May 6, 1941. J. W. BARBOUR 2,240,975

ENVELOPE OPENER

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Fig. 1.

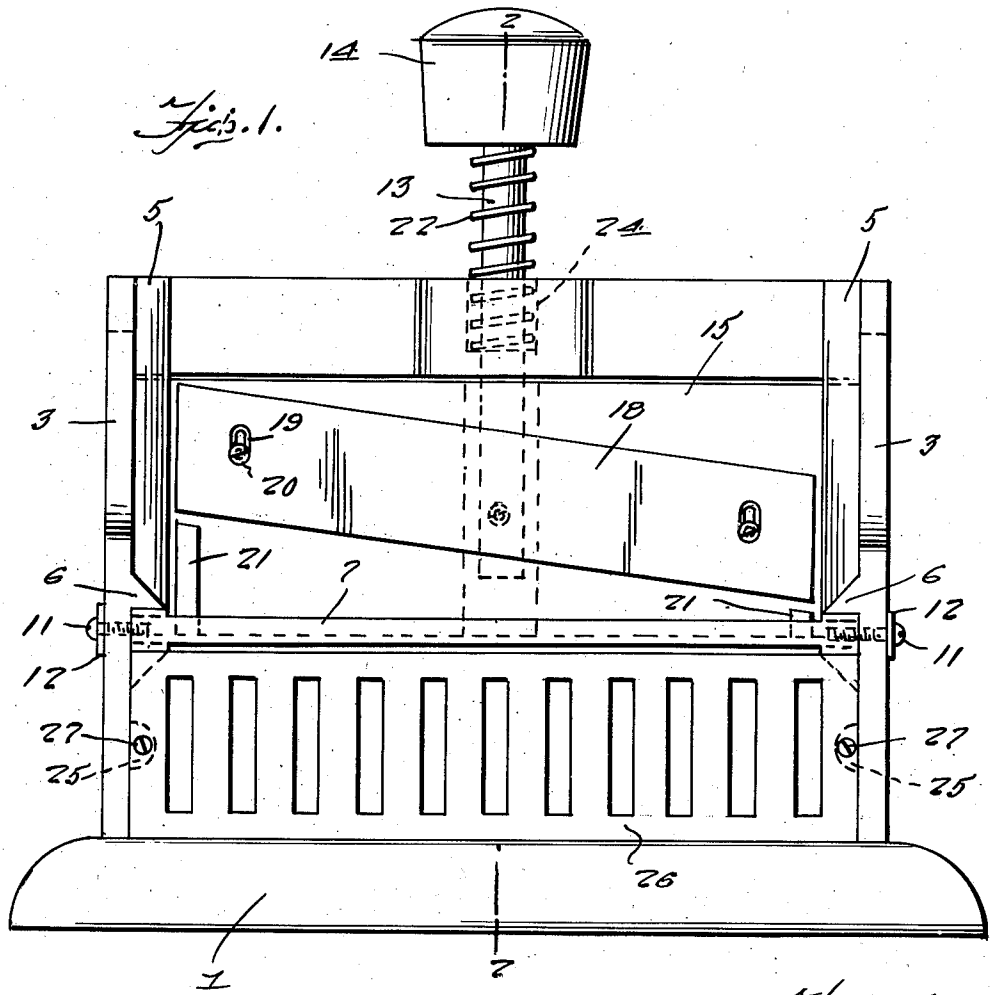


Fig. 4.

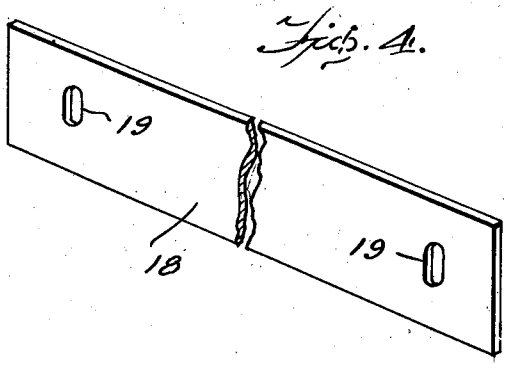
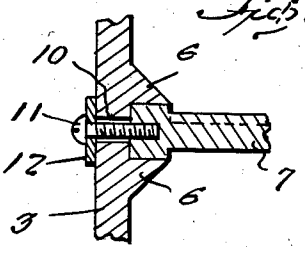


Fig. 5.



