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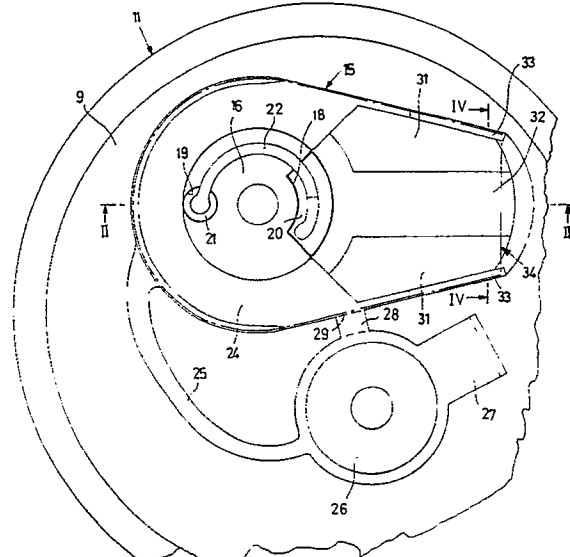
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(54) **Security closure for containers, in particular for oil cans.**

(57) A security closure for containers, in particular for oil cans, comprising one single component and a collar portion (14) suitable for being applied inside an opening (13) provided through the cover (11) of a container, from which a pouring spout portion (15) extends, said collar portion (14) having a bottom wall (16) facing the interior of said can, with a lower annular lip (17) radially protruding outwards, through said bottom wall (16) two through holes (18,19) being provided, which holes are closed by portions (20,25) of tear-away material, an upper lip (23) of said collar portion (14) constraining the edge of said opening provided through the cover through an intermediate annular (24) reverse-"L"-shaped shell portion directed downwards to embrace it, with said intermediate shell portion extending from said pouring spout portion (15) and a thread-like appendix (25) being furthermore connected with an external wall of said intermediate shell portion, said thread-like appendix bearing a cap element (26) suitable for entering said collar portion above said bottom wall.

Fig.1



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The present invention relates to a security closure for containers, in particular for oil cans.

Security closures applied to the top, or cover, of an oil can are known from the prior art. They are constrained inside openings sheared through said can cover, are suitably given a collar shape, and one of their bases is closed by a wall acting as a guarantee seal. Such closures known from the prior art suffer from the drawback that they can be removed from the opening provided through the can cover, so the original content of the container can be replaced by a poorer quality product.

Furthermore, such closures known from the prior art are provided with a pouring spout which protrudes from the can cover for a considerable length and causes drawbacks during the step of can formation. In fact, such closures cause difficulties in the automatic feed of the covers during their application to the cylindrical side wall of the cans. Furthermore, the presence of such a protruding pouring spout renders unstable the can during the step of filling of said can from its bottom side, and causes difficulties when the formed and/or filled cans are stacked -- and renders unstable the can stacks.

Closures of improved type, consisting of two components are known as well which, however, although operate in a very satisfactory way, suffer from moulding and assembling problems. Furthermore, precisely since they are constituted by two pieces, said closures are rather complex and anyway protrude from at least the lower side of the container cover.

The purpose of the instant invention is of providing a security closure for containers, which overcomes the above set forth problems.

Another purpose is of providing a container closure which cannot be removed from the opening provided through the cover of the can, without such a tampering being clearly set forth.

A further purpose of the present invention is of providing a simplified, single-component security closure with a structure which allows it to be contained within the upward dimension of the cover, i.e., within the thickness of the cover in the longitudinal direction of the container.

Not least purpose is anyway of providing a security closure which is capable of overcoming the difficulties of handling, formation, filling and stacking of the covers and/or of the cans, caused by the above mentioned protrusions of the closures known from the prior art.

