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Andrus et al.

[11] **3,826,533**

[45] **July 30, 1974**

[54] **ARTICLE OF FURNITURE**

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[52] **U.S. Cl.** **297/445,** 297/DIG. 2

[51] **Int. Cl.** **A47c 4/02,** A47c 7/00

[58] **Field of Search** ..... 297/440, 445, 452, 454, 297/455–458, DIG. 2, 446, 232

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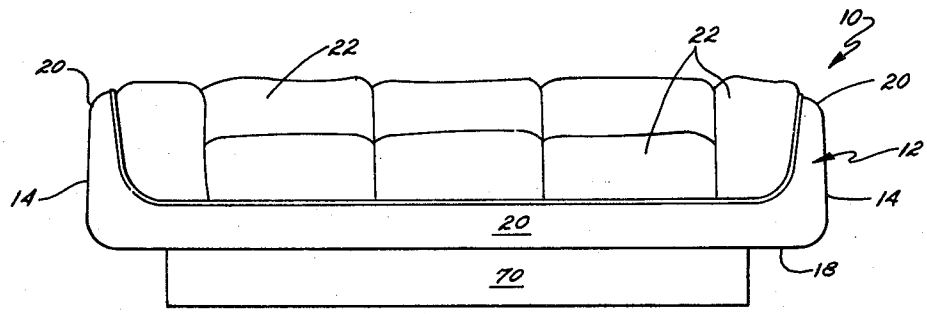
Primary Examiner—Paul R. Gilliam

Attorney, Agent, or Firm—Price, Heneveld, Huizenga & Cooper

[57] **ABSTRACT**

A molded plastic seating body for sofas, chairs, and the like including an integral, generally continuous, recessed channel formed in the bottom of the body for receiving one edge of a plastic strip base member, the ends of the strip being joined to form a continuous band-type supporting base for spacing the body from a supporting surface. The channel includes spaced, enlarged areas for receiving securing means for securing the strip member in the channel. The body includes additional recessed hand holds intermediate the channel and the periphery of the bottom of the body for the grasping and lifting thereof.

14 Claims, 8 Drawing Figures



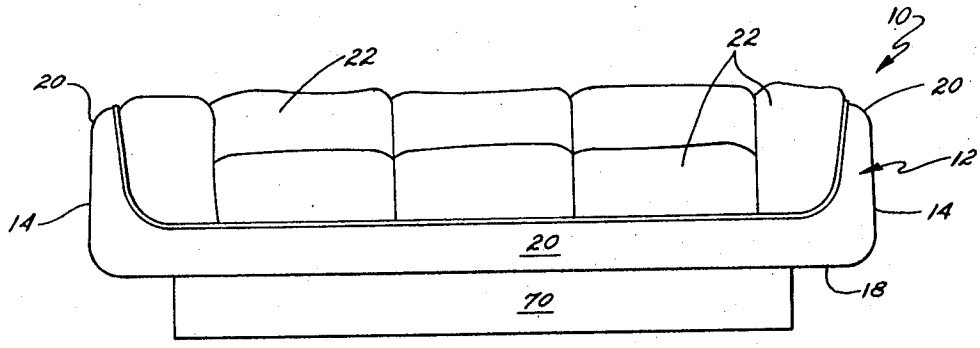


FIG. 1.

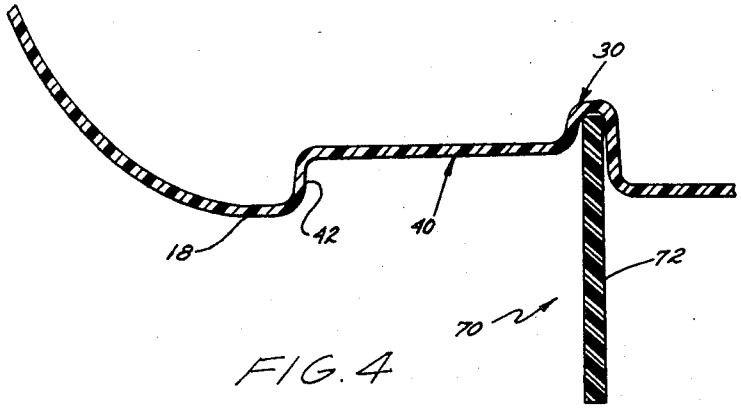


FIG. 4

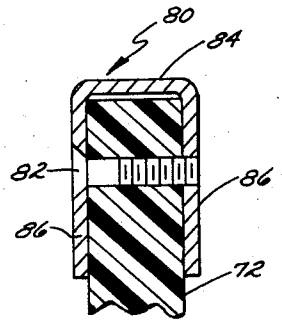


FIG. 7.

