

April 17, 1928.

C. P. HECK ET AL

1,666,533

ENVELOPE OPENER

Filed May 12, 1927

2 Sheets-Sheet 1

Fig. 1.

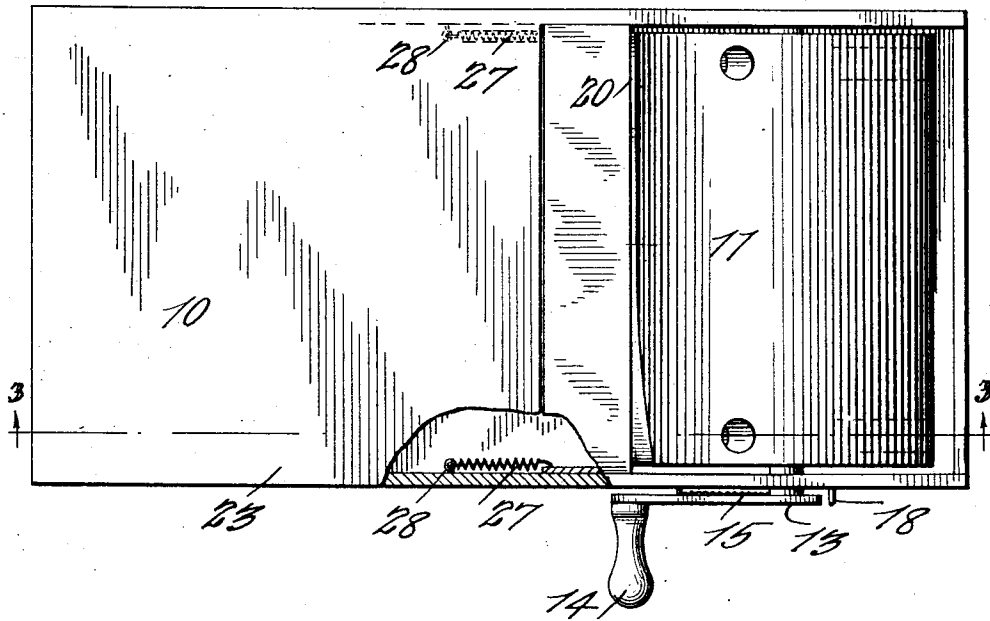


Fig. 5.

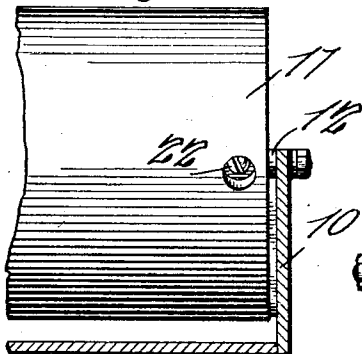


Fig. 4.

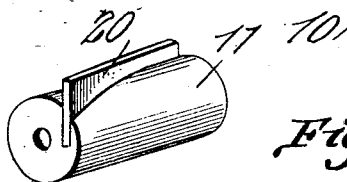
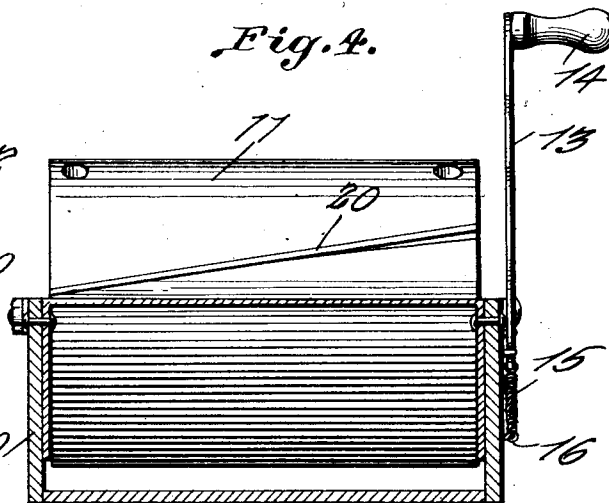


Fig. 6.

