United States Patent [19]

Ullman, Jr.

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[54] **MULTI-SIZE DRAWER CONSTRUCTION**

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[73] Assignee: **Kessler Products, Co., Inc.**, Youngstown, Ohio

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[52] **U.S. Cl.**.....**312/330**, 312/195

[51] **Int. Cl.**.....**A47b 88/00**

[58] **Field of Search**.....312/330, 273, 195; 220/4

[56] **References Cited**

UNITED STATES PATENTS

3,273,952	9/1966	Himelreich et al.	220/4
3,312,516	4/1967	Krahn	312/330
3,315,834	4/1967	Nemlich	312/330 S M
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[57] **ABSTRACT**

For use in a drawer, an extruded semi-flexible plastic strip of the same width as the desired drawer height is provided with a smooth side and ridged side having a number of longitudinal flanges which are adapted to be cut transversely with a hand saw, down to the surface of the strip, so that the strip can be bent at the saw cuts to form the vertical sides of a drawer as a single piece of any desired size; the bottom one of said flanges is formed to embrace the edges of a bottom piece for the drawer, the other flanges are adapted to cooperate with a variety of different drawer slides and terminate in a plane so that a front piece can be attached if desired.

6 Claims, 6 Drawing Figures

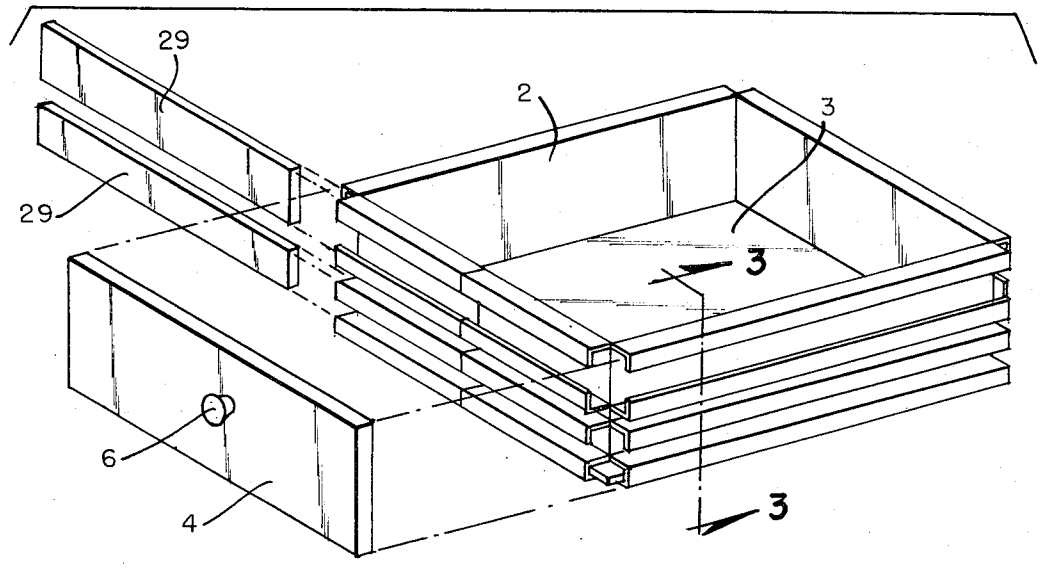


FIG. 1.

