

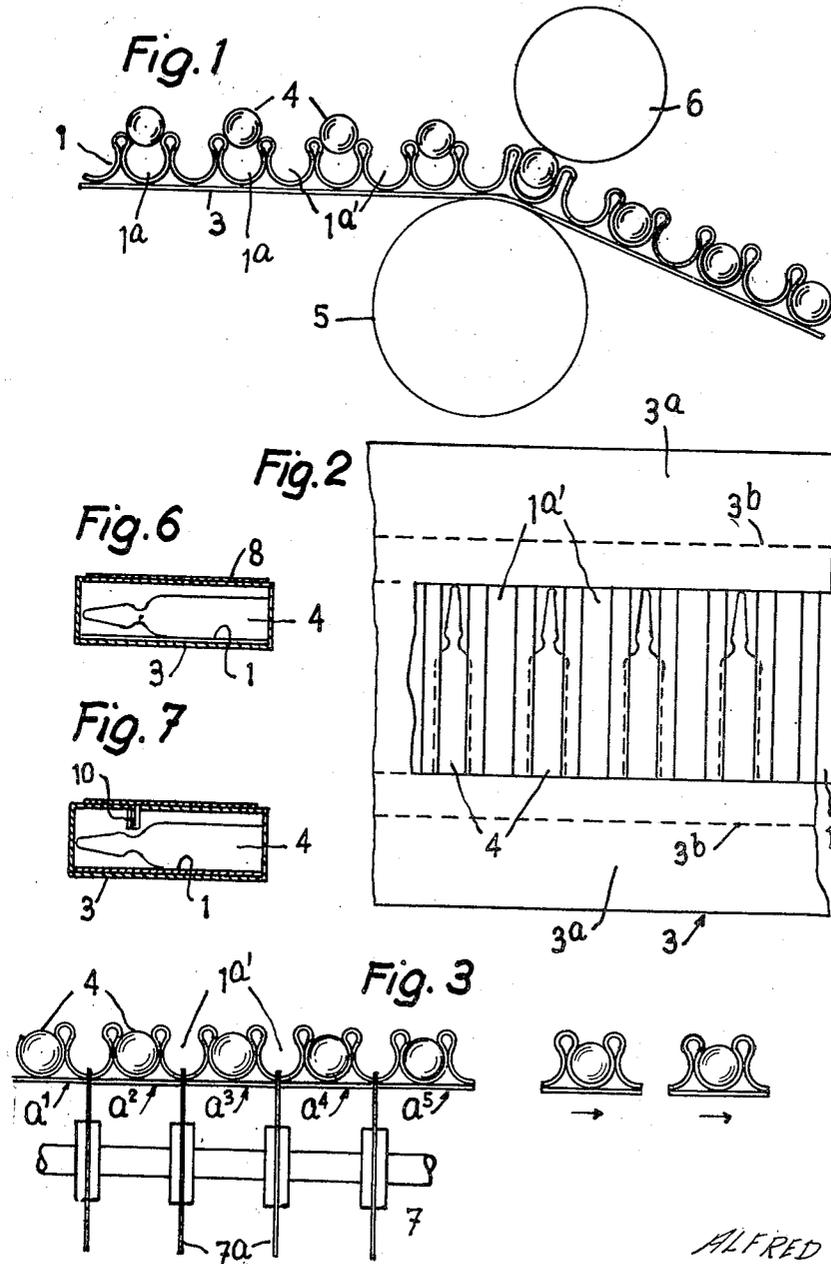
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PROCESS FOR MAKING PACKAGES, PARTICULARLY
FOR AMPOULES OR THE LIKE

