Dec. 3, 1963 L. H. GUSTAFSON ETAL 3,112,969

MOLDED PLASTIC DRAWER AND SUPPORTING RAIL

Filed March 22, 1957 3 Sheets-Sheet 1

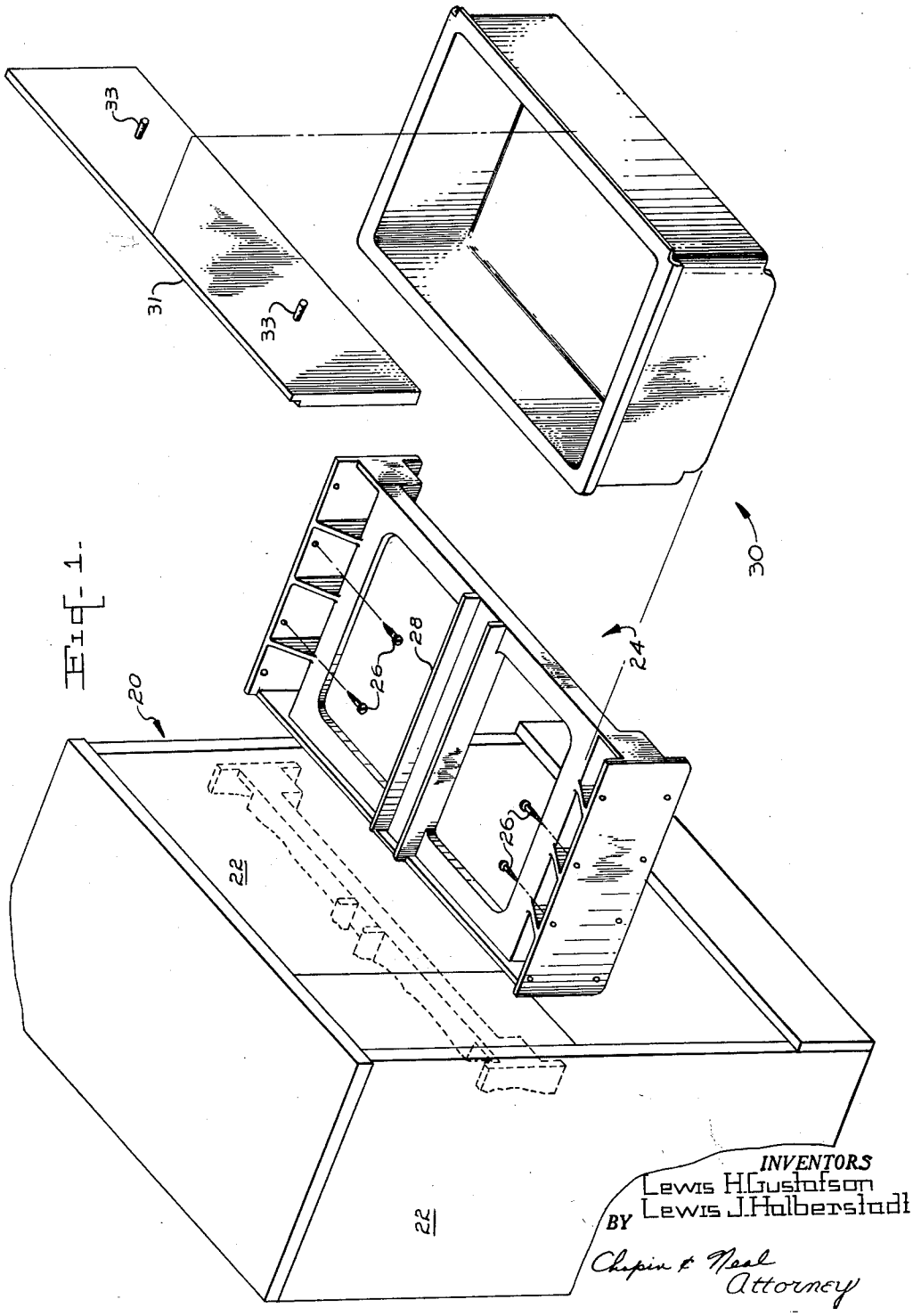


Fig. 1.

