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

(11) **EP 2 636 612 A1**

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
11.09.2013 Bulletin 2013/37

(51) Int Cl.:
B65F 1/14 *(2006.01)*

(21) Application number: **13001066.3**

(22) Date of filing: **04.03.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **09.03.2012 DK 201200181**

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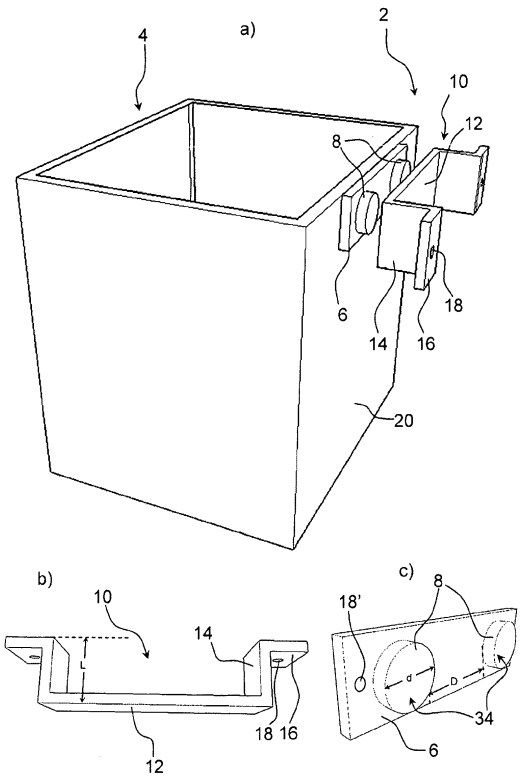
(54) Container attachment system

(57) An attachment system (2) for securing a container (4) to a wall member (26) is disclosed. The attachment system (2) comprises a first attachment member (6) fixed to the container (4) and a second attachment member (10) configured to be secured to a wall member (26). The second attachment member (10) is configured to receive and hereby attach the first attachment member (6) to the second attachment member (10). The first attachment member (6) and/or the second attachment member (10) comprises a number of magnets (8) that are arranged in such a way that the first attachment member (6) is attached to the second attachment member (10) by magnetic attraction.

Fig. 1



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Description

Field of invention

[0001] The present invention generally relates to an attachment system for containers. The present invention more particularly relates to an attachment system for attaching a dustbin to a wall member.

Background of the invention

[0002] It is known to have outdoor containers and dustbins arranged on the ground close to buildings. In private homes it is common to have outdoor dustbins standing on the ground.

[0003] In windy weather dustbins and containers that are standing on the ground may easily be blow down by the wind. Since many containers and dustbins are required to be moved (for instance when the dustbins have to be emptied) it is, in most cases, not an option to permanently fix the containers or dustbins permanently a building or another wall member.

[0004] Accordingly, there is need for an attachment system that can prevent containers and dustbins from being blown down by the wind and at the same time allows for movement of the containers or dustbins.

[0005] It is an object of the invention to provide a reliable attachment system that is easy and quick to use and that is capable of preventing containers and dustbins from being blown down by the wind.

Summary of the invention

[0006] The object of the present invention can be achieved by an attachment system as defined in claim 1 and by a container having the features defined in claim 6. Preferred embodiments are defined in the dependent sub claims and explained in the following description and illustrated in the accompanying drawings.

[0007] The attachment system according to the invention is an attachment system for securing a container to a wall member. The attachment system comprises a first attachment member fixed to the container and a second attachment member configured to be secured to a wall member, where the second attachment member is configured to receive and hereby attach the first attachment member to the second attachment member. The first attachment member and/or the second attachment member comprises a number of magnets that are arranged in such a way that the first attachment member is configured to be attached to the second attachment member by magnetic attraction between the first attachment member is configured to be attached to the second attachment member, where the attachment system further comprises a plate-shaped plate member and a bracket comprising a front plate member configured to be brought into contact with the plate member, where one or more magnets are provided at the plate-shaped and/or at front plate member of the bracket.

[0008] Hereby it is achieved that the attachment system can prevent containers and dustbins from being blown down by the wind in windy weather. At the same time the attachment system allows for easy detachment and movement of the container.

[0009] The attachment system according to the invention provides a reliable attachment system that is very robust and easy and quick to use and that is applicable in windy weather.

[0010] The attachment system is in particular intended for outdoor use to secure dustbins to a wall member.