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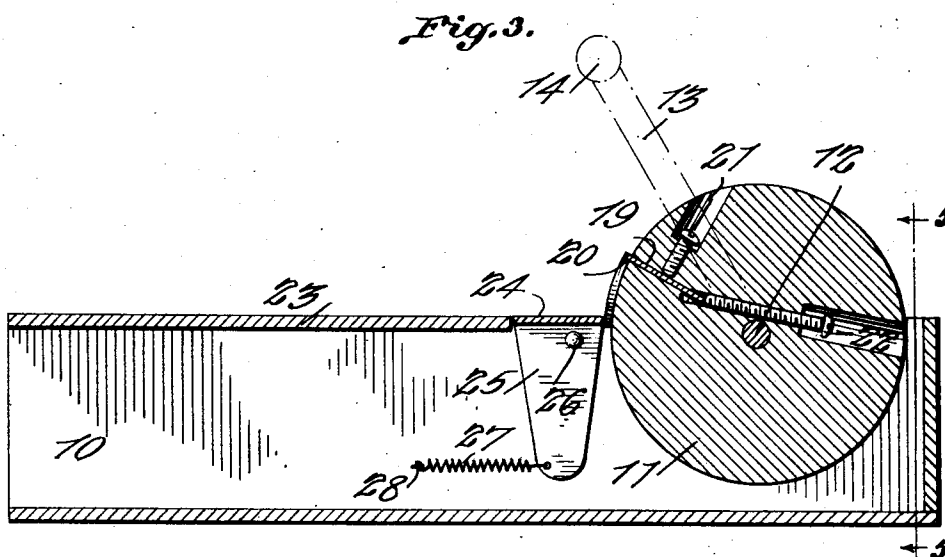
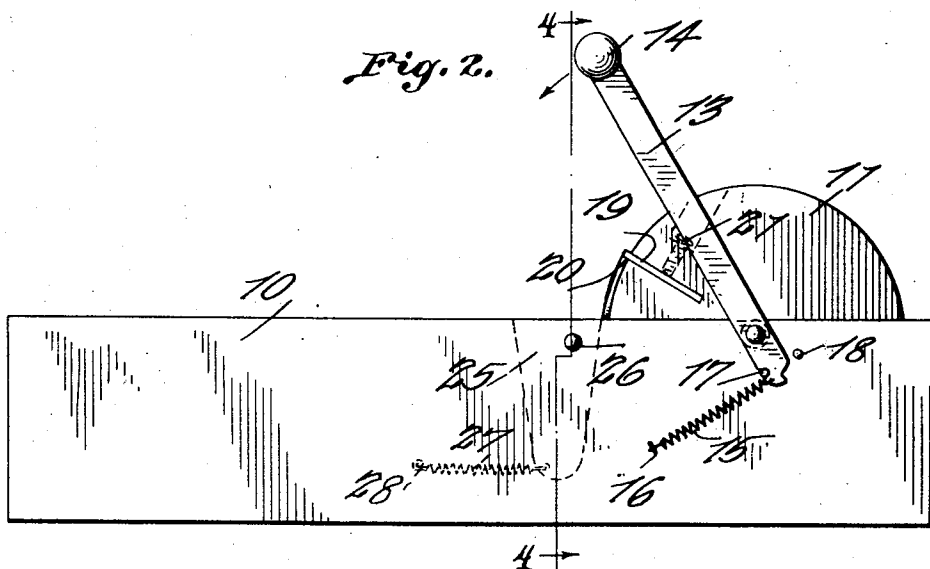
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ENVELOPE OPENER

Filed May 12, 1927

2 Sheets-Sheet 2



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1,666,533

UNITED STATES PATENT OFFICE.

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ENVELOPE OPENER.

Application filed May 12, 1927. Serial No. 190,937.

This invention relates to devices for opening envelopes by cutting the ends of the envelopes to permit access to the contents thereof, and it is an object of this invention to provide novel means whereby the envelope will be guided or held in operative relation to knives which are, when manipulated, capable of removing the ends of the envelopes for the purpose stated.

It is a further object of this invention to provide an envelope cutter or opener having novel means by which the cutting knives may be adjusted and held at different positions of adjustment.

It is furthermore an object of the invention to produce a device of the character indicated which will be efficient and satisfactory in use and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application, wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a plan view partly in section of an envelope opener embodying the invention;

Figure 2 illustrates a view in side elevation thereof;

Figure 3 illustrates a sectional view on the line 3—3 of Fig. 1;

Figure 4 illustrates a sectional view of the device on the line 4—4 of Fig. 2.

Figure 5 illustrates a sectional view on the line 5—5 of Fig. 3; and

Figure 6 illustrates a perspective view on a reduced scale of the drum and knife.

