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(54) Transportable building

(57) A transportable building comprises upper and lower rectangular frames 10,11 of metal interconnected by upright metal frame members 14, a floor 22 supported by the lower frame, a roof 23 supported by the upper frame and removable interlocking side panels 15 extending between the upper and lower frames 10,11. The side panels 15 are each of the same size and are slidable within their own plane to enable each panel to be disengaged from the or each adjacent panel. Side pan-

els are provided having doors, windows, electrical and ablution facilities.

The framework of the building makes it easy to transport, particularly if the dimensions of the framework match those of conventional shipping containers. The interlocking side panels 15 are removable and as such any of the different types of panel can be positioned at any desired location or one or more panels can be omitted if two buildings are to be interconnected.

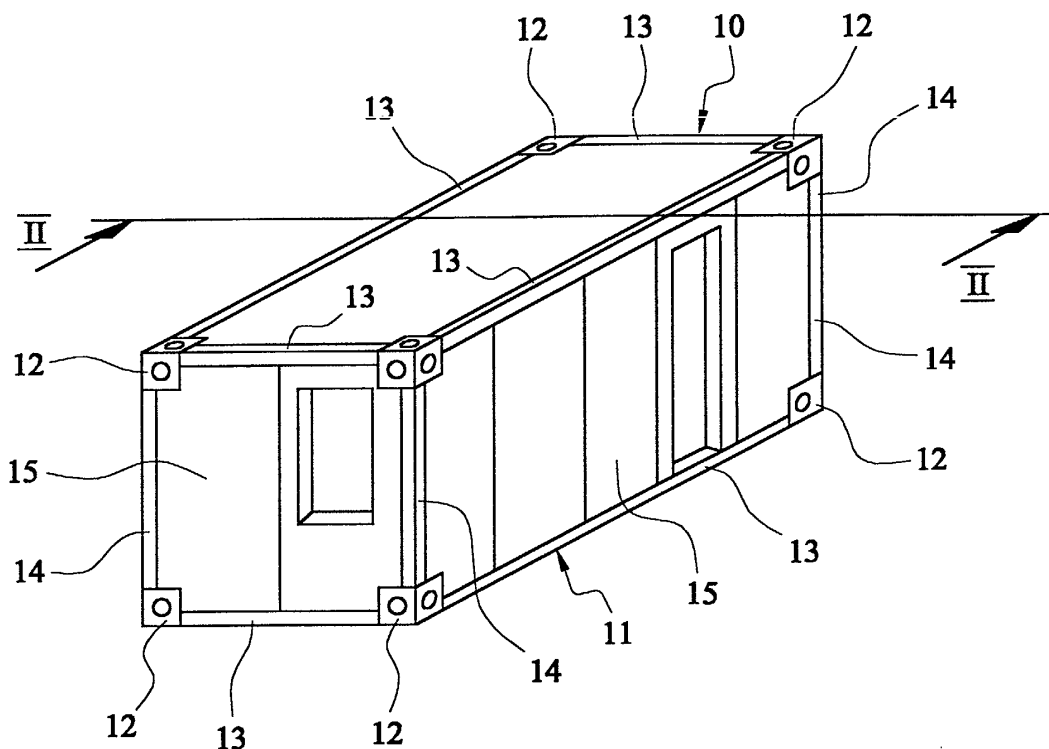


FIG. 1

Description

[0001] This invention relates to a transportable building, for example for use as temporary office accommodation.

[0002] Transportable buildings are well known. Typically, such transportable buildings comprise a steel framework which supports either metal or wood side, floor and roof panels.

[0003] A disadvantage of some known transportable buildings is that they are extremely large in size and as such are difficult to transport. It has been proposed to interconnect two or more transportable buildings and this has been either achieved by aligning the doors of two adjacent buildings to form a passageway between them or by constructing the larger building in sectional form and transporting the individual sections to the site where the building is to be erected.

[0004] Neither of the above-mentioned methods of forming larger buildings are particularly versatile, since it is only possible to configure the buildings in one way. Furthermore, another disadvantage of known transportable buildings generally is that once the building has been manufactured, it is not possible to change the position of doors or windows etc.

[0005] We have now devised a transportable building which alleviates the above-mentioned problems.