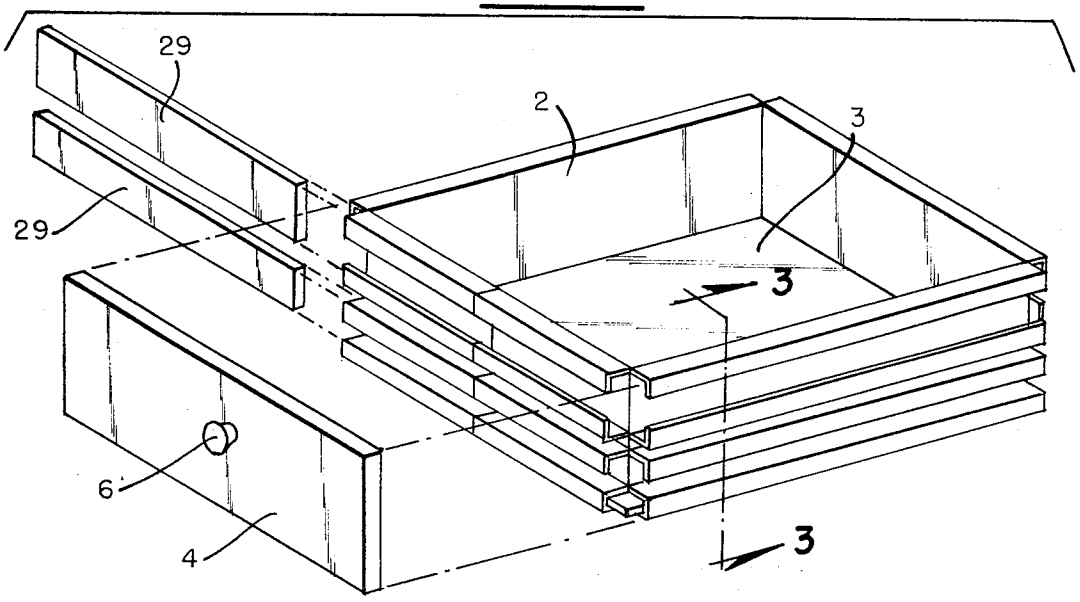
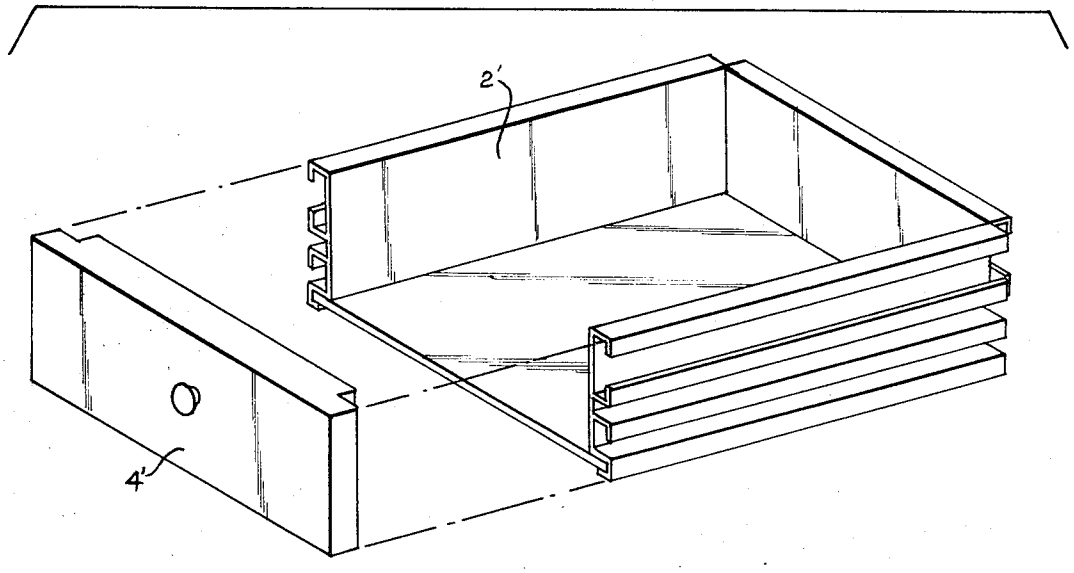


FIG. 2.



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FIG. 3.

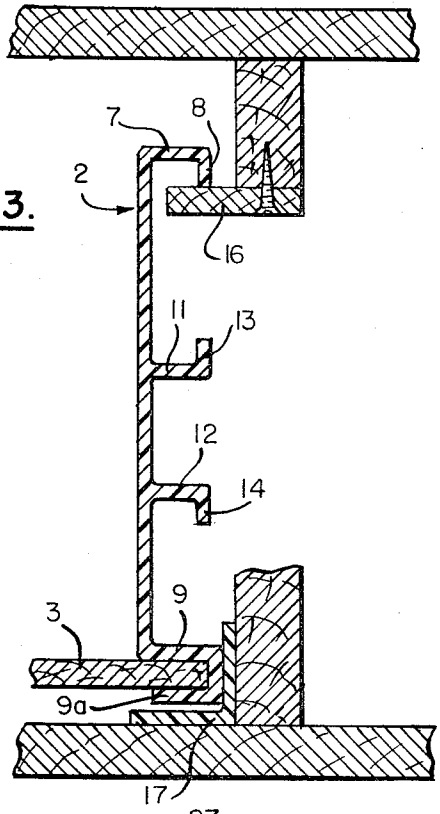


FIG. 4.

