



Europäisches Patentamt
European Patent Office
Office européen des brevets

Publication number:

0 327 733
B1

12

EUROPEAN PATENT SPECIFICATION

45 Date of publication of patent specification: **02.01.91**

51 Int. Cl.⁵: **B 67 B 7/86**

21 Application number: **88200206.6**

22 Date of filing: **05.02.88**

54 **Carton spout.**

43 Date of publication of application:
16.08.89 Bulletin 89/33

73 Proprietor: **ARICOM B.V.**
P.O. Box 7130
NL-2701 AC Zoetermeer (NL)

45 Publication of the grant of the patent:
02.01.91 Bulletin 91/01

72 Inventor: **Kornmehl, Reuben Josef**
Pekkendam 1
NL-1081 HP Amsterdam (NL)

84 Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

7A Representative: **Flamman, Han**
LIOC Patents and Licensing P.O. Box 85096
NL-3508 AB Utrecht (NL)

56 References cited:
EP-A-0 241 632
WO-A-86/05168
US-A-2 112 470
US-A-2 575 083
US-A-2 589 890
US-A-3 285 472
US-A-4 561 560
US-A-4 699 296

EP 0 327 733 B1

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European patent convention).

Description

The invention relates to a pouring and piercing apparatus for drink cartons. Various embodiments of this kind of apparatus are known. The main problem with these known apparatus is, that the use of all of them leads to an unwanted spilling of liquid. This spilling happens either during the act of piercing the carton, or during the pouring out of the liquid, or both.

By using the apparatus according to the invention, the above drawbacks do not occur. It combines a number of features, which if taken alone are well known, but which in combination, yield the desired result. The said features are

at least two portions (1, 2) which when in use at least partially grip the carton (14);

at least two members (8, 9) of tubular form with at their lower side open end-portions (12, 13) which in use pierce the carton (14) and at their upper side emerge into a reservoir (5) in the apparatus;

a reservoir (5) with a sliding shutter (16), the sliding range of which being so limited that it is always over the mouths (10, 11) of the tubular members;

and apart from the slidable shutter (16):

consisting of one single piece of material.

The portions which grip the carton, usually consist of two legs which grip the corners of the carton diagonally opposite each other, each leg engaging adjoining exterior surfaces of the outer walls of the carton on both sides of a vertically extending corner. In case of a carton of a form other than rectangular, say hexagonal, the legs, having the form of a bent strip show a bent-angle corresponding thereto.

If such an apparatus is put on a carton, so that the piercing members pierce the carton, liquid may spurt out through these members. The liquid then is caught in the reservoir, which keeps it from being spilled. If it spurts out with a comparatively high velocity, it bounces against the — slidable — shutter, which covers the reservoir and which is dimensioned and slidable such, that in all positions it is present over the mouths of the piercing members. The above of course not only happens during piercing, but also during pouring out.

As to the various features being known separately:

US-patent no. 4 699 296 for instance teaches how a dispensing device, being used in combination with a brick pack and with 'spikes' which pierce the pack, is provided with 'a hollow interior' to permit the fluid to flow therein. This hollow interior is a closed reservoir. Disadvantages of the device are, that the reservoir does not have a sliding shutter and further: the device does not exist of one piece of material, which makes it more complicated, both in manufacturing and in use.

The published European patent application no. 0241 632 also shows a dispensing device which has similarities with the apparatus according to

the invention. The device indeed shows a reservoir with a slidable shutter (fig. 1, ref. no. 16 and column 5, line 6): however: only one of the piercing members emerges into a reservoir over it. This construction does not prevent the liquid to leave the pack unwantedly: that may easily happen around the member which does not give access to the reservoir.

Subject of the US-patent no. 2 112 470 is a 'punch and pouring device for use with canned milk'. It has two puncturing elements and it has a reservoir which both elements give access to. However: this is a reservoir which is closed permanently: no slidable shutter!

US-patent no. 2 589 890 discloses a 'can holding, opening and pouring device' with a slidable shutter, however: without a reservoir underneath.

The PCT-application WO-A-86 05 168 discloses 'pourers for cartons' consisting of one piece of material. That device however has only an open reservoir above the one tubular member which serves as pouring conduit. Once it has been put on a carton, a little pressure from the outside on the carton walls already causes liquid to come out of the tubes, thus leading to the spilling which is sought to be prevented.

From the foregoing summing up of what is known from various publications, also describing pouring and piercing apparatus, it goes that none of them adequately solves the problem as does the apparatus according to the invention.

