

No. 744,254.

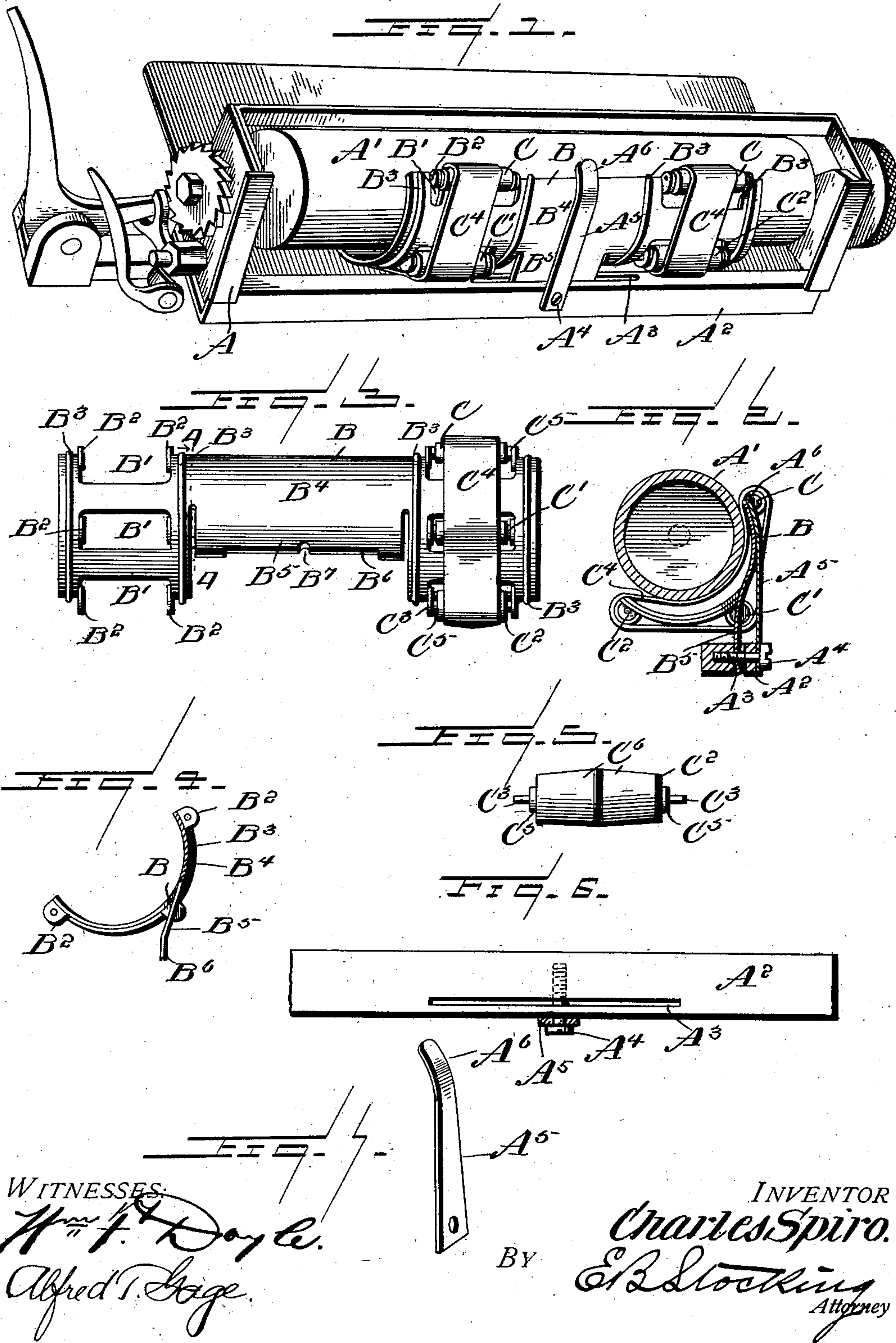
PATENTED NOV. 17, 1903.

C. SPIRO.

# PAPER GUIDE FOR TYPE WRITER CARRIAGES.

APPLICATION FILED APR. 22, 1903.

NO MODEL.





# UNITED STATES PATENT OFFICE.

CHARLES SPIRO, OF NEW YORK, N. Y.

## PAPER-GUIDE FOR TYPE-WRITER CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 744,254, dated November 17, 1903.

Application filed April 22, 1903. Serial No. 153,847. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES SPIRO, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Paper-Guides for Type-Writer Carriages, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a paper-guide for type-writer carriages, and particularly to a construction of the frame thereof for supporting rollers carrying a band which contacts with the platen of the carriage.

