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MOLDED PLASTIC DRAWER AND SUPPORTING RAIL.

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The present invention relates to the construction and manufacture of furniture and more particularly to improvements in case goods.

Case goods, which broadly cover wooden structures having sliding drawers, have always been constructed of a relatively large number of parts which are individually finished and then assembled to fashion a bureau, desk, cabinet or the like. With so many individual finishing and assembling operations it is almost inevitable that inaccuracies will result. These inaccuracies in many instances are of little consequence as where they are only discernable to an expert eye. On the other hand inaccuracies in porch rails, drawer guides and drawers are not only obvious but, more often than not, prevent proper functioning and use of the drawers.

Furniture manufacturers must, therefore, correct or compensate for such inaccuracies by employing a highly paid specialist to "fit" each individual drawer. In spite of the skill of such specialists, even properly fitted drawers must be considered unique to themselves and there is no assurance that the same size drawers of a given piece of furniture will be freely interchangeable.

Thus the principal object of this invention is to minimize or eliminate the need for individually fitting each drawer for proper sliding movement in a case goods construction, thus reducing costs and providing the advantage of all drawers of a given size being freely interchangeable.

Another object of the invention is to simplify and improve the manner in which porch rails, drawer guides and drawers are formed in order to overcome the expense involved in multi-piece constructions as well as to give the finished case greater strength and also freedom from dust resulting from use of the drawers.

A further object of the invention is to attain all of the above advantages without sacrificing the beauty and durability of the exterior finishes and yet provide for extremely high quality finishes and absolutely watertight and leakproof drawers for the exterior portions of case goods constructions.

The various features of novelty will be found in a unitary plastic porch rail which may include integral drawer guiding means and also in a novel plastic drawer which includes means cooperative with the said drawer guiding means to maintain alignment of the drawer.

The above and other related objects and features of the invention will be more readily apparent from a reading of the following detailed description of the disclosure found in the accompanying drawings and the particular novelty thereof pointed out in the appended claims.

In the drawings:

FIG. 1 is an exploded perspective view exemplifying the case goods construction of the present invention;

FIG. 2 is a plan view of the porch rail seen in FIG. 1;

FIG. 3 is a section taken on the line 1—1 in FIG. 2;

FIG. 4 is a section taken on the line 2—2 in FIG. 2;

FIG. 5 is a partial sectional view taken on line 3—3 in FIG. 1 on an enlarged scale showing, in corresponding section, the drawer of FIG. 1 sliding on the porch rail;

FIG. 6 is a plan view of the drawer seen in FIG. 1;

FIG. 7 is an end elevation of the same drawer with a wooden piece secured thereon;

FIG. 8 is a fragmentary view showing an alternate manner of securing such a wood front piece;

FIG. 9 is a partial sectional view of an alternate form of drawer construction; and

FIG. 10 is a partial sectional view of another alternate drawer front construction.

The exploded showing in FIG. 1 best illustrates the overall aspects of the novel case goods construction of this invention. A wooden case 20, as might be used for a bureau or the like, includes opposed side walls 22 between which a unitary plastic porch rail 24 extends and is secured thereto by screws 26. The porch rail preferably includes an integral drawer guide 28 which maintains alignment of a plastic drawer 39 as it is slid on the porch rail 24. A wooden front piece 31 having pulls 33 may be secured to the drawer 30 so that when a complete set of drawers is installed in the case 20 all exterior surfaces thereof will show the attractiveness of finely finished wood.

The porch rail 24 is shown in greater detail in FIGS. 2, 3 and 4 wherein it will be seen that opposed mounting flanges 32 are provided with holes 34 for receiving the screws 26. The flanges 32 are interconnected at their front and rear ends by generally U-shaped rails 36, 38 which are intermediate the top and bottom edges of the flanges. This arrangement not only provides a solid unitary porch rail construction but also increases the effectiveness of the holding power of the attaching screws. Inwardly the flanges 32 are lands or surfaces 40 which support the drawer in the manner described below. Variational ribs and flanges may be provided in the manner illustrated to give the porch rail greater strength and rigidity.

Preferably the porch rail is compression molded of a thermostetting plastic material such as a polyester resin and reinforced by an impregnation of glass fibers as chopped spun roving. A porch rail so formed provides a high strength member which will lend rigidity to case good constructions in a manner hitherto unknown. Further advantages are found in the extreme accuracy which can be obtained from a compression mold. This opens the door to new procedures in making case goods, since for example, the side walls 22 may be accurately spaced apart by the flanges 32. Of greater importance, however, is the accuracy of the surfaces 40 and drawer guides 28 which will always be located in predetermined relation to each other independently of the wood portions of any wooden case goods in which the porch rail is incorporated.