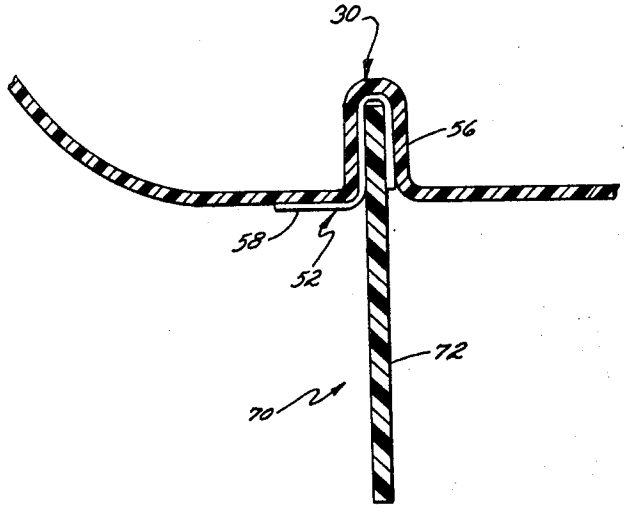


FIG. 3.

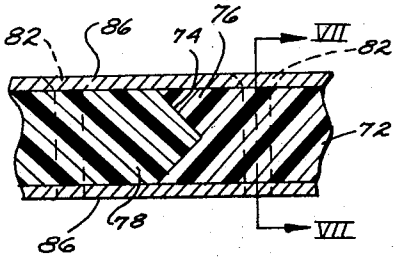


FIG. 6.

