

[54] **FOIL OVER-LAPPED SLITS**
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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**.....**B65d 75/62**
[58] **Field of Search**.....229/51 C, 87 C, 51 TS;
83/37

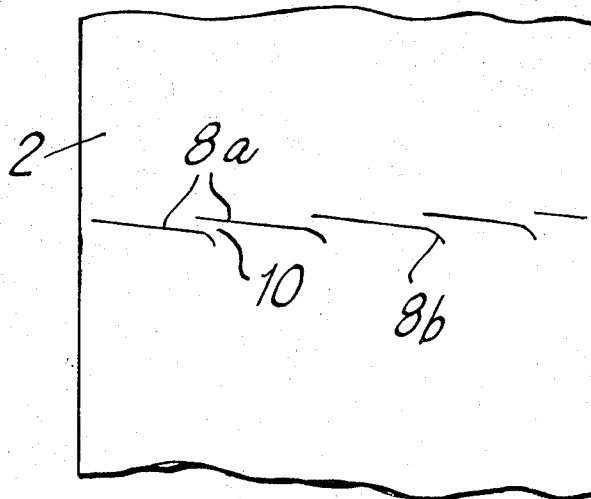
[57] **ABSTRACT**
An inner wrapper enclosing the contents, e.g. cigarettes, of a container has a row of slits extending across its width, the slits being obliquely arranged and slightly overlapping each other, to facilitate separation and removal of one part of the wrapper from another.

[56] **References Cited**

1 Claim, 4 Drawing Figures

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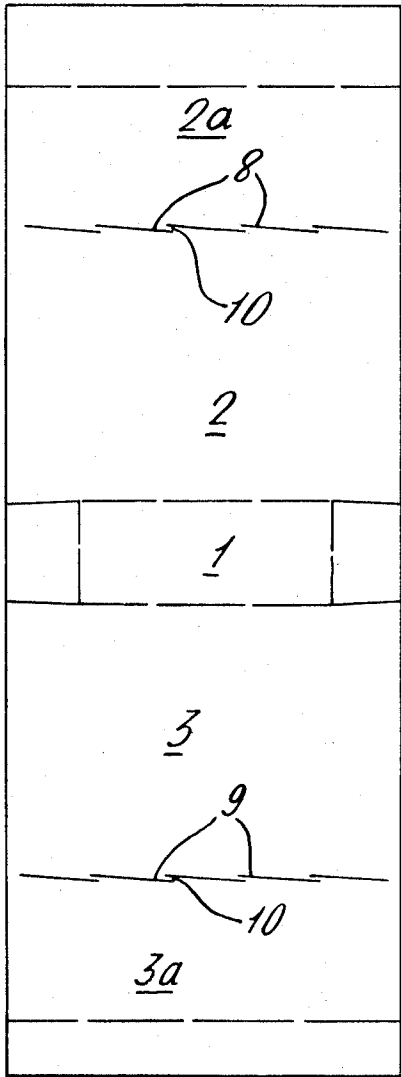


Fig. 1.

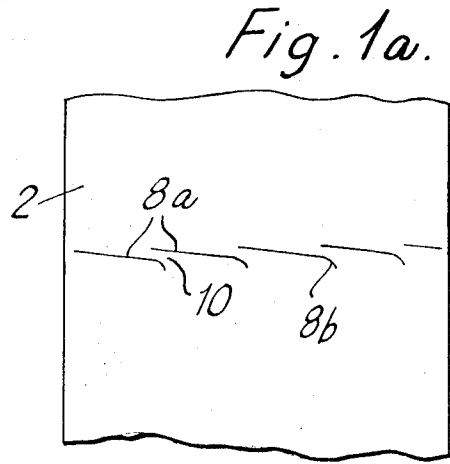


Fig. 1a.

