March 25, 1958 R. H. REISS ET AL 2,828,044

DRAWER TRAY

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FIG.1.

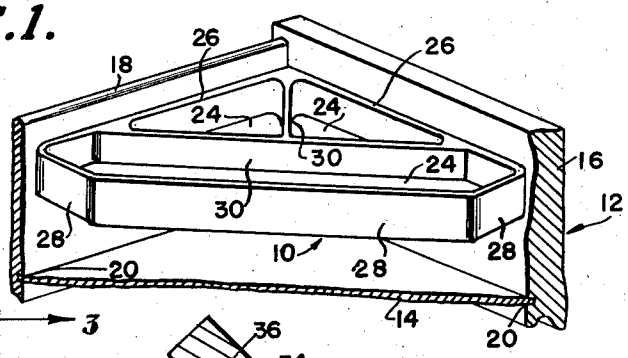


FIG.2.

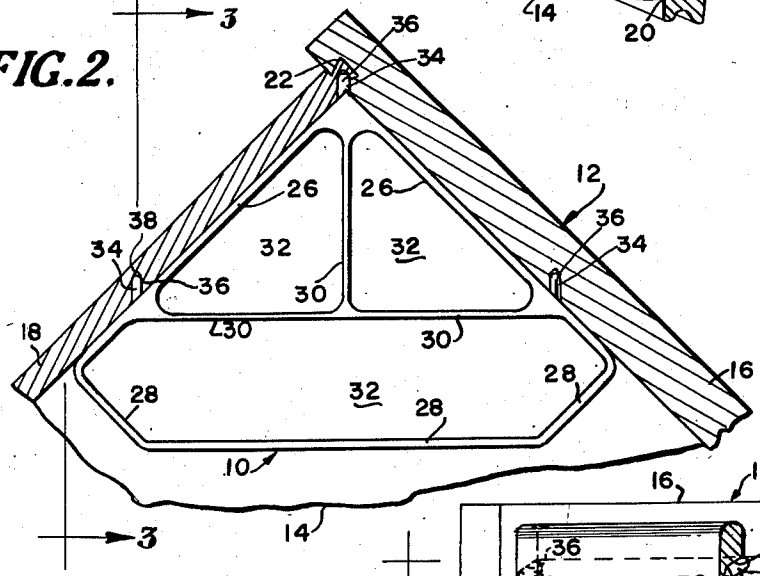


FIG.3.

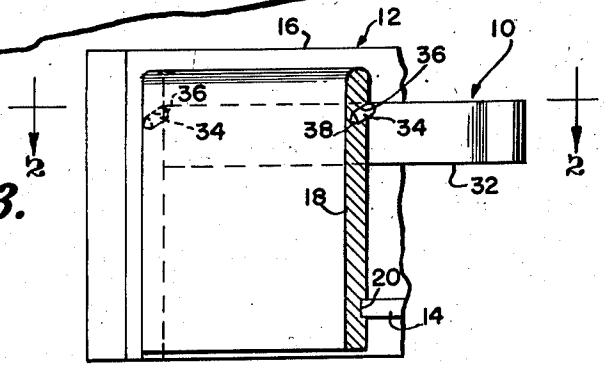
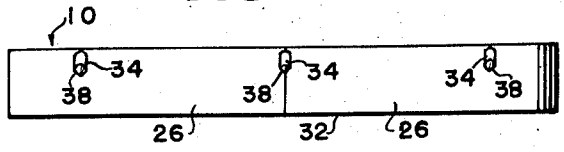


FIG.4.



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FIG. 5.

