

June 16, 1964

L. J. GEIER ET AL
ENVELOPE OPENING DEVICE

3,137,070

Filed Oct. 31, 1962

2 Sheets-Sheet 1

FIG. 1

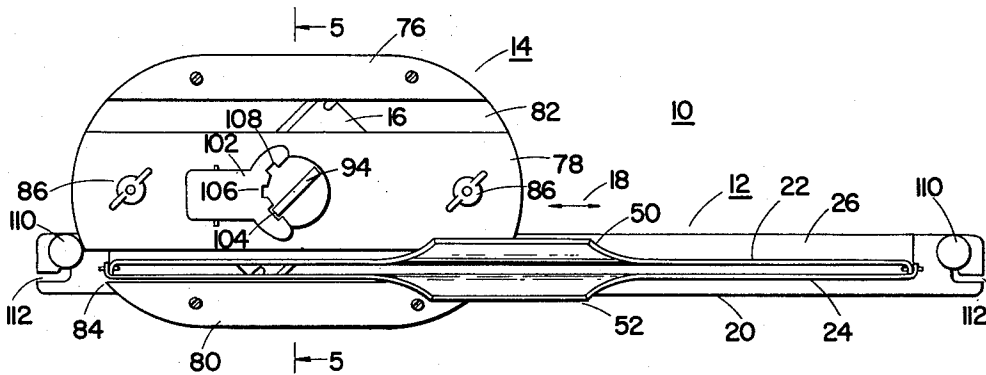


FIG. 2

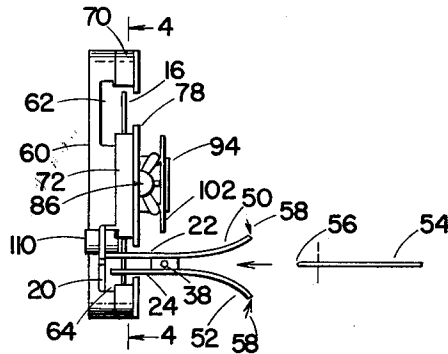
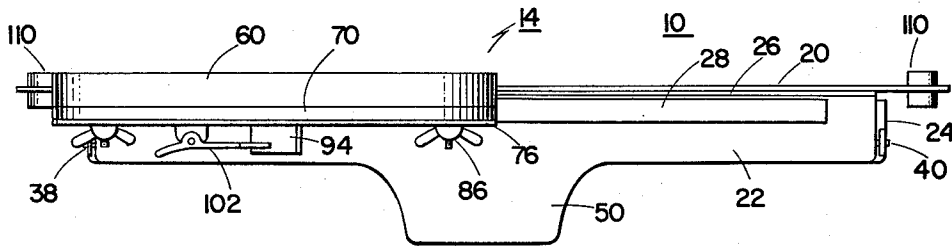


