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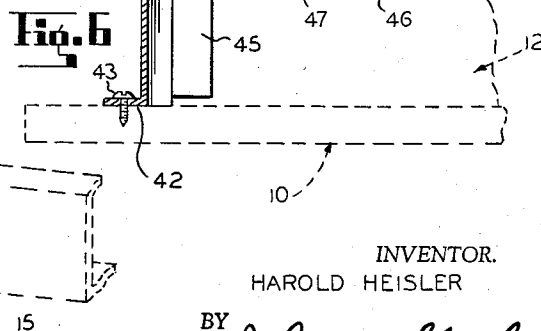
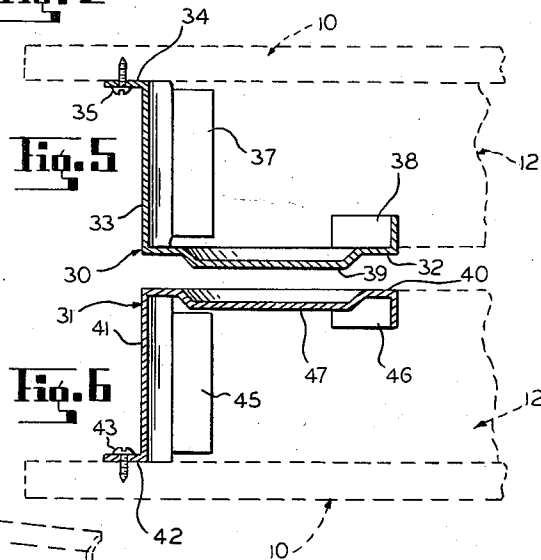
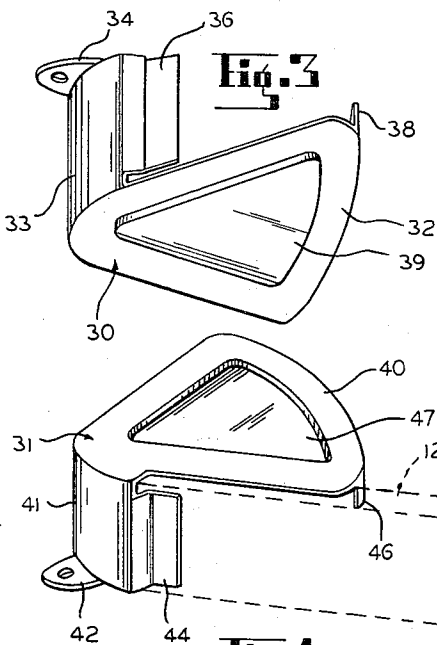
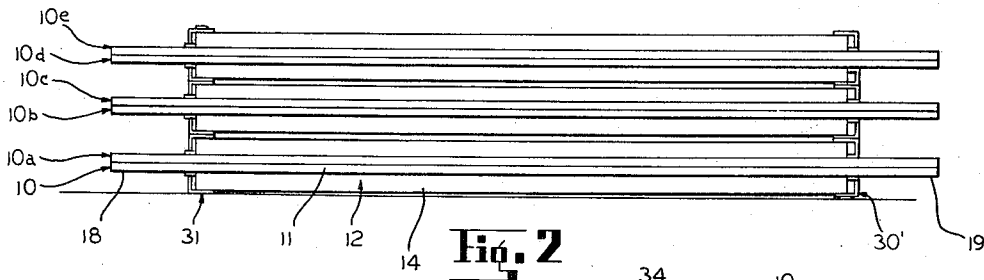
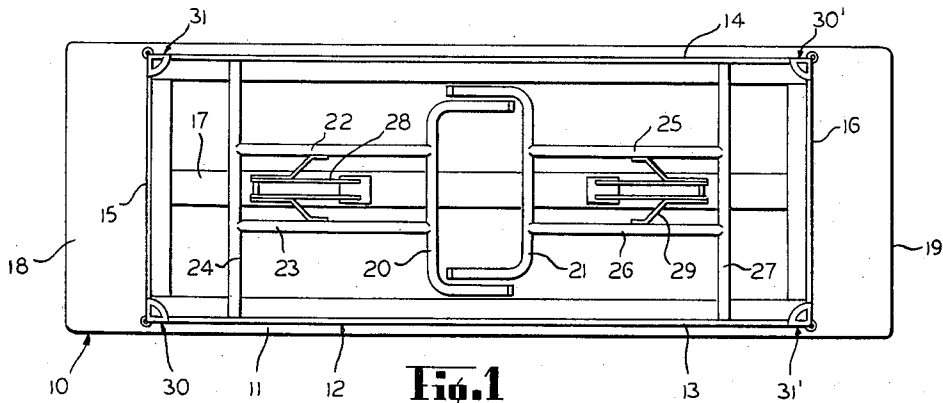


Fig. 4

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2,889,185

TABLE STACKER PLATE

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8 Claims. (Cl. 311-1)

This invention relates to a stacking plate, and more especially to a nesting stacker structure adapted for use with foldable-leg tables which can be arranged one upon another in a vertical stack.

