May 9, 1939. W. HOHWART 2,157,898

SELF-SEALING ENVELOPE

Filed March 17, 1936

Fig. 1

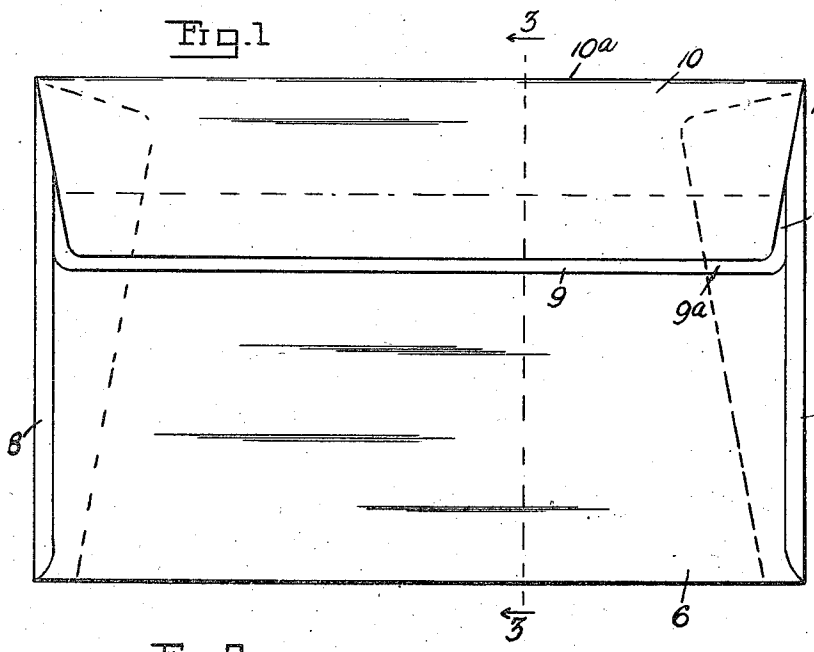


Fig. 3. Fig. 4

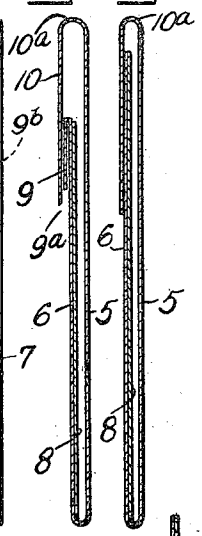


Fig. 2.

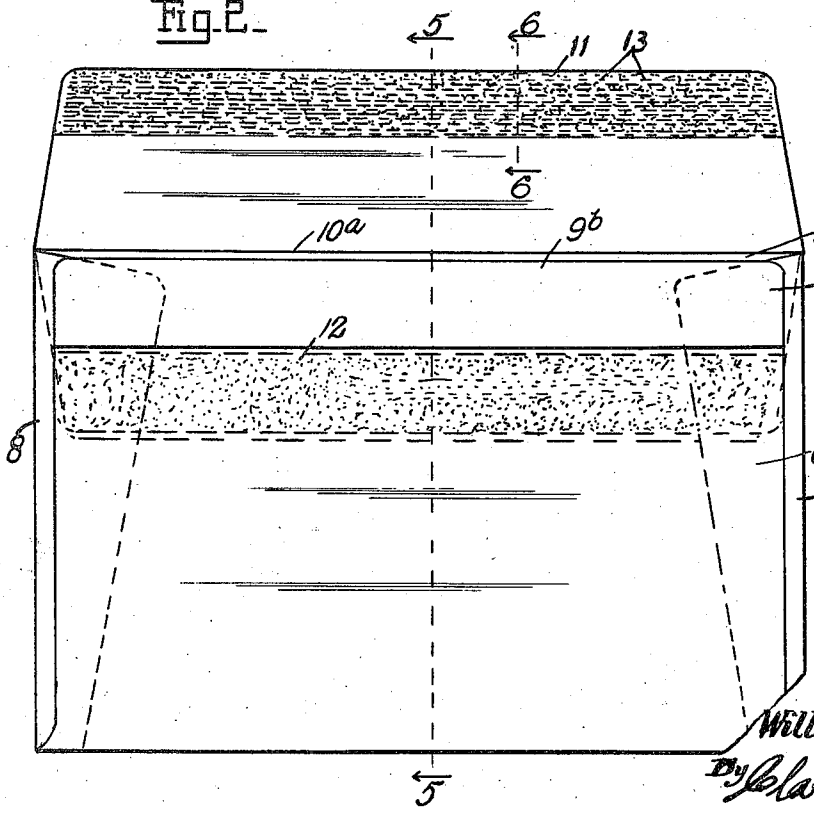


Fig. 6.

