United States Patent [19]

Diamond

[11] **3,861,747**

[45] **Jan. 21, 1975**

[54] **MODULAR SEAT FOR PUBLIC USE**

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[52] **U.S. Cl.**..... **297/452,** 297/455, 297/DIG. 1

[51] **Int. Cl.**..... **A47c 7/14,** B60n 1/06

[58] **Field of Search**..... 297/445, 452, 455–458, 297/DIG. 1, DIG. 2

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Primary Examiner—Casmir A. Nunberg
Attorney, Agent, or Firm—Irons & Sears

[57] **ABSTRACT**

In a modular seat for public use, such as in mass transportation vehicles, a floor mounted frame supports independently and removably mounted juxtaposed seat frames onto the bottom and back sections of which module cushion segments are transversely fastened in side by side abutting relation by hidden snap fastening clips with individual spring cores underlying each of the cushion segments and being held thereby in place on the seat frames.

7 Claims, 11 Drawing Figures

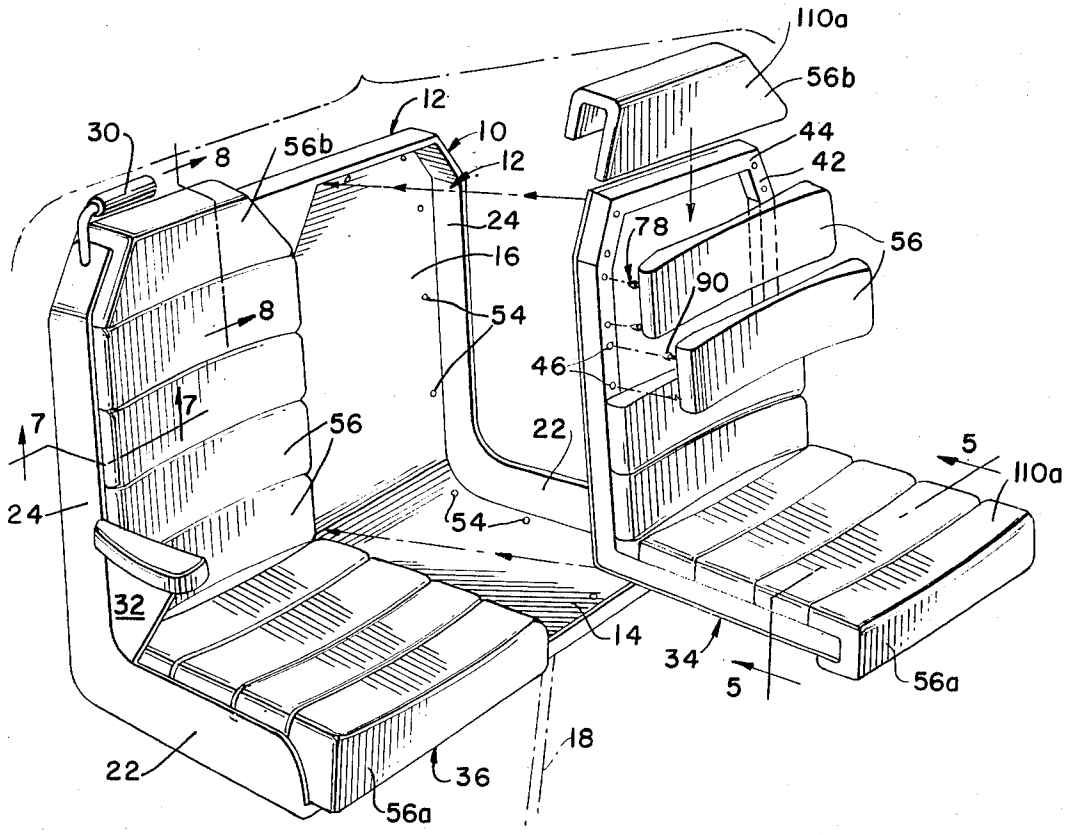


FIG. 1.

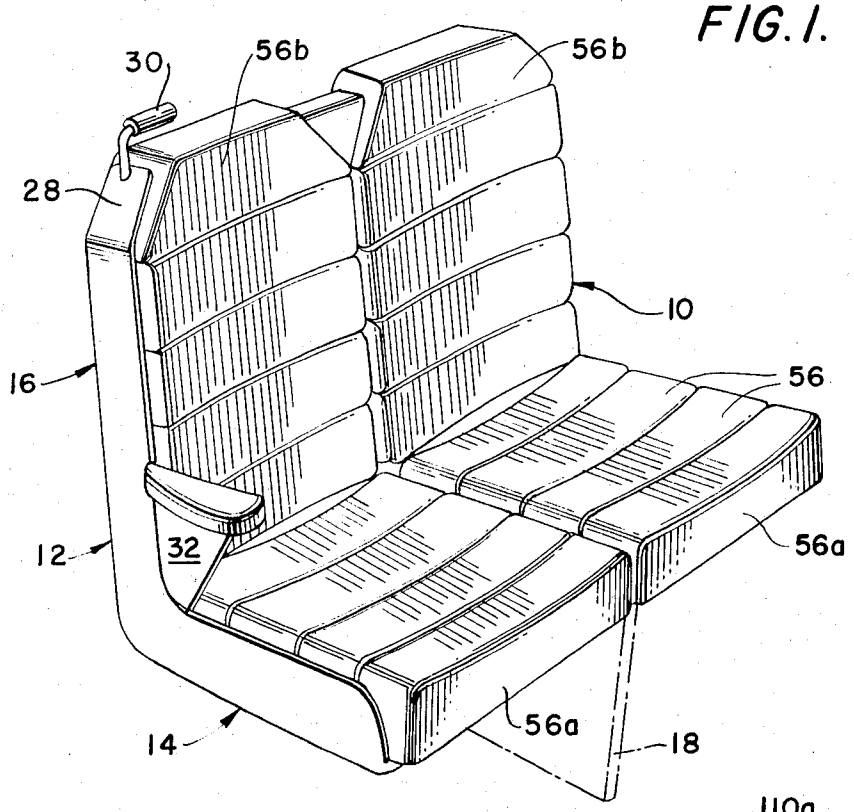

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56b
56b
28
10
16
56
12
32
56a
14
56a
18

FIG. 2.

