Title: PERSONALISED MEDICATION HOLDER

Abstract: A holder (100) for storing prescribed medication doses in a sealed cup (112) is provided with a sealing strip (117) a first portion (110) of which covers the mouth of the cup and a second portion (120) carries a picture of the face of the patient for whom the medication has been prescribed. The holder (100) is provided with a rim (113) extending outwardly from the mouth of the cup and with an extension flange (114) having a flat upper surface (111) which is coplanar with the upper surface of the rim (113). The sealing strip adheres to the coplanar surfaces of the rim (113) and the flange (114) and is provided with lines of severance (130 and 131) extending from a pull-tab (151) and along opposite sides of the cup. These lines of severance (130 and 131) are arranged within the confines of the path of the seal between the sealing strip (117) and the rim (113) so that air cannot leak through the lines of severance and into the cup when storing medication doses within the holder. The pull-tab enables the first portion (110) of the sealing strip (117) to be peeled back from covering the cup so that its contents can be accessed by inverting the cup over the palm of the hand of the user.
PERSONALISED MEDICATION HOLDER

Field of the invention

THIS INVENTION relates to the administration of doses of prescribed solid medication to a patient and is more specifically concerned with the provision of a hermetically sealed holder containing the medication doses and which is easily opened, the holder having a portion of a strip adhering to it which positively identifies the patient to whom the medication is to be administered. This ensures that the patient can be positively identified from the holder before it is opened, and, after administration, the open holder indicates the identity of the patient for whom the medication was intended and the nature of the medication itself.

The prior art

It has been proposed to provide solid medication in rectangular sealed sachets of a thin flexible and disposable material. Each sachet contains doses of prescribed medication which are to be administered to a particular patient at a specified time on a specified day. These sachets are supplied in the form of a continuous string having lines of transverse perforations enabling individual sachets of the string to be detached from one another as required. The string may be provided in a coiled form in a dispenser on which the identity of the patient is displayed. The name of the patient may also appear on the individual sachets of the coil.

Nursing homes and other aged-care facilities may require a qualified nurse to administer medication to a large number of patients. The dispensers for the patients are often stored together for convenience. The nurse will detach a sachet from the dispenser corresponding to a particular patient and take the sachet to the patient. The sachet will then be broken open in the presence of the patient and the medication administered. In some cases the action of breaking open the sachet will destroy the print giving the patients name so that it becomes illegible.
To save time it sometimes happens that a nurse required to administer medication doses to more than one patient at a particular time will take the sachets from more than one dispenser in the store. This enables the nurse to provide medication to different patients without having to return to the store after each administration in order to obtain a fresh sachet. However there is then a risk of the nurse confusing one sachet with another if the sachets are not marked with the patients' names. This can result in incorrect medication being administered to a patient. Moreover it sometimes happens that two patients share the same name. This also can result in the two patients receiving each other's medication.

Object of the invention
An object of this invention is to reduce the risk of medication being administered incorrectly.

The invention
In accordance with one aspect of the invention a medication holder in the form of a cup having a stiff coplanar rim from which an integrally-moulded flange having a flat upper surface coplanar with that of the rim extends outwardly from one side of the cup, there being solid medication doses hermetically sealed within the cup cavity by a section of a first portion of a sealing strip which adheres in a manually-releasable manner to the coplanar upper surface of the rim, a second portion of the sealing strip adhering to the flat upper surface of the flange, information positively identifying the patient for whom the medication doses are intended being displayed on one of the two portions, and a manually-operable device provided on the strip and from which a line or lines of severance extend within the confines of the path of the seal formed between the rim and the first portion of the strip, the shape and position of the severance line or lines being such that the device can be used to lift the section of the first portion of the strip covering the cup cavity without detaching the second portion of the strip from the flange.

In accordance with a second aspect of the invention a medication holder made from moulded plastics material and formed with a cup having a rim with a coplanar upper
In accordance with a second aspect of the invention a medication holder made from moulded plastics material and formed with a cup having a rim with a coplanar upper surface; an integrally moulded flange on the holder having a flat upper surface that is coplanar with that of the rim and extends away from one side of the cup; solid medication doses disposed within the cup; a first portion of a sealing strip adhering in a manually-releasable manner to the coplanar surfaces of the rim and the flange to keep the medication doses in place; a second portion of the sealing strip which adheres to the flange displaying information positively identifying the patient for whom the medication doses are intended; and, a line of severance on the strip enabling the first portion covering the cup cavity to be manually detached from the rim of the cup without disturbing the second portion.

An advantage of the invention is that it enables a check on the identity of the patient to be confirmed from the second portion of the strip by a nurse in the presence of the patient and before the cup is opened and the medication doses are administered. Also, after the administration of the medication doses there is a permanent record on the holder that a particular identified patient has received the prescribed medication it contained.