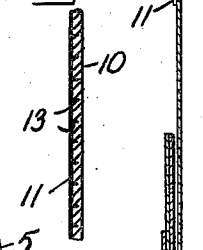
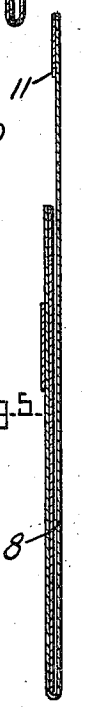


Fig. 5.



INVENTOR.

William Hohwart

By Clark & Ott

Attorneys.

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SELF-SEALING ENVELOPE

William Hohwart, New York, N. Y.

Application March 17, 1936, Serial No. 69,255

4 Claims. (Cl. 229—80)

This invention relates to an improved envelope having sealing means which will seal itself on the application of pressure, without the aid of water or any other moistening agent, and which is normally protected against accidental sealing.

It is well known that envelopes having a sealing flap coated with a mucilage of the type which contains gelatine or gum arabic will soften in the presence of heat or moisture, and that the sealing flaps will become sealed before being filled for mailing, because such flaps are in normal contact with the body of the envelope and when the adhesive material is softened either by heat or by moisture arising from rain, excessive humidity, or steam, or leakage, the envelopes are ruined by this sealing action in advance of mailing.

Envelopes of this type, having adhesive material composed of either animal or vegetable gums are also attacked by insects, which devour the adhesive material.

Such envelopes when passed through the mails in their normal sealed condition can be opened by steaming the adhesive, and the contents removed or unlawfully inspected.

The object of the present invention is to provide an envelope which will not soften in the presence of heat or moisture, or otherwise become accidentally sealed, and which can be sealed only by placing two cooperating sealing layers of a latex adhesive in contact with each other, by folding the outer sealing flap against a surface normally protected by an inner sealing flap, of special construction.

Another object of the invention is to provide an envelope with an inner sealing flap which normally protects the inner layer or coat of latex adhesive, and an outer sealing flap which folds over the inner sealing flap, with the lower longitudinal edge of the inner sealing flap projecting slightly from the corresponding edge of the outer sealing flap, so that the two flaps can be shifted to open position without confusion, by a single hand movement, to permit of the insertion of mailing matter in the envelope and to insure that when the outer sealing flap is closed for mailing that it will adhere by manual pressure to the exposed inner surface of the inner flap, thereby sealing the envelope without the aid of moisture or heat.

Another object of the invention is to provide the sealing flap of such an envelope with weakening lines, which will cause the sealing flap to break if any attempt is made to tamper with the sealing flap.

With the above and other objects in view the invention consists in certain new and useful constructions, combinations and arrangements of parts, clearly described in the following specifications, and fully illustrated in the drawing, in which:

Fig. 1 is a plan view showing the envelope in its normal condition.

Fig. 2 is a plan view showing the sealing and inner flaps extended to open positions.

Fig. 3 is a vertical sectional view, taken on line 3—3 of Fig. 1, looking in the direction of the arrows.

Fig. 4 is a similar view, showing the inner flap in its sealing position.

Fig. 5 is a vertical sectional view, taken on line 5—5 of Fig. 2, looking in the direction of the arrows.

Fig. 6 is a detail sectional view, taken on line 6—6 of Fig. 2, looking in the diretcion of the arrows, but greatly magnified.

Referring to the drawing illustrating the invention, 5 designates the face wall, 6 the main back wall, 7 and 8 the end connecting flaps, which unite the main back wall flap to the face wall.

The upper longitudinal edge of the main back wall 6 is formed with an inner flap 9, which is normally folded against the outer surface of the back wall, and which is provided with a longitudinal outer edge 9a, which is parallel to the bending line 10a of the outer sealing flap 10, which folds on the upper longitudinal edge of the face wall 5, to largely cover the inner flap, leaving only a narrow, pickable edge exposed to direct observation.

The inner surface of the sealing flap is formed with a strip layer of latex adhesive 11, disposed in parallel relation to the outer longitudinal edge thereof. This strip layer of latex adhesive cannot be made sticky or tacky by the addition of moisture or heat and is in normal engagement with the outer surface 9b of the inner flap, and because of its physical and chemical nature will not adhere to this uncoated surface.

The back wall 6 is formed with another cooperating strip layer 12, which is normally protected by the inner flap 9, which in its folded position lies against the back wall and completely covers and thus separates the inner strip layer 12 of latex adhesive from the outer strip layer 11 of adhesive of the same characteristics, carried by the sealing flap.

The construction of the envelope is such that when the inner flap is opened the outer flap will also be opened. If the mailing matter is then inserted in the envelope and the sealing flap is fold-

ed against the back wall, the strip layer of adhesive carried by the sealing flap will be brought into direct engagement with the inner strip layer of latex adhesive.

When this is done the sealing flap will be securely sealed, without the use of water or other moistening or softening agent. To protect the sealing flap against unlawful interference I may provide a series of weakening lines or perforations 13, formed in the stock of the sealing envelope, and preferably against the inner face thereof, so as to not entirely pierce the flap and to be largely concealed when the sealing flap is closed. When an effort is made to lift the sealing flap, without detection, these weakening lines will cause the sealing flap to readily tear, thus revealing the fact that the envelope has been tampered with.