[0006] In accordance with this invention there is provided a transportable building comprising upper and lower square or rectangular frames of metal interconnected by upright metal frame members, a floor supported by the lower frame, a roof supported by the upper frame and removable interlocking side panels extending between the upper and lower frames.

[0007] The framework of the building makes it easy to transport, particularly if the dimensions of the framework match those of conventional shipping containers. The interlocking side panels are removable and as such can be positioned at any desired location or can be omitted if two buildings are to be interconnected.

[0008] Preferably the lower edges of the side panels are received in a channel formed around the periphery of the floor.

[0009] Preferably, the side panels are slidable within their own plane to enable each panel to be disengaged from the or each adjacent panel.

[0010] Preferably, means are provided for locking the side panels against said sliding movement.

[0011] Preferably the upper edges of the side panels are attached to the upper frame using fasteners.

[0012] Preferably the roof is formed of interlocking panels covered by a one-piece membrane.

[0013] Preferably the uprights are removable to enable the building to be transported in a flat-packed state.

[0014] Preferably the upper and lower frames comprise corner members formed with apertures for use in fastening them to transporting vehicles or vessels.

[0015] Preferably each side panel is of the same di-

mension.

[0016] Preferably one of the side panels comprises a door. Preferably one of the side panels comprises a window. It will be appreciated that the position of panels containing doors and/or windows can be varied to suit requirements either before or after the building has been erected.

[0017] Panels may also be provided having electrical or ablution facilities etc.

[0018] An embodiment of this invention will now be described by way of example only and with reference to the accompanying drawings, in which:

FIGURE 1 is a perspective view of a transportable building in accordance with this invention;

FIGURE 2 is a sectional view along the line II-II of Figure 1; and

FIGURE 3 is a sectional view along the line III-III of Figure 2.

[0019] Referring to Figure 1 of the drawings, there is shown a transportable building comprising a framework formed of horizontal upper and lower rectangular frames 10,11. Each frame 10,11 is formed of four elongate steel frame members 13 which are fastened at 90° to their adjacent members.

[0020] A corner casting 12 is provided at each corner of the upper and lower frame 10,11. Each corner casting 13 comprises three orthogonal plates provided with apertures for use in securing the building to vehicles or vessels arranged to carry conventional shipping containers.

[0021] The respective corners of the upper and lower frame members 10,11 are interconnected by upright elongate steel members 14. As will be described, the framework supports a plurality of side panels 15, as well as a floor and a roof 16.

[0022] Referring to Figure 2 of the drawings, the frame members 13 of the lower frame 11 are generally S-shaped in section and each comprise a central horizontal portion 16 having an inner longitudinal edge which is connected to a lower downwardly-extending vertical portion 17. The lower edge of the lower vertical portion 17 is connected to the inner edge of a lower horizontal portion 18, underlying the central horizontal portion 16.

[0023] The outer longitudinal edge of the central horizontal portion 16 of each frame member 13 of the lower frame 11 is connected to an upper vertical portion 19, which is connected along its upper edge to an upper horizontal portion 20, overlying the central horizontal portion 16. The inner edge of the upper horizontal portion 20 is turned downwardly towards the central horizontal portion 16.

[0024] A plurality of cross members 37 extend between the side frame members 13 of the lower frame. A plurality of side-by-side floor panels 22 rest on the cross members 37 but do not extend across the full length or width of the floor area, thereby defining a channel 38

which receives the lower edge of side panels 15. The outer face of the side panels 15 abuts the downwardly-turned portion of the upper horizontal portion 20 of the bottom frame members 13.

[0025] The upper frame members 13 are also generally S-shaped in section and comprise a central horizontal portion 24 having an outer longitudinal edge connected to a downwardly-extending elongate lower vertical portion 25. The lower edge of the lower vertical portion 25 is connected to an inwardly-extending lower horizontal portion 26, underlying the central horizontal portion 24.

[0026] The inner longitudinal edge of the central horizontal portion 24 is connected to an upper upwardly-extending vertical portion 27. The upper edge of the upper vertical portion 27 is connected to an outwardly-extending upper horizontal portion 28, overlying the central horizontal portion 24.

[0027] Each of the upper frame members 13 has an inwardly-extending elongate U-section channel member 29 welded at its base to the inner surface of the lower vertical portion 25 thereof.