FIG. 3



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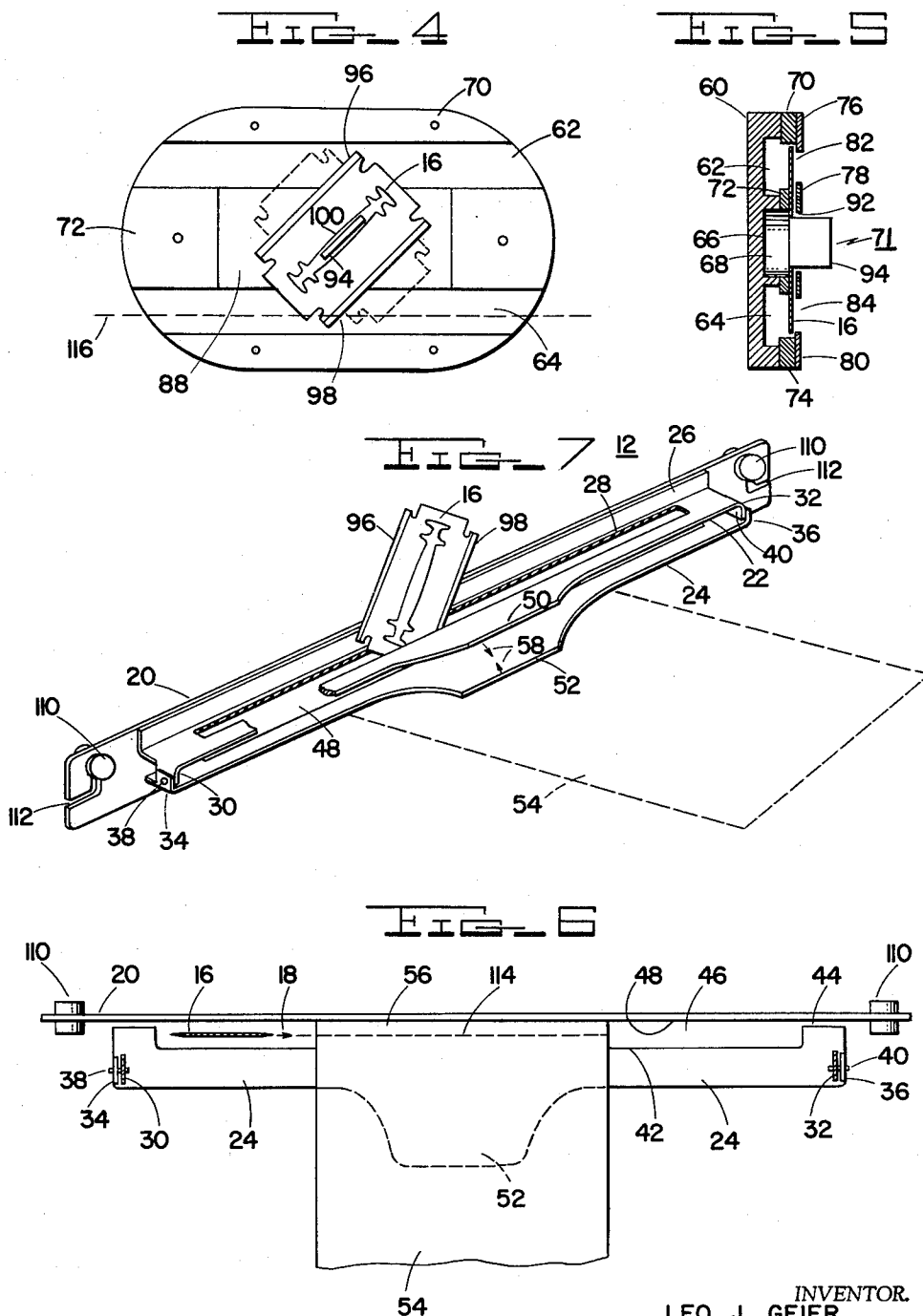
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ENVELOPE OPENING DEVICE

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9 Claims. (Cl. 30—289)

This invention relates generally to envelope opening or slitting devices, and more particularly to a portable, hand-held envelope opening device.

In offices which receive substantial quantities of mail, it is desirable to provide a device for rapidly opening the ends of envelopes, thereby to permit ready removal of the contents thereof. Large, power-operated envelope slitters are commercially available for use in larger offices, however, there is a need for a portable, hand-held device for use in smaller offices. Devices of this type have been proposed; however, in general they have been unsatisfactory, particularly with respect to the employment of a knife or blade of special configuration which requires frequent removal for sharpening. It is therefore desirable to provide a portable, hand-held envelope opening device which employs a conventional razor blade for the cutting element.

It is accordingly an object of our invention to provide an improved portable, hand-held envelope opening device.

Another object of our invention is to provide an improved portable envelope opening device employing a conventional razor blade as the cutting element.