Such purposes according to the present invention are achieved by providing a security closure for containers, in particular for oil cans, characterized in that said security closure is constituted by one single component and comprises a collar portion, suitable for being applied inside an opening

provided through the cover of a container, from which a pouring spout portion extends, said collar portion having a bottom wall, facing the interior of said can, with a lower annular lip radially protruding outwards, through said bottom wall two through holes, i.e., a pouring hole and an air-inlet hole, being provided, which holes are closed by portions of tear-away material, an upper lip of said collar portion constraining the edge of said opening provided through the cover through an intermediate annular, reverse-"L"-shaped shell portion directed downwards to embrace it, with said intermediate shell portion extending from said pouring spout portion, and a thread-like appendix being furthermore connected with an external wall of said intermediate shell portion, said thread-like appendix bearing a cap element suitable for entering said collar portion above said bottom wall.

The characteristics and advantages of a security closure according to the present invention will be clearer from the exemplifying, non-limitative disclosure referred to the hereto attached schematic drawings, in which:

Figure 1 shows a partial plan view of a cover of a container bearing, mounted on it, a closure according to the present invention in its position "as assembled", not opened,

Figure 2 shows a sectional view of the closure of Figure 1 according to the path line II-II,

Figure 3 shows a plan view partially equivalent to the view of Figure 1, with the closure being closed again, after being used to pour the content of the can,

Figure 4 shows a sectional view of a detail of the pouring spout according to the path line IV-IV of Figure 1, and

Figure 5 shows a partial plan view of the lower side of the container cover of Figure 1.

Referring to the figures, a cover of a metal container, partially shown and indicated by the numeral 11, e.g., for an oil can, is provided with a perimetrical raised edge 12 and with a through opening 13 in its central portion. Said through opening 13 is slightly shifted towards the interior of the cover, to lay at an intermediate level relatively to the height of the perimetrical raised edge 12, such as to define a contoured edge 10. A security closure of plastic material according to the present invention is positioned on said opening 13 by spring-like engagement.

The security closure is an enbloc structure made by moulding and its height is at maximum equal to, or smaller than, the thickness of said can cover 11. Said closure essentially comprises a collar portion, generally indicated with the reference numeral 14, which can be spring-like applied and fastened inside said opening 13, and a pouring spout portion, generally indicated with the refer-

ence numeral 15.

The collar portion 14 has a bottom wall 16 oriented towards the interior of said container/can cover, or at a lower level than as shown in Figures 1 and 3. Said bottom wall 16 is provided with a lower annular lip 17 acting as the spring-like constraint element of the closure, destined to come into engagement with the edge of the opening 13 provided through the cover of the metal container 11. For that purpose, the lower lip 17 radially protrudes outwards.

The bottom wall 16 is provided with two through holes 18 and 19. The first hole is the pouring hole and the second one is the air inlet hole. They can be both closed by portions of tear-away material 20 and 21, united by a tearing-away ribbon-like element 22.

The upper edge 23 of said collar portion 14 constraints the contoured edge 10 of the opening 13 through an intermediate annular, reverse-"L"-shaped shell portion 24. Said intermediate portion 24 is oriented downwards, to completely embrace said edge 10.

From said intermediate shell portion 24, along a limited region thereof approximately equal to half circumference, the pouring spout 15 extends from the security closure according to the present invention.

To another circumferential region of said intermediate shell portion 24 a thread-like appendix 25 is constrained. A moulded cap element 26 is borne by the free end of said thread-like appendix 25. Said cap element can be inserted and engaged inside said collar portion 14 of the security closure, above the bottom wall 16.

The cap element 26 is furthermore provided with a radially protruding, essentially "L"-shaped tab 27 suitable to come to rest on the external surface of said security closure and to cooperate to position said cap element inside the collar portion 14, as better shown in Figure 3.

When the security closure according to the invention is realized, the above-said cap element 26 is kept integral with the pouring spout 15 by a small tooth 28 provided with a rupture region 29.

The pouring spout portion 15 is constrained to the remainder portion of the security closure by a rupture region indicated with the reference numeral 30. If the pouring spout portion is grasped to remove the closure from the container cover, said rupture region 30 gets broken causing said pouring spout portion to be separated from the previously disclosed collar portion 14.

Furthermore, the intermediate shell portion 24 is provided with weakening and/or rupture lines, i.e., radial lines 36 and circumferential stretches 37 which display -- through their being ruptured -- that a tampering was attempted or carried out by acting

on the intermediate shell portion 24 (Figure 5).