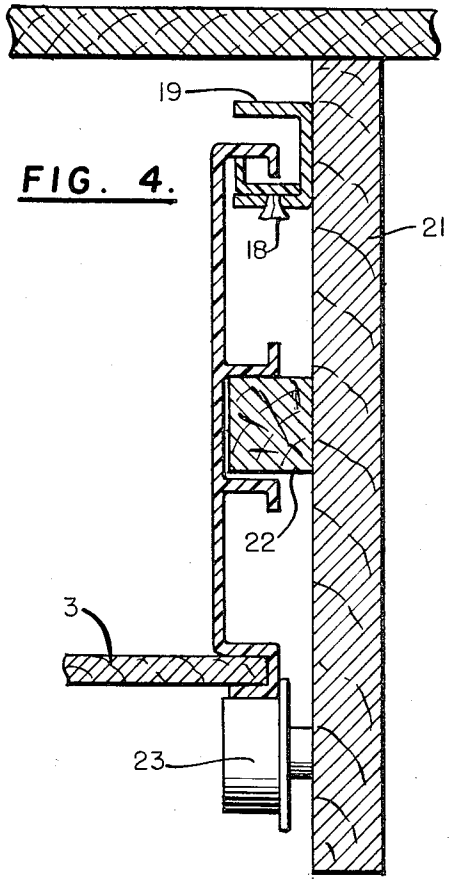


FIG. 5.

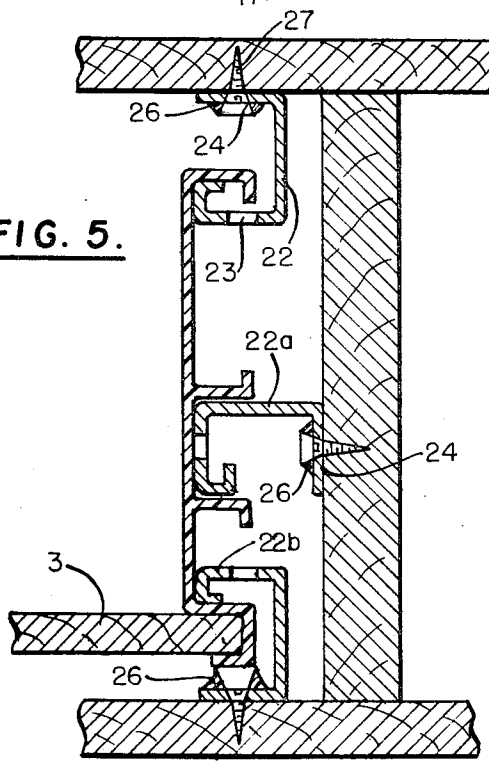
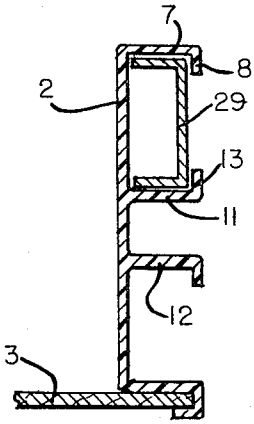


FIG. 6.



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MULTI-SIZE DRAWER CONSTRUCTION

In making an ordinary shallow sliding drawer such as a desk drawer or a furniture or cabinet drawer, to fit in a desired location, it has been necessary to cut five pieces of the drawer material, usually wood, and assemble the four sides and bottom piece by glue, nail or screw joints. Pre-formed plastic side pieces for making a drawer are also known, such as shown in U.S. Pat. No. 3,312,516 to Krahn, which provides a long side strip or board of thermoplastic material having a recessed portion near the bottom edge, and intended to be heat-softened by the user at the corner locations of the drawer, so that the bottom sheet can be held in the recessed portion when the drawer is assembled; an outwardly flanged portion is also provided near the top edge of the strip for rigidity. However, this is intended to be used by a manufacturer who has special equipment for properly softening and bending the plastic strip, also, the bending process provides rounded corners, so that the bottom piece must have similarly rounded corners.

