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(54) Package dispenser.

(57) A dispenser, particularly for gravity-fed articles, has a mouth (102) through which the leading article of an array is urged, and restraint means(103) for restraining passage of an article unless it is pulled by a user. The restraint means (103) act to narrow the mouth but are resiliently deformable to widen it. They may involve brush members (150) which may be interchangeably mounted (154) adjacent the mouth. There is an indicator member (162) which travels forward with an array of articles until a portion (164) projects, indicating that the array is nearly exhausted.

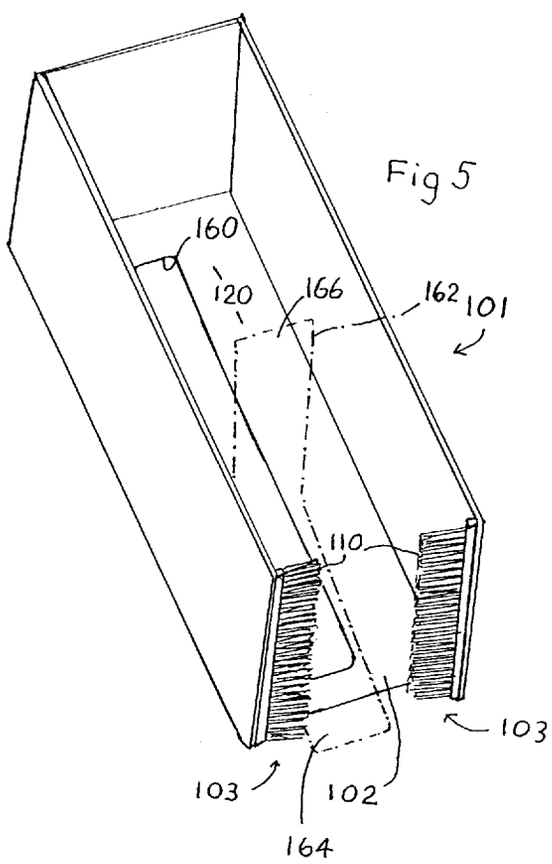

Fig 5

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The present invention relates to a dispenser, for example for packages of cigarettes.

According to the present invention there is provided a dispenser for packages comprising a container for an array of packages, the container having a mouth through which packages are successively removable and wherein package restraint means are provided at or adjacent the mouth to restrain removal of packages, said restraint means comprising portions projecting so as to narrow the mouth of the container, and which are resiliently displaceable to widen the mouth.

The package restraint means may comprise one or more strips of resilient material and/or arrays of resilient bristles and/or strips of fabric with resiliently compressible pile and/or blocks of resiliently compressible material. Preferably the dispenser is arranged to provide gravity-feed of packages towards the mouth, e.g. having a sloping floor, or being substantially vertical. The arrangement may be such that, were it not for the package restraint means, packages would fall out of the container under gravity.

Desirably, the dispenser is adapted to operate with packages having a range of widths. Thus the restraint means may project progressively in the dispensing direction, so that packages of different widths can rest at the mouth at different positions. Alternatively bristles of suitable firmness can support differently sized packages that overlap them to different extents.

Some embodiments of the invention will now be described in greater detail by way of example, with reference to the accompanying drawings in which:

Fig. 1 is a perspective view of a first embodiment of a package dispenser according to the invention;

Fig. 2 is a horizontal section through the mouth region of the dispenser shown in Fig. 1;

Fig. 3 is a view similar to Fig. 2 but showing a simpler embodiment;

Fig. 4 is a schematic perspective view of the mouth region of a second embodiment;

Fig. 5 is a perspective view of a further embodiment of package dispenser employing bristles;

Fig. 6 is a plan view on a larger scale of disassembled parts of a package restraint means of the Fig. 5 embodiment; and

Fig. 7 is a plan view of an alternative component of package restraint means.

