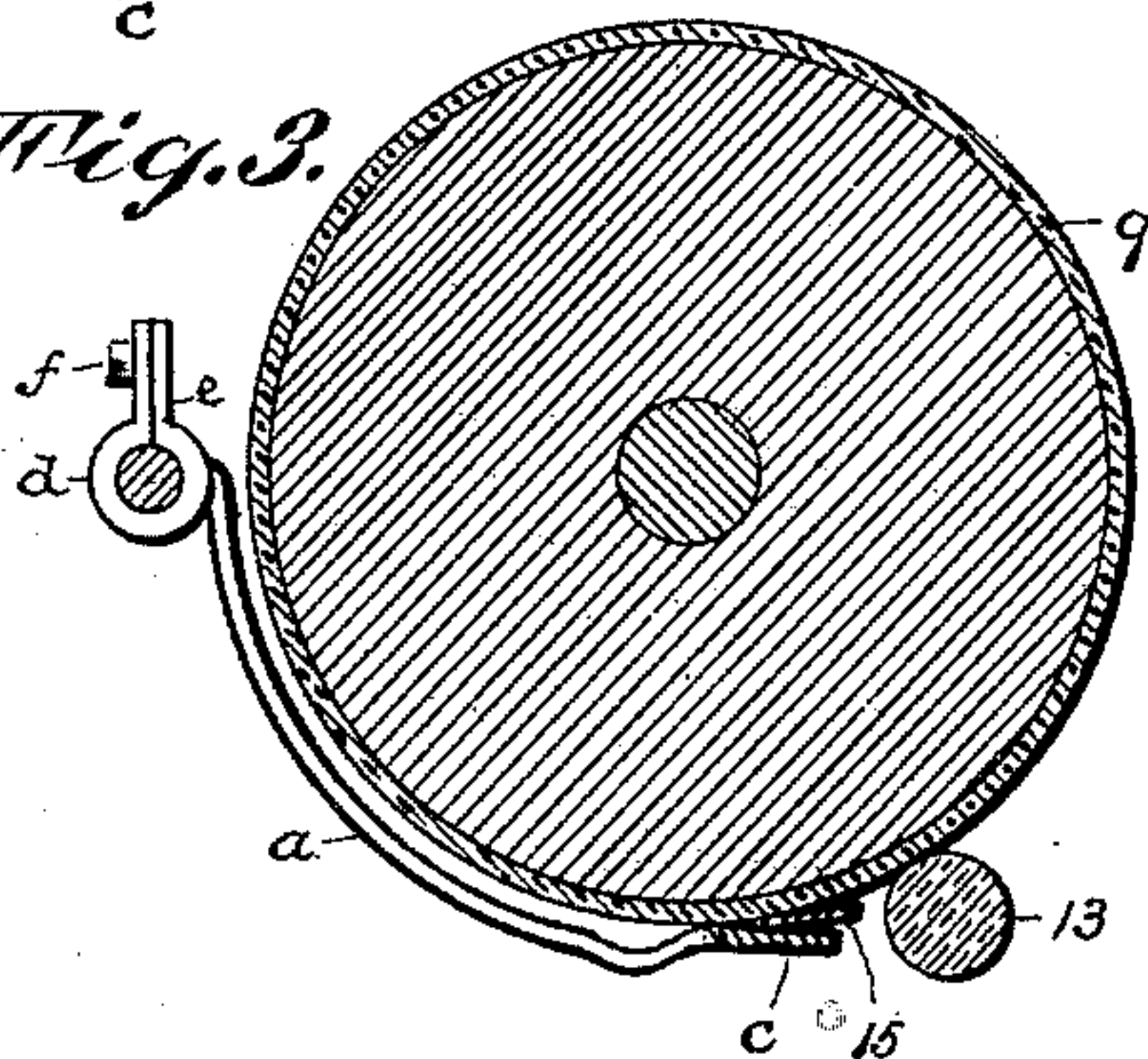


J. W. BARNES.
TYPE WRITING MACHINE.

Patented Sept. 24, 1889.

