No. 763,661. PATENTED JUNE 28, 1904.

J. H. CORNELISON.

PAPER CONTROLLER FOR TYPE WRITING MACHINES.

APPLICATION FILED FEB. 15, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

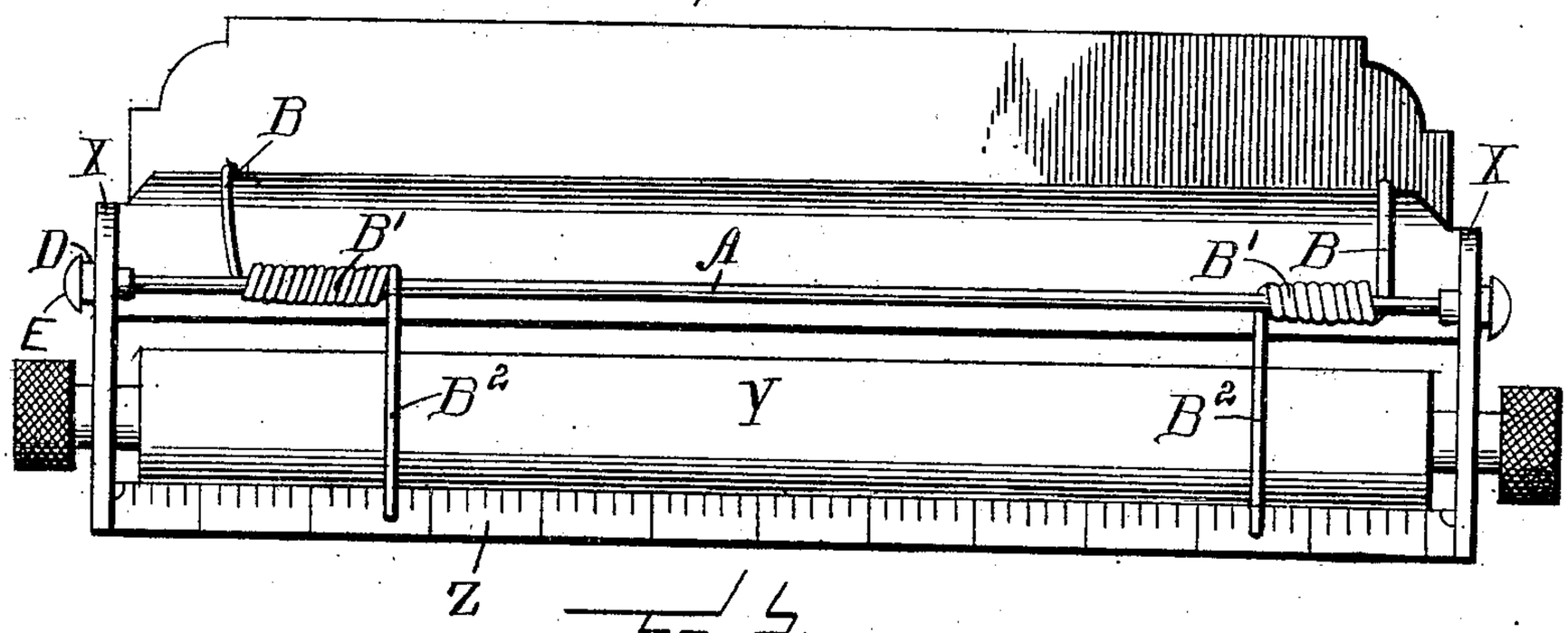


Fig. 2.