A dispenser as shown in figures 1 and 2 comprises a container 1, suitably of moulded plastics, with a sloping floor 20 which allows gravity feed of packages 14 (e.g. cigarette packets) towards the mouth 2 of the container. The packages are restrained from falling out of the container by the package restraint means 3 which narrow the mouth 2. The restraint means are affixed to the walls 8 of the container adjacent the mouth 2. As shown more clearly in Fig. 2, the restraint means comprise strips of resiliently displaceable material 10, such as pvc, each affixed to the wall 8 of the container in a recess 11. Each strip 10 has a mounting portion 22 that is mounted in the recess and an angled tongue portion 26 that projects to narrow the mouth 2 and is resiliently displaceable to widen the mouth. Strips of fabric 12 with resiliently compressible pile (e.g. a Velcro(trademark) fabric, preferably the non-hooked pile fabric of a Velcro pair) are affixed to the strips. The motion of a package 14 approaching the mouth 2 under gravity is thus arrested by the pile of the fabric 12. For dispensing, the package 14 is pulled through the mouth 2, resiliently displacing the restraint means 3 by flexing the strips 12 and deforming the pile of the fabric 12. The resilient nature of the restraint means 3 allows the mouth 2 to narrow again once the package has passed, thus preventing succeeding packages from falling out.

The dispenser can handle a range of packages of different widths, which will tend to rest at different positions, as shown at 30 and 32 in Fig. 2.

A simple embodiment as shown in Fig. 3 has less tolerance. In Fig. 3 the fabric 12 is shown affixed directly to the wall 18 of the container. A package 14 is halted by the fabric 12 whose pile is resiliently displaced on dispensing. The container may be of card material.

The invention is also applicable to upright dispensers. Thus a substantially vertical container (actually with a slight rearward lean) is shown in Fig. 4. It has a mouth 2 at the bottom, with an opening 34 in the front wall to show the packages and facilitate access to them. Restraint means 3 as in Fig. 2 prevent packages falling through the mouth, but allow dispensing by displacement of the resilient materials. This embodiment reduces the shelf or counter area occupied by the dispenser.

Fig. 5 shows another form of dispenser 101 that, like that of Fig. 1, is intended to extend horizontally but with a certain slope. It differs principally in the form of its package restraint means 103 (which may also be applied to vertical-type containers). Resilient restraint is provided by arrays of bristles 110, oriented to narrow the container mouth 102. Preferably there is an opposed pair of arrays 110. As shown in Fig. 6, an array may be provided by a brush strip 150 having a retaining channel member 152 from which a row of bristles 110 projects. This may be located in a carrier extrusion 154 having a narrow-mouthed channel portion 156 for engaging it, and a container engaging portion 158. As shown in Fig. 6, the container engaging portion 158 may also have the form of a narrow-mouthed channel, with mouth portions 160 engageable in recesses 162 provided in the walls 108 of the container. With such an arrangement it is easy to slide out and replace a brush strip 150, e.g. if bristles of different length or resilient strength are required. It is

also possible to change the container engaging portion 158, e.g. to one (158') as shown in Fig. 7 in which the brush engaging channel portion 156' is angled so that the bristles will project at an angle, instead of directly towards the opposing bristles.

Fig. 5 also shows a channel 160 extending longitudinally in the base 120 of the container. This is for mounting a slidable indicator member 162. This has a flat base portion 164, a flat upright portion 166 and a formation which engages in the channel 160 so as to delimit the sliding range of the member 162. The phantom lines in Fig. 5 show its fully forward position, with the base portion projecting slightly forwardly of the container mouth region. It can slide rearwardly until the upright portion 166 is adjacent the rear wall of the container. It will slide forwardly as the container is progressively emptied (preferably urged only by gravity, though it could be spring biased, in which case it could also serve to urge articles forwardly).

When the container is almost empty, this will be signalled by the appearance of the projecting base portion, which is suitably of a colour that will be conspicuous. Of course the ability of such an indicator member is not restricted to systems using this particular form of restraint means, or indeed, any restraint means.