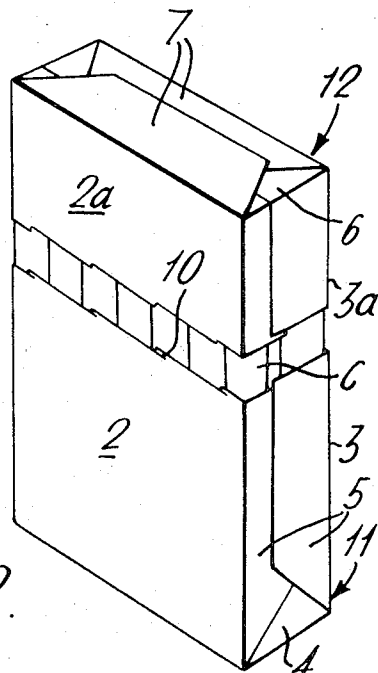
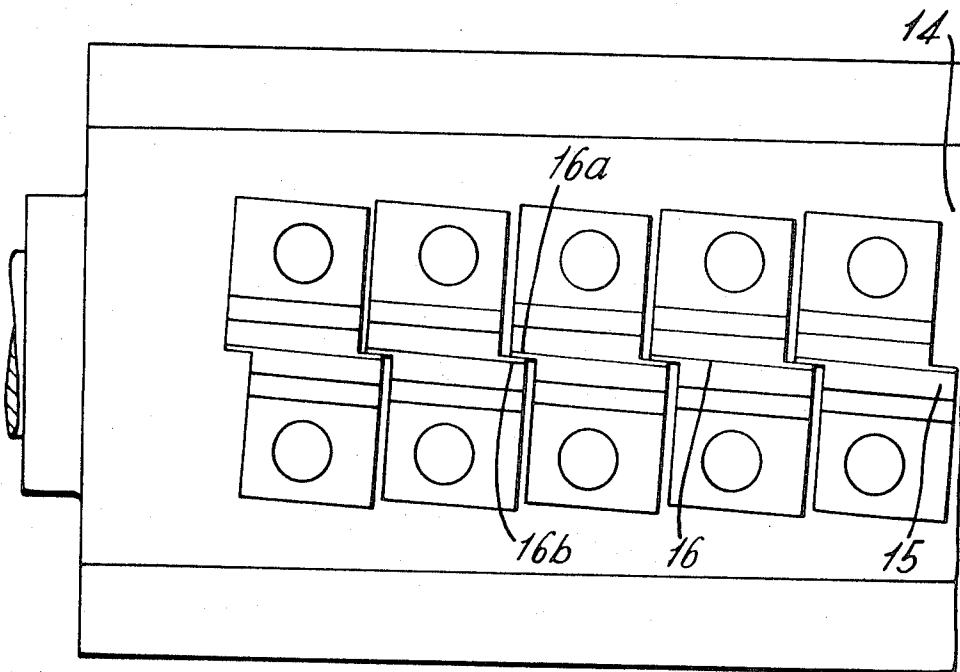


Fig. 2.

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Fig. 3.



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FOIL OVER-LAPPED SLITS

BACKGROUND OF THE INVENTION

Cigarettes when packed in cardboard packets are usually enclosed in a metallic foil wrapper which encloses the batch of cigarettes on all sides and helps to protect them against deterioration during the store life of the packet. When the packet is opened, this inner wrapper must also be opened in some way to give access to the cigarettes. In a known arrangement, which is frequently used with cigarette packets of the well-known hinge lid (sometimes called "flip top") type, or with slide and shell packets, the foil wrapper is made in two parts which partially overlap one another but are not otherwise connected. When the packet is opened (by swinging back the hinged lid, or by pushing the slide partly out of the shell, as the case may be) one of these separate parts of the foil wrapper is partially exposed and can be grasped and pulled out of the packet, thus exposing the upper ends of the cigarettes. The removable part of the foil wrapper may be cup shaped so as to fit over the whole of the upper part of the cigarette batch, or it may be arranged to cover only the front and part of the top and two sides of the upper part of the batch.

In carrying out the operation of packing batches of cigarettes, the two portions of foil which are to form the inner wrapper are handled as a single composite wrapper blank which is folded around the cigarette batch. In some kinds of packing machine, it is difficult or inconvenient to do this.

SUMMARY OF THE INVENTION

An object of the invention is to provide an arrangement whereby an inner wrapper can be formed from a single blank, but can nevertheless be divided and a part removed by the consumer in order to expose the cigarettes.

According to the invention there is provided an inner wrapper for a container, consisting of a single piece of material folded about the contents to enclose them, and having a row of slits arranged obliquely to the width of the wrapper so as to divide the wrapper into two portions connected to each other by small portions of material lying between the oblique slits.

The invention further provides an inner wrapper for a container, consisting of a single piece of material folded about the contents to enclose them, and having a row of slits extending across its width, each slit overlapping an adjacent slit by a short distance so as to divide the wrapper into two portions connected to each other by small portions of material lying between overlapping ends of the slits.

According to a further aspect of the invention there is provided a wrapper blank having formed therein one or more rows of slits extending across the width of the blank, each slit overlapping an adjacent slit by a short distance so as to divide the blank into portions connected to each other by small portions of material lying between overlapping ends of the slits.

The invention further provides a method of producing a blank for an inner wrapper, which includes the step of slitting the blank with a series of cutting edges arranged in overlapping relationship so as to form one or more rows of slits extending across the width of the blank, each slit overlapping an adjacent slit by a short distance.

Still further, the invention provides slitting apparatus comprising a rotating drum or the like having mounted thereon a series of cutting blades whose edges are arranged obliquely to the axis of rotation of the drum and overlap each other by a short distance, and means to feed a blank, or a web of material from which blanks are to be formed, past said drum.

BRIEF DESCRIPTION OF DRAWINGS

An inner wrapper blank, a wrapper formed therefrom, and methods of and means for producing the blank, will now be described by way of example with reference to the accompanying drawing, in which:

FIGS. 1 and 1a show embodiments of wrapper blanks according to the invention,

FIG. 2 shows an inner wrapper formed about a batch of cigarettes, the upper part having been separated from the lower part, and

FIG. 3 shows a slitter drum.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The blank shown in FIG. 1, which may be of metallic foil, is adapted to be folded about a batch of twenty cigarettes to form an inner wrapper when the batch so wrapped is enclosed in a cardboard cigarette packet, such as a packet of the well-known hinge-lid type. The blank is folded about the batch so the panel 1 lies against the lower end faces of the cigarettes, the two portions 2 and 3 extending over opposite sides of the batch in U-form. End tucks 4, FIG. 2, and side folds 5 are then formed, and finally the blank is folded over the top end faces of the cigarettes by formation of tucks 6 and top folds 7. The arrangement will be apparent from FIG. 2, although in that Figure the wrapper is shown after having been separated into two parts as will shortly be explained.