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ENVELOPE OPENER

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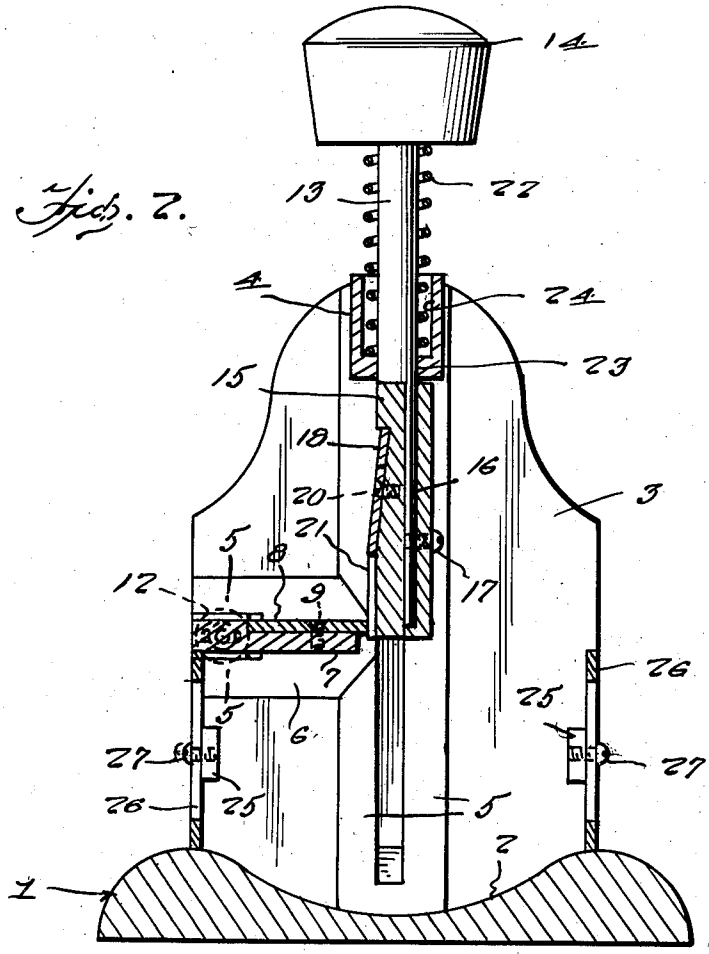


Fig. 2.

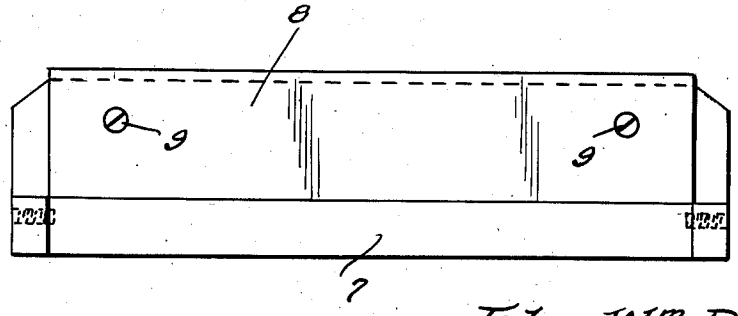


Fig. 3.

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UNITED STATES PATENT OFFICE

2,240,975

ENVELOPE OPENER

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Application March 14, 1940, Serial No. 323,992

1 Claim. (Cl. 164—47)

The present invention relates to new and useful improvements in envelope openers and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character embodying a novel construction and arrangement whereby one end portion of various sizes of envelopes may be expeditiously and cleanly cut off.

Another very important object of the invention is to provide an envelope opener of the aforementioned character which may be conveniently and accurately adjusted as desired.

Still another very important object of the invention is to provide an envelope opener of the character described comprising novel means for receiving and retaining the cuttings or trimmings.

Other objects of the invention are to provide an envelope opener of the character set forth which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight, attractive in appearance and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in front elevation of an envelope opener constructed in accordance with the present invention.

Figure 2 is a view in vertical section through the device, taken substantially on the line 2—2 of Figure 1.

Figure 3 is a top plan view of the horizontally adjustable platform with the stationary blade thereon.

Figure 4 is a detail view in perspective of the vertically moving blade or knife.

Figure 5 is a detail view in vertical section, taken substantially on the line 5—5 of Figure 2.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a base which is designated generally by the reference numeral 1, said base being of any suitable material, preferably metal. The base 1 is substantially rectangular in plan. Formed longitudinally in the upper surface of the base 1 is an arcuate depression 2 which terminates in spaced relation to the ends of said base. It may be well to here state that the depression 2 is adapted to receive the cuttings from the envelopes which are opened. Thus, the base 1 also constitutes what may be considered a tray or receptacle.

Mounted on the base 1 are side members 3 of substantially the shape shown to advantage in Fig. 2 of the drawings. Extending between the upper portions of the side members 3 is a bar 4. Mounted on the inner faces of the side members 3 are vertical guides 5. The purpose of the guides 5 will be presently set forth.