Claims

1. A dispenser for packages (14) comprising a container (1;101) for an array of packages (14), the container (1;101) having a mouth (2;102) through which packages (14) are successively removable and wherein package restraint means (3;103) are provided at or adjacent the mouth (2;102) to restrain removal of packages, said restraint means comprising portions (26,12;110) projecting so as to narrow the mouth (2;102) of the container, and which are resiliently displaceable to widen the mouth.

2. A dispenser according to claim 1 wherein the resiliently displaceable portions comprise one or more arrays of resilient bristle (110).

3. A dispenser according to claim 2 having adjacent the mouth (102) means (154) for releasably retaining a bristle array (110).

4. A dispenser according to claim 3 including a plurality of different bristle retaining means (158,158') selectively engageable adjacent the container mouth to provide bristle arrays projecting in different directions.

5. A dispenser according to claim 1 wherein the resiliently displaceable portions comprise one or more resilient strips (10) of plastics material.

6. A dispenser according to claim 1 or claim 5 wherein the resiliently displaceable portions comprise one or more portions of fabric (12) with resilient pile.

7. A dispenser according to any preceding claim adapted to be mounted so that packages are urged by gravity to exit through the mouth, where they are restrained by the restraint means.

8. A dispenser according to any preceding claim including an indicator member (162) mounted in the container so as to be displaceable in the dispensing direction; said member having a portion (166) engageable behind an array of packages in the container so that it moves forwards as the array is depleted; said member having an indicator portion (164) which becomes visible when it has moved forward to a predetermined extent corresponding to a predetermined degree of depletion.

