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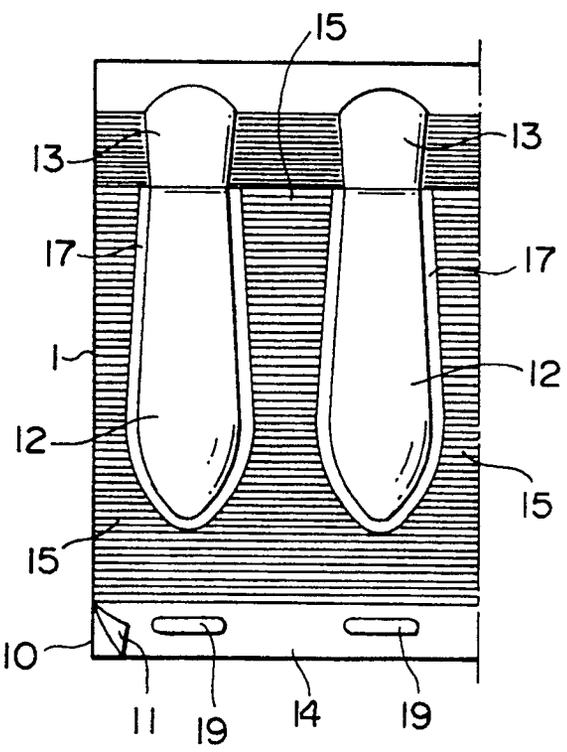
(54) Peel-openable container for suppository.

(57) A peel-openable container for suppositories, produced by overlapping two sheets, (10), (11), each having a plurality of bulges (12) for containing a suppository, with each other so that the bulges of one sheet face the bulges of other sheet at the respective peripheries, and then sealing the overlapped portion (15) of the two sheets excluding the bulges, in a form of a number of lines with appropriate line-to-line intervals ; in which container smooth uniformly sealed areas (17) of such small width as to give substantially no hindrance to peel-opening of the container are formed at least at the portions along the two-side contours of each bulge.

FIG. 1



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The present invention relates to an improved peel-openable container for suppository.

Various containers for accomodating suppositories have been proposed heretofore. Some of them are in actual use. A typical example of such containers of actual use is shown in Figs. 3 and 4.

As shown in Fig. 3, a conventional typical container (1) for suppository is generally produced by overlapping two sheets (10) and (11) each made of a synthetic resin, etc. and having a plurality of bulges (12) for containing a suppository and suppository inlets (13) connecting with the bulges, so that the bulges of one sheet face the bulges of other sheet at the respective peripheries and then heat-sealing the overlapped portion of the two sheets excluding the bulges (12), in a form of a number of lines with appropriate line-to-line intervals, to form a sealed portion (15) with one end of each sheet left unsealed so as to serve as a holding rib (14) for easy opening.

The thus produced suppository container (1) can be made into a packed suppository product (2) as shown in Fig. 4 by injecting a molten suppository composition into the bulges (12) through the inlets (13), cooling and solidifying the composition, heat-sealing the inlets (13), and forming stitches (16) for separation of packed suppository product into individual suppository units.

Thus, in the conventional suppository container (1), the sealed portion (15) is formed by effecting heat-sealing in a form of lines with appropriate line-to-line intervals and not by heat-sealing the whole area of the overlapped sheet portion. The reason for effecting heat-sealing in this way is to ensure easy peeling when a packed suppository product (2) produced from the container (1) as shown in Fig. 4 is separated into individual suppository units by means of the stitches (16) and the sheets (10) and (11) are peeled from each other by means of the holding ribs (14) to take out a suppository.

When the sealed portion (15) is formed by effecting heat-sealing in a form of a plurality of lines as shown in Fig. 3 and then a molten suppository composition is injected into the bulges (12), however, the suppository (3) in each bulge has fine notches (31) at the both sides as shown in Fig. 5 because the molten composition injected into each bulge (12) penetrates into the unsealed gaps of the overlapped portion of the two sheets at the periphery of each bulge.

