

CONTAINERS FOR FREIGHT TRANSPORT

The invention relates to containers for transporting freight in the form of bundles, packages or the like and having a floor, walls, a roof and at least one door.

Such containers are already well known for
 5 transporting goods by land, sea or air. They are sold as complete containers, which has the disadvantage that they take up a great deal of space when transported empty. It also means there are difficulties when damaged parts have to be replaced.

10 In accordance with the present invention, however, a container for use in freight transport comprises a floor, walls, a roof and at least one door; the floor and the roof being surrounded by respective frames which are joined at a distance from each other by corner posts to
 15 which the walls are also attached, with the corner posts being releasably connected to the frames surrounding the roof and the floor by cube-like corner pieces; each of the corner pieces including at least one tongue projecting from each of two surfaces of the corner
 20 piece for connection with an associated one of the frames; and each of the corner pieces further including a plurality of studs projecting perpendicularly to the tongues from a further surface of the corner piece for connection with an associated one of the corner posts; the studs
 25 on each of the corner pieces being flat plate-like

projections shaped to produce channels therebetween;
and each of the corner posts having a hollow part
subdivided by one or more webs into a plurality of
chambers whose cross-sections correspond to those of the
5 associated studs.

The provision of the corner pieces allows the contain-
er to be readily dismantled so that there are no storage
problems, space can be saved when transported empty and
individual parts can be easily changed when damaged.

10 Furthermore, the present invention leads to
containers which are economical to manufacture and,
especially with regard to air-freight transport, are
light in weight.

In particularly preferred arrangements:-

15 parts of the frames are sandwiched in position
between the tongues on the corner pieces and associated
angular supports;

the studs are arranged as an arcuate fan;

each of the corner posts includes a threaded hole
20 located at the centre of curvature of the arcuate fan;
and

each of the corner pieces has a hole therethrough
for receiving a bolt for connecting the corner piece to
an associated one of the corner posts.

25 These particularly preferred arrangements give
good stability while avoiding any need for special
adjustments.

A container, according to the present invention, will
now be described, by way of example only, with reference
30 to the accompanying drawings, in which:-

Figure 1 is an exploded perspective view of the
container;

Figure 2 is an enlarged view of part of Figure 1
showing a free corner into which a corner piece can be
35 inserted;

Figure 3 is a perspective view of a corner piece;
Figure 4 is a perspective view of an angular support;

Figure 5 is an enlarged view of part of one of the
5 corner posts shown in Figure 1 and which can be set
onto the corner piece shown in Figure 3;

Figure 6 is a perspective view of another of the
corner posts shown on a smaller scale than in Figure 5;

Figure 7 is a plan view of a lower aluminium panel
10 for use in an alternative sidewall;

Figure 8 is a plan view of an upper aluminium
panel for use in the alternative sidewall; and

Figure 9 is a section view taken along line 9-9
of the upper aluminium panel shown in Figure 8.

15 A container 1 for transporting all kinds of freight
features a floor 2 made of extruded aluminium lengths 3
which are surrounded by and attached to extruded frame
sections 4, 5. The frame sections 4, 5 are
releasably securable to four cube-like corner pieces 6,
20 the frame sections 4, 5 providing in effect a base
frame 7.

Corner posts 8 are provided which are generally
similar, apart from the fact that the two rear corner
posts 8_h are provided with door-hinging arrangements,
25 each of the corner posts being in the form of a hollow
vertical section joined by means of a bolt 9 to the
associated corner piece 6, the bolt 9 extending
perpendicularly to the base frame 7.

The bolts 9 pass through openings 10 in the
30 corner pieces 6 and engage in threaded holes 11 in the
corner posts 8. Each of the threaded holes 11 runs
parallel to the axis A of the corner post 8 and lies at
the meeting point of reinforcing webs 12. The webs 12
form chambers 13 which accommodate flat, plate-like
35 projecting studs 14 on the corner piece 6. As shown, the

studs 14 are arranged as arcuate fans, with the threaded holes 11 being located at the centres of curvatures of the arcuate fans.

