Feb. 17, 1931. E. F. AHLQUIST 1,793,203

ENVELOPE

Filed March 5, 1928

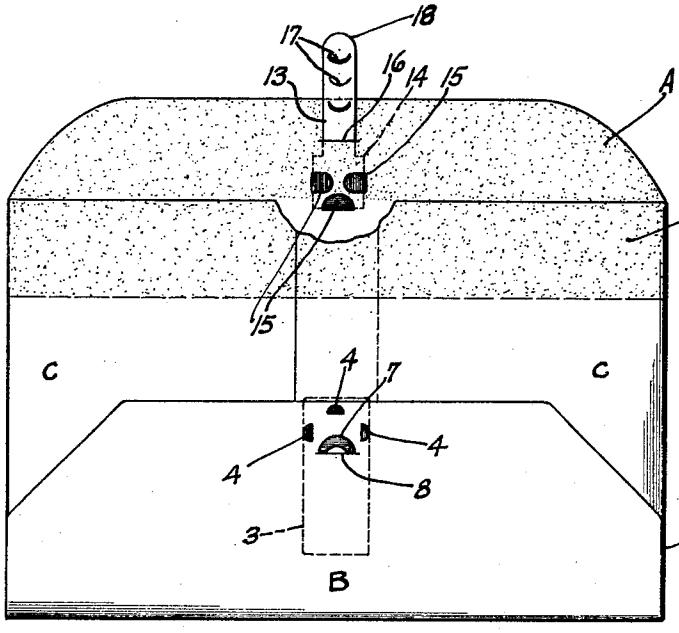


FIG. 1

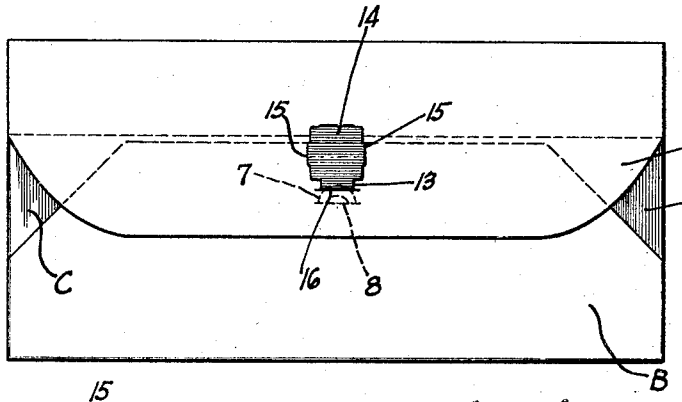


FIG. 2

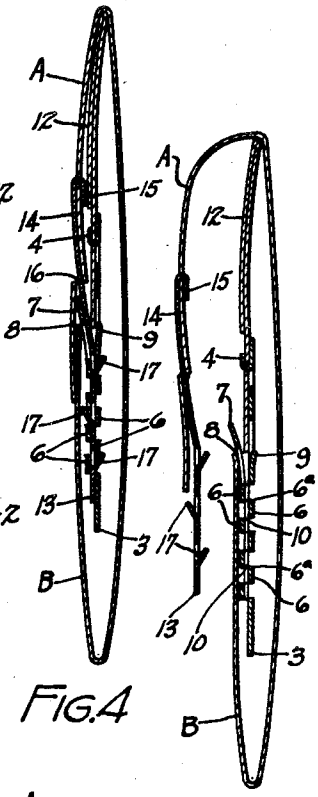


FIG. 4

FIG. 3

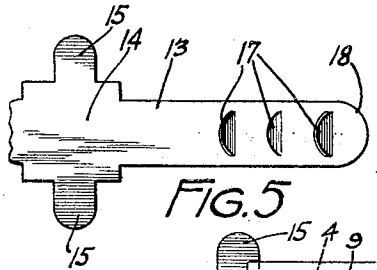


FIG. 5

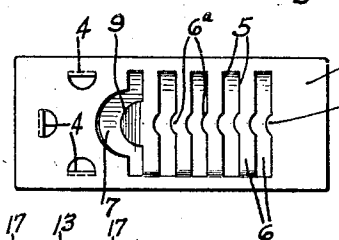


FIG. 6

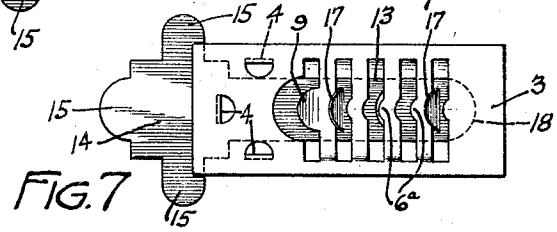


FIG. 7

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UNITED STATES PATENT OFFICE

EUGENE F. AHLQUIST, OF MINNEAPOLIS, MINNESOTA

ENVELOPE

Application filed March 5, 1928. Serial No. 259,173.

My invention relates to envelopes adapted for registered mail or articles of value, and the object of the invention is to provide a mechanical sealing means which will effectually lock the envelope when it is closed, and positively prevent an unauthorized person from obtaining access to the contents of the envelope without tearing or mutilating it to such an extent that the fact of such access will be instantly detected.

A further object is to provide an envelope having a fastening or locking means that is conveniently adapted for adjustment according to the bulk of the contents of the envelope.

A further object is to provide an envelope sealing device comprising a member adapted to be secured to the top flap of the envelope and having a tongue projecting through a slit in the flap, and a tongue-receiving member secured to the body of the envelope to hold together the lower flap and the two end flaps, the latter member being mounted on the inner side of the envelope so that when the tongue is inserted therein, it will pass through the top and bottom flaps and also the two end flaps, thus sealing together the four flaps so that they cannot be separated to open the envelope without mutilation.

Other objects of the invention will appear from the following detailed description.

The invention consists generally of various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification,

Figure 1, is a view of an envelope with my improved locking device thereon, showing the flap in its open position;

Figure 2 is a similar view showing the flap in its closed position;

Figure 3 is a sectional view transversely of the envelope showing it unlocked;

Figure 4 is a similar view showing the flap closed and locked;

Figure 5 is a detail view of the locking tongue that is mounted on the envelope flap;

Figure 6 is a similar view of the other member of the lock device mounted on the inside of the body of the envelope and adapted to receive the locking tongue; and