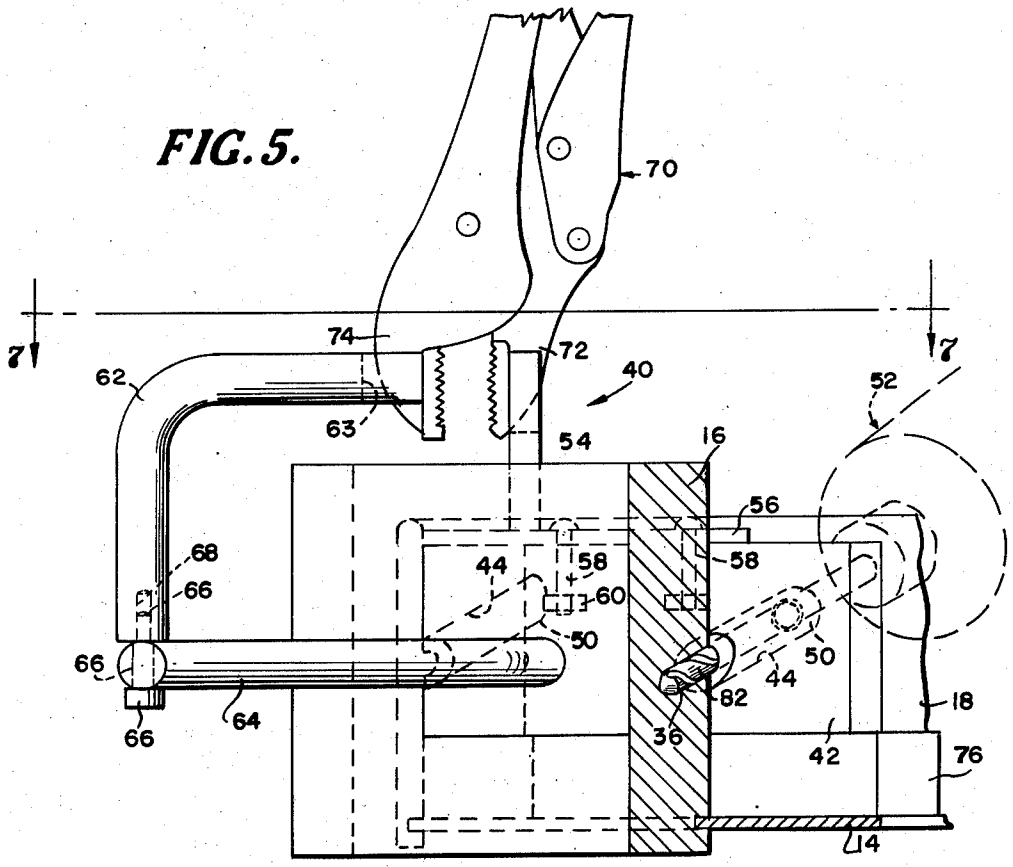
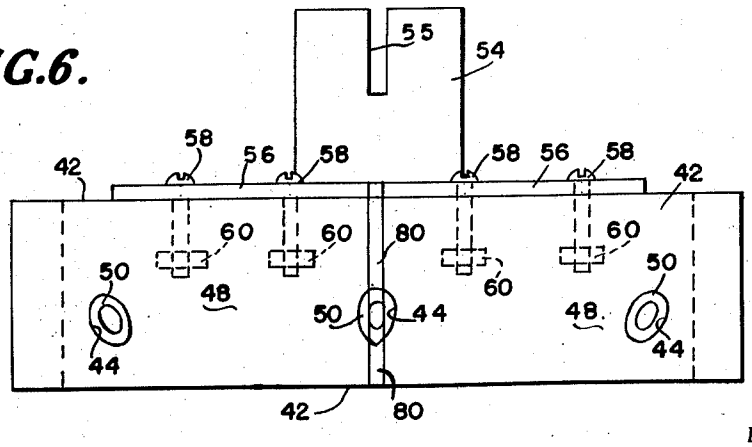


FIG. 6.



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FIG. 7.