INVENTORS
Lewis H. Gustafson
Lewis J. Halberstadt
BY
Chapin & Neal
Attorney

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Fig. 2.

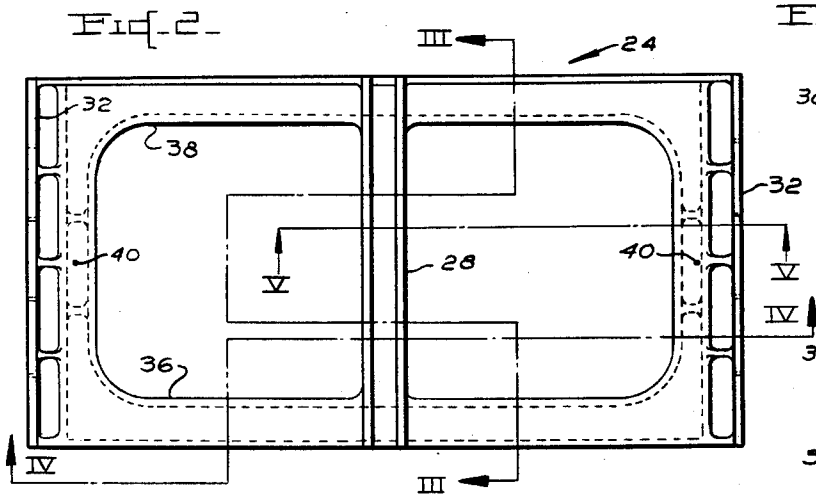


Fig. 3.

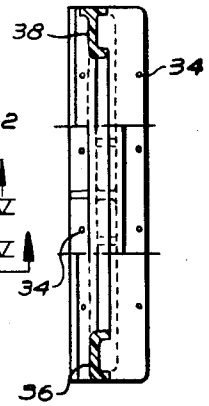


Fig. 4.

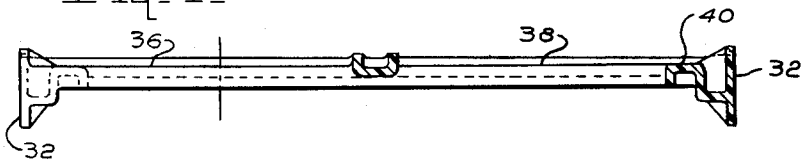
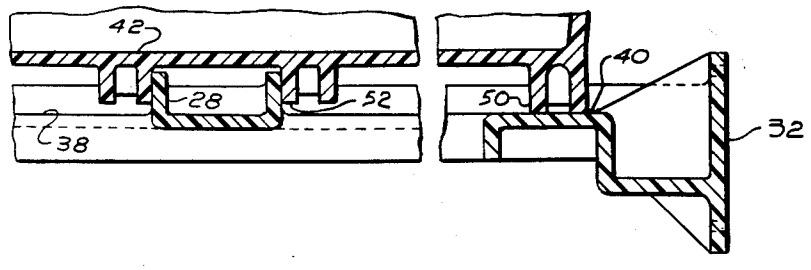


Fig. 5.



INVENTORS
Lewis H. Gustafson
Lewis J. Halberstadt

BY

Chapin & Neal ATTORNEY

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Filed March 22, 1957 3 Sheets-Sheet 3

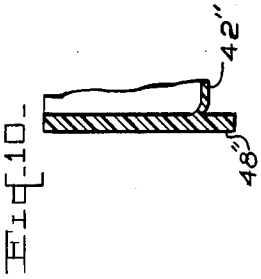


Fig. 10.

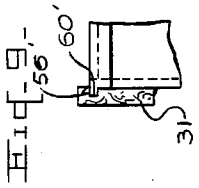


Fig. 9.

