April 29, 1930. L. BOLL 1,756,113

ENVELOPE OPENER

Filed Feb. 23, 1929

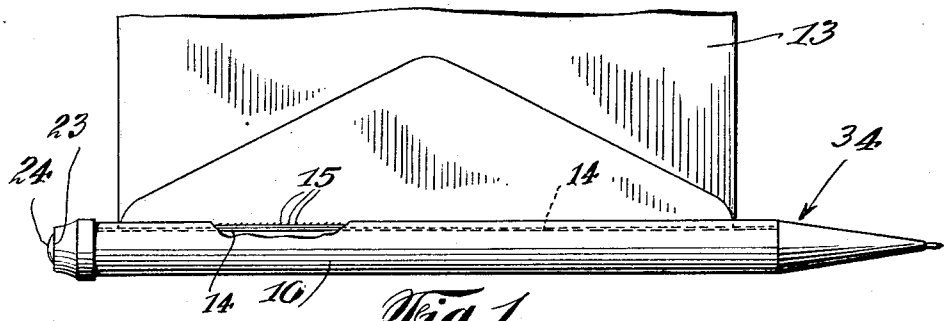


Fig. 1.

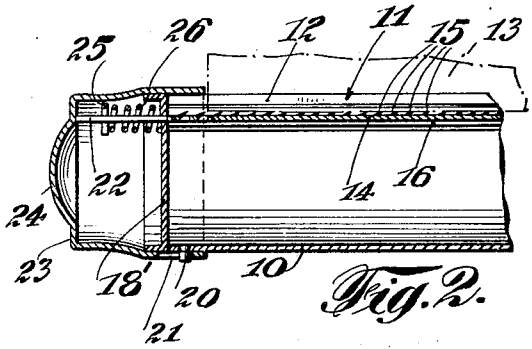


Fig. 2.

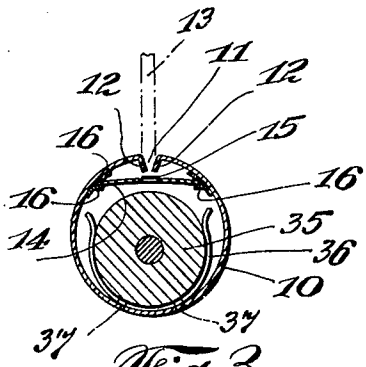


Fig. 3.

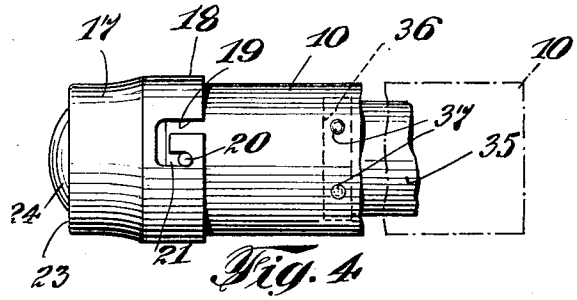


Fig. 4.

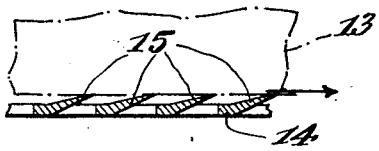


Fig. 5.

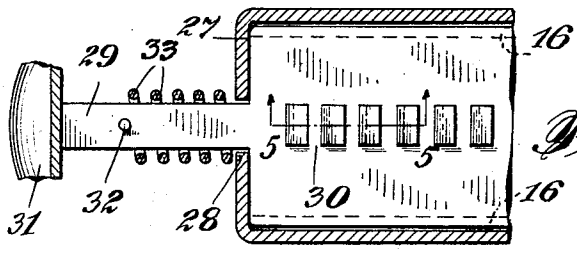


Fig. 6.

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UNITED STATES PATENT OFFICE

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ENVELOPE OPENER

Application filed February 23, 1929. Serial No. 342,276.

This invention relates to envelope-openers, it being the general object of the invention to provide an improved construction of this character which is adapted to be embodied in a writing unit, such for instance as a pencil or a fountain pen, or which may be produced in the form of an attachment for such writing units.

An object of the invention is the provision of an envelope-opener consisting of a barrel having a slot therein through which the edge or end of the envelope to be opened may be inserted, and to associate with the slot simple adjustable retaining means whereby the envelope may be held stationary with the barrel for the opening operation.

Another object of the invention is to provide within the barrel in relation to the slot and envelope retaining means, a simple slide element having a series of angularly disposed cutting members whereby to perform the opening operation, and still another object is to so arrange these parts that the slide element can be conveniently operated by a simple thrust of the thumb or finger and that the thrust required for effecting the opening operation will be of minimum amplitude.