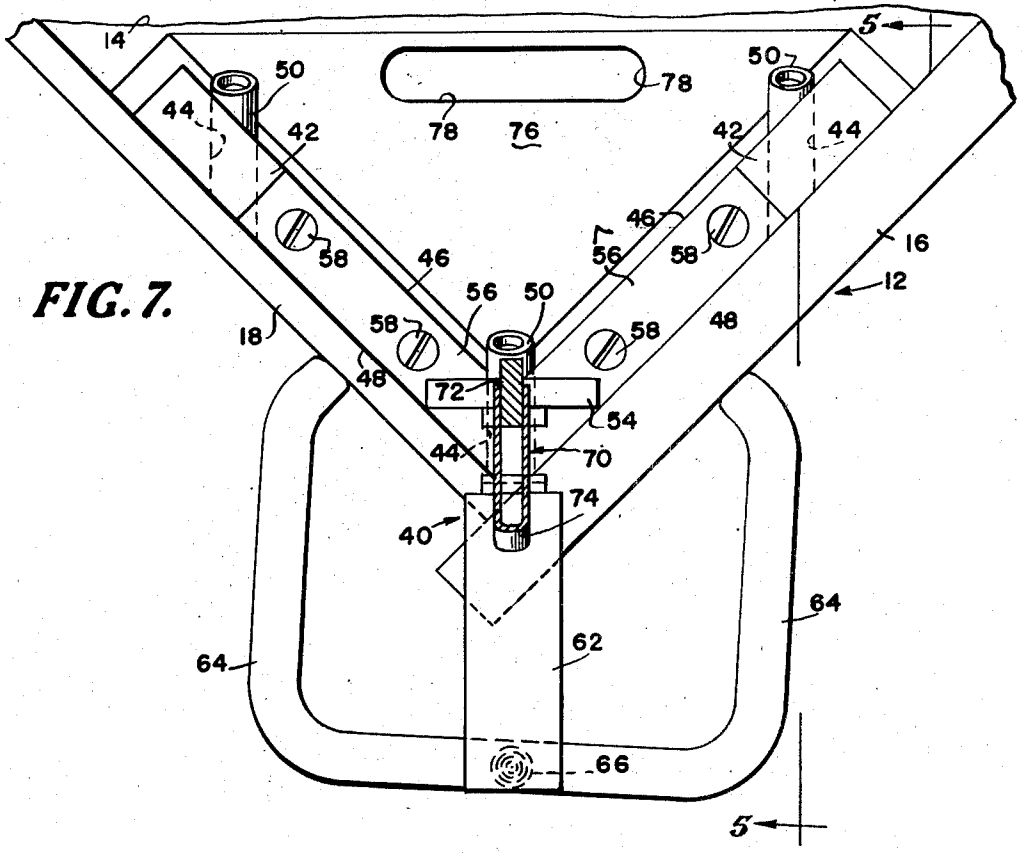
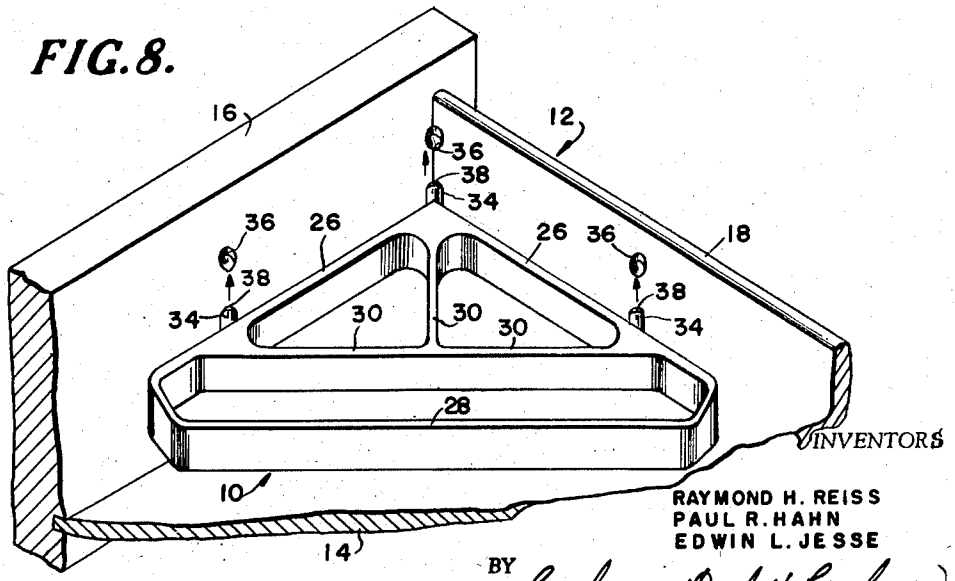


FIG. 8.



