

H. GRÜTZMANN.
 COLUMN ADJUSTING DEVICE FOR TYPEWRITING MACHINES.
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1,429,341.

Patented Sept. 19, 1922.

Fig. 1.

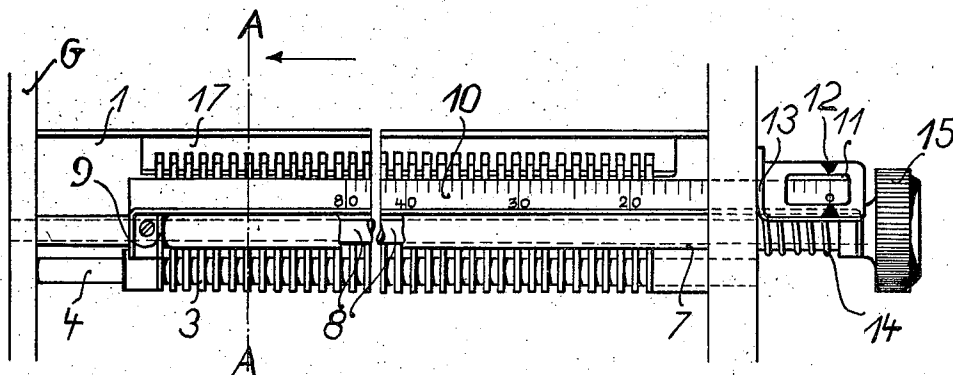


Fig. 2.

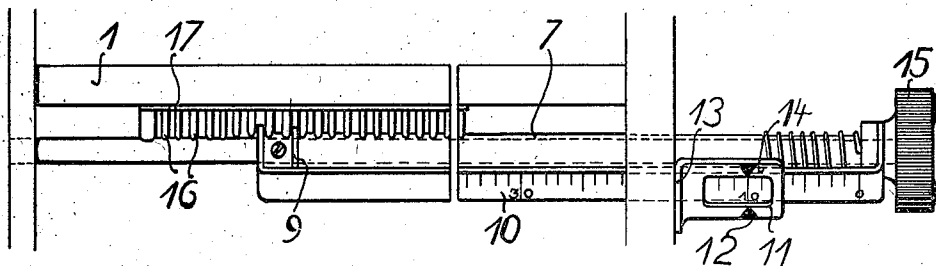


Fig. 3.

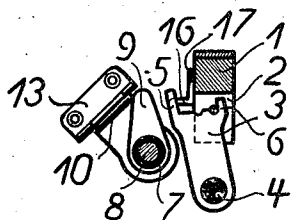
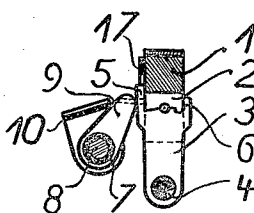


Fig. 4.



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UNITED STATES PATENT OFFICE.

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COLUMN-ADJUSTING DEVICE FOR TYPEWRITING MACHINES.

Application filed August 5, 1921. Serial No. 490,130.

To all whom it may concern:

Be it known that I, HEINRICH GRÜTZMANN, a citizen of the German Republic, residing at Nuremberg, Germany, have invented certain new and useful Improvements in a Column-Adjusting Device for Typewriting Machines (for which I have filed application in Germany April 3, 1920), of which the following is a specification.

There have already become known column-adjusting devices for typewriting machines which comprise adjustable margin stops whose adjustment to the working position depends on the actual position of the paper carriage. The carriage must therefore always be first brought to the position in which a margin stop can act. When tables have to be typed which comprise several columns the repeated to and fro movement of the carriage requires much time.

This invention relates to a column-adjusting device for typewriting machines comprising an ejecting cam adapted to be adjusted to the proper working position which avoids the above mentioned inconvenience as the margin stops can be brought into working position independently of the position of the carriage by means of an ejecting device arranged upon said carriage. This ejecting device consists of an adjusting body which is revoluble and adapted to be displaced in longitudinal direction, so that by the proper adjustment of this body the revoluble margin stops can be ejected rapidly and in secure succession.

In order that the invention may be clearly understood I shall proceed to describe the same with reference to the form of construction shown on the accompanying drawing, wherein:

Fig. 1 is a front elevation of the adjusting device for the margin stop.

Fig. 2 is a plan view of the same, the adjusting rod being pulled out.

Fig. 3 is a cross section on line A—A of Fig. 1 showing a margin stop in the inoperative position.

Fig. 4 is a similar view as Fig. 3, the margin stop being shown in operative position.

