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ERASING SHIELD

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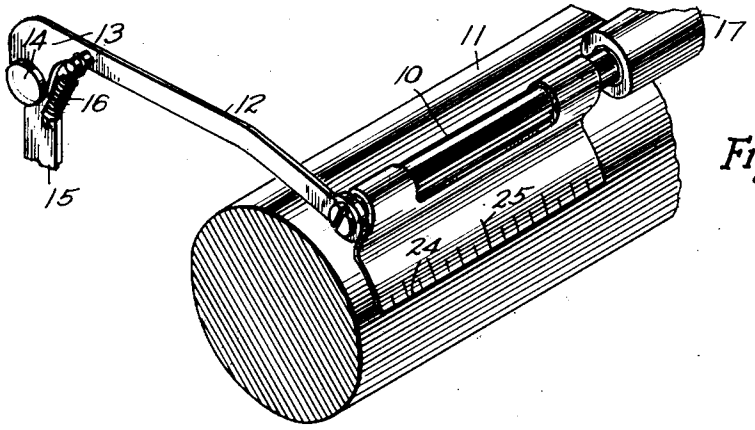


Fig. 1

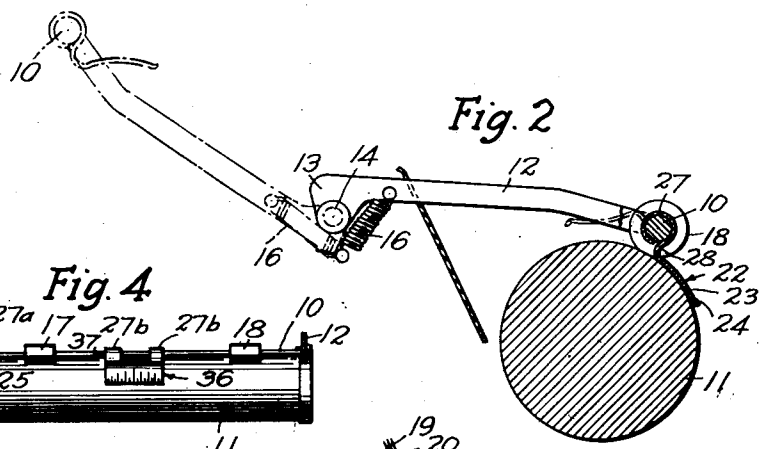


Fig. 2

Fig. 4

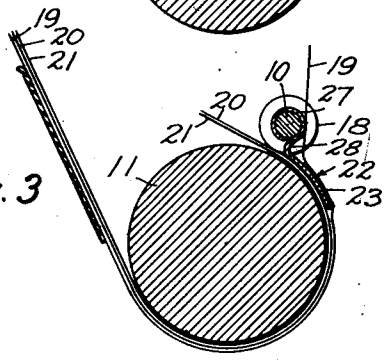


Fig. 3

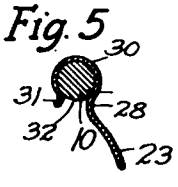


Fig. 5



Fig. 6

Inventor

Sidney Felber

By Harry Jacobson

Attorney

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ERASING SHIELD

Sidney Felber, New York, N. Y.

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14 Claims. (Cl. 197—181)

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This invention relates to erasing shields for use with a typewriter roller platen and particularly to that type mounted for easy accessibility on the typewriter and designed for insertion between the sheets being typed to prevent smudges on the carbon copies during erasing operations.

The invention contemplates the provision of a thin substantially rigid shield of relatively small area adapted to be slidably and swingably mounted on the roller-carrying pivoted paper-hold-down bar which removably clamps the paper sheets to the platen, whereby the shield may be readily adjusted along the bar longitudinally of the carriage of the typewriter to any point of the sheet where an erasure is to be made, the shield being insertable between any sheet and the succeeding carbon sheet, and being easily swingable to an inoperative position out of the way of the typist during the typing operation and also moving as a unit with the bar when said bar is manipulated.

The invention further contemplates the provision of an erasing shield which may form a permanent part of the typewriter if desired or may be made of such form as to be quickly and easily attached to the paper clamping bar and detached therefrom, the shield being slidable lengthwise of and rotating on the bar when mounted thereon.

The various objects of the invention will be clear from the description which follows and from the drawings, in which

Fig. 1 is a fragmentary perspective view of the platen and the swingable paper-hold-down bar of a typical typewriter, showing the erasing shield out of the way at the left hand end of the platen and swung down on the platen ready to be moved to the right into an operative erasing position.

