(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 475 319 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.11.2004 Bulletin 2004/46

(51) Int Cl.[7]: **B65F 1/14**, B65F 1/16

(21) Application number: **04010360.8**

(22) Date of filing: **30.04.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL HR LT LV MK

(30) Priority: **09.05.2003 IT MI20030223**

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(54) Container for collecting loose products

(57) The present invention relates to a container (1) for collecting loose products in general comprising a container body (2) having rolling wheels (4) and a closure cover (3).

The main feature of the invention is that on the container body (2) are provided recessed seats (10) for housing rolling wheel supporting elements (11), which rolling wheel supporting elements (11) are fixedly held in their recessed seats (10) by plug-in retaining means (15).

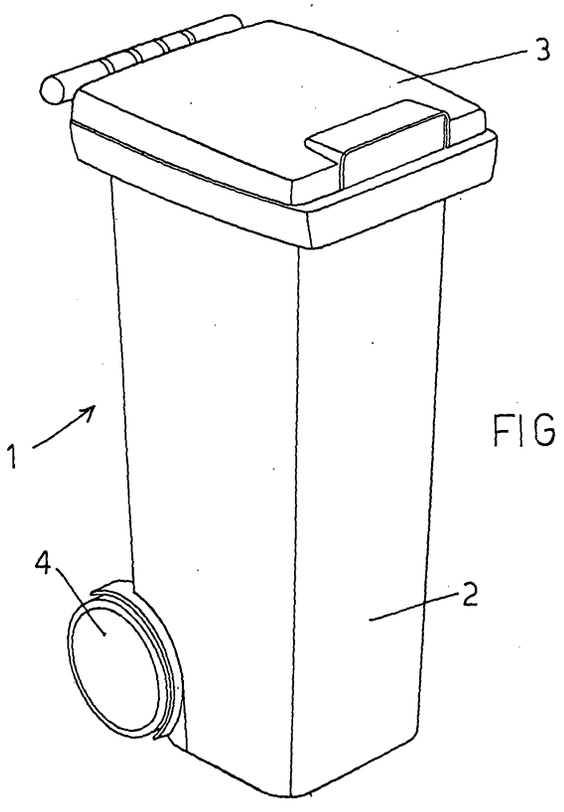


FIG 1

EP 1 475 319 A1

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a simplified-construction container for collecting and holding loose products in general.

[0002] A lot of containers or vessels for collecting loose articles are already known: said prior collecting containers or vessels generally comprising an elongated prismatic container body including rolling wheels and a pivoting closure cover.

[0003] The above mentioned prior containers, which are mainly used for collecting refuse and waste materials, and for differentiatedly collecting loose articles or waste in general, are so designed as to provide a composite container which does not allow to easily separate the component elements thereof, and, accordingly, requiring very complex assembling operations to be assembled.

[0004] Another problem affecting the above mentioned prior containers or vessels is that, as a container is damaged, it is necessary to replace the overall container, since it could not be easily repaired.

SUMMARY OF THE INVENTION

[0005] Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by providing a simplified-construction container including component elements which can be easily and quickly assembled without the need of using specifically designed assembling tools or apparatus.

[0006] Within the scope of the above mentioned aim, a main object of the present invention is to provide such a container in which a possibly damaged part thereof can be easily and quickly replaced, in a comparatively short time and without using specifically designed repairing tools.

[0007] Another object of the present invention is to provide such a simplified-construction container which, owing to its specifically designed constructional features, is very reliable and safe in operation.

[0008] Yet another object of the present invention is to provide a simplified-construction container, for collecting loose articles in general, which can be easily made starting from easily available elements and materials and which, moreover, is very competitive from a mere economic standpoint.