The pouring spout portion 15 extends from the upper edge 23 of the intermediate shell portion 24 and is inclined and tapered towards the upper face 9 of the container cover 11. More precisely, said pouring spout portion 15 shows two side regions 31 inclined towards a central region 32. All these regions are bounded between side boundary walls 33 (Figure 4).

As shown by chain line in Figures 1 and 2, a lid element generally indicated by the reference numeral 34 can be furthermore provided to act as a guarantee seal. Said lid element is placed, with possibility of free removal, above the collar portion 14 and the pouring spout portion 15 after that the security closure is applied onto the cover of the container 11. Said guarantee seal 34 can be given the structure of, e.g., a heat-welded aluminum element, or any similar materials capable of performing the same task can be used.

Of course, should such a guarantee seal 34 be capable of completely sealing the underlying security closure portion, thus isolating it from the external environment, the portions of tear-away material 20 and 21 closing the pouring hole 18 and the air-inlet hole 19, and consequently the ribbon-like tearing-away element 22 which unites them to each other, could be eliminated.

As anyone will easily understand from the above description, a security closure according to the present invention is easily moulded as one single piece of plastic material, and is then positioned and spring-like fastened onto an opening provided through the wall of the cover of the container or can.

The further typical feature of the security closure of the present invention, i.e., the shape of the pouring spout portion, constituted by several, suitably shaped and inclined regions, realizes a retention of the oil inside the collar element, and therefore inside the container cover, and simultaneously facilitates the pouring of oil.

As it can be also observed from the above, a further feature of the present invention is that all the portions which constitute the security closure have such a height, as to be contained within the thickness of the cover of the container, i.e., within the region bounded by the plane defined by the top end of the perimetrical edge 12 and the plane on which the lower, internal face 35 of the cover of the container 11 lays.

This feature makes it both possible the security closures to be correctly stacked above each other without unbalancing and the container covers equipped with security closures according to the present invention to be equally correctly stacked on each other.

Furthermore, a security closure realized by

moulding and, as disclosed, having a constant thickness or height, makes it possible the covers to be perfectly stacked on each other even if said security closure extends outside the cover thickness or height, by providing a wide support plane between covers.

A further, not least, advantageous feature is the lower lip 17 of the collar element 14 being realized exactly lined-up to the lower, internal face 35 of the container cover 11. This peculiarity makes it possible the container to be completely emptied of its contents, e.g., oil.

Claims

1. Security closure for containers, in particular for oil cans, characterized in that said security closure is constituted by one single component and comprises a collar portion, suitable for being applied inside an opening provided through the cover of a container, from which a pouring spout portion extends, said collar portion having a bottom wall, facing the interior of said can, with a lower annular lip radially protruding outwards, through said bottom wall two through holes, i.e., a pouring hole and an air-inlet hole, being provided, which holes are closed by portions of tear-away material, an upper lip of said collar portion constraining the edge of said opening provided through the cover through an intermediate annular, reverse-"L"-shaped shell portion directed downwards to embrace it, with said intermediate shell portion extending from said pouring spout portion, and a thread-like appendix being furthermore connected with an external wall of said intermediate shell portion, said thread-like appendix bearing a cap element suitable for entering said collar portion above said bottom wall.
2. Security closure according to claim 1, characterized in that between said pouring-spout portion and said collar portion a rupture region is provided.
3. Security closure according to claim 1, characterized in that its height is at maximum equal to, or lower than, the thickness of said container cover.
4. Security closure according to claim 1, characterized in that said pouring-spout portion extends from an upper lip of said intermediate shell portion and is inclined and tapered towards the upper surface of said container cover.

5. Security closure according to claim 1, characterized in that said pouring spout portion is provided with two side regions inclined towards a central region and is bounded by two side boundary walls.
6. Security closure according to claim 1, characterized in that said portions of tear-away material are united with each other by a ribbon-like element.
7. Security closure according to claim 1, characterized in that said cover element is furthermore provided with an "L"-shaped, outwards radially protruding tab, suitable for resting against the external surface of said security closure.
8. Security closure according to claim 1, characterized in that a further guarantee seal is provided, which is suitable for being removably positioned above said collar portion and said pouring spout portion.
9. Security closure according to claim 1, characterized in that said intermediate shell portion is provided with radially oriented weakening and/or rupture lines.
10. Security closure according to claim 1, characterized in that said intermediate shell portion is provided with weakening and/or rupture lines along at least circumferential portions concentric with it.