**Preferred features of the invention**

Suitably the free end of the flange is provided with a square-cut end and a flat undersurface. This enables a rectangular extension flap on the second portion of the strip to be folded around the square-cut end and into adherent contact with the flat undersurface of the flange. The exposed surface of the flap may, for example, identify the individual medication doses contained in the cup. This configuration of the strip enables all of the required information on the strip to be printed on one side of it before it is used to seal the prescribed medication doses into the cup. A pressure-sensitive cold sealing strip is preferably used.
In another arrangement the line of severance is formed as a closed loop extending around the printed information on the second portion of the strip in adherent contact with the flange.

The invention enables a string of identical holders to be held together by a printed sheet which provides the sealing strips of the holders. The sheet may be in the form of a strip of extended length. To facilitate individual detachment of a holder from the string, the sheet may be provided with lines of weakness such as perforations, extending between the holders. If the sheet is of extended length the set of holders may be spaced from one another. It is also conceivable that the sheet may be rectangular and formed with a net of lines of weakness so that the individual holders can be located in respective interstices in the net.

Although it is preferred to form the holder from a moulded plastics material, the nature of the material from which it is formed and the process by which the holder is made are not essential to the carrying out of the invention.

**Introduction to the drawings**

The invention will now be described in more detail, by way of examples, with reference to the accompanying drawings, in which:

**In the drawings**

FIGURE 1 is a perspective view of an empty plastics holder prior to a cup, forming part of the holder, being loaded with medication doses;

FIGURE 2 shows the holder of figure 1 after the cavity of the cup has been loaded with doses of medication and sealed by a first portion of a foil sealing strip;

FIGURE 3 shows the holder of figure 2 after removal of the first portion of a sealing strip so that the medication doses in the cup are exposed for removal.

FIGURE 4 is a perspective view of a second form of holder which is shown empty;
FIGURE 5 shows the holder of figure 4 hermetically sealed by a sealing strip and having a cup containing medication doses within its cavity which is closed by the sealing strip;

FIGURE 6 shows a stage in the opening of the holder of figure 5 to give access to the medication doses;

FIGURE 7 shows the holder of figure 6 inverted after removal of the medication doses and displaying the legend giving the contents of the cup and which is printed on the underside of a flange of the holder; and,

FIGURES 8 and 9 respectively show in plan and side views a string of holders held together by an elongated sheet which has sections of its length providing sealing strips for respective holders, the sheet having lines of weakness extending between its opposite sides and disposed between the holders to facilitate their detachment from the sheet.

In the accompanying descriptions of the embodiments of the invention illustrated in the drawings the same reference numerals have been used for similar parts, but in the case of the first embodiment the numerals are in the “ten” series and in the case of the second embodiment they are in the “hundred” series.

Description of first embodiment

Figure 1 shows a holder 10 moulded from a transparent plastics material to provide a cup 12 of substantially square cross-section surrounded by an outwardly-turned, coplanar, stiff rim 13 which is extended on one side to provide a rectangular flange 14. The flange 14 has a flat upper surface 11 which is coplanar with the rim 13 of the holder, and a flat lower surface. The edge of the flange remote from the cup 12 is square-cut and is referenced 16.
In this embodiment the thickness of the plastics material of the cup 12 diminishes towards its base 15. This provides the base with a high degree of flexibility enabling it to be easily pushed upwardly into the cavity of the cup by finger pressure to facilitate the removal of medication doses which have been loaded into the cup interior.

Figure 2 shows the holder 10 of figure 1 after its cup 12 has been loaded with medication doses as prescribed by a doctor, and sealed by a rectangular pressure-sensitive adhesive flexible sealing strip 17 which adheres to the upper surface of the flange 14 and to the rim 13 of the cup as well as to other parts of the holder. The strip 17 is divided by a line of severance 18 having rounded corners, into a first portion 10 closing the cavity of the cup 12 and adhering to the inner part of its rim 13, and a second portion 20 comprising the remainder of the strip 17. The line of severance 18 extends along the path of a hermetic seal formed between the rim 13 and the first portion 10 and enables the first and second portions 10 and 20 of the strip 17 to be readily separated from one another. This is achieved by manually pressing down a device 21 marked "push" and provided in one corner 22 of the holder, the device 21 being located beneath one corner of the line of severance 18 as shown. The sealing strip at the associated corner of the line of severance can then be lifted up by being gripped between the fingers so that it no longer covers the cup. This may be assisted by pressing the flexible base 15 of the cup upwardly.

The upper surface of the strip 17 is printed so that the central region of its first portion 10 identifies the name of the patient for whom the medication doses have been prescribed. The first portion also lists the time at which the medication is to be taken; and, the nature of the medication doses within the cup.