Figure 7 is a view showing the tongue and its receiving member in their locked position;

In the drawing, 2 represents the body of an envelope preferably of the substantially heavy paper type that is suitable for and is used for articles of registered mail. The envelope body here shown comprises a top flap A, bottom flap B, and the two end flaps or folds C, the latter having their ends overlapping and united by a suitable adhesive, and the bottom flap B overlying the end folds and being suitably secured thereto by gumming.

3 represents a plate, preferably of comparatively thin sheet metal, having lugs 4 pressed or punched therefrom at one end and adapted to be inserted through the bottom flap B and the two end flaps or folds C of the envelope, for securing the plate thereto on the inside, as shown in Figure 1. A series of slits 5 are formed in parallel relation transversely of the plate dividing it into a number of transverse bars 6. A tongue 7 is formed on one of these bars and is adapted to project through a slit 8 that is formed in the walls of the three members B—C—C of the envelope, and be visible on the exterior, as shown in Figure 1, while the plate itself is arranged on the inner side and concealed from view and access. An adjacent bar has a tongue 9 thereon projecting in the same direction as the tongue 7 as shown plainly in Figure 3. The alternate cross bars are offset, as indicated in Figure 3, so that gaps or openings 10 are formed between the adjacent bars, these gaps being in alignment with the space between the tongues 7 and 9. The material of which the bars is composed is bent slightly so that one group of bars is out of alignment with another group, and thereby a sufficient space is formed between the groups of bars to receive the locking tongue, as will hereinafter appear. Each bar 6 is also provided with a small tongue 6^a, each bent slightly outwardly to guide the locking tongue between the bars 6. There may be any desired number of these bars,

each one serving as one member of the lock for sealing the flap of the envelope. The plurality of bars provide for adjustment to adapt the flap for a package or articles of different sizes in the envelope. The envelope as before stated has the main or top flap A and a supplementary flap 12 which serves to reinforce and strengthen the body of the envelope. The flaps A and 12 are preferably gummed as indicated by the shaded area in Figure 1.

