



- (51) International Patent Classification:
G09F 15/00 (2006.01)
- (21) International Application Number:
PCT/GB2013/000069
- (22) International Filing Date:
20 February 2013 (20.02.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
1203148.0 23 February 2012 (23.02.2012) GB
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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: A COLLAPSIBLE SIGN

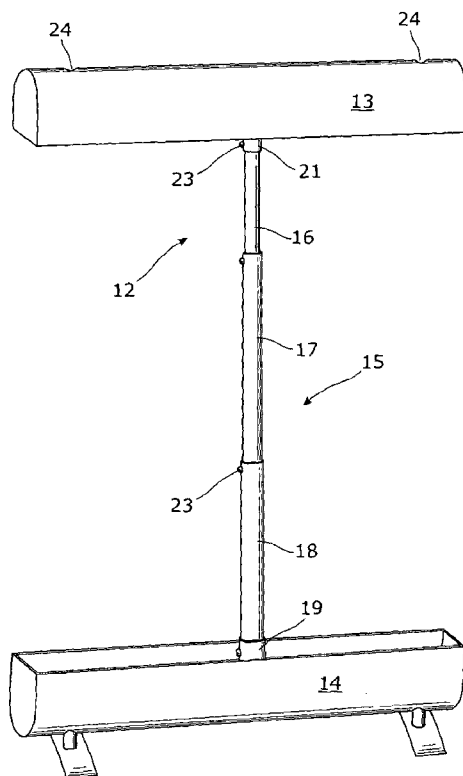


Fig. 2

(57) Abstract: A collapsible sign comprising a deformable banner and a frame. The frame comprises a collapsible support pole and a pair of banner support elements configured to be spaced apart by the collapsible support pole. The pair of banner support elements comprise upper and lower cooperating elongate half-shell elements that together form a hollow container for receiving the collapsible support pole therein. The upper and lower cooperating elongate half-shell elements may together form a hollow container for receiving the collapsible support pole and the deformable banner therein. The collapsible support pole may be adjustable in length. The banner may take the form of a band.

WO 2013/124611 A1



Published:

— *with international search report (Art. 21(3))*

A COLLAPSIBLE SIGN

Field of the Invention

The present invention relates to a collapsible sign.

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Background of the Invention

Signs comprising a deformable banner supported on a collapsible or demountable frame are known. This type of sign may typically be used where the sign is intended to be erected at a temporary location, for example in an exhibition or lecture hall, or as a sales device outside a commercial premises.

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In an example, shown in WO 2011/045069 A1, the banner is wound onto a horizontal roller in a container, and the free end of the banner is supported on a cross-member that is vertically spaced from the horizontal roller.

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In another example, shown in CZ 12699 U1, a sheet banner is held between top and bottom horizontal cross-members that are mounted to a vertical support, the cross-members being adjustably spaced apart so as to tension the sheet banner.

20

In a further example, shown in GB 2277340 A, a sheet material sign element is held horizontally between a pair of vertical support elements at the ends of a horizontal rigid hollow container of a demountable frame, with parts of the disassembled frame being storable inside the rigid hollow container. A disadvantage with this sign is that the spacing between the vertical support elements is set by the length of the horizontal rigid hollow container.

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Summary of the Invention

According to a first aspect, there is provided a collapsible sign comprising a deformable banner and a frame, said frame comprising: a collapsible support pole, and a pair of banner support elements configured to be spaced apart by said collapsible support pole, wherein said pair of banner support elements comprise upper and lower cooperating elongate half-shell elements that together form a hollow container for receiving the collapsible support pole therein.

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-2-

The upper and lower elongate half-shell elements may cooperate to together form a hollow container for receiving the collapsible support pole and the deformable banner therein.

5 In an embodiment, the upper and lower cooperating elongate half-shell elements each comprise an internal socket for receiving an end of the collapsible pole therein.

In an embodiment, the collapsible support pole is adjustable in length.

The collapsible support pole may be configured to bias said pair of banner support elements apart.

10 In an embodiment, the deformable banner is formed as a band that is so locatable around the pair of banner support elements as to present a pair of oppositely directed display surfaces.

The deformable banner may be fabricated from a mesh fabric material.

