

12

EUROPEAN PATENT APPLICATION

21 Application number: 87202084.7

51 Int. Cl.4: B65D 8/04

22 Date of filing: 29.10.87

30 Priority: 10.11.86 GB 8626766

43 Date of publication of application:
18.05.88 Bulletin 88/20

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

71 Applicant: UNILEVER NV
Burgemeester s'Jacobplein 1 P.O. Box 760
NL-3000 DK Rotterdam(NL)

84 BE CH DE ES FR GR IT LI NL SE AT

71 Applicant: UNILEVER PLC
Unilever House Blackfriars P.O. Box 68
London EC4P 4BQ(GB)

84 GB

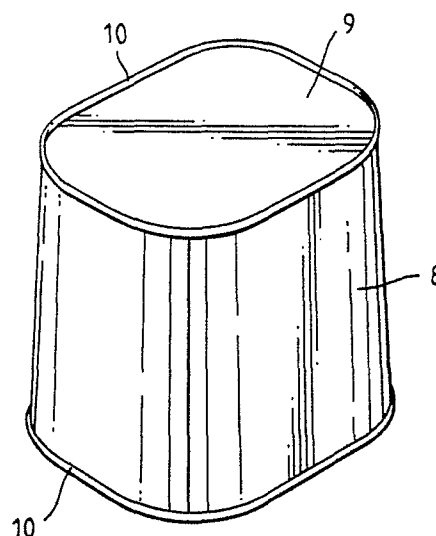
72 Inventor: Cockerill, Dennis
4 Fentons Vanbrugh Park Road
Blackheath London SE3 7NJ(GB)
Inventor: Peacock, Angus George
69 Walton Road Sidcup
Kent DA14 4LL(GB)

74 Representative: Hartong, Richard Leroy et al
Unilever N.V. Patent Division P.O. Box 137
NL-3130 AC Vlaardingen(NL)

54 Can.

57 Can, consisting of a can body and an upper and a lower cover plate, each cover plate without openings and/or scoring lines, each cover plate connected to the can body by means of a double seam, each cover plate having a substantially rectangular form with two sets of two parallel sides interconnected by curved corners and having a surface area of less than 250 cm², the internal radius of curvature of each of the corners of the cover plate being at least 20 mm.

Fig.3.



EP 0 267 643 A2

CAN

This invention relates to a can consisting of a can body and an upper and a lower cover plate, each cover plate without openings and/or scoring lines, each cover plate connected to the can body by means of a double seam, and each cover plate having a substantially rectangular form with two sets of two parallel sides interconnected by curved corners and having a surface area of less than 250 cm².

A well-known can having a substantially rectangular cross-section is shown in Figure 1. This can consists of a non-tapered can body 1, an upper cover plate 2 and a lower cover plate (not shown). Each cover plate is made of a continuous metal sheet not having openings and/or scoring lines. Each cover plate is connected to the can body by means of a double seam (3, 4) and has a substantially rectangular form with two sets of two parallel sides, interconnected by curved corners. For domestic use, it is preferable to use cans with cover plates having a surface area of less than 250 cm², more preferably less than 100 cm². Normally, the above-mentioned can body is provided with scoring lines 5, 6, a pull-grip 7 and a key (not shown). Opening of this can is effected by pulling the pull-grip with the key and tearing off the scoring strip. After removal of the scoring strip, the end of the can can be removed, thereby providing an uncovered part of the food product which can function as a grip for the removal of the food from the can.

This method of opening a can has, however, several disadvantages. First, the key is usually loosely connected to the can and can therefore easily be lost during distribution and storage, thereby causing major difficulties in opening the can. Secondly, the removal of the scoring strip causes the exposure of two sharp edges; it is well known that many can users have previously cut themselves with these sharp edges, thereby receiving unwanted and sometimes severe injuries. A third disadvantage of this opening method is that removal of the food product from the can remains difficult, since the displacement of the food creates a vacuum under the cover plate, thereby hindering further removal.

The invention relates to a can as described above wherein the internal radius of curvature of each of the corners of the cover plates is at least 20 mm.