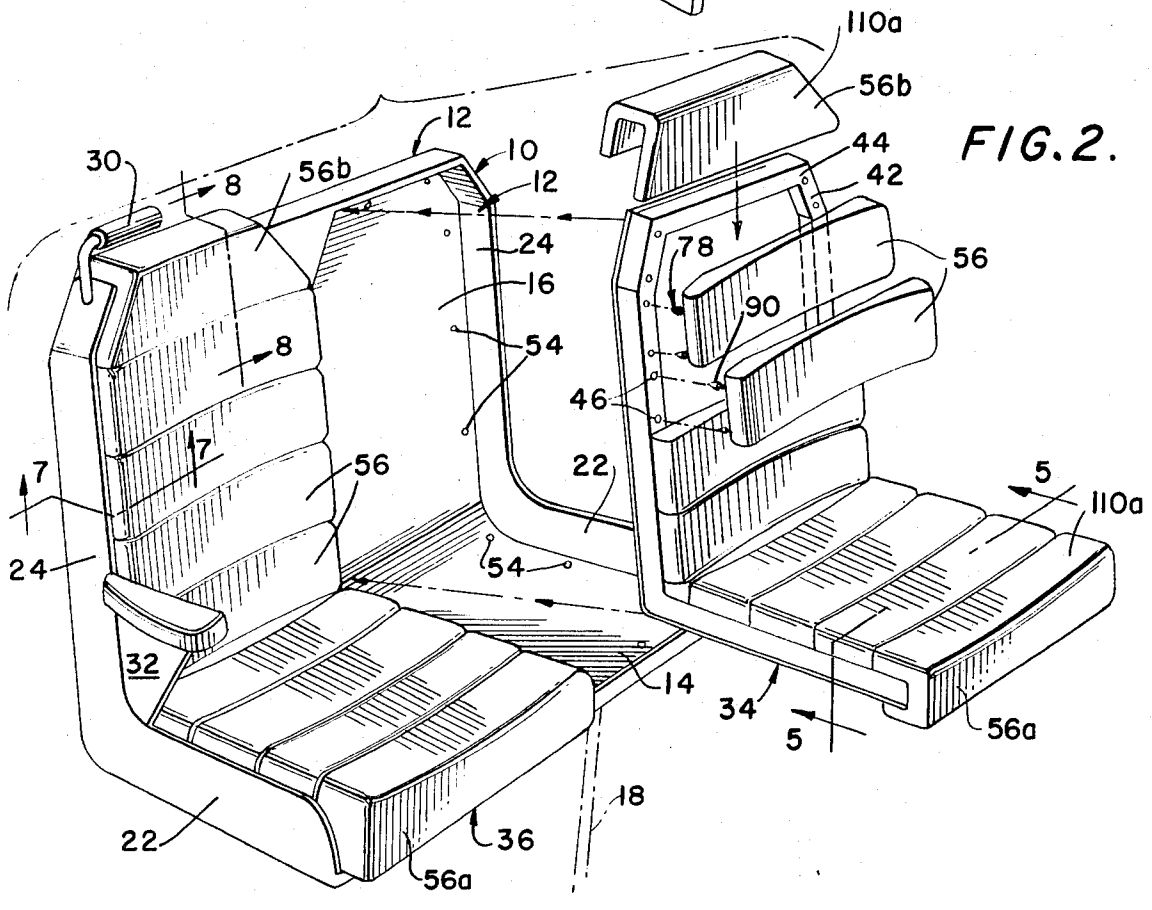

110a
56b
12
30
8
56b
10
12
44
42
24
78
56
16
90
54
8
46
7
7
56
22
5
110a
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32
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34
5
56a
18
22
36
56a

FIG. 3.

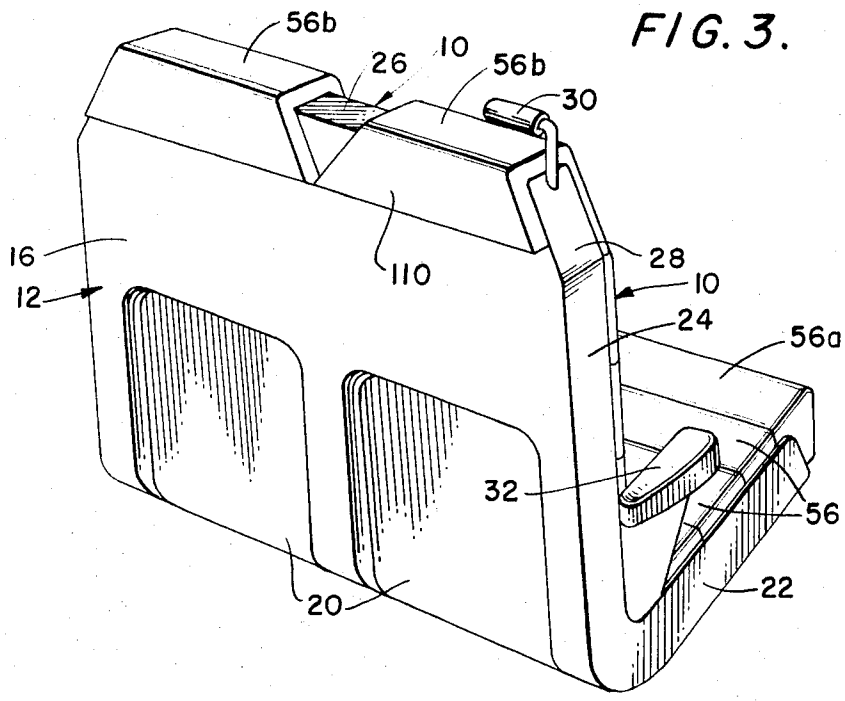

56b
26
10
56b
30
16
12
110
28
10
24
56a
32
56
22
20

FIG. 4.