A diagram of a document with a tab labeled '9' at the top left. The document contains several horizontal lines representing text. At the bottom center, there is a small circle.

Fig. 3.



()

Inventor:
James M. Barnes
By atty. Jacob Felbel

UNITED STATES PATENT OFFICE.

JAMES W. BARNES, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE AMERICAN WRITING MACHINE COMPANY, OF HARTFORD, CONNECTICUT.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 411,488, dated September 24, 1889.

Application filed December 8, 1888. Serial No. 293,036. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. BARNES, a citizen of the United States, and a resident of Newark, in the county of Essex 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 has for its main object to provide a construction of type-writing machine whereby guide-cards and catalogue-cards used in libraries and other institutions may be printed with facility; and to this main end and object my invention consists in the features of construction and combinations of parts hereinafter more fully described, and particularly pointed out in the appended claims.

In the drawings accompanying this specification and forming a part thereof, Figure 1 is a front elevation of a portion of a type-writing machine with its paper-carriage turned up into a vertical position and embodying my improvements. Fig. 2 is a front elevation showing the means employed by me for holding the cards in position upon the platen attached to the front rail of the carriage. Fig. 3 is a vertical section taken at the line *x x* of Fig. 1 when the carriage is turned down to its normal or working position. Fig. 4 is a vertical section of the front carriage-rail and the means for clamping the card-holder adjustably and removably thereon. Fig. 5 is a plan view, reduced size, of a library guide-card. Fig. 6 is a similar view of a library catalogue-card.

In the several views the same part will be found designated by the same letter or numeral of reference.

The type-writing machine represented in the drawings is that commonly designated as the "Caligraph," which, as is well known, is provided with the two guide-rails 1 and 2, secured in parallelism on the machine-frame, upon which slides a yoke 3, connected to the paper-carriage, which is adapted to travel across the machine when in a horizontal position, and which is also adapted to be turned up into a vertical position, as shown at Fig. 1. The carriage consists of a front bar 4, a rear bar 5, which passes through eyes 6 6, extend-

ing up from the yoke, and end bars 7 and 8. Journaled in the end bars is a platen or impression-roller 9, provided at its right-hand end with a circular rack 10, for engagement of a push-pawl or dog, which is pivoted to the rear end of a line-space lever 11 in the usual manner. Fastened to the rear rod 5, near each end, is a spring 12, provided with a journal-bearing for a feed-roller 13, which, by means of said springs, is pressed against the platen. These springs 12 are provided with curved extensions 14, for directing the paper being written on over and rearwardly of the platen. To these extensions or paper-guides 14 is connected the usual carriage-scale plate 15. To the front rail of the carriage is connected my novel means for holding cards to be printed. Said means consist, preferably, of two curved arms *a* and *b*, united by a cross-bar or plate *c*. The free ends of the bars *a* and *b* are preferably provided with jaws or half-round boxes *d e*, for securement of the device to the rod 4 by means of a binding or clamping screw *f*. The arms *a* and *b* are made of spring metal, and when secured upon the rail 4 force the bar *c* tightly against the carriage-scale, and also firmly against the platen.

The bar *c* is made shorter than the carriage-scale, but about the same in width. It is set or arranged with its upper or forward edge slightly in advance of the upper or forward edge of the carriage-scale and as close to the plane of the impression-point as practicable.

The pressure of the bar *c* against the carriage-scale forces that device hard against the surface of the platen. In the ordinary machines the normal position of the carriage-scale is such that the platen just clears it without touching, and the upper or forward edge of the carriage-scale is arranged slightly back of the plane of the printing-point. In the prior machines, wherein the scale is arranged as just recited, it is impossible to so hold the cards upon the platen as that they may be printed or written upon to the very edge, as required, for instance, in guide-cards for libraries and the like, wherein the cards are provided with ears or projections *g*, Fig. 5, for marking; and, in fact, it is almost impossi-

ble to print any portion of a thick card in an acceptable manner, owing to the absence of means for holding the card tightly and properly to the platen to receive the type at the impression-point.