[0009] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a simplified-construction container for collecting loose products in general, comprising a container body provided with rolling wheels and a closure cover, characterized in that said container comprises moreover, on said container body, recessed seats for housing supporting elements for supporting said rolling wheels, plug-in means for holding said supporting elements in said recessed seats being furthermore provided.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Further characteristics and advantages of the invention will become more apparent hereinafter from the following detailed disclosure of a simplified-construction container for collecting loose products in general, which is illustrated, by way of an indicative, but not limitative, example in the accompanying drawings, where:

Figure 1 is a schematic perspective view illustrating the container according to the invention;
Figure 2 is a side elevation view illustrating the container according to the invention;
Figure 3 is an exploded perspective view illustrating the container according to the invention;
Figure 4 is a vertical cross-sectional view illustrating the container according to the invention; and
Figure 5 represents the container according to the invention as cross-sectioned along horizontal planes for clearly showing the configuration and coupling means for coupling the rolling wheel and pivot means for pivoting the container body to the cover therefor.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0011] With reference to the above mentioned figures, the simplified-construction container for collecting loose products in general, which has been generally indicated by the reference number 1, comprises a container body 2 which is preferably provided with an elongated prismatic configuration and being coupled to a closure cover 3, which is pivoted or hinge applied to the container body.

[0012] As shown, the container is provided with rolling wheels, generally indicated by 4.

[0013] The main feature of the invention is that the container is so designed that its component elements can be easily and quickly assembled without using specifically designed assembling tools.

[0014] To that end the container body 2 is provided with recessed seats, indicated by the reference number 10, in which can be engaged and fixedly retained supporting elements 11 for rotatably supporting a respective wheel 4.

[0015] More specifically, the supporting element 11 comprises a casing 12 extending from a bottom plate 13 which, on a front portion thereof, comprises an expandible hub element 14 for snap coupling with the wheel 4, the construction of which will be disclosed in a more detailed manner hereinafter.

[0016] On the rear surface of the bottom plate 13, plug-in elements 15 are provided, of T shape, which are

engaged in corresponding guides 16 designed for providing plug-in element for retaining or fixedly holding the supporting element in its related seat or recess 10.

[0017] On each supporting element, counter-tooth elements 17, arranged at edge regions, are moreover provided, to provide a firm or fixed coupling.

[0018] Advantageously, the wheel 4 comprises two half-hub elements 20 which are axially coupled to one another and connected to a box-like wheel body 21, which is closed by a central portion 22 at an axial end thereof and which, at its other axial end, is covered by a coating body 23 defining the wheel periphery and accordingly the sliding portion and being coupled to the central part 22.

[0019] Thus, the supporting elements and related wheels can be easily and quickly coupled by a mechanical plug-in type of operation to the container body without the need of using specifically designed coupling tools, and, accordingly they can also be easily and quickly replaced, as needed.

[0020] The cover 3, as stated, is pivoted or hinge coupled to the container body 2.

[0021] To that end, the container body comprises thereon bush-elements 30, which are axially spaced from one another, and therebetween can be engaged eyelet elements 31 as formed on the cover 3.

[0022] The pivoting assembly is made by using peg element 32 having expandible jaws, which are snap engaged on the mentioned eyelet elements and being provided with a gripping end-piece 33, which is arranged on the extension of the bush elements 30, thereby also providing a good aesthetical aspect.

[0023] From the above disclosure it should be apparent that the invention fully achieves the intended aim and objects.

[0024] In particular, the invention provides a simplified-construction container, for collecting loose products or articles in general, which can be made by a simple and quick coupling of component elements which can be molded from a plastics material.

[0025] In practicing the invention, the used materials, provided that they are compatible to the intended application, as well as the contingent size and shapes, can be any, depending on requirements.

Claims

1. A simplified-construction container for collecting loose products in general, comprising a container body provided with rolling wheels and a closure cover, **characterized in that** said container comprises moreover, on said container body, recessed seats for housing supporting elements for supporting said rolling wheels, plug-in means for holding said supporting elements in said recessed seats being furthermore provided.

2. A container, according to the preceding claim, **characterized in that** said supporting elements comprise a peripheral casing coupled to a bottom plate therefrom an expandible hub element which can be coupled with a related rolling wheel extends, said bottom plate having an opposite surface thereof on which plug-in means are formed.