15 The invention has for an object to provide a construction of guide which may be pivotally mounted for oscillation in different planes while extending concentric to the platen of the carriage.

20 A further object of the invention is to provide a frame formed from a blank of sheet material by a stamping and subsequent bending operation, so as to reduce to a minimum the amount of handwork required thereon and produce a structure rigid and accurate in all of its parts.

25 Another object of the invention is to obviate the use of rubber-covered rollers for the guide-bands, the sulfur from which rollers causes the journals of such rollers to corrode when the machine is not constantly in use, and thus interferes with the free rotation of the rollers, producing an irregular feed of the bands.

35 Other and further objects and advantages of the invention will be hereinafter set forth and the novel features defined by the appended claims.

40 In the drawings, Figure 1 is a perspective showing the guide applied to a type-writer platen; Fig. 2, a central vertical section thereof; Fig. 3, a plan of the guide with the rollers and band removed from one end thereof; Fig. 4, a section of the guide with the rollers and band removed on the line 4-4 of Fig. 3. Fig. 5 is a detail elevation of the conical guide-roller. Fig. 6 is a detail plan of a portion of the platen-carrying frame, and Fig. 7 a detail perspective of the retaining-spring 50 for holding the guide in position.

Like letters of reference refer to like parts in the several figures of the drawings.

The letter A designates a frame of any suitable construction forming part of a type-writer carriage in which the platen A' is rotatably mounted in any preferred manner. 55 At the front of this frame a longitudinal bar A<sup>2</sup> is provided, having therein a recess or slot A<sup>3</sup>, adapted to receive the paper guide and feed B. The guide B is preferably formed 60 from a blank of sheet metal by a stamping or cutting operation and is subsequently bent into the desired shape by a bending operation and can thus be formed almost entirely by the use of machinery, thus materially reducing 65 the cost of production and securing a perfect accuracy in the configuration and relation of the several parts thereof. At the opposite ends of the guide B apertures B' are formed to receive the rollers C, C', and C<sup>2</sup>, respectively; 70 but the number of these apertures and rollers may be varied as found most desirable. At the opposite sides of each aperture pivoting-lugs B<sup>2</sup> are bent upward at an angle to the body of the plate and provided with suitable 75 journaling-openings to receive the pintles or bearings C<sup>3</sup> from the rollers mounted in the plate or frame. If found desirable, transversely-extending ribs B<sup>3</sup> may be pressed upward in the plate at its opposite ends for the 80 purpose of stiffening and bracing the same, while the end portions of the plate are each bent upon an arc concentric to the periphery of the platen. The body B<sup>4</sup> of the plate is also similarly curved at its upper portion, 85 while the lower portion B<sup>5</sup> extends tangentially therefrom and is formed with a substantially straight section B<sup>6</sup> at its extreme lower end, in which the central pivoting-recess B<sup>7</sup> is formed. This portion B<sup>5</sup> is adapted 90 to seat in the recess A<sup>3</sup>, formed in the carriage-frame A<sup>2</sup>, and to rest upon a screw or bolt A<sup>4</sup>, extending through said recess at substantially its mid-length. This forms a central pivot to permit an oscillation of the guide-plate longitudinally in a vertical plane, while 95 a similar lateral oscillation in a horizontal plane is permitted by this means of support, as the recess A<sup>3</sup> is of greater width than the plate disposed therein, as shown in Fig. 2. 100



The screw or bolt A<sup>4</sup> is also adapted to secure in position the vertically-extending spring A<sup>5</sup>, which has an inwardly-bent portion A<sup>6</sup> at its upper end, adapted to contact with and normally hold the upper end of the guide in contact with the platen, while it also prevents any vertical movement thereof upon the pivoting-bolt A<sup>4</sup>. The elastic bands C<sup>4</sup> are disposed upon the rollers carried by the guide, so that when the parts are thus assembled the guide is free at all times to automatically adjust itself so as to secure proper contact with the surface of the platen.

It has also been found desirable to dispense with the usual rubber roll in the frame having a metal pivot which frequently becomes corroded, and for that reason the rollers C, C', and C<sup>2</sup> are formed of metal suitably turned and provided at opposite ends with the integral journals C<sup>3</sup> to enter the lugs B<sup>2</sup> of the guide, while the spacing-shoulder C<sup>5</sup> is also provided upon each of the rollers to maintain it in proper relation to the lugs. The rollers C and C' are of circular cross-section throughout their length and graduated of successive larger diameters, as shown in Fig. 3, while the roller C<sup>2</sup> is substantially barrel-shaped, as shown in Fig. 5, having portions C<sup>6</sup> tapering in opposite directions from the center toward each end. The object of this roller is to guide the band C<sup>4</sup> in its travel over the other rollers.