2,767,532

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2 Sheets-Sheet 1



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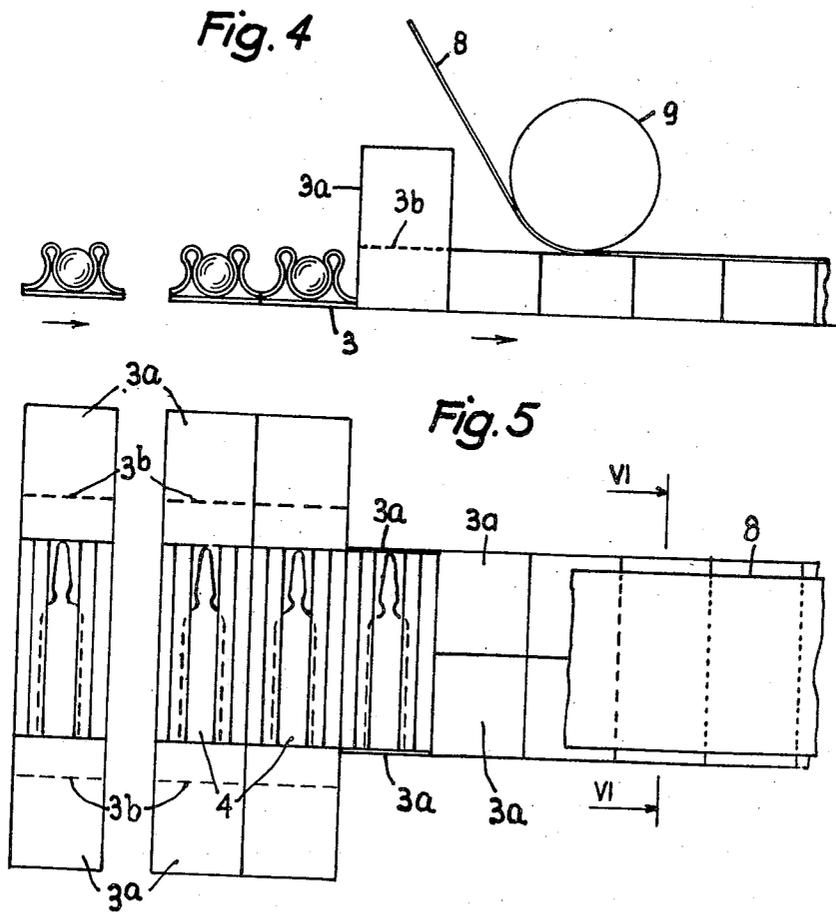
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PROCESS FOR MAKING PACKAGES, PARTICULARLY FOR AMPOULES OR THE LIKE

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3 Claims. (Cl. 53—14)

The present invention relates to a package, particularly for ampoules or the like, which comprises a package body consisting of a receiver forming a plurality of juxtaposed compartments, and of a backing strip on which said receiver is fixed.

According to the invention the novel package is characterized by the facts that said package body is divided into a plurality of sections by cuts extending transversely through the package body at compartments regularly spaced by at least one undivided compartment, that said backing strip has side parts laterally protruding beyond said receiver and having incised lines extending in the longitudinal direction of said receiver, which side parts are folded about said incised lines towards each other over said compartments to close the same, and that an adhesive tape is applied to said folded side parts of several such sections to hold said sections together.

In each of said undivided compartments an element to be packed, e. g. an ampoule, is inserted, whereas said divided compartments are left empty.

The invention also relates to a process for making such packages, which is characterized by the steps of inserting elements to be packed into the receiver excepting regularly spaced compartments left empty, cutting through the package body transversely at said compartments left empty, to form sections of equal size, folding said side parts about said incised lines toward each other to cover said compartments into which elements thus have been inserted, and applying to the thus folded side parts an adhesive tape to hold said sections of the package body together.

Hereinafter the invention will be explained more fully by way of example with reference to the accompanying drawing.

Fig. 1 illustrates the first step of the process, in which the ampoules are laid into the ampoule receiver of a package body.

Fig. 2 is a top plan view of the package body as after the first step of the process.

Fig. 3 illustrates the second step of the process, in which the package body in a condition according to Fig. 2 is cut into sections.

Fig. 4 illustrates the third and fourth steps of the process, as will be explained more fully hereinafter.