Further objects and advantages of our invention will become apparent by reference to the following description and the accompanying drawing, and the features of novelty which characterize our invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

Our invention in its broader aspects provides an elongated slide member having first and second closely spaced portions for receiving an envelope edge therebetween, each of the portions defining an elongated slot. A hand grip member is provided with means for slidably mounting the slide member for relative longitudinal movement in a direction parallel with the slots. Stationary blade means is provided mounted on the grip member and extending through the slots at any angle with respect to the slide member portions so that relative sliding motion of the slide and grip members causes the blade means to sever the envelope edge with a slicing action.

In the drawings:

FIG. 1 is a side view of the envelope opening device of the invention;

FIG. 2 is an end view of the device of FIG. 1;

FIG. 3 is a top view of the device;

FIG. 4 is a view of the hand grip member and blade taken along the line 4—4 of FIG. 2;

FIG. 5 is a cross-sectional view of the hand grip member and blade taken generally along the line 5—5 of FIG. 1;

FIG. 6 is a fragmentary top view, partly in cross-section, of the slide assembly; and

FIG. 7 is a fragmentary view in perspective, partly broken away, further illustrating the slide assembly.

Referring now to the figures of the drawings, the improved portable hand-held envelope opening device of the invention, generally indicated at 10, comprises a slide assembly 12 and a hand grip assembly 14 upon which a blade 16 is mounted, the two assemblies 12, 14 being relatively longitudinally movable, as shown by the arrows 18, in order to sever, by means of the blade 16, the edge of an envelope retained by the slide assembly 12.

The slide assembly 12 comprises an elongated slide member 20 formed of flat, relatively thin sheet metal.

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Two elongated envelope-gripping members 22 and 24 are provided, respectively, formed of flat, relatively thin sheet metal and extending outwardly from the slide member 20 in vertically closely spaced parallel relationship for accommodating the edge of an envelope to be opened therebetween. The upper gripping member 22 has a flange 26 formed thereon which is rigidly secured to the surface of slide member 20 in any suitable manner, as by spot welding. An elongated slot 28 is formed in the upper gripping member 22 parallel with the slide member 20. The two ends of the upper gripping member 22 have integral tabs 30 and 32 respectively formed thereon which are folded downwardly, as shown.

The lower gripping member 24 has tabs 34 and 36 formed on its ends which are respectively folded upwardly and which are pivotally connected to tabs 30, 32 of the upper gripping member 22, as by suitable pins 38, 40. The lower gripping member 24 has an elongated recess 42 formed in its inner edge 44 which defines an elongated slot 46 with the inner surface 48 of slide member 20. It will be seen that the slot 28 in the upper gripping member 22 and the slot 46 defined by the lower gripping member 24 are in vertical registry.

The gripping members 22, 24 respectively have diverging portions 50, 52 formed thereon and extending outwardly therefrom. It will be seen that an envelope 54 may be inserted between the portions 50, 52 and the gripping members 22, 24 with its edge 56 to be severed abutting the surface 48 of slide member 20 and that the portions 50, 52 may then be manually squeezed together by the thumb and forefinger, as shown by the arrows 58, thereby to grip envelope 54 and to retain it in position for severing the end 56, as will be hereinafter described.

The hand grip member 14 is proportioned to be held in one hand (while the other hand is employed for manipulating the slide assembly 12) and comprises a base portion 60 having two elongated parallel slots 62 and 64 formed therein for selectively slidably receiving slide member 12. Base portion 60 has a center opening 66 formed therein midway between its ends and between slots 62, 64 for rotatably seating cylindrical portion 68 of blade retaining member 71. Strips 70, 72 and 74 are respectively secured on base portion 60 partially closing slots 62, 64 for retaining slide member 20 therein. Cover strips 76, 78 and 80 respectively further close slots 62, 64 defining openings 82, 84. The center strip 78 is removably attached to the underlying center strip 72 and the body portion 60 in any suitable manner, as by suitable thumb screws 86. A recess 88 is formed in the center strip 72 thereby defining a vertically disposed slot with the center cover strip 78 communicating respectively with slots 62, 64 for accommodating blade 16. Center strip 72 has a center opening therein communicating with opening 66 in body portion 60 for accommodating cylindrical portion 68 of member 71 and the center cover plate 78 has a central opening 92 formed therein through which generally rectangular post portion 94 of member 71 extends.