[0011] Wall member may be a wall of a building, a plate or a post by way of example.

[0012] The container may be any suitable type of container, however, the attachment system is intended for outdoor containers in particular dustbins e.g. made in plastic or metal material. The attachment system may mounted on and hereby upgrade a container (e.g. a plastic or metal dustbin).

[0013] The wall member may be any member suitable for receiving screws or other suitable attachment means. The wall member may for instance be a wall of a building, a plate or an upright standing post.

[0014] It is possible to use one or more magnets. It is preferred to use two magnets. The magnets are preferable made in a ferromagnetic material. The magnets may have any suitable geometric shape. The magnets may be box-shaped, circular cylindrical by way of example.

[0015] The magnet(s) may be mounted directly on a wall of the container or directly on a wall member.

[0016] Hereby a very robust and reliable attachment system can be achieved. Advantageously, the plate-shaped plate member has a rectangular cross-section. The plate member may be formed as a plane plate or as an arced or curved plate configured to be attached to the container.

[0017] It is preferred that the shape of the front plate member of the bracket corresponds to the shape of the plate member so that the front plate member can be brought into close contact with the plate member.

[0018] The magnets may have similar shape and it is preferred that to basically identical magnets having a plane surface facing away from the plate member are attached to the plate member.

[0019] It may be an advantage that the plate-shaped plate member is configured to be attached to a wall of a container, where the bracket is basically U-shaped and comprises one or more back plate members configured to be attached to a wall member.

[0020] Hereby the plate member may be attached to almost all types of containers that require attachment means to be mounted in order to keep the containers in place e.g. in windy weather.

[0021] By having a U-shaped bracket it is possible to use the attachment system according to the invention to containers having a portion (e.g. a part of the lid) that protrudes from the wall of the container.

[0022] It is preferred that a number of through going bores (preferably circular cylindrical bores) are provided in the back plate members and in the plate member.

[0023] In may be beneficial that two or more magnets are mechanically attached to the plate member, where the magnets are protruding from the plate member basically perpendicular to the longitudinal axis plate member.

[0024] Hereby it is achieved that the magnets may be brought in direct contact with the front plate member of the bracket and hereby provide a reliable and strong fixation of the plate member to the front plate member of the bracket.

[0025] It may be an advantage that two or more magnets are mechanically attached to the front plate member of the bracket, where the magnets are protruding from the front plate member basically perpendicular to the longitudinal axis of the bracket.

[0026] Hereby it is achieved that the magnets may be brought contact with the plate member and hereby provide a reliable and strong fixation of the front plate member of the bracket to the plate member.

[0027] The container system according to the invention is preferably an outdoor dustbin system, which container system comprises a container and an attachment system according to one of the claims 1-5.

[0028] Such container system is suitable for use in windy weather because the attachment system secures a strong and reliable fixation of the container to a wall member.

[0029] It may be an advantage that a first attachment member is fixed to the container and that a second attachment member configured to be secured to a wall member is adapted to receive and hereby attach the first attachment member to the second attachment member by magnetic attraction.

[0030] This type of container is easy and quick to attach and detach from the second attachment member. The second attachment member may be a bracket as described previously.

[0031] It may be beneficial that the first attachment member is a plate member fixed to the top portion of a wall of the container.

[0032] Hereby the attachment system is equipped to resist the larges possible wind induced forced. Accordingly, a very robust and reliable container can be received.

[0033] Top portion means the uppermost quarter region of the wall of the container.

[0034] It is preferred that two magnets are mechanically attached to the plate member and that the distance between the magnets is larger than the width/diameter of the magnets.

[0035] Hereby a strong and robust attachment between the container and the second attachment means is achieved. The second attachment means is configured to bear against the magnets when the container is attached to the second attachment means.

[0036] It may be an advantage that the second attachment member is a bracket comprising a front plate member and that two magnets are mechanically attached to the front plate member and that the distance between the magnets is larger that the width/diameter of the magnets.

[0037] Hereby a strong and robust attachment between the container and the second attachment means is achieved.

Description of the Drawings

[0038] The invention will become more fully understood from the detailed description given herein below. The accompanying drawings are given by way of illustration only, and thus, they are not limitative of the present invention. In the accompanying drawings:

Fig. 1 shows a perspective view of an attachment system according to the invention;

Fig. 2 shows a perspective view of another attachment system according to the invention;

Fig. 3 shows four different views of an attachment system mounted on a dustbin and

Fig. 4 shows a side view of a container according to the invention.