Fig. 2 is a fragmentary vertical sectional view of the platen, hold-down bar and the erasing shield, showing in dash-dot lines, the shield swung upwardly off the platen while the bar is down, and showing also in dash-dot lines, the inoperative swung back position of the bar with the shield thereon as when paper sheets are to be inserted into the typewriter, or the sheets are to be separated preparatory to an erasure.

Fig. 3 is a fragmentary vertical sectional view, similar to Fig. 2, of the platen, bar and shield showing three paper sheets positioned around the platen and the sheet which bears the original or ribbon typewriting arranged in erasing position outside of the shield, the shield being shown

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in erasing position between the first sheet and the carbon sheet.

Fig. 4 is a front elevational view of the platen and its hold-down bar showing the paper clamping rollers on the bar and a pair of erasing shields mounted according to the invention, one between the rollers, and another outside of the rollers and of a slightly modified form.

Fig. 5 is a vertical sectional view of the bar and of a detachable snap-on shield mounted by a resilient loop on the bar for sliding and rotating movements.

Fig. 6 is a similar view of a slightly modified form of the snap-on shield.

In the practical embodiment of the invention shown by way of example, the erasing shield is mounted on the typical paper-hold-down bar 10 of a typewriter, the bar being of the usual type extending substantially throughout the length of the roller platen 11. An arm 12 extends rearwardly from each end of the bar, the rear end 13 of each arm being suitably pivoted as at 14 to a suitable fixed bracket 15 for swinging movement thereby to carry the bar 10 close to the platen or to an inoperative position above and to the rear of the platen as best seen in Fig. 2. Usually, a spring as 16 maintains the bar 10 in either one of the two extreme positions thereof shown, the bar and its pivotal support being of the usual type and typical of those in present use on a number of makes of typewriters. Slidably and rotatably mounted on the bar 10 are the usual rubber rollers 17 and 18 adapted to press the paper and carbon sheets 19, 20 and 21 or the like down on the platen while permitting the sheets to be fed through the typewriter on manual rotation of the platen in the usual manner.

In accordance with the invention, the bar 10 is utilized as the carrier and support for the erasing shield, one form of which is shown as 22 in Figs. 2 and 3. Said shield, while thin, is relatively rigid, being made of sheet metal, plastic, fiber, composition or any other suitable material, the body portion 23 thereof being convex outwardly or cylindrical to conform to the cylindrical shape of the platen 11. In that form of the invention wherein the body portion 23 is arranged lower than the bar 10 during the erasing operation as shown, said portion fits the platen when the shield is down. But where erasures near the bottom of a sheet may be relatively frequent, the body portion 23 is made convex outwardly when the shield is in an up position or swung above the bar 10. In the

latter case, the shield may normally remain in such up position at all times during the typing as well as during the erasing operations. On the unmutilated or lower edge of the shield as 24, is normally inscribed a scale as 25 preferably in inches and fractions thereof for the purpose later to be described, a similar scale 26 being inscribed on the opposite face of the shield 35 near one edge thereof as shown by the dash-dot lines of Fig. 4, or on the edge adjacent to and between the two loops 27b of the right hand shield 36, in a manner not shown but as will now be obvious.

The shield 22 of Figs. 2 and 3 is bent along its upper edge portion around the bar 10 to form a substantially closed loop 27 embracing the bar and permanently securing the shield to the bar against removal while permitting sliding and rotative movement of the shield relatively to the bar, the loop being sufficiently loose on the bar for that purpose. To connect the loop to the body portion 23, the connecting portion 28 is arranged substantially perpendicularly to said body portion and integrally joins the body portion to the loop. The loop 27 may extend along the entire upper edge of the shield as shown by the loop 27a of the shield 35 of Fig. 4, or it may be interrupted and the mid portion thereof omitted to form the two spaced loops 27b shown in Fig. 1 and on the right hand shield 36 of Fig. 4.