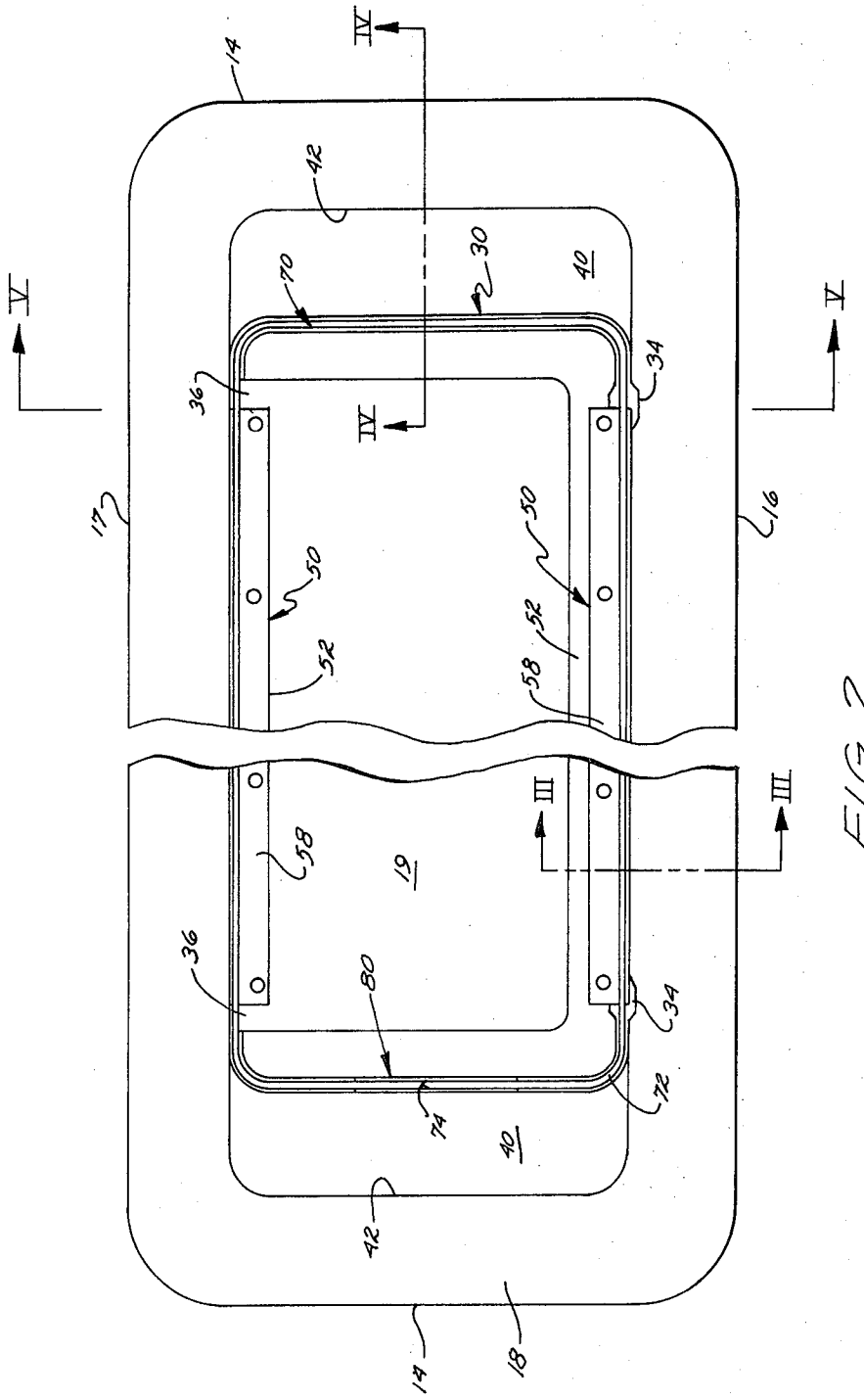

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FIG. 2.