Blade 16 is shown as being a conventional double-edged razor blade having opposite parallel cutting edges 96 and 98 and a central opening 100 through which post 94 of member 71 extends. It will be observed that blade 90 is thus accommodated within the recess 88 and is retained by post 94 with its opposite ends respectively extending into the slots 62, 64. It will further be observed that blade 16 may be rotated by means of member 71 from the position shown in solid lines in FIG. 4 to the position shown in dashed lines through an intermediate position in which blade 16 is axially aligned with the major axis of body portion 60 so that the cutting edges 96, 98 do not respectively extend across the slots 62, 64.

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Blade 16 is selectively secured in one of three positions by means of a suitable latch member 102 mounted on center cover plate 78 and which has three notches 104, 106 and 108 formed therein for respectively latching plug 94 in any one of three positions. In the first of these positions, blade 16 is positioned as shown in solid lines in FIG. 4, in the second of its positions the blade is positioned as shown in dashed lines in FIG. 4, and in the third of its positions the blade is positioned with its cutting edges 96, 98 parallel with slots 62, 64 and not extending thereacross. In order to selectively rotate the blade from one of its positions to another, latch 102 is actuated so that the respective slot 104, 106, 108 is out of engagement with the plug 94, plug 94 is then manually rotated to the desired position, and the latch 102 released. In order to remove a dull blade and to replace it with a sharp blade, the thumb screws 86 are removed, the center cover plate 78 with the latch 102 thereon is removed, and the blade 16 is then merely lifted off of the plug 94 and a new blade positioned thereover.

It will be seen that when the slide member 20 is slidably seated in one or the other of the slots 62, 64, the gripping members 22, 24 extend outwardly through the respective slide openings 82, 84. Thus, with the hand grip assembly 14 grasped in one hand and the portions 50, 52 in the other hand, slide assembly 12 and the hand grip assembly 14 can be relatively moved longitudinally, as shown by the arrows 18, in a direction parallel to the slots 28, 46. Suitable resilient stop buttons 110 assembled onto the slide member 20 by means of slots 112 limit the travel of slide assembly 12 with respect to the hand grip assembly 14, however, one of the buttons 110 may be removed to permit removal of the slide assembly from one of the slots 62, 64 and its insertion in the other slot.

It will be seen that the cutting edge 96, 98 which extends through the slots 28, 46 in the gripping members 22, 24 is disposed at an angle, preferably on the order of 45°, with respect to the gripping members 22, 24 and the envelope 54 gripped therebetween. Thus, with the hand grip assembly 14 initially positioned at one end of the slide assembly 12, as shown in FIG. 1, and with edge 56 of envelope 54 inserted between gripping members 22, 24 and gripped thereby by manipulation of portions 50, 52, longitudinal movement of the hand grip assembly 14 toward the other end of the slide assembly 12 will result in the respective cutting edge 96, 98 of blade 16 severing edge 56 of envelope 54, as shown by the dashed line 114 in FIG. 6; the plane of the envelope 54 with respect to the cutting edge 96, 98 of blade 16 is shown by the dashed line 116 in FIG. 4. It will further be seen that with the hand grip assembly 14 held in a generally vertical plane and with the slide assembly 12 assembled thereon so that the gripping member 24 is lowermost, the severed end 56 of the envelope 54 will drop downwardly through the slot 46.

It will be seen that with the arrangement above described, the two opposite ends of the same cutting edge 98 may be employed until both ends are dull by merely rotating the plug 94 from notch 104 to notch 108. When both opposite ends of the same cutting edge are dull, the slide assembly 12 is then removed from slot 64 of the hand grip assembly 14 and inserted in the other slot 62, as above described. When thus assembled, the opposite ends of cutting edge 96 may be selectively employed by rotating plug 94 and blade 16 between its two operative positions.