A further object is to provide an arrangement of the foregoing character in which means are provided for automatically repositioning the movable parts after each operation.

Further objects and aspects of the invention will appear hereinafter.

The invention resides in the features of construction and in the arrangement and combination of parts hereinafter described and more particularly pointed out in the annexed claims:

The invention will be best understood by referring to the accompanying drawing, forming a material part of this application, and in which:—

Fig. 1 represents a side elevational view, partly in section, of my improved envelope-opener as it appears when embodied in a pencil unit;

Fig. 2 represents a fragmentary sectional elevation on an enlarged scale;

Fig. 3 represents an enlarged cross sectional view of the device in a form in which the barrel may be adapted to receive a pencil or other writing unit therein;

Fig. 4 represents an enlarged fragmentary exterior view, showing a pencil unit entered in the barrel, and showing also the preferred mode for detachably connecting the thrusting cap to the barrel;

Fig. 5 represents an enlarged fragmentary sectional detail, showing more clearly the construction of the slide element with its cutting members; and

Fig. 6 represents an enlarged fragmentary sectional view, showing a modified form of means by which to operate the slide element.

The preferred form of construction, as illustrated in the accompanying drawing, comprises an elongated tubular body 10 in which is provided longitudinally thereof an envelope receiving slot 11 defined at opposite sides by converging inwardly directed envelope gripping means in the form of a pair of yielding flanges 12. It will be observed from an inspection of Figs. 1 and 3 that as a consequence of this construction an envelope as 13 may be entered along one end or edge between the gripping flanges 12 so as to be held thereby. Within the tubular body and longitudinally thereof there is disposed for thrusting movement a slide plate or element 14 having a longitudinal series of angularly disposed closely spaced cutting or shearing members 15. The thrust slide is herein represented as being operatively supported in suitable guides 16; and it will be observed that this slide is thus arranged in relatively close relation to the inner ends of the flanges 12 and in such position with respect thereto that the cutting members 15, which are herein represented as being of rectangular form in general, will come in a line closely adjacent the inner edges of said flanges 12, said rectangularly formed cutting members being angularly disposed with respect to said flanges and extending transversely to the planes in which they have converging adjustment. The cutting members 15 are herein represented as being struck out of the material of the slide 14, although, if desired, they

may be produced as separate parts and attached to the slide. The slide 14 is produced from spring material and by preference as herein shown it is made slightly convex, being bowed in a transverse direction toward the flanges 12 so that the letter may be inserted between said flanges with its edge in tight contact with or even pressed slightly into the cutting edges of the cutting members 15; and owing to the fact that the slide is of a resilient character slightly bowed toward the flanges, the cutting members, after the edge of the letter has been pressed tightly thereagainst so as to subject the slide somewhat to tension, will be thrust into or further into, as the case may be, the edge of the envelope, upon the envelope being released by the hand when the tension slide will spring back to its normal condition. Preferably and as shown, the cutting members 15 are struck out so as to assume a very acute angle with respect to the slide and hence with respect to the flanges and they are closely spaced so that only a slight thrusting movement of the slide will cause the cutting members to produce communicating slits or openings in the edge of the retained envelope. Manifestly, the cutting members may be sharpened or produced so as to have keen cutting edges.

In the exemplification shown in Figs. 1, 2 and 4, the tubular body is shown as provided with a cap 17 which is mounted for thrusting movement so as to operate the slide. The cap 17 is disclosed as having a flange 18 slidably surrounding the end portion of the tubular body and also as having a cross piece 18′ which serves as a stop for limiting the application of the cap. As a means for operatively maintaining the cap to the tubular body, I provide an angular slot 19 for the reception of a pin 20 suitably provided on the tubular body, said angular slot 19 communicating with an extension 21 adapted to permit the cap to be given a thrusting movement while being retained in place on the end of the tubular body. The slide 14 has an extension 22 extending through the cross piece 18′ so as to be engaged by the outer end 23 of the cap, which outer end is preferably formed with a thumb or finger engaging outwardly bowed portion 24. Imprisoned between the cross piece 18′ and a pin 25 applied to the extension 22, is a coiled spring 26 by which the slide and the cap are repositioned after each inthrust thereof by the thumb or finger.