Fig.1

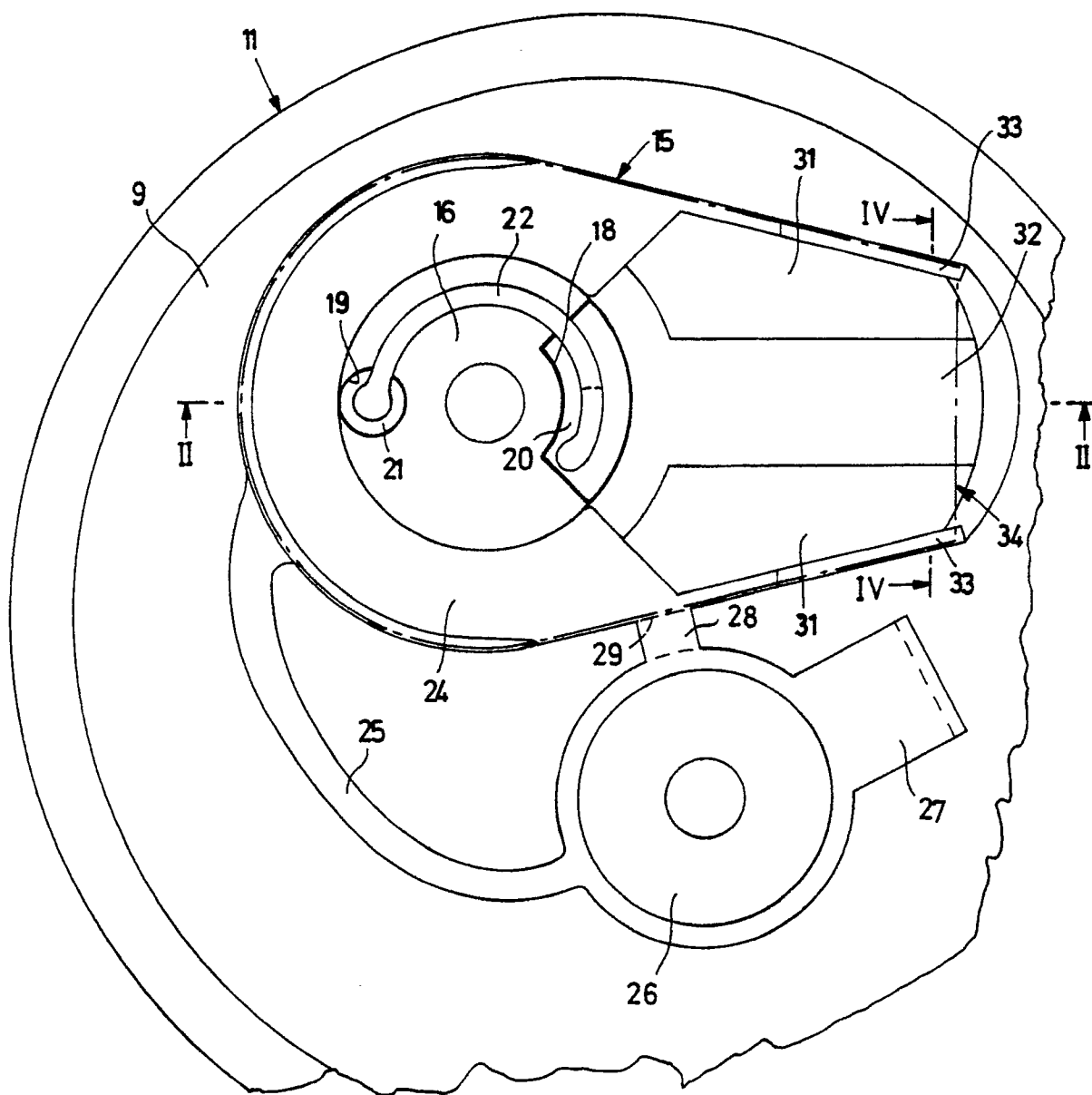
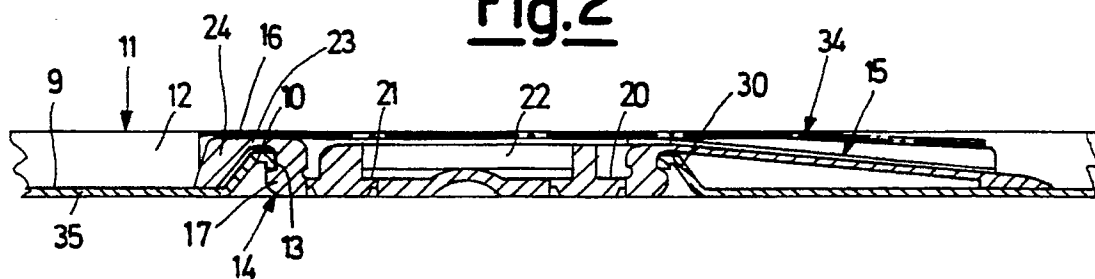