These notches (31) not only give poor appearance to the suppository but also give, in some cases, a stimulus to the diseased part when inserted into the anus. Even if the notches are not large enough to actually give a stimulus to the diseased part, it is highly probable that the patient, when seeing the notches, have a feeling of uneasiness to such stimulus.

The main object of the present invention is to provide a suppository container free from the above-mentioned drawbacks of the prior art.

According to the present invention, there is provided a peel-openable container for suppository, produced by overlapping two sheets each having a plurality of bulges for containing a suppository, with each other so that the bulges of one sheet face the bulges of other sheet at the respective peripheries and then sealing the overlapped portion of the two sheets excluding the bulges, in a form of a number of lines with appropriate line-to-line intervals, in which container smooth uniformly sealed areas of such small width as to give substantially no hindrance to peel-opening of the container are formed at least at the portions along the two-side contours of each bulge.

In the suppository container of the present invention, smooth uniformly sealed areas of such small width as to give substantially no hindrance to peel-opening of the container are formed at least at the portions along the two-side contours of each bulge; consequently, the molten suppository composition injected into the bulge does not penetrate into the unsealed gaps of the overlapped portion of the two sheets at the periphery of the bulge, unlike the case of the conventional suppository container. As a result, the packed suppository product has no notches at the both sides, has a smooth surface, gives no stimulus to the diseased part when inserted into the anus, and gives no feeling of uneasiness to the patient.

The suppository container of the present invention is hereinafter described in more detail with reference to the accompanying drawings.

Fig. 1 is a front view showing an example of the suppository container of the present invention; Fig. 2 is a front view showing an example of the packed suppository product of the present invention; Fig. 3 is a perspective view of the conventional suppository container; Fig. 4 is a front view of a conventional packed suppository product; and Fig. 5 is a half enlarged view of a suppository taken out of the packed suppository product of Fig. 4.

In Fig. 1 showing one embodiment of the suppository container of the present invention, a peel-openable container (1) for suppository can be produced by overlapping two sheets (10) and (11) each having a plurality of bulges (12) for containing a suppository and suppository inlets (13) extending from the end of each bulge to the end of each sheet, so that the bulges of one sheet face the bulges of other sheet at the respective peripheries and then sealing the overlapped portion (15) of the two sheets excluding the bulges (12), in a form of a number of lines with appropriate line-to-line intervals. In this case, the sealing lines need not necessarily be continuous lines and may be dotted lines. The width of each sealing line can be determined empirically, depending upon the material of sheet, the method of sealing (or jointing), etc.

The suppository container of the present inven-

tion is characterized in that smooth uniformly sealed areas (17) of such small width as to give substantially no hindrance to peel-opening of the container (1) are formed at least at the portions along the two-side contours of each bulge (12). The width of the uniformly sealed areas (17) can be changed depending upon the material of sheet, the method of sealing (or jointing), etc., but appropriately is generally 0.1 to 3 mm, preferably 0.5 to 1.5 mm.

It is possible to form holding ribs (14) for easy opening of the container (these ribs are not subjected to linear sealing), at one end of the overlapped and sealed sheets, generally at the end opposite to the end having suppository inlets (13). These ribs (14) can have protuberances (19) for easy pinching of the ribs for fingers.

The material of the sheets used for producing a suppository container of the present invention has no particular restriction, but is preferably natural, semi-synthetic or synthetic resins, particularly heat-sealable thermoplastic resins such as polypropylene, polyvinyl chloride and a laminate sheet of polyvinyl chloride and polyethylene.

The production of a suppository container of the present invention from sheets made of such a resin can be effected by a per se known process. The suppository container of the present invention can be produced, for example, by overlapping two sheets, setting the overlapped sheets in a mold formed so as to provide a molded article as shown in Fig. 1, and subjecting the sheets to vacuum forming or pressure forming with heating to form bulges and simultaneously heat-seal the overlapped portion of the sheets.

The thus produced suppository container (1) of the present invention as shown in Fig. 1 can be made into a packed suppository product (2) as shown in Fig. 2, by injecting a predetermined amount of a molten suppository composition into each bulge (12) through the suppository inlet (13), cooling and solidifying the composition, heat-sealing the inlet (13) to form a sealed portion (18), and forming stitches (16) for easy separation of packed suppository product into individual suppository units.