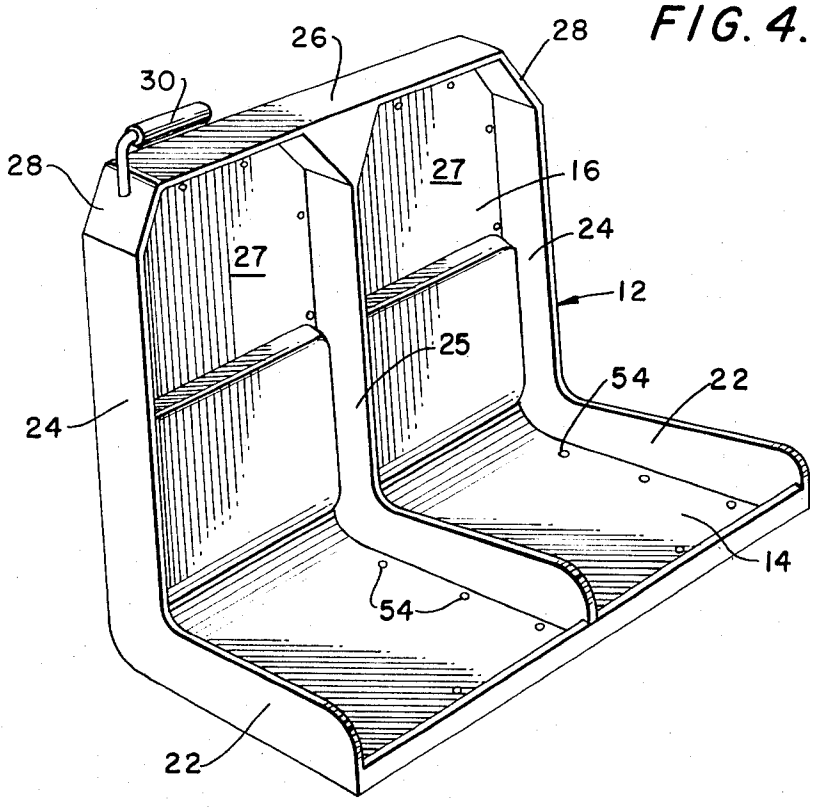

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16
27
24
12
25
54
22
24
14
54
22

FIG. 5.

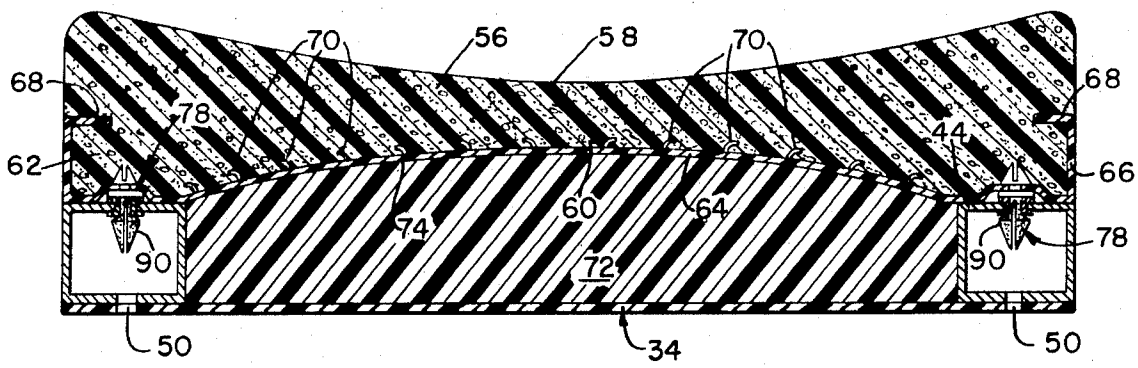


FIG. 7.

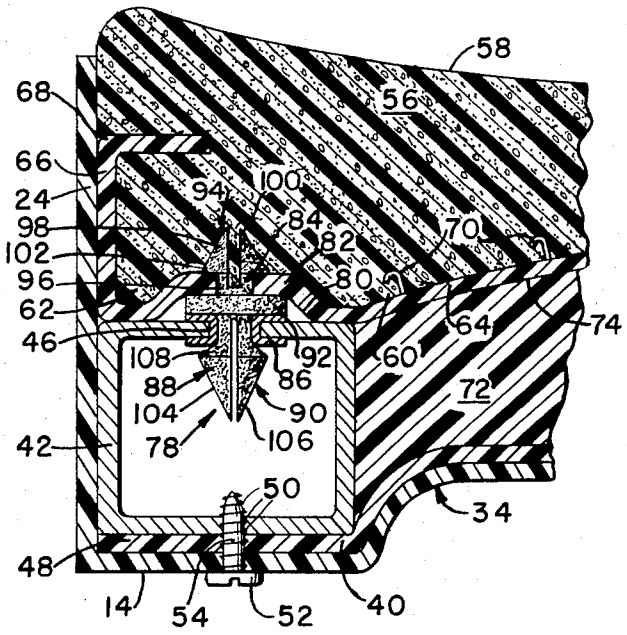


FIG. 6.

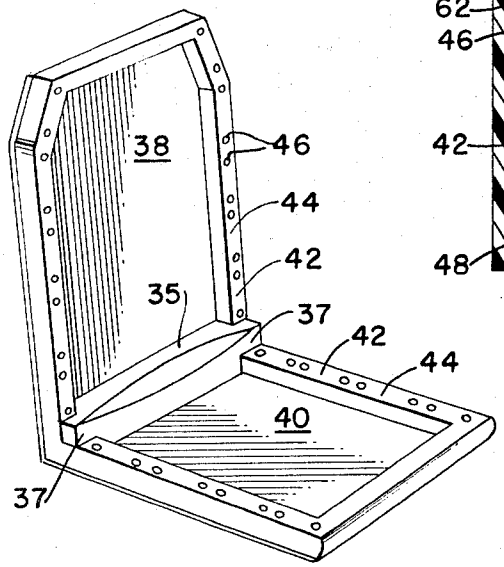


FIG. 8.