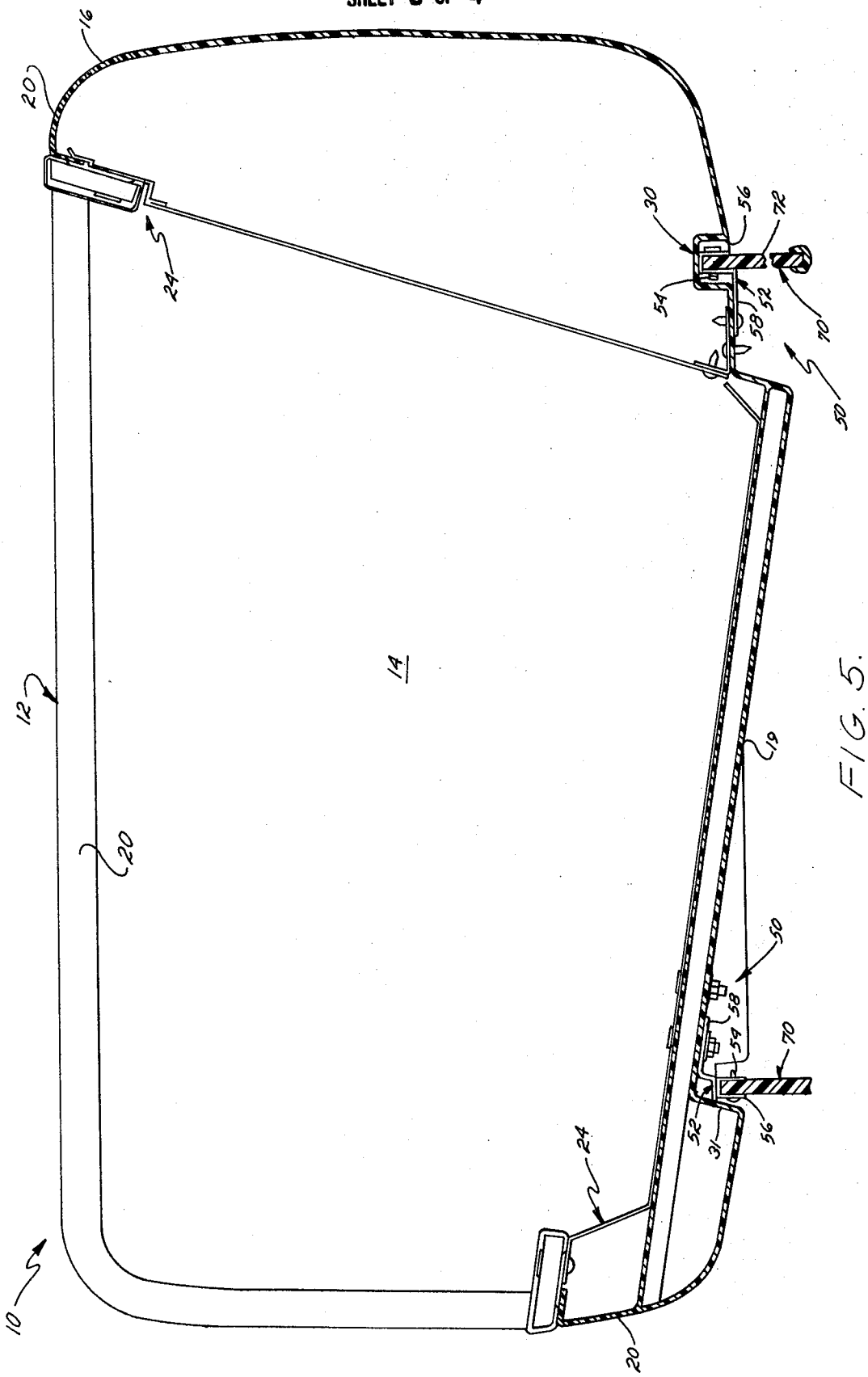

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FIG. 5.

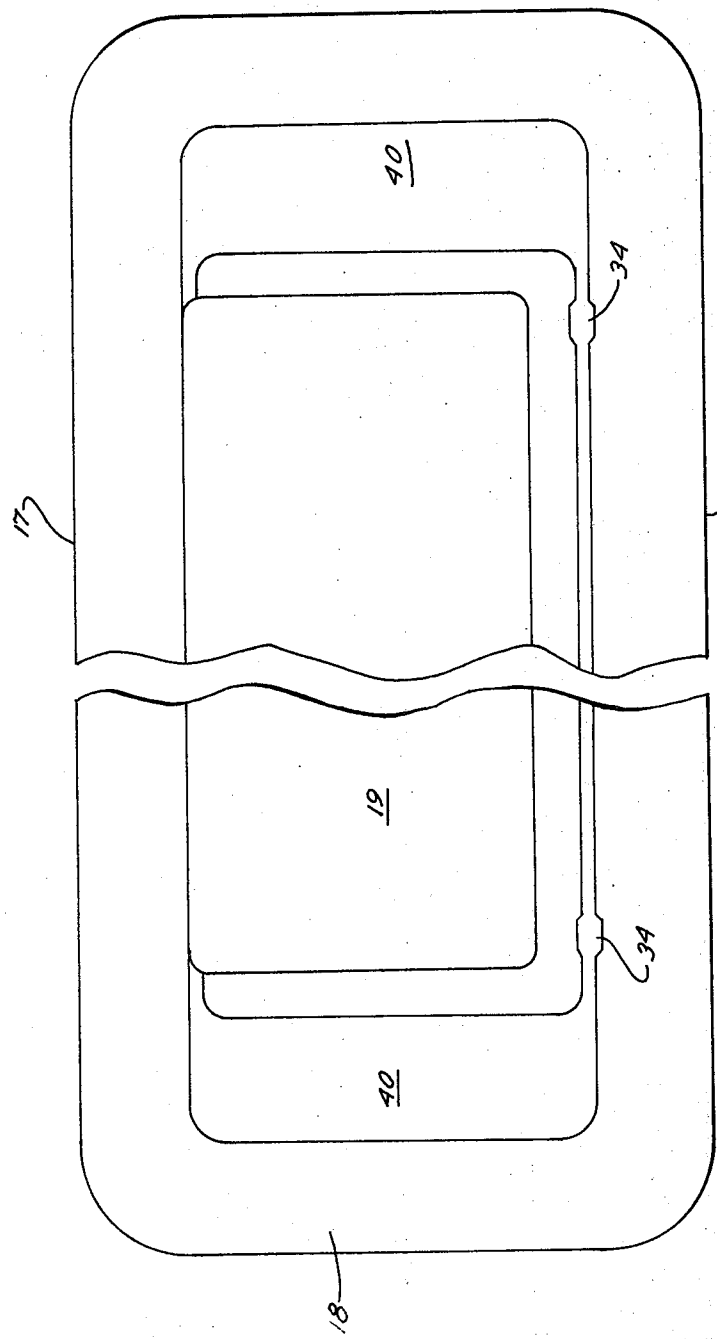


FIG. 8.

