Jan. 13, 1931. C. C. CARLSON 1,788,658

TYPEWRITER ERASER

Filed May 15, 1929

Fig. 1.

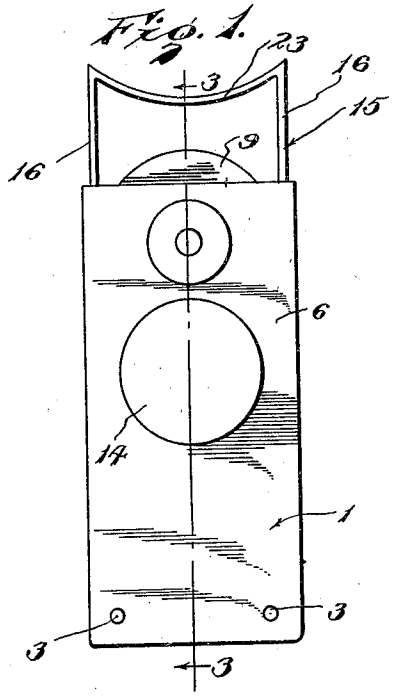


Fig. 2.

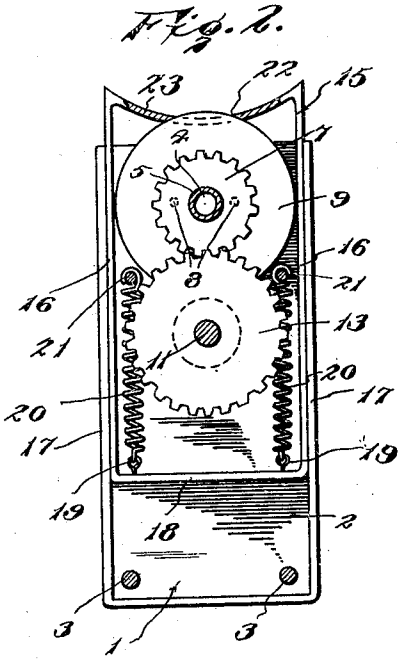


Fig. 3.

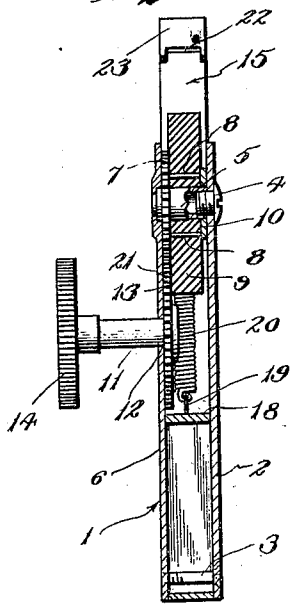
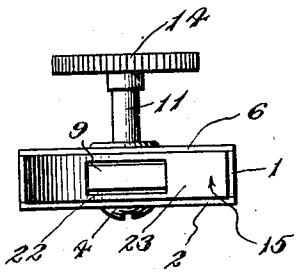


Fig. 4.



Inventor

C. C. Carlson

By Lacey & Lacey, Attorneys

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UNITED STATES PATENT OFFICE

CHRIS C. CARLSON, OF RAWLINS, WYOMING

TYPEWRITER ERASER

Application filed May 15, 1929. Serial No. 363,169.

This invention relates to erasers and more particularly to an eraser adapted to be used by a stenographer when operating a typewriter.

One object of the invention is to provide an erasing device including an eraser mounted so that it may have erasing motion imparted to it relative to a sheet of paper and a shield movable toward and away from the eraser and formed with an opening through which a portion of the eraser is adapted to extend while an erasing operation is being carried out and thereby allow a single letter to be erased while adjacent letters are shielded.

Another object of the invention is to provide an erasing device including an eraser and a shield, the shield being so formed that it will conform to the curvature of a typewriter roller and thereby allow the shield to fit closely against a sheet of paper in the typewriter and cover letters at opposite sides of a letter exposed through an opening in the shield, thereby allowing the exposed letter to be easily erased without marring adjacent letters.