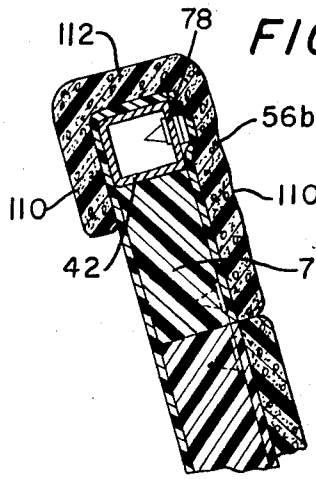


FIG. 9.

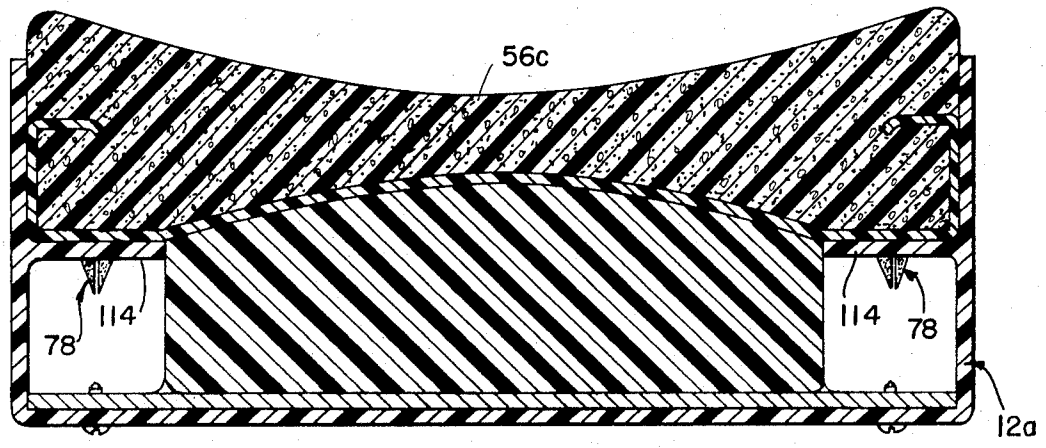


FIG. 10.

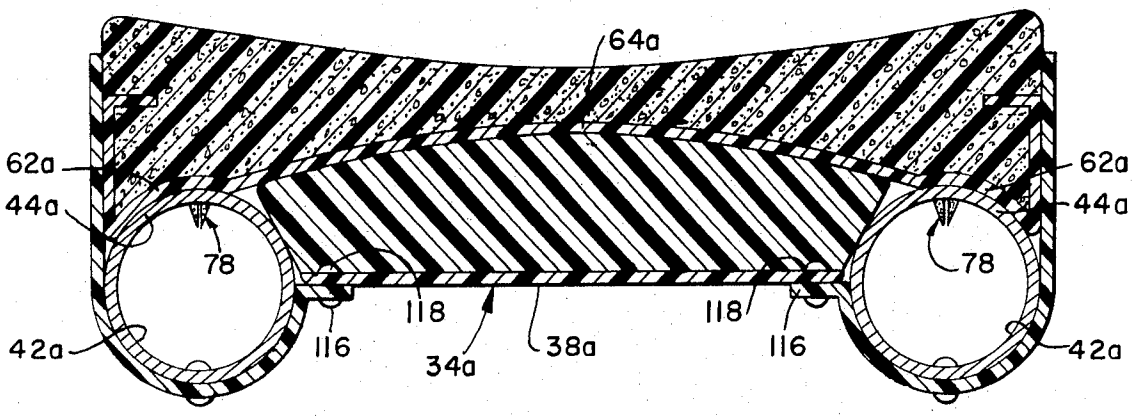
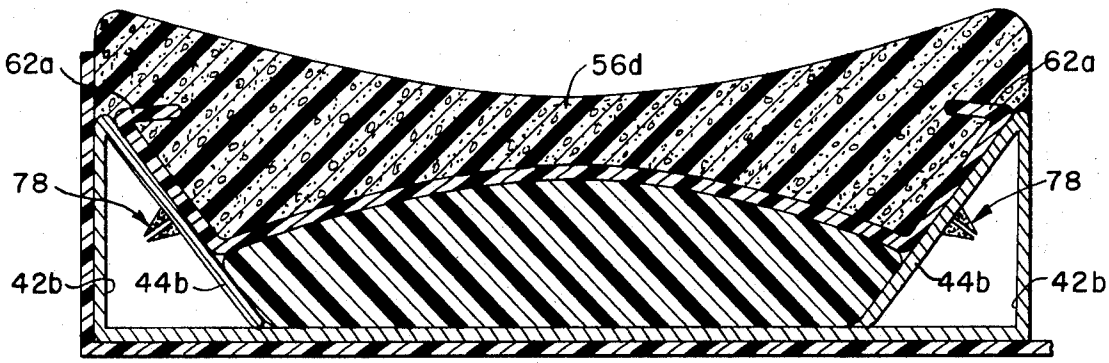


FIG. 11.



MODULAR SEAT FOR PUBLIC USE

BACKGROUND OF THE INVENTION

1. Field Of The Invention

This invention generally appertains to new and novel improvements in seat constructions and more particularly relates to a new and novel modular type seat that is particularly designed for public use and especially for use in mass transportation vehicles.

2. Description Of The Prior Art

Modular seats formed by supports onto which individual seat and backrest members are fastened in a replaceable manner are known in the art. For example, in U.S. Pat. No. 3,632,170 issued Jan. 4, 1972, replaceable tubular back and seat members are arranged between and removably secured to a pair of spaced-apart supports by virtue of a center supporting shaft for each member having exposed dowels on its opposing ends fitted into sockets in the supports. Thus, the individual back and seat members are attached in a visible snap-on manner to the supports.

This and similar types of modular furniture with replaceable seat and back supporting members of varying shapes and configurations have been designed for usage in or around the home. Or, at least, for a private form of usage, generally where there is a restricted space. And such modular furniture has been well received. It has decided advantages where furniture that can be assembled from standardized parts provides the desired variety and adaptability for modern living.

