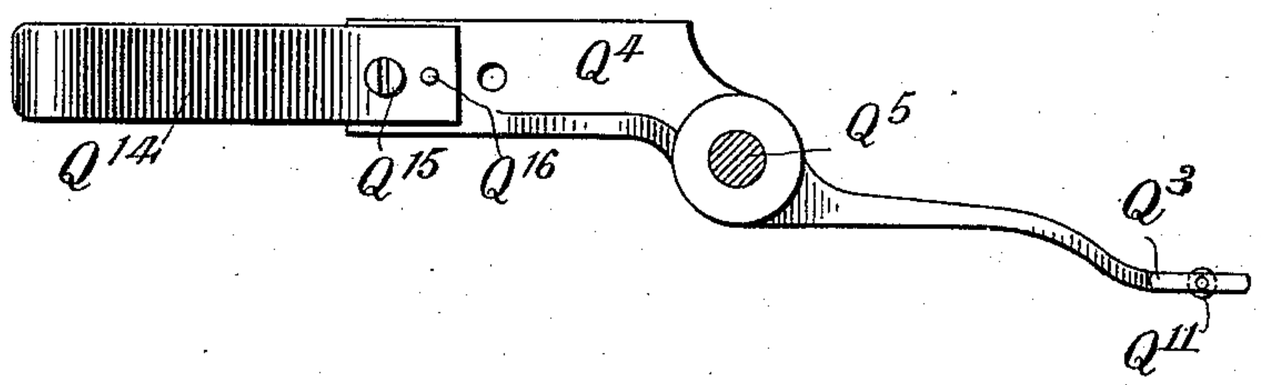


Fig. 2,



Witnesses:
John Franch
Henry H. Graff

Inventor
Charles D. Hughes.
by his attorney
Willard Parker Butler

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3,

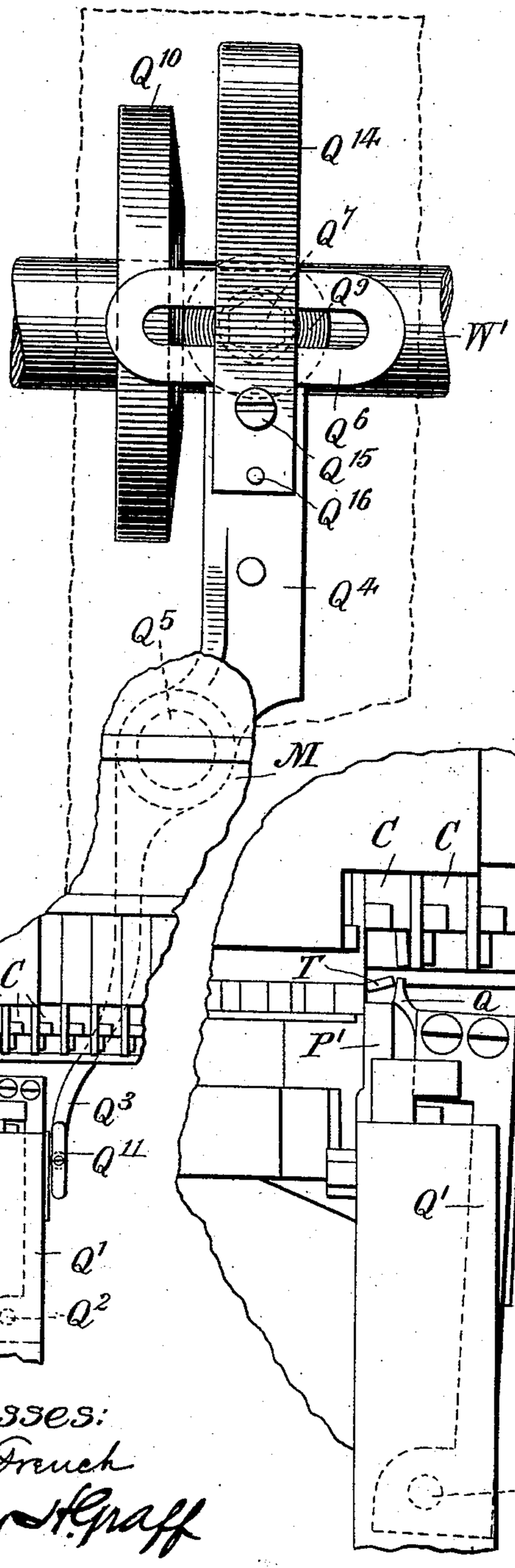
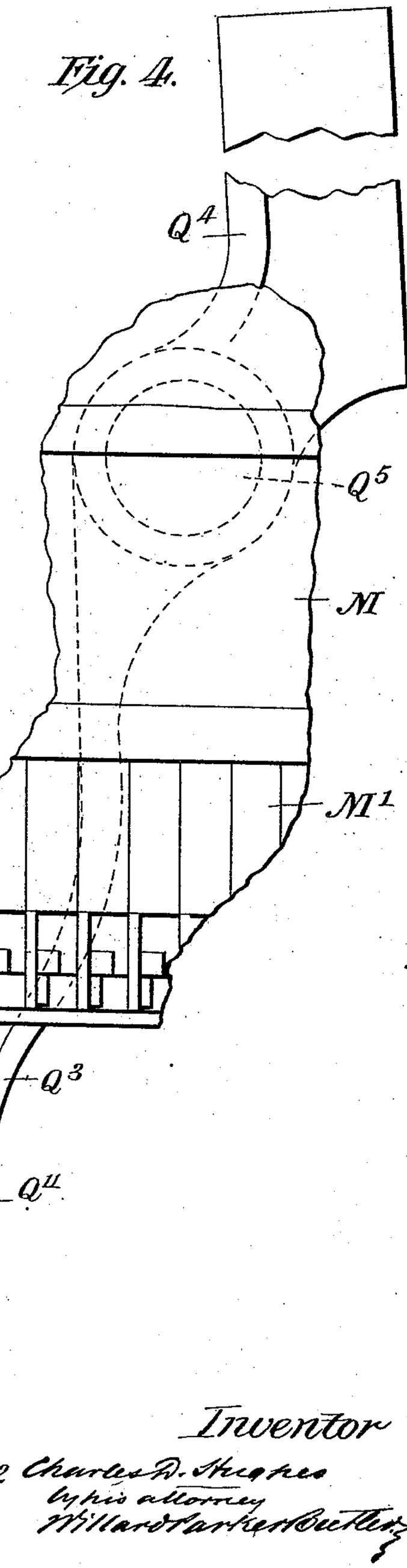


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES D. HUGHES, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE EMPIRE TYPE SETTING MACHINE COMPANY, OF NEW YORK, N. Y.

TYPE-DISTRIBUTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 572,705, dated December 8, 1896.

Application filed March 7, 1896. Serial No. 582,280. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. HUGHES, a citizen of the United States of America, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Type-Distributing Machines, of which the following is a specification.

My invention relates to an improvement for use in connection with machines for distributing type, and particularly to an improvement which is applicable to that class of type-distributing machines which were originally invented by C. W. Dickinson and subsequently improved upon by William A. Lorenz and Louis K. Johnson and which have heretofore been secured by various Letters Patent of the United States.

The invention relates particularly to devices for retarding the motion of the line-closing mechanism in type-distributing machines of the character of those above described; and the object of the invention is primarily to provide a device which will effectually limit and control the distance to which the type-finger or type-plunger, which forms a part of the mechanism of the machine, may be opened when the same is moved back to permit a letter or character to be pushed off of the line of type in process of distribution by the line-driver before insertion into the carrier by the type-driver.

The invention will be best understood by reference to the accompanying two sheets of drawings, forming a part of this specification, in which—

Figure 1 is a vertical end view of the mechanism which actuates the line-closing device. Fig. 2 is a plan view of the line-closing device and the friction-spring; Fig. 3, a plan view of the line-closing device and the mechanism for actuating the same, and Fig. 4 a similar view of the line-closing mechanism proper. In the last two figures the portions of the machine not necessary to be shown are broken away, and similar letters refer to similar parts throughout the several views.

In the drawings generally, A represents the bed-plates of a type-distributing machine of the above-mentioned character.

M and M′ are the parallel raceways in which the carriers travel in opposite directions.