15 **Brief Description of the Drawings**

For a better understanding of the invention and to show how the same may be carried into effect, there will now be described by way of example only, specific embodiments, methods and processes according to the present invention with reference to the accompanying drawings in which:

20

Figure 1 shows a collapsible sign, with the support pole of the frame thereof located for storage;

Figure 2 shows the frame of the collapsible sign, in an assembled condition;

25 *Figure 3* shows the frame and deformable banner of the collapsible sign, in an assembled condition;

Figure 4 shows a demountable foot for use with the frame of the collapsible sign;

Figure 5 shows a demountable wall bracket for use with the frame of the collapsible sign;

30 *Figure 6* shows a demountable eye ring for use with the frame of the collapsible sign; and

Figure 7 shows one of a pair of cooperating elongate half shells of the frame of the collapsible sign, which together form a hollow container.

Detailed Description

5 There will now be described by way of example a specific mode contemplated by the inventor. In the following description numerous specific details are set forth in order to provide a thorough understanding. It will be apparent however, to one skilled in the art, that the present invention may be practiced without limitation to these specific details. In other instances, well
10 known methods and structures are not described in detail so as not to unnecessarily obscure the description.

Figures 1 to 3

Figures 1 to 3 show a collapsible sign comprising a deformable banner 11
15 and a frame 12. The frame 12 comprises a pair of banner support elements 13, 14 and a collapsible support pole 15. The collapsible support pole 15 is configured to space apart the banner support elements 13, 14. When the collapsible sign is in use, the deformable banner 11 is mounted on the frame 12, which is in an assembled condition with the banner support elements 13, 14
20 vertically spaced apart by the collapsible support pole 15. The collapsible sign may be used as a temporary sign, or at a temporary location.

The banner support elements 13, 14 comprise upper and lower cooperating elongate half-shells that, when the collapsible sign is not in use, together form a hollow container for receiving the collapsible support pole 15. In an embodiment,
25 the upper and lower elongate half-shell elements 13, 14 together form a hollow container for receiving the collapsible support pole 15 and the deformable banner 11 therein. The hollow container formed by the cooperating upper and lower elongate half-shell elements 13, 14 may also store other components of the collapsible frame, as described below.

30 The collapsible support pole 15 may comprise a plurality of sections. The collapsible support pole 15 may be adjustable in length.

-4-

In this illustrated embodiment, the collapsible support pole 15 comprises first, second and third sections 16, 17, 18. The three sections 16, 17, 18 are arranged such that the collapsible support pole 15 is telescopically adjustable in length. In the shown arrangement, the sections 16, 17, 18 are hollow, with
5 section 16 being slidable within section 17 and section 17 in turn being slidable within section 18. The telescopic sections 16, 17, 18 may be secured together by a spring-loaded element (typically a ball or button) and aperture arrangement 23, as is known. In an alternative arrangement, the telescopic sections 16, 17, 18 may be adjustably interconnected by friction collars as is also known. The
10 collapsible support pole 15 may be formed from sections 16, 17, 18 of a tube having a section that is cylindrical, as shown in Figure 2, square, rectangular or of any other suitable shape.

It is to be appreciated that an alternative telescoping arrangement may be used. In an alternative arrangement, the sections 16, 17, 18 of the collapsible
15 support pole may be of the same size and be interconnected by telescopic end portions. Further, it is to be appreciated that an alternative arrangement for providing an adjustable length collapsible support pole 15 may be used. In an alternative arrangement, the collapsible support pole 15 comprises a plurality of releasably connectable sections, and the length of the collapsible support pole 15
20 may be adjustable by adjusting the number of sections used. The collapsible support pole 15 may comprise any suitable number and arrangement of sections.

When the collapsible frame is in use, the banner support elements 13, 14 and collapsible support pole 15 of the frame 12 support the deformable banner 11.

25 The collapsible support pole 15 may be configured to bias the pair of banner support elements 13, 14 apart. The collapsible support pole 15 comprises sections that are biased apart. Any suitable biasing arrangement may be used. In an embodiment, the collapsible support pole 15 comprises sections that are biased apart by an internal spring arrangement. The biasing feature of
30 the frame 12 serves to tension the deformable banner 11, to pull the display area

of the deformable banner 11 flat. Alternatively, the deformable banner 11 is tensioned around the banner support elements 13, 14 on fitting to the frame 12.

