Oct. 24, 1939. G. G. GREULICH 2,177,036

COMBINATION FLOOR AND CEILING HOUSING UNIT

Filed Aug. 30, 1937

FIG. 1.

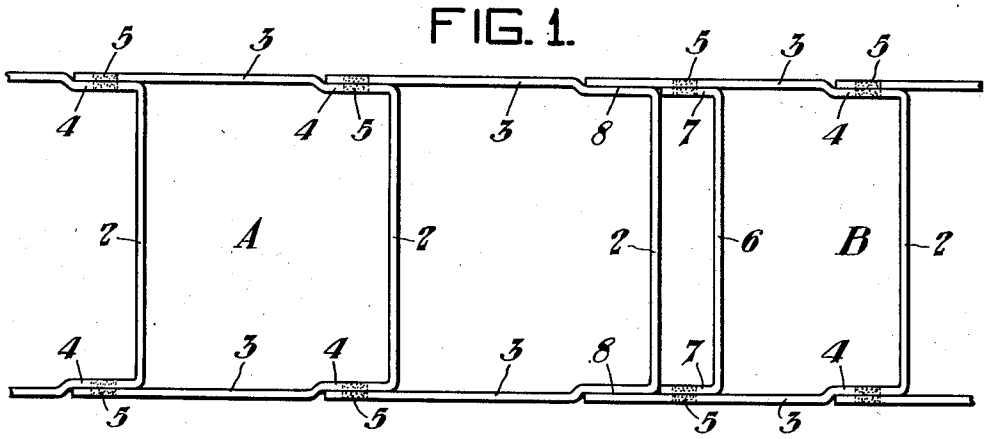


FIG. 2.

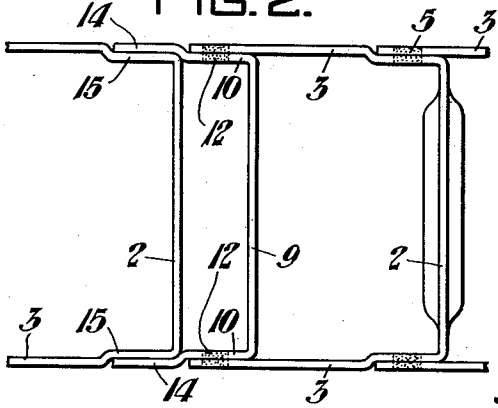


FIG. 3.

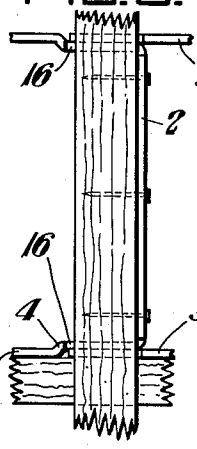


FIG. 5.

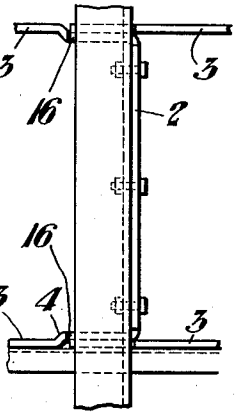


FIG. 7.

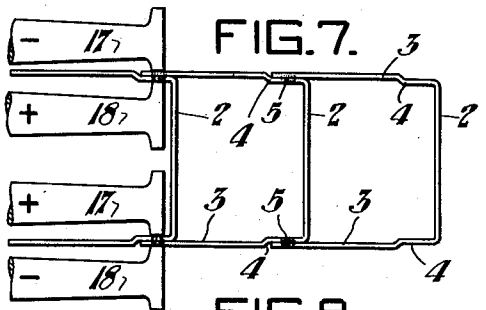


FIG. 4.

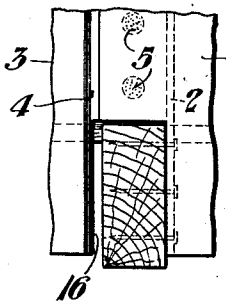


FIG. 6.

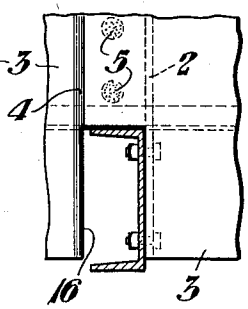
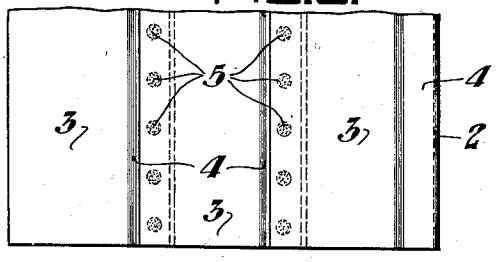


FIG. 8.



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COMBINATION FLOOR AND CEILING HOUSING UNIT

Gerald G. Greulich, Mount Lebanon, Pa.