In Fig. 6 I illustrate a modified form of construction by which to thrust the slide. In this form of construction the tubular body is provided with a closed end 27 having therein a transverse opening 28, and through this opening is passed a part 29 constituting an extension of the slide 30. At its outer end the part 29 is furnished with a knob 31 whereby conveniently to be thrust, and imprisoned between a pin 32 thereon and the end 27 of the tubular body is a coil spring 33 by which to reposition the slide after each thrusting movement.

From what has been said, it will be understood that the envelope to be opened has its edge or end inserted between the gripping flanges 12, whereupon the envelope is thrust inwardly of the tubular body to force its edge into the cutting members. When thus entered between the flanges, the envelope will be held stationary thereby for the cutting operation which is accomplished by applying the thumb or finger to the outside thrusting member and subjecting the same to a quick inward movement. The tubular body 10 may comprise a metal holder for a writing unit such as a lead pencil 34. The tubular body, it is contemplated, may comprise the barrel of a fountain pen. The device may also be produced in the form of an attachment as illustrated in Figs. 3 and 4, where the tubular body itself is illustrated as constituting a cap constructed for application to a writing unit as a pencil 35. Where the tubular body is constructed to serve in the capacity of a cap into which a pencil or the like may be inserted, it is provided interiorly thereof with suitable spring clips 36 which may be secured in place to the tubular body by rivets as 37 or other suitable means. Within the tubular body there may be as many of these spring clips as may be necessary in order properly to maintain the pencil or writing unit therein while allowing for the adjustment thereof.

It will be apparent from the foregoing that I have produced a novel and useful construction of envelope-opener which embodies the features of advantage enumerated in the statement of invention and the above description, and while I have, in the present instance, shown and described certain preferred embodiments thereof, it is to be understood that these are susceptible of modification in various details without departing from the spirit or scope of the invention or sacrificing any of its advantages.

I claim:

1. An envelope-opener comprising a tubular body having a slot therein extending longitudinally thereof through which to insert an edge of the envelope, a slide operatively arranged within the body and provided with a series of inclined cutting members closely adjacent the slot for shearing off the inserted edge of the envelope, and means for operating said slide.

2. An envelope-opener comprising a tubular body having a slot therein extending longitudinally thereof through which to insert an edge of the envelope, a slide operatively arranged within the body and provided with a series of inclined cutting mem-

bers closely adjacent the slot for shearing off the inserted edge of the envelope, and means associated with the body and operative from without for operating said slide.

3. An envelope-opener comprising a tubular body having a slot therein extending longitudinally thereof through which to insert the envelope edge, a slide operatively arranged within the body and provided with a series of inclined cutting members closely adjacent the slot, and a part on the slide which extends without the body, constituting means whereby to thrust the slide in a direction to cause the cutting members to shear off the inserted envelope edge.

4. An envelope-opener comprising a tubular body having a slot therein extending longitudinally thereof through which to insert the envelope edge, a slide operatively arranged within the body and provided with a series of inclined cutting members closely adjacent the slot, a movable part operative from without the body constituting means whereby to thrust the slide in a direction to cause the cutting members to shear off the inserted envelope edge, and means for automatically repositioning the slide after each thrusting operation.

5. An envelope-opener comprising a tubular body having a pair of converging inwardly directed gripping members extending longitudinally thereof, said members being adapted to receive and retain an envelope end between them, a thrust slide operatively arranged within the body and having a part extending exteriorly thereof whereby to be thrust, and means carried by the slide adapted on the thrusting movement thereof to shear off the edge of the retained envelope end.

6. An envelope-opener comprising, in combination, a hollow elongated holder, a pair of converging inwardly directed gripping members extending longitudinally of the holder and adapted to receive and retain an envelope between them, a thrust slide operatively arranged within the holder, means carried by the slide in close relation to said gripping members adapted on the thrust movement of the slide to cut off the edge of the retained envelope, and push means operative from without the holder for thrusting the slide.

7. An envelope-opener comprising in combination a hollow elongated holder, a pair of converging inwardly directed gripping members extending longitudinally of the holder and adapted to receive and retain an envelope between them, a thrust slide operatively arranged within the holder, means carried by the slide in close relation to said gripping members, adapted on the thrust movement of the slide to cut off the edge of the retained envelope, and a push cap on the holder adapted to engage and thrust the slide.

8. In a self-contained writing unit, consisting of an elongated holder for the unit, a pair of converging inwardly directed gripping members extending longitudinally of the holder and adapted to receive and retain an envelope between them, a thrust element at one end of the holder, a slide within the holder arranged to be thrust by said thrust element, and shearing members on said slide angularly disposed with respect to said gripping members and adapted by the thrusting movement of said slide to shear off the edge of the retained envelope.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

LAMBERT BOLL.