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DRAWER TRAY

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Application February 4, 1957, Serial No. 638,026

10 Claims. (Cl. 220—23.83)

The present invention relates to drawers and particularly to trays such as jewel trays for drawers. The invention also relates to a method and apparatus for adapting a drawer to receive a corner tray.

An important object of the invention is to provide a novel tray structure facilitating the attachment thereof to a drawer.

Another object is to provide a tray particularly adapted to be conveniently detachably connected in secure position to a drawer or the like without utilizing external fasteners or supports.

A further object is to provide an inexpensive, durable and attractive corner tray for drawers.

A still further object resides in the provision of a novel and convenient method of installing a tray in a drawer.

It is an additional object to provide an improved jig particularly adapted to be operatively connected to a drawer for desired positioning of a tool, such as a drill, to form holes in the drawer. A related and somewhat more specific object resides in the provision of a novel clamping arrangement for the jig facilitating the mounting and retention of the jig in operative position.

Further objects and advantages of the invention will be in part obvious and in part pointed out hereinafter.

The novel features of the invention may be best made clear from the following description and accompanying drawings in which:

Figure 1 is a fragmentary perspective view of a corner of a drawer showing a tray of the invention attached thereto;

Figure 2 is a fragmentary top plan view of the drawer and tray of Fig. 1 on an enlarged scale and partly in horizontal section taken generally along line 2—2 of Fig. 3;

Figure 3 is a side elevational view taken generally along line 3—3 of Fig. 2;

Figure 4 is a front elevational view of the tray of Fig. 1 on an enlarged scale;

Figure 5 is a fragmentary side elevational view of a corner portion of a drawer showing a jig of the invention attached thereto, with the drawer partly in vertical section taken generally along line 5—5 of Fig. 7;

Figure 6 is a front elevational view of the jig of Fig. 5 with parts thereof removed;

Figure 7 is a top plan view of the drawer and jig, with the latter partly in horizontal section taken generally along line 7—7 of Fig. 5;

Figure 8 is a fragmentary perspective view of a corner of the drawer and showing the tray in a position just prior to attachment thereof to the drawer.

Referring now to the drawings, a tray 10 of the invention is illustrated in Figures 1–3 as being attached to the corner portion of a drawer 12 or the like. The drawer 12 may be a part of any conventional type of cabinet structure, such as a dresser or chest of drawers or the like (not shown), and includes a bottom 14, front 16 and side 18 walls constructed of any suitable material,

such as wood or plastic, and interconnected in any convenient manner, such as by rabbet joints 20, 22.

The tray 10 preferably includes a plurality of compartments 24 (Fig. 1) adapted to hold and receive articles such as jewelry when the tray is attached to the drawer 12. Tray 10 preferably includes vertically extending border side walls 26 perpendicularly joined to form a corner complementary to the corner of drawer 12. Rear border walls 28 may be joined to each other and to side walls 26, as shown, and any desired number of intermediate partitioning walls 30 may be suitably positioned, extending upwardly from the base or bottom wall 32 of the tray, also as shown, cooperating with the border walls 26, 28 to form the compartments 24.

As an important feature of the invention, a plurality of pins 34 extend outwardly from side walls 26 for convenient insertion into and withdrawal from holes 36 formed in the side 18 and front 16 drawer walls. Pins 34 preferably are of equal length and generally cylindrical configuration terminating in somewhat conical ends 38 as best seen in Figure 4, and in the illustrated embodiment they incline downwardly and forwardly, in parallelism, from the upper end of walls 26. Although three such pins 34 are shown in the drawing as being disposed in equally-spaced relation, with one of said pins being located at the corner of walls 26, it will be evident that the number and spacing thereof may be varied so long as proper support for the tray will be afforded.