In these drawings, 10 denotes a box or casing having a drum or body 11 partially rotatable therein and preferably near one end thereof. While the element 11 will hereafter be referred to as a "drum", the term is intended to include any element which will suffice as a support for the instrumentalities associated with it, as will presently appear, and therefore, the inventors do not wish to be limited with respect to the character of the said element. The drum is mounted on a shaft 12 which is journaled in the side of the casing and the shaft is

partially rotated in opposite directions by power applied to a lever or handle 13 secured to the shaft externally of the casing. The lever is moved in one direction by manual power that may be applied to a hand grasp 14 associated with the lever, and the said lever is moved in the opposite direction, in the present embodiment of the invention, by a spring 15 connected to the lever at the end opposite that having the hand grasp, it being shown that the spring is anchored as at 16 externally of the casing. Stud or abutments 17 and 18 are located in the path of movement of the lever and these serve to limit the degree of rotation of the shaft and the drum.

The drum is preferably provided with a diagonal slot 19 constituting a seat for a blade 20 whose operating edge projects beyond the periphery of the drum. Set screws 21 may be threaded in the drum at angles to the blade for holding the blade at different positions of adjustment, and adjusting screws 22 may be threaded in the drum, as shown in the drawing, with the ends of the screws bearing against the inner edge of the blade. It will be apparent that when the adjusting screws are turned, the ends which abut the blade will change their positions to hold the blade with its operating edge projecting to a greater or less extent, according to said adjustment.

Apertures are formed in the drum constituting clearances for the insertion of the screws heretofore described, but it is believed unnecessary specifically to refer by reference character to these clearance apertures.

The casing may have an appropriate cover 23 whose inner end terminates in spaced relation to the drum, and a coacting blade 24 is situated between the inner end of the cover and the drum, although there is a space between the edge of the last mentioned blade and the periphery of the drum equalling the distance which the blade 20 projects from the drum. In other words, it is the intention of the inventors that the blade 20 and the blade 24 shall coact to cut the ends of envelopes presented to the blades and the cuttings will be carried by the movement of the blade 20 downwardly into the receptacle. It is shown in the drawing that the blade 24 is formed as a part of the depending ears or flanges 25, and the said elements 25 are oscillatably mounted on

pivots 26 which extend into the side of the casing.

The lower ends of the elements 25 are under the pull of springs such as 27 whose ends are connected to the elements 25 and to an anchorage 28. The springs will serve to hold the blades in contact with each other as the device is operated, although the relation of parts is such that they are never out of engagement, that is to say, the degree of rotation of the drum is such that one part of the blade is always in engagement with the blade 24.

When the parts are set for action or operation, there is a clearance between the blades which will permit the application of an envelope to the device, and in doing this, the envelope is placed on the cover and on the blade 24 and it may be pushed laterally of the casing until the end is in engagement with the periphery of the drum between the blades. Then by operating the lever, the drum will be partially rotated and the blade 20 will be moved with relation to the blade 24 for the purpose of cutting or severing the end of the envelope. When hand pressure has been removed from the lever, it will be returned to its normal operative position by the spring so that the operation may be repeated.

We claim:

1. In an envelope opener, a casing, a drum rotatably mounted therein, a blade diagonally mounted in the drum and projecting from the periphery thereof, means for holding the blade at different positions of adjustment, a blade oscillatably mounted in the casing and having its edge engaging the edge of the first mentioned blade, and means for holding the second mentioned blade in engagement with the first mentioned blade.

2. In an envelope opener, a casing, a drum

rotatably mounted therein, the said drum having a diagonal slot, a blade in the slot having its cutting edge projecting from the periphery of the said drum, blade engaging instrumentalities threaded in the drum and bearing against the side of the blade for holding it in different positions of adjustment, and blade adjusting instrumentalities threaded in the drum and bearing against the inner edge of the blade, a coacting blade mounted in operative relation to the first mentioned blade, and means for holding the blades in operative engagement to each other.

3. In an envelope opener, a casing having a cover extending over a portion of its area, a blade extending transversely of the casing and having depending portions oscillatably supporting the blade, means connected to the depending portions for moving the blade away from the cover, a drum mounted for partial rotation in proximity to the blade, a diagonally disposed blade carried by the drum and adapted to engage the edge of the first mentioned blade, and means for partially rotating the drum in opposite directions.

4. In an envelope opener, a casing having a cover extending over a portion of its area, a blade extending transversely of the casing and having depending portions oscillatably supporting the blade, means connected to the depending portions for moving the blade away from the cover, a drum mounted for partial rotation in proximity to the blade, a diagonally disposed blade carried by the drum and adapted to engage the edge of the first mentioned blade, means for operating the drum, and means for adjusting the blade carried by the drum.

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