3. A container, according to the preceding claims, **characterized in that** said plug-in means comprise T-shape elements which can be engaged in guides defined in recessed seats.

4. A container, according to one or more of the preceding claims, **characterized in that** said container comprises moreover counter-tooth elements coupled at the side portions of said bottom plate.

5. A container, according to one or more of the preceding claims, **characterized in that** said rolling wheel comprises a box-like body which can be coupled to a hub element formed by two axially coupled half-hub elements, with said box-like body being engageable a central portion coupled to an axial end of said box-like body.

6. A container, according to one or more of the preceding claims, **characterized in that** said container comprises moreover a coating body overlapped on said box-like body and engaging with a periphery of said central body.

7. A container, according to one or more of the preceding claims, **characterized in that** said container comprises moreover pivot means for pivoting said container body and cover, said pivot means comprising bush elements projecting from said container body and axially spaced for engaging with eyelet elements projecting from said container cover.

8. A container, according to one or more of the preceding claims, **characterized in that** said container comprises moreover pivot pegs having expandible jaws which can be engaged in said bush elements and abutted against said eyelet elements for housing pivot pins.

9. A container, according to one or more of the preceding claims, **characterized in that** said container comprises moreover a gripping element arranged on an axial extension of said pivot pins.

10. A simplified-construction container for collecting loose products in general, according to one or more of the preceding claims, and substantially as broadly disclosed and illustrated, and for the intended aim and objects.