According to this illustrated embodiment, the upper and lower elongate half-shell elements 13, 14 respectively each comprise an internal socket 19, 20 respectively for receiving an end of the collapsible support pole 15 therein. In the shown arrangement, the internal socket 19 of the upper elongate half-shell element 13 is configured to receive the smaller telescopic section 16 of the collapsible support pole 15 and the internal socket 20 of the lower elongate half-shell element 14 is configured to receive the larger telescopic section 18 of the collapsible support pole 15. The internal socket 19 of the upper elongate half-shell element 13 is accommodated within the internal socket 20 of the lower elongate half-shell element 14 when the upper and lower elongate half-shell elements 13, 14 are together. This nesting feature of the internal sockets 19, 20 of the upper and lower elongate half-shell elements 13, 14 serves to locate the two elongate half-shell elements 13, 14 relative to each other, to form the hollow container.

Any suitable releasable fastening mechanism may be provided or used for releasably securing the upper and lower elongate half-shell elements 13, 14 together in an assembled condition in which the hollow container is formed.

In this illustrated embodiment, the deformable banner 11 is configured as a band that is so locatable around the pair of banner support elements 13, 14 as to present two oppositely directed display surfaces. In an arrangement, the deformable banner 11 is formed as a continuous band. In an alternative arrangement, the deformable banner 11 is formed as a strip having ends that are releasably securable together to form a band. For example, the ends of the strip of the deformable banner 11 may be releasably securable by the use of a hook and loop fastening arrangement or a press stud fastening arrangement. In a further alternative arrangement, the deformable banner 11 is configured as a strip having ends that are releasably securable to one of the pair of banner support elements 13, 14. For example, one end of the strip of the deformable banner 11 may be provided with eyelets, the other end may be provided with hooks and a

cord may be threaded through the eyelets and into engagement with the hooks to releasably secure the deformable banner to the lower elongate half-shell element 13. The cord may be elastic, and the deformable banner 11 may then be pulled taut by the elastic cord.

5 The deformable banner 11 may be fabricated from any suitable material or combination of materials, and may have any suitable weight and other characteristics. In this illustrated embodiment, the deformable banner 11 is a deformable sheet material banner, fabricated from a mesh fabric material, which allows air to pass therethrough. This feature is advantageous when the
10 collapsible sign may be used in windy conditions, since the air flow through the deformable banner 11 beneficially reduces side forces on the collapsible sign. A particularly suitable material is a polymeric fabric, such as a PVC mesh material, which is known to be termed 'banner material', having a weight of 355 g/m².

15 The deformable banner 11 may carry any desired visual display, which may be applied to the deformable banner 11 using any suitable technique.

Figures 4 to 6

In the illustrated embodiment of Figures 1 to 3, the upper and lower cooperating elongate half-shell elements 13, 14 of the frame 12 of the
20 collapsible sign each define a pair of spaced apart apertures 24, 25, passing through the respective apices thereof, for allowing at least one frame support element to be releasably mounted thereto. These apertures 24, 25, may be used with a demountable foot 26, as shown in Figure 4, a demountable wall bracket 27, as shown in Figure 5, or a demountable eye ring 28, as shown in
25 Figure 6. Demountable feet 26 allow the collapsible sign to be free standing upon a support surface, such as a floor or platform, demountable wall brackets 27 allow the collapsible sign to be attached to a wall or other suitable support surface, and demountable eye rings 28 allow the collapsible sign to be suspended from a ceiling or other suitable support surface. Other attachments
30 may be provided.

-7-

In the shown arrangement, each of the apertures 24, 25 is rectangular, and each of the frame support elements 26, 27, 28 is provided with a close-fitting rectangular detent 31, and the frame support elements 26, 27, 28 are releasably securable to the frame 12 by a turn and lock arrangement. The
5 frame support element 26, 27, 28 is releasably mountable to a selected one of the cooperating elongate half-shell elements 13, 14 by the action of passing the rectangular detent 31 through a selected rectangular aperture 24, 25 thereof and then rotating the rectangular detent through 90° of arc. This action locates
10 the frame support element 26, 27, 28 in place, relative to the selected elongate half-shell element 13, 14. Raised bosses may be provided on the inside of the elongate half-shell element 13, 14 to lock the detent 31 in position. As also shown, each of the frame support elements 26, 27, 28 is provided with an abutment 32 having a resilient rubber cushion 33 thereon. When the frame support element 26, 27, 28 is brought into the mounted condition, the rubber
15 cushion 33 against the outside of the selected elongate half-shell element 13, 14 to lock the detent 31 of the frame support element 26, 27, 28 against the inside of the selected elongate half-shell element 13, 14.