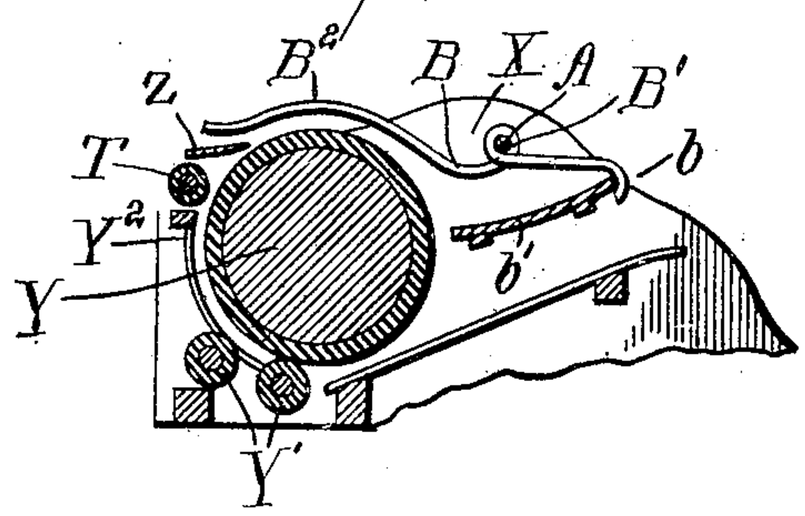
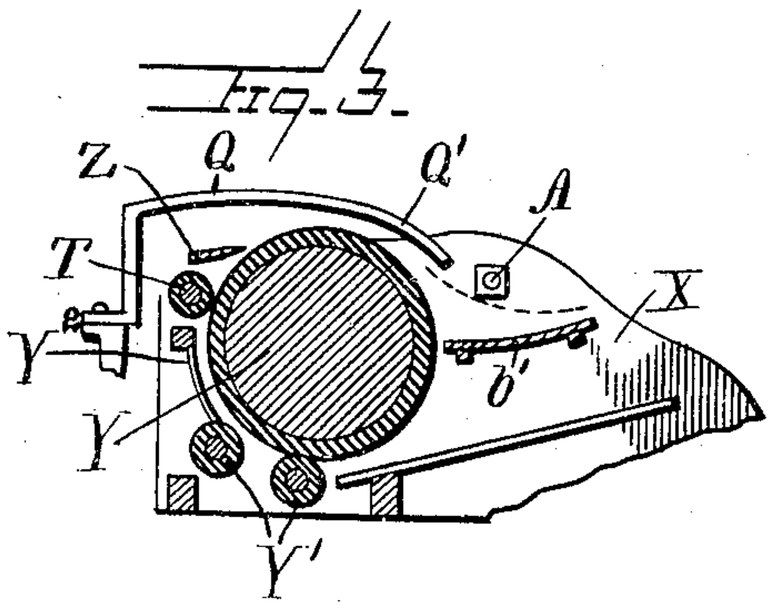


Fig. 3.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

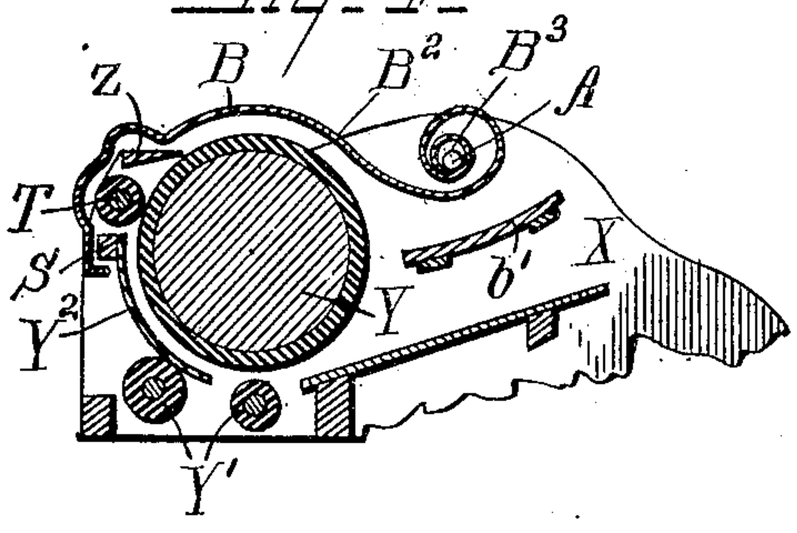


Fig. 5.