It will be understood that the length of the shield is a minor fraction of the length of the bar 10 or platen 11 and hence is intended to slide along the bar to the point where the erasure is to be made. To avoid interference with the paper clamping rollers 17 and 18 which also are mounted on and slide along the bar and to minimize the movement of said rollers, I prefer to mount one shield as 35 between the roller 17 and the left end of the bar as viewed in Fig. 4, said shield occupying the space usually provided adjacent the left margin on the typed sheet, and being moved to the right up to the roller 17, or with said roller if necessary, to the point where erasure is to take place. A second shield 36, may if desired, be mounted on the bar 10 between the rollers 17 and 18 and can readily slide between them, so that the entire typed line is easily reached by one or the other of the shields with little need for shifting either roller.

Both of the shields may be permanently secured to the bar as by the closed loops 27 thereof, or one or both may be detachably mounted on the bar, the detachable mounting of the shield necessitating only a slight change in the form of the loops 27. One shield may be convex outwardly when in a down position for ordinary erasures, and the other convex outwardly when in an up position for erasures near the bottom of a sheet. As shown in Fig. 5, the resilient open loop 30 subtends an angle of approximately 270° or somewhat more than 180° leaving an open space 32 between the outwardly flared edge part 31 of the loop and the adjacent connecting part 28 of the shield. Said space is of lesser width than the diameter of the bar 10 or the inside diameter of the loop and hence the loop may be forced on to the bar as by downward pressure, the edge part 31 then spreading away from the part 28 to permit the bar to enter the space within the loop and then snapping into position when released as shown in Fig. 5. The spring loop or loops permit the required sliding and rotation of the shield and also permit the shield to be readily detached from the bar by a twisting movement in a manner which will now be obvious.

In the form of the spring loop or loops shown in Fig. 6, the perpendicular connecting part 28 is omitted and the body part 23 integrally connected and continued into the spring loop 33, which terminates in the flared part 34, and which loop is quite similar to the loop 30 already described. The loop 33 is snapped on to the bar 10 in the same manner as the loop 30 and is similarly detached from the bar by a twisting movement. It will be understood that the loops 27a or 27b of either of the shields 35 or 36 of Fig. 4 may be resilient open loops to permit either shield to be removed from the bar, that either may have a continuous loop along the entire length of the shield or smaller spaced loops along said edge and that the spring loop if used, may take the form of either of the loops 30 or 33.

A line, mark or indication 37 at the middle of the bar 10 (Fig. 4) marks said middle, so that the shield 36 may be moved to measure the distance on each side of said middle point by means of the scales thereon, thereby to indicate the left hand point at which the carriage is to be set to start the typing in order to center a certain typed line symmetrically on the sheet as when typing titles, headings or other symmetrically arranged matter on covers, reports or other documents.

Normally, the shield, whether it is of the permanently attached or dismountable type and whether it is convex outwardly when up or when down, is swung upwardly from the position of Fig. 1 and from the full line positions of the other figures of the drawing into the dash-dot line position of the shield 35 of Fig. 4 or into the dash-dot line position of Fig. 2, whereby the shield, whether for ordinary erasures or for erasures at the bottom of the sheet, is out of the way of the type and the writing is easily read in the usual manner. When an ordinary erasure is to be made, the bar is swung rearwardly about the pivot 14, carrying the shield or shields therewith as a unit into the dash-dot line positions shown for the bar, the arms and the shield in Fig. 2. The clamping rollers 17 and 18 are thereby lifted off the sheets 19, 20 and 21, and the sheets freed for manipulation. If the sheet 19 is to be erased (Fig. 3) said sheet is lifted away from the next carbon sheet 20, whereafter the bar 10 is swung forwardly to arrange the rollers 17 and 18 to rest and press on the sheet 20 and to arrange the shield or shields underneath the sheet 19 and on the outside of the sheet 20. The shield 19 is then placed outside of the shield which has been moved along the bar to the erasing point and the erasure made while the shield remains interposed between the erasing area of the sheet 19 and the sheet 20. When the erasure is completed, the bar 10 is again lifted to its rear inoperative position, the erased sheet 19 replaced on the sheet 20, the bar 10 replaced with its rollers on the outside sheet 19 and the typing continued.

When the erasure is to be made near the bottom of the sheet, the bar 10 is lifted as previously described and the platen 11 turned to advance the tops of the sheets out of the typewriter until the bottoms of the sheets are near the back of the platen. The bottom parts of the sheets are then accessible for the insertion therebetween of the shield when spread apart. The bar 10 is then lowered on to the platen to hold down the upwardly extending or rear parts of all the sheets succeeding the sheet to be erased, the bottom or rear part of said sheet to be erased

being placed outside of the bar and on the shield carried thereby. Preferably that shield which is convex outwardly when in an up or rearwardly extending position is the one used for bottom erasures at the back of the platen. After the erasure has been made, the bar 10 is lifted and the top or front parts of the sheets reinserted thereunder and the bar then lowered in the usual manner on to the platen whereby typing may proceed.