Fig. 5 is a top plan view appertaining to Fig. 4.

Fig. 6 is a cross-sectional view of the finished package, taken on line VI—VI of Fig. 5, and

Fig. 7 is a cross-sectional view of a similar package.

In carrying out the process concerned, a package body is used which, as is shown in Figs. 1 and 2, comprises a corrugated receiver 1 pasted on a backing strip 3 and having juxtaposed compartments 1a, 1a' with restricted reception openings. As may be seen from Fig. 2, that backing strip 3 has lateral side parts 3a protruding beyond the ampoule receiver 1 and incised in the longitudinal direction of the latter according to the dash lines 3b. As may be seen from Fig. 1, the elements to be packed, e. g. the ampoules 4, are placed on the edges

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of the ampoule-receiving compartments 1a, which edges form the restricted reception openings, every other compartment being skipped. The package body 1, 3 with the thus applied ampoules 4 is passed over a stationary roller 5 in such a manner that the front end of the package body after passing the roller 5 is moved on a downwardly inclined plane, whereby the package body is bent in the shape of a knee at the point where it contacts the roller 5, to widen the reception openings of the ampoule compartments. Then the ampoules can be urged into the ampoule compartments 1a more easily by a rotating upper cylinder 6. Hence, Fig. 1 shows strictly diagrammatically how the filling of ampoules into the package body 1, 3 may be performed, on principle. The same applies to the other steps of the process, which are illustrated strictly diagrammatically in Figs. 3, 4 and 5.

In the second step of the process, illustrated in Fig. 3, the package body with the inserted ampoules (Fig. 2) is delivered to a cutter having a rotary shaft 7 with several circular knives 7a. As shown, the package body is transversely cut through at the compartments 1a' that have been left empty, to divide it into package body sections a¹, a², . . . (see Fig. 3) containing one ampoule each. Each empty compartment 1a' thus has been divided into two partial compartments. When pushed together, these sections are subjected to the third and fourth steps of the process according to Figs. 4 and 5. In that third step of the process the lateral side parts 3a of the backing strip are first set upright in their entire width and are then folded against each other about the incised lines 3b to cover the compartments containing the ampoules. In the fourth and last step of the process an adhesive tape 8 is applied by means of a roll 9 onto the folded side parts 3a, which are thus secured in their closed position and the several package body sections are held together. If desired that adhesive tape may be perforated at regular intervals corresponding to the length of a package body section in the longitudinal direction of the package body, to facilitate separating the sections along the perforated lines, which are arranged in register with the empty, divided compartments. The several sections of the adhesive tape 8 delimited by perforated lines may be imprinted and serve as labels indicating the contents of the ampoules. Fig. 6 shows the finished package in cross section. Fig. 7 is a cross-sectional view of a similar package, which has been made according to the same principle but the backing strip of which has side parts of different width, the narrower side part being provided with a flange 10 extending into the recess formed by the restricted neck portion of the ampoule.

Obviously the package body sections may comprise, instead of one ampoule, two, three or more ampoules. In this case one compartment is skipped after the compartments in which ampoules have been placed during the filling step (first step of the process, according to Fig. 1), the package body being cut through that empty compartment as mentioned hereinbefore.

If desired the packages thus made may be placed into a box or, e. g., pushed into a carton wrapper of corresponding cross section.

What I claim is:

1. A process for packaging longitudinally elongated articles such as ampoules and the like, which process comprises feeding a web-like corrugated receiver, the corrugations forming regularly spaced juxtaposed compartments each having a restricted receptive top opening, said receiver being mounted on a web-like backing strip of a width substantially greater than the receiver so that the backing strip has side extensions projecting laterally beyond the sides of the receiver, said extensions each having thereon a longitudinally extending incised line, the incised line on each of said extensions being spaced from