As shown in figure 3, the second portion 20 of the strip adhering to the upper flat face of the flange 14, is printed with a picture of the face of the patient, the time at which the medication doses in the cup are to be taken, and a bar code 23 which provides in coded form all of the printed information mentioned above. As illustrated, the name of the patient also appears along one margin of the strip so that it remains in place after removal of the central region of the first portion 10 of the strip 17.
Description of second embodiment

Figure 4 shows a holder 100 made from a rigid moulded plastics or some other material. The holder provides a cubical cup 112 into which prescribed medication doses can be placed and stored until required for use. The mouth of the cup is surrounded by an outwardly-turned flat rim 113 having its upper surface coplanar with the upper surface 111 of a rectangular flange 114 which extends outwardly from the cup 112 at one side of the holder 100. The rim 113 is provided centrally at its edge opposite the flange 114 with a device in the form of a part-circular cut-out 150.

As is shown in figure 5, the coplanar surfaces of the rim 113 and the flange 114 are covered by an adhering sealing strip 117. A first portion 110 of the sealing strip 117 covers the cavity of the cup 112 and a second portion 120 adheres to the upper surface of the flange 114. The strip 117 has an extension flap 140 which wraps around the square-cut edge 104 of the end of the flange 114 and adheres to the flat underside of the flange 114 as shown in figure 7. The nature of the medication within the cup 112 is written on the exposed face of the flap 140 as is diagrammatically illustrated at 129 in figure 7.

The second portion 120 of the strip 117 carries a picture of the patient to whom the prescribed medication is to be administered. The first portion 110 lists the nature of the medication doses in the cavity of the cup 112. Other information contained on or adjacent the first portion 110 identifies the patient by name, and the time at which the medications doses are to be administered. All of this information is encoded in a bar code 151 on the first portion 110 of the sealing strip.

As is apparent from figure 5 part of the sealing strip 117 overlaps the cut-out 150 to provide a pull-tab 152 for releasing the first portion 110 of the sealing strip 117 from the mouth of the cup 112. This release is achieved by a pair of severance lines 130,131 respectively formed through the sealing strip 117 and extending from the pull-tab 152
along the paths of the seal formed between the sealing strip and the rim 113 at opposite sides of the cup 112. This is apparent from figure 6 which shows the portion 110 of the sealing strip 117 partially lifted from the top of the cup 112. As the lines of severance 130,131 extend within the confines of the path of the seal on the rim 113 leakage of air through the severance lines and into the cup 112 when it is closed by the sealing strip 117, is avoided. It will also be noticed from figures 5 and 6 that the two lines of severance 130,131 terminate at the end of the cup 112 opposite the cut-out 150. Thus the cup can be fully opened without totally detaching any part of the sealing strip 117 from the holder 100. Once opened, the medication doses can be accessed by simply inverting the cup over the palm of the hand.

Figures 8 and 9 show how a set of holders 100 as shown in the second of the embodiments described, can be connected together so that they can be provided in the form of a coil (not shown). Individual holders 100 can be detached from the outer end of the coil as required.

After the holders have been arranged side-by-side as shown in figure 8 and their cups 112 filled with the required prescribed medication doses, an elongated sheet 160 providing the sealing strips 117 for the holders 100 can be laid over the top of the line of holders and cold sealed to their rims 113 and flanges 114. The elongated sheet 160 is provided with lines of weakness 161 such as perforations, each of these lines being located between a pair of holders as shown in figure 9. Once each of the holders 100 has been sealed, the elongated sheet 160 with the string of holders can be coiled up in readiness for use.

The advantage of this way of handling the holders 110 is that even though the holders may have been detached from the coil they can each be visually correlated with the requirements of a particular patient whose face and name appear on the holder. It should be born in mind that it is not uncommon for two patients in an aged care facility to have the same name and, a clear distinction cannot always be made between two different patients. In such a situation the risk of the medications required by two
Modifications of the embodiments.

In one modification of the embodiments the picture of the face of the patient which is necessary to provide the positive identification, is provided on the first portion of the sealing strip rather than the second portion.

5 In a second modification of the embodiments the information concerning the nature of the contents of the cup is provided on a label adhered to the underside of the flange and which is separate from the sealing strip.