However, such presently designed modular type furniture is not suitable for public use where furniture, like seats or chairs, is subject to repetitive unsupervised occupancy by many different people and to the wear and tear attendant with such continuing and varying usage. For one reason, any public awareness of the manner in which the module seat and backrest members were fastened would undoubtedly lead to vandalistic removal of such members. And then too, solely from a comfort and convenience standpoint, presently constructed modular seats are not designed so that they are able to satisfy the supporting desires and needs of many different persons of varying heights and weights. Nor is such known modular furniture of so strong a construction as to be capable of withstanding the rough treatment that public seats, by virtue of the very public nature of their placement, must endure.

This is unfortunate because the concept of modular furniture, especially seats, would satisfy a great need in the area of public usage.

Conventionally, public seats, such as those used in mass transportation vehicles like commuter subway or railway cars, buses and the like, are constructed with a seat and back frame mounted on a floor pedestal and on which unitary seat and backrest pads of foam rubber or similar material are fastened and, in turn, are covered with a sheet of plastic material. Any damage to such upholstery, either due to normal wear and tear or accidental and intentional destructive acts, can only be repaired by removing the entire covering sheet and replacing the foam pads and then recovering the seat.

It can well be appreciated that if such public seats were composed of module cushion segments, then only the damaged segment need be replaced. And if such cushion segments were attached in a snap-on manner then it would be a simple procedure to pop-out the damaged cushion segment and snap on a replacement cushion segment.

SUMMARY OF THE INVENTION

With consideration of the foregoing, a primary object of the present invention is to provide a modular seat that is designed especially for public usage and that is most useful in mass transportation vehicles, such as commuter subway or railway cars, rapid transit cars, buses and the like. Of course, while the public usage aspect of the seat is of the utmost importance, it should be noted that the modular construction of the seat of this invention can be used in the formation of seats for private use as, for example, in or around the home, office, or stores.

Another important object of the present invention is to provide a modular seat that is composed of a plurality of module cushion segments which are attached by hidden snap fastening clips to a seat frame in a way so that the structural manner of attachment is not visible but so that an authorized and, therefore, knowledgeable workman can easily and without the use of any special tools remove and replace any one of the module cushion segments without disturbing the placement of the other cushion segments.

In line with the foregoing, another important object of the present invention is to provide a modular seat which does not present a modular appearance in that the module cushion segments, which compose the upholstery of the seat, are so closely mounted in contiguous relation on the seat frame that they present a picture of entirety or oneness. In this respect, such unity of appearance not only serves an aesthetic purpose but also serves a utilitarian purpose in that it produces a cushion assembly which will provide comfortable support for the body of an occupant irrespective of the size or shape of such occupant.

A further important object of the present invention is to provide modular cushion segments which have concave top surfaces that cooperate in the mounted juxtaposed relation of the cushion segments to comfortably fit the human posterior form and which are mounted over underlying support members that are convex in nature to give added support.

A still further important object of the present invention is to provide a modular seat that is simple, sturdy and inexpensive and that is constructed to withstand all the rigors of public usage while presenting an aesthetically pleasing public appearance.

Generally considered, the modular seat of the present invention has a supporting frame or shell of flat structural material that is shaped into a seat or bottom section and a back section. Such sections are arranged in any desired angular relationship. Forwardly projecting flanges are provided on the side edges of the two sections and on the top edge of the back section and form a box-like framework in which a pair of juxtaposed seat frames snugly fit in side by side relation.

A center rib is formed on the seat frame or shell and complements the side and top edge flanges so as to form separate adjoining compartmentns in which the seat frames fit. The rib gives added support to the frame or shell and also serves to provide a separation between the inserted seat frames.

Of course, the number of seat frames can vary from one to any multiple number within practical dictates. For example, a supporting frame could be placed along

the side of a rapid transit car and be formed to accommodate several seat frames. In such instance, spacedly arranged ribs would be formed on the frame so as to divide the frame into separate and individual seat frame receiving compartments.

In the main, however, the support frames will be placed crosswise of a vehicle or car at each side thereof and will be formed to supportively hold a pair of adjoining seat frames with a lengthwise aisle or passageway between the supporting frames.

Each of the seat frames, which can be formed from metal, like steel or aluminum, or from plastic, like reinforced fiberglass, has tubular marginal edge mounting portions that have frontal walls provided with a series of apertures. The module cushion segments are of elongated shape and are formed from foam material, such as self-skinning polyurethane foam, which is attached to a backing support sheet or membrane of vinyl, nylon or the like covering material. Such membrane may have integral hook type fasteners that are anchored in the foam material which has a lengthwise slightly concaved outer face. The back face, which is defined by the support sheet or membrane, is also concaved along the length of the cushion segment.

The opposing ends of the back face of each cushion segment carry projecting snap-on or press-in stud type fasteners or clips that may be fabricated from any suitable materials but which are preferably molded from polyethylene or equivalent type plastics material. The fasteners have head parts fitted in the end portions of the cushion segments and shank parts that project from the back faces thereof and are adapted to snap into the apertures in the frontal walls of the mounting portions of a seat frame so as to anchor the cushion segments transversely of the seat frame. The module cushion elements are fastened in abutting relation so that they define a continuous and seemingly uninterrupted cushion surface along the entire seat and backrest areas.

A firm support of a spring nature underlies the back face of each module cushion segment and is held in place against the seat frame by its associated attached cushion segment. Thus, there is an individual companion spring support for each module cushion segment and it is held in placement by its overlying attached cushion segment.

Such spring support may be in the form of a unitary segment or core formed from rubber or resilient plastics or it may be a structural spring means constituted by metallic or plastic helically coiled or lengthwise strung spring elements structurally related to a housing of an overall dimensional character equal to a solid foam or similar block.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a frontal perspective view of a modular seat constructed in accordance with the principles of the present invention and showing the same in the form of a seat for a mass transit vehicle, such as a subway car.

FIG. **2** is an exploded perspective view of the seat with the various components, to wit: supporting frame, seat frame, module cushion segments, shown in attached and detached relationship.

FIG. **3** is a rear perspective view of the modular seat shown in FIG. **1.**

FIG. **4** is a frontal perspective view of the seat supporting frame or shell in which a pair of seat frames are secured in spaced side by side relation.