The angle of downward inclination of each of the pins 34 with respect to a horizontal plane, such as that defined by the upper edges of walls 26, preferably is approximately 30°, and the holes 36 in the drawer walls 16, 18, as best seen in Figures 2 and 3, preferably are disposed at corresponding locations to and at the same inclination as pins 34, in parallelism therewith. Holes 36 are all formed at the same elevation above bottom wall 14, as shown, and desirably are of such diameter that pins 34 will be snugly and tightly retained therein. The tray 10 preferably is formed, as by molding or casting, of a strong and durable integral plastic; however, other suitable materials and processes may be utilized in the construction of the tray.

It will be appreciated that the tray may be conveniently and easily attached to the drawer 12 by fitting or sliding the pins 34 snugly into their respective holes 36 until the tray side walls 26 abut the drawer walls 16, 18, as seen in Figures 1–3. The tray will then be supported above bottom wall 14 as a cantilever in convenient and accessible horizontal position. By virtue of the inclination and engagement of pins 34 and holes 36, the tray 10 will be effectively retained in attached position and normal downwardly and laterally applied forces on the tray will be sufficiently resisted by the pins 34 to prevent inadvertent removal or dislodgment of the tray. It will be understood that the resistance of pins 34 to dislodgment will increase with downwardly applied forces or loads, inasmuch as such loads will operate to force the pins more securely into their respective holes 36. When desired, the tray may be conveniently removed from its attached position by lifting it upwardly and simultaneously therewith pulling it rearwardly away from the adjacent corner of the drawer 12.

It will be apparent that holes 36 may be formed at any desired elevation in the drawer walls 16, 18 and the elevation of pins 34 on side walls 26 may also be varied from that illustrated; however, the illustrated embodiment has been found to be extremely satisfactory from manufacturing, constructional and functional standpoints.

The invention also contemplates a novel jig 40, illustrated in Figures 5–7, for positioning a tool to form the holes 36 in the desired locations in the drawer walls 16,

18. The jig 40 preferably includes an angle-piece 42 (Figure 6) of right angular configuration adapted to be engaged to the interior surfaces of the corner portion of walls 16, 18 and retained in operative position by a releasable clamp arrangement described more fully hereinbelow. Angle-piece 42 is formed with a plurality of holes 44 therein, corresponding to the number and location of holes 36 to be formed in the drawer walls 16, 18, and the holes 44 are accordingly arranged in parallelism with their axes or center lines equally inclined downwardly from the horizontal, in going from rear surface or face 46 of the angle-piece, to front face 48 (Figure 7). This angle of inclination determines the inclination of the holes 36 in the drawer walls 16, 18, as will be apparent from the description to follow, and as previously indicated, the preferred downward inclination is approximately 30° with respect to a horizontal plane.

A tubular bushing 50 is disposed in each hole 44 of the angle-piece, projecting rearwardly from the rear face 46. Bushings 50 are flush with the front face 48 of the angle-piece, as shown, so as not to interfere with complete engagement of the front face with the corner walls of the drawer. These bushings receive and guide the appropriate tool, such as a drill 52 (shown in phantom or dotted lines in Figure 5), for drilling the desired holes in the drawer. The amount of rearward projection of bushings 50 may be predetermined in accordance with the thickness of the angle-piece 42 and also in accordance with the position of a stop collar (not shown) on the drill 82 so that the drilling of each hole 36 will be stopped when the aforesaid collar on the drill engages the rear end of the bushing 50, thereby insuring desired depth of the blind holes 36 and consequently preventing accidental injury to the outer face of the drawer walls 16, 18 during drilling.

