Oct. 3, 1961 W. R. HESS 3,002,591

WALL STRUCTURE

Filed Aug. 14, 1959

FIG. 1

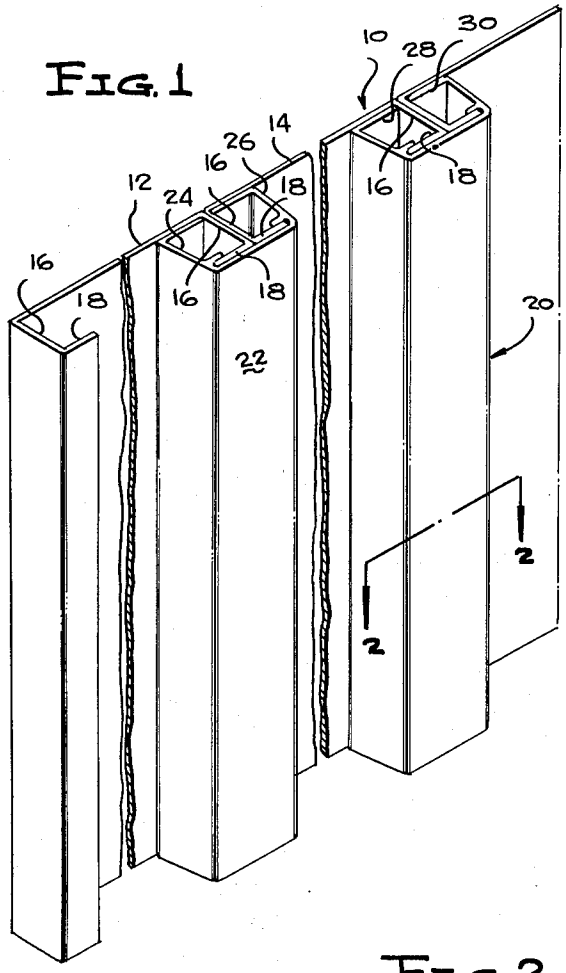


FIG. 3

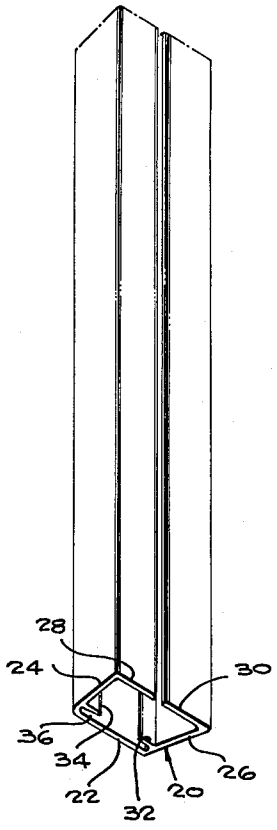
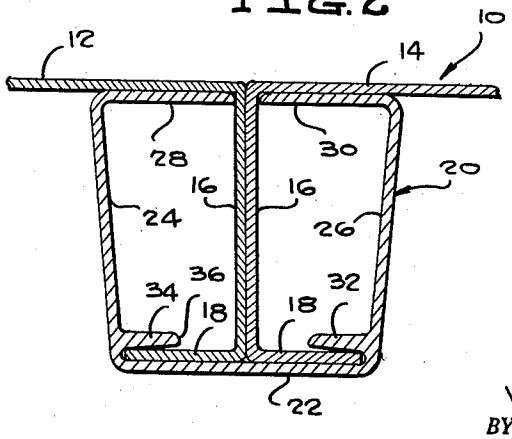


FIG. 2



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WALL STRUCTURE

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The present invention relates to a wall structure formed by panels and connectors joining adjacent panels together.

An object of the present invention is to provide a wall structure which lends itself to the construction of metal truck and trailer bodies, tool sheds, garages, houses, and the like.

Another object of the present invention is to provide a wall structure which is assembled from panels and connected without using bolts or other fastening means and without drilling or welding, one which lends itself to construction of wall panels in all sizes, one which lends itself to the construction of truck and trailer bodies in all widths and lengths, and one which lends itself to assembly and disassembly by relatively unskilled mechanics without the use of special tools.

A further object of the present invention is to provide a wall structure for truck or trailer bodies in which door openings may be altered as desired, a wall structure which is simple in construction and having few components, and one which is economically feasible.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in conjunction with the annexed drawing, in which:

FIGURE 1 is an isometric view of a wall structure constructed according to the present invention, with a central portion of the structure broken away;

FIGURE 2 is a view on an enlarged scale, taken on the line 2—2 of FIGURE 1; and

FIGURE 3 is an isometric view of the connector employed with the panels of the present invention in forming the wall structure shown in FIGURE 1.

Referring in greater detail to the drawing in which like numerals indicate like parts throughout the several views, the wall structure of the present invention is designated generally by the reference numeral **10** and comprises at least a pair of upstanding panels **12** and **14** arranged in longitudinal aligned relation. Each of the panels **12** and **14** has a first vertical leg **16** projecting perpendicularly from each end thereof.