With the expression "the internal radius" is meant the radius of curvature at the inside of the double seam. A radius of more than 20 mm allows the opening of both ends of the can by means of a standard butterfly can-opener, the food product can subsequently be removed by pushing one cover

plate, thereby pushing the food product out of the can. Preferably the internal radius of curvature is from 22-26 mm.

As the can can be opened with a standard butterfly can-opener, there is no need to have openings and/or scoring lines in the cover plates and the can body.

For easy storage of the unfilled cans and easy removal of the food, it is preferred that the can body has a tapered form. Suitable heights for the can body vary in the range from 5-15 cm. Preferably the tapering of the can body is chosen such that the ratio of the surface area of the upper cover plate to the lower cover plate lies between 6:10 and 9:10. As the can according to the invention has no preferred orientation, it is obvious that in this embodiment the lower cover plate can also be smaller than the upper cover plate as long as the ratio of surface area between the smaller and the larger one lies between 6:10 and 9:10.

Preferably this can is filled with a solid or semi-solid piece of food, such as luncheon meat, corned beef, ham, cheese, pet foods, bakery products, etc.

This invention also relates to a can body suitable to be used in the production of a can according to the invention.

Such a can body has an upper opening and a lower opening, each opening having a substantially rectangular form with two sets of two parallel sides interconnected by curved corners and each opening having a surface area of less than 250 cm² and the radius of curvature of each of the corners of the openings is at least 20 mm.

Preferably this can body is provided with an outwardly flanged upper edge and/or an outwardly flanged lower edge.

The invention will further be illustrated by means of the figures.

Figure 1 shows a can according to the prior art for the packaging of meat products.

Figure 2 shows a view from above of the can of Figure 1.

Figure 3 shows a preferred embodiment of a can according to the invention.

Figure 4 shows a view from above of the can of Figure 3.

Figure 5 shows a view from below of the can of Figure 3.

Figure 6 shows a can body according to the invention.

Figure 7 shows a detail of a preferred embodiment of a can body according to the invention.

Figure 1 shows a can according to the prior art for packaging of meat products, consisting of a non-tapered can body 1 and an upper cover plate

2 and a lower cover plate (not visible), each cover plate without openings and/or scoring lines, wherein the cover plates are connected to the can body by means of double seams 3 and 4. The can is provided with scoring lines 5 and 6 and a pull-grip 7 and a key (not shown).

Figure 2 shows a view from above of the can of Figure 1 with a substantially rectangular cover plate 2, the cover plate without openings and/or scoring lines and having an internal radius of 16 mm and attached to the can body by means of a double seam 4.

Figure 3 shows a perspective view of a preferred embodiment of a can according to the invention, consisting of a tapered can body 8 having a height of approximately 9 cm and an upper cover plate 9 and a lower cover plate (not shown), each cover plate without openings and/or scoring lines, each cover plate connected to the can body by means of a double seam 10, each cover plate having a substantially rectangular form with two parallel sides interconnected by curved corners having an internal radius of 24 mm. The upper cover plate has a surface area of approximately 43 cm².

Figure 4 shows a view from above of the can of Figure 3, with the substantially rectangular upper cover plate 9 having curved corners with an internal radius of 24 mm and attached to the can body by means of a double seam 10, the surface area of the cover plate being approximately 43 cm².

Figure 5 shows a view from below of the can of Figure 3, with a substantially rectangular lower cover plate 11 having curved corners with an internal radius of 24 mm and attached to the can body by means of a double seam 10, the lower cover plate having a surface area of approximately 52 cm².

Figure 6 shows a tapered can body 13 according to the invention having an upper opening 12 and a lower opening (not shown), each opening having a substantially rectangular form with two sets of two parallel sides interconnected by curved corners with a radius of 24 mm, the can body having a height of from 10 cm, the surface area of the upper opening being approximately 45 cm² and the surface area of the lower opening being approximately 55 cm².

