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

(11) EP 1 364 882 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
26.11.2003 Bulletin 2003/48

(51) Int Cl.[7]: **B65D 8/04**

(21) Application number: **02256797.8**

(22) Date of filing: **30.09.2002**

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

(30) Priority: **22.05.2002 GB 0211685**

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(54) A container

(57) A container (1) comprising a first (2) and second (3) end walls and at least one side wall (4) extending therebetween;
the container further comprising an electrically conducting earthing strip (8) comprising an inner (6) portion within the container and an outer (7) portion outside of the container, the inner and outer portions being in electrical contact by means of a feedthrough portion (9) of the strip sandwiched between side wall and first end wall.

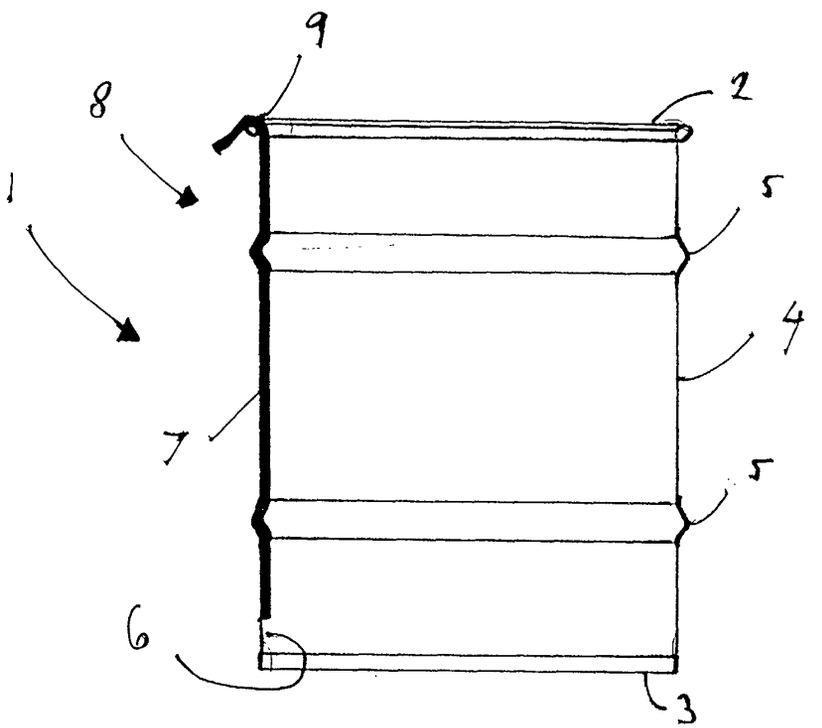

figure 1

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Description

[0001] The present invention relates to a container comprising an electrically conducting earthing strip. More particularly, but not exclusively, the present invention relates to a container in the form of an oil drum having an earthing strip which extends from the outside to the inside of the drum between a side wall and lid.

[0002] Containers such as oil drums are often used to contain highly flammable liquids such as petrol. The drums are typically coated on both inner and outer surfaces with a lacquer or paint to protect the drum from the contents, so extending drum life. These coatings tend to be electrically insulating, electrically isolating the contents of the drum from the surroundings.

[0003] When such drums are moved the contents of the drum move with respect to the drum walls. This causes a static charge to build up in the drum contents. This charge can cause a spark when the lid is removed resulting in an explosion.

[0004] The present invention seeks to overcome the above disadvantage of known containers.

[0005] Accordingly, in a first aspect there is provided a container comprising first and second walls and at least one side wall extending therebetween, the container further comprising an electrically conducting earthing strip comprising an inner portion within the container and an outer portion outside the container, the inner and outer portions being in electrical contact by means of a feedthrough portion of the strip sandwiched between the side wall and first end wall.

[0006] Preferably the first and second end walls are a lid and base respectively. Alternatively, the first and second end walls are a base and lid respectively.

[0007] The container according to the invention has the advantage that by earthing the outer portion of the earthing strip one can discharge the contents of the container before the lid is opened, so reducing the likelihood of an explosion.

[0008] The inner portion of the earthing strip can extend along the inner face of the side wall away from the first end wall towards the second end wall. This ensures that the contents of the drum are in electrical contact with the earthing strip even when the drum is not entirely full.

[0009] The inner portion of the earthing strip can extend at least 50% of the distance from the first end wall to second end wall, preferably at least 75% of the distance from the first end wall to the second end wall. The inner portion of the earthing strip can extend from the first end wall to the second end wall.

[0010] The inner portion of the strip can comprise a groove adapted to receive a ridge extending from the inner face of the side wall. This provides a simple method of interconnection of strip and side wall without having to make holes to the side wall for rivets or the like.

[0011] Preferably, the inner portion of the strip is adapted to snap fit into engagement with the inner face of the side wall. This has the advantage that the strip can be simply snapped on to the side wall during manufacture and then can be simply snapped off when required.

[0012] Alternatively, the inner portion of the earthing strip can be welded to the side wall.