FIG 2

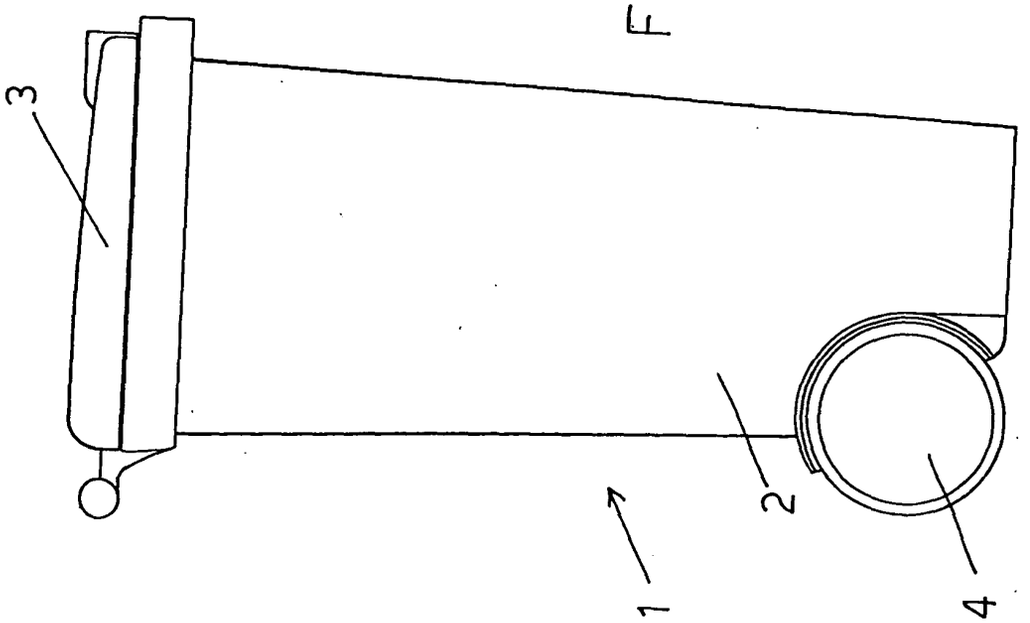
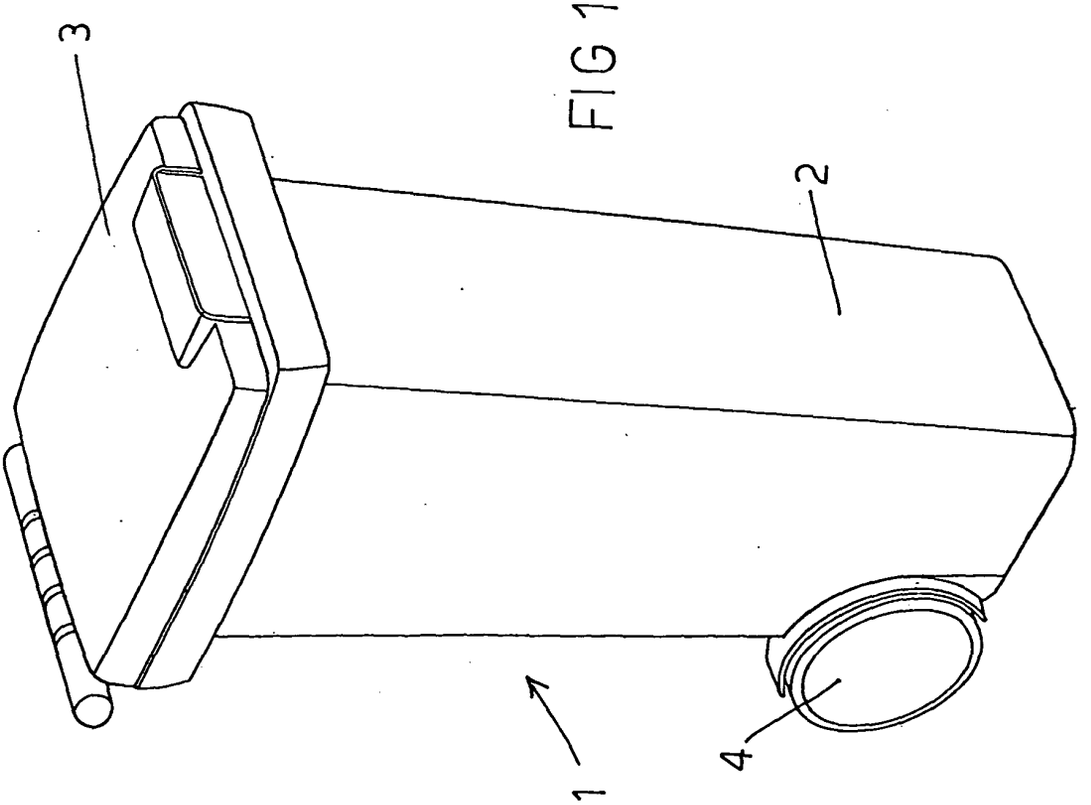


