March 2, 1971 W. B. NICHOLS 3,566,556

BUILDING PANELS

Original Filed April 18, 1967

Fig. 1.

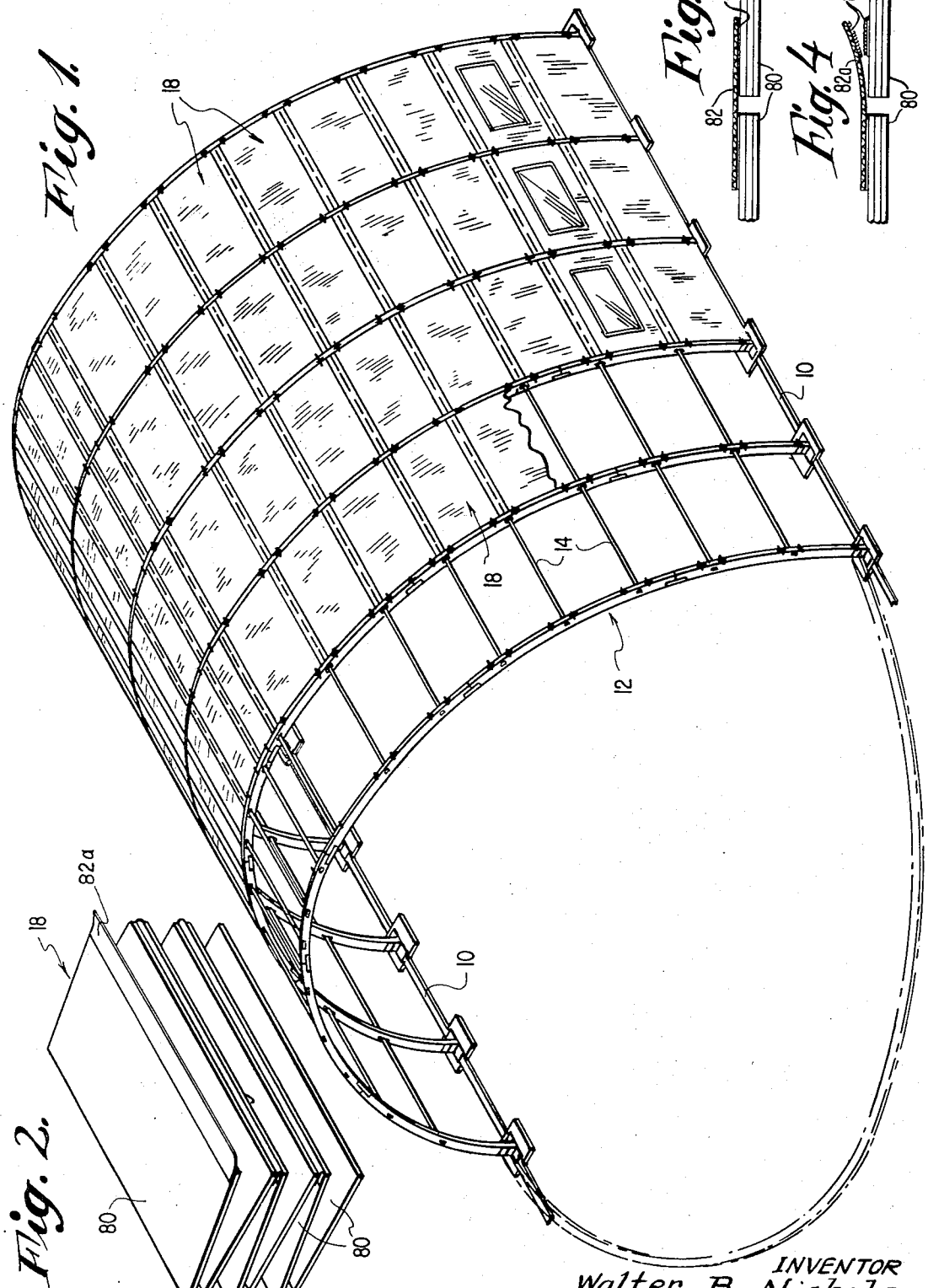


Fig. 3

Fig. 4

Fig. 2.

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United States Patent Office 3,566,556 Patented Mar. 2, 1971

3,566,556

BUILDING PANELS

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Original application Apr. 18, 1967, Ser. No. 631,799. Divided and this application Aug. 6, 1969, Ser. No. 847,954

Int. Cl. E04b *1/343;* E04c *2/40*

U.S. Cl. 52—71 6 Claims

ABSTRACT OF THE DISCLOSURE

A panel unit comprising a plurality of rectangular panels interconnected by elongated flexible hinges which also act as seals between the panels. The outer panels in the unit have hook pile material adjacent their outer edges for purposes of connecting the unit to adjacent panel units of similar construction. The panels are made from plywood with an epoxy coating on their outer surfaces while the sealing strips are made from cross woven nylon with a vinyl coating and are bonded to the panels by an adhesive.

RELATED APPLICATIONS

This application is a division of my prior copending U.S. application, Ser. No. 631,799 filed Apr. 18, 1967 entitled Prefabricated Building and Method of Erecting Same and which has since been abandoned.

SUMMARY OF OBJECTS AND INVENTION

This invention broadly relates to prefabricated portable buildings, and more specifically, to a novel panel unit employed as a cover for such a building. The panel unit has other uses apart from that specifically disclosed in this application and therefore the invention need not be limited to the specific application.

One of the objects of the present invention is to provide a novel panel unit comprised of a plurality of panels hinged together so as to be folded between a collapsed stacked position for storage and unfolded side by side position for use on a building or other installation.

A further object of the present invention is to provide such a panel unit which will be water and weather resistant and durable despite repeated use on portable buildings or other installations.