Detailed description of the invention

[0039] Referring now in detail to the drawings for the purpose of illustrating preferred embodiments of the present invention, an attachment system 2 of the present invention is illustrated in Fig. 1.

[0040] Fig. 1 a) is a perspective view of an attachment system 2 that is used to attach a container 4 (e.g. a dustbin or a container for recycling material) to a wall member (e.g. a wall of a building). The attachment system 2 comprises a plane steel plate member 6 that is attached to a plane wall 20 of the container 4. The attachment system 2 moreover comprises a bracket 10 having a plane plate-shaped front plate member 12, a plane plate-shaped plate member 14 extending perpendicular to the front plate member 12 is attached at each end of the front plate member 12 to form a U-shaped bracket member. A plate-shaped back plate member 16 extending parallel to the front plate member 12 is attached to the distal end of each side plate member 14.

[0041] Two circular cylindrical magnets 8 are attached to the plate member 6 and these magnets 8 are configured to be mechanically attached to the front plate member 12 of the bracket 10 and here by attach the container 4 to the bracket 10.

[0042] A bore 18 is provided in each of the two back plate members 16. Each of these bores are configured to receive a screw (see Fig. 4) that is used to attach the bracket 10 to a wall member (e.g. a wall of a building).

[0043] Fig. 1 b) illustrates another perspective view of the bracket 10 shown in Fig. 1 a). The bracket 10 comprises a front plate member 12 that is significantly (ap-

proximately four times) larger than the side plate members 14 and the back plate members 16. The bores 18 in the back plate members 16 are circular cylindrical and extend parallel to the side plate members 14. The bracket 10 is configures to be screwed into a wall member (e.g. the wall of a building) by means of screws inserted through the apertures 18 in the back plate members 16. The bracket 10 is constructed in such a way that the front plate member 12 is arranged in a distance L from the wall member into which the bracket 10 is intended to be fixed. The bracket 10 may be produced from a plate material that may be bended by use of a sheet metal bender by way of example.

[0044] Fig. 1 c) illustrates another perspective view of the plate member 6. The plate member 6 is box-shaped and has a rectangular cross-sectional area. Two circular cylindrical magnets 8 having a plane flat surface 34 are provided on the plate member 6. The magnets 8 have a diameter d that is smaller than the distance D between the magnets 8. The magnets 8 may be attached to the front plate member 12 by welding, gluing or by any other suitable attachment means e.g. a mechanical attachment by using screws).

[0045] The plate member 6 is provided with two circular cylindrical bores 18'. By use of these bores 18' the plate member 6 can be secured to the wall 20 of the container 4 by means of screws. It would also be possible to integrate the plate member 6 in the wall 20 of the container 4 or to attach the magnets 8 directly to the wall 20 of the container 4.

[0046] Fig. 2 illustrates another attachment system 2 according to the invention. The attachment system 2 comprises a plate member 6 attached to a container 4. The attachment system moreover comprises a bracket 10 like the one shown in Fig. 1. Two circular cylindrical magnets 8 are attached to the front plate member 12 of the bracket 10. The front plate member 12 is configured to extend parallel to the plate member 6 when the plate member 6 is brought into contact with the magnets 8 on the bracket 10.

[0047] The magnets 8 may be attached to the front plate member 12 by any suitable attachment means (e.g. welding, gluing or a mechanical attachment by using screws). Like in Fig. 1 the plate member 6 may be attached to the wall 20 by any suitable means e.g. screw inserted through bores 18'.

[0048] The bracket 10 may be attached to a wall member by inserting a screw through the bores 18 provided in each of the two back plate members 16. Each of these bores are circular cylindrical and configured to receive a screw (see Fig. 4) that is used to attach the bracket 10 to a wall member e.g. a wall of a building.

[0049] Fig. 2 b) illustrates a perspective view of the bracket 10 shown in Fig. 2 a). The bracket 10 has a longitudinal axis Y extending through a front plate member 12 that is significantly (more than two times) larger than the side plate members 14 and the back plate members 16. The bores 18 in the back plate members 16 is circular cylindrical and extend parallel to the side plate members 14.

[0050] The magnets 8 are circular cylindrical and have a diameter d that is smaller than the distance D between the magnets 8.