Figure 7 shows a detail of a preferred embodiment of a can body according to the invention, with the upper end of a can body 14 having an outwardly flanged edge 15.

connected to the can body by means of a double seam, each cover plate having a substantially rectangular form with two sets of two parallel sides interconnected by curved corners and having a surface area of less than 250 cm², characterized in that the internal radius of curvature of each of the corners of the cover plates is at least 20 mm.

2. Can according to claim 1, wherein the internal radius of curvature of each of the corners of the cover plates is from 22-26 mm.

3. Can according to claim 1 or 2, wherein the can body has a tapered form.

4. Can according to one or more of the preceding claims, having a height of from 5-15 cm.

5. Can according to claim 3, wherein the ratio of the surface area of the upper cover plate to the area of the lower cover plate lies between 6:10 and 9:10.

6. Can according to one or more of the preceding claims, filled with a solid or semi-solid piece of food.

7. Can body having an upper opening and a lower opening, each opening having a substantially rectangular form with two sets of two parallel sides interconnected by curved corners and each opening having a surface area of less than 250 cm², characterized in that the radius of curvature of each of the corners of the opening is at least 20 mm.

8. Can body according to claim 7, wherein the radius of curvature of each of the corners of the openings is from 22-26 mm.

9. Can body according to claim 7 or 8, having a tapered form.

10. Can body according to one or more of the claims 7-9, having a height of from 5-15 cm.

11. Can body according to claim 9 or 10, wherein the ratio of the surface area of the upper opening and the lower opening lies between 6:10 and 9:10.

12. Can body according to one or more of the claims 7-11, having an outwardly flanged upper edge and/or an outwardly flanged lower edge.

13. Can substantially as hereinbefore described with reference to the accompanying non-comparative drawings.

14. Can body substantially as hereinbefore described with reference to the accompanying non-comparative drawings.

Claims

1. Can, consisting of a can body and an upper and a lower cover plate, each cover plate without openings and/or scoring lines, each cover plate

55

Fig.1.

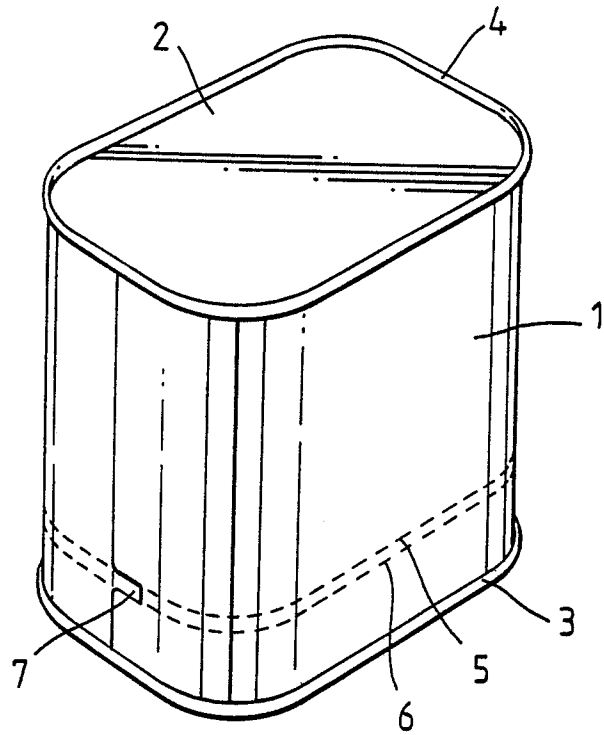


Fig.2.

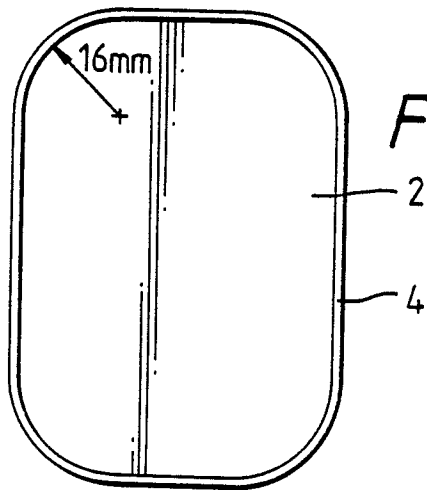


Fig.3.