Another or second leg **18** projects inwardly of and perpendicularly from the free end of the first leg **16**.

The panels **12** and **14** are arranged so that the legs **16** abut each other along their entire lengths with the legs **18** facing away from each other.

A connector, designated generally by the reference numeral **20**, embraces the abutting legs **16** and the associated legs **18** of the panel ends. The connector **20**, connecting each of the adjacent panels **12** and **14** together, embodies a web **22** and a pair of side flanges **24** and **26** projecting in diverging directions from one side of the web **22**. The connector **20** also includes an end flange projecting inwardly of and perpendicularly from the free end of each of the side flanges **24** and **26**, such end flanges being designated by the numerals **28** and **30**, respectively.

The free ends of the end flanges **28** and **30** of each connector **20** are spaced from each other. The abutting legs **16** of the panels **12** and **14** extend through the space between the free ends of the end flanges **28** and **30** and the legs **18** abut and bear against the inner face of the web **22** of the connector **20** securing each of the adjacent panels **12** and **14** together. The end flanges **28** and **30** of each connector **20** bear against the undersurfaces of the adjacent portions of the structure panels **12** and **14**.

Each connector **20** has a projection **32** projecting inwardly from the portion of the side flange **26** adjacent to and spaced from the web **22** and another projection **34** projecting inwardly from the portion of the other side flange **24** adjacent to and spaced from the web **22**, as shown in FIGURE 2.

The space between each of the projections **32** and **34** and the adjacent part of the web **22** forms a groove.

Each groove, as at **36** in FIGURE 2 with reference to the projection **34**, is at the juncture point of the adjacent side flange **24** or **26** with the web **22**.

The end portions of the legs **18** of each panel **12** and **14** extend into the grooves **36** formed between the projections **32** and **34** and the adjacent part of the web **22**. The grooves **36** embodying anchoring means at the juncture point of each of the flanges **24** and **26** with the web **22** receiving the adjacent parts of the legs **18** of the panels **12** and **14**.

In use, the wall structure **10** is assembled by placing the panels **12** and **14** in longitudinal aligned relation with the legs **16** in abutting relation and with the legs **18** facing away from each other. A connector **20** is then slidably connected to the adjacent leg **16** by sliding the connector **20** over the abutting legs **16** and legs **18** with the portions of the legs **18** adjacent therein received in the grooves **36** and with the end flanges **28** and **30** abutting the inner faces of the panels **12** and **14**.

With the connector **20** embracing the legs **16** and **18** of the panels **12** and **14**, the legs **16** extend through the space provided between the free ends of the end flanges **28** and **30**. A feature of the invention resides in the resiliency of the connector **20** so that the diverging side flanges **24** and **26** have a tendency to spring toward each other closing the space between the free ends of the flanges **28** and **30**, this, when each connector **20** is in position connecting the adjacent panels **12** and **14** together, serves to tightly hold the abutting legs **16** of the panels **12** and **14** in close abutting weather-sealed relation resistant to opening movements from each other as a result of vibration when the panels **12** and **14** are assembled as the sides, top, or ends of a truck or trailer body.

What is claimed is:

1. In a wall structure, at least a pair of upstanding panels arranged in longitudinal aligned relation, each panel having a first vertical leg projecting perpendicularly from each end thereof and a second leg projecting inwardly of and perpendicularly from the free end of the first leg, the panels being arranged so that the first vertical legs abut each other along their entire lengths with the second vertical legs facing away from each other, a connector embracing the abutting first legs and associated second legs of the adjacent panel ends, said connector embodying a web, a pair of side flanges projecting in diverging directions from one side of said web, and an end flange projecting inwardly of and perpendicularly from the free end of each of said side flanges, the free ends of said end flanges being spaced from each other, the abutting first legs of said panels extending through the space between the free ends of said end flanges with the associated second legs abutting and bearing against the inner face of said web, and the end flanges bearing against the undersurfaces of the adjacent portions of said panels, and anchoring means at the juncture point of each of said side flanges with the web, the adjacent end portions of the associated second legs being received in said anchoring means.

2. In a wall structure, at least a pair of upstanding panels arranged in longitudinal aligned relation, each panel having a first vertical leg projecting perpendicularly from each end thereof and a second leg projecting inwardly of and perpendicularly from the free end of the

first leg, the panels being arranged so that the first vertical legs abut each other along their entire lengths with the second vertical legs facing away from each other, and a connector embracing the abutting first legs and associated second legs of the adjacent panel ends, said connector embodying a web, a pair of said flanges projecting in diverging directions from one side of said web, and an end flange projecting inwardly of and perpendicularly from the free end of each of said side flanges, the free ends of said end flanges being spaced from each other, the abutting first legs of said panels extending through the space between the free ends of said end flanges with the associated second legs abutting and bearing against

the inner face of said web, and the end flanges bearing against the underfaces of the adjacent portions of said panels, there being a groove at the juncture point of each of said side flanges with the web, the adjacent end portions of the associated second legs being received in the groove for receivingly enclosing the adjacent end portions of the associated end legs.

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