March 13, 1945. V. E. HEYWOOD ET AL 2,371,521

DISPENSING CONTAINER

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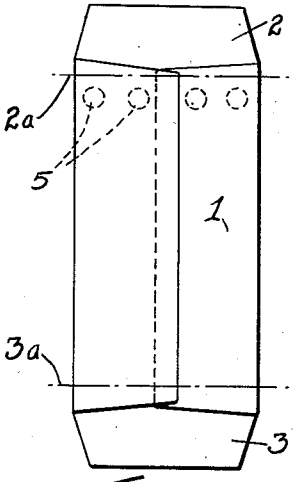

Fig. 1.

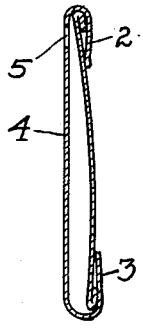

Fig. 2.

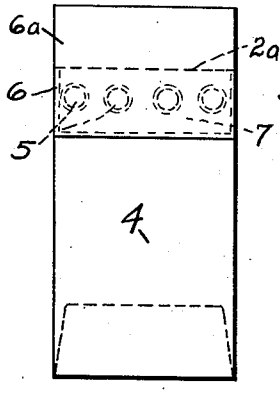

Fig. 3.

Fig. 4.

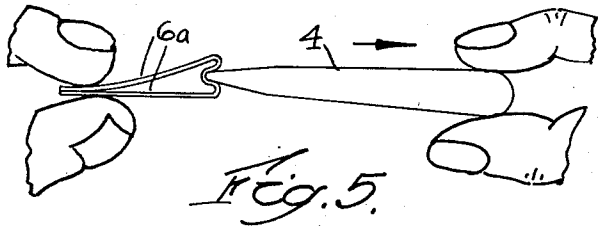

Fig. 5.

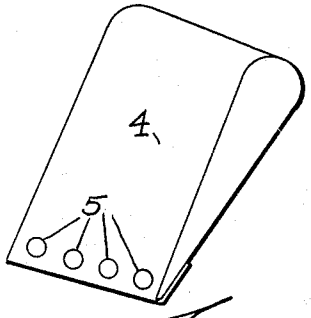

Fig. 6.

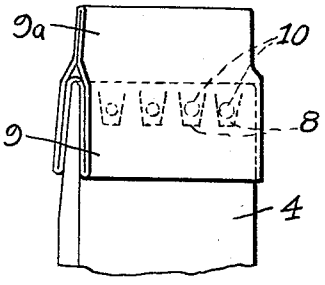

Fig. 7.

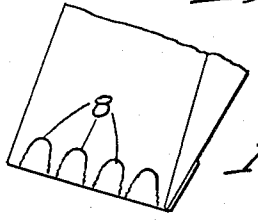

Fig. 8.

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DISPENSING CONTAINER

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2 Claims. (Cl. 229—85)

The present invention relates to envelopes or containers of the type utilized for the packaging and dispensing of relatively small quantities of goods or materials, particularly powders, finely divided granular materials and the like, such as medicinal powders for the treatment of wounds, or individual portions of edibles in powdered form.

According to the present invention, we provide a dispensing envelope or container of the above indicated character, so constructed that it not only affords a completely sterile packaging of the contained material, but is also capable of quick opening without contamination of the contents which then may be readily dispensed. The above and other advantageous features of the invention will hereinafter more fully appear from the following description, considered in connection with the accompanying drawing, in which:

Fig. 1 is a rear view of an envelope embodying the invention, in partially completed condition.

Fig. 2 is a vertical sectional view of the envelope of Fig. 1 after closure of its two end flaps.

Fig. 3 is a front view of the loaded envelope after application of its sealing patch or strip.

Fig. 4 is a view in side elevation of the loaded and sealed envelope, with its upper portion in section.

Fig. 5 illustrates removal of the sealing patch for the envelope.

Fig. 6 illustrates the envelope in the condition for discharge of its contents through the dispensing openings.

Fig. 7 is a perspective view, illustrating a modification in the form of the sealing patch and dispensing openings.

Fig. 8 is a fragmentary view, similar to Fig. 6 showing formation of dispensing openings in the envelope of Fig. 7.

Referring first to Figs. 1 and 2, the invention is shown as being incorporated in a type of envelope wherein the body is closed at each end by a double or safety fold, so that the envelope is entirely leak-proof at its corners. In the particular form of envelope shown, the body 1 provides extended end flaps 2 and 3, which are foldable along the lines 2*a* and 3*a* to provide double folds at each end of the body when the flaps 2 and 3 are adhesively secured to the rear wall after loading of the envelope, as shown in Fig. 2. Because of these double or safety folds 2*a* and 3*a* at each end, the envelope is leak-proof at its corners, and the contained material, no matter how finely powdered, will not sift through at these points.