A locking tongue 13, preferably of comparatively thin metal, has a plate portion 14 that is seated on the outer side of the flap A, and secured thereto by lugs 15 which pass through the flap and are clinched or upset on the inner side. The tongue proper projects through a slot 16 in the flap A and is provided with a series of lugs 17 pressed or punched therefrom at intervals and bent outwardly in opposite directions, as shown at left side of Figure 3. The end of the tongue is preferably rounded as indicated at 18. When the envelope is closed, the tongue 13 will be thrust through the slot 8 in the body of the envelope, guided by the tongue 7, and will pass between this tongue and the tongue 9 into the gap between the alternately arranged cross bars 6. The lugs 17 are bent backwardly in the form of barbs and while they will slide readily in one direction over the bars 6, when the tongue is thrust between them, any backward or return movement of the tongue will only serve to engage one or more of the lugs with the cross bars and positively prevent the withdrawal of the tongue and the opening of the envelope, and thereby prevent any unauthorized person from obtaining access to the envelope without detection. When the main flap A of the envelope is in its folded or closed position, the auxiliary flap 12, the tongue 7 and the slot through which it projects, will be entirely concealed. The only part visible will be the outer end of the tongue 13, that is the flattened portion 14, the tongue with the lug thereon being thrust in between the locking bars 6 and positively held thereby. The tongue is pushed in until it reaches a position that is permitted by the contents of the envelope. If the article in the envelope is of small bulk, then of course the tongue will be pushed in farther than it will if the contents of the envelope be bulky, but regardless of the size of the package, the position of the tongue can be readily adjusted so that it will interlock with one of the cross bars, the particular cross bars of course depending upon how far the tongue is thrust between them. When the flap A has been closed and the locking tongue thrust into engagement with one of the bars, practically all of the device, that is, the part that actually locks the envelope, will be concealed, and it will not be possible for a person to open the flap by releasing the tongue without damaging or mutilating the envelope to such an extent that the action can be instantly detected. It is to be understood that the flap A is also preferably secured in places by a suitable adhesive. The device is comparatively inexpensive and will add very little to the cost of manufacture of the envelope or the postage required for mailing it.

The invention may, of course, be applied to envelopes of different sizes and in various ways the details of construction shown herein and described may be modified and still be within the scope of my invention.

I claim as my invention:

1. An envelope having a flap and a tongue having one end mounted thereon, the free end of said tongue being provided with a plurality of lugs pressed or punched therefrom, a plate mounted on the body of the envelope on the inner side thereof and having a plurality of cross-bars formed therein, the alternate bars being in staggered relation to form a gap between them, the envelope having a slit through which said tongue may be thrust between said bars, the lugs of said tongue sliding freely past said bars in one direction, but being locked by said bars against retraction.

2. An envelope having a flap and a locking tongue secured thereto at one end and having its other end on the inner side of the flap provided with a plurality of lugs, a plate secured at one end to the inner side of the body portion of the envelope and having a series of cross-bars formed therein in staggered relation, one of said bars having a tongue adapted to project through an opening in the envelope wall and the adjacent bar having a tongue to lap by the edge of the opening on the inside of the envelope and cooperate with the first tongue to form a guide for said locking tongue, when it is thrust between them, the lugs on said locking tongue being alternately bent outwardly in opposite directions and permitting said tongue to slide freely between said bars in one direction, but being adapted to engage said bars, when moved in the opposite direction, thereby locking said tongue against retraction, and said plate and the free end of said locking tongue being wholly concealed when the envelope is closed.

3. An envelope having a flap, a locking tongue mounted thereon, oppositely projecting lugs on said tongue, a plate member secured to the body of the envelope, a series of spaced slits in said plate member forming a plurality of contiguous bars, said bars being off-set from the medial plane of said member in staggered relation to permit said tongue to be inserted therebetween, when the flap is closed, whereby the lugs on said tongue will interlock with said bars and prevent retraction of the tongue, said lugs and bars per-

mitting the tongue to be moved in one direction only.