ARTICLE OF FURNITURE

BACKGROUND OF THE INVENTION

This invention relates to molded articles of furniture including articles for seating and the like. Typically, such molded seating articles are supported above a supporting surface by column-like legs or feet bolted or secured directly to the horizontal, generally planar areas of such molded articles. Mounting and supporting such molded furniture articles using these prior known methods often results in inadequate support of the furniture due to wear, vibration, and the like over long periods of time. Thus, with certain of the prior known mounting means, special fittings must be provided in the molded shell for bolting legs or feet thereto. Such fittings and bolts are apt to loosen after long periods of continuous use. Further, when legs or feet are used to support molded seating shells, the weight of the person occupying the seating apparatus must be borne over a very small area, namely, three or four small diameter legs. As is apparent, the forces exerted on such legs and feet often weaken the mounting of such legs and feet unless large, bulky fittings are provided.

Not only are the prior known support and mounting means for molded seat and furniture articles structurally undesirable, they are also frequently aesthetically unpleasing since the bulky structures needed to adequately support the structure are readily observable when the article is viewed from its exterior. When adequate and sufficient support and mounting means are provided for the prior known molded furniture articles, the resulting overall appearance of the molded article is very often undesirable.

Consequently, previous known molded articles of furniture such as molded seating apparatus have been inadequate from the standpoint of providing an extremely stable supporting base which is easily secured to the molded shell while retaining an overall aesthetically pleasing design for the entire article of furniture.

SUMMARY OF THE INVENTION

The purpose of the present invention is to provide a molded article of seating fashioned from plastic or other easily moldable materials including an integral, generally continuous recessed channel formed in the bottom of the molded body of the article for receiving a one-piece, band-type supporting base for spacing and supporting the molded body from a supporting surface. The band-type supporting base is easily fitted within the recessed channel and retained therein by cooperating fastening or securing means secured to both the base and molded body. The overall aesthetic appearance and appeal of the entire seating article is maintained since the recessed channel and securing means are hidden from view on the bottom of the article. The channel is recessed a predetermined distance from the horizontal plane of the periphery of the bottom and is wide enough to receive one edge of the continuous band-type supporting base in addition to portions of securing flange brackets used to fasten the base to the body. Enlarged areas are spaced along the length of the recessed channel for receiving bolts or other securing means fastening the band-type base to the securing brackets. Preferably, recessed hand hold areas are molded adjacent portions of the recessed channel intermediate the channel and the periphery of the bottom in order to provide a means for grasping and lifting the seating article. In the preferred embodiment, the recessed hand holds are shallower than the recessed channel and yet are contiguous with portions of the channel to simplify molding. No raised portions have to be molded between the channel and the adjacent recesses.

The one-piece, continuous band-type base is a closed loop comprising a srip of plastic joined at one joint, having one edge received in the continuous, recessed channel and the other edge contacting the supporting surface beneath the seating body. The joint connecting the two ends of the plastic strip member are held together by means of a U-shaped channel flange secured to each end and received in the recessed channel. One end of the strip member is notched and the other includes a correspondingly shaped projection received in the first notched end thereby forming a secure, immovable joint for the base member. The recessed channel provides a stable support for the edge of the supporting base received therein. The recessed channel and securing means are set back from the periphery of the molded seating body thereby remaining hidden from view from the exterior of the article and maintaining the overall aesthetic appearance thereof.

These and other objects, purposes, advantages and features of the invention will become more apparent from a study of the following description taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevational view of a sofa including the molded seating body of the present invention;

FIG. 2 is a broken, bottom plan view of the sofa of FIG. 1 showing the molded, recessed channel and the continuous, band-type supporting base member received therein;

FIG. 3 is a fragmentary, cross-sectional view of the base member secured in the recessed channel with the securing flange bracket taken along plane III—III of FIG. 2;

FIG. 4 is a fragmentary, cross-sectional view of the supporting base member received in the recessed channel taken along plane IV—IV of FIG. 2;

FIG. 5 is a cross-sectional view of the entire sofa including the continuous band-type base member secured in the recessed channel taken along plane V—V of FIG. 2;