The packed suppository product is separated into individual suppository units by means of the stitches (16); each suppository unit is subjected to peel-opening by means of the holding ribs (14); thereby, a molded suppository can be taken out of each bulge (12).

As described above, in the suppository container of the present invention, the areas along the two-side contours of each bulge are sealed completely; consequently, the molded suppository has substantially no flash as shown in Fig. 5, has a smooth surface, gives substantially no stimulus to the diseased part when inserted to the anus, and gives no feeling of uneasiness to the patient.

In the above, there was described an embodiment wherein a molten suppository composition is injected into a suppository container in which he areas of narrow width along the two-side contours of each bulge (12) have been sealed completely. The present invention is not restricted to the above embodiment alone. In other embodiment, it is possible, for example, to produce a suppository container (1) as shown in Fig. 3 having no sealed areas (17) of narrow width, according to the conventional process, inject a molten suppository composition into the bulges (12) of the suppository container (1) through the suppository inlets (13), appropriately cool and solidify the composition, then heat-seal the inlets (13) and at the same time uniformly heat-seal the areas of narrow width along the two-side contours of each bulge to form sealed areas (17) and thereby to produce a packed suppository product as shown in Fig. 2.

Therefore, it should be understood that the "suppository container" of the present invention includes not only a molding as shown in Fig. 1 but also other molding produced according to a process other than the above process.

In the above, the suppository container and the packed suppository product of the present invention were described with respect to the preferable embodiments shown in the drawings. However, the present invention is not restricted to these preferable embodiments and can take various modifications within its scope.

Claims

1. A peel-openable container for suppositories, produced by overlapping two sheets, (10), (11), each having a plurality of bulges (12) for containing a suppository, with each other so that the bulges of one sheet face the bulges of other sheet at the respective peripheries, and then sealing the overlapped portion (15) of the two sheets excluding the bulges, in a form of a number of lines with appropriate line-to-line intervals; in which container smooth uniformly sealed areas (17) of such small width as to give substantially no hindrance to peel-opening of the container are formed at least at the portions along the two-side contours of each bulge.

2. A container according to Claim 1, wherein the smooth uniformly sealed areas have a width of 0.1 - 3 mm.

3. A container according to Claim 2, wherein the smooth uniformly sealed areas have a width of 0.5 - 1.5 mm.

4. A container according to any one of the preceding claims wherein the sheets comprise a heat-seal-

able thermoplastic resin.