In a third modification of the embodiments the adherence of the sealing strip to the holder is achieved by some other acceptable technique than cold pressure sealing.
Claims

1. A medication holder in the form of a cup having a stiff coplanar rim from which an integrally-moulded flange having a flat upper surface coplanar with that of the rim extends outwardly from one side of the cup, there being solid medication doses hermetically sealed within the cup cavity by a section of a first portion of a sealing strip which adheres in a manually-releasable manner to the coplanar upper surface of the rim, a second portion of the sealing strip adhering to the flat upper surface of the flange, information positively identifying the patient for whom the medication doses are intended being displayed on one of the two portions, and a manually-operable device provided on the strip and from which a line or lines of severance extend within the confines of the path of the seal formed between the rim and the first portion of the strip, the shape and position of the severance line or lines being such that the device can be used to lift the section of the first portion of the strip covering the cup cavity without detaching the second portion of the strip from the flange.

2. A medication holder made from moulded plastics material and formed with a cup having a rim with a coplanar upper surface; an integrally moulded flange on the holder having a flat upper surface that is coplanar with that of the rim and extends away from one side of the cup; solid medication doses disposed within the cup; a first portion of a sealing strip adhering in a manually-releasable manner to the coplanar surfaces of the rim and the flange to keep the medication doses in place; a second portion of the sealing strip which adheres to the flange displaying information positively identifying the patient for whom the medication doses are intended; and, a line of severance on the strip enabling the first portion covering the cup cavity to be manually detached from the rim of the cup without disturbing the second portion.

3. A holder as claimed in claim 1 or claim 2, in which the contents of the cup are identified in writing on the underside of the flange.

4. A holder as claimed in claim 1 or claim 2, in which the free end of the flange remote from the cup is provided with a square-cut end and a flat undersurface, and an
extension flap on the second portion of the strip is folded around the square-cut end and adheres to the flat undersurface of the flange, the extension flap identifying on its exposed face the individual medication doses within the cup.

5. A holder as claimed in any one of the preceding claims, in which the or each line of severance extends from a, or the device which assists the initial separation of the first portion of the sealing strip from the rim.

6. A holder as claimed in claim 2, in which the second portion of the sealing strip is formed with a line of severance which extends wholly or partially around the information positively identifying the patient.

7. A holder as claimed in claim 1, in which the device is in the form of a pull-tab extending across a rebate provided in the edge of the rim.

8. A holder forming one of a set of identical holders as claimed in any one of the preceding claims, the holders being arranged side-by-side in a string and having their respective sealing strips formed by adjacent parts of a sealing sheet adhering to the rims and the flanges of the holders and provided with parallel lines of weakness respectively located between the holders.

9. A holder as claimed in any one of the preceding claims, and arranged and adapted to be used substantially as described with reference to either of the embodiments shown in the accompanying drawings or the modifications thereof.

10. The combination of a flanged cup and a sealing strip for manufacturing a holder as claimed in any one of the preceding claims.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

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<td>B65D 83/04 (2006.01)</td>
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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPDOC, TXTE: A61J1, B65D, B65D17/34, B65D17/28, B65D43/02, B65D75/58F, B65D75/58B, B65D53/08, B65D83/04, B65B7/28. Keywords: holder, pill box, pack, dispenser, cup, tub, box, identification, patient, name, data, information, flange, rim, edge, tab, strip, severance, tear, torn, seal, peel, strip off, tear off, remove, detach, frangible, medicine, dose, tablet, ampoule, drug, capsule, pill, label, bar code, qr code, indicia

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>US 4691820 A (MARTINEZ) 8 September 1987 See figure 2, abstract</td>
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<td>A</td>
<td>See column 1 line 53 – column 2 line 18</td>
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<td>X</td>
<td>US 5620087 A (MARTIN et al.) 15 April 1997 See column 5 lines 59-67, column 6 lines 31-34, figure 2</td>
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<td>A</td>
<td>See column 5 lines 59-67, column 6 lines 31-34, figure 1, abstract</td>
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<td>Y</td>
<td>US 2006/0086640 A1 (LUCIANO, JR. et al.) 27 April 2006 See paragraphs [0037], [0038], [0041], [0042], figure 1, figure 3a, figure 3b</td>
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<tr>
<td>Y</td>
<td>US 3154225 A (J. J. WADLINGER et al.) 27 October 1964 See column 2 lines 37 – 46, figure 4</td>
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* Further documents are listed in the continuation of Box C

**Date of the actual completion of the international search**

17 December 2009

**Date of mailing of the international search report**

23 Dec 2009

**Form PCT/ISA/210 (second sheet) (July 2009)**
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<td>US 4209126 A (ELIAS) 24 June 1980</td>
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INTERNATIONAL SEARCH REPORT

Box No. II  Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. □ Claims Nos.:
   because they relate to subject matter not required to be searched by this Authority, namely:

2. □ Claims Nos. : 9
   because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
   
      The claim does not comply with Rule 6.2(a) because it relies on references to the description and/or drawings.

3. □ Claims Nos.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. □ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. □ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. □ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. □ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

□ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

□ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

□ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (July 2008)
This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX