Office de la Propriété Intellectuelle du Canada
Un organisme d'Industrie Canada

Canadian Intellectual Property Office
An agency of Industry Canada

CA 2347222 A1 2001/03/01

(21) 2 347 222

(12) DEMANDE DE BREVET CANADIEN
CANADIAN PATENT APPLICATION

(13) A1

(86) Date de dépôt PCT/PCT Filing Date: 2000/08/14
(87) Date publication PCT/PCT Publication Date: 2001/03/01
(85) Entrée phase nationale/National Entry: 2001/04/18
(86) N° demande PCT/PCT Application No.: EP 00/07935
(87) N° publication PCT/PCT Publication No.: WO 01/14215
(30) Priorité/Priority: 1999/08/19 (99116322.1) EP

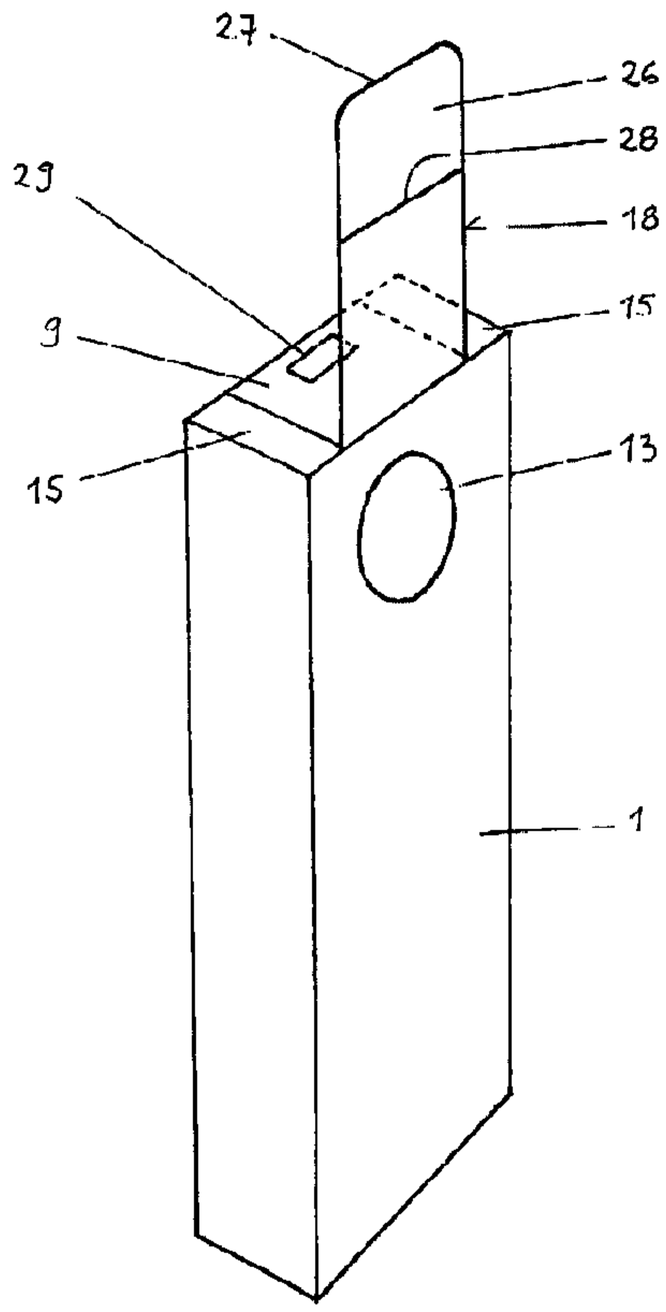
(51) Cl.Int.^{7}/Int.Cl.^{7} B65D 5/72

(71) Demandeur/Applicant:
VON STILLFRIED, CHRISTOPH, DE

(72) Inventeurs/Inventors:
VON STILLFRIED, CHRISTOPH, DE;
ITALIAANDER, KURT, DE

(74) Agent: SMART & BIGGAR

(54) Titre : BOITE PLIANTE
(54) Title: FOLDING BOX



(57) Abrégé/Abstract:
The invention relates to a folding box for flowable or pourable foodstuffs or luxury foods, especially candy, comprising a front wall (1), a rear wall, two side walls, and a bottom and top part (9), all of which being configured on a one-piece blank. The inventive folding box also comprises a slide (18) which is accommodated behind a withdrawal opening (13) of the front wall (1) in a guide on the inside thereof, and which can be moved between a position that opens the withdrawal opening (13) and a position that closes the same. The guide is formed by a supporting wall provided on the inside of the front wall (1), and the slide (18) is configured as a separate part independent of a one-piece blank that forms the other parts of the folding box.

ABSTRACT

A folding box for flowable and pourable food or beverage products, in particular sweets, with a front wall (1), a rear wall, two side walls, a bottom part and a top part (9), which are designed to be in a one-piece blank, and with a slide (18) accommodated behind a withdrawal opening (13) in the front wall (1) in a guide on the inside of the latter, so that the slide can be moved between a position which opens the withdrawal opening (13) and a position which closes it, where this guide is formed by a supporting wall which is provided on the inside of the front wall (1), and the slide (18) is designed as a separate part independently of a one-piece blank forming the other parts of the folding box.

FOLDING BOX

The invention relates to a folding box for flowable and pourable foodstuffs or luxury foods, in particular candy.

Such a folding box is described in German Patent 4,427,573. It is made of a one-piece blank with a front wall, a rear wall, two side walls, a bottom and a top part. A slide which is accommodated behind a withdrawal opening (13) in the front wall in a guide on the inside thereof can be moved between a position that opens the withdrawal opening and a position that closes the same.

The blank used with the known folding box requires an additional supporting wall which corresponds to the front wall and in which the guide elements for the slide are worked. The slide is designed on the top part, and its end section, like the supporting wall, also has an opening which corresponds to the withdrawal opening. The slide is movable between stops in the guide formed between the front wall and the supporting wall.

The known folding box requires a relatively large blank, because the front wall in the form of the supporting wall is practically doubled. In addition, a great deal of waste is unavoidable because of the considerable length of the top part, which also includes a tab on the top in addition to the slide. Since this top tab swings open accordingly when the slide is pulled out, a second top tab which is provided in the extension of the supporting wall is also necessary to protect the contents of the packaging box.

The machine folding of the known folding box is difficult to accomplish because there are problems in folding in the top part whose end section is designed as a slide.

On the other hand, the object of the present invention is to create a folding box of the type defined in the preamble which avoids the known disadvantages. In particular, a much smaller blank should be sufficient for a box of a comparable size, and thus less material will be wasted accordingly. Furthermore, the production and folding of the folding box should be simplified.

This object is achieved according to this invention by a folding box of the type described in the preamble according to the characterizing part of Claim 1.

Since the slide is designed as a separate part, not only does this simplify its assembly, which can now take place together with the attachment of the supporting wall to the inside of the front wall, but also the blank can be smaller because the pull-out length of the slide can be reduced to the height of the withdrawal opening, so that there is less wasting of material accordingly. Due to the fact that the slide is narrower than the width of the front wall in one embodiment, there remains a sufficiently large usable area for the design of lateral guide elements on the supporting wall.

To simplify production, the supporting wall may be designed as a folding section of the blank.

Another advantageous embodiment provides for the supporting wall in addition to the slide to be designed as a separate part and for the other parts of the folding box to be designed as part of a one-piece blank.

It is sufficient if the supporting wall has approximately the same width as the front wall. With regard to its height dimension, however, the supporting wall may be much shorter than would correspond to the height of the folding box. This makes it possible to greatly reduce the amount of

material required. Instead of adhesive tabs on the sides, it is sufficient if the side edges of the supporting wall which are parallel to the pull-out direction are glued to the inside of the front wall.

Due to the fact that the slide is narrower than the front wall, it is possible to lengthen it by edge tabs on both sides of the slide, so that these edge tabs are folded against the outside of the top part and glued there. Such a folding box can be closed easily without requiring the top part to be designed in duplicate. The latter is simply connected to the rear wall by a folding line.

To attach the top part when the folding box is closed, an insertion tab which lengthens the top part is provided; it has a place above the withdrawal opening between the slide and the supporting wall and can be glued in place there. With a corresponding length of the insertion tab, it may be necessary to cut it or its end edge out so that the entire cross section of the opening will be available.

On its extractable end, the slide preferably has a transverse fold running at the level of the edge of the box when the slide is pushed in. The end section of the slide which is bordered by the fold can be folded against the top part in such a way that it is inserted flush between the edge tabs which are attached to the front wall according to the blank and are glued to the top part on both sides. In this closed position, the end section of the slide is advantageously secured by a permanent spot of adhesive, which is attached to the outside of the top part.

It is self-evident that the slide covers the withdrawal opening in the front wall in the closed position, but opens it in the withdrawal position. To this end, the slide needs an opening which corresponds in size at least to the size of the withdrawal opening. To ensure that the withdrawal

opening is completely free at the maximum pulled-out length of the slide, the pulled-out length of the slide which is limited by a stop according to an advantageous embodiment of this invention corresponds at least to the height of the withdrawal opening.

In the embodiment with a foldable supporting wall, it is advantageous that it is connected to the front wall by a folding line at the side and it has stops to limit the pull-out and insertion movements of the slide on its rear side which is in contact with the inside of the front wall after being folded in.

In another embodiment of the blank, it is advantageous that the stops are folding parts of a folding section which forms the slide within the remaining area and is connected to the supporting wall by a folding line, and when the slide is punched out of its folding section, an upper stop and a lower stop which remain are folded about the respective folding line against the rear side of the supporting wall and glued there. When the slide is punched out, a waste part is punched out at the same time, its height corresponding to the pulled-out length and its width corresponding at least to that of the upper stop.

A complete blank is obtained due to the fact that an additional folding section which is connected to the respective side wall by a folding line on the side of the blank opposite from the folding section for punching out the slide has a pour opening corresponding to the withdrawal opening, and after folding it inward, it is glued to the inside of the supporting wall. Thus, this imparts a special strength to the folding box.

One embodiment of this invention is explained in greater detail below on the basis of the drawings, which show:

Figure 1: a blank of the folding box without a slide or a supporting wall,

Figure 2: a blank of the supporting wall,

Figure 3: a blank of the slide,

Figure 4: a perspective view of the folding box, and

Figure 5: a blank of the folding box with a slide and a supporting wall.

Figures 1 through 3 show a three-part folding box consisting of the actual blank according to Figure 1, a supporting wall 11 according to Figure 1 and a slide 18 according to Figure 3, where the supporting wall and the slide are each designed as separate parts and together with the blank according to Figure 1 they are shaped to form a folding box.

Figure 1 shows a one-piece blank having as parts of the folding box the front wall 1, the rear wall 2, a side wall 3 between the front wall and the rear wall and another side wall 4 which is attached to the front wall 1.

On opposite narrow sides of the side parts 3, 4 there are adhesive tabs 5, which are shorter than would correspond to the depth t of the box and are designed to be narrower than would correspond to the depth t of the box in order to simplify the folding operation. In the drawings, they are represented with slightly tapered side edges. Additional adhesive tabs are attached to the rear wall by corresponding folding lines, namely an adhesive tab 6 on the bottom and an adhesive tab 7 along a rear edge. These adhesive tabs 6, 7 have side edges which taper away from their folds and their depth is less than the depth t of the folding box.

A bottom part 8 attached to the front wall 1 and a top part 9 attached to the rear wall 2 are each cut to size according to the rectangular cross section of the folding box, i.e., their side edges correspond to depth t, their longitudinal edges correspond to width b of the folding box. The top part 9 is lengthened by an insertion tab 10 which is provided for insertion between the inside of the front wall 1 and the supporting wall 11 glued to it according to Figure 2. In order for the insertion tab 10 not to partially cover the cross section of the opening of a withdrawal opening 13 which is provided close to the top edge 12 of the front wall 1, the insertion tab 10 has a corresponding cutout 14. A fold 16 which facilitates the folding of the insertion tab 10 is provided between the top part 9 and the supporting wall 11.

In addition, according to Figure 1, two edge tabs 15 at the side are attached to the top edge 12 of the front wall 1 by means of folding lines, the length of which corresponds to the depth t of the box and the width of which is equal to the total of the width b of the folding box minus the width B of an end section 26 of the slide 18 illustrated in Figure 3 which can be inserted between the edge tabs 15. After folding the folding box, the edge tabs 15 are folded over and glued to the outside of the top part 9.

The supporting wall 11 illustrated in Figure 2 has a cutout 17 which matches the withdrawal opening 13. The slide 18 shown in Figure 3 has an opening 19 which also matches the withdrawal opening 13 in diameter. The cutout 17 is behind withdrawal opening 13 and identical to it, as shown in Figure 2, because the supporting wall 11 is glued permanently to the inside of the front wall 1 along its side edges 20. Figure 2 shows the supporting wall 11; furthermore, additional parts of the blank according to Figure 1 are shown in the area of the front wall 1, namely

the bottom part 8, the side parts 3, 4 and the edge tabs 15.

In addition to the cutout 17, the supporting wall 11 also has two other guide cutouts 21 which are arranged in mirror image with respect to their longitudinal direction and which comprise a wide section 22 in the direction of the bottom part and a narrow section 23 following that in the direction of the top part. In the inserted position of the slide 18 illustrated in Figure 3, its lateral guide wings 24 are disposed in the wide section 22. The guide wings 24 which are attached by corresponding folding lines to the side edges of the slide 18 are bent slightly at the time of assembly of the slide 18 between the supporting wall 11 and the front wall 1, so that they are inserted into the narrow sections 23 of the guide cutouts 21 with no problem when the slide 18 is pulled out until they have reached their upper stop position at the ends 25 of the narrow guide sections 23. The slide 18 (also shown with dotted lines) is illustrated in this maximally extracted position in Figure 3. In this position of the slide 18, its opening 19 is in the identical position with withdrawal opening 13 in the front wall 1 and also with the cutout 17 in the supporting wall 11.

At the extraction end of the slide 18, it has an end section 26 which is bordered at one end by the end edge 27 of the slide 18 and at the other end by a transverse fold 28. The length of the end section corresponds approximately to the depth t of the folding box, so that in the completely inserted position of the slide 18, the end section 26 can be folded about the fold 28 toward the top side of the top part 9 where it has a place between the side edge tabs 15 according to its width B. A spot of adhesive 29 on the top part 9 is used to secure the end section 26 when the folding box is not in use. For removal purposes, the end section 26 is lifted up from the spot of

adhesive 29, after which the slide 18 is pulled out in the guide in the supporting wall 11, until the guide wings 24 come to rest against the ends 25 of the narrow sections 23 of the guide cutouts 21. In this position, the slide 18 is pulled out according to its maximum extraction length L; its withdrawal opening 13 is opened completely, and the contents of the folding box can be removed through the withdrawal opening 13.

Figure 4 shows a perspective view of the folding box with the slide 18 pulled out completely. The withdrawal opening 13 in the front wall 1 is open here. When the slide 18 is inserted, its end section 26 when folded out comes to lie against the top part 9 exactly between the two edge tabs 15, where it is secured by the spot of adhesive 29.

Figure 5 shows a complete blank for another embodiment of the folding box whose front wall 31 with the withdrawal opening 43 is formed by a narrow side of the box, and where the withdrawal opening 43 has an elongated oval shape. A side wall 33, the rear wall 32 and another side wall 34 are connected to the front wall 31 to the right, each separated by a folding line.

In addition, the blank also includes a folding section 49 on the right with a pour opening 60 which is connected by a folding line 50 to the adjacent side wall 34. Furthermore, the folding section 49 has on its upper end an adhesive tab 55 like the other upper and lower adhesive tabs 55 on the rear wall 32 and a lower adhesive tab 55 on the front wall 31. These adhesive tabs 55 are folded in beneath the top tabs 45, 46 of the adjacent side parts 33, 34 when the blank is folded to assemble the box, and after folding in on the top side they secured by gluing to the respective top tabs 45, 46 by the top part 39 and on the bottom side by the bottom part 38. To accomplish the folding more easily, the side edges of the adhesive tabs 55 of this

blank are also designed with a slight taper toward the outer edge. The width of the closed folding box corresponds to the dimension b; its depth between front wall 31 and rear wall 32 corresponds to the dimension t.

On the left side of the front wall 31 are connected two folding sections, namely first the supporting wall 41 with the cutout 47, which is shaped and arranged according to the withdrawal opening 43 in the front wall 31 and also by another folding line 44 a folding section 53 which is composed of a lower stop 36, an upper stop 35, a waste part 37 and the slide 48. Before folding in the lower stop 36 and the upper stop 35 about the folding line 44, the slide 48 is separated from this folding section 53 along the dash-dot line 51 by punching it out appropriately. At the same time, the waste part 37 is punched out along the dotted line 54. Then the lower stop 36 and the upper stop 35 of the folding part 53 are folded about folding line 44 toward the rear side of the supporting wall 41 and secured there by gluing. After removing the waste part 37, the slide 48 can be moved upward toward the upper stop 35 according to the length L of the waste part until the opening 59 reaches the height of the withdrawal opening 43 in the front wall 31 or the cutout 47 in the supporting wall 41. A guided movement of the slide 48 is possible by inserting it between the supporting wall 41 and front wall 31 by folding it twice, first at folding line 44 and then at the following folding line 61 on the right, so that the slide is accommodated between the supporting wall 41 and the front wall 31. This bond is then additionally reinforced by the folding section 49 which is on the far end at the right, and is in contact with the outside of the supporting wall 41 which is facing inward after being folded in and is glued there. The pull tab 56 on the slide 48 has a semicircular contour 57 and is connected by a transverse folding line 58 to the lower part of the slide. The pull tab 56 is folded over 90° when the withdrawal

opening is closed, i.e., the slide 48 is pushed inward, and it can be secured in this position on the top side of the top part 39 by means of a spot of adhesive (not shown).

Since the waste part 37 has a width a which corresponds to the width of the upper stop 35, this yields a longitudinal guide in the displacement movement of the slide 48.

CLAIMS

1. A folding box for flowable and pourable food or beverage products, in particular sweets, with a front wall (1, 31), a rear wall (2, 32), two side walls (3, 33; 4, 34), bottom part (8, 38) and top part (9, 39) which are provided on a one-piece blank, and with a slide (18, 48) which is accommodated behind a withdrawal opening (13, 43) in the front wall (1, 31) in a guide on the inside of the front wall, so that the slide is movable between a position which opens the withdrawal opening (13, 43) and a position closing the withdrawal opening, where this guide is formed by a supporting wall (11, 41) which is provided on the inside of the front wall (1, 31) and has a cutout (17, 47) which is essentially identical to or larger than the withdrawal opening (13, 43),
characterized in that
the slide (18, 48) is designed as a separate part independently of a one-piece blank which forms the other parts of the folding box.

2. A folding box according to Claim 1,
characterized in that
the supporting wall (41) is designed as a folding section of the blank.

3. A folding box according to Claim 1,
characterized in that
in addition to the slide (18), the supporting wall (11) is also manufactured as a separate part.

4. A folding box according to Claim 1,
characterized in that
the slide (18, 48) has a transverse fold (28, 58) on its extractable end, running at the level of the edge of the box when the slide (18, 48) is pushed in, so

that a foldable end section (26, 56) is formed between the fold (28, 58) and one end edge (27, 57) of the slide (18, 48).

5. A folding box according to Claim 1,
characterized in that
the top part (9) is displaced by an insertion tab (10) which has a position above the withdrawal opening (13) between the slide (18) and the supporting wall (11).

6. A folding box according to Claim 1,
characterized in that
the front wall (1) is lengthened on both sides of the slide (18) by edge tabs (15) which are folded toward the outside of the top part (9) and glued there.

7. A folding box according to Claim 6,
characterized in that
the foldable end section (26) of the slide (18) is inserted between the two edge tabs (15) at the sides in the closed position and is held in place there by a permanent spot of adhesive (29) which is applied to the outside of the top part (9).

8. A folding box according to Claim 1,
characterized in that
the pull-out length (L) of the slide (18, 48) which is limited by a stop corresponds at least to the height of the withdrawal opening (13, 43).

9. A folding box according to Claim 3,
characterized in that
the supporting wall (11) is glued to the inside of the front wall (1) along both of its side edges (20) which run parallel to the pull-out direction of the slide (18).

10. A folding box according to Claim 2,
characterized in that
the supporting wall (41) is attached at the side to the front wall (31) by a folding line (42), and on its rear side which is adjacent to the inside of the front wall (31) after being folded in, it has stops for limiting the pull-out and push-in movements of the slide (48).

11. A folding box according to Claim 10,
characterized in that
the stops are folding parts of a folding section (53) which forms the slide (48), which is connected to the supporting wall (41) by a folding line (44), within the remaining area.

12. A folding box according to Claim 11,
characterized in that
an upper stop (35) and a lower stop (36) remain when the slide (48) is punched out of its folding section (53) and they are folded toward the rear side of the supporting wall (41) about the respective folding line (44) and are glued in place there.

13. A folding box according to Claim 12,
characterized in that
a waste part (37) remains when the slide (48) is punched out between the two stops (35, 36), its height corresponding to the height of the pull-out length (L) and its width (a) corresponding to at least that of the upper stop (35).

14. A folding box according to Claim 1,
characterized in that
an additional folding section (49) which is connected by a folding line (50) to the respective side wall (34) on the side of the blank opposite the folding

section (53) for punching out the slide (48) has a pour opening (60) which corresponds to the withdrawal opening (43) and after being folded in, this additional section is glued to the inside of the supporting wall (41).

15. A folding box according to Claim 1, characterized in that the bottom part (38) and the top part (39) are each attached to a side wall (33, 34).

Smart & Biggar
Ottawa, Canada
Patent Agents

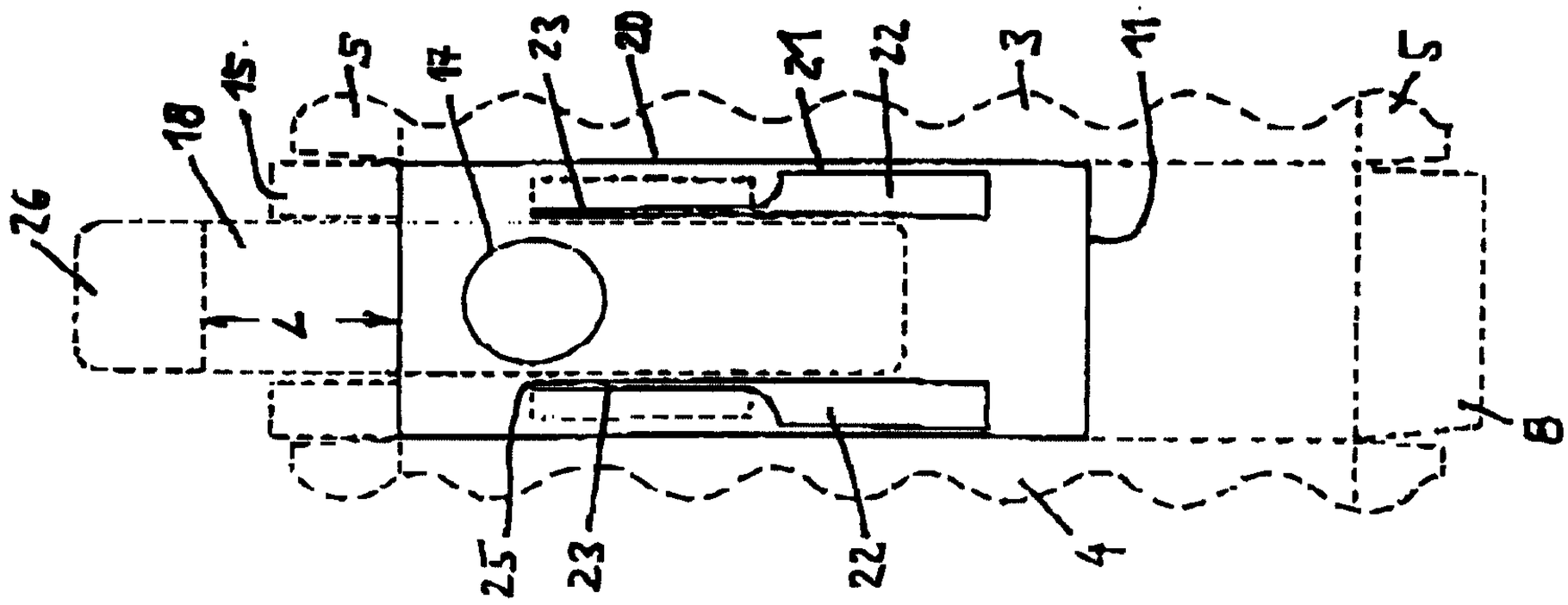


Fig2

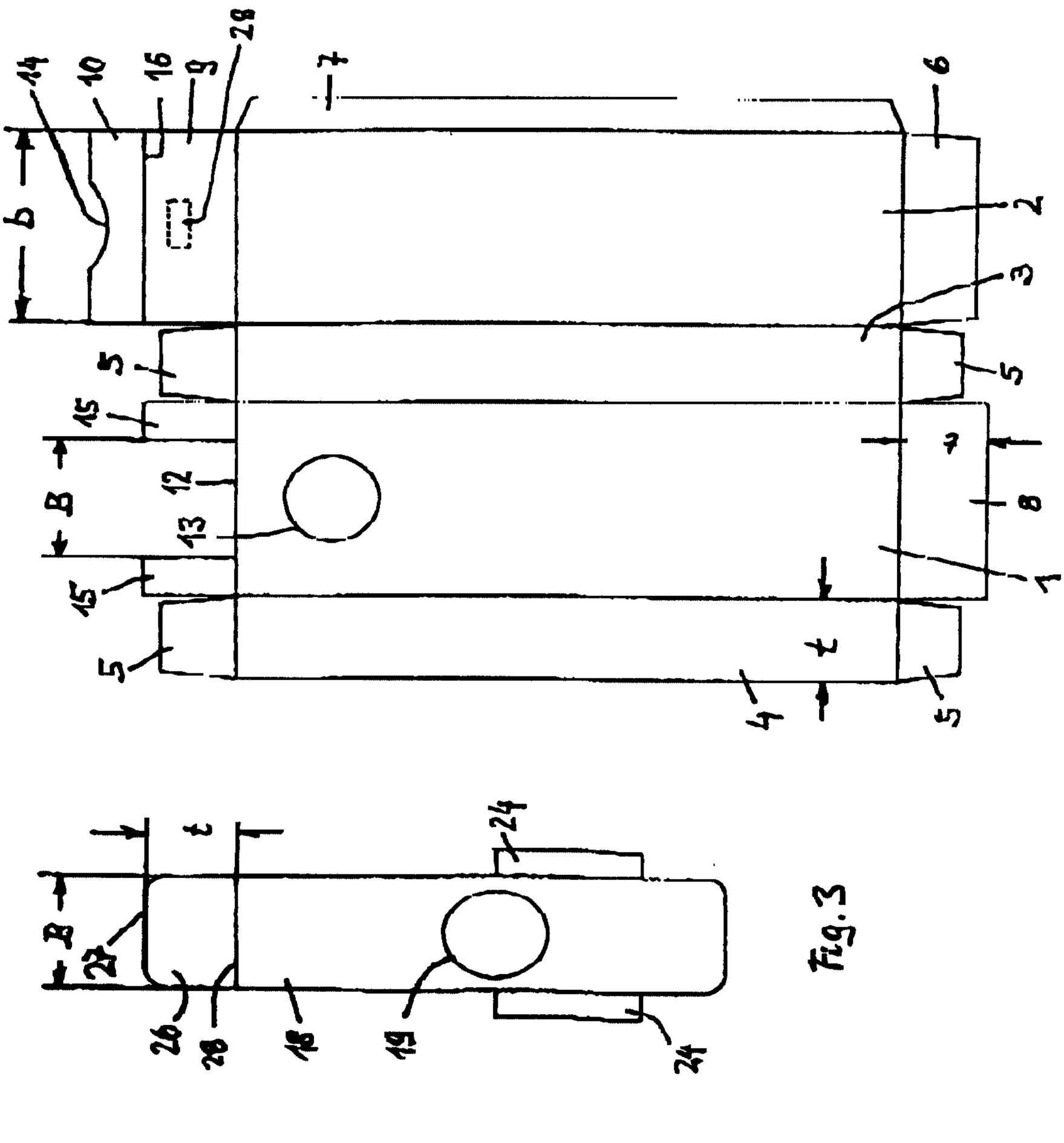