It is to be appreciated that an alternative arrangement may be used releasably secure a frame support element or other attachment to the frame 12.
20 In an alternative arrangement, a screw threaded engagement is used. The upper and lower elongate half-shell elements 13, 14 may be provided with any suitable number of apertures, each of any suitable shape and size, in any suitable arrangement.

25 Figure 7

When the collapsible sign is not in use, the deformable banner 11 is removed from the frame 12. Any frame support elements and other attachments are disconnected from the frame 12. The upper and lower elongate half-shell elements 13, 14 are dismounted from the collapsible support pole 15, and the
30 collapsible support pole 15 is then collapsed or dismantled. As previously described, the upper and lower elongate half-shell elements 13, 14 cooperate to

together provide a hollow container. This hollow container is usable as a storage container for components of the collapsible sign. The hollow container may be used to store the collapsible support pole 15, deformable banner 11 and/or any frame support elements or other attachments. The deformable banner 11 may
5 be folded or rolled for storage.

In this illustrated embodiment, the lower elongate half-shell element 13 is provided with internal clips 35 for facilitating storage of the collapsible support pole 15, and with internal clips 36 for facilitating storage of the feet 26. It is to be appreciated that the upper and lower elongate half-shell elements 13, 14 may be
10 provided with any suitable clips or other storage elements, in any suitable arrangement. Alternatively, the upper and lower elongate half-shell elements 13, 14 may not be provided with any such clips or other storage elements.

The collapsible support pole, banner support elements and any other components of a collapsible sign as described herein may be fabricated from any
15 suitable material or materials, and may be manufactured using any suitable process or processes. The collapsible support pole, banner support elements and banner may have any suitable relative dimensions.

The collapsible sign described herein advantageously utilises components of the collapsible sign that support a deformable banner when the collapsible
20 frame is in use, to provide a hollow container to store components of the collapsible sign when the collapsible sign is not in use.

Claims

1. A collapsible sign comprising a deformable banner and a frame, said frame comprising:
 - 5 a collapsible support pole, and
 - a pair of banner support elements configured to be spaced apart by said collapsible support pole, wherein
 - said pair of banner support elements comprise upper and lower cooperating elongate half-shell elements that together form a hollow container for receiving
 - 10 the collapsible support pole therein.
2. A collapsible sign as claimed in any claim 1, wherein said pair of banner support elements comprise upper and lower cooperating elongate half-shell elements that together form a hollow container for receiving the collapsible support pole and said deformable banner therein.
- 15 3. A collapsible sign as claimed in claim 1 or claim 2, wherein said upper and lower cooperating elongate half-shell elements each comprise an internal socket for receiving an end of the collapsible pole therein.
- 20 4. A collapsible sign as claimed in any of claims 1 to 3, wherein said collapsible support pole is adjustable in length.
5. A collapsible sign as claimed in claim 4, wherein said collapsible support pole is telescopically adjustable.
- 25 6. A collapsible sign as claimed in any of claims 1 to 5, wherein said collapsible support pole comprising a plurality of releasably connectable sections.

7. A collapsible sign as claimed in any of claims 1 to 6, wherein said collapsible support pole is configured to bias said pair of banner support elements apart.

5 8. A collapsible sign as claimed in any of claims 1 to 7, wherein said deformable banner is formed as a band that is so locatable around the pair of banner support elements as to present a pair of oppositely directed display surfaces.

10 9. A collapsible sign as claimed in claim 8, wherein said deformable banner is formed as a strip having ends that are releasably securable together to form said band.

15 10. A collapsible sign as claimed in any of claims 1 to 7, wherein said deformable banner is formed as a strip having ends that are releasably securable to one of said pair of banner support elements.