Another object of the invention is to allow rapid movement to be imparted to an eraser when the erasing device is in use and thereby permit a letter to be easily and quickly erased.

Another object of the invention is to so mount the eraser upon a rotatable spindle that it will be prevented from slipping about the spindle but at the same time allow the eraser to be removed and a new one substituted when necessary.

Another object of the invention is to mount the eraser and its actuating means in a casing which will very effectively protect the actuating means and to further so form the casing that it may be easily held with one hand and forced towards a paper against which the guard is disposed while the actuating means for the eraser is operated by the other hand.

The invention is illustrated in the accompany drawing, wherein

Figure 1 is a view showing the improved erasing device in side elevation,

Fig. 2 is a longitudinal sectional view through the device,

Fig. 3 is a longitudinal sectional view taken at right angles to Fig. 2 on the line 3—3 of Fig. 1, and

Fig. 4 is an end elevation of the improved erasing device.

The casing 1 forming part of the improved erasing device is formed of any suitable material, although metal is preferably employed, and this casing is open at its forward end, as shown clearly in Fig. 2. The casing is rectangular in end elevation, as shown in Fig. 4, and preferably oblong so that it will be flat and of reduced thickness thereby allowing it to be easily held when in use. The side wall 2 is removable so that access may be had to the interior of the casing when necessary and this wall is removably secured by screws 3 which pass through the rear corner portions of the wall and a screw 4 which extends through the forward end portion of the wall intermediate the width thereof and is engaged in an internally threaded post or spindle 5 projecting inwardly from the stationary side wall 6 of the casing.

About the post or spindle 5 is loosely disposed a gear 7 from which extends pins 8, and these pins 8 are of sufficient length to extend practically entirely through a disk eraser 9, the diameter of which is such that, when the eraser and gear are set in place about the post, a portion of the eraser projects forwardly through the open end of the casing, as shown. Since the eraser is anchored to the gear by the pins 8, it will be firmly held in engagement therewith and caused to rotate with this gear but when the eraser is worn out it can be easily removed and a new one substituted. After the eraser and gear have been set in place upon the post, a washer 10 is applied and this washer not only covers the ends of the pins 8 but also bears against the inner surface of the removable wall 2 and prevents the gear and eraser from having movement longitudinally of the post. Therefore, the gear and eraser will be prevented from moving transversely of the casing out of proper position therein.

In order to impart rotary motion to the

gear 7 and eraser carried thereby, there has been provided a shaft or stem 11 which is rotatably received in an opening 12 formed in the wall 6 rearwardly from the post 5 and upon the inner end portion of this shaft is fixed a large gear 13. The gear 13 meshes with the gear 7 and when the shaft is turned through the medium of its turning head 14 rotary motion will be imparted to the gear 7 and eraser carried thereby at a higher rate of speed than the shaft 11 rotates. The inner portion of the eraser extends across the adjacent side portion of the gear, and by an inspection of Figure 3 it will be readily seen that, when the wall 2 has been removed, the eraser and gear 7 may be very easily detached from the post by thrusting the shaft 11 inwardly so that it applies pressure to the eraser and forces it off the post. Therefore, the eraser and its gear can be very easily removed when it is necessary to substitute a new eraser for one which has become worn to such an extent that it is no longer serviceable.

The guide or shield 15 is also perferably formed of metal and this shield is rectangular in form and of such width and thickness that it fits snugly in the casing, as shown in Figures 2 and 3, with its side bars 16 bearing against the marginal walls 17 of the casing. The inner cross bar 18 of the shield carries eyes 19 which project forwardly and to these eyes are attached springs 20 which extend forwardly across opposite side portions of the gear 13 and have their forward ends engaged about pins 21 carried by the wall 6 of the casing. These springs draw the shield forwardly so that the side bars 16 normally project outwardly from the casing, as shown in Figures 1 and 3, but allow the shield to be pressed inwardly, as shown in Figure 2, so that the outer portion of the eraser 9 extends through a slot 22 formed longitudinally in the central portion of the cross bar 23 at the outer end of the shield. This outer cross bar or strip 22 is curved longitudinally and bowed inwardly so that it conforms to the curvature of a typewriter roller and, therefore, this strip may have close contacting engagement with a sheet of paper upon which an erasure is to be made, and in the preferred construction the slot or opening will only be of sufficient width to expose a single letter. Therefore, a single letter will be exposed so that it may be erased and letters at opposite sides thereof will be covered and prevented from being partially or entirely erased during an erasing operation.