[0028] A plurality of side-by-side roof panels 23 extend between the top side frame members 13 and are supported by the upper arms of the U-section members 29. A Z-shaped clip 30 fastens the upper edge of the side panels 15 to the U-shaped members 29, once their lower edges have been inserted into the channel 38 between the floor panels 22 and the bottom frame 11.

[0029] Referring to Figure 3 of the drawings, the side and roof panels 15,23 comprise an outer steel skin 32 which encloses a central layer of insulating material 33. Opposite side edges of the panels 15/23 respectively comprise longitudinally-extending ribs 34 and channels 35 which interlock when adjacent panels are butted or slid together.

[0030] Referring again to Figure 2 of the drawings, the gap between the side and roof panels 15/23 is covered by a removable L-shaped strip 31 which is attached to the panels by means of magnetic strips. The strip 31 covers the U-section member 29, which serves to house cables and pipes 36.

[0031] The roof panels 23 are covered by a single plastics membrane having a peripheral depending portion which partially overhangs the upper frame 10.

[0032] The transportable building as hereinbefore described can be transported in a flat-packed state with the upright members 14 of the frame removed. Once on-site, the building can be erected and it will be appreciated that side panels 15 containing doors, windows, electricity distribution facilities, ablution facilities etc. can be positioned at any desired place. Alternatively, side panels can be omitted if two or more buildings are to be interconnected.

[0033] Once the building has been erected it is relatively easy to change the position of the panels of removing the Z-shaped clips 30, sliding them apart and lifting them out.

[0034] A transportable building in accordance with this invention is simple in construction but is yet extremely versatile, since it can be configured or re-configured to provide a wide variety of layouts without any drilling or cutting and without altering the construction of the frame or the panels within it.

Claims

1. A transportable building comprising upper and lower square or rectangular frames of metal interconnected by upright metal frame members, a floor supported by the lower frame, a roof supported by the upper frame and removable interlocking side panels extending between the upper and lower frames.
2. A transportable building as claimed in claim 1, in which the lower edges of the side panels are received in a channel formed around the periphery of the floor.
3. A transportable building as claimed in claims 1 or 2, in which the side panels are slidable within their own plane to enable each panel to be disengaged from the or each adjacent panel.
4. A transportable building as claimed in claim 3, in which means are provided for locking the side panels against said sliding movement.
5. A transportable building as claimed in any preceding claim, in which the upper edges of the side panels are attached to the upper frame using fasteners.
6. A transportable building as claimed in any preceding claim, in which the roof is formed of interlocking panels covered by a one-piece membrane.
7. A transportable building as claimed in any preceding claim, in which the uprights are removable.
8. A transportable building as claimed in any preceding claim, in which the upper and lower frames comprise corner members formed with apertures for use in fastening them to transporting vehicles or vessels.
9. A transportable building as claimed in any preceding claim, in which each side panel is of the same dimension.
10. A transportable building as claimed in any preceding claim, in which one of the side panels comprises a door.
11. A transportable building as claimed in any preceding claim, in which one of the side panels comprises

a window.

- 12.** A transportable building as claimed in any preceding claim, in which one of the side panels comprises electrical facilities.

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- 13.** A transportable building as claimed in any preceding claim, in which one of the side panels comprises ablution facilities.