In a preferred embodiment of the apparatus according to the invention the two portions which grip the carton are of unequal length. This makes the apparatus to be easily pushed into position on a carton in one single movement: the apparatus firstly is positioned over the carton with the longest leg pushed against a corner thereof and then the shorter leg is pushed over the other corner, located diagonally opposite thereto.

A further embodiment of the apparatus shows a sliding shutter, being provided over at least part of its length on both sides thereof, with two ears which extend to the sidewalls of the reservoir and which slide along between two stops which define the 'open' and 'closed' positions. As explained hereinbefore: the distance along which the shutter may slide, is limited in order to ensure that in every position it is present over both piercing members in order to catch liquid which spurts out and to keep it within the confines of the reservoir. The ears which are arranged at both sides of the shutter preferably engage the side walls of the reservoir by means of a snap-closure. The shutter then is removable from the reservoir by simply bending outward both ears, which makes the apparatus easily cleanable.

In order to provide a good holdfast for the fingers if it is held, the ears on their outer surfaces are corrugated.

The invention will be described with reference to the accompanying drawings in which:

Fig. 1 is a side elevation of one embodiment of the pouring apparatus according to the invention;

Fig. 2 is a plan view thereof illustrating the

manner in which the apparatus is fitted to a carton;

Fig. 3 is a plan view of an embodiment of a sliding shutter used to close off the apparatus from above.

Figs. 1 and 2 show the two legs 1 and 2 which when in use, grip around diagonally opposite corners 3 and 4 (see fig. 2) of a drink carton 14 (see fig. 2). One leg 2 is provided with surfaces 23 and 24 which lie up against the outer surfaces 25 and 26 on each side of the corner 4 of the carton 14. In a like manner, the leg 1 grips the corner 3 of the carton 14. The legs 1 and 2 are joined by a portion 5 (see fig. 2) which mainly comprises a reservoir, the sidewall of which is designated by the reference numeral 6. The mouths 10 and 11 (see fig. 2) of two mainly tubular members 8 and 9 emerge in the bottom 7 of the reservoir. As illustrated, these tubular members 8 and 9 are mainly of inverted conical form, extend vertically downward and are provided with sharp edges at their free extremities which may pierce the upper wall of the carton 14. In the illustrated embodiment, liquid flows into the reservoir through the aperture 10 via the portion of the inlet 12 thereof and air flows into the carton 14 through the aperture 11 of portion 9 via the outlet 13 thereof.

In the illustrated embodiment, the sidewalls of the reservoir are partially recessed inwardly toward one another to form wall portions 15. The reservoir can be closed off from the exterior with a sliding shutter 16 (see fig. 3) which can slide along the outside of the wall portions 15 by the engagement therewith of the inner walls of the downwardly extending ears 17 of the shutter 16. The length portion of the reservoir over which the shutter is allowed to slide is limited by the stops 18 and 19 against which the extremities 20 and 21 of the shutter engage. When extremity 20 engages against stop 19, the reservoir is open at one end (as illustrated in fig. 3 i.e. when the shutter is in its leftward position) and liquid can be poured from the reservoir via the pouring spout 22.

Fig. 2 illustrates the manner in which the pouring apparatus according to the invention is fitted to a rectangular carton. The apparatus extends outside the bounds of the carton 14 with its pouring spout 22.

Fig. 3 illustrates the manner in which the reservoir is closed off by the flat sliding shutter. The ears 17 extend vertically downward from the shutter 16 on opposite sides thereof in a direction approximately perpendicular thereto. When the apparatus is in use, the ears 17 extend over the sidewalls 15 which they grip with their lower edges. Fitting and removal of the shutter to and from the reservoir respectively is achieved by bending the ears outward away from one another so that the snap-closure which is formed between the ears 17 and the sidewalls 15 may be closed when the shutter is fitted or maybe opened when the shutter is removed.

Claims

1. Pouring and piercing apparatus for drink cartons, provided with at least two portions (1, 2) which when in use at least partially grip the carton (14);

at least two members (8, 9) of tubular form with at their lower side open end-portions (12, 13) which in use pierce the carton (14) and at their upper side emerge into a reservoir (5) in the apparatus;

a sliding shutter (16) for the reservoir (5), the sliding range of which being so limited that it is always over the mouths (10, 11) of the tubular members;

and apart from the slidable shutter (165):
consisting of one single piece of material.

2. Pouring and piercing apparatus as claimed in claim 1, characterised in that the portions which grip the carton are of unequal length.