The plastic drawer 39 (FIGS. 6, 7 and 8) includes a bottom 42, end walls 44, a back wall 46 and a front wall 48. The walls join with each other and with the bottom through curved sections which greatly facilitate the ease with which the drawer can be cleaned. Further, this integrated drawer construction eliminates all cracks and crevices into which articles might slip or fall through. At opposite ends of the drawer bottom 42 are integral runners 59. Preferably these are double runners in order that a greater surface area may be provided without increasing the size of the plastic sections. Intermediate the side walls 44 a guideway 52 is formed on the bottom 42. In order that the drawer may be stiffened the end walls 44 and back wall 46 are provided with an outwardly and downwardly extending flange 54 and also the various ribs illustrated add further rigidity. The front wall 48 is provided with an outwardly extending flange 55 which in addition to giving strength serves as locating means for the wooden front piece 31 (FIGS. 1 and 8) which is notched in an appropriate fashion at 60. The wooden front piece is thus glued or otherwise secured to the front wall 48. An adhesive bond is thereby obtained for attaching the front piece 31 since it minimizes any possible stress concentrations in the plastic material of the drawer.

It will be noted that the top of the front piece 59 and
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3. A plastic drawer having as integrally molded portions, a flat bottom wall, a rear projecting from said bottom wall adjacent each end thereof, said runners being parallel and extending from the front to the rear of the bottom wall and having flat bottom faces, a centrally disposed guideway projecting from said bottom wall a distance less than that of the runners, said guideway comprising a pair of ribs parallel to said runners, the outer surface of the front wall and each other by curved sections, the rear and end walls being outwardly flared from the bottom wall and provided at their upper edges with an outwardly extending peripheral flange, the outer surface of the front wall of said drawer lying in a plane substantially normal to the bottom wall.

4. A two piece combination for case goods, comprising a unitary integrally molded plastic parting rail having flanges at each end thereof, the outer faces of said flanges lying in parallel vertical planes, said flanges being apertured to receive fasteners for securing the end panels of case goods thereto, front and rear rails interconnecting said flanges, said parting rail having a horizontal drawer supporting surface spaced inwardly from each of said flanges and extending between said front and rear rails, and a central U-shaped guide parallel to said flanges and extending between said front and rear rails.

5. A plastic drawer comprising as integrally molded portions, a flat bottom wall, a runner projecting from said bottom wall adjacent each end thereof, said runners being parallel and extending from the front to the rear of the bottom wall and having flat bottom faces slidingly engaging the supporting surfaces of the parting rail, a centrally disposed guideway projecting from said bottom wall a distance less than that of the runners, said guideway comprising a pair of ribs parallel to said runners and spaced apart a distance slightly greater than the width of said parting rail guide and slidingly received thereby, end, rear and front walls connected to said bottom wall and to each other by curved sections, the rear and end walls being outwardly flared from the bottom wall and curved outwardly and then downwardly to form a peripheral flange at the top of these walls, the width of the drawer as defined by the flange portions on the end walls being less than that of the space between the outer faces of said bracket flanges, the outer surface of the front wall of said drawer lying in a plane substantially normal to the bottom wall.
and then downwardly to form a peripheral flange at the top of these walls, the outer surface of the front wall of said drawer lying in a plane substantially normal to the bottom wall.

6. A unitary integrally molded plastic parting rail comprising a vertical flange at each end of said parting rail, the outer faces of said flanges lying in parallel vertical planes, said flanges being apertured to receive fasteners for securing the end panels of case goods thereto, front and rear rails of inverted U-shaped interconnecting said flanges, an inverted U-shaped portion spaced inwardly from each of said flanges and providing a drawer supporting surface extending between the front and rear walls and on the same level therewith, a central U-shaped guide parallel to said flanges and extending between the front and rear walls with the leg portions of the guide projecting above said front and rear rails.

References Cited in the file of this patent

UNITED STATES PATENTS

- Jenkins 2,690 June 22, 1842
- Clement 509,198 Nov. 21, 1893
- Lynn 599,107 Feb. 15, 1898
- Snyder 1,143,085 June 15, 1915
- Kiesecker 1,933,613 Apr. 3, 1934
- Johnson 2,488,916 Nov. 22, 1949
- Merrett 2,678,866 May 18, 1954
- Chambers et al. 2,688,778 Sept. 21, 1954
- Brooks 2,811,404 Oct. 29, 1957

FOREIGN PATENTS

- Great Britain 352,432 Jan. 1, 1930