When this erasing device is in use, the casing is held between the thumb and fingers of one hand and the outer strip or cross bar 23 of the shield applied to a sheet of paper transversely of the typewriter roller. The strip 23 fits flat against the sheet of paper as it conforms to the curvature of the typewriter roller and a letter to be erased will be exposed through the opening 22. After the outer cross bar of the shield has been properly applied to the sheet of paper the casing is pressed forwardly against the action of the springs 20 until the eraser passes through the opening 22, as shown in Figure 2, and bears against the letter to be erased. The turning head 14 is grasped between the thumb and finger of the other hand and rotary motion imparted to it so that the shaft 11 will be rotated and rotary motion transmitted to the gear 7 and the eraser. The eraser will rotate against the paper and cause the letter to be quickly erased. By releasing pressure upon the casing it will be allowed to move away so that the letter may be viewed through the opening 22 and if it is found that a complete erasure has not been made the casing can be again pressed forwardly and the erasing operation repeated. In view of the fact that letters at opposite sides of a letter to be erased will be covered by portions of the cross bar at opposite sides of the opening, only a single letter will be erased and blurring of adjacent letters will be prevented. I have, therefore, provided a typewriter eraser which will be very easy to operate and will be very efficient in its operation. I have further provided an erasing device having an eraser which can be easily removed when worn out and a new one substituted.

Having thus described the invention, I claim:

1. A typewriter erasing device comprising a casing open at one end, a shield slidable into and out of said casing and having side bars joined at their outer ends by a cross strip, the cross strip being bowed to fit against a typewriter roller and intermediate its length and width formed with a longitudinally extending slot to expose a character when the cross strip is disposed against a paper, an eraser rotatably mounted in said casing between the side bars of the shield and projecting out of the open end of the casing and adapted to pass through the slot in the cross strip of the shield when the shield is moved inwardly to an operative position, means to rotate said eraser, and means yieldably resisting inward movement of said shield.

2. A typewriter erasing device comprising a casing open at one end, a shield slidable into and out of said casing and having its outer end formed with an opening to expose a character when the shield is disposed against a paper, a post in said casing, a gear rotatable upon said post, an eraser fixed to said gear about said post and projecting through the open end of the casing, a shaft rotatable through a wall of said casing, a gear upon the inner end of said shaft meshing with the first gear to impart rotation to the first gear and eraser when the shaft is rotated, and means in said casing yieldably resisting inward movement of said shield.

3. A typewriter erasing device comprising a casing open at one end, a shield slidable into and out of said casing and having its outer end formed with an opening to expose a character when the shield is disposed against a paper, a post in said casing, a gear rotatable upon said post, an eraser fitting against said gear about said post and projecting through the open end of said casing, pins extending from said gear into said eraser to anchor the eraser to the gear, a shaft rotatable through a wall of said casing, a gear upon the inner end of said shaft meshing with the first gear to impart rotation to the first gear and eraser when the shaft is rotated, and means in said casing yieldably resisting inward movement of said shield.

4. An erasing device comprising a casing open at one end, a shield slidable into and out of said casing and having side bars and inner and outer cross bars connecting ends of its side bars, the outer cross bar being formed with on opening to expose a character to be erased, an eraser rotatably mounted in said casing between the side arms of said shield and projecting from the open end of the casing to extend through the opening in the outer cross bar when the shield is forced inwardly, resilient means in said casing engaged with the inner cross bar to yieldably resist inward movement of said shield and means to rotate said eraser.

In testimony whereof I affix my signature.

CHRIS C. CARLSON. [L. S.]