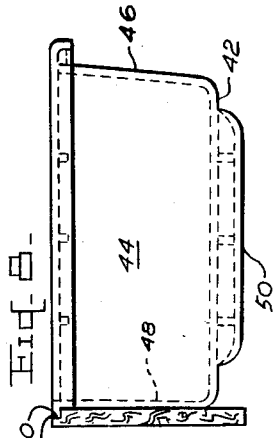


Fig. 8.

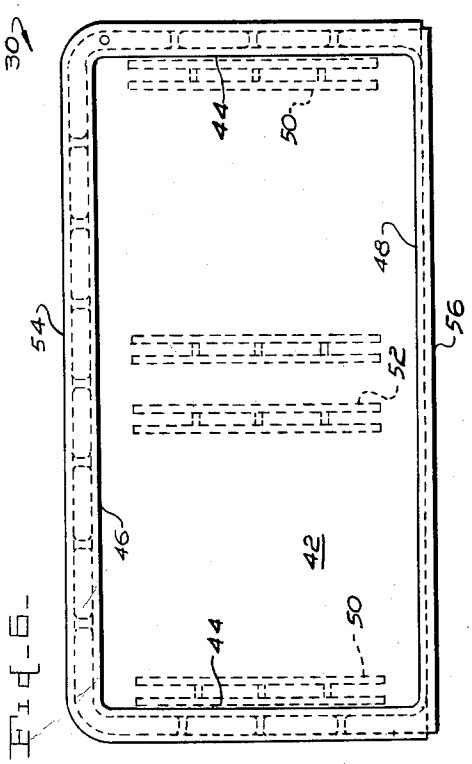


Fig. 6.

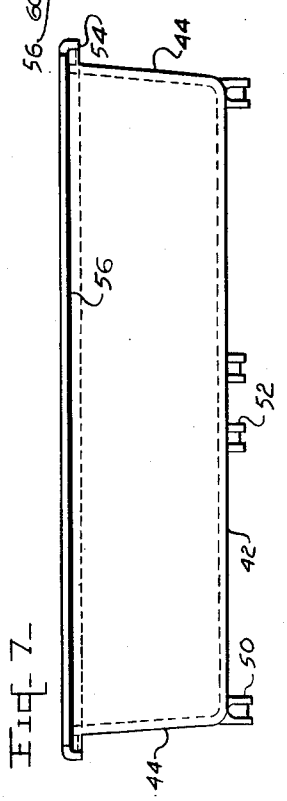


Fig. 7.

INVENTORS
Lewis H. Gustafson
Lewis J. Halberstadt

BY Chapin & Neal ATTORNEY

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MOLDED PLASTIC DRAWER AND SUPPORTING RAIL

Lewis H. Gustafson, Northampton, and Lewis J. Halberstadt, Williamsburg, Mass., assignors, by mesne assignments, to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 22, 1957, Ser. No. 647,830
6 Claims. (Cl. 312—330)

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 discernible to an expert eye. On the other hand inaccuracies in parting 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 parting 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 sacrifice of the beauty inherent in the use of attractive and finely finished woods for the exterior portions of case goods constructions.

The various features of novelty will be found in a unitary plastic parting 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 parting rail seen in FIG. 1;

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

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

FIG. 5 is a partial sectional view taken on line V—V in FIG. 1 on an enlarged scale showing, in corresponding section, the drawer of FIG. 1 sliding on the parting 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 front piece secured thereto;

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 parting rail 24 extends and is secured thereto by screws 26. The parting rail preferably includes an integral drawer guide 28 which maintains alignment of a plastic drawer 30 as it is slid on the parting 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 parting 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 parting rail construction but also increases the effectiveness of the holding power of the attaching screws. Inwardly of the flanges 32 are lands or surfaces 40 which support the drawer in the manner described below. Various ribs and flanges may be provided in the manner illustrated to give the parting rail greater strength and rigidity.

Preferably the parting rail is compression molded of a thermosetting plastic material such as a polyester resin and reenforced by an admixture of glass fibers such as chopped spun roving. A parting 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 parting rail is incorporated.