[0051] Fig. 2 c) illustrates a perspective view of the plate member 6 shown in Fig. 2 a). The plate member 6 is formed as a thin steel plate provided with two circular cylindrical bores 18'. The plate member 6 can be attached to the wall 20 of a container 4 by inserting screws through these bores 18'. The plate member 6 has a longitudinal axis X.

[0052] It is possible to integrate the plate member 6 in the wall 20 of the container 4 or omit the plate member 6 if the wall 20 is made in steel.

[0053] In use the bracket 10 is mounted on a wall member (e.g. a wall of a building) by means of screws. The plate member 6 has to be mounted on the wall 20 of the container 4. It is important that the bracket 10 and the plate member 6 are aligned so that the magnets 8 on the plate member 6 can be brought into contact when the container is translated towards the bracket 10.

[0054] Fig. 3 illustrates different views of two different dustbins 4 that are provided with attachment systems 2 according to the invention. The dustbin 4 has a box-shaped housing 32 and a plate-shaped lid 22. A plate member 6 is mechanically attached to the wall 20 of the dustbin housing 32 (e.g. by means of screws). The attachment system 2 comprises a bracket 10. In Fig. 3 a) and Fig. 3 b) the bracket 10 is provided with two magnets 8. The bracket 10 is configured to be secured to a wall member 26 by means of screws 28.

[0055] In Fig. 3 c) and Fig 3 d) no magnets are attached to the bracket 10, however, two magnets 8 are mechanically attached to the plate member 6.

[0056] In Fig. 3 a) and in Fig. 3 b) a bracket 10 is not mounted on /attached to any object, however, in Fig. 3 c) and Fig. 3 d) the bracket 10 is mechanically fixed to an upright wall member 26. The dustbin 4 is standing on and hereby being supported by the ground 24. In Fig. 3 c) the dustbin 4 is not attached to the bracket 10, however, in Fig. 3 d) the dustbin 4 has been pushed towards the bracket 10 and the plate member 6 that is secured to the wall 20 of the housing 32 of the dustbin 4 is brought into contact with the bracket 10. The bracket 10 is made in steel so that the magnets 8 are attracted by and can be attached to the bracket 10.

[0057] In use the dustbin 4 kept in place by gravity and by the magnetic attraction between the magnets 8 and the steel bracket 10. In windy weather dustbins 4 and containers 4 equipped with attachment systems 2 according to the invention can prevent the containers and dustbins from being blown down by the wind. The attachment system 2 at the same time allows for movement of the containers 4 or dustbins 4.

[0058] In Fig. 4 illustrates a side view of a container 4 according to the invention. The container 4 may be an outdoor dustbin e.g. of a type indicated in Fig. 1-3. The

container 4 has an attachment system 2 similar to the ones illustrated in Fig. 1. The attachment system 2 comprises a plate member 6 that is secured to a wall 20 of the container 4 by means of screws 28' and washers 30'. A number of magnets 8 are mechanically attached to the plate member 6. The attachment system 2 moreover comprises a bracket 10 configured to be secured to a wall member (e.g. a wall of a building) by means of screws 28 and washers 30.

[0059] The container has a height H and the plate member 6 is arranged in the top portion of the wall 20 of the container 4 so that the magnets 8 are provided in a height h above the ground 24. It is preferred that the magnets 8 are arranged in the top portion of the wall 20 of the container 4. In this way a more stabile and reliable attachment of the container can be achieved. When the plate member 6 and thus the magnets 8 are arranged in the top portion of the wall 20 of the container 4 the height h is just slightly smaller than the height H of the container.

[0060] The plate member 6 is configured to be brought into contact with the bracket 10. The bracket 10 is shaped like the brackets 10 illustrated in Fig. 1, Fig. 3 c) and Fig. 3 d). The screws 28 extend through a bore provided in the back plate member 16. In stead of a bracket 10 it is possible to secure the plate member 10 to a wall member and attach the bracket 10 to the wall 20 of the container 4.