Fig 1

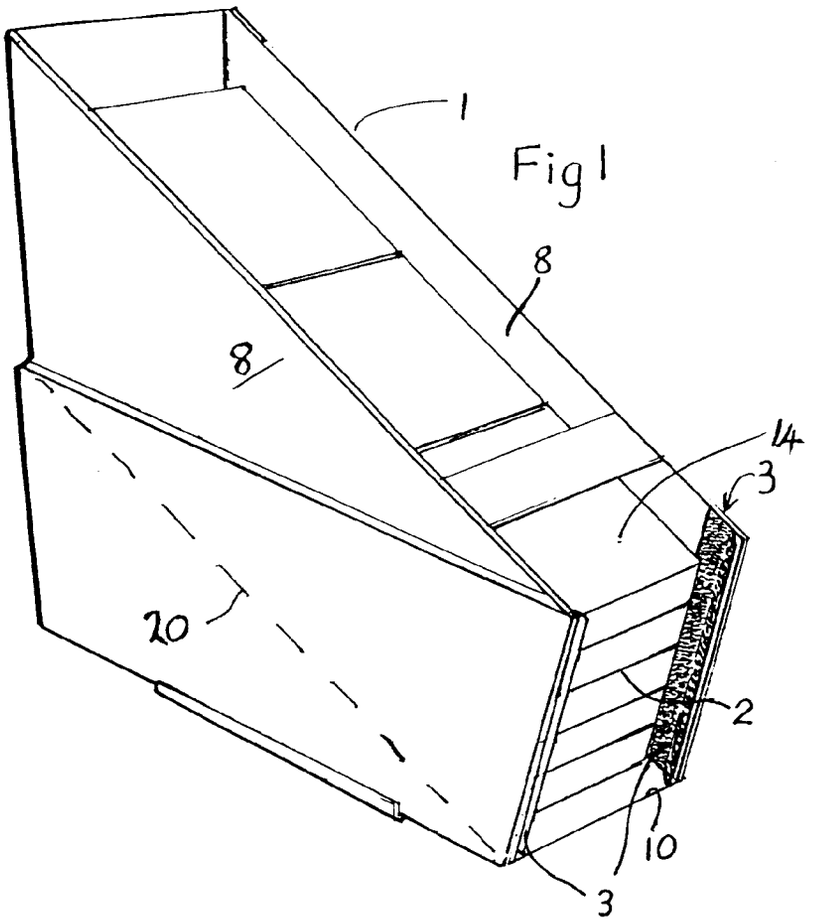


Fig 3

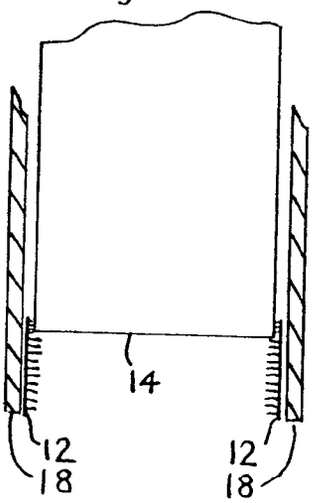


Fig 4

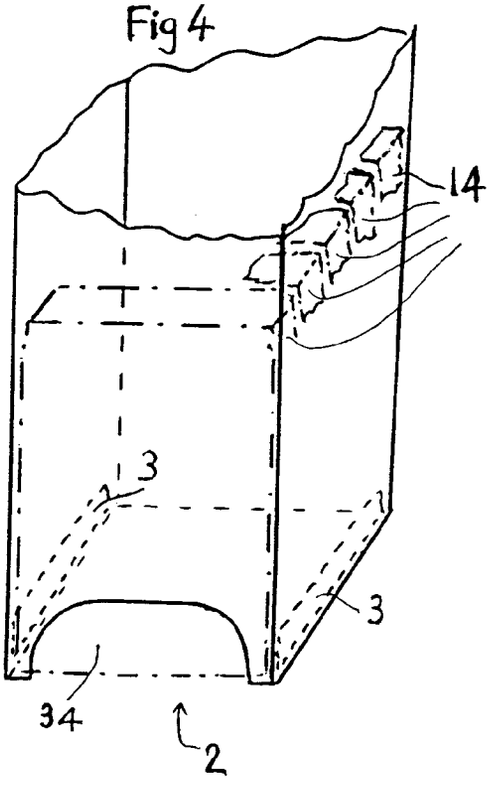
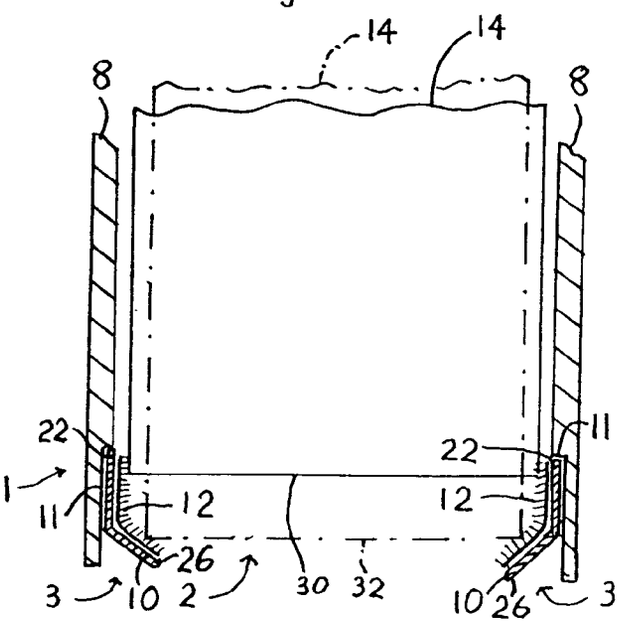