In instances where it is necessary to store tables so as to make the space normally occupied thereby available for other uses, it is customary to equip those tables with foldable legs so that they can be conveniently stacked one upon another for such storage. In such stacks, the tables are usually arranged in face-to-face and back-to-back relation. One of the disadvantages encountered, especially with structures in which the tabletop overhangs to a considerable extent the rectangular frame carried on the underside thereof, is that the top tends to warp from the frame which makes stacking difficult, particularly for those tables which are arranged back-to-back. Further, it is difficult to accurately align and maintain such alignment of the contiguous rectangular frames of those tables stacked back-to-back, for the sides and ends of the frame are narrow and the slightest jostling will often cause the stack to upset.

There exists then a need for some means to overcome these disadvantages, and the provision thereof is one of the objects of this invention. Another object of the invention is to provide a suitable stacker plate having utility both in reinforcing the interconnection between the tabletop and underframe thereof, and in indexing the frames of adjacent tables into alignment with each other when they are stacked in back-to-back relation.

Still another object is in the provision of stacker plates of the character described, arranged in diagonally oriented, mating pairs at the corners of the table underframe so that two folded-leg tables identically equipped with the plates may be stacked one upon another irrespective of whether the tables are inverted end-for-end, with the aligned stackers nested one within another to anchor the tables in the stacked position thereof.

Yet another object is in the provision of stacker plates adapted to be anchored to the corners of a table frame and to the tabletop, and in which the plates are arranged in pairs, one such pair having an enlarged recess therein and the other pair having an enlarged projection adapted to seat within the recess, whereby tables equipped with the stackers are cammed or indexed into stacked alignment by the cooperative interconnection of the projections and recesses, and are thereafter maintained in such alignment by the nesting of the projections within the recesses. Additional objects and advantages of the invention will become apparent as the specification develops.

An embodiment of the invention is illustrated in the accompanying drawing, in which—

Figure 1 is a bottom plan view of a foldable-leg table, equipped with the stacker plates; Figure 2 is a side view in elevation of a plurality of tables arranged in a vertical stack; Figure 3 is a perspective view of a stacker plate providing the male component; Figure 4 is a perspective view of a stacker plate providing the female component;

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Figure 5 is a longitudinal sectional view of the plate shown in Figure 3 in relation to a table, which is indicated by broken lines; and Figure 6 is a longitudinal sectional view of the plate shown in Figure 4, and illustrating the same in connection with a table which is indicated by broken lines.

An exemplary table structure is illustrated in Figure 1, and is denoted generally with the numeral 10. The table comprises a top 11 of planar construction that may be formed of wood, plastic, plastic and wood laminations, etc. Secured to the undersurface of the table is a frame 12 having side channels 13 and 14, end channels 15 and 16, and a center strut 17 extending between the end channels 15 and 16 in general alignment with the longitudinal axis of the tabletop 11. The various components of the frame are all rigidly secured together, and are affixed to the tabletop by any suitable means. It will be apparent that the frame 12 is rectangular, but is substantially shorter than the tabletop 11 whereby it has substantial end portions 18 and 19 that overhang the frame.

The table is equipped with legs 20 and 21 that are of generally U-shaped configuration, and are adapted to be folded into the confines of the frame and into adjacency with the tabletop as shown in Figures 1 and 2, or downwardly into depending relation with respect to the tabletop to support the same in a horizontal plane. The leg 20 is rigidly secured to struts 22 and 23, which in turn are rigidly connected to a pivot shaft 24 journaled for rotation in the side channels 13 and 14 of the frame. Similarly, the leg 21 is rigidly connected to struts 25 and 26 which are connected to a pivot shaft 27, also journaled for rotation in the side channels of the frame.

Linkage 28 interconnects the struts 22 and 23 with the medial frame element 17, and identical linkage 29 connects struts 25 and 26 with the medial frame element. The linkages define and control the movement of the leg assemblies between the folded positions thereof shown in Figure 1 and an extended position (not shown), wherein they are adapted to support the table. The linkages per se form no part of the instant invention, and since exemplary constructions are well known in the art, a detailed description thereof is unnecessary and will not be set forth.