FIG. 6 is a fragmentary, bottom plan view of the ends of the continuous band-type base member secured together by a channel flange;

FIG. 7 is a fragmentary, cross-sectional view of the joined base member of FIG. 6 taken along plane VII—VII of FIG. 6; and

FIG. 8 is a broken, bottom plan view of the molded seating body prior to the installation of the continuous bandtype supporting base in the recessed channel thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 shows an article of furniture of seating, in this case a sofa **10**, embodying the present invention. The sofa **10** includes a molded plastic body **12** including integral side-arm portions **14**, integral back portion **16** (FIG. 5), and integral bottom portion **18** (FIGS. 1, 2,

and 5). The side arm, back, and bottom portions all include upturned or inturned integral flanges 20 for supporting a plurality of cushions 22 in the completed sofa. A continuous, band-type, supporting base 70 supports and spaces the molded body 12 of sofa 10 from a supporting surface or floor. As shown in FIGS. 2 and 5, the continuous, band-type supporting base 70 is secured and fastened to the body 12 within an integrally molded, recessed channel 30 formed in the bottom portion 18. Securing means 50 are provided to facilitate the attachment of the supporting base 70. Additional fastening or attachment means 24 (FIG. 2) may be provided on the interior of the molded body 12 for additional support of the cushions 22 and for bracing and interlocking the various portions of body 12. As shown in FIG. 1, the overall design of the sofa 10 remains aesthetically pleasing to a viewer's eye while incorporating a strong, curable, and rigid molded body 12 including recessed channel 30 for securing base 70 while the entirety of the channel and securing means remains hidden from sight.

Referring now to FIGS. 2 through 5 and 8, the continuous, integral, molded recessed channel 30 comprises a continuous, closed loop, recessed area molded into a portion of the molded seating body 12 as described above. Channel 30 is rectangular, paralleling the periphery or outline of the bottom portion. The shape of channel 30 need not be rectangular but may be round, triangular, or any other shape as long as enough space is provided to form a continuous, closed loop recess channel which will provide sufficient stability for the completed article of seating. Similarly, the recessed channel 30 need not parallel the outline or periphery of the bottom of the body 12 but may merely be of a sufficient dimension in size to sufficiently stably support the seating article.

The recession 32 is generally wide enough along its entire length to receive an edge of the continuous, band-type supporting base 70 in addition to the width of the securing means 50 used to fasten the base 70 within the channel 30. However, several enlarged areas 34 are integrally molded into the recessed channel 30 at spaced points therealong in order to facilitate the mounting of the base member 70 within the channel 30. The enlarged areas 34 have a depth equal to the remainder of channel 30 and a width substantially greater than that of the width of the remainder of the recessed channel 30, which greater width allows securing bolts 54 (FIG. 5) to be easily fastened through both the base 70 and the securing means 50 within those areas. In the preferred embodiment of the sofa, the enlarged areas 34 are provided only along the portion of the channel 30 paralleling the back 16 of the sofa 10 since recessed channel 30 is interrupted along a portion of the front of body 10. The central portion 19 of bottom portion 18 slopes upwardly from the back to the front to provide the correct seating angle for the sofa to the level of what would be the top wall of channel 30. This interrupts channel 30 along the front of the sofa (FIGS. 5 and 8). Thus, securing bolts 54 may be received through both the base 70 and securing means 50 along the front of sofa body 12 without the provision of additional enlarged areas such as those provided in the channel 30 along the rear 16 of the sofa 10. Significantly, a front wall 31, that wall which would form one wall of channel 30 along the front of bottom 18, depends downwardly from the front edge of central portion 19 so that securing means 50 is still recessed from view at the front of body 10. Also, it should be noted that in a table or article of furniture in which no upwardly sloping surface 19 would be required, channel 30 would not be interrupted at all.

As shown in FIGS. 2, 4, and 8, the bottom portion 18 of sofa 10 also includes recessed areas or recessed hand holds 40 which are molded integrally along the end portions of the sofa. The hand holds 40 parallel the end portions of the recessed channel 30 and are molded intermediate the periphery of the bottom portion 18 and the recessed channel 30. As shown in FIG. 4, the hand holds 40 are recessed from the level of the periphery of the bottom portion 18 thereby providing a flange 42 which may be grasped by a person who is lifting or moving the sofa. Hand hold 40 is recessed to a shallower depth than channel 30 so that channel 30 is not eliminated thereby. Yet, hand hold area 40 is contiguous with channel 30 so that no raised areas have to be molded intermediate hand hold 40 and channel 30.