In order that the contents of the envelope may be readily dispensed, the front wall 4 provides a number of dispensing openings 5 near the fold line 2*a*, and before the envelope has been loaded and closed, these openings 5 are sealed by a removable patch element 6. As best shown in Figs. 3 and 4, the patch element 6 consists of a length of flexible material folded at its middle where it engages the edge fold 2*a* of the envelope, and then extending inwardly on opposite sides of the envelope to which it is secured by applications 7 of a suitable adhesive, which surrounds and is slightly spaced from the openings 5, as indicated in dotted lines. The material of the strip or patch 6 on both sides of the envelope extends inwardly an appreciable distance beyond the openings 5, and is then in each instance folded back on itself on either side and extended beyond the fold 2*a* to provide a pair of extensions 6*a* forming a pull tab that may be readily seized.

As previously pointed out, the envelope of the present invention has particular utility in connection with the dispensing of medicinal powders in a sterile manner. That is to say, when once the loaded envelope has been closed and the dispensing openings sealed by the patch, the entire envelope and contents may be sterilized by heat; after which the contents will remain in a sterile condition, due to the fact that the safety folds at each end of the envelope effectively exclude the entrance of air.

Assuming that the contents of the envelope are in the form of an extremely active medicinal agent, such as sulfanilamide powder, the completely sealed envelope of Fig. 3 provides a very useful addition to the first aid equipment of a soldier or first aid worker, or anyone who may wish to apply the powder under emergency conditions. By reason of the extensions 6*a* of the patch 6 beyond the end of the envelope which provides the dispensing openings 5, it is an easy matter to expose these openings for dispensing the powder without possibility of contaminating the contents. Thus in Fig. 5 there is illustrated the manner in which one end of the envelope and the extensions 6*a* of the patch 6 may be seized between the fingers, so that a pull will result in peeling back the path to expose the openings 5. Such a pull procures a peeling off of the patch, rather than a fracture thereof, for the reason that each single-thickness extension 6*a* is part of the outer layer of patch material on the envelope wall, beyond the fold at the inner boundary of each adhesive area 7; thus a pull on said extension 6*a* is initially effective to dis-

place these inner folds and then to gradually break away the adhesion of patch to envelope walls starting from a point inwardly of the openings 5—5. The powder may then be readily dispensed through the exposed openings 5, as shown in Fig. 6, without possibility of the contents having become contaminated.

Should the person using the envelope be wounded in one arm, so that only one hand is available, it is possible to grip the free ends of the patch 6 between the teeth, in the same manner as the patch is seized between the fingers as shown in Fig. 5. Whether the patch is seized between the fingers or between the teeth, the peeling off of the patch is the same, and occurs very uniformly, due to the pull from opposite sides of the envelope.

Referring now to Figs. 7 and 8, there is shown a modification of the envelope, wherein the dispensing openings are in the form of substantially semi-circular cuts 8 in the envelope wall. The cuts 8 are spaced apart, and one side of the doubled patch 9 is secured at intervals within the cuts by adhesive spots 10, in addition to the adhesive around the cuts. In this modification, the patch 9 is in the form of a tubular section, so that the reversely folded portions provide a tab 9a which may be readily seized. Obviously, a pull applied to the tab 9a will obtain a peeling off, rather than a fracture of the patch 9, for the same reason as explained above in connection with the patch or strip 6; this peeling of the patch 9, due to the adhesive spots 10 between the cuts or slits 8—8, will be accompanied by an extension of said cuts and by the removal with the patch of portions of the envelope wall between said cuts, so as to produce in the envelope a series of openings (Fig. 8) for the dispensing of the powder or other contents.

We claim:

1. As a new article of manufacture, a dispensing container for powdered or granular materials, comprising an envelope having front and rear walls, one of said walls near one edge of the envelope being perforated to provide a series of dispensing apertures, and a strip having the midportion thereof wrapped about said edge and adhesively secured to limited areas of both walls adjacent said edge and covering said apertures, and adapted for release when pulled, to expose said apertures, the strip material at the inner boundary of each such area being reversely folded on itself and extended beyond said edge, to furnish for such release-procuring pull a two-thickness tab at an appreciable distance from the zone of said dispensing apertures.

2. As a new article of manufacture, a dispensing container for powdered or granular materials, comprising an envelope having front and rear walls, one of said walls near one edge of the envelope being slitted to form a series of tongues extending inwardly from said edge, and a cover strip folded over said edge and having limited areas of adhesive connection with each wall, and adapted to release under a pull on said strip, the latter also having spots of adhesive connection with said tongues, whereby under such pull said tongues are torn loose toward said edge to form dispensing apertures, and the strip material at the inner boundary of each such area being reversely folded on itself and extended beyond said edge, to furnish for such release-procuring pull a two-thickness tab at an appreciable distance from the zone of said dispensing apertures.

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