A still further object of the present invention is to provide such a panel unit that may be easily attached to an adjacent panel unit of similar construction and subsequently released therefrom for example when it is desired to dismantle the associated building or installation.

In one specific embodiment, the above objects are achieved in a panel unit comprising a plurality of rectangular panels interconnected in side by side relationship by means of flexible hinges which extend throughout the length of the panels and are bonded thereto by a suitable adhesive. The panels are made from plywood with an epoxy coating on the outer surface thereof to make them water and weather resistant and also to increase their durability and strength. The flexible hinges are made from cross woven nylon material with a vinyl coating such as marketed under the trademark Herculite. In order to connect a panel unit to adjacent panel units of similar construction, the outermost panels in each unit are provided with hook pile materials which acts as a releasable fastener. The hook pile material is provided on strip material of the same nature as the flexible hinges.

Other objects and advantages will become apparent from the following detailed description taken in conjunction with the attached drawings wherein:

FIG. 1 is a perspective view of a prefabricated portable building incorporating panel units of the present invention and with certain parts of the building being removed for clarity,

FIG. 2 is a perspective view of a panel unit employed in the building of FIG. 1 and showing the panel unit in a substantially folded condition;

FIG. 3 is a fragmental, transverse, cross-sectional view of two adjacent panels included in the panel unit of FIG. 2 illustrating the connection therebetween when in unfolded coplanar position; and

FIG. 4 is a view similar to FIG. 3 except it is taken with respect to adjacent end panels of two successive panel units.

DETAILED DESCRIPTION

Referring to the drawings in detail, FIG. 1 illustrates one form of a building embodying the panel units **18** constructed in accordance with the present invention. The building includes a pair of base sills **10** extending along the base on the opposite sides of the building; a plurality of arched ribs **12** spanning the sills, a plurality of secondary supporting members or purlins **14** extending between the ribs; and a plurality of panel units **18** attached to the ribs to form the cover of the building. For a further description of the building as well as any of the components therein, reference is made to my above identified copending U.S. application, Ser. No. 631,799 the disclosure of which is hereby incorporated by reference into this application where necessary.

In the specific embodiment illustrated, each panel unit comprises six rectangular panels **80** preferably made from plywood three-eighths of an inch in thickness which has been spray coated with an epoxy substance to make it water and weather resistant and also to increase its durability and strength. Panels **80** are flexibly interconnected along their sides by continuous elongated strips **82** of this flexible material of high tensile strength such as cross woven nylon with a vinyl coating marketed under the trademark Herculite. Adjacent panels **80** in each unit are interspaced a predetermined distance, and the flexible strip **82** extends throughout the length of the panels while being bonded thereto by any suitable means such as an adhesive designated **84**. Flexible strips **82** act as a hinge to permit the panels to be folded in overlying relationship as shown in FIG. 2 for purposes of storage and transportation. Additionally, flexible strips **82** because of their material, also provide continuous weatherproof seals between the panels.

In order to connect adjacent panel units **18** together to maintain continuity particularly with regard to sealing, the end panels, as shown in FIG. 4, are provided with a releasable fastener preferably a strip **86** of hook pile fabric or other similar material such as marketed under the trademark Velcro. In each panel unit **18**, one end panel is provided with a flexible strip **82***a* along its outer side so as to extend outwardly beyond that side for purposes of overlapping the end panel of the adjacent panel unit as shown in FIG. 4. Flexible strip **82***a* has a hook pile strip **86** attached along its underside so as to be engageable with a corresponding hook pile **86** continuously placed on the adjacent end panel. Hook pile strips **86** may be secured to the panels by any suitable means such as by an adhesive. In engaging the hook pile strips **86** during assembly of the panels on a building, finger pressure is merely required. Once engaged, a continuous seal will be maintained between adjacent panel units. Upon disassembly of the building, hook pile strips **86** may be separated by slight manual effort.

Although six panels have been shown to be included in a single panel unit, it will be obvious that a panel unit may include more or less panels. While it is preferable

that the panels be made from plywood, it will be apparent that other materials may be used which will also accommodate the use of the hook pile fasteners.

I claim:

1. A panel unit for use in a building or shelter and the like comprising; a plurality of panels arranged in side by side relationship, a plurality of elongated flexible sealing strips extending between and fixed to the sides of adjacent panels to interconnect the panels for movement between an extended generally coplanar side by side position and a folded position wherein the panels are in overlying relationship, said sealing strips extending throughout the sides of said panels substantially between the opposite ends thereof, said panel unit having opposite outermost end panels each having an elongated strip of hook pile extending adjacent the outer edges thereof for attaching the panel unit to similar panel units adjacent thereto.

2. The panel unit defined in claim 1 wherein one of the outermost end panels has a flexible sealing strip extending along its outer side edge and projecting laterally outwardly therefrom to form a flap, said hook pile being located on said flap for connection to the adjacent end panel of a similar panel unit.

3. The panel unit defined in claim 1 wherein each panel consists of plywood and wherein said flexible strips are cross-woven nylon with a vinyl coating.

4. The panel unit defined in claim 3 wherein the flexible strips are bonded to the panels by an adhesive.

5. The panel unit defined in claim 3 wherein said panels have an epoxy coating on their outer surfaces.

6. A panel unit for use in a building or shelter and the like; the panel unit comprising a plurality of panels arranged in side-by-side relationship, a plurality of elongated flexible sealing and hinging strips extending between and fixed to the sides of adjacent panels to interconnect the panels for movement between an extended generally coplanar side-by-side position and a folded position wherein the panels are in overlying relationship, said sealing strips extending throughout the sides of said panels substantially between the opposite ends thereof, said sealing strips being made from cross-woven nylon having a vinyl external coating, said panels being made from plywood having an epoxy coating on their external surfaces.

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U.S. Cl. X.R.

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