List of reference numerals

[0061]

2	Attachment system
4	Container
6	Plate member
8	Magnet
10	Bracket
12	Front plate member
14	Side plate member
16	Back plate member
18, 18'	Bore
20	Wall
22	Lid
24	Ground
26	Wall member
28, 28'	Screw
30, 30'	Washer
32	Housing
34	Flat surface
H, h	Height
L	Length
D	Distance
d	Diameter
X	Longitudinal axis
Y	Longitudinal axis

Claims

1. An attachment system (2) for securing a container (4) to a wall member (26), where the attachment system (2) comprises a first attachment member (6) adapted to be fixed to the container (4) and a second attachment member (10) adapted to be secured to a wall member (26), where the second attachment member (10) is adapted to receive and hereby attach the first attachment member (6) to the second attachment member (10) **characterised in that** the first attachment member (6) and/or the second attachment member (10) comprises a number of magnets (8) that are arranged in such a way that the first attachment member (6) is adapted to be attached to the second attachment member (10) by magnetic attraction between the first attachment member (6), where the attachment system (2) further comprises a plate-shaped plate member (6) and a bracket (10) comprising a front plate member (12) adapted to be brought into contact with the plate member (6), where one or more magnets (8) are provided at the plate-shaped and/or at front plate member (12) of the bracket (10).

2. An attachment system (2) according to claim 1 **characterised in that** the plate-shaped plate member (6) is adapted to be attached to a wall (20) of a container (4), where the bracket (10) is basically U-shaped and comprises one or more back plate members (16) adapted to be attached to a wall member (26).

3. An attachment system (2) according to claim 1 or claim 2 **characterised in that** two or more magnets (8) are mechanically attached to the plate member (6), where the magnets (8) are protruding from the plate member (6) basically perpendicular to the longitudinal axis (X) plate member (6).

4. An attachment system (2) according to claim 1 or claim 2 **characterised in that** two or more magnets (8) are mechanically attached to the front plate member (12) of the bracket (10), where the magnets (8) are protruding from the front plate member (12) basically perpendicular to the longitudinal axis (Y) of the bracket (10).

5. A container system (4), preferably an outdoor dustbin system (4), which container system comprises a container (4) and an attachment system (2) according to one of the preceding claims.

6. A container system according to claim 5 **characterised in that** a first attachment member (6) is fixed to the container (4) and that a second attachment member (10) adapted to be secured to a wall member (26) is adapted to receive and hereby attach the first attachment member (6) to the second attachment member (10) by magnetic attraction.

7. A container system according to claim 6 **characterised in that** the first attachment member (6) is a plate member (6) fixed to the top portion of a wall (20) of the container (4)

8. A container system according to claim 7 **characterised in that** two magnets (8) are mechanically attached to the plate member (6) and that the distance (D) between the magnets (8) is larger than the width/diameter (d) of the magnets (8).

9. A container system according to claim 5 **characterised in that** the second attachment member (10) is a bracket (10) comprising a front plate member (12) and that two magnets (8) are mechanically attached to the front plate member (10) and that the distance (D) between the magnets (8) is larger than the width/diameter (d) of the magnets (8).