[0013] Preferably, the outer portion of the earthing strip extends away from the side wall and lid of the container. The earthing strip can be brass. The inner face of the side wall can be coated with an insulating material.

[0014] Preferably the lid is fixed to the side wall and includes a aperture for filling the container.

[0015] Alternatively the lid can be adopted to be detached from the side wall.

[0016] The present invention will now be described by way of example only, and not in any limitative sense, with reference to the accompanying drawings in which:

Figure 1 shows a container according to the invention in a vertical cross section;

Figure 2 shows the joint between the lid and side wall of the container of Figure 1 in vertical cross section; and,

Figure 3 shows the earthing strip and side wall of the container of Figure 1 in horizontal cross section.

[0017] Shown in Figure 1 is a container 1 according to the invention. The container 1 comprises a lid 2, a base 3 and a side wall 4 extending therebetween. The side wall 4 includes a number of ridges 5 to increase the side wall strength.

[0018] The lid 2 is attached to the side wall 4 by a connector (not shown). In order to fill or empty the container 1 the connector is released and the lid 2 removed.

[0019] Extending along the inner face 6 of the side wall 4 is an inner portion 7 of an electrically conducting earthing strip 8. Extending from the inner portion 7 of the earthing strip 8 is a feedthrough portion 9 sandwiched between the lid 2 and side wall 4. This is shown in greater detail in Figure 2. Extending from the feedthrough portion 9 is an outer portion 10 of the earthing strip 8. This outer portion 10 extends away from the lid 2 and side wall 4 and is arranged so that it can be easily gripped by a crocodile clip or the like.

[0020] Shown in Figure 3 is a cross sectional view from above of the portion of the side wall 4 of the container including the earthing strip 8.

[0021] The earthing strip 8 includes a groove 11 having deformable side walls 12, 13. During manufacture the strip 8 is aligned with the corresponding ridge 14 on the inner face 6 of the side wall 4. The strip 8 is then urged in to contact with the ridge 14. This initially deforms the side walls 12, 13 outwards over the ridge 14 before they return to their original configuration so snapping the earthing strip 8 and ridge 14 into engagement.

[0022] In use the container 1 is filled with an explosive

or flammable material such as petrol and the lid 2 closed and fastened. Before opening an electrically grounded earthing conductor is attached to the earthing strip 8. Since the earthing strip 8 is in electrical contact with the contents this discharges any static charge built up in the contents. The lid 2 can then be safely removed from the container 1.

[0023] In this embodiment the earthing strip 8 is brass. In other embodiments other electrically conducting materials are possible.

[0024] In this embodiment the container 1 is an oil drum. In alternative embodiments other containers are possible.

[0025] In an alternative embodiment the lid 2 is permanently connected to the side walls 4. The container is filled and emptied by means of a aperture (not shown) in the lid.

[0026] In a further embodiment (not shown)the outer wall of the side wall also includes a ridge which can be snap fit into engagement with a corresponding groove or at least a portion of the outer portion of the earthing strip.

[0027] In a further embodiment (not shown) the earthing strip 8 is sandwiched between the side wall and the base.

Claims

1. A container comprising first and second end walls and at least one side wall extending therebetween; the container further comprising an electrically conducting earthing strip comprising an inner portion within the container and an outer portion outside of the container, the inner and outer portions being in electrical contact by means of a feedthrough portion of the strip sandwiched between side wall and first end wall.

2. A container as claimed in claim 1, wherein the first and second end walls are a lid and base respectively.

3. A container as claimed in claim 1, wherein the first and second end walls are a base and lid respectively.

4. A container as claimed in any one of claims 1 to 3, wherein the inner portion of the earthing strip extends along the inner face of the side wall away from the first end wall to the second end wall.

5. A container as claimed in claim 4, wherein the inner portion of the earthing strip extends from the first end wall to the second end wall.

6. A container as claimed in claim 4, wherein the inner portion of the earthing strip extends at least 50% of the distance from the first end wall to the second end wall, preferably at least 75% of the distance from the first end wall to the second end wall.

7. A container as claimed in any one of claims 4 to 6, wherein the inner portion of the strip comprises a groove adapted to receive a ridge extending from the inner face of the side wall.

8. A container as claimed in claim 7, wherein the inner portion of the strip is adapted to snap fit into engagement with the inner face of the side wall.

9. A container as claimed in any one of claims 4 to 6, wherein the inner portion of the earthing strip is welded to the side wall.

10. A container as claimed in any one of claims 1 to 9, wherein the outer portion of the earthing strip extends away from the side wall and first end wall of the container.

11. A container as claimed in any one of claims 1 to 10, wherein the earthing strip is brass.

12. A container as claimed in any one of claims 1 to 9, wherein the inner face of the side wall is coated with an insulating material.

13. A container as claimed in any one of claims 1 to 12, wherein the lid is fixed to the side wall and includes an aperture for filling the container.