Application August 30, 1937, Serial No. 161,683

2 Claims. (Cl. 189—34)

This invention relates to the production of floor or ceiling units of unlimited length and width welded together to form an integral rigid unit.

An object of this invention resides in providing individual units capable of developing their full strength without any dependence or interdependence on adjacent units.

Other objects and advantages will become apparent as the description proceeds, in which:

Figure 1 is a side elevation of the present invention;

Figure 2 is a detailed side elevation of another form of slip joint construction;

Figure 3 is a detailed side elevation of the manner of securing the units to wood studs;

Figure 4 is a plan view of the construction shown in Figure 3;

Figure 5 is a detailed side elevation of the manner of securing the units to a steel beam;

Figure 6 is a plan view of the construction shown in Figure 5;

Figure 7 is a view showing the welding operation for the individual units; and

Figure 8 is a fragmentary top plan of the welded assembly.

In the drawing, A and B represent adjacent housing units. Each unit is identical in construction and therefore explanation is made of only one unit.

Each unit includes a plurality of structural steel beam members comprising a web 2 and spaced parallel flanges 3 extending from one side thereof and of substantial U-shaped cross-section. The flanges are each provided, adjacent the web portion, with an offset portion 4 which is pressed or deflected inwardly to a distance equal to the thickness of said flange so as to provide aligned outer faces on the top and bottom surfaces of said unit when said structural steel members are nested or interfitted on each other and welded together, as indicated at 5.

One of the structural members forming the end of said unit is provided with a reenforcing beam member 6 having laterally extending flanges 7. This reenforcing member is suitably welded, in any conventional manner, to the flanges 3 of the structural beam member at a point adjacent the free ends of said flanges so as to provide a slip joint connection, indicated at 8, between the adjacent units when the free ends of said flanges 3 are positioned on the offset portions of the flanges of said adjacent unit. When the adjacent units are interfitted, as above recited, the flanges 7 of the reenforcing beam member 6 abut the web 2 of the end structural beam member and, in so doing, provide rigidity to the edges of the units at the joint.

Figure 2 shows another form of reenforcing member for the end of one of said units at the joint. In this form, the reenforcing member includes a web 9 having spaced flanges 10 extending from one side thereof, said flanges having the free ends of the flanges of the structural member welded upon its outer top and bottom faces, as indicated at 12, and its flanges bent outwardly, as shown at 14, to a different horizontal plane so as to rest upon the offset portion 15 of an adjacent unit whereby there is provided a slip joint between the adjacent units.

If desired, the webs 2 of the structural beam member and/or the webs of the reenforcing members 6 and 9 may be corrugated or, if preferred, may be plain and/or arranged in any desired combination of the two. Also, any number of structural beam members may be provided for each unit and there may be any number of units interfitted so as to provide an assembled floor or wall construction of varied lengths and widths. In the construction shown in Figure 1, the units are constructed and arranged so as to give uniform strips or spaces between the joint line, while the construction shown in Figure 2 provides an odd width of strip at each joint.

The units are provided with cut-out portions 16 at suitable intervals along the line of weld of the adjoining structural members comprising the unit so as to attach said units to steel or wooden studs. In the case of wall bearing construction, the ends of said units would, of course, rest on the masonry and no special provisions would need to be made except that it might be desrable to fill in the ends of the cells solidly with masonry in order to carry any superimposed wall masonry.

In Figures 7 and 8, there is shown the method of welding the structural beam members into a unit. There is diagrammatically shown the welding electrodes 17 and 18 positioned on each side of the overlapped flanges of said structural beam members so as to weld said members together into a rigid unit, as shown in Figure 8.

While I have shown and described specific embodiments of the invention, it will be understood that I do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of the invention, as defined in the following claims.

I claim:

1. A floor or wall construction including one or more structural units, said units comprising U-

shaped beam members welded together and provided with a web and spaced flanges extending from one side thereof, offset portions on said flanges extending inwardly an amount equal to the thickness of said flanges and a reenforcing member welded to one of said beam members of said unit at a point adjacent the free ends of said flanges, said reenforcing member having a U-shaped cross-section and positioned so that the flanges of said member are adapted to abut the web of an adjoining unit when the free ends of one of said beam members comprising said unit are positioned on said offset portion of said flange.

2. A floor or wall construction including one or more structural units, said units comprising U-shaped beam members welded together and provided with a web and spaced flanges extending from one side thereof, said flanges having inwardly offset portions of a width equal to the thickness of said flanges, said offset portions being adjacent said web, some of said U-shaped beam members having portions of their flanges cut-away adjacent their webs, a U-shaped reenforcing member welded to one of said beam members of said unit at a point adjacent the free ends of said flanges and adapted to abut the web of an adjoining unit when the free ends of one of said beam members comprising said unit are positioned on said offset portion of said flanges and means positioned within said cut-out portions and secured to said webs for supporting said units.

GERALD G. GREULICH.