From the foregoing description the operation of the invention will be clearly understood, and it will be seen that the guide can at any time be removed from the platen and placed thereon by simply withdrawing the spring A<sup>5</sup> from contact therewith and lifting the guide vertically from the slot within which it is pivotally supported for a practically universal movement. It will also be seen that this guide when once inserted automatically adjusts itself to the face of the platen, so as to most efficiently guide the paper in the feed action by the rotation of the platen. It will also be noted that the guide is formed from a single blank principally by machine-work, thus securing accuracy and economy in its manufacture, while all of the parts thereof are composed of metal, so as to prevent the corrosion due to the use of rubber rollers in such a guide. It will also be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a paper-guide, the combination with a platen, of a supporting-frame having pivoted at substantially its longitudinal center a plate provided with guiding means, and a bearing upon one edge of said plate adapted to rest upon said pivot for free oscillation laterally and longitudinally of the platen.

2. In a paper-guide, a supporting-frame having a pivot therein, a plate provided with guiding means and adapted to rest upon said pivot, and a retaining-spring secured to said support and adapted to engage the free portion of said plate.

3. In a paper-guide, a plate, pivoted rollers at the opposite ends thereof; bands disposed upon said rollers, a depending flange from said plate having a pivotal recess therein, and a supporting-pivot upon which said flange rests.

4. In a paper-guide, a plate, pivoted rollers at the opposite ends thereof, bands disposed upon said rollers, a depending flange from said plate having a pivotal recess therein, a supporting-frame having a recess therein to receive said flange, and a pivot extending transversely of said recess.

5. In a paper-guide, a plate, pivoted rollers at the opposite ends thereof, bands disposed upon said rollers, a depending flange from said plate having a pivotal recess therein, a supporting-frame having a recess therein to receive said flange, a pivot extending transversely of said recess, a vertically-extending spring secured in alignment with said pivot, and an inwardly-bent upper end to said spring to retain said plate against vertical movement.

6. In a paper-guide, a blank of sheet metal provided at its opposite ends with apertures and pivoting-lugs at opposite sides thereof, and a depending supporting-flange between said ends.

7. In a paper-guide, a blank of sheet metal provided at its opposite ends with apertures and pivoting-lugs at opposite sides thereof, a depending supporting-flange between said ends, said ends being bent upon a segment while said supporting-flange extends tangentially from said plate.

8. In a paper-guide, a plate having apertures at its opposite ends with supporting-lugs at each end thereof, a central pivoting-support extended at an angle to the plate, and bearing-rollers pivoted in said lugs increasing in size from the upper end downwardly.

9. In a paper-guide, a plate having apertures at its opposite ends with supporting-lugs at each end thereof, bearing-rollers pivoted in said lugs and increasing in size from the upper end downwardly, one of said rollers being substantially barrel-shaped in longitudinal section, an endless band extended over said rollers, and a pivotal support for said plate.

10. In a paper-guide, a plate having apertures at its opposite ends with supporting-lugs at each end thereof, a central pivoting-support extended at an angle to the plate, and metallic bearing-rollers having at their opposite ends integral lugs and integral pintles bearing in the perforations in said lugs.

11. In a paper-guide, a plate having concentric opposite ends provided with apertures therethrough, pivoting-lugs at opposite ends



of said apertures extending at an angle to the plate, bracing-ribs at each end of the plate at opposite sides of the apertures, and a central supporting-body extending at an angle  
5 to the ends of the plate.

12. In a paper-guide, a platen, a guide-plate disposed concentric thereto, and a single bearing for the plate to permit a bodily oscillation of said plate upon said pivot in  
10 different planes.

13. In a paper-guide, a platen, a guide-plate disposed concentric thereto, and a single bearing for the plate for permitting a bodily oscillation of said plate upon said pivot  
15 longitudinally thereof and laterally thereof.

14. In a paper-guide, a platen, a guide-plate disposed concentric thereto, a single bearing for the plate to permit an oscillation

of said plate longitudinally thereof and laterally thereof, and means for preventing a  
20 vertical movement of the plate.

15. The combination with a platen, of a frame supporting the same provided with a pivot, a paper-guide disconnected from the frame and provided with an open bearing at  
25 its longitudinal center supported upon said pivot to oscillate thereon whereby it is adapted for removal from the pivot by a direct movement.

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

CHARLES SPIRO.

Witnesses:

F. L. SPIRO,

EDWD. E. JONES.