4. An envelope having a flap, a locking member secured to the outer surface of said flap and having a tongue traversing a slit therein whereby said tongue is positioned on the inside of the flap, a locking plate secured within the envelope body and having a portion projecting through a slit in a wall of said body to provide a guide for said tongue, oppositely disposed spaced lugs on said tongue, and oppositely disposed means on said plate adapted to interlock with the lugs on said tongue to prevent retraction thereof, when the envelope is sealed.

5. The combination with an envelope comprising a top flap, opposed end flaps, and a bottom flap, the end flaps having portions overlapped and suitably united, and said bottom flap overlying portions of said end flaps and secured thereto, of a locking plate secured to said end and bottom flaps within the envelope and having portions traversing aligned slits provided in said flaps, a locking member secured to the outer surface of the top flap and having a tongue traversing a slit in said flap, a plurality of oppositely disposed lugs on said tongue, and a plurality of bars formed in said locking plate and offset from the medial plane thereof, in staggered relation, to provide a passage adapted to receive said locking tongue, the lugs on said tongue being adapted to interlock with said bars to prevent retraction of the tongue.

6. The combination with an envelope comprising a top flap, opposed end flaps, and a bottom flap, the end flaps having portions overlapped and suitably united, and said bottom flap overlying portions of said end flaps and secured thereto, of a locking plate secured to said end and bottom flaps within the envelope and having securing means traversing aligned slits provided in said flaps, a locking member secured to the outer surface of the top flap and having a tongue traversing a slit in said flap, a guide tongue on said plate projecting through aligned slits in said end and bottom flaps and adapted to guide said locking tongue through the wall of the envelope, a plurality of oppositely disposed lugs on said locking tongue, and a plurality of bars formed in said locking plate and offset from the medial plane thereof, in staggered relation, to provide a passage adapted to receive said locking tongue, the lugs on said tongue being adapted to interlock with said bars to prevent retraction of the tongue.

7. The combination with an envelope comprising a top flap, opposed end flaps, and a bottom flap, the end flaps having portions overlapped and suitably united, and said bottom flap overlying portions of said end flaps and secured thereto, of a locking member secured to said end and bottom flaps within the envelope and having securing means traversing aligned slits provided in said flaps, a locking tongue secured to the outer surface of the top flap and traversing a slit in said flap, a guide tongue on said member projecting through aligned slits in said end and bottom flaps and adapted to guide said locking tongue through the wall of the envelope, and means on said locking tongue, cooperable with means on said plate to secure said locking tongue against retraction, when the envelope is sealed.

8. A seal including a plate member having spaced parallel slits therein forming a plurality of contiguous bars, said bars being off-set from the medial plane of said plate member in staggered relation to provide a passage therebetween lengthwise of the plate, a tongue having a permanent connection with said plate member and provided with a plurality of oppositely projecting inclined lugs, said lugs permitting the tongue to be inserted into the passage in said plate and cooperating with said bars to prevent retraction of said tongue from the passage.

9. An envelope having a flap, a locking member secured to the outer surface of said flap and having a tongue traversing a slit therein whereby said tongue is positioned on the inside of the flap, a locking plate secured within the envelope body and having a portion projecting through a slit in a wall of said body to provide a guide for said tongue, inclined spaced-apart lugs on said tongue and means on said plate adapted for interlocking engagement with the lugs on said tongue to prevent retraction of the tongue when the envelope is sealed.

10. An envelope having a flap, a locking member secured to the outer surface of said flap and having a tongue traversing a slit therein whereby said tongue is positioned on the inside of the flap, a locking plate secured within the envelope body and having a portion projecting through a slit in a wall of said body to provide a guide for said tongue, said tongue and plate having means for interlocking one with the other to prevent retraction of the tongue when the envelope is sealed.

11. An envelope having a flap, a locking tongue mounted thereon, inclined spaced-apart lugs on said tongue, a plate member secured to the body of the envelope, portions of said plate member being off-set from the medial plane thereof in opposite directions to provide a passage adapted to receive said tongue, the inclined lugs on said tongue being adapted to interlock with said off-set portions to prevent retraction of the tongue when the envelope is sealed, said lugs permitting the tongue to be moved in one direction only.

In witness whereof, I have hereunto set my hand this 28th day of February, 1928.

EUGENE F. AHLQUIST.