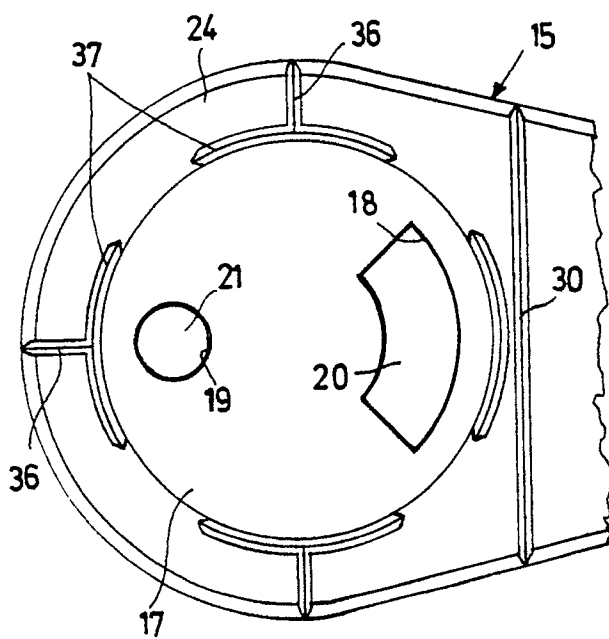
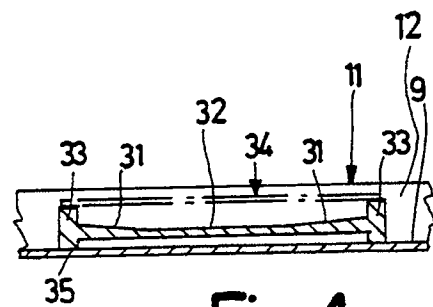
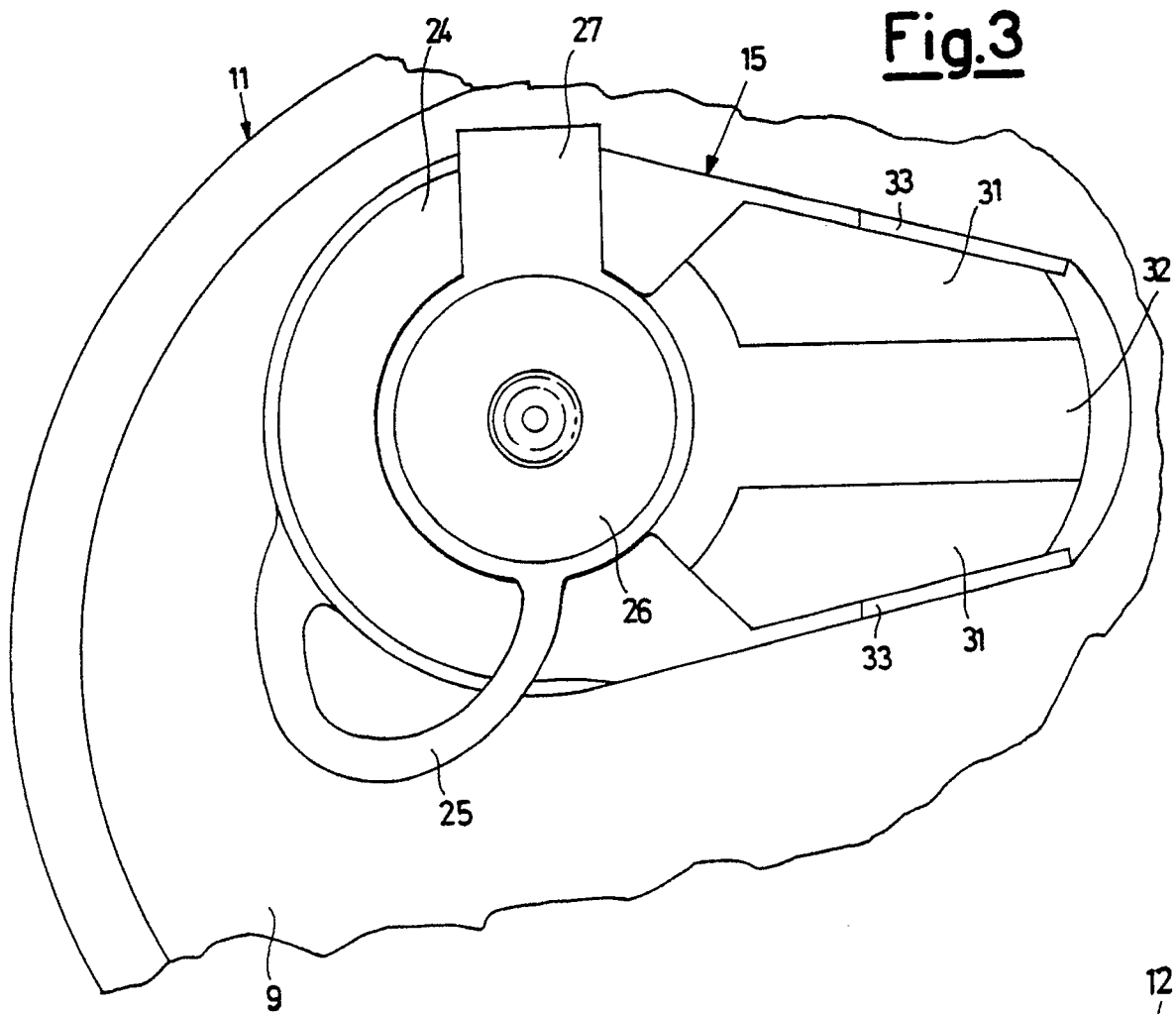