14. A container as claimed in any one of claims 1 to 12, wherein the lid is adapted to be detached from the side wall.

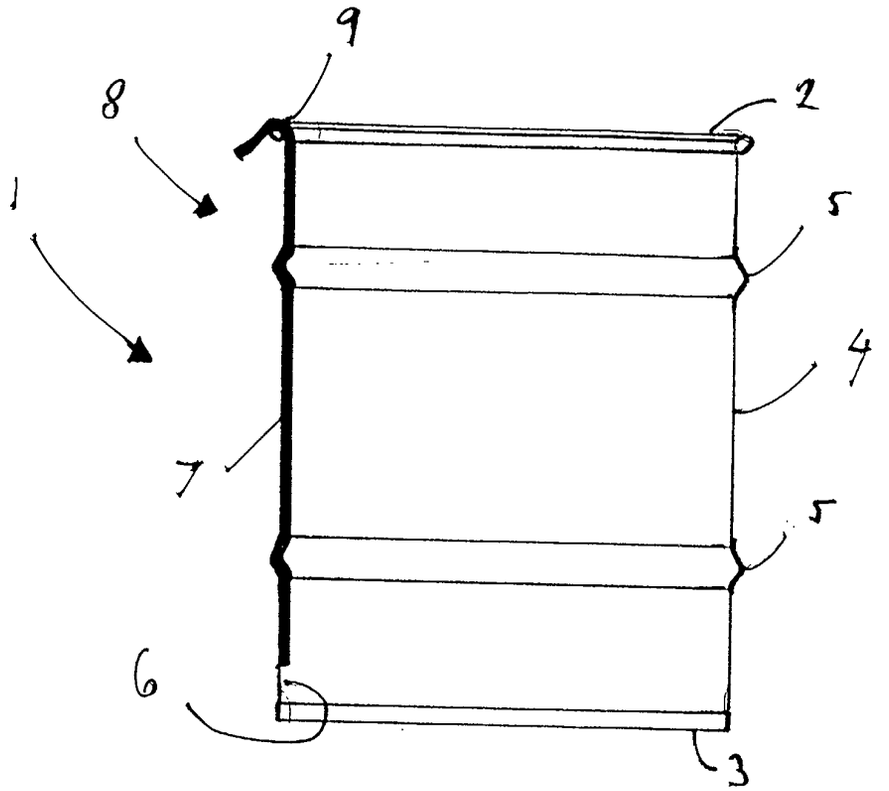

figure 1

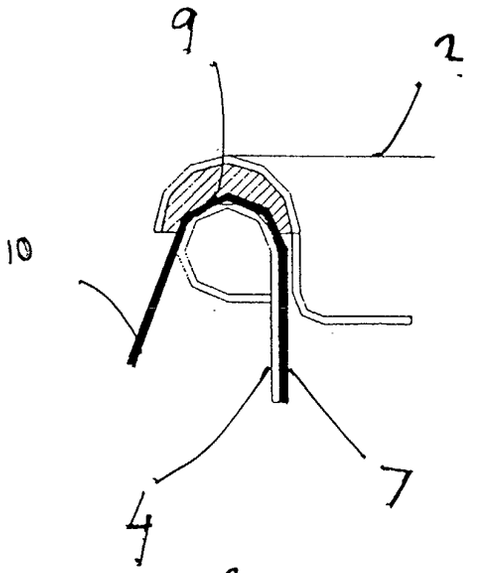

figure 2

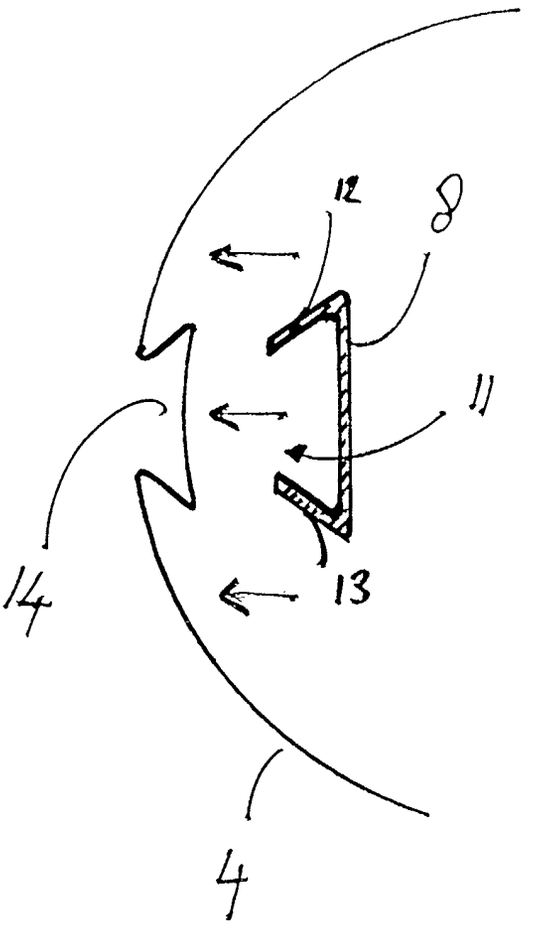

figure 3