The blank is provided with two rows of slits 8 and 9, extending across the widths of the portions 2 and 3 respectively. Each of the slits is slightly oblique to a straight line extending across the blank, so that an end of each slit slightly overlaps an end of an adjacent slit. Thus the portion 2, for example, is joined to the adjacent portion 2a only by small portions of material 10 which lie between overlapping ends of the slits and by the small portions of material between the endmost slits 8 and the side edges of the blank. A similar connection exists between the portion 3 and the adjacent portion 3a.

This blank is capable of being handled, fed and folded as a single blank, and is for all practical purposes, as far as the wrapping operation is concerned, a single one-piece blank.

When the blank is folded about the cigarette batch C and enclosed in a packet, however, it can be readily separated into a lower part 11, FIG. 2, and an upper part 12, which can be pulled away to expose the upper part of the cigarette batch, and then discarded. The separation is effected simply by pulling upwardly the flaps constituting the folds 7, when the material 10 between the overlapping ends of adjacent slits 8 will readily tear or break, as will also the small portions of material between the endmost slits 8 and the edges of the material.

For simplicity, FIG. 2 shows the whole of the upper part 12 separated as a whole from the lower part 11. It

will be seen, however, that the upper part 12 consists of two pieces of material, i.e. the parts 2a and 3a of the blank, FIG. 1. In practice, therefore, it is more convenient to pull away the part 2a and then the part 3a.

It will be understood that the lower part 11 of the wrapper will be wholly within the body of the cigarette packet, and preferably is secured by adhesive to the interior of the packet so as to hold it in place when the upper part 12 is pulled.

The effect of pulling the upper part is to tend to separate the areas of material lying on opposite sides of the slits 8. This separating movement distorts and twists the small strips 10 of material and pulls them sideways so that they readily tear or break.

This separation would not be so easily obtained if, for example, the material were provided with a row of slits all in line with each other and not overlapping. In that case, an upward pull on the upper part of the wrapper would meet with considerable resistance because the material lying between the ends of adjacent slits would not be distorted, and the only satisfactory way of separating the upper from the lower part of the wrapper would be by a tearing action from one side of the wrapper to the other, which is not altogether easy when dealing with a wrapped bundle of cigarettes contained in a packet.

FIG. 3 illustrates in plan a slitting drum 14 on which is mounted a row of slitting cutters 15 each having a slitting edge 16 slightly oblique to the axis of the drum. The cutters are shaped to enable an end 16a of an edge 16 to overlap an end 16b of an adjacent edge 16. For use in producing a blank as shown in FIG. 1, the drum may be provided with two sets of cutters, one at each side.

To produce the blanks, a web of suitable material, preferably a metallic foil, is fed endwise past the drum 14 and is engaged at suitable intervals by the edges 16. The web may be cut into blanks in any convenient way. Similarly any convenient known means may be provided to form creases in the blanks to facilitate folding.

As an alternative to the arrangement shown and described, the blank may if desired be provided with only one row of overlapped slits 8, the slits 9 being

omitted. In that case, only the part 2a will be pulled away from the rest of the wrapper.

It will be noted from FIG. 2 that a somewhat ragged edge is left on the lower part 11 of the wrapper by separation of the upper part 12. The slits will, however, be located well within the body portion of the cigarette packet, so this edge need not be visible.

In a modification illustrated in FIG. 1a, the lowermost ends 8b of the slits 8a (as viewed when looking at the folded wrapper) may be curved downwardly away from the slits which lie directly above them. This can be so arranged that a strip 10 of material lying between two slits is narrowest at the region immediately beneath the end of the upper slit of the two, and will be likely to tear at that region.

In a further modification, the slits are not overlapped but are arranged in a number of oblique rows in each of which all the slits may be in line. For example two rows of slits may be arranged in V-form, each limb of the V being at an angle of, say, 45° to the side of the blank, the apex of the V being midway across the width of the blank. It is found that such an arrangement facilitates separating the upper from the lower part of the wrapper, and thus according to this further aspect of the invention there is provided an inner wrapper having slits arranged obliquely to the width of the wrapper, e.g. one or more oblique rows of slits in each of which the slits are arranged in line with each other.

What I claim as my invention and desire to secure by Letters Patent is:

1. An inner wrapper for a container, comprising a single piece of material folded about the contents to enclose them, and having a row of substantially linear slits oblique to a line extending across its width, each slit overlapping an adjacent slit by a short distance so that one end of a slit lies above the opposite end of the adjacent slit to thereby divide the wrapper into two portions connected to each other by small portions of material lying between the overlapping ends of the slits, the underlying end of each slit being curved downwardly away from the slit which lies directly above.

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