C C are the lines of carriers in the raceways.

t represents a line of type in the galley, which is raised by the elevating mechanism in the manner shown in the aforesaid patents and from which the type is picked off letter by letter by the type-driver.

T represents a type in the act of being picked off from the end of the line.

P′ represents the type-driver, which is of the form described in the aforesaid patents and actuated as therein shown.

The object of the present invention is to prevent a condition of things arising which cannot be understood without previous explanation of certain parts of the mechanism which feeds the type into the carriers, which will now be described.

In the drawings, Q represents the type-finger attached to the extremity of the horizontally-swinging arm Q′, which is pivoted to the galley at the point Q^2. The movement of the arm Q′ is controlled by the bent lever Q^3, provided at its extremity with the friction-roller Q^{11}, which engages with and rolls upon the vertical surface of the arm Q′, as shown in Fig. 4. The bent lever Q^3 is mounted upon the vertical stud Q^5, as shown in Fig. 1, and terminates in an extension-piece Q^4, to which is attached a block Q^6, carrying at its extremity a beveled friction-roller Q^9, to which it is attached by the bolt Q^7 and which engages with and rolls upon the surface of a beveled cam Q^{10} upon the main driving-shaft W′ of the machine.

The throw of the cam Q^{10} is such that it will allow the bent lever Q^3 and the roller Q^{11} to swing back horizontally a distance sufficient to enable the largest character in any font of type used in the particular machine to move off from the end of the line of type advanced by the line-follower into the space formed between the corner-piece of the galley and the type-driver. In practice it has been found that this adjustment works well with the thicker fonts of type to which the swing is adapted, but in case of the thinner types, as this line-closer swings easily, the force imparted to it by the advancing line of type in

the rapid motion of the machine often swings the finger holding the type farther than necessary to allow the type to free itself from the line-carrier and so leaves the type without lateral support. The type-plunger then acting on the type so freed often twists it about, as shown in Fig. 4, and forces the type into the holder sidewise, so that the nicks contained in its edge cannot be acted upon by the feeler mechanism.

Heretofore a variety of devices have been resorted to with a view to retarding the lateral motion of the line-closing mechanism, all of which, however, have been more or less unsuccessful. To overcome this difficulty, I have devised the following improvement, the gist of which consists in providing a device which will from time to time, as may be desired, supply a certain amount of friction upon the end of the arm Q^4. This is accomplished preferably by the use of a flat spring, as shown in Fig. 1, attached to the extremity of the arm Q^4 by the screws Q^{15} and Q^{16} or in any other convenient manner. The upper end of this spring is curved, as shown in Fig. 1, and slides upon the lower surface of the bed-plate A, upon which it vibrates. Any other device which may from time to time be found desirable may be used which will effect the mechanism and accomplish the desired result.

The reason of the greater efficiency of the present device over those hitherto in use is because a more delicate adjustment can be effected by applying the means of adjustment at a point as far as possible from the point at which the retardation is required. The devices heretofore used have not been effective, for the reason that the friction has been applied too closely at the point at which the type is cut off to produce the desired result. Any class of spring may be used, or any other friction device may be employed that may be capable of convenient adjustment from time to time, as may be found necessary, and the invention is therefore not limited to the precise device employed.

I claim as my invention the following:

1. The combination, with the lever actuating the line-closing mechanism, of an extended arm, substantially as described provided at its extremity with a device whereby the lever is subjected to a desired amount of friction, and its motion thereby retarded.

2. The combination, with the lever-arm actuating the line-closing mechanism, of an extended arm, placed at the end of the lever, substantially as described provided at its extremity with a device, capable of being adjusted, with respect to its position upon the arm, whereby the lever is subjected from time to time to a certain amount of friction and its motion thereby retarded.

3. The combination, with the lever-arm actuating the line-closing mechanism, of an extended arm placed at the end of the lever, substantially as described and a spring attached to said arm engaging with the surface of the bed-plate of the machine, whereby the line-closing mechanism is subjected to a certain amount of friction.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 24th day of February, 1896.

CHARLES D. HUGHES.

Witnesses:
WILLARD PARKER BUTLER,
JOHN FRENCH.