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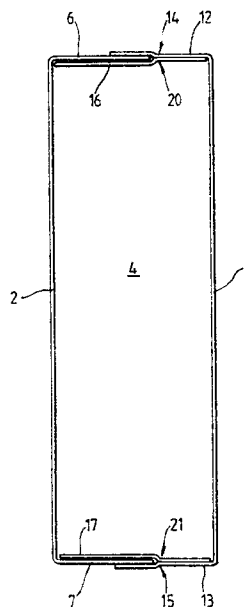
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(54) Powder tight carton.

(57) A carton formed from board or a similar material, primarily intended for detergent powder. The carton is erected by folding from a blank, the particular feature being that powder tightness and efficient use of board are achieved by arranging for the closure to be formed by sandwiching a plain flap hinged to a side panel between a moulded flap, also hinged to a side panel and a moulded flap hinged to an end panel.



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POWDER TIGHT CARTON

The invention relates to a powder tight carton made from board or the like and to a blank for the carton.

German Offenlegungsschrift No 22 60 766 relates to
5 cartons in which, immediately adjacent the hinge line, one
of the two flaps hinged to the side panel is moulded along
a portion of its length. The moulding, which has to be
made in an enclosed area, is similar to a deep-drawing and
can be effected only with difficulty in particular with the
10 more rigid grades of board. The two powder flaps which
fold on to this first flap must then be cut away in the
area of the moulding which is wasteful. The outer flap
must also be provided with a further moulding corresponding
to the first but made in the opposite direction which adds
15 to the complexity of the process.

We have now discovered how to construct a folding
carton which is at least equal in powder tightness to the
carton described in German Offenlegungsschrift 22 60 766,
20 but which is more economical in material.

Accordingly, the present invention provides a powder
tight carton having a closure formed by two at least partly
overlapping flaps hinged to side panels of the carton and

by two powder flaps, characterised in that one of the two flaps (12, 13) hinged to side panels (2, 3) is formed with a moulding line (14, 15), the powder flaps (16, 17) are formed with moulding lines (20, 21), and the remaining flap
5 (6, 7) terminates at one of said moulding lines (14, 15, 20, 21) and lies between one of the first flaps (12, 13) and one of the powder flaps (16, 17).

Preferably, the moulding line in one or both of the
10 two flaps (12, 13) hinged to the side panel is formed so that the free end of the flap is proud of the hinged end. Equally, the corresponding moulding line on the powder flaps (16, 17) is preferred to be formed so that the
15 portion of the flaps lying directly underneath the proud end of flap (12, 13) is depressed into the carton, so that between them one of flaps (12, 13) together with one of flaps (16, 17) sandwich one of the non-moulded flaps (6, 7).

20 With this arrangement the two flaps hinged to the side panels can be so short as to overlap only minimally and the powder flaps need be only of the shorter type. Also, moulding lines of the type described can be relatively
easily applied to the blank.

25 In accordance with a further aspect of the invention, however, it is advantageous for the powder flaps to be hinged to the corresponding end panel along their entire length, the hinge articulation being obtained about a fold
30 line and an offset moulding line. This offset between the fold line and the moulding line ensures that the two flaps lie flat one on the other and on the powder flap.

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

Figure 1 shows a blank from which the powder tight carton is obtained, and

5 Figure 2 is a vertical section through an erected carton.

10 In Figure 1, (1) refers to a folding carton blank having two side panels (2 and 3), and two end panels (4 and 5). At the top and bottom, flaps (6, 7) are hinged to side panel (2) about fold lines (8, 9). About fold lines (10, 11) there are hinged to side panel (3) two flaps (12, 13) which are moulded along moulding lines (14, 15). The outer portion of flaps (12 and 13) remote from fold line (10 or 11) is moulded in the rearward direction.

15

20 The two end panels (4 and 5) are each provided with two powder flaps (16, 17) and (26, 27). These powder flaps are hinged to the corresponding end panels through fold lines (18, 19) and (28, 29) of which fold lines (18 and 28) are extensions of fold line (10), and fold lines (19 and 29) are extensions of fold line (11).

25 The aforesaid fold lines (18, 19, 28, 29) each terminate at mould lines (20, 21, 30, 31) extending from the outside edges of the powder flap (16, 17, 26, 27) approximately in the centre of the powder flaps perpendicular to the fold line. These moulding lines (20, 21, 30, 31) extend slightly beyond each fold line and continue as additional moulding lines (22, 23, 32, 33) extending to the other end of the dust flap in the same direction as the corresponding fold line but somewhat offset therefrom. The end panel (5) is hinged with a glue flap (34) which allows connection with the side panel (2).

35 Figure 2 is a section through a fully erected and closed carton, the section being taken vertically through

the two side panels (2 and 3). The closure of the carton is formed as follows:

5 The innermost layer is formed by tucking in powder flaps (16, 17) at the top and bottom. The non-moulded flaps (6, 7) then lie on the more deeply moulded portions of powder flaps (16, 17) along moulding lines (20, 22) and (21, 23), the depth of the moulding being such as to accommodate about one-half the thickness of the aforesaid
10 non-moulded flap. The remaining flaps (12, 13) are then folded on to the non-moulded portion of the powder flaps (6, 7), the portion moulded along line (14, 15) lying on the non-moulded flaps (6, 7) and slightly overlapping them.

15 This design of blank results in an erected carton which is substantially powder tight.

CLAIMS:

1. A powder tight carton having a closure formed by two at least partly overlapping flaps hinged to side panels of the carton and by two powder flaps, characterised in that one of the two flaps (12, 13) hinged to side panels (2, 3) is formed with a moulding line (14, 15), the powder flaps (16, 17) are formed with moulding lines (20, 21), and the remaining flap (6, 7) terminates at one of said moulding lines (14, 15, 20, 21) and lies between one of the first flaps (12, 13) and one of the powder flaps (16, 17).
10
2. A powder tight carton according to Claim 1, characterised in that the powder flaps (16, 17, 26, 27) are hinged to a corresponding end panel (4, 5) along their entire length, the hinge being formed by a fold line (18, 19, 20, 21) and an offset moulding line (22, 23, 32, 33).
15
3. A blank for a carton according to Claim 1 or Claim 2.