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the end edges of said compartments a distance substantially equal to the height of said compartments, placing said articles on the restricted receptive openings of said compartments so that they rest on said openings for substantially the length of said articles, the said articles being so positioned on the restricted receptive openings of all of said compartments except for the receptive openings of regularly spaced compartments to be left empty, moving the backed receiver for the said articles over a supporting surface so that the leading end of the web-like receiver is moved in a general downward direction thus bending each compartment to widen its receptive opening and permit the ready insertion of the said articles through the thus widened restricted receptive openings into the compartments therebeneath, effecting the insert of said articles in the compartments therebeneath, cutting through the web-like receiver transversely of said compartments left empty to form sections of a size equal to the number of said compartments between the regularly spaced compartments left empty, folding said extensions along longitudinally extending lines at the ends of said compartments and also along said incised lines to completely envelope the ends of said compartments and form a closure for the top of said compartments with the end extremities of said extensions in substantially abutting relationship, moving the completely enveloped sections thus produced in side-by-side abutting relationship and while so moving applying to the top of the sections an adhesive tape to hold said sections together and seal and maintain in folded position the said folded extensions.

2. A process for packaging longitudinally elongated articles such as ampoules and the like, which process comprises feeding a web-like corrugated receiver, the corrugations forming regularly spaced juxtaposed compartments each having a restricted receptive top opening, said receiver being mounted on a web-like backing strip of a width substantially greater than the receiver so that the backing strip has side extensions projecting laterally beyond the sides of the receiver, said extensions each having thereon a longitudinally extending incised line, the incised line on each of said extensions being spaced from the end edges of said compartments a distance substantially equal to the height of said compartments, placing said articles on alternate restricted receptive openings of said compartments, leaving restricted receptive openings of the remaining compartments free of said articles so that when the articles are inserted in the said compartments therebelow alternately spaced compartments are left empty, moving the backed receiver for the said articles over a supporting surface so that the leading end of the web-like receiver is moved in a general downward direction, thus bending each compartment to widen the receptive opening and permit the ready insertion of the said articles through the restricted receptive openings into the compartments therebeneath, effecting the insertion of the said articles through the thus widened restricted receptive openings into the compartments therebeneath leaving alternate compartments empty, cutting through the web-like backing and receiver transversely of said compartments left empty to form sections each con-

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stituted of a compartment containing one of said articles, folding said extensions along longitudinally extending lines at the ends of said compartments and also along said incised lines to completely envelop the ends of said compartments and form a closure for the top of said compartments with the end extremities of said extensions in substantially abutting relationship, moving the completely enveloped sections thus produced in side-by-side abutting relationship and while so moving them applying to the top of the sections an adhesive tape to hold said sections together and seal and maintain in folded position the said folded extensions.

3. A process for packaging longitudinally elongated articles such as ampoules and the like which process comprises feeding a web-like corrugated receiver, the corrugations forming regularly spaced juxtaposed compartments each having a restricted receptive top opening, said receiver being mounted on a web-like backing strip of a width substantially greater than the receiver so that the backing strip has side extensions projecting laterally beyond the sides of the receiver, said extensions each having thereon a longitudinally extending incised line, the incised line on each of said extensions being spaced from the end edges of said compartments a distance substantially equal to the height of said compartments, placing said articles on the restricted receptive openings of said compartments so that they rest on said openings for substantially the length of said articles, the said articles being so positioned on the restricted receptive openings of all of said compartments except for the receptive openings of regularly spaced compartments to be left empty, thereafter moving the said articles through the said restricted receptive openings of said compartments on which they are positioned into the compartments therebeneath, moving the said web-like corrugated receiver with the articles in said compartments through a cutting station where the web-like receiver is cut transversely of said compartments left empty to form sections of a size equal to the number of said compartments between the regularly spaced compartments left empty, moving said sections one by one through a folding station where said extensions are folded along longitudinally extending lines at the ends of said compartments and also along said incised lines to completely envelop the ends of said compartments and form a closure for the top of said compartments, moving the completely enveloped sections thus produced in side-by-side abutting relationship and applying to the top of the sections an adhesive tape to hold said sections together and seal and maintain in folded position the said folded extensions.

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