The clamping arrangement for the jig 40 constitutes an important feature of the invention, and in the preferred embodiment thereof shown in Figures 5–7, such arrangement includes an upstanding lug 54 on an angle-plate 56 secured to angle-piece 42 as by bolts 58 and nuts 60, and also includes an inverted L-shaped bracket 62 swivelled to a horizontally disposed C-clamp 64. Bracket 62 is swivelled to clamp 64 for rotation about a vertical axis as by swivel pin 66 (Fig. 5). Swivel pin 66 is journalled in a vertical hole in clamp 64, as shown, and is fixedly connected at its upper end to the bracket 62 as by threaded connection in a hole 68 therein.

The bracket 62 and lug 54 are connected together by a releasable clamping device, preferably a pair of conventional vise grip pliers 70 having movable jaws 72, 74. The jaws 72, 74 preferably are respectively fitted within a notch or slot in the upper end of lug 54 and bracket 62 and welded or otherwise secured thereto. Numeral 55 represents the notch in lug 54 (Figure 6) and numeral 63 represents the notch in bracket 62 (Figure 5).

The angle-piece 42 may be made of a strong plastic composition molded or cast around the bushings 50, bolts 58 and nuts 60 in a suitable die (not shown), although other materials and procedures for making the angle-piece may be employed. Hightly desirable plastic compositions are any of the resins specifically disclosed in Patent 2,500,600, and preferably are a bisphenol A-epichlorhydrin resin. Inasmuch as such plastics have desirable properties of strength, attractiveness and moldability, they may also be utilized for molding or casting the tray 10.

In attaching the jig 40 in operative position, a triangular jig plate 76 (Figures 5 and 7) may be placed against bottom wall 14 in the corner of the drawer for initially supporting the angle-piece 42 at desired elevation against the drawer walls 16, 18. A finger grip slot 78 may be formed in plate 76. At this time the pliers 70 are in released condition and the clamp 64 is engaged against the exterior surfaces of the drawer walls 16, 18. To prevent marring or scratching of such walls by the free ends of clamp 64, said ends may be covered by pads or caps (not shown) of rubber or other soft material.

With the jig set in this position, the pliers 70 are then tightened to force the clamp 64 and angle-piece 42 firmly against the drawer walls 16, 18, and the pliers are then locked in this tightened position in the conventional manner, so that the jig is now in operative position. The vertical front corner of angle-piece 42 and plate 56 may be flattened or grooved as at 80 (Fig. 6) to facilitate full engagement of face 48 with the drawer walls.

It will be noted that the swivelling of clamp 64 to bracket 62 permits convenient adaptation of the jig 40 to drawers wherein the thicknesses of walls 16, 18 are different, as indicated in Figure 7. That is to say, the clamp 64 will swivel to engage the walls 16, 18 and be securely retained thereagainst, irrespective of the thicknesses thereof, when the pliers 70 are tightened to prohibit any movements of angle-piece 42 during the subsequent drilling operations.

After the jig is secured in operative position, the bit 82 of drill 52 is sequentially inserted through the various bushings 50 in angle-piece 42 to drill the holes 36 in the drawer. Inasmuch as the depth to which holes 36 are drilled can be accurately predetermined by reason of the equal rearward projection of bushings 50 stopping the inward movement of the drill, the depth of the holes 36 can be set to be substantially equal to the axial length of pins 34 on the tray 10. It will be appreciated that while this is advantageous, it is not essential for proper support of the tray 10 that the pins 34 be equal in length to the depth of holes 36. In some instances, the depth of the holes may be greater than the length of the pins.

The pliers 70 are released and the jig 40 and plate 76 removed when the holes 36 have been drilled. Thereafter, the pins 34 of tray 10 are inserted in the holes 36, as indicated in Figure 8, and forced thereinto until tray side walls 26 fully abut the drawer walls 16, 18. As is evident, the jig 40 may be utilized to attach a tray 10 in either corner of the drawer.