The present invention provides an improved plastic strip for drawers which can be used by the home craftsman and requires only a saw to cut the flanges at the corners, and needs no particular skill or equipment; it is also provided with a number of specially-shaped flanges both at the edges of the strip and along the center of the strip, in such fashion that anyone of a number of alternative mounting possibilities can be employed. Still further, the flanges all terminate in the same plane so that a front piece may be rigidly attached to match the finished appearance of a piece of furniture, or if desired, the center flange portions can serve as a drawer pull where no front piece is used, or can be used to hold an identification strip where desired.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawings, in which:

FIG. 1 is a perspective view, partly disassembled, of a drawer made in one manner according to the invention;

FIG. 2 is a similar perspective view of a drawer made up in another manner;

FIGS. 3–5 are sectional views transverse to the plastic strip showing a multiplicity of different ways of mounting a drawer made in accordance with the invention;

FIG. 6 is a similar sectional view showing the use of a stiffening and connecting member.

Referring to FIG. 1, the drawer is made up of a single strip of extruded plastic 2 forming the sides, front and back of the drawer, the bottom piece 3, which may be of thin plywood, hardboard, etc., preferably in the order of ¼ inch thick, and an optional front piece 4 having a drawer pull 6 which may be attached to the front side of the drawer in any desired manner, as by a screw extending from the drawer pull through a hole in the front piece, or more than one screw if desired. The front piece may be of wood finished to match the piece of furniture in which the drawer is to be used, or may be another strip of plastic suitably finished for appearance.

The strip 2 has the cross-section shown in FIGS. 3-5, and includes a top flange 7, having a reentrant turn 8; a bottom recess flange 9 providing a U-shaped channel at the bottom of the strip 2 and dimensioned to receive the edge of bottom piece 3, which may be glued in place or held in place with small brads (not shown), or may simply be held by the configuration of the channel or as a friction fit, for which purpose the free leg 9*a* is preferably bent slightly toward the other leg of the U-shaped channel so as to provide a clamping action on the bottom piece 3 to retain it in position. Two central flanges 11 and 12 are also provided as shown, the upper flange 11 having an upturned edge 13 and the lower flange 12 having a downturned flange 14. At least flanges 7 and 9, and preferably all of the flanges, terminate in the same plane so that the front piece 4 rests against all four channels, thus ensuring a firm and rigid structure. However, if desired, flanges 11 and 12 may be slightly shorter than the other two so that such a front piece would be supported only by the top and bottom flanges.

FIG. 2 shows another manner of assembling a drawer from strip 2', which is the same as strip 2 of FIG. 1 except that it is cut to form only the two sides and back; the front is formed by a rabbeted front piece 4' which is fastened to the drawer in any suitable way, as by gluing or nailing.

The assembled drawer may be mounted in a wide variety of ways, as shown in FIGS. 3, 4 and 5. FIG. 3 shows the drawer mounted by means of a top mount or slide 16 which may be either of wood or of a suitable plastic such as Nylon. Alternatively, as shown at the bottom part of FIG. 3, a bottom slide may be employed, in which case a Nylon strip 17 is preferably used to reduce friction and wear.

FIG. 4 shows the use of a Nylon slide 18 which may be mounted by means of bracket 19 on a side piece 21. Other alternatives include the use of a hardboard center slide 22, or a Nylon wheel or roller 23. All of these mounting means are conventional and well known per se, the point being that the present construction permits practically any known type of drawer slide mounting to be employed. At the same time, the flanges which make this possible also add structural strength to the drawer, and permit the attachment of a front piece as described above.

FIG. 5 shows a special slide fitting, preferably made of extruded metal and provided at intervals with apertures 23 and 24, which may be used to provide a top slide fitting as shown at 22; a center slide fitting as shown at 22*a* or a bottom slide fitting as shown at 22*b*. Nylon grommets 26 are preferably used with screws 27 to attach the slide pieces 22 to wooden furniture.