FIG. **5** is a vertical cross-sectional view of the seat frame, the spring core and module cushion segment and is taken substantially on line **5—5** of FIG. **2.**

FIG. **6** is a perspective showing of one of the seat frames, per se.

FIG. **7** is a detailed fragmentary cross-sectional view of the assembled seat showing the supporting frame, seat frame, spring support and module cushion element in cross-section and showing one of the fastening clips or stud fasteners in side elevation, with such showing being taken substantially on line **7—7** of FIG. **2.**

FIG. **8** is a fragmentary vertical sectional view of the top edge portion of the backrest of the seat and is taken substantially on line **8—8** of FIG. **2.**

FIGS. **9–11** are vertical cross-sectional views similar to FIG. **3** and illustrate three modified forms of seat frame and module cushion segment and spring support designs and constructions.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now more particularly to the accompanying drawings by use of characters of reference and initially to FIGS. **1–8,** the seat **10** comprises a supporting frame **12** which is fabricated from structural sheet material that may be metallic or plastic. The supporting frame **12** has a bottom or seat section **14** and an angularly related backrest section **16.** The angular relationship between the substantially horizontally disposed bottom section **14** and the substantially vertically disposed backrest section **16** will vary and will be dictated by particular usage and environment.

In the present instance, the seat **10** is shown as a seat for mass transportation vehicles and the bottom section **14** of the frame **12** is attached by a pedestal **18** to the floor (not shown) of such a vehicle, like a subway or railway car. As is clear from a consideration of FIGS. **3** and **4,** the backrest section **16** is provided with indented lower portions **20** wherein the sheet material is pressed inwardly so as to effect such indentations which are provided to accommodate the knees and lower portions of the legs of passengers riding behind the seat.

The flat bodies of the two sections **14** and **16** are formed with forwardly projected right angular flanges **22** and **24** on their outer side edges. A complemental flange **26** is provided on the top edge of the backrest section **16.** The upper ends of the flanges **24** on the backrest section are beveled or slanted inwardly, as at **28,** so as to avoid right angular corners for safety reasons. Also, such construction eliminates the need for any specially formed and differently constructed "right" or "left" seat frame, as will be apparent from a consideration of FIGS. **2** and **4.**

A hand grip **30** is fixed to and upstands from the outer beveled upper corner while an arm rest **32** is provided at the juncture between the flanges **22** and **24,** as shown in FIG. **1.** The flanges are complemental in their size and shape and cooperate to provide with the flat surfaces or bodies of the backrest and bottom a box-like frame for the reception of a pair of side by side seat frames **34** and **36,** as shown in detail in FIG. **2.**

In this respect, a center rib **25** is provided on the front surfaces of the backrest section **16** and the bottom section **14,** as shown in FIG. **4.** The central rib complements the side edge flanges **22** and **24** so as to form a pair of spaced apart side by side seat frame receiving compartments **27.** The rib **25** not only serves to

separate the frame shell **12** into two adjoining compartments **27** whereby the attached seat frames **34** and **36** will be supportively separated, but it also serves to give added rigidity to the frame shell **12.** This is apparent from a consideration of FIGS. **3** and **4.**

Each seat frame, as shown in FIGS. **2** and **6,** includes flat sheet plastic or metal back and bottom sections **38** and **40,** respectively, that are in an angular relationship complemental to the angular relationship between the backrest section and the bottom or seat section of the supporting frame **12.** The back and bottom sections **38** and **40** are provided on the marginal edges of their front faces with tubular mounting rails or blocks **42** that constitute raised side edges on the sections. Such mounting blocks have front flat walls **44** which are formed with a spaced series of apertures **46.** The mounting blocks of the bottom section are mated with the mounting blocks of the back section by a cross piece **35** that is structurally interposed at its dowel ends **37** therebetween and that has a specially contoured frontal edge.

The tubular mounting blocks are suitably fixedly superimposed at their flat rear walls **48** on the front faces of the backrest and bottom sections of the seat frame sections. The rear walls **48** and the supporting marginal portions of the back and bottom sections **38** and **40** of each seat frame are provided with registerable openings **50** to receive headed screw fasteners **52** that fixedly mount the seat frames **34** and **36** on the supporting frame **12,** as shown in FIG. **7.** In this respect, the bottom section **14** and the backrest section **16** of the supporting frame **12** are provided with apertures **54** that extend in a spaced apart arrangement along the side edge portions thereof and along the front edge portion of the bottom section **14** and the upper edge portion of the backrest section **16** as well as in parallel rows down the central portions of both sections on each side of the center rib **25,** as shown in FIG. **4.**

As can be appreciated from a consideration of FIG. **2,** the modular seat **10** is composed of a plurality of module cushion segments **56** which are of similar shape and size and which constitute standardized cushion segments to define the upholstery for the seat frames. As a preferred exception, the front edge cushion segment **56***a* and the top edge cushion segment **56***b*, which will be more particularly described, are formed in a different manner from the standardized main cushion segments **56.**

As shown more clearly in FIG. **5,** each of the module cushion segments **56** is in the form of an elongated block of suitable foam material, such as self-skinning polyurethane foam. The cushion segments are positioned transversely of their associated seat frame and are mounted in a tightly abutting or contiguous side by side relationship, as shown in FIGS. **1** and **2,** to provide a continuous and seemingly unitary cushion surface. The mounted module cushion segments present a visual appearance of unity and possess a functioning characteristic of cooperating togetherness due to their snug, side by side engaging placement on the seat frame so that an occupant or viewer of the assembled seat would not be aware of the modular construction. But each cushion segment would react in a separate and individual manner to any imposed weight load.

Each of the module cushion elements **56,** which are arranged crosswise of the seat frames, has a longitudinally concave or dished front face **58.** Thus, the mounted module cushion segments **56** have a bucket seat contour. And due to the self-skinning nature of the polyurethane foam, no upholstery covering is needed. But, if some other resilient plastic or equivalent material were used to define the cushion segments, a suitable vinyl or other covering could be secured over the outer faces of the cushion segments.