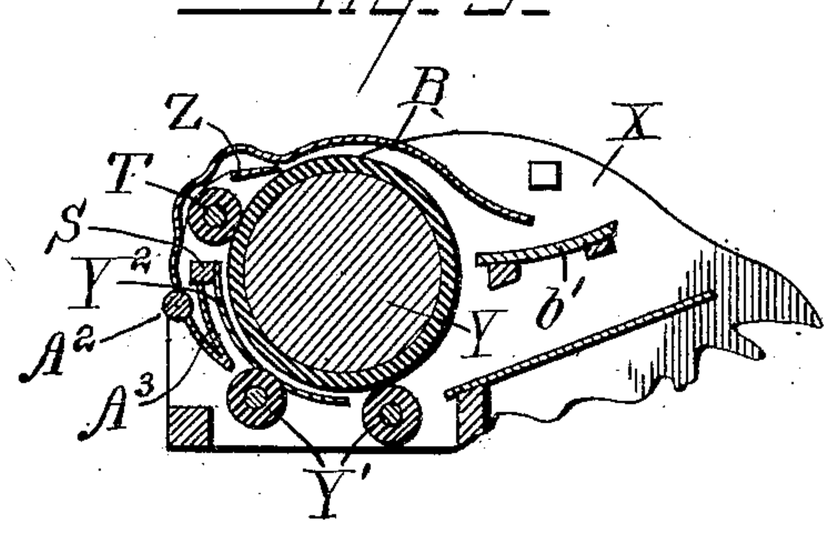


Fig. 6.

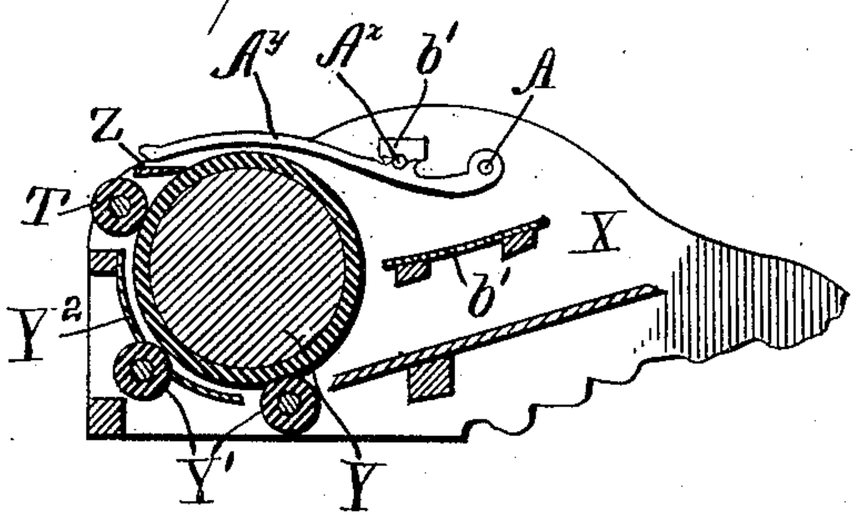


Fig. 7.

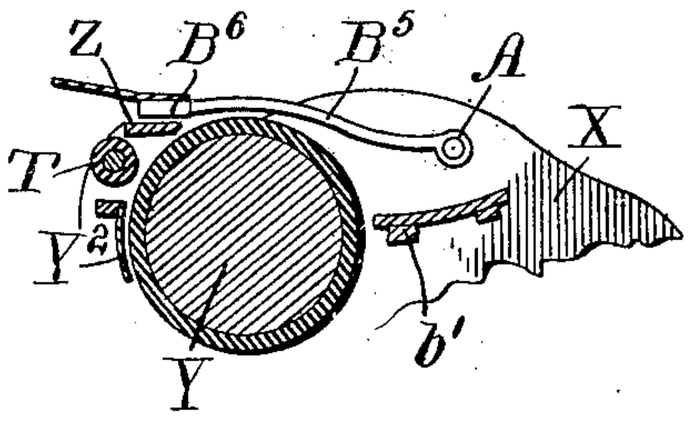
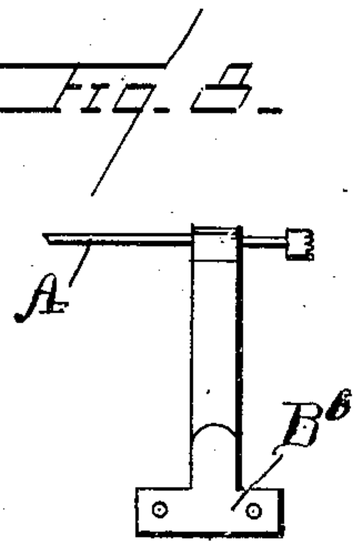