It will be noted that the shield is always close at hand for easy access, that it is inserted between the sheets into its operative erasing position by much the same movements as are normally used to insert sheets into the typewriter, that the shield may conveniently be used as a scale for centering typewritten matter on a sheet, that when more than one shield is used, the movement of the shields and paper clamping rollers is reduced to a minimum, that when detachable shields are used they may quickly and easily be removed from the bar should they interfere with any particular operation, that the shields are durable, convenient and efficient while being inexpensive, and that I have provided a device well designed for practical use.

While certain specific embodiments of the invention have herein been shown and described, various obvious changes may be made therein without departing from the spirit of the invention defined by the appended claims.

I claim:

1. An erasing shield operative only when mounted on the paper-hold-down bar of a typewriter and comprising a convex body portion and a loop portion along the edge of the shield and adapted to receive therein the paper-hold-down bar to mount the shield slidably and rotatably on the bar for pivotal movement about the bar into an operative position and into an inoperative position.

2. The shield of claim 1, the loop being resilient whereby the shield may be snapped on to the bar and detached therefrom.

3. The shield of claim 2, the loop being open and having an entrance opening of lesser width than the inner diameter of the loop and a graduated measuring scale at that edge of the shield opposite the loop, and arranged lengthwise of the edge, the scale being adapted to cooperate with an indication at the middle of the hold-down bar.

4. The combination with the swingable roller-carrying paper-hold-down bar of a typewriter, of an erasing shield swingably and slidably mounted along one edge thereof on the bar, said shield being of substantially lesser length than that of the bar.

5. The combination of claim 4, the shield being mounted on the bar by means of a loop thereon embracing the bar.

6. The combination of claim 5, the loop being open and resilient and having an entrance opening of lesser width than the diameter of the bar, whereby the shield may be snapped on the bar and removed therefrom repeatedly.

7. A combined centering and erasing shield for use with and operative only when supported by a part of a typewriter comprising a body portion of sheet material outwardly convex to conform to the convexity of a typewriter platen, a loop portion along an edge of the shield adapted to embrace the paper-hold-down bar of the typewriter, and a connecting portion integrally joining the loop to the body portion and arranged substantially perpendicularly to the body portion, and a measuring scale along the opposite edge of the shield, the width of the shield between said edges being less than the length of the shield.

8. The combination of a paper-hold-down bar of a typewriter, means pivotally supporting the bar, paper-hold-down rollers slidably and rotatably mounted on the bar, a roller platen in the path of the bar, an erasing shield having a loop on one edge slidably and rotatably mounted on and embracing the bar, a body portion on the shield swingable toward and from the platen and outwardly convex to fit the platen, the shield having a connecting portion integrally joining the body portion and the loop and arranged substantially perpendicular to the body portion, the shield being of lesser length than that of the bar.

9. The combination of claim 8, the loop being of lesser length than that of the body portion and a second loop on said one edge of the shield spaced from the first mentioned loop and embracing the bar.

10. The combination of claim 9, the loops being open and resilient and each terminating in an outwardly flared edge.

11. The combination of claim 8, the loop being permanently secured to the bar and being sufficiently loose thereon to permit longitudinal movement of the shield relatively to the bar.

12. The combination with the pivoted hold-down bar of a typewriter and rollers slidably mounted on the bar, of an erasing shield and means on the shield slidably and swingably engaging the bar, the length of the shield being a minor fraction of the length of the bar.

13. The combination of claim 12, the shield having a graduated scale thereon, and the bar having a middle indicating mark at the middle thereof.

14. A typewriter-supported combined centering and erasing shield comprising a single generally rectangular piece of sheet material having a relatively narrow and relatively long body portion to form a backing for a substantial part of a line of typewriting on a paper sheet when said part of the line is to be erased, said piece of sheet material having a loop along one edge of the body portion for mounting the shield slidably and rotatably on a cylindrical paper-hold-down bar of a typewriter, and a graduated measuring scale adjacent the other edge of the shield, the length of the shield being greater than the width thereof between said edges.

SIDNEY FELBER.

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