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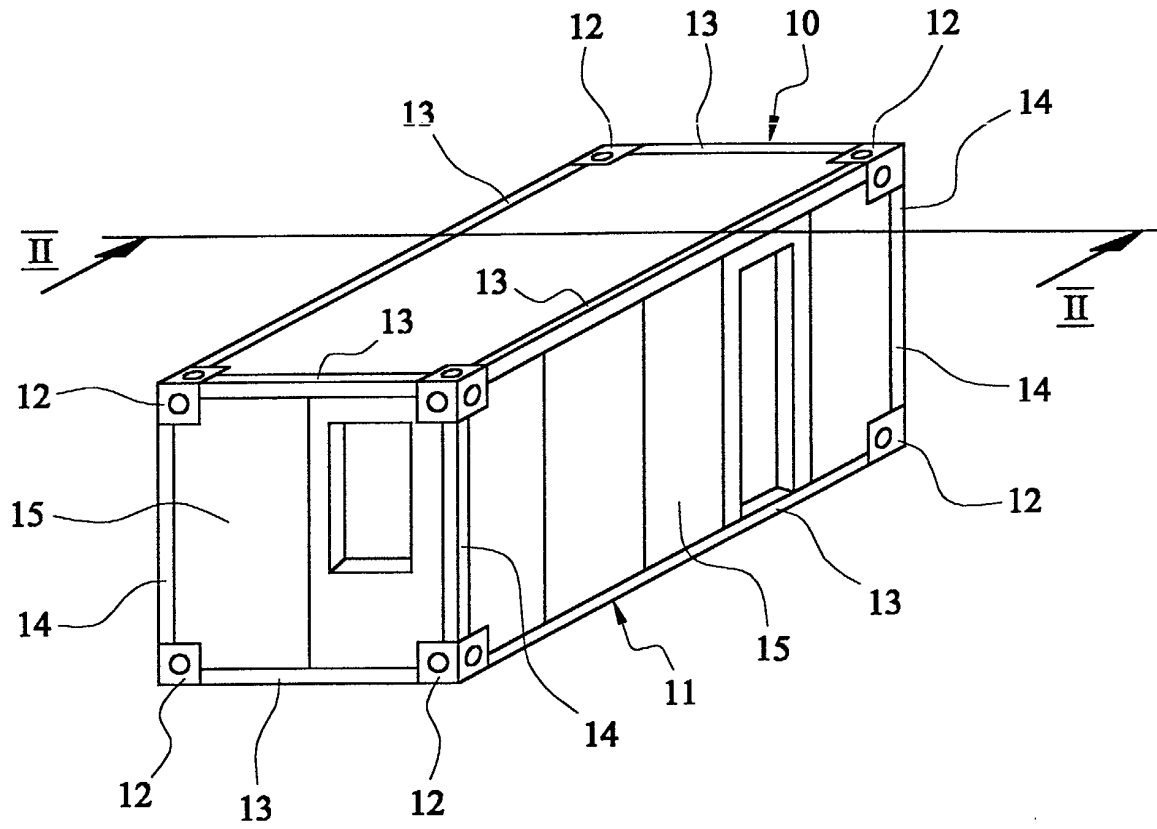