The reference numeral 6 designates horizontal guides which are mounted on the inner front portions of the side members 3. It will be noted that the guides 6 extend from the guides 5 to the front edges of the side members 3, also that said guides 6 are spaced above the base 1. Mounted for sliding adjustment in the guides 6 is a shelf or platform 7. The upper, inner portion of the platform 7 is recessed to accommodate a stationary blade 8 which is secured by screws 9, said blade 8 projecting beyond the inner edge of the platform 7 in a manner shown to advantage in Fig. 2 of the drawings.

The front portions of the side members 3 have formed therein horizontal slots 10 (see Fig. 5). Operable in the slots 10 are screws 11 which are mounted in the end portions of the platform 7 and which constitute means for securing said platform in adjusted position. Washers 12 are provided between the heads of the screws 11 and the side members 3.

Extending slidably through the bar 4 is a vertical plunger 13. Mounted on the upper end of the plunger 13 is a knob 14. Mounted on the lower end portion of the plunger 13 is a knife carrier 15 in the form of a plate having its end portions slidably engaged in the guides 5. The plunger 13 includes a reduced lower portion 16 which is secured in a bore provided therefor in the carrier 15 by a set screw 17. Mounted at an inclination on the front of the carrier 15 is an adjustable knife 18 which coacts with the stationary blade 8. Vertical slots 19 in the end portions of the knife 18 accommodate securing screws 20 and permit adjustment of said knife on the carrier 15. On the end portions of the knife carrier 15 are vertical ribs 21 which function as gauges for preventing the stationary blade 8 from contacting said carrier where it would be beneath the cutting edge of the knife 18.

A coil spring 22 is provided on the plunger 13 for elevating the knife 18. The major portion of the bore 23 in the bar 4 which accommodates the plunger 13 is enlarged or counter-bored, as at 24, for the reception of the lower portion of the

coil spring 22. The upper end of the coil spring 22 is engaged beneath the knob 14.

Mounted on the inner faces of the side members 3, adjacent the front and back edges thereof, are lugs or the like 25. The reference numeral 26 designates vertically slotted cutting retaining plates which are secured to the lugs 25 between the side members 3 by screws 27. The plates 26 constitute means for preventing the envelope cuttings or trimmings from accidently getting out of the base or receptacle 1.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. Briefly, the end portion of the envelope to be opened is placed on the platform 7 and the stationary blade 9 in abutting engagement with the carrier 5 beneath the lower edge of the inclined knife 18. The plunger 13 is then forced downwardly against the tension of the coil spring 22 thereby moving the carrier 15 downwardly in the guides 5. Thus, the knife 18 is moved downwardly past the inner edge of the stationary blade 8 and the end portion of the envelope which projects beyond said blade 8 is cleanly sheared off. When the knob 14 is released the spring 22 immediately returns the knife 18 to raised position ready for the next operation. The cuttings or trimmings from the opened envelopes drop into the depression 2 in the base 1. By loosening the screws 11 the stationary blade 8 may be conveniently adjusted relative to the knife 18. It will be observed that the carrier 15 extends below the stationary blade 8 even when such carrier is in raised position. Thus, the carrier constitutes a gauge for the envelopes to be opened at all times.

It is believed that the many advantages of an envelope opener constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

In an envelope opener, vertical spaced, opposed side members, a horizontal envelope supporting platform mounted between said members for adjustment in a horizontal plane, a relatively fixed knife mounted on said platform with its cutting edge projecting therebeyond, a combined envelope abutting and knife carrying plate slidable vertically between the opposed faces of the side members for limiting the distance an envelope may be extended beyond the cutting edge of said knife on the platform, a knife mounted on said plate above the lower edge thereof, the cutting edge of the second named knife being in spaced relation to said plate for coaction with the first named knife for cutting off the portion of the envelope which projects beyond the cutting edge of said first named knife against said plate, a spring influenced hand operated means connected to the plate and normally urging said plate upwardly to position the second named knife in non-cutting position above the first named knife with the portion of the plate below said second named knife in place to be abutted by the envelope placed on the platform, means mounted on the side members for guiding and supporting said operating means and for limiting the upward movement of the plate to maintain the lower portion thereof in position to be engaged by the envelope placed on the platform, and vertical gauge ribs on said plate between the lower edge thereof and the cutting edge of the second named knife for spacing the cutting edge of the first named knife, when engaged therewith, out of the path of said second named knife and in such relation to the movement of said second named knife as to bring about a shearing action between the cutting edges of the knives when one is moved vertically relative to the other.

JABUS WM. BARBOUR.