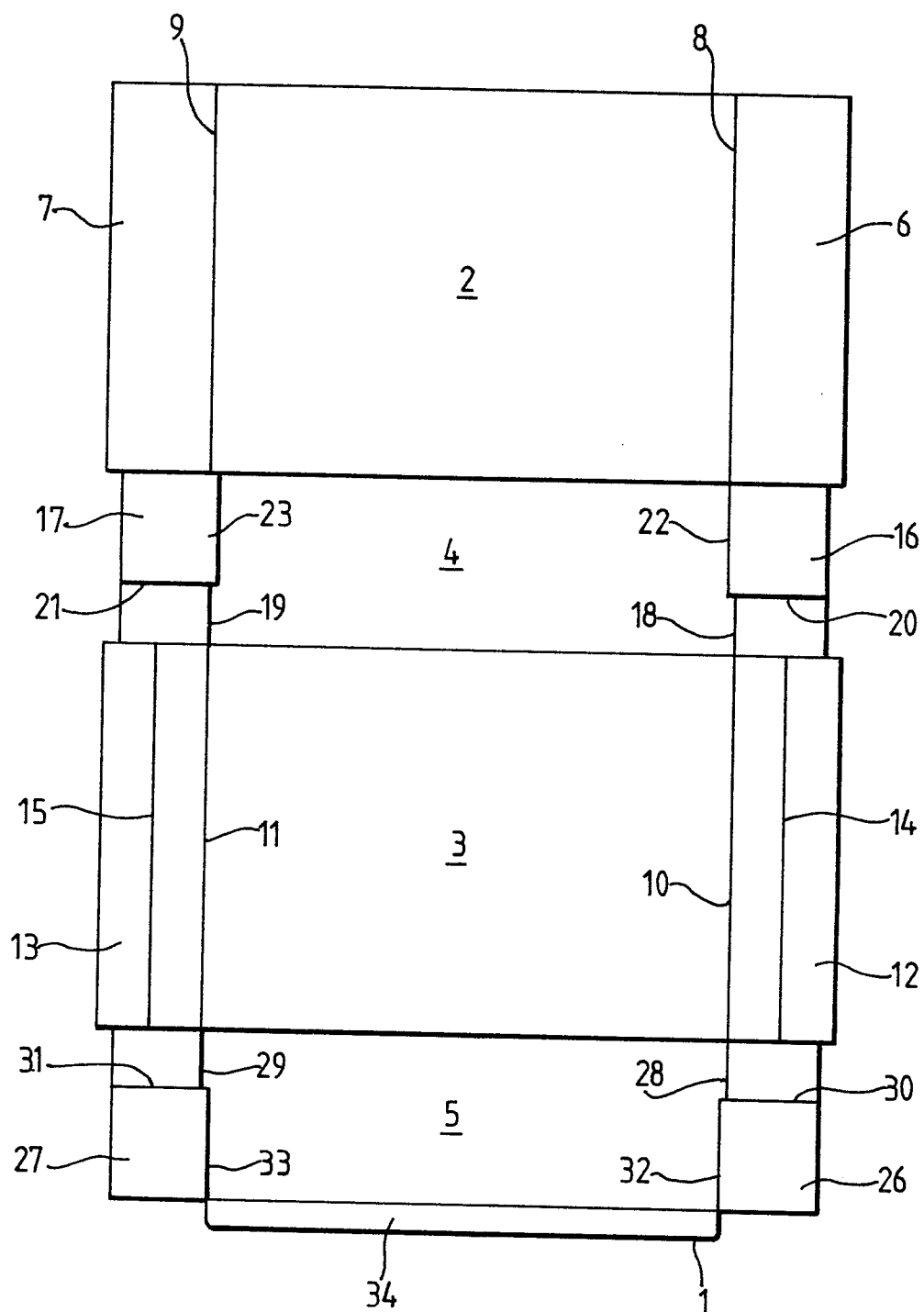
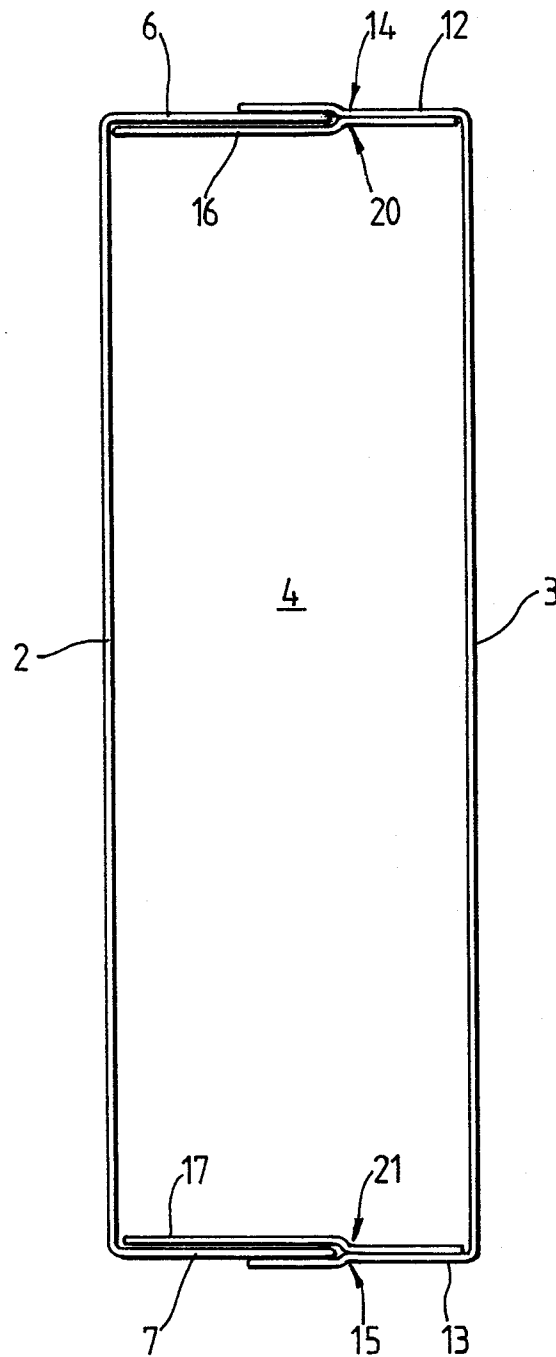


Fig. 1.

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*Fig. 2.*