Fig. 1

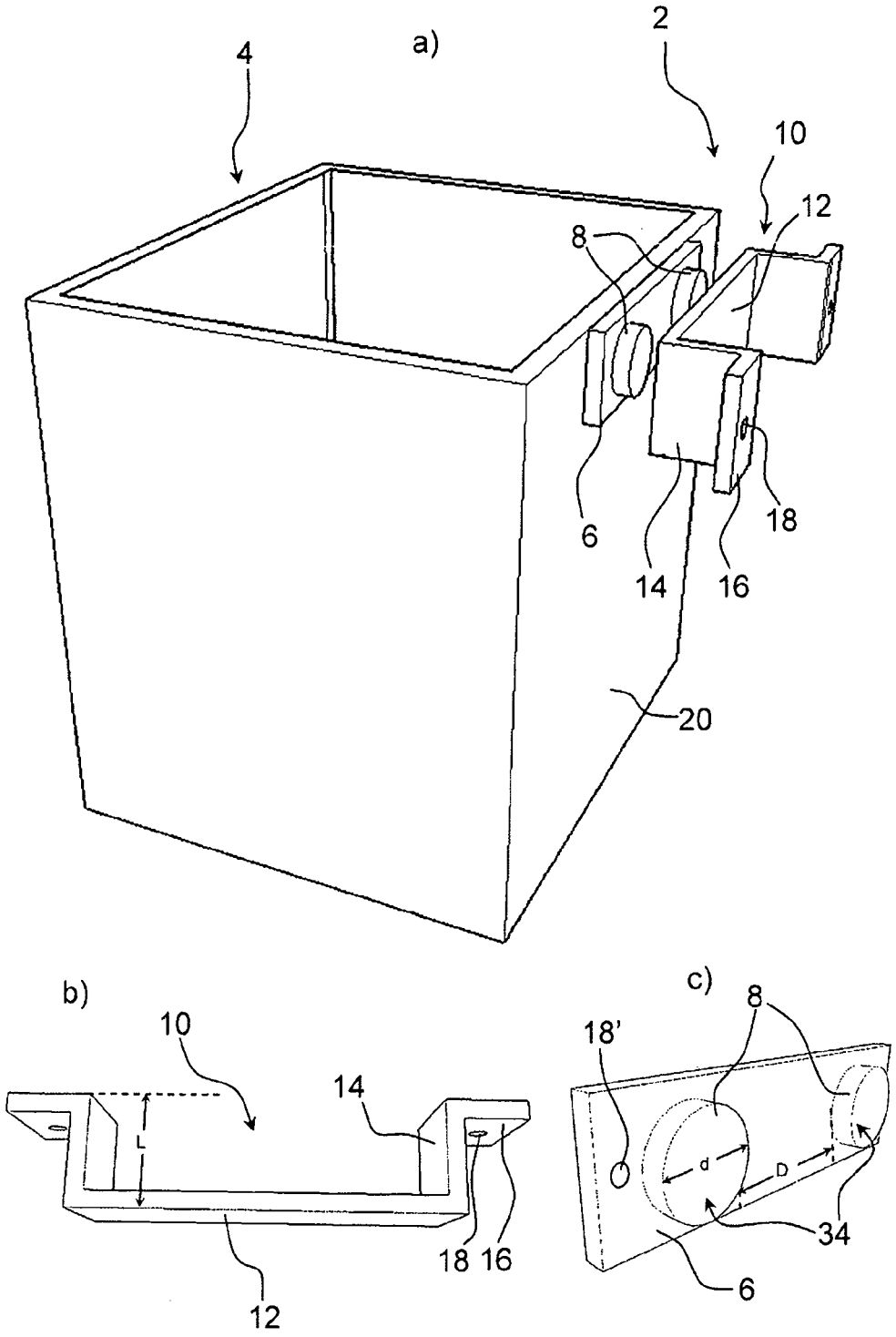
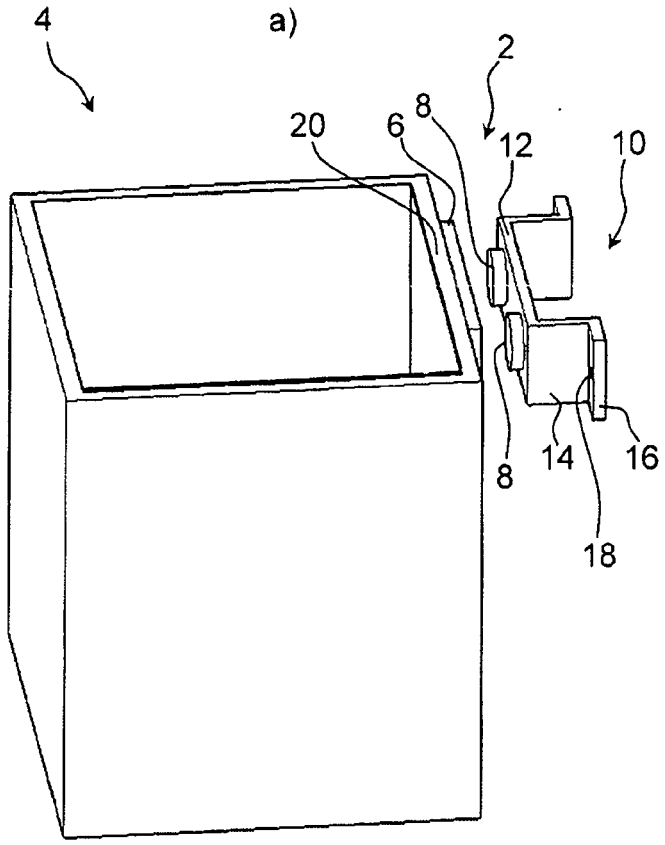