FIG. 1

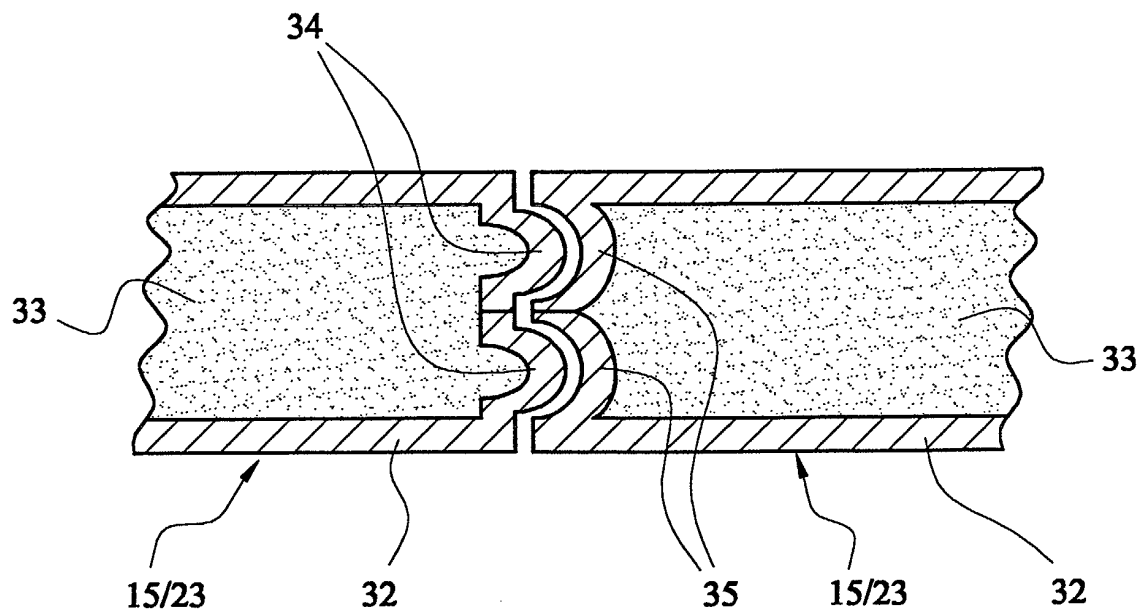


FIG. 3

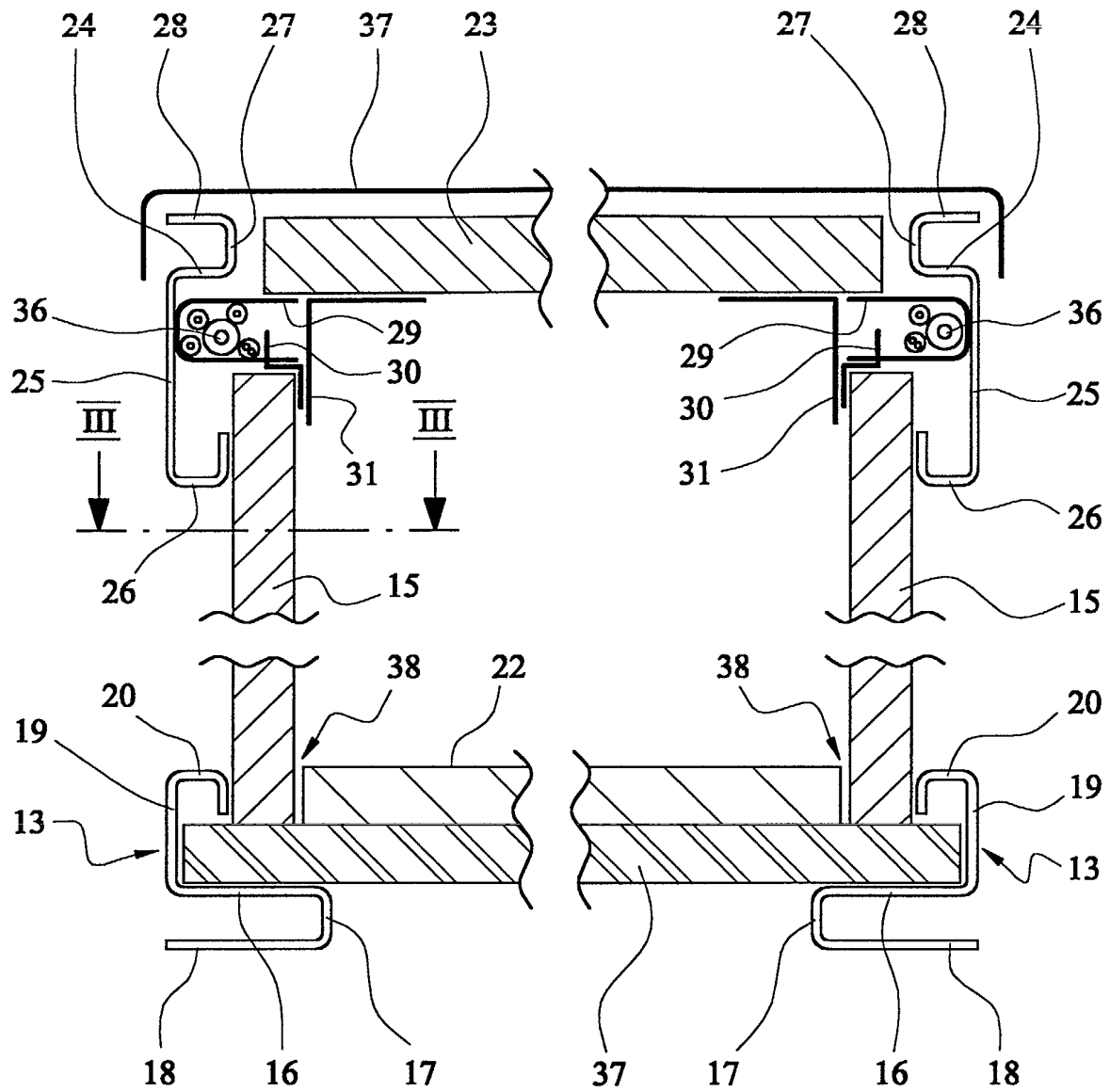


FIG. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 30 9590

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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E04H E04B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 9 April 2002	Examiner Fordham, A
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 P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 01 30 9590

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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