The latex adhesive contains a preservative of ammonia which prevents disintegration, and is not attacked by insects in warm climates. It is normally not sticky, and will not adhere to the fingers of the user of the envelope.

When the envelopes are employed by persons whose fingers are slightly oily, the inner flap may be restrained when the outer flap is opened, so that the inner flap will not be soiled or oiled, or oil deposited or wiped on the inner adhesive strip.

When the improved envelopes are fed to an automatic sealing machine, a single flap lifter may raise both the inner and other or outer flaps.

The latex adhesive has the unusual quality of adhering instantly only to a latex covered surface, by manual pressure without the aid of any moistening agent. This instant adhesion insures complete sealing, because it is always easy to apply external pressure, when the two strip layers of the latex adhesive are brought into physical contact with each other, and when no softening is required the latex surfaces are always ready for effective sealing action against each other.

The incisions or weaking cuts in the inner surface of the outer sealing flap also insure penetration of the latex adhesive, leaving the external surface of the sealing flap unbroken.

The improved envelope when sealed by manual pressure only will not loosen or soften when immersed or exposed to water, steam, vapor or dampness, or when exposed to unusual heat. Under these conditions the envelope will preserve its shape and hold its contents.

The construction of the envelope is such that it can be used in the manner conventionally employed in connection with standard envelopes, covered with gum adhesive requiring the softening action of moisture.

The connecting flaps are preferably sealed to the back flaps by the use of latex adhesive, and this makes the entire envelope weather proof. It is found by time tests that the latex adhesive improved with age. It does not soften in the presence of moisture or steam, and will not discolor the paper. It is progressively absorbed by the paper and waterproofs the paper where it penetrates, thus insuring a sealing action which cannot be weakened by the application of water, steam or other softening agencies.

Having described my invention I claim as new:

1. A self-sealing envelope comprising a face wall, a back wall connected thereto and open along one side and provided with an inner protective flap and a strip of latex adhesive located on the outer surface of the back wall and protected normally by the inner protective flap which is folded against the back wall, said inner protective flap folding on the upper edge of the back wall to an open position to expose said strip of latex adhesive, and a sealing flap on the face wall which is normally folded over the inner flap and the inner marginal edge portion of which sealing flap is provided with a strip of latex adhesive adapted to register with the latex adhesive of the back wall, the outer marginal edge of the inner flap projecting a slight distance from the corresponding edge of the outer flap to provide a pickable edge, whereby both flaps may be turned from closed to open position by lifting the inner flap.

2. In an envelope, a front wall having a normally downturned sealing flap at its upper edge provided with an area of dry-sealing adhesive on the undersurface thereof adjacent its free edge, a rear envelope wall having its upper edge terminating in spaced relation to the upper edge of the front wall with an area of dry-sealing adhesive on the outer surface thereof located so as to cooperatively interseal with the adhesive area of the front wall flap, and a normally downturned flap at the upper edge of the rear wall adapted to cover the adhesive area to underlie the front wall flap and when swung upwardly into the plane of the rear wall to expose the adhesive area thereof for cooperative sealing with the adhesive area of the front wall flap, the free edge of said rear wall flap protruding beyond the front wall flap and constituting means for facilitating the simultaneous raising of both flaps during the operation of sealing the envelope.

3. In an envelope, a front wall having a normally downturned sealing flap at its upper edge provided on its undersurface with an area of dry sealing adhesive, a rear envelope wall having an area of dry sealing adhesive on the outer surface thereof located so as to cooperatively interseal with the adhesive area of the front wall flap, and a normally downturned flap carried by the rear wall adapted to normally cover the adhesive area thereof and adapted to be swung to an out-of-the-way position to expose said adhesive area for cooperative sealing with the adhesive area of the front wall flap, the free edge of said rear wall flap projecting beyond the front wall flap to serve as a means for facilitating the simultaneous raising of both flaps from their normal downturned position.

4. In an envelope, a front wall having a normally downturned sealing flap at its upper edge provided on its undersurface with an area of dry sealing adhesive, a rear envelope wall having an area of dry sealing adhesive on the outer surface thereof located so as to cooperatively interseal with the adhesive area of the front wall flap, and a normally downturned flap carried by the rear wall adapted to normally cover the adhesive area thereof and adapted to be swung to an out of the way position to expose said adhesive area for cooperative sealing with the adhesive area of the front wall flap, the free edge of said rear wall flap projecting beyond the front wall flap to serve as a means for facilitating the simultaneous raising of both flaps from their normal downturned position, the portions of the envelope provided with the areas of dry sealing adhesive having superficial cuts in the surface underlying the adhesive as and for the purpose set forth.

WILLIAM HOHWART.