FIG 1



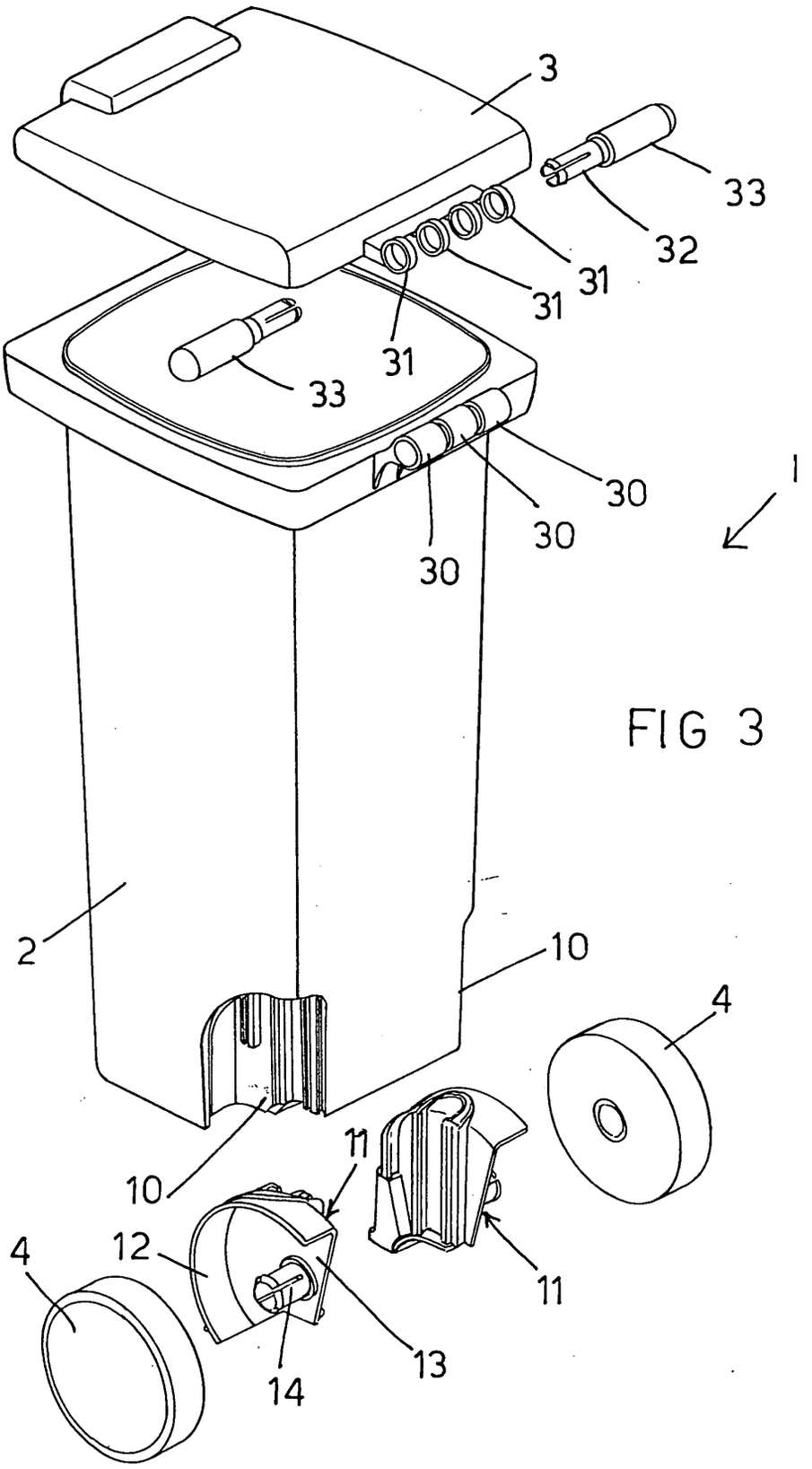


FIG 3