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN H. CORNELISON, OF ST. LOUIS, MISSOURI.

PAPER-CONTROLLER FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 763,661, dated June 28, 1904.

Application filed February 15, 1904. Serial No. 193,725. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. CORNELISON, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Paper-Controllers for Type-Writing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in controllers for type-writers; and the object of the invention is to produce a tension device especially adapted for visible type-writers and provided for the purpose of holding the paper against the platen-roller and to be guided forward after it has been printed upon and in accomplishing this purpose afford as little obstruction as possible to the vision of the entire printed matter.

More specifically, my invention comprises a fine tension wire or cord steadied between the ends of the carriage and stationary relative to the same and in the provision of fingers adjustably mounted on said wires, which are provided for facilitating and guiding a paper underneath the tension-wires.

My invention consists, further, in various details of construction and in combinations and arrangements of parts, which will hereinafter be fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts in the views, in which—

Figure 1 is a top plan view of a portion of the carriage of a type-writer, platen-roller, and gage. Fig. 2 is a cross-sectional view through the carriage. Fig. 3 is a sectional view through the carriage, showing the stationary finger extension for guiding the paper underneath a tension-wire. Fig. 4 is a sectional view transversely through the carriage, showing a slight modification of the tension mechanism. Fig. 5 is a similar view of a different modification. Fig. 6 is a sectional view showing still another modified form of my invention. Figs. 7 and 8 are detail views showing a gravity-finger and paper-guide.

Reference now being had to the details of the drawings by letter, A designates a tension-wire which is suspended between the end plates X, which form a part of the carriage for the type-writer. Said tension-wires have flexible washers D mounted upon their ends, which project outside of the plates, and nuts E are mounted upon the threaded ends of the tension-wires, confining the wire and washer in their proper positions and allowing the wire to yield slightly and to resume its normal position.

Referring to Figs. 1 and 2, B B designate guide-fingers which are made of any suitable material, preferably of flexible metal, and each is shown as turned into a coil B′, through which the tension-wire passes. One end of each finger is bent at an angle, as at *b*, and is adapted to engage over the outer edge of an apron *b′*, supported upon the carriage of the type-writer. Y designates a platen which is journaled in the ends of the carriage upon suitable spindles, and Y′ designate rollers which are mounted adjacent to said platen, and Y^2 designates an apron or guard which is concaved and mounted in front of the platen-roller and immediately below a roller T, which latter is positioned underneath the gage Z, as described. The forwardly-extending arm B^2 of said finger is curved to conform to the contour of the platen-roller, and its end is positioned over the gage and preferably is slightly upwardly bent at its end. By reason of the peculiar shape of the finger which extends over the platen-roller a paper which is fed about and in contact with the roller is caused to dip underneath the tension-wire as the paper is fed by the rotary movement of said platen-roller.

In Fig. 3 of the drawings a pointer-finger Q is provided, which is fastened at one end to a fixed part of the machine, and a curved portion Q′ of the fixed finger extends over the platen-roller and is provided to guide a paper underneath the tension-wire A, which is provided to cause the middle portion of the paper being printed upon to pass beneath the tension-wire A in case the paper is of a heavy nature and apt to spring out intermediate the movable fingers.

