July 11, 1961 E. M. BEWEN 2,991,856

SIDE-WALL STRUCTURE

Filed March 10, 1958

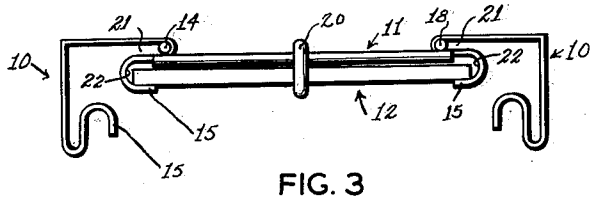


FIG. 3

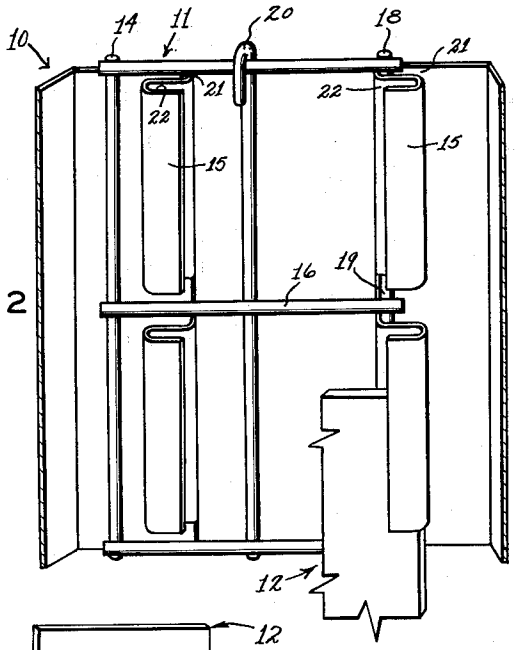


FIG. 2

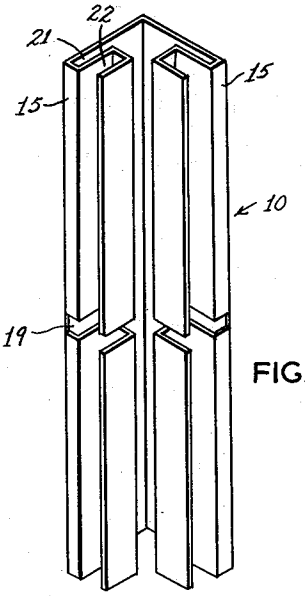


FIG. 4

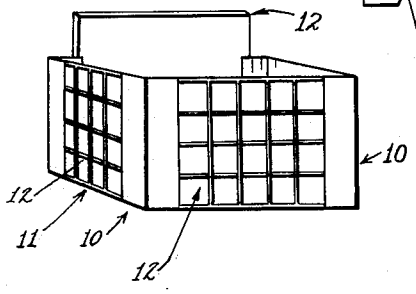


FIG. 1

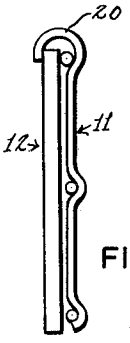


FIG. 5

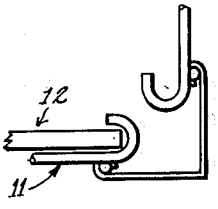


FIG. 6

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SIDE-WALL STRUCTURE

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This invention relates to improvements in a side-wall structure, and more particularly to the metal corner posts, their connecting means and the side-wall panels.

Development engineers will find this fabrication of a side-wall structure, with appropriate modifications and substitution of materials, can provide an important part in the designing and improving of diverse products and constructions.

A new hooking and insertion type of assembly as exemplified in the present side-wall structure can be used advantageously in designing products to facilitate production. This particular type of assembly dispenses with numerous fastenings heretofore utilized and consequently avoids the time-consuming procedure required by such fastenings. When assembled, the present side-wall structure is retained by tension induced in the assembly. In a product having four sides, the four side panels can be inserted in the side-wall structures at the same time by pressure to build the product.

Other important features will be apparent on later description of adaptation and of construction.

It is an important objective to provide a side-wall structure that can be used in the making of shipping cases, milk bottle containers, cabinet furniture, bins, display cases, and double wall structures. These are but a few of the adaptations.

Another important objective can be realized by using window glass as the panels. Besides connecting the posts, the wire fabric acts as a guard for the glass. The hooks on top guard the person handling the item against being cut by the glass edge on the glass panels. Vertical members are crimped at intersecting cross wires and are flat against the glass panels adding rather an ornamental effect in a product such as a household planter.

An important object is achieved in that the side-wall structure can be collapsed by the removal of a stiffener panel and can be easily reassembled.