Longitudinal flanges 18 project out from the corner posts 8 and act as connecting pieces for two sidewalls 16 and an endwall 17. The rear corner posts 8_n have angled parts 19, in spaces 20 of which of depth i, are mounted hinged pieces 21 of the wings 22 of an end door 23. For the sake of clarity, the counterparts to the hinge pieces 21 and the counterpart for the locking rod 24 on the door 23, have been omitted.

The sidewalls 16 and the end wall 17 are each made of an aluminium sheet 25 on a frame 27 reinforced with cross ribs 26.

Bolted on to the upper ends of the corner posts 8 is a roof 28 made of an aluminium sheet 25, longitudinal sections 29 joined by cross ribs 26 and cross sections 31, the sections 29, 31 forming a roof frame 30 to be releasably secured to further corner pieces 6.

The sections 4, 5 of the base frame 7 - and likewise the sections 29, 31 of the roof frame 30 - are in the form of U-sections, or as hollow sections, so that tongues 34 at the sides of the corner piece 6 can be inserted in corresponding spaces 32 or 33, and secured thereby bolts 35. The bolts 35 pass through holes in the tongues 34, then holes 36 in the frames 7, 30 and finally engage in threaded holes 37 in an angular support 38. The angular supports 38 are positioned on flanges 39 projecting out from the frames 7, 30 and are put into place without difficulty.

Figures 7 to 9 show another exemplified embodiment of one of the walls, where its frame 27 is free of cross ribs 26 and is sub-divided into lower and upper aluminium panels 40, 41 respectively which are both stiffened by the provision of stiffening areas 42, 43.

The areas 42, 43 in the aluminium panels 40, 41 are produced by deep-drawing; the difference in height h of their surfaces 44 from that of a surrounding edge frame 45 is about 25 mm.

5 The lower panel 40 has a central rib 46 whose base is coplanar with its surrounding edge frame. The upper panel 41 additionally includes another rib 48 which is of breadth n, for example 300 mm, and extends on both sides of the central rib 46 of breadth m, for example
10 50 mm, near upper edge region 47 to form a T-shaped area 48 together with the central rib 46.

 The aluminium panel 40 is of breadth b of about 480 mm and is bolted securely to the bottom of the container wall. The other aluminium panel 41 is attached above the
15 panel 40 to form an upper panel. By this sub-division of the container wall into two panels it is possible to change just the base region of the wall, if damaged by the frequent kicks or other knocks it receives, and/or to make this lower panel out of a thicker - for example
20 1.2 mm thick - sheet than that used for the upper panel 41.

 It will be appreciated that, because the corner posts 8 are preferably extruded, the bolts 9 are preferably self-tapping. It will also be appreciated
25 that although the above text distinguishes between sidewalls 16, and end wall 17, the following claims make no such distinction.

 Another invention embodied by the containers disclosed herein is the subject of our patent application
30 8332784 which has been divided from the present patent application.

Claims

1. Container, for use in freight transport, comprising a floor, walls, a roof and at least one door; the floor and the roof being surrounded by respective frames which are joined at a distance from each other
5 by corner posts to which the walls are also attached, with the corner posts being releasably connected to the frames surrounding the roof and the floor by cube-like corner pieces; each of the corner pieces including at least one tongue projecting from each of two surfaces
10 of the corner piece for connection with an associated one of the frames; and each of the corner pieces further including a plurality of studs projecting perpendicularly to the tongues from a further surface of the corner piece for connection with an associated one of the
15 corner posts; the studs on each of the corner pieces being flat plate-like projections shaped to produce channels therebetween; and each of the corner posts having a hollow part sub-divided by one or more webs into a plurality of chambers whose cross-sections correspond to those of the associated studs.
20
2. Container according to claim 1, in which the studs are arranged as an arcuate fan.
3. Container according to claim 2, in which each of the corner posts includes a threaded hole located at
25 the centre of curvature of the arcuate fan.



(21)

4. Container according to any preceding claim, in which each of the corner pieces has a hole therethrough for receiving a bolt for connecting the corner piece to an associated one of the corner posts.

5 5. Container according to any preceding claim, in which parts of the frames are sandwiched in position between the tongues on the corner pieces and associated angular supports.

10 6. Container substantially as hereinbefore described with reference to Figures 1 to 6, or Figures 1 to 6 as modified by Figures 7 to 9, of the accompanying drawings.



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