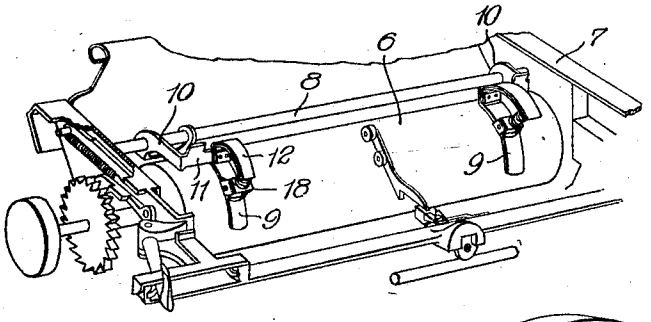
Oct. 13, 1925. 1,557,510

H. E. WEST

TYPEWRITER ATTACHMENT

Filed June 2, 1923

Fig. 1



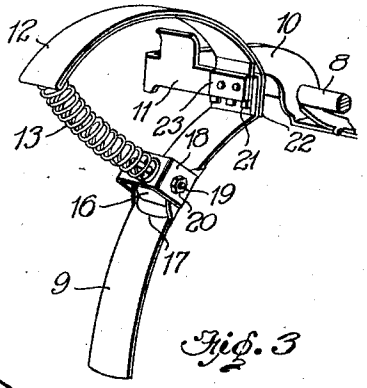


Fig. 3

Fig. 2

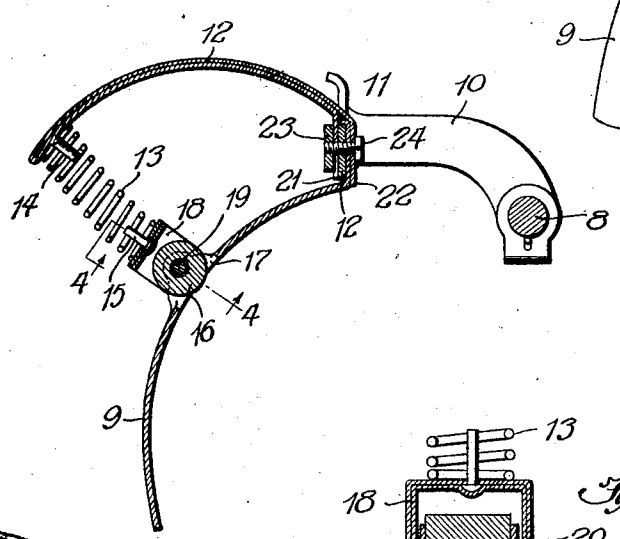


Fig. 4

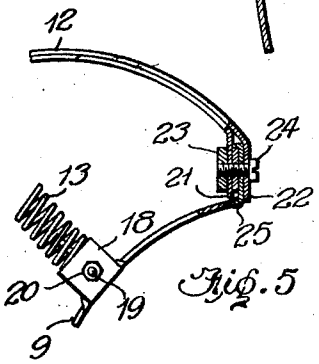


Fig. 5

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UNITED STATES PATENT OFFICE.

HAZAEL E. WEST, OF WASHINGTON, DISTRICT OF COLUMBIA.

TYPEWRITER ATTACHMENT.

Application filed June 2, 1923. Serial No. 642,978.

To all whom it may concern:

Be it known that I, HAZAEL E. WEST, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Typewriter Attachments; and I do hereby 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.

The present invention relates to improvements in typewriter attachments and more particularly refers to certain improvements in the paper feeding and guide finger mechanism in which a more direct and uniform pressure is obtained upon the side edges of the paper feed enabling me to secure a more even feeding of the paper, a clearer impression and above all the accurate typing of lines at and near the bottom of the paper sheet.

The spring pressed guide fingers such as used at the present time, are unsatisfactory in many particulars, allowing the paper to bulge or buckle outwardly from the platen by reason of insufficient pressure at the side edges of the paper sheet; in further failing to clamp the paper particularly when the bottom portion arrives at the impression position resulting in the non-alinement of the type at this point and of many inaccuracies in the impression.

An object of the invention is to provide a simple and compact device susceptible of attachment to present standard machines without requiring any alteration and in which the above defects are efficiently cured and which enables me to produce particularly at the bottom of the sheet regular and evenly spaced lines and as clear impressions as produced at other portions of the typewritten sheet.

In the drawings, wherein like reference characters refer to like parts throughout the several views:

Figure 1 is a perspective view showing portions of the typewriter with the improved attachment.

Figure 2 is an enlarged side view of the attachment with parts shown in section.

Figure 3 is an enlarged perspective view of the attachment showing the bar in section.

Figure 4 is a transverse section taken on the line 4—4 in Figure 2, and

Figure 5 shows a modification.

Referring more particularly to the drawing 6 designates the usual type platen mounted in the frame represented generally at 7 and shown only fragmentary. At 8 is indicated the usual bar which extends substantially parallel with the platen 6 and above and slightly behind the latter. This bar is found on the Underwood typewriter and it is mounted in the side frames 7, being used to support the paper guide fingers which are represented at 9.