20 11. A collapsible sign as claimed in any of claims 1 to 10, comprising a releasable fastening mechanism for releasably securing said upper and lower cooperating elongate half-shell elements together in an assembled condition in which the hollow container is formed.

25 12. A collapsible sign as claimed in any of claims 1 to 11, wherein said upper and lower cooperating elongate half-shell elements each define a pair of spaced apart apertures, passing through the respective apices thereof, for allowing at least one frame support element to be releasably mounted thereto.

30 13. A collapsible sign as claimed in claim 12, wherein said frame support element is one of: a demountable foot, a demountable wall bracket, a demountable eye ring.

-11-

14. A collapsible sign as claimed in claim 13, wherein each aperture is rectangular, said frame support element comprises a rectangular detent, and said frame support element is releasably mountable to a selected one of the cooperating elongate half-shell elements by the action of passing the rectangular detent through a selected rectangular aperture thereof and then rotating the rectangular detent through 90° of arc.

15. A collapsible sign as claimed in any of claims 1 to 14, wherein said deformable banner is fabricated from a mesh fabric material.

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16. A collapsible sign, substantially as described herein with reference to, and as shown in, the accompanying Figures.

1/3

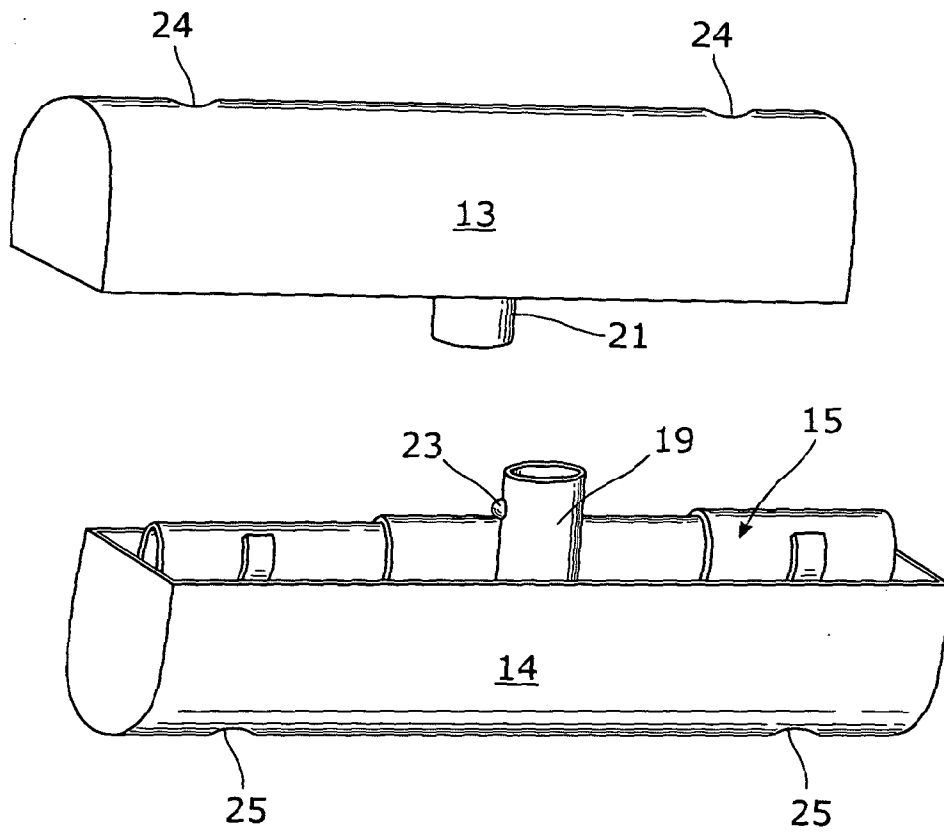


Fig. 1

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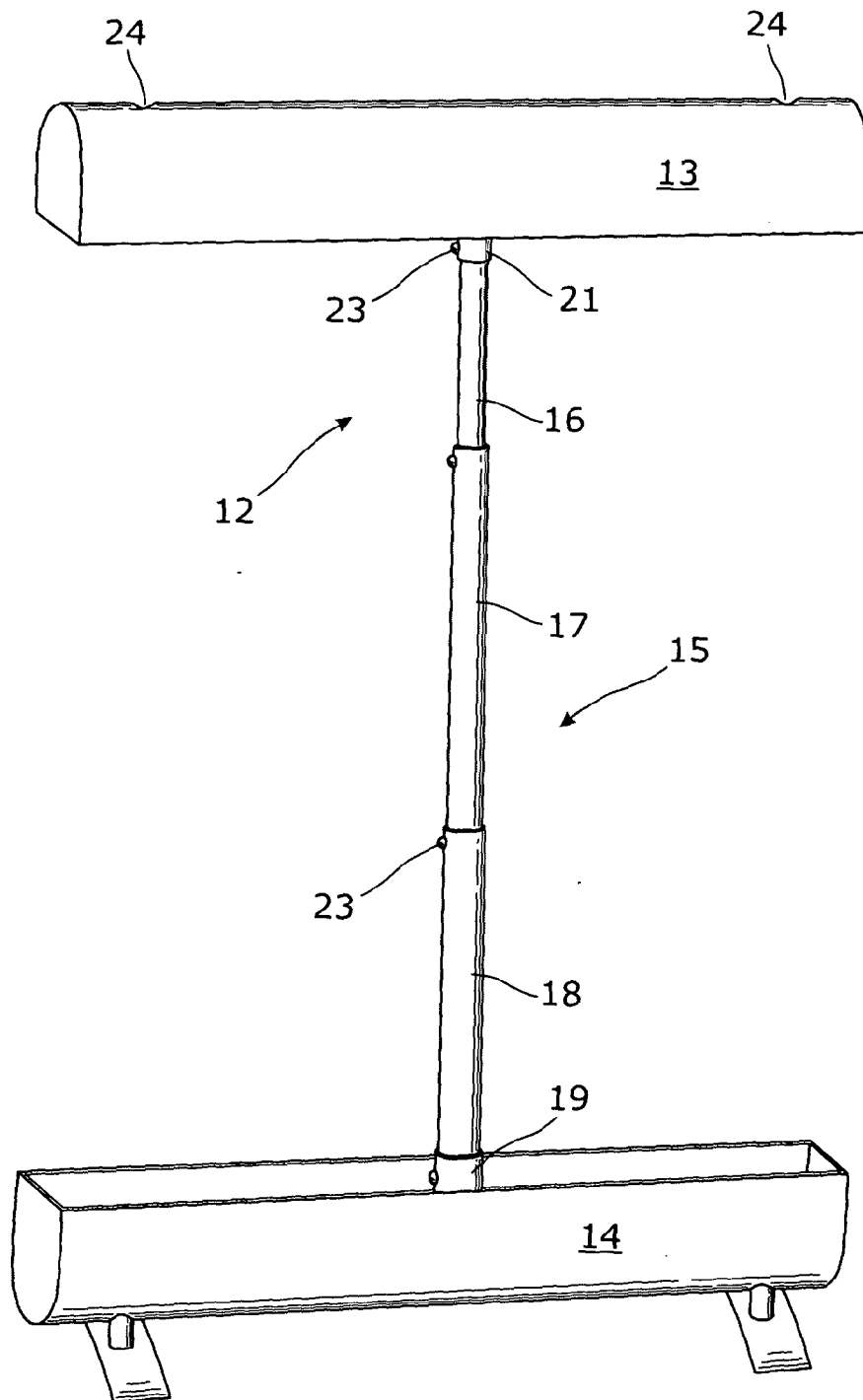