The adjusting device for the margin stop consists essentially in a bar 1 mounted in the carriage frame G and provided in the well known manner with the right angular recesses 2, 2 (Fig. 3) which are designed to

guide the adjustable margin stop 3. A rod 4, mounted below the recessed bar 1 and parallel with the same (Figs. 1 and 3), carries pivotable margin stops 3 one for each recess 2, that is to say for each type column. The margin stops 3 consist of arms of flat iron loosely mounted upon a rod 4 and having each a projecting finger 5 and a stop 6 for the catch lever of the carriage (Figs. 3 and 4). According to the invention these margin stops 3 are brought into the operative position by means of an ejecting device, independently of the actual position of the carriage. This ejecting device consists of an adjusting body 7 which is adapted to be revolved, to be moved in longitudinal direction and to slide upon a bar 8 mounted in the carriage frame G. At one end of this tubular adjusting body 7 the ejecting cam 9 is fixed (Figs. 2 and 3) which, when being oscillated, acts, according to its position with regard to the recessed bar 1, upon the margin stops in front of which it stands, so that the same is brought in engagement with the corresponding recess 2. A bar 10 mounted along the adjusting body 7 has graduation lines which correspond with the graduation lines upon the carriage frame. An angular piece 13 of sheet metal is fixed upon the right hand side wall of frame G of the carriage and provided with a window 11 and index point 12. Upon the right hand end of the adjusting tube 7 a milled turning knob 15 is arranged which is acted upon by a spiral spring 14. An angle bar 17 (Figs. 3 and 4) with teeth 16 (Fig. 2) is arranged at the lower end of the bar 1. The front ends of teeth 16 form wedge-shaped points rounded off at the front, said teeth presenting parallel side surfaces at the rear ends. The cam-shaped bar 17 serves to ensure a positive engagement of the ejecting cam 9 when the adjusting tube 7 should not be properly adjusted.

The ejecting of the required margin stop 3 according to the desired column adjustment is effected in the following manner: Suppose the carriage ought to be stopped at the type column 10. In this case the margin stop 3 ought to be brought into the operative position. This is effected, independently of the actual position of the carriage, by pulling out the adjusting tube 7, with the aid of knob 15, until the number 10 of the graduation bar coincides with the

index point 12 of the angle piece 13. In this position of the adjusting tube 7 the ejecting cam 9 stands opposite the margin stop 3 which corresponds with the type column 10. The knob 15 is now turned against the action of spring 14 whereby the margin stop 3 is thrown into the operative position. The ejecting cam 9 bears against the projecting finger 5 and brings the margin stop 3 into the position shown in Fig. 4, in which the finger 5 bears against the recessed bar 1, the stop proper 6 projecting from said bar. The margin stops are secured in their inoperative and operative positions by a locking device which needs not be specifically described. When the knob 15 is released, the spiral spring 14 under tension turns the body 7 and with the same the ejecting cam 9 into the original position. In order to put in gear another margin stop the manipulations hereinbefore described are repeated so that without difficulty or loss of time any number of margin stops in any required succession can be adjusted to the operative position without the aid of the carriage.

The cam-shaped angle bar 17 serves to ensure by means of its wedge-shaped teeth 16 that the ejecting cam 9 be properly and positively guided between two adjacent teeth.

When the required margin stops have been brought into the operative position the adjusting body 7 is returned to its original position.

Instead of the telescoped adjusting tube any other slidable body could be used. The adjusted margin stops are brought back to their inoperative position with the aid of a special device which is neither shown nor described as it does not form part of this invention.

I claim:—

1. A column-adjusting device for type-writing machines with stops to be thrown into operative position comprising in combination with the carriage and with the carriage frame movable stops and an ejecting device mounted upon the carriage frame adapted to act upon said stops so that each of said stops can be brought into the operative position independently of the actual position of the carriage, and consisting of a revoluble adjusting body movable in longitudinal direction, a bar in said adjusting body marked with graduation lines and an ejecting cam designed to operate said stops.

2. A column adjusting device for type-

writing machines with stops to be thrown into operative position comprising in combination with the carriage and with the carriage frame movable stops, an ejecting device mounted upon the carriage frame adapted to act upon said stops so that each of said stops can be brought into the operative position independently of the actual position of the carriage, and consisting of a revoluble adjusting body movable in longitudinal direction, a bar in said adjusting body marked with graduation lines, an ejecting cam designed to operate said stops, and a graduated adjusting device upon said carriage frame designed to work together with said graduated bar for ensuring the proper adjustment of said ejecting cam.

3. A column-adjusting device for type-writing machines with stops to be thrown into operative position comprising in combination with the carriage and with the carriage frame movable stops and an ejecting device mounted upon the carriage frame adapted to act upon said stops so that each of said stops can be brought into the operative position independently of the actual position of the carriage, and consisting of a revoluble adjusting body movable in longitudinal direction, a bar in said adjusting body marked with graduation lines, an ejecting cam designed to operate said stops, and an angular bar with rounded and wedge-shaped teeth arranged above the ejecting cam for ensuring the accurate adjustment of said ejecting cam.

4. A column-adjusting device for type-writing machines with stops to be thrown into operative position comprising in combination with the carriage and with the carriage frame movable stops and an ejecting device mounted upon the carriage frame adapted to act upon said stops so that each of said stops can be brought into the operative position independently of the actual position of the carriage, consisting of a revoluble adjusting body movable in longitudinal direction, a bar in said adjusting body marked with graduation lines, an ejecting cam designed to operate said stops, and a spiral spring attached to said adjusting body for returning the same to the initial position after ejection of a stop.

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

HEINRICH GRÜTZMANN.

Witnesses:

HERMANN MEYER,
LUD. REISCHL.