Briefly, the invention comprises a structure consisting of a corner or end pieces made by bending a strip of metal into a right angle section. Slots are then cut into the legs of the right angle section at predetermined longitudinally spaced positions in accordance with the mesh of the wire fabric to be inserted into the slots. Each leg of the right angle section has a channel with a reversed bend imposed thereon to provide a first groove adapted to receive the end of the wire fabric inserted in the slot and to provide a second groove adapted to receive a stiffening panel. When the side-wall structure is assembled, the wire fabric and the panel or stiffening member are located in the appropriate grooves of a pair of such end pieces to provide a rigid structure. Of course, this structure can be made to be disassembled if desired.

The foregoing will appear more clearly in the following description when considered in connection with the accompanying drawing, in which:

FIG. 1 is a perspective view of the side-wall structure that is open at the top with one panel at one side partly slid up;

FIG. 2 is a perspective view from the inside of the structure. The wire fabric width is shortened here;

FIG. 3 is a top plan view of FIG. 2 when assembled;

FIG. 4 is a perspective view of the inside of a post, but shown with flat surfaces for clarity;

FIG. 5 is a side view detailing the loop and crimp in FIG. 2, and

FIG. 6 is a top plan view of a modification, the horizontal member being looped.

Referring now by characters of reference to the drawing, and first to FIG. 1, it is seen that a plurality of side-wall structures are assembled into a box-like structure that includes a plurality of metal corner posts indicated at **10**. Connecting each pair of posts **10** is a welded wire fabric indicated at **11** and constituting a grille. Inside of the wire fabric **11** is a rigid wall-forming panel **12** that can be made of Masonite. In one of the side-wall structures, the panel **12** associated therewith is partly slid out of channels **15** formed on the pair of corner posts **10** associated therewith to more clearly illustrate the construction.

The corner post **10** shown in FIG. 4 is of metal and is angular in shape. The legs of the corner posts **10** continue into inside bends making an S-shape, thereby forming opposed channels longitudinally disposed and indicated at **15**. The inwardly opening grooves **21** of the channels of a pair of corner posts **10** are arranged in oppositely facing direction as is best seen in FIG. 2, the inwardly opening grooves **21** being adapted to retain the end members **14** and **18** of the wire fabric **11**. This construction requires slots **19** to accommodate insertion of the horizontal wire members **16**. Outwardly opening grooves **22** formed by the channels of the pair of corner posts **10** face inwardly toward each other as is best shown in FIG. 2 and are adapted to receive the panel **12**.

The assembly of the side-wall structure is best shown in FIGS. 2 and 3. The width of the wire fabric **11** is shortened in these figures of the drawing for illustration. The end vertical members **14** and **18** of the wire fabric **11** enter the posts **10** diagonally between the opposed channels **15**, as is best visualized in FIG. 3. Posts **10** are then moved laterally so that vertical members **14** and **18** are retained in the inwardly opening grooves **21** of opposed channels **15**. Horizontal wire members **16** are accommodated by slots **19** in the channels **15**. The inwardly opening grooves **21** of the channels **15** of the pair of corner posts **10** retain the wire fabric part **11**. The panel **12**, shown fragmentary in FIG. 2, is now inserted into the opposed, outwardly opening grooves **22** of the channels **15**.

FIG. 3 being a top plan view, shows this side-wall structure assembled. The assembly of the other side-wall structures follow the same procedure. The particular posts **10** shown have the channels **15** formed on the inside of the right angle legs, and the wire fabric **11** in this form of the invention is therefore on the outside of the structure and the panel **12** is inwardly thereof. It is also contemplated to reverse the angle of bend of the post so that the wire fabric **11** will be on the inside of the structure and the panel **12** on the outside without changing the nature of the invention.

The vertical members **20** of the wire fabric **11** are detailed in FIG. 5. They are crimped where they intercept the transverse members **16** and their top ends are hooked for panel containment. The use of hooks at the top end of vertical members **20** is optional.

FIG. 6 illustrates a modification in which horizontal members **16** would also be hooked to contain the panel **12**, thereby dispensing with the outwardly opening grooves **22** previously described. This requires the inwardly opening grooves **21** of channels **15** to contain the wire fabric **11** permanently. The modified side-wall structure of FIG. 6 can also be constructed with the panel **12** either on the inside or on the outside as mentioned previously.

The foregoing description and detail of structure and assembly is believed to be fully informative, the detail is in an instructive, rather than in any restrictive sense,

many variants being possible within the scope of the claims hereunto appended.