Fig. 2

3/3

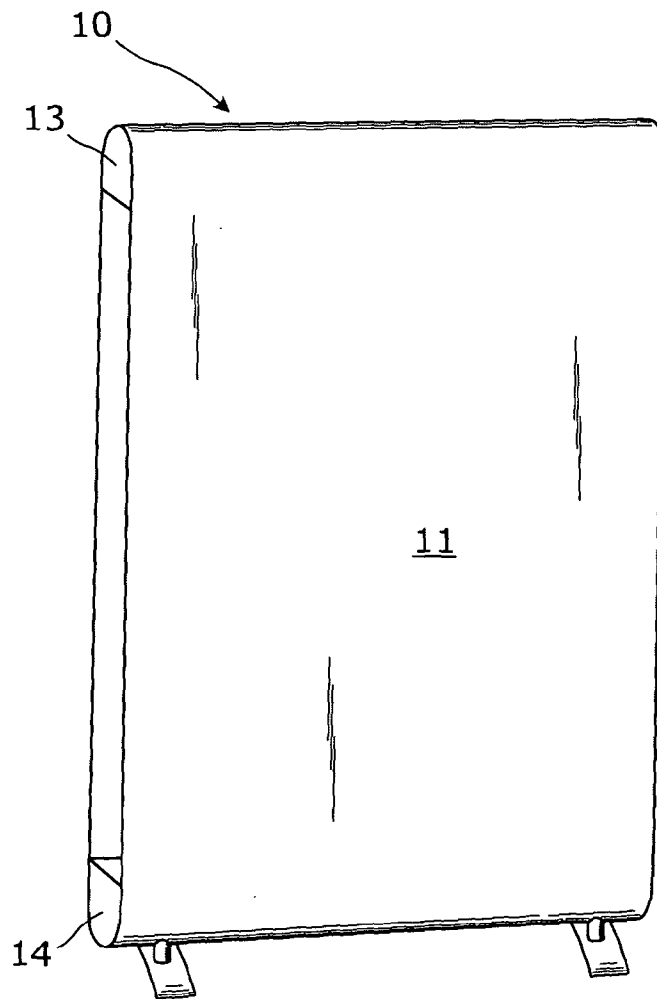


Fig. 3

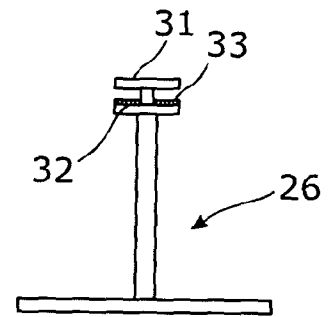


Fig. 4

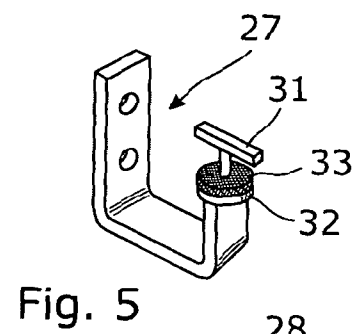


Fig. 5

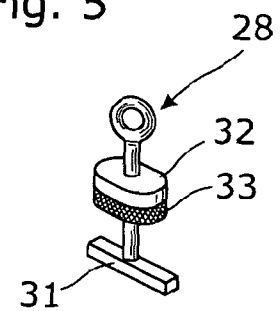


Fig. 6

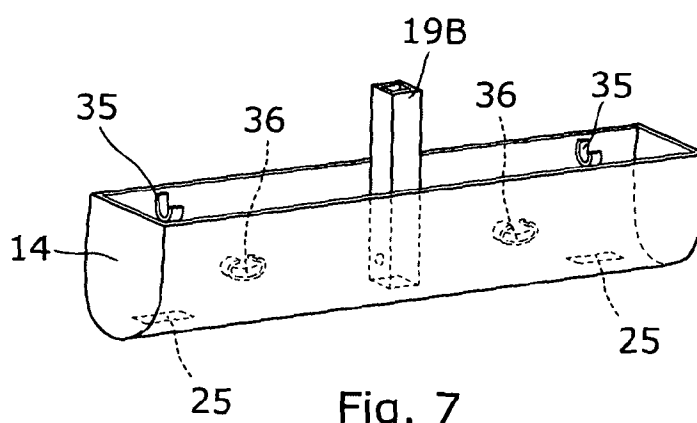


Fig. 7

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2013/000069

A. CLASSIFICATION OF SUBJECT MATTER
INV. G09F15/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G09F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 873 458 B1 (BAKKOM JEFFREY SCOTT [US] ET AL) 29 March 2005 (2005-03-29)	1-7, 10-13, 15,16
A	the whole document	8,9,14
A	US 2002/121034 A1 (SCHMITT ANTHONY J [US]) 5 September 2002 (2002-09-05) the whole document	1-16
A	US 5 798 861 A (DOAT GUY [FR]) 25 August 1998 (1998-08-25) the whole document	1-16



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search

30 May 2013

Date of mailing of the international search report

06/06/2013

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2013/000069

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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