3. Pouring and piercing apparatus as claimed in claim 1 or 2, the sliding shutter being provided over at least part of its length on both sides thereof, with two ears 17, which extend to the sidewalls (15) of the reservoir (5) and which slide there along between two stops (18, 19) which define the 'open' and 'closed' positions.

4. Pouring and piercing apparatus as claimed in claim 3, the ears (17) engaging the sidewalls (15) through the action of a snap-closure formed therebetween and in which the sliding shutter (16) is removable by opening the closure by bending outward the ears (17).

5. Pouring and piercing apparatus as claimed in claims 3 and 4, the ears (17) on their outer surfaces being corrugated.

Patentansprüche

1. Gerät zum Ausschanken und Durchlochen von Trinkbehältern aus Pappe, ausgestattet mit mindestens zwei Teilstücken (1, 2) die im Gebrauch den Behälter (14) zuminst teilweise umfassen:

mindestens zwei röhrenförmigen Teile (8, 9), die an ihren Unterseiten offene Endausführungen (12, 13) haben, die im Gebrauch den Behälter (14) durchlochen und die an ihren oberen Enden in ein Reservoir (5) innerhalb des Geräts einmünden;

ein Gleitverschluss (16) für das Reservoir (5), dessen Gleitbereich so begrenzt ist, dass er sich immer über den Mündungen der beiden röhrenförmigen Teile (10, 11) befindet;

und dass mit Ausnahme des Gleitverschlusses (16):

das Gerät aus einem einzigen Stück Material besteht.

2. Gerät zum Ausschanken und Durchlochen entsprechend Anspruch 1, dadurch gekennzeichnet, dass die Teilstücke zum Umfassen des Pappbehälters verschiedene Länge haben.

3. Gerät zum Ausschanken und Durchlochen entsprechend Anspruch 1 oder 2, wobei der Gleitverschluss über mindestens einen Teil seiner Länge und an seinen beiden Seiten mit zwei

Seitenteilen (17) versehen ist, die sich längs der beiden Seitenwände (15) des Reservoirs (5) erstrecken und der zwischen zwei Halteeinrichtungen 18 und 19 gleiten kann die den 'offenen' und 'geschlossenen' Zustand des Reservoirs festlegen.

4. Gerät zum Ausschanken und Durchlochen entsprechend Anspruch 3, wobei die Seitenteile (17) und die Seitenwände (15) mit Hilfe eines Schnappverschlusses, der durch die beiden Teile geformt wird, im engen Kontakt miteinander sind, und bei dem der Gleitverschluss (16) dadurch entfernt werden kann, dass der Schnappverschluss durch Nachausenbiegen der Seitenteile (17) geöffnet wird.

5. Gerät zum Ausschanken und Durchlochen entsprechend Anspruch 3 und 4, wobei die Seitenteile an ihren Aussenflächen aufgeraut sind.

Revendications

1. Appareil verseur et perceur pour les emballages cartonnés de boisson muni

d'au moins deux parties (1, 2), qui lors de l'utilisation adhèrent partiellement au moins à l'emballage (14);

d'au moins deux éléments (8, 9) de forme tubulaire avec à leur extrémité inférieure des parties finales ouvertes (12, 13), qui percent l'emballage cartonné (14) lors de l'utilisation et débou-

chent à leur extrémité supérieure dans un réservoir (5) dans l'appareil;

un volet coulissant (16) pour le réservoir (5) dont le champ mobile est si limité qu'il est toujours sur les ouvertures (10, 11) des éléments tubulaires;

et, mis à part le volet mobile (16):

consistant en une seule pièce de matériel.

2. Appareil verseur et perceur comme revendiqué dans la revendication 1, caractérisé en ce que les parties qui adhèrent à l'emballage sont de longueur inégale.

3. Appareil verseur et perceur comme revendiqué dans la revendication 1 ou 2, le volet coulissant étant muni sur au moins une partie de sa longueur des deux côtés de deux languettes 17, qui se prolongent sur les parois latérales (15) du réservoir (5) et qui coulissent le long de celles-ci entre deux butoirs (18, 19), qui définissent les positions 'ouvert' et 'fermé'.

4. Appareil verseur et perceur comme revendiqué dans la revendication 3, les languettes (17) retenant les parois latérales (15) sous l'action de la fermeture-ressort formée entre celles-ci, et dans laquelle le volet coulissant (16) est amovible en ouvrant la fermeture en courbant les languettes (17) vers l'extérieur.

5. Appareil verseur et perceur comme revendiqué dans les revendications 3 et 4, les languettes (17) étant ondulées sur leurs faces extérieures.

35

40

45

50

55

60

65

4