Fig.2







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EUROPEAN SEARCH REPORT

Application Number

EP 91 20 0671

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)
Y	US-A-3 204 829 (SONG) * Column 2, line 35 - column 3, line 29; figures 1-5 * - - -	1,6	B 65 D 47/06 B 65 D 47/10 B 65 D 47/14
Y	FR-A-2 015 275 (MATZKA) * Page 2, line 32 - page 3, line 14; figures 1-3 * - - -	1,6	
A	US-A-3 031 111 (STULL) * Column 4, lines 33-75; figures 1-8 * - - -	1,7	
A	US-A-3 465 925 (BERTOLLI) * Column 3, line 66 - column 4, line 40; column 6, lines 15-31; figures 1-4,9,10 * - - -	1,4,5	
A	FR-A-2 633 904 (GUATELLI) * Figures 1-3 * - - -	1,3	
A	FR-A-2 562 037 (GUATELLI) * Figures 1-4 * - - -	1	
A	DE-A-2 755 758 (G. MENSCHEN) * Page 5, lines 14-21; figures 1-3 * - - -	10	
A	US-A-4 387 819 (CORSETTE) - - - - -		
The present search report has been drawn up for all claims			
Place of search		Date of completion of search	Examiner
The Hague		28 June 91	BERRINGTON N.M.
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 O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document			