Fig.1

Fig.3

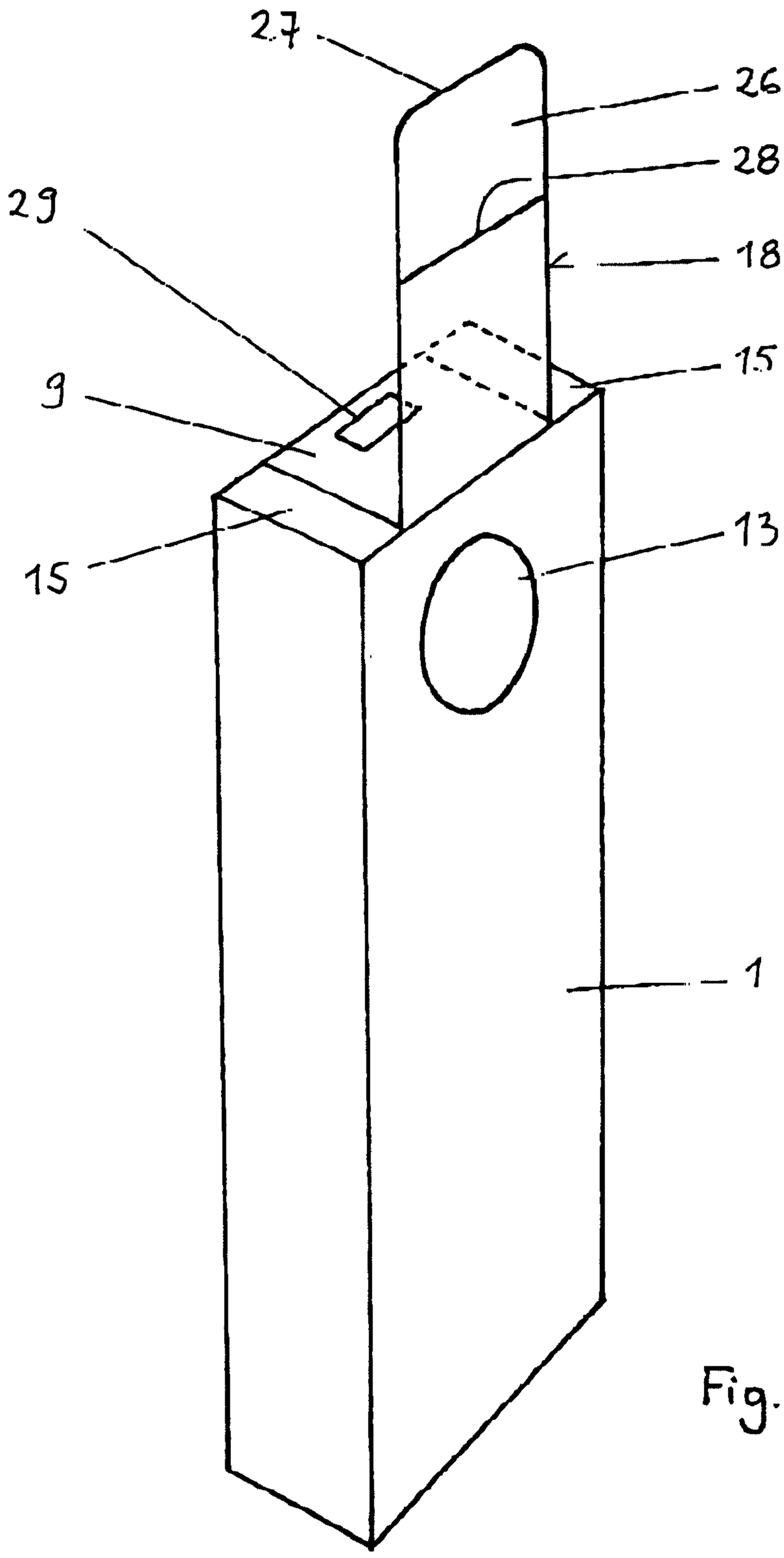


Fig. 4

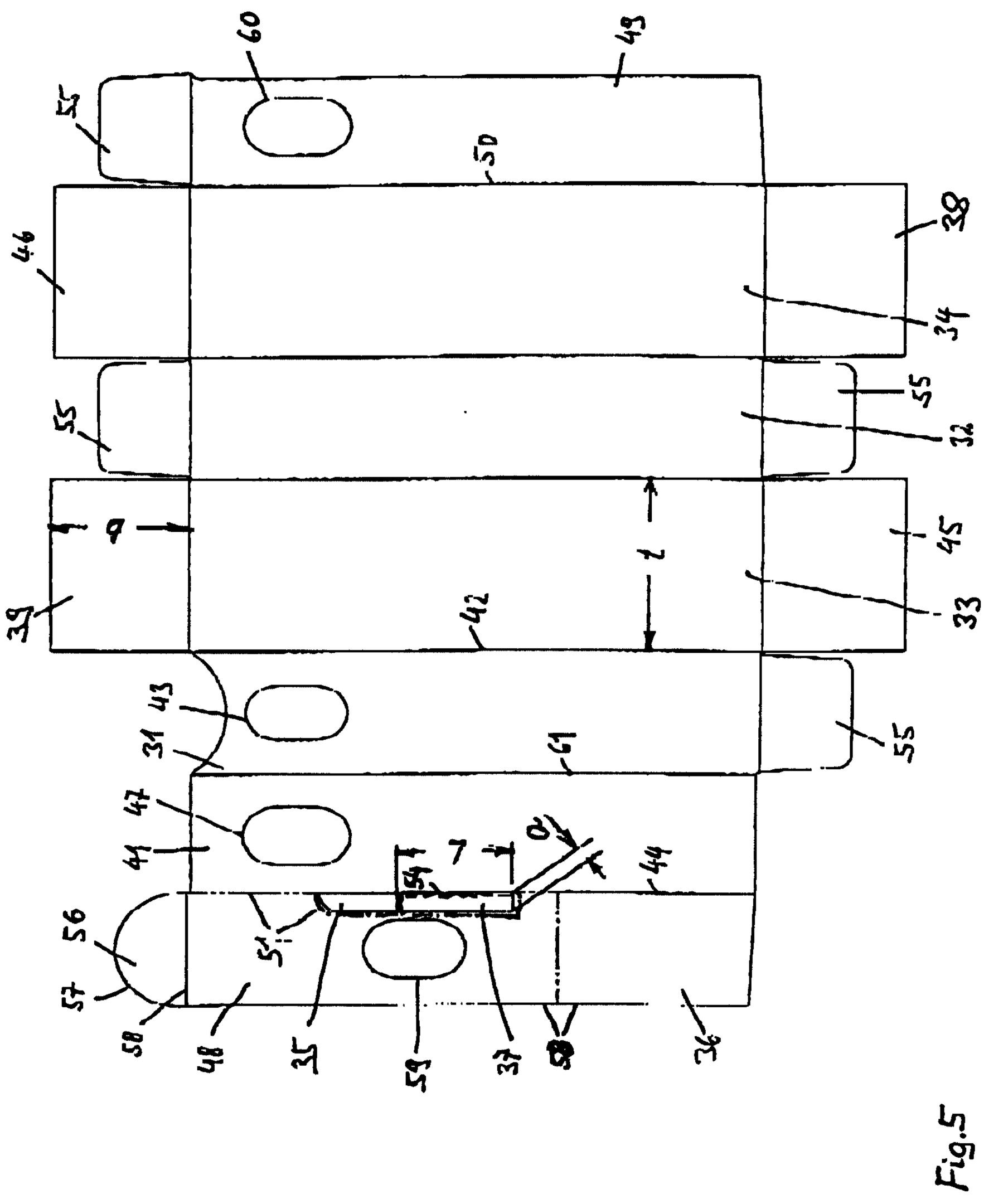
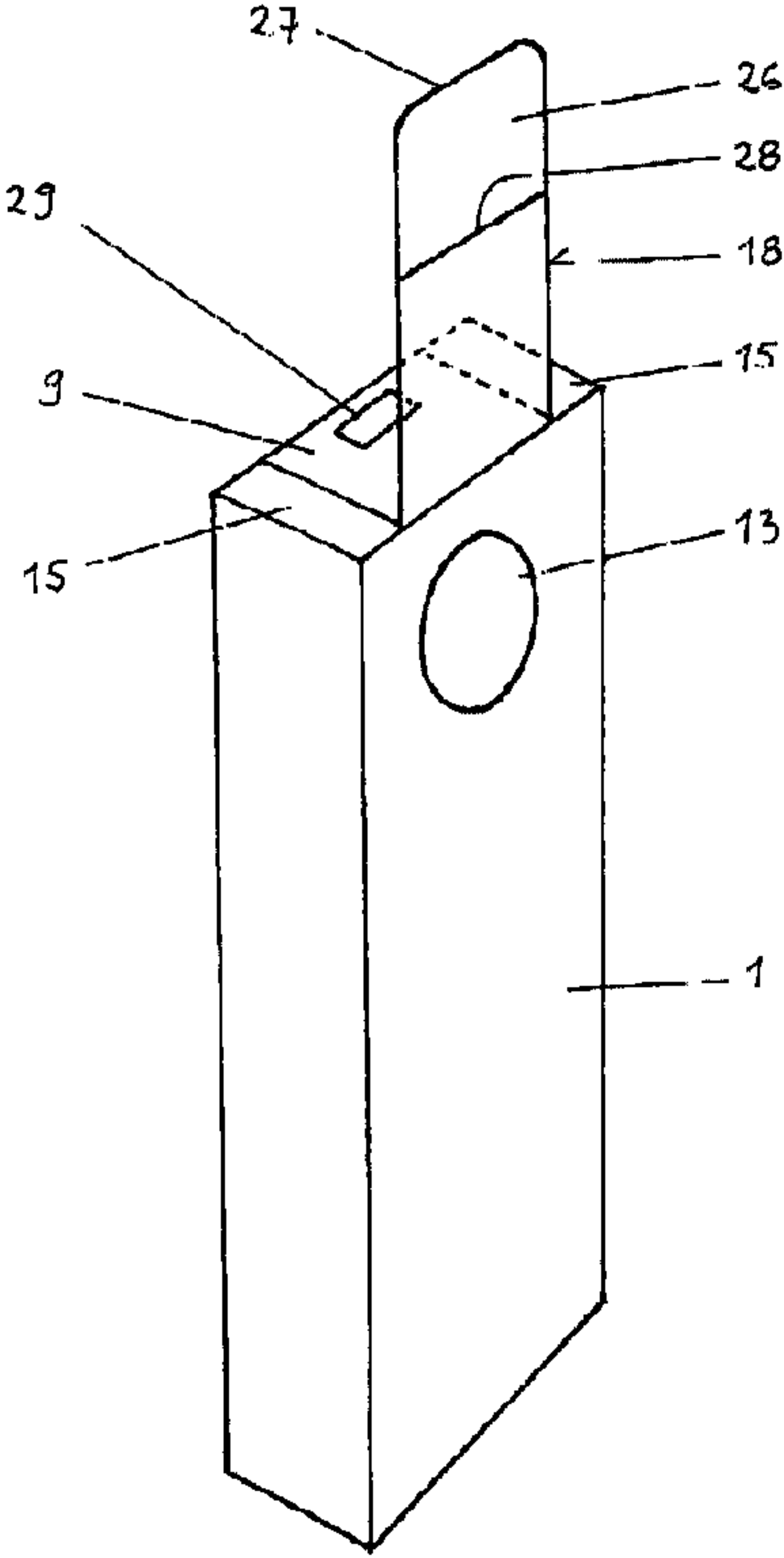

60
43
55
50
38
46
34
55
55
12
45
9
t
39
42
33
43
31
61
55
47
41
7
44
54
56
57
58
48
35
59
37
36

Fig.5


27
26
28
29
18
15
9
15
13
1