Conventionally, tables are stacked as shown in Figure 2 so that they are alternated in face-to-face and back-to-back relation. Specifically, the tops of the tables 10 and 10a are in contiguous relation, as are those of the tables 10b and 10c, and 10d and 10e. However, the backs or frames of the tables 10a and 10b, and 10c and 10d, are in contiguous relation. Little problem is connected with stacking tables in face-to-face relation because of the extensive support surfaces defined by the tabletops. However, the support area of a frame 12 is restricted which necessitates almost perfect alignment of one frame with another when the tables are in back-to-back relation. Ordinarily then, care would have to be taken to stack the same, and the difficulties encountered are amplified if a tabletop tends to warp from the frame. Also, a notable lack of stability is inherent in the back-to-back sections of the stack.

With the instant invention though, the frame 12 at the corners thereof is equipped with stacker plates 30 and 31. The plate 30 is a male element, and two such elements are provided at diagonally opposite corners of the frame. In Figure 1, these two stacker plates are designated for identification with the numerals 30 and 30'. The plates 31 are female elements and are similarly arranged in diagonally opposed pairs, as indicated by the numerals 31 and 31' in Figure 1. The plate 30 comprises a generally rectangular platform 32 equipped at the vertex thereof with a laterally turned leg 33 having

an apertured ear 34 at the end thereof adapted to pass a screw 35 therethrough as shown in Figure 5.

The leg 33 is equipped along each side thereof with outwardly flared extensions 36 and 37. Opposite the leg 33 is a laterally turned lip 38 that extends in the same direction normal to the platform 32, as does the leg. The platform 32 is also provided with an outwardly pressed projection 39 that has a generally rectangular configuration conforming to that of the platform 32. The projection 39 extends from the platform in a direction opposite that of the leg 33 and lip 38.

The stacker plate 31 is generally similar to that of the plate 30, and is provided with a platform 40 and leg 41 having an apertured ear 42 adapted to pass a screw 43 therethrough as shown in Figure 6. The leg 41 has extensions 44 and 45, and the platform has a lip 46 and a recess 47 that dimensionally corresponds to the projection 39, and is similarly configured so that it can seat or nest the same therein. Actually, the plates 30 and 31 have identical platforms, and the only distinction between the two plates is that the leg 33 and lip 38 are bent normally with respect to the platform in one direction so that the pressed portion of the platform becomes a projection, while the leg 41 and lip 46 are bent in an opposite direction with the result that the pressed portion of the platform becomes a recess.

In securing the stacker plates to the table, the platforms extend across the corners of the frame with each leg running along a frame corner toward the tabletop. The lip of each platform extends through an arc of substantially 90°, and therefore is in adjacency at the ends thereof with the side and end channels of the frame. The flared or outwardly directed branches of each leg extends along the side and end channels of the frame. Thus, each platform is anchored to the frame, and in turn is affixed to the tabletop by a screw which passes through the ear of the leg. Consequently, the stacker plates supplement the securance of the frame to the tabletop, and tend to counteract any warpage of the tabletop which would draw it from the frame.

When tables equipped with the stacker plates are arranged in back-to-back relation, as are the tables 10a and 10b shown in Figure 2, the male plates of one table are aligned with the female plates of the other table so that the projections 39 rest within the recesses 47 and thereby define an interlock between the tables which maintains the stacked alignment thereof. Further, the mating recesses and projections serve as an indexing means for properly aligning one frame with another; and since both the projections and recesses have a relatively large surface area, the alignment is accomplished with facility. Moreover, the generally triangular configuration of the recesses and projections further aids in the alignment operation in that a plurality of relatively restricted corners are provided by the projection 39, any one of which can readily enter the large recess 47, whereupon further relative movement between the tables will enable the projections and recesses to cam the tables into the proper orientation.

Additionally, the tables can be stacked irrespective of whether they are inverted end to end, for with the male and female stacking plates arranged in diagonally disposed pairs, the tables will stack regardless of whether the plates 30 and 31, or 30 and 31', are in vertical alignment. The plates also augment the surface area of the frames supporting the stacked tables.