The plastic drawer 30 (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 integral 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 50. Preferably these are double runners in order that a greater surface area may be provided without increasing the size of the plastic section. 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 56 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 then glued or otherwise secured to the front wall 48. An adhesive bond is to be preferred 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 58 and

the top of the locating flange lie in the same plane. While this is the most economical and easiest method of locating the front piece, FIG. 9 illustrates another method which is also effective and which may provide greater versatility for design purposes. It will be seen in FIG. 9 that a notch 60' spaced from the top of front piece 31' receives the locating flange 56'.

The parting rail or rails 24 when mounted in a case 20 are set back from the front edges of the side walls 22 (FIG. 1) so that the front opening of the case is entirely filled by drawer front pieces. Thus, all plastic portions may be concealed where it is desired that a given piece of furniture best show off the beauty and texture of finely finished wood.

On the other hand plastics also have asthetic properties which are becoming more appreciated. Thus it may be desired that the front wall of the plastic drawer be exposed. Such a construction is seen in FIG. 10 wherein the front wall 48'' has been increased in thickness to withstand the concentrated stresses of drawer pulls which will be attached thereto. The front 48'' is flush and also extends below the drawer bottom 42'' in order to conceal the runners of guideway (not shown in FIG. 10).

The drawer 30 may be formed of any plastic material but a thermoplastic resin such as a high impact polystyrene has been found preferable. When formed of polystyrene an especially good action results when the drawer 30 is slid on the parting rail 24 (FIG. 5). The runners 50 sliding on the surfaces 46 create so little dust that partitions, found in wooden case goods, between the drawers in a stack are no longer needed. Further, the free and easy action of the guide 23 and way 52 is such that much closer fits may be used. This combination having accurate dimensional relations, economically enables mass producing of case goods having drawers which function with an ease and in a manner which previously resulted by chance or from highly skilled custom workmanship.

Having thus described our invention what we declare as novel and desire to secure by Letters Patent of the United States is:

1. A two piece combination for case goods, comprising a unitary integrally molded plastic parting rail and a molded plastic drawer wherein a vertical flange is provided at each end of the 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 the 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, a central U-shaped guide parallel to said flanges and extending between said front and rear rails, said drawer being cooperatively received by said parting rail and 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 provided at their upper edges with an outwardly extending peripheral flange, the width of the drawer as defined by the flange portions on the end walls being less than the distance between the outer faces of said flanges, the outer surface of the front wall of said drawer lying in a plane substantially normal to the bottom wall.

2. A plastic drawer having 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, 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, 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 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.

3. 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.

4. A two piece combination for case goods, comprising a unitary integrally molded plastic parting rail and a molded plastic drawer, wherein a vertical flange is provided 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 the case goods thereto, front and rear rails of inverted U-shape 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 rails and on the same level therewith, a central U-shaped guide parallel to said flanges and extending between the front and rear rails with the leg portions of the guide projecting above said front and rear rails, said drawer being cooperatively received by said parting rail and comprising as integrally molded portions a flat bottom wall, a runner extending from the front to the rear of the bottom wall adjacent each end thereof, said runners being parallel and each comprising a pair of parallel closely spaced ribs having flat bottom faces engaging the supporting surfaces of the parting rail, a centrally disposed guideway projecting from said bottom wall a distance less than that of said 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, a second rib parallel to each guideway rib and closely spaced therefrom outwardly thereof, 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 the distance 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.

5. A plastic drawer comprising as integrally molded portions, a flat bottom wall, a runner extending from the front to the rear of the bottom wall adjacent each end thereof, said runners being parallel and each comprising a pair of parallel closely spaced ribs having flat bottom faces, a centrally disposed guideway projecting from said bottom wall a distance less than that of said runners, said guideway comprising a pair of spaced ribs parallel to said runners, a second rib parallel to each guideway rib and closely spaced therefrom outwardly thereof, 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 walls and curved outwardly

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.

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