Fig 2



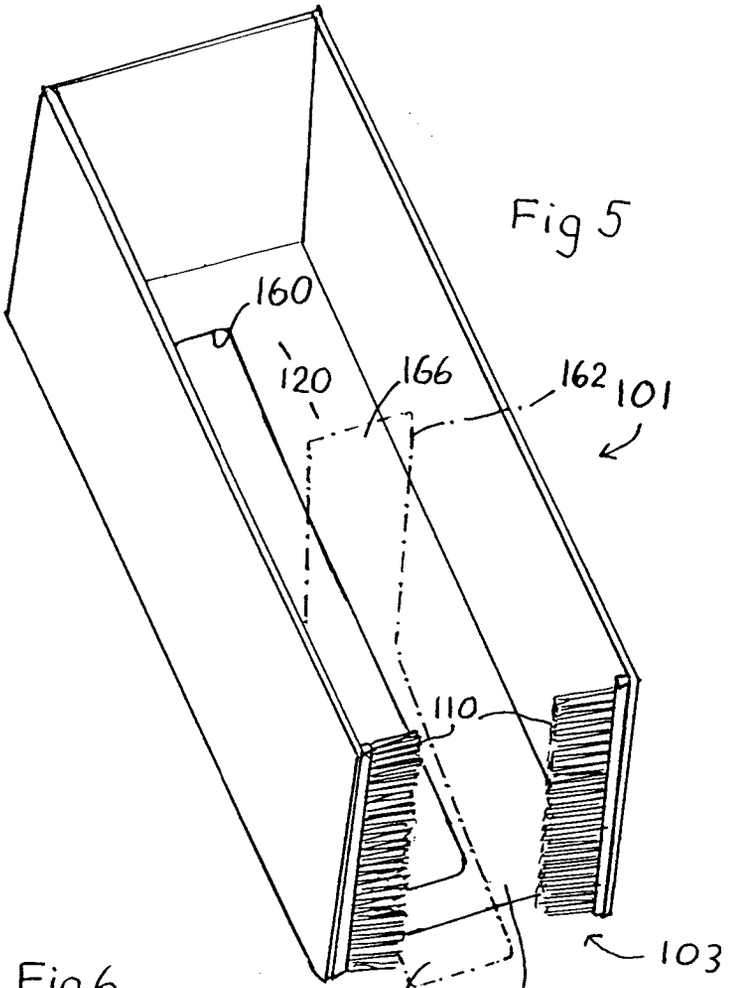


Fig 5

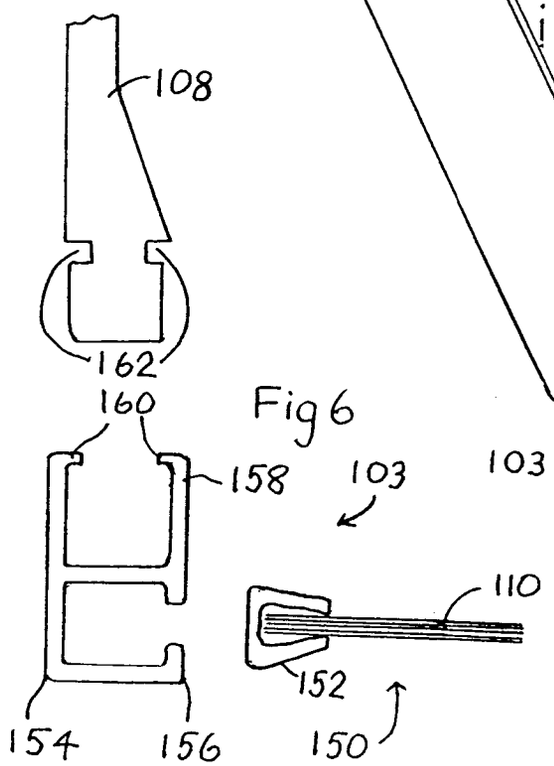


Fig 6

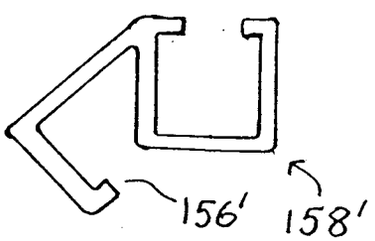


Fig 7

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 30 3441

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 A	GB-A-1 089 047 (SOLO CUP) * the whole document *	1,2,7 6	B65D83/00 A47F1/12
X	DE-B-1 271 332 (BELLAPLAST) * column 5, line 27 - column 6, line 45; figure 3 *	1,5,6	
X A	GB-A-2 190 904 (MILES) * abstract; figures 2,3 *	1 8	
X A	GB-A-460 460 (HARWOOD) * page 2, left column, line 45 - right column, line 22; figures 2,3 *	1 8	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B65D A47F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	13 AUGUST 1993	LEONG, C. Y.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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