By the employment of the spring-arms *a b* and the holding-plate *c* the card is held pressed closely to the platen at the printing-point, and hence writing may be produced thereon to the very edge of the card.

By the employment of the spring-arms *a b* and the holding-plate *c*, in connection with the scale-plate 15, the card is forced against the platen over a greater extent of its area and is caused by the plate *c*, bar 14, and feed-roll to conform readily to the curvature of the periphery of the platen, whereby it is perfectly adapted to the action of the type, and hence may be printed in alignment and with an unblemished impression. I have carried out my invention in practice, using very heavy or stiff cards, and find it to be all that is desired. I have printed cards like those shown, so that the type strike to the very edges and at the same time the alignment and the impression have been perfect.

In practice I arrange the upper or forward edge of the bar *c* to just allow the type to pass by without hitting the bar, and by this arrangement it will be seen that the card may be printed to the verge of its upper or leading edge. I provide one or both of the spring-arms *a b* with a line or index *h* to indicate where the leading edge of the card should be brought to when it is desired to print close to that edge, the distance between said index and the forward edge of the bar being substantially the height or length of a type character.

The bar *c* is provided with a scale *i*, corresponding in subdivision and position to that of the carriage-scale to facilitate corrections, interlineations, &c., in the work. By loosening the set-screws the contrivance may be moved longitudinally of the carriage and brought to any desired locality of the platen.

At Figs. 2 and 4 one of each set of clamping-jaws *d e* is hinged at *j*, so that the contrivance may be removed from the machine when it is desired to do ordinary work on paper.

In the use of a machine containing my improvement the card is passed into the bite of the rubber-covered impression cylinder or platen and the rubber feed-roll, and is then fed forward between the carriage-scale and the platen and the holding-bar *c* and the

platen until brought to the desired position. The writing or printing may be effected in the usual manner by manipulating the finger-keys in connection with the type-carriers. When a line has been written, the card may be fed forward a line space in the usual way of feeding paper. By reason of the presence of the bar *c* the card may be fed forward accurately, after leaving the feed-roller, until its hind edge passes beyond the forward edge of said bar.

By having the spring-pressed bar *c* overlap the scale-plate 15 in the manner shown the latter is not only held close in contact with the platen, but the cards are prevented from being caught by the former and destroyed at their leading edges during their forward feed.

The bar *c* may be made longer or shorter than shown, and numerous other changes in detail construction and arrangement may be made without departing from the spirit of my invention.

Of course, so far as the main features of my invention are concerned, the plate 15 may be unprovided with any scale or graduations.

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

1. In a type-writing machine, the combination, with the usual carriage-plate 15, of a bar, as *c*, provided at each end with spring-arms *a* and *b*, substantially as and for the purpose set forth.

2. In a type-writing-machine, the combination, with the usual carriage-plate 15, of an adjustable overlapping spring-pressed bar, as *c*, as set forth.

3. In a type-writing machine, the combination, with the usual carriage-plate 15, of a detachable over-lapping spring-pressed bar, as *c*, as set forth.

4. In a type-writing machine, the combination, with the usual carriage-plate 15, of the overlapping bar, as *c*, having arms *a b*, connected by clamps to the paper-carriage rail, as set forth.

5. In a type-writing machine, the combination, with the usual carriage-scale plate, of the overlapping bar, as *c*, provided with a supplementary scale, as set forth.

Signed at New York city, in the county of New York and State of New York, this 20th day of November, A. D. 1888.

JAMES W. BARNES.

Witnesses:

GEO. W. WEIFFENBACH,
JACOB FELBEL.