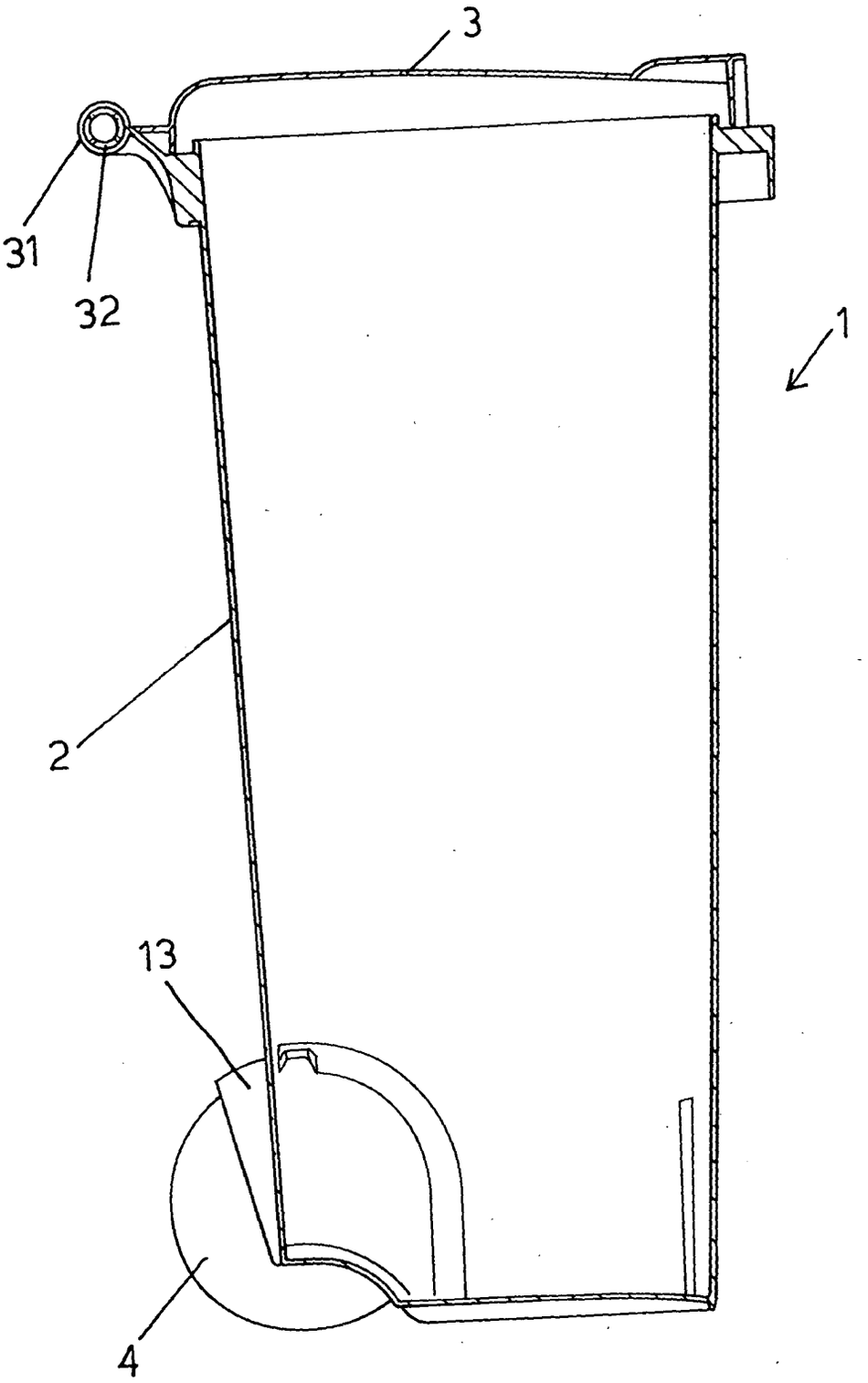
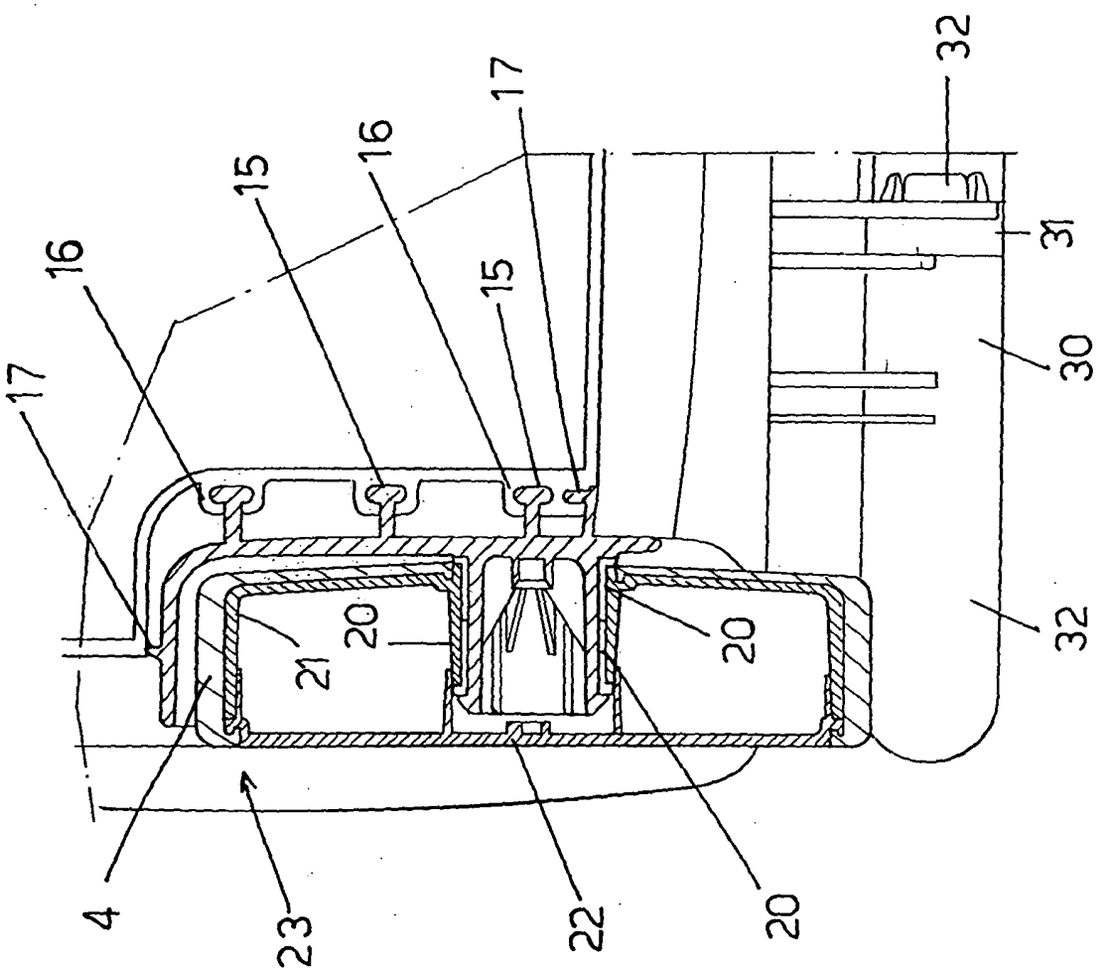