I claim as my invention:

1. A portable side-wall structure for use in forming containment walls, boxes and similar box-like enclosures, said side-wall structure comprising a pair of elongated posts, each including an outer flat flange integrally provided along its longitudinal margin with an inwardly spaced channel of U-shaped cross-sectional contour, said channel having spaced parallel inner and outer walls transversely connected by a first bight, the inner wall being, in turn, connected, along its outer margin, to the longitudinal margin of the flange by a second bight, said inner and outer walls and first bight forming an outwardly opening slot-like groove, said inner wall, flange and second bight forming an inwardly opening slot-like groove, said channel being furthermore provided with a series of spaced slots each opening at one end upon the outer edge of said outer wall and extending across the first bight, inner wall and second bight thereby terminating in a closed end adjacent to the longitudinal margin of the flange, said posts being arranged in spaced parallel positions with the respective flanges thereof substantially in co-planar alignment and the outwardly opening grooves of the channels facing each other, a section of wire-cloth having a rectangular mesh formed by longitudinal wires and transverse wires attached to the longitudinal wires, the outermost longitudinal wires being hooked into and retentively engaged in the inwardly opening grooves with the transverse wires extending through the slots, and a rigid wall-forming panel slidably disposed in and extending transversely between the outwardly opening grooves of the two channels, said panel having a transverse width sufficiently great to hold the posts apart and hold the outermost longitudinal wires of the wire cloth snugly within the inwardly opening grooves of the posts thereby drawing the wire cloth into tightly tensioned position between the posts.

2. A side-wall structure for use in forming containment walls, boxes and similar box-like enclosures, said side-wall structure comprising a pair of elongated posts, each post including a flange provided along its longitudinal margin with a laterally offset channel, said channels providing an inwardly opening slot-like groove and an outwardly opening slot-like groove, said channels being provided with a series of spaced slots opening at one end upon the outer edge of said channel and terminating in a closed end adjacent to the longitudinal margin of the flange, said posts being arranged in spaced parallel positions with the respective flange thereof substantially in alignment and with the outwardly opening grooves of the channels facing each other, a grille formed by interconnected longitudinal and transverse elements, the outermost longitudinal elements being hooked into and retentively engaged in the inwardly opening grooves of the two channels and with the transverse wires extending through the slots, and a rigid wall-forming panel slidably disposed in and extending transversely between the outwardly opening grooves of the two channels, said panel having a transverse width sufficiently great to hold the posts apart and to hold the outermost longitudinal elements of the grille snugly within the inwardly opening grooves of the posts thereby drawing the grille into tightly tensioned position between the posts.

3. A portable side-wall structure for use in forming containment walls, boxes and similar box-like enclosures, said side-wall structure comprising a pair of elongated posts, each post including a flat flange integrally provided along its longitudinal margin with a laterally extending substantially S-shaped channel, said channel providing an inwardly opening slot-like groove immediately adjacent said flange and providing an outwardly opening slot-like groove adjacent the inwardly opening groove, said channel being provided with a series of spaced slots each opening at one end along the outer edge of said channel and terminating in a closed end adjacent to the longitudinal margin of the flange, said posts being arranged in spaced parallel positions with the respective flanges thereof substantially in co-planar alignment and with the outwardly opening grooves of the channels facing each other, a grille formed by interconnected longitudinal and transverse elements, the outermost longitudinal elements being hooked into and retentively engaged in the inwardly opening grooves of the two channels and with the transverse elements extending through the slots, and a rigid wall-forming panel slidably disposed in and extending transversely between the outwardly opening grooves of the two channels, said panel having a transverse width sufficiently great to hold the posts apart and to hold the outermost longitudinal members of the grille snugly within the inwardly opening grooves of the posts thereby drawing the grille into tightly tensioned position between the posts.

4. A side-wall structure for use in forming containment walls, boxes and similar box-like enclosures, said side-wall structure comprising a pair of elongated posts, each post including a flange provided along its longitudinal margin with an offset channel, said channel providing an inwardly opening slot-like groove and an adjacent outwardly opening slot-like groove, said posts being arranged in spaced parallel position with the respective flanges thereof substantially in alignment and with the outwardly opening grooves of the channels facing each other, a connecting means including elements detachably hooked into and retentively engaged in the inwardly opening grooves, and a rigid wall-forming panel slidably disposed in and extending transversely between the outwardly opening grooves of the two channels, said panel having a transverse width sufficiently great to hold the posts apart and to hold the connecting means snugly within the inwardly opening grooves of the posts thereby drawing the connecting means into tensioned position between the posts.

References Cited in the file of this patent

UNITED STATES PATENTS

1,722,416	Glenny	July 30, 1929
1,759,993	McGill	May 27, 1930
2,304,445	Doane	Dec. 8, 1942