The rear face **60** of each of the cushion segments **56,** as shown in FIG. **5,** has opposing flat outer end portions **62** and the rear face **60** is arched inwardly from such opposing end portions. The rear face is covered with a vinyl or nylon membrane or covering sheet **64,** which also may be formed from any other equivalent plastic material or other suitable upholstery covering. The membrane **64** overlies the concave or arch portion of the rear wall and the end portions and it has extending end sections **66** which overlap the outer ends of the cushion segment and which have inturned ends **68** anchored within the opposing ends of the cushion segment. The membrane or covering sheet **64** is provided on its inner face with a plurality of barbs or hooks **70** that are self-anchored within the foam body of the cushion segment so as to hold the membrane **64** taut against the rear face **60.**

Each cushion segment, which is constructed of polyurethane foam, is placed in a heated mold with the membrane **64** at the back concave face of the cushion segment. In the heated mold the front concave face **58** becomes molten for a desired depth with the pores of the foam being eliminated. As it cools, a film forms which constitutes the skin on the face. Such face skin can be textured molded to resemble leather.

The membranes **64** becomes locked onto the rear face of the cushion segment and serves as an anchoring backing for the foam segment. Without such backing the foam segment would pull apart. The membrane can be any suitable material that would withstand the heat of the mold.

As is apparent from FIG. **5,** the membrane covered end portions **62** are substantially flat and are superimposed on the flat front walls **44** of the seat frame mounting rails or blocks **42.** The concaved rear wall of the cushion segment provides a support arch and is superimposed on a spring support **72** which is held thereby in place against the front face of the bottom or backrest sections of the seat frame **34.** The spring support **72** is preferably a semi-rigid urethane block or core with a treated convex outer face **74** that engages the covering membrane **64** of the cushion segment. It is made convex to fit within the support arch while the rear wall of the spring support core or segment is flat and bears against the front face of the bottom or back sections of the seat frame **34.** Such support **72** is desirably convex to give added support.

While the spring support **72** is shown as a semi-rigid urethane foam block, the same can be composed of a framework of the same dimensions as the block **72** and within which plastic or metal coil springs or the like conventional spring means can be housed to provide a spring support assembly for the module cushion segments **56.** Such would desirably also have a convex nature.

Means is provided for detachably securing or affixing each of the module cushion segments in a crosswise or transverse mounted position on the opposing side mounting blocks or rails for the back and bottom sections of the seat frame **34.** And such fastening means,

generally designated by numeral **78** in FIGS. **5** and **7**, is in the nature of an inter-engaging locking means between the end portions **62** of each cushion segment **56** and the front walls **44** of the mounting blocks or rails. In this respect, the end portions **62** of each cushion segment are provided with indentations or recesses **80** and the center of the indented wall **82** is formed with a pair of lengthwise spaced apart apertures **84.** The apertures **46** in the front walls of the rails are grouped in lengthwise spaced apart pairs so as to correspond to the arrangement of a pair of fastening means **78** on each end portion of each cushion segment.

The bounding wall of each of the apertures **46** in the mounting rails **42** is overlaid with a metallic eyelet **86** through which the bifurcated shank part **88** of a snap-on or press-in clip or stud fastener **90** is adapted to pass in the fastening of the cushion segment on the seat frame. Each of the stud fasteners is formed from suitable plastics material and possesses an inherent resiliency. As shown in detail in FIG. **5**, each of the clip or stud fasteners **90,** which form part of the fastening means **78,** includes an annular body portion **92** which is shaped like a round washer and which is housed within the recess **80** and from which the shank part **88** and a head part **94** of the fastener project in opposing directions. Such parts are in axial alignment and posses inherent resiliency.

The head part **94** is conical shaped and is split axially along its center from and through its apex on through its base and into the neck part **96** which is received within the opening **84** in the covering membrane **64.** Such split provides branches **98** and **100** that have right angular shoulders **102** at their base ends.

The clip or stud fasteners **90** are fastened in pairs to the opposing end portions **62** of each cushion segment **56** with the head parts being forced through the openings **84** and embedded in the foam body of the cushion segment, as shown in FIG. **7.** In forcing the head parts into place, the branches **98** and **100** will flex inwardly towards each other to permit such inward thrust and then will spring apart outwardly and the shoulders **102,** which are normal to the axis of the head part, will seat on the inside of the membrane **64,** as shown in FIG. **7,** and anchor the fasteners in attachment to the cushion segments.

Each cushion segment **56** will thus have a pair of anchored fasteners **90** on each end portion **62** with the shank parts **88** of the fasteners projecting outwardly from the end portions and arranged laterally of the cushion segment. A cushion segment **56** is attached in place on a seat frame by manually disposing the segment in position transversely of the opposed side rails or blocks **42** with the shank parts **88** in alignment with the pairs of apertures **46** in the front walls **44** of the rails. A manual push on the ends of the cushion segment will force the bifurcated shank parts **88** into locked engagement of the rails.

As can be appreciated from FIG. **7,** each shank part **88** is substantially conoidal in shape and has two bufurcations **104** and **106** which have inwardly beveled base ends **108** that define locking shoulders and which also define cams in flexing the bifurcations **104** and **106** inwardly to permit forced deliberate retraction of the shank parts. Accidental dislodgment is prevented by the locking shoulders **108** in their located placement, as can be seen in FIG. **7.**

An authorized workman with a pry tool can pop-out a damaged cushion segment with a prying action. A replacement cushion segment can then be easily press snapped into place. Desirably the pry tool would have a forked end so that it would have two branches to simultaneously engage and pop-out the shank parts of the fasteners **90** of each pair at an end of a cushion segment. However, any suitable pry tool, such as a crow bar or screw driver, can be used to remove a damaged cushion segment.

In many instances a cushion segment will be so severely damaged that it would not be economically feasible to repair and reinstall it. In such a case, which may be the majority of situations, it will be discarded. Recognition of such discarding rather than repaired reuse has lead to the structural nature of the cushion segments which are formed in an expensive way from relatively cheap plastics material. This is true, also, of the clip or stud fasteners, which are preferably fabricated from inexpensive plastics material, such as polyethylene. In the latter respect, a fastener may fracture during removal of a cushion segment and, in such a case, the broken fastener can be removed at its anchored end, either head or shank, by having such end drilled out. Then, a new fastener can be installed if the cushion segment is to be reused.