FIG 4

FIG 5



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PARTIAL EUROPEAN SEARCH REPORT

which under Rule 45 of the European Patent Convention shall be considered, for the purposes of subsequent proceedings, as the European search report

Application Number EP 04 01 0360

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.7)
X Y	DE 295 02 094 U (URALAN KUNSTSTOFFVERARBEITUNG) 23 March 1995 (1995-03-23) * page 4, line 6 - line 15 * * figures 1,2 *	1,3 7-9	B65F1/14 B65F1/16
Y	DE 77 12 227 U (GEBR. OTTO KG) 4 August 1977 (1977-08-04) * the whole document *	7-9	
X	DE 196 08 784 C (SULO EISENWERK STREUBER & LOHMANN GMBH & CO KG) 27 February 1997 (1997-02-27) * column 2, line 29 - column 4, line 12 * * figures 1-6 *	1,3	
A	US 4 450 976 A (L. SNYDER ET AL.) 29 May 1984 (1984-05-29) * column 3, line 5 - column 4, line 34 * * figures 1-5 *	1,7-9	
A	US 6 328 320 B1 (R. WALSKI ET AL.) 11 December 2001 (2001-12-11) * column 2, line 66 - column 3, line 52 * * figures 1-3 *	1,7-9	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65F

INCOMPLETE SEARCH

The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.

Claims searched completely :

Claims searched incompletely :

Claims not searched :

Reason for the limitation of the search:

see sheet C

Place of search	Date of completion of the search	Examiner
The Hague	6 July 2004	Smolders, R

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
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L : document cited for other reasons

& : member of the same patent family, corresponding document

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INCOMPLETE SEARCH
SHEET C

Application Number
EP 04 01 0360

Claim(s) searched completely:
1-9

Claim(s) not searched:
10

Reason for the limitation of the search:

Rule 29(6) EPC.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 01 0360

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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06-07-2004

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82