5. A container according to Claim 4, wherein the sealing is effected by heat sealing.

6. A container according to any one of the preceding claims containing a suppository.

FIG. 1

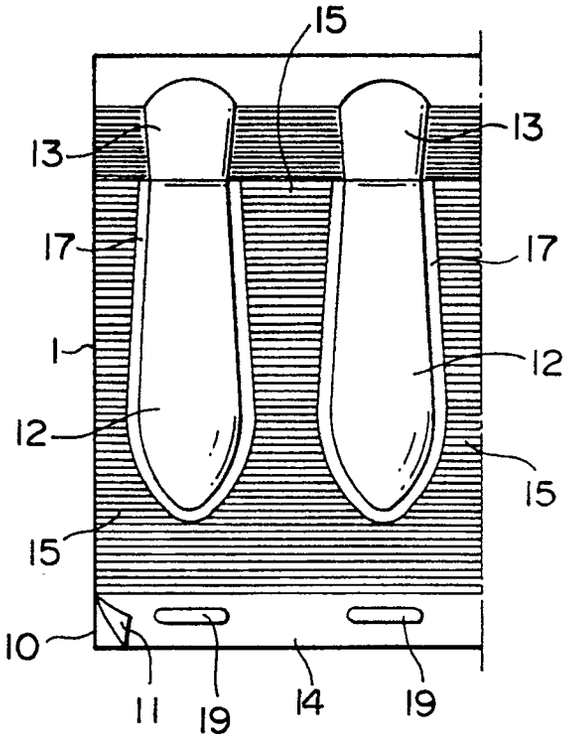


FIG. 2

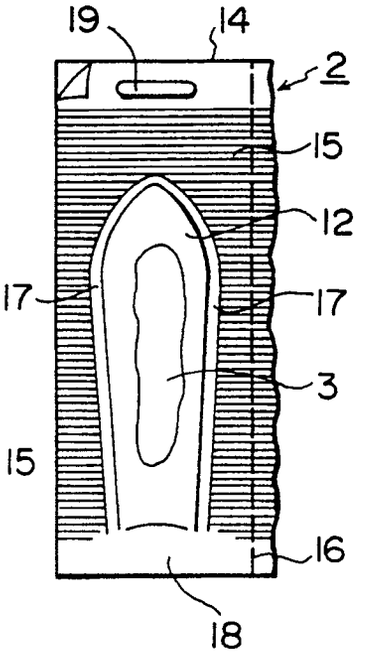


FIG. 3

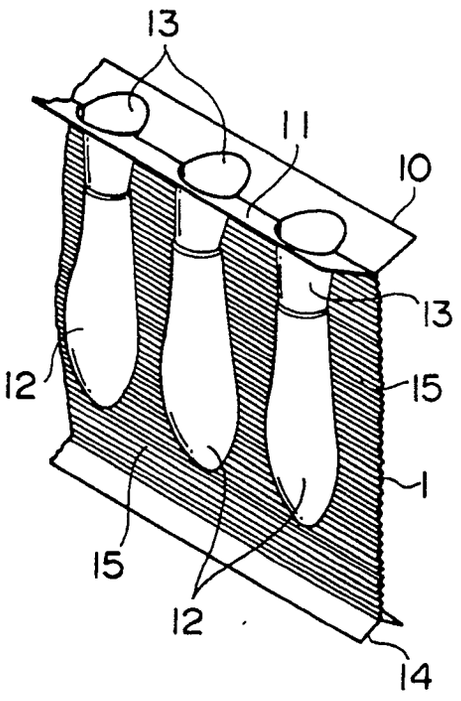


FIG. 4

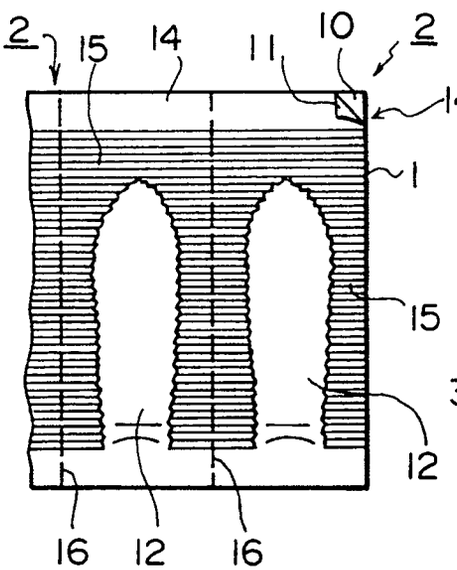
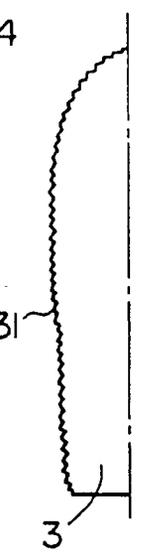


FIG. 5



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EUROPEAN SEARCH REPORT

Application Number

EP 91 30 4933

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	FR-A-1 417 341 (STEINER) * page 2, left column, paragraph 8 -paragraph 9; figure 3 *	1-6	A61J3/08 B65D75/34 B65D75/58
A	FR-A-1 067 307 (NICOLLE) * page 2, left column, paragraph 16 -paragraph 17; figure 1 *	1-6	
A	US-A-3 039 246 (DAVID) * column 3, line 1 - line 45; figure 8 *	1,4-6	
A	FR-A-1 530 471 (NICOLLE)		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

A61J
B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18 SEPTEMBER 1991	LEONG C.Y.

CATEGORY OF CITED DOCUMENTS

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