Fig. 2



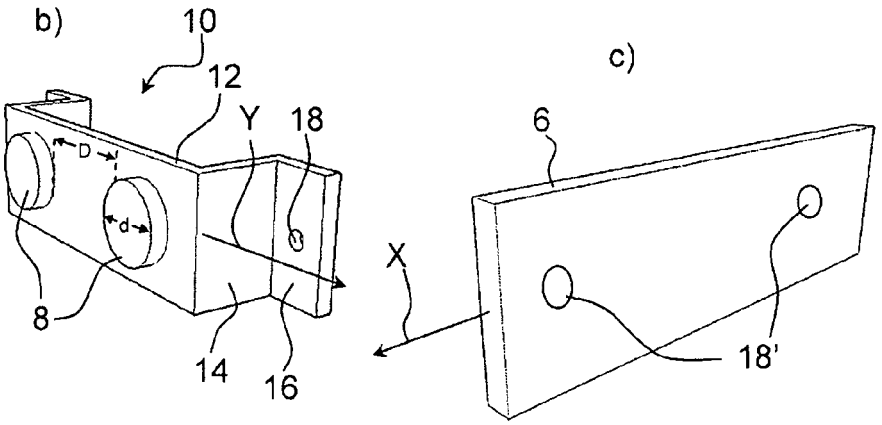


Fig. 3

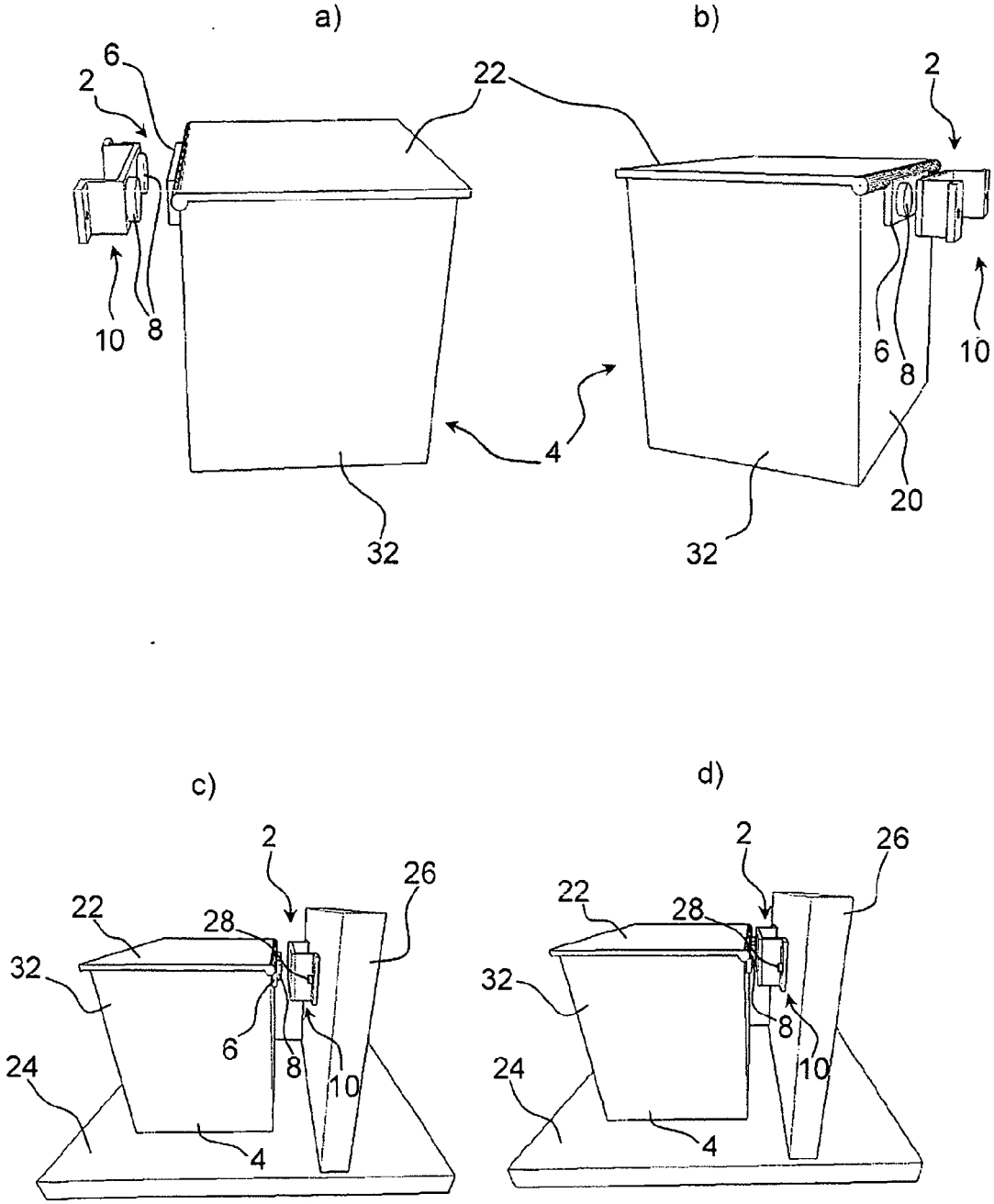
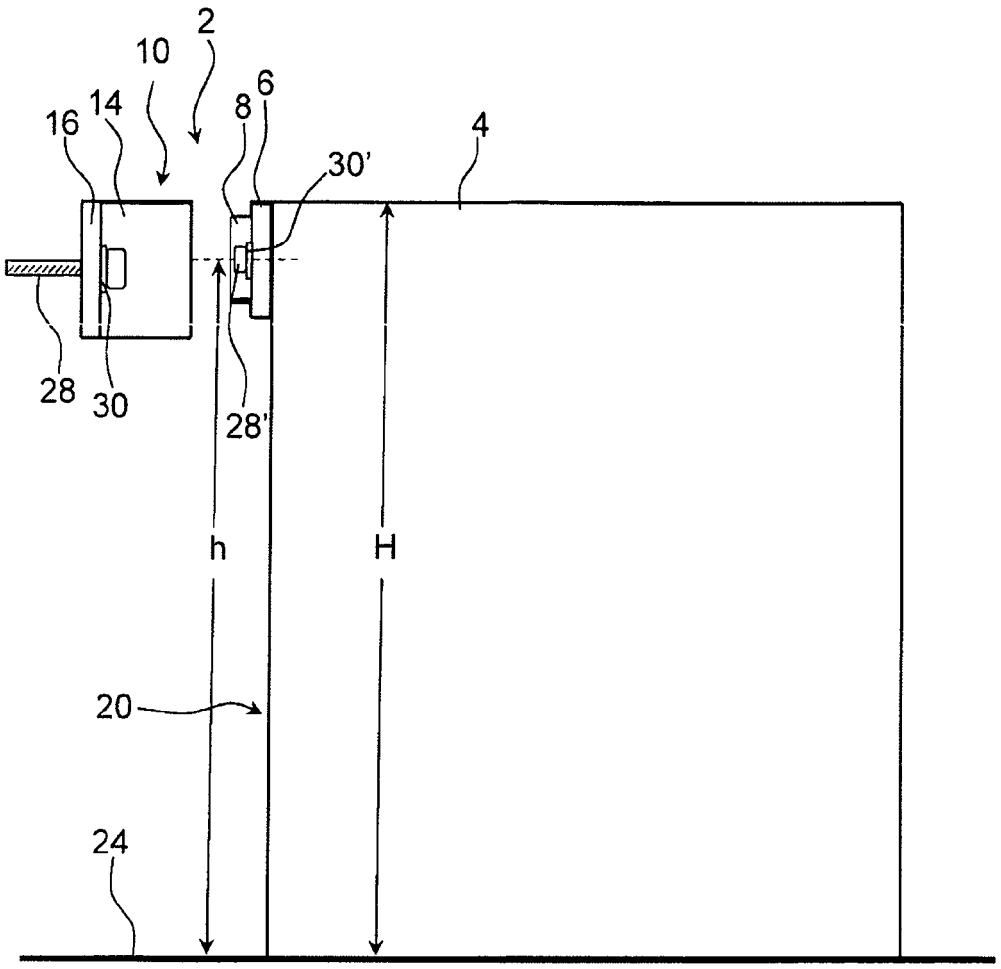


Fig. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 13 00 1066

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	US 2005/263579 A1 (D. RAPPLEY) 1 December 2005 (2005-12-01) * paragraph [0015] - paragraph [0034] * * figures 1-4 * -----	1,5-7 2-4,8,9	INV. B65F1/14
X A	FR 2 933 084 A1 (OZ S.A.R.L.) 1 January 2010 (2010-01-01) * page 2, line 31 - page 3, line 23 * * figures 1-3 * -----	1,5-7 2-4,8,9	
A	FR 1 191 004 A (A. BELLE) 16 October 1959 (1959-10-16) * page 2, left-hand column, line 1 - line 38 * * figures 1-3 * -----	1-9	
			TECHNICAL FIELDS SEARCHED (IPC) B65F

1 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	31 May 2013	Smolders, Rob

CATEGORY OF CITED DOCUMENTS

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31-05-2013

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