As is shown in FIGS. 1 through 5, the band-type supporting base 70 comprises strip member 72 which is bent to follow the configuration of the recessed channel 30 along its entire length. The strip 72 is formed from plexiglass or another type of plastic and is transparent or dyed to any suitable or desired color. Any band-type material could be used, and plexiglass has been chosen primarily for aesthetic purposes. The strip 72 is joined at one joint 74 thereby forming a continuous, closed loop, band-type supporting base which supposts all portions of the sofa 10 when received in the recessed channel 30. One continuous edge of the joint strip member 72 is received in the channel 30 and the remaining edge contacts a supporting surface or floor on which the sofa is placed. The edge received in the channel 30 is first received in the channel portions 56 of the two securing channel flange brackets 52 comprising the securing means 50. After one edge of the base 70 has been received in the channel portions 56 of bracket 52, the combined bracket and base is fitted within the channel 30, and the flange portion 58 of bracket 52 is bolted securely at intervals therealong to the bottom 18 of body 12 as shown in FIGS. 2 and 5. The strip member 72 of base 70 is in turn securely bolted to the channel portion of brackets 52 at intervals therealong either in enlarged areas 34 along the rear 16 of sofa 10 or along the front of sofa 10 as described above. The base 70 is thus rigidly secured within the integral molded recessed channel 30 through the use of just two brackets 52 along the front and back portions of the channel.

Referring now to FIGS. 2, 6 and 7, one end 76 of the strip member 72 is notched, preferably in the shape of a *V*, along the entire length of the end edge. A protrusion or projection is formed to correspond to the shape of the notch or channel along the end edge of the remaining end 78 of strip member 72. The two ends 76 and 78 are mated and are fitted together when the supporting base 70 is received in recess channel 30 of body 12.

A channel 80 holds the two ends 76 and 78 in engagement with one another. Such a channel may also be used at the bottom of the joint. Channel 80 is secured by screws 82 or other securing means passed through each end 76 and 78 to securely retain the ends together. Glue may be used instead of such screws. The closed end 84 of channel 80 is fitted over the edge of

strip member 72 received in recess channel 30 and the legs 86 of channel 80 therefore project away from the recessed channel. Preferably, the screws 82 are countersunk into the channel 80 and are flush therewith in order that the combined channel 80 and strip member 72 may be easily fitted within the width of the recessed channel 30.

The molded plastic body including the integrally formed recessed channel receiving the continuous, band-type supporting base provides a substantial and stable support for the molded article of seating. The strip member forming the continuous band-type base 70 is securely fastened within the integrally formed recess channel in a vibration-free manner which minimizes the torque and bending movement forces thereon. Consequently, the combination body and base is capable of sustained use over long periods of time without the problems of structural weaknesses building up due to wear, movement of the seating article, and other causes. Further, the band-type base is completely secured within the recessed channel utilizing only two securing brackets and a single channel for drawing and holding together the two ends of the strip base member. All of the securing means and recessed channel are completely hidden from view when the sofa is viewed from the exterior. Consequently, the sofa or other article of furniture embodying the present concepts retains its overall aesthetically pleasing appearance thereby making it desirable and attractive to the consuming public.

While one form of the invention has been shown and described, other forms will now be apparent to those skilled in the art. Therefore, it will be understood that the embodiment shown in the drawings and described above is merely for illustrative pusposes, and is not intended to limit the scope of the invention which is defined by the claims which follow.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows.

1. A molded plastic furniture body having an integral bottom portion, said body including an integral, generally continuous, recessed channel in said bottom portion, said channel having a continuous top wall and continuous, spaced side walls for receiving at least a portion of a continuous band base for supporting said body on a surface, and a continuous band base positioned at least partially within said channel, said channel side walls closely embracing said portion of said base within said channel; securing means securing said continuous band base to said body; said recessed channel including at least one enlarged area for mounting said securing means to said continuous band base.