It will be observed that our improved envelope opening device employs conventional razor blades as the cutting element, thus eliminating the need for sharpening the blade since the dull blade may merely be thrown away and replaced by a new blade. It will further be seen that the edge of the envelope is severed by a slicing action, rather than by a scissors type action or a vertical cutting

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operation as in the case of prior devices known to present applicants.

While we have illustrated and described a specific embodiment of our invention, further modifications and improvements will occur to those skilled in the art and we desire, therefore, in the appended claims to cover all modifications which do not depart from the spirit and scope of our invention.

What is claimed is:

1. A portable hand-held envelope opening device comprising: an elongated slide member; first and second elongated flat members mounted on said slide member parallel therewith and in closely spaced parallel relationship with each other and receiving an envelope edge therebetween, said flat members being relatively movable toward each other thereby to grip said envelope edge therebetween said flat members respectively having elongated slots formed therein parallel with said slide member, said slots being in registry; a hand grip member having means for slidably mounting said slide member thereon for relative longitudinal movement in a direction parallel with said slots; and a relatively thin stationary blade member secured to said grip member and extending through said slots, said blade member having a cutting edge disposed at an angle with respect to said flat members whereby relative sliding motion of said grip and slide members causes said cutting edge to sever said envelope edge with a slicing action.

2. The device of claim 1 wherein said slide member is flat and said flat members extend outwardly therefrom and generally at right angles thereto, and wherein said mounting means comprises a slot formed in said grip member for slidably receiving said slide member and flat members, said slots in said flat members being within said slot in said grip member.

3. The device of claim 1 wherein said flat members respectively have manual actuating portions extending outwardly therefrom.

4. The device of claim 3 wherein one of said flat members is pivotally secured to the other.

5. A portable hand-held envelope opening device comprising: an elongated slide member of flat relatively thin material; first and second elongated envelope gripping members respectively formed of flat relatively thin material, said first and second members being mounted on said slide member in closely spaced parallel relationship and extending outwardly therefrom for receiving an envelope edge therebetween, said first and second members respectively having manual actuating portion thereon which are in registry and respectively extend outwardly therefrom, said portions being movable toward each other thereby to grip said envelope therebetween, each of said first and second members having an elongated slot formed therein parallel with said slide member; a hand grip member having an elongated slot therein for slidably receiving said slide member therein for relative longitudinal movement in a direction parallel with said first and second member slots, said first and second members extending out of said grip member slot; and a relatively thin stationary blade member removably secured to said grip member and extending through said first and second member slots, said blade member having a cutting edge disposed at an angle with respect to said flat members whereby relative sliding motion of said grip and slide members causes said cutting edge to sever said envelope edge with a slicing action.

6. The device of claim 5 wherein said blade has first and second spaced parallel cutting edges, and further comprising means for adjustably securing said blade to said grip member for selective movement to first and second positions with said first and second cutting edges respectively extending through said first and second member slots, and to a third position in which said blade is entirely out of said first and second member slots whereby

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said slide member may be removed from said grip member slot.

7. The device of claim 5 wherein said first and second members are vertically spaced when said device is in use, said slide member defining one side of said slot in the lower one of said first and second members whereby the severed end of an envelope drops out of the space between said first and second members.

8. The device of claim 5 wherein said blade has first and second spaced parallel cutting edges, and further comprising means for rotatably mounting said blade substantially at its center to said grip member, and means for selectively securing said blade in first and second rotational positions with said first and second cutting edges respectively extending through said first and second member slots, and in a third rotational position in which said blade is entirely out of said first and second member slots whereby said slide member may be removed from one grip member slot and inserted in the other.

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9. The device of claim 5 wherein said first and second members are vertically spaced when said device is in use, the upper one of said first and second members being secured to said slide member, the lower one of said first and second members being pivotally secured at its ends to the ends of said upper member, said slide member defining one side of said slot in said lower member whereby the severed end of an envelope drops out of the space between said first and second members.

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