With regard to the cushion segments **56*a*** and **56*b***, it can be appreciated, from a consideration of FIG. **2,** that they are U-shaped in cross-section. The bottom front edge cushion segment **56*a*** wraps around the front edge of the bottom section of the seat frame while the cushion segment **56*b*** overlaps the top of the supporting frame, as shown in FIG. **3.** Such segments have leg portions **110** which are normally in parallelism but which can be spread apart to fit over the front edge portion of the seat frame and top edge of both frames with the bight portions **112** of such cushion segments **56*a*** and **56*b*** overlying the outer walls. The top leg portions **110*a*** complement the front faces **58** of the cushion segments **56** and carry fasteners similar to the fasteners **90** that fit into receptive apertures in the frontal walls of the mounting rails **42** at the front and top ends thereof whereby the cushion segments **56*a*** and **56*b*** are mounted in place, as shown in FIG. **8.**

The seat frame and seat cushion segment designs and constructions can vary from the basic arrangement of FIG. **5,** to other arrangements such as those shown in FIGS. **9–11,** for example.

In FIG. **9,** the supporting frame **12*a*** has inwardly disposed lateral ribs **114** formed on its flanges and center rib to which the cushion segments **56*c*** are attached by the fastening means **78** of FIG. **5.**

In FIG. **10,** the side rails **42*a*** are circular and have apertured wings **116** to which the plates **38*a*** of the back and seat sections of the seat frame **34*a*** are attached by fasteners **118.** In such instance the front walls **44*a*** of the side rails are arcuate instead of being flat as in the form of FIGS. **2** and **4.** Consequently, the end portions **62*a*** of the backing membranes **64*a*** are arcuate and are attached to the curved front walls by the fastening means **78** of FIG. **5.**

In FIG. **11,** the front walls **44*b*** of the end rails **42*b*** are slanted inwardly instead of being squared off with the rails being triangular instead of square in cross-section. In such arrangement, the end portions **62*a*** of the cushion segments **56*d*** are beveled and fit flat against the

walls **44***b* to which they are affixed by the fastening means **78.**

In any of the seat frame and module cushion segment arrangements it can be appreciated that the front concave faces of the cushion are contoured to comfortably support the body of an occupant while the rear arched faces accommodate the support cores that lend strong resilient support to the cushion segments.

In the instance of the indentations **20** in the frame **12,** it can be appreciated that such are obtainable by merely shaping the frame shell with the indentations. And the spring supports in such regions will merely be more tightly compressed to accommodate the indentations.

While the forms disclosed herein involve the utilization of the specifically constructed clip or stud fasteners for anchoring the module cushion segments to the seat frame, other fastening means that could effect the fastening in a hidden manner could be used. For example, the cushion segments could be anchored by a suitable adhesive. Or they could be attached by bolt fastening means.

While the module cushion segments **56** are of a standardized shape and size it may be found desirable to have the cushion segments of varying foam density so that certain cushion segments will be harder or softer than others. This will permit the more firm cushion segments to be placed where more support is needed as in the instance of the buttocks supporting area of the seat section of the seat.

While the seat construction is primarily intended for installation on public conveyances it can be used to great advantage in other public areas such as in the waiting rooms at depots or terminals. Also, while specific constructions have been described herein and illustrated in the accompanying drawings and a specific description has been set forth in the Abstract, such are merely exemplary in nature and the invention is only delimited by the terms and scope of the appended claims.

What is claimed is:

1. A module seat comprising:

a. a seat frame;

b. a supporting frame onto which the seat frame is detachably secured, said supporting frame being composed of angularly related vertical back and horizontal seat sections having means to form a compartment in which a seat frame is seated;

c. means for detachably fastening the seat frame to the supporting frame;

d. a plurality of independent and separate module cushion segments detachably fastened to the seat frame in a contiguous side by side relation to constitute the upholstery for the seat;

e. interengaging means between said seat frame and each individual cushion segment for fastening said cushion segments in place, said interengaging means being hidden by the body of the cushion segment,

the seat frame (a) including back and seat sections having mounting means provided along their side edges, said means having the cushion segments fastened thereto with such cushion segments extending transversely of the seat frame sections in side by side touching relation, and each cushion segment having an individual spring support underlying same and positioned between the mounting means while being held in place by its associated attached cushion segment.

2. The seat of claim **1** wherein each cushion segment is a block of foam material.

3. The seat of claim **2** wherein each foam cushion segment has a concave front face and a concave rear face, said rear face being overlaid by a fixed support membrane defining a support arch, said spring support having a convex front face fitted in the support arch.

4. The seat of claim **3** wherein said foam cushion segment has its concave front face formed with a protective integral film.

5. The seat of claim **1** wherein said supporting frame has back and seat sections provided at their side edges with outstanding flanges and provided intermediate said flanges with a complemental rib, said flanges and rib defining compartments for the reception of a pair of seat frames, said seat frames being spaced apart by the rib.

6. In a module seat construction:

a. a seat frame having a back and a seat section;

b. said sections having raised side edge portions;

c. a plurality of independent and individual module cushion segments arranged transversely of the seat and back sections and having opposing end portions and front and rear faces, each cushion segment being formed from a self-skinning polyurethane foam and having a concave thickened front face and a concave rear face, said rear face having a supporting membrane anchored thereto; and

d. means carried by the rear faces of each cushion segment at its end portions and by the side edge portions of the seat frame for detachably fastening the cushion segments in side by side contiguous relation to the back and seat sections of the seat frame, said fastening means including studs, each stud having opposing fastening portions and said edge portions of the seat frame and the end portion of each cushion segment having openings for the anchored reception of said fastening portions of the stud.

7. The invention of claim **6** and further including a spring support underlying each cushion segment and held in place transversely between the edge portions of the seat frame sections by an overlying attached cushion segment, said spring support having a convex front face supportingly fitted in the concavity in the rear face of the cushion segment.

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