Now in accordance with the present Underwood construction the pressure developed by these guide fingers upon the platen and upon the paper sheet which passes between the platen and the guide fingers 9, is secured by the action of springs which are associated with the bar 8 and which are thus necessarily remote from the point of contact between the guide fingers and the paper. These springs acting through this distance and being required to act angularly are necessarily weak in their effect upon the guide fingers. Furthermore the groove in the bar 8 which receives the spring actuated roller becomes worn and the spring becomes therefore less effective, so much so in actual practice that after a time the rolls in the guide fingers are found to be out of contact entirely with the platen and the gap between these parts is such as to admit oftentimes several sheets of paper.

In accordance with the present invention a direct yieldable pressure is secured for the fingers 9. I propose to utilize the same arms 10 as employed in the present Underwood machine and the same spring construction cooperating with the bar 8 may be used. The spring fingers 9 are carried by the offset parts 11 of the arms 10 in a manner similar to the prevailing construction. However I further provide an arched or curved bar 12 associated with each of the arms 10 and preferably carried thereby in such position that the free outer end of the bar 12 will overhang an intermediate por-

tion of the respective finger 9. Between the bar 12 and the finger 9 is a spring of some appropriate character, for instance a coil spring 13. The arm 12 possesses sufficient rigidity to form a backing or abutment for the thrust of the spring 13, allowing the spring to exert a pressure upon the more yieldable finger 9 and to press this finger directly against the platen 6.

It will be noted that the axis of the spring 13 coincides substantially with a radius of the platen 6. The nearer the axis of the spring approaches to a point of perfect coincidence, the greater will the pressure be upon the spring finger and the more direct and the more effective such pressure. However it is not entirely necessary that this condition of perfect coincidence obtain as variations, even rather wide variations might be made particularly where few sheets are inserted in the typewriter. Where a great number of sheets are being manifolded, it will be desirable to have the more direct pressure.

The spring 13 is preferably confined against escape at its outer end by the use of a stud 14 projecting inwardly from the free end of the bar 12 while the inner end of the spring is likewise received about a stud 15 carried by a yoke which extends above the idle roller 16 usually carried by the guide finger 9 and projecting through a slot 17 therein to roll upon the platen or the paper sheet thereon. This yoke is indicated at 18 and in Figure 4 it is shown to be composed of two thicknesses although this is not necessary. The yoke is held by a pin 19 which is the same pin upon which the idle roller 16 revolves. The pin in this case is not the usual rivet which serves to hold the idle rolls of the Underwood machine but it is a threaded pin having nuts 20 at both ends in order to permit of the removal of the yoke and the other parts.

In the present construction the bar 12 is shown as a double thickness although it might be of single or in multiple thickness if desired. It may be convenient however to provide the bar of the single elongated strip folded centrally upon itself and having its ends 21 and 22 fitted at opposite sides of the angular part 11 of the arm 10. A plate 23 provided with threaded openings is placed in front of the end 21 to receive the screws 24 which pass through the various overlapped thickness of these parts and which serve to hold the same together. The guide finger 9 in this case has its upper end projecting between the end 22 of the bar 12 and the angle portion 11 of the arm 10.

Now referring more particularly to Figure 5 a hinged joint is shown at 25 between the guide finger 9 and its point of support. This will serve to increase the adaptability of the guide finger to the paper and to the platen and it will aid the spring action inasmuch as the connection is more flexible.

It will be appreciated therefore that the position of the coil spring 13 and the relative arrangement and disposition of the various other parts provides a direct and strong pressure upon the guide finger 9 and this pressure will not diminish with the age or wear of the machine and the pressure will be alike effective for all parts of the sheet insuring a rigid clamping of the sheet to the platen at the bottom thereof and holding the sheet against creeping from either side or against escape at its central part over the line and ribbon guides.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:—

1. In combination with a typewriter having a platen, a rod above and at the rear of the platen, arms pivoted to the rod, guide fingers resiliently carried by said arms and extending about the platen in slightly spaced relation thereto, guide rollers carried by said guide fingers and rolling upon the platen to space the guide fingers therefrom, of means for exerting direct yieldable pressure upon said guide fingers in substantially the direct line passing through the rollers and radially respecting the platen.

2. In combination with a typewriter having a platen, a rod above and at the rear of the platen, arms pivoted to the rod, guide fingers resiliently carried by said arms and extending about the platen in slightly spaced relation thereto, guide rollers carried by said guide fingers and rolling upon the platen to space the guide fingers therefrom, arms carried by the first mentioned arms and extending outwardly and upwardly above the fingers with the outer ends of said arms extending substantially on the same radial line passing from the platen through said rollers, and a coil spring interposed between the outer free ends of said second mentioned arms and said guide fingers outwardly of the rollers for developing yielding pressure directly on the rollers against the platen without shifting the guide fingers closer to said platen.

3. In combination with a typewriter having a platen, a rod above and at the rear of the platen, arms pivoted to the rod, guide fingers resiliently carried by said arms and extending about the platen in slightly spaced relation thereto, guide rollers carried by said guide fingers and rolling upon the platen to space the guide fingers therefrom, of bowed arms carried by said first mentioned arms

outwardly of said guide fingers with the free ends of the bowed arms extending in substantially the same radial line from the platen through said rollers, boxings extending about the outer portions of said rollers, and coil springs disposed between said boxings and the outer free ends of said bowed arms for developing axial pressure from the coil springs directly upon said rollers in substantially a radial line with respect to the platen without moving the guide fingers closer than the normal position to said platen.

HAZAEL E. WEST.