The plastic strips 2 are preferably furnished to the user in suitable lengths such as eight feet, together with instructions that the flanges be cut with a hand saw or similar tool at the points corresponding to the corners of the desired drawer, after which the pieces bent as shown in FIGS. 1 and 2, the semi-rigid plastic being of such nature that a fairly sharp bend can be formed once the flanges have been cut, without significantly affecting the strength of the resulting wall structure. The corners thus formed are entirely tight and seamless, and can be easily cleaned. When a suitably strong bottom panel is used, for example plywood, the resulting drawer structure once assembled is very strong and rigid. The entire operation can be readily performed by hand, and requires no special tools.

By cutting the flanges as indicated, each side has a straight flange portion all the way from end to end, so that when a roller as shown at **23** in FIG. **4** or a hooked guide as at **18**, is used, there is no interference when inserting or extracting the drawer, which would not be possible if the flange were not cut at the corners but instead were curved around the corner as a continuous flange.

As shown in FIGS. **1** and **6**, when the strip **2** is used as the front of the drawer, a stiffening piece **29** may be inserted between flanges **7** and **11** and is firmly held by their reentrant portions **8** and **13**, preferably as a friction fit, although screws or other fastening means may be used if desired. The stiffening piece **29** may also bear suitable marking means on its exposed face to identify the contents of the drawer, in addition to its primary function of holding the two loose ends of strip **2** together at the top. At the bottom, the channel portion **9** and enclosed end of bottom piece **3** provide the necessary rigidity and may be fastened in any desired manner or may also be held by friction fit. The other center flange **12** in this case serves as the drawer pull.

It will be understood that the invention is not limited to the exact embodiment shown and that various modifications can be made in construction and arrangement within the scope of the invention.

I claim:

1.

a. For use in making a sliding drawer

b. an extruded plastic strip having a width equal to the depth of a desired drawer, said strip being smooth on one side,

c. a top flange piece integral with said strip and extending outwardly from the top edge of said strip and turned downwardly at its free edge to form a first reentrant flange strip,

d. a channel flange piece extending outwardly from the bottom edge of said strip on the same side as said top flange piece, then bent down and in to form a U-shaped channel at the bottom edge of the strip for retaining an edge of a drawer bottom piece,

e. two spaced flanges near the central portion of said strip extending outwardly on the same side of the strip as said top flange and each having a turned edge portion for additional rigidity,

f. said turned edge portion of the upper one of said spaced flanges being turned upwardly and a turned edge portion of the lower one of said spaced flanges being turned downardly.

2. The invention according to claim **1**,

g. said strip being bent to form at least the two sides and back wall of a drawer, the flanges at the rear corners of said drawer being cut down to the surface of the strip at the two rear corners of said drawer, there being a drawer bottom piece embraced by said lower U-shaped flange, and a front piece having a drawer pull providing the fourth side of said drawer.

3. The invention according to claim **2**, and drawer slide mounting means for mounting said drawer, any of said flange portions being adapted to cooperate with said slide mounting means to support the drawer slidably.

4. The invention according to claim **2**, said front piece being a continuation of said strip, the free ends of said strip abutting to form said front piece, and a separate reinforcing strip closely fitting between said top flange and the top one of said two center flanges, and retained by the inturned free edge portions of said flanges, said reinforcing strip serving to hold together said free ends in alignment.

5. a. A sliding drawer having side walls, a rear wall, and a front wall, and a flat bottom piece of rectangular shape with sharp corners,

b. at least said side walls and rear wall being formed of a single strip of extruded plastic material bent at said corners,

c. said strip being smooth and continuous on the side corresponding to the inside of the drawer,

d. said strip having an integral top flange piece extending outwardly from the top edge of the strip,

e. and a channel flange piece extending outwardly from the bottom edge of the strip on the same side as said top flange piece, then bent down and in to form a U-shaped channel at the bottom edge of the strip for retaining an edge of said bottom piece, said top and bottom flange pieces being cut at the corners to permit bending the strip at a right angle at said corners to conform closely, smoothly and continuously to the sharp corner configuration of the bottom piece,

f. and two spaced flanges of the same material as the strip extending integrally outward from the strip near the central portion of the strip, and each having a turned edge portion for additional rigidity.

6. The invention according to claim **5**, and drawer slide mounting means for mounting said drawer on any of the flange portions of said side walls.

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