If desired, releasable clamping devices other than vise grip pliers 70 may be substituted therefor, and the manner of attachment of the clamping device utilized may be altered from that shown, it being preferred that such device be swivelled to the clamp 64 and fixedly connected to the angle-piece 42, although the clamping device may also be swivelled to the angle-piece. In any case, it will be appreciated that the jig is readily and easily attached to and removed from the corner portion of a drawer for predetermined positioning of a drill to form the holes 36, and does not require any particular skill on the part of operator. Furthermore, the tray 10 will be in a neat, attractive and sturdy position when attached to the drawer.

It will thus be seen that the objects of this invention have been fully and effectively accomplished. It will be realized, however, that the foregoing specific embodiment has been shown and described only for the purpose of illustrating the principles of the invention and is subject to extensive change without departure from such principles. Therefore, this invention includes all modifications encompassed within the spirit and scope of the appended claims.

We claim:

1. In a device of the character described, a drawer having vertical side walls joined to form a corner, at least one of said walls being formed with a plurality of holes therein, said holes all being substantially equally inclined with respect to a horizontal plane and being disposed in parallelism, an article holding tray including a base and a plurality of pins extending outwardly therefrom, said pins being disposed in said holes and frictionally retained therein.

2. The structure defined in claim 1 wherein said tray

includes side walls parallel to said drawer side walls and also joined to form a corner, said tray side walls engaging said drawer side walls, and said pins extending outwardly from said tray side walls and being inclined at substantially the same angle with respect to a horizontal plane as said holes.

3. The structure defined in claim 2 wherein said pins are all disposed in parallelism and further wherein said pins incline downwardly from their associated tray side walls at approximately a 30° angle with respect to a horizontal plane.

4. A tray for drawers or the like, said tray including a base, means on said base defining a corner region complementary to an interior corner of a drawer, a plurality of pins extending outwardly from said means and being downwardly inclined with respect to a plane parallel to said base for insertion into holes in the corner walls of a drawer, and said pins being normally fixedly joined to said means and disposed in parallelism.

5. The structure defined in claim 4 wherein said pins are all inclined downwardly from said means at approximately a 30° angle with respect to said plane.

6. A tray for drawers or the like, said tray including a horizontal base, vertical border walls extending upwardly from said base, at least two of said border walls being straight and joined to form a corner, and a plurality of pins extending outwardly from said two border walls in downwardly inclined disposition relative to said base, and said pins being normally fixedly joined to said walls and disposed in parallelism.

7. The structure defined in claim 6 wherein said pins are all disposed at the same elevation on said border walls and are all inclined downwardly therefrom at substantially the same angle with respect to a horizontal plane.

8. The structure defined in claim 7 wherein said pins incline downwardly from their respective border walls at approximately a 30° angle with respect to a horizontal plane.

9. A tray for drawers or the like, said tray being of integral plastic construction and including a plurality of compartments, each of said compartments having a horizontal base wall and upwardly extending side walls, all of said base walls being substantially coplanar, at least two of said side walls constituting border walls for said tray, said border walls being perpendicularly joined to each other to form a corner, an outwardly projecting cylindrical pin joined to each of said border walls and spaced from said corner, and an outwardly projecting cylindrical pin on said corner, said pins all being disposed at substantially the same elevation and being downwardly inclined at substantially the same angle with respect to a horizontal plane, all of said pins being normally fixedly joined to their respective walls and disposed in parallelism.

10. The structure defined in claim 9 wherein said pins are all of substantially the same transverse sectional configuration, and further wherein said pins are all inclined downwardly from the upper ends of said border walls at an angle of approximately 30° with respect to a horizontal plane.

References Cited in the file of this patent

UNITED STATES PATENTS

1,273,588	Donnelly	July 23, 1918
1,599,654	Cranston	Sept. 14, 1926
1,921,256	Hiester	Aug. 8, 1933
2,096,024	Anderson	Oct. 19, 1937
2,289,451	Porcelli	July 14, 1942
2,389,349	Eastman	Nov. 20, 1945
2,597,152	Kornmayer	May 20, 1952
2,703,185	Cook	Mar. 1, 1955
2,768,434	Taylor	Oct. 30, 1956