It should also be noted that the stacker plates provide a relatively large surface area, either in the form of the projection 39 or marginal edge portion surrounding the recess 47, upon which the upper surface of a tabletop can rest in the event that tables are inadvertently stacked face-to-back. These large surface areas will prevent damage to the face of the tabletop in that such tops are protected from sharp projections or other protuberances,

and at the same time a stable support is afforded thereto. Figure 4 makes it clear that the web of each U-shaped channel abuts the outer surface of the leg extensions 36 and 44 and are rigidly secured thereto by spot welds, as shown. Since the leg extensions are inset from the surfaces of the depending legs 33 and 41, the stacker plates and channels tend to define a substantially uninterrupted perimetric surface about the frame.

The upper and lower flanges of the U-shaped frame channels extend inwardly over the top and bottom edges of the leg extensions, and thus are disposed beneath the platforms 32 and 40, and the platforms are welded or otherwise affixed to the upper flange. Such an arrangement affords an automatic alignment and location of the stacker plates with respect to the frame channels for when the stacker plates are properly positioned, the depending lip of each stacker plate abuts the upper flange of a U-shaped frame channel, while the web thereof abuts the inwardly turned portion of the stacker plate leg extension.

While in the foregoing specification an embodiment of the invention has been set forth in detail so as to adequately disclose the same, it will be apparent to those skilled in the art that numerous changes may be made in those details without departing from the spirit and principles of the invention.

I claim:

1. In combination with a table equipped with a rectangular frame along the undersurface thereof and legs foldable into the space defined within the frame, a stacker plate for each corner of the frame and being anchored thereto and to the table to supplement the interconnection of the frame therewith, each of said plates having a generally triangular platform extending across the frame corner and equipped at the vertex thereof with a laterally turned leg extending along the frame toward the table and provided adjacent thereto with an apertured ear secured to the table, said platform having opposite said leg a laterally turned lip projecting into said frame and substantially abutting the same, said plates being arranged in diagonally oriented pairs, the platforms of one such pair being depressed to form a generally triangular recess therein and those of the other pair each being pressed outwardly to form a correspondingly dimensioned, generally triangular projection nestable within each such recess, whereby identically equipped tables may be stacked one upon another with the projections of one pair of plates seated in the recesses of the other pair of plates aligned therewith irrespective of the end-for-end orientation of the tables.

2. In combination with a table equipped with a rectangular frame along the undersurface thereof and legs foldable into the space defined within the frame, a stacker plate for each corner of the frame and being anchored thereto and to the table, each of said plates having a generally triangular platform extending across the frame corner, said plates being arranged in diagonally oriented pairs and the plates of one such pair being depressed to form a generally triangular recess therein and those of the other pair being pressed outwardly to form a correspondingly dimensioned, generally triangular projection nestable within each such recess, whereby identically equipped tables may be stacked one upon another with the projections of one pair of plates seated in the recesses of the other pair of plates aligned therewith irrespective of the end-for-end orientation of the tables.

3. In combination with a table equipped with a rectangular frame along the undersurface thereof and legs foldable into the space defined within the frame, a stacker plate for each corner of the frame and being anchored thereto and to the table, each of said plates having a generally triangular platform extending across the frame corner, the platforms of certain of said plates being depressed to form an enlarged recess therein and those of other of said plates being pressed outwardly to form en-

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larged projections corresponding in size and shape to the recesses so as to be nestable therein, whereby similar tables so equipped may be stacked one upon another with the projection-equipped plates of one table aligned with and seated within the recesses of the plates of another table.

4. A stacker plate for use with foldable-leg equipped tables and the like, comprising a platform equipped with a leg at a corner thereof and a lip in spaced facing relation with said leg, said lip and leg being substantially normal to the plane of said platform and being adapted to anchor the stacker plate to the frame and top of such table structure, said platform having along the face thereof remote from said lip and leg an offset surface portion for seating engagement with a complementary offset portion of a similar stacker plate.

5. The stacker plate of claim 4 in which said offset portion comprises an outwardly pressed projection.

6. The stacker plate of claim 4 in which said offset portion comprises a depression defining a recess.

7. The stacker plate of claim 4 in which said platform is generally triangular, and in which said leg is

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provided with outwardly flared extensions projecting along the angular sides of the platform.

8. In a stacker plate assembly for use with foldable-leg equipped tables and the like, a plurality of stacker plates, each of said plates being provided with a platform having both a leg and a lip extending generally perpendicular thereto from one side thereof, the platforms of certain of said plates being provided with an enlarged depressed area defining a recess in the other side thereof, the platforms of certain other of said plates being provided with an enlarged projection on such other side thereof, said recesses and projections being substantially the same size and shape so that the projections can nest within the recesses.

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