2. A molded plastic furniture body having an integral bottom portion, said body including an integral, generally continuous, recessed channel in said bottom portion, said channel having a continuous top wall and continuous, spaced side walls for receiving at least a portion of a continuous band base for supporting said body on a surface, and a continuous band base positioned at least partially within said channel, said channel side walls closely embracing said portion of said base within said channel; said body further including an additional recessed area in said bottom portion adjacent at least a portion of said channel; said recessed area including a wall portion extending in a direction generally transverse to the plane including said bottom portion for providing a hand hold for lifting said body.

3. The molded plastic furniture body of claim 2 wherein said recessed hand hold area is continuous with at least portions of said channel and extends outwardly therefrom toward the periphery of the bottom of said body; said hand hold area being shallower than said channel thereby preserving the integrity of said channel.

4. The molded plastic furniture body of claim 1 wherein said securing means comprises at least one securing bracket, said bracket being bolted to both said body and said base.

5. The molded plastic furniture body of claim 1 wherein said continuous band base comprises a strip of clear plastic bent to correspond to the configuration of said recessed channel; said securing means being secured to one edge of said bent strip and to said body and being positioned in said channel; the other edge of said bent strip contacting said supporting surface.

6. The molded plastic furniture body of claim 5 wherein said securing means comprises at least one securing bracket bolted to both said body and to said strip; said strip being joined at a joint where the two ends of said strip meet; one of said strip ends being notched and the other of said ends having a protrusion corresponding to and fitting into said notch; said ends being retained together at said joint with a channel fitted over one edge of said strip and bolted to both of said ends.

7. The molded plastic furniture body of claim 1 in which: said securing means includes a securing bracket fastened to said body and including a U-shaped channel for fitting over said continuous band base; fastening means operably connected to said U-shaped channel for fastening said U-shaped channel and said bracket to said continuous band base; said enlarged area providing space for and access to said fastening means while still allowing said fastening means to be recessed.

8. The molded plastic furniture body of claim 7 wherein said body further includes recessed hand hold areas continuous with portions of said recessed channel and extending outwardly from said recessed channel toward the periphery of said bottom; said hand hold areas being shallower than said recessed channel so as to preserve the integrity of said channel.

9. The molded plastic furniture body of claim 8 wherein one edge of said continuous band base includes two end edges joined at one joint; a U-shaped channel bracket received in said recessed channel and secured to each end of said base; one end edge of said base including a recessed notch and the other end edge having a projection corresponding to the shape of said notch and being received in said notch.

10. The molded plastic furniture body of claim 7 wherein one edge of said continuous band base includes two end edges joined at one joint; a U-shaped channel bracket received in said recessed channel and secured to each end of said base; one end edge of said base including a recessed notch and the other end edge having a projection corresponding to the shape of said notch and being received in said notch.

11. A molded article of seating comprising a body having an integral bottom portion; said body also including an integral, generally continuous, recessed channel formed therein, a continuous band base mounted in said recessed channel; a securing bracket

fastened to said body and including a U-shaped channel for fitting over said continuous band base; fastening means operably connected to said U-shaped channel for fastening said U-shaped channel and said bracket to said continuous band base; said recessed channel including at least one enlarged area providing space for and access to said fastening means while still allowing said fastening means to be recessed; said bottom including a central portion sloping forwardly and upwardly; said upwardly and forwardly sloping portions interrupting said channel along the front of said body, but leaving the forward wall of said channel in tact whereby a second of said securing brackets which may be secured along the front of said body will be generally hidden from view by said front wall.

12. The molded plastic furniture body of claim **11** wherein said body further includes recessed hand hold areas continuous with portions of said recessed channel and extending outwardly from said recessed channel toward the periphery of said bottom; said hand hold areas being shallower than said recessed channel aso as to preserve the integrity of said channel.

13. The molded plastic furniture body of claim **12** wherein one edge of said continuous band base includes two end edges joined at one joint; a U-shaped channel bracket received in said recessed channel and secured to each end of said base; one end edge of said base including a recessed notch and the other end edge having a projection corresponding to the shape of said notch and being received in said notch.

14. The molded plastic furniture body of claim **11** wherein one edge of said continuous band base includes two end edges joined at one joint; a U-shaped channel bracket received in said recessed channel and secured to each end of said base; one end edge of said base including a recessed notch and the other end edge having a projection corresponding to the shape of said notch and being received in said notch.

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