Referring to Fig. 4 of the drawings, I have shown a slight modification in the construction of my tension-fingers, in which the fingers B^2 are formed of flexible pieces of metal, either flat springs or wires, which are bent at B^3 to form coils and movably mounted upon the tension-wire A, while the opposite ends of said fingers are bent, as shown clearly in the cross-sectional view, so that a portion of the flexible finger will form a guide over the the platen-roller, and its extreme end bent down over the gage and underneath a projection S upon the apron Y^2. By the provision of this modified form a slight contact is had both with the front part of the carriage and the tension-bar A. By the provision of the coil-spring at one end of said finger its opposite end is held yieldingly against the gage and portion of the apron Y^2.

Referring to Fig. 5 of the drawings, I have shown a still different modification of my tension apparatus, in which the tension-wire A^2 is placed across the vertical front of the carriage, as shown in the sectional view. In this case the guide-fingers, which are preferably made of sheet spring metal, are bent into a V shape, as at A^3, with one arm longer than the other, the short arm engaging the projection S upon the curved face of the carriage in the rear, while the long arm is restrained by the tension-wire A^2 and passes upward and curves over the graduated bar or gage and curving over the platen is adapted to guide a paper in the same manner as disclosed by the figures of the drawings which have been described. By this modification the guide-fingers may be slid laterally adjacent to the carriage.

In Fig. 6 I have shown two tension-wires A and A^x, and A^y is a finger having an eye at one end mounted upon the tension-wires and is provided with a lug b', which serves two purposes, one for the reception of the second tension-wire A^x, which may pass through a recess or an aperture in said lug and serves to coöperate with the tension-wire A in holding one end of the finger rigid, and the other purpose of the lug is to provide means for moving the finger longitudinally upon the tension-wires. By this modification the free end of the finger is positioned over the graduate bar or gage Z.

In Figs. 7 and 8 I have shown the finger B^5 as pivotally mounted upon the tension-wire and having its free end B^6 weighted. In this form I make the finger preferably of flat sheet metal, and, if desired, the head may be elongated, as shown in detail view Fig. 8, and designed to rest over the graduate bar Z, and by the use of this modification gravity is depended on instead of the flexible fingers for holding and guiding the paper as it passes about the platen.

The operation of my improved tension device is simple and will be readily understood, as the object of the device is to provide either flexible or weighted fingers for the purpose of guiding the paper and holding the same so that practically the entire printed matter may be visible to the operator, and thereby reducing to a minimum the number of parts to accomplish this purpose.

I am aware that it is common in the art to construct paper-controllers which have been placed upon the carriage of a type-writer; but by reason of their rigidity and mountings the visibility of the written page is seriously interfered with. By the provision of my invention I am able to get equal if not greater rigidity than with the mechanism commonly employed and practically eliminate parts which have a tendency to obscure the matter which is to be written. The guide-finger is held in contact with the tension-wire and may be moved back and forth, as may be desired, to accommodate the same to different widths of paper.

While I have shown a particular construction of apparatus embodying the features of my tension mechanism, it will be understood that I may vary the same, if desired, as to details of construction without in any way departing from the spirit of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A paper-controller for type-writers comprising in combination with a carriage with platen-roller thereon, a fixed tension-wire mounted upon the carriage, flexible washers on said wire and nuts upon the latter adapted to hold the washers against the ends of the carriage, guide-fingers adjustably mounted upon said tension-wire, and means for holding said finger adjacent to the platen-roller, as set forth.

2. A paper-controller for type-writers comprising in combination with the carriage and platen-roller mounted thereon, a fixed tension-wire supported by the carriage, flexible washers on said wire and nuts upon the latter adapted to hold the washers against the ends of the carriage, an adjustable flexible finger movably mounted upon said tension-wire and having a flexible end extending over the

platen, and its other end adapted to engage a portion of the carriage, as set forth.

3. A paper-controller for type-writers comprising in combination with a carriage having a platen-roller, a tension-wire mounted in the ends of said carriage, flexible washers upon said wire outside of the ends of the carriage, nuts upon the ends of said wire, and flexible fingers adjustably mounted upon said wire and having each a free end which curves over the platen-roller and adapted to guide the paper as it is fed forward upon said roller, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN H. CORNELISON.

Witnesses:
JEROME S. HIGGINS,
CHAS. WALLERSTEDT.