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2,654,418

WHEEL-LIKE SEATING DEVICE


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8 Claims. (Cl. 155—130)

1. This invention relates to improvements in seating devices and has particular reference to a seating device embodying dual chairs that are supported within a pair of parallel and spaced apart wheel-like frames constructed in a manner to be extended for disposing the chairs in spaced apart identical seating positions.

The primary object of the present invention resides in novel chair devices that are rigidly supported in half circular frames hinged together in a manner to constitute a wheel-like support when the device is collapsed for rolling movement from place to place with the hinge means permitting the frames to be extended in end to end relation for disposing their respective chairs in identical seating position.

Novel features of construction embodying a pair of half circular spaced apart frames for each chair, with the frames being hinged together in a manner to permit them to be swung apart in an arcuate path with their respective chairs being positioned in identical height from a ground level, together with brace means for retaining the extended frames against shifting with respect to each other, the device including latch means for retaining the frames in wheel-like position against accidental shifting.

The invention embodies novel seat and back supporting frames supported within the half circular frames, together with arm rests and article supporting trays for each chair.

A further object of the invention resides in novel back supporting means constructed in a manner to permit the shifting of the chair backs from end to end of the seats whereby the backs may be disposed in opposite positions to permit a seating arrangement with the chairs faced in opposite directions, the shifting of the backs permitting the collapsing of the frames with the chairs substantially lying wholly within the wheel-like frame in opposed relation to each other.

Other novel features of construction and arrangement of parts will be more clearly pointed out during the course of the following description, reference being had to the accompanying drawings, wherein has been illustrated a preferred embodiment of the device and wherein like characters of reference are employed to denote like parts throughout.

Referring to the drawings:
Figure 1 is a side elevation of the seating device in the collapsed wheel-like position.
Figure 2 is an end view thereof.
Figure 3 is a top plan view thereof.

2. Figure 4 is a central transverse vertical section, taken on line 4—4 of Figure 1.

Figure 5 is a side elevation with the half circular frames extended and disposing the chairs in seating position.

Figure 6 is a top plan view of the device of Figure 5.

Figure 7 is a fragmentary section illustrating latch means for retaining the device in collapsed wheel-like position, taken on line 7—7 of Figure 1.

Figure 8 is an enlarged fragmentary vertical longitudinal section, taken on line 8—8 of Figure 6.

Figure 9 is a fragmentary section, parts in elevation, illustrating the shiftable support for the chair backs and,

Figure 10 is a perspective view of the chair forming and fabric supporting frame to be mounted within the half circular frames.

Referring specifically to the drawings, the numerals 5 and 6 designates identical half circular frame members as a whole, each frame member embodying spaced apart and preferably tubular sections 7 and 8. The frame members 5 and 6 are hingedly connected at 9 in a manner whereby the frame sections can swing in an arc to form a pair of identical ground supports in end to end relation. The tubular sections 7 and 9 are rigidly tied together in parallel spaced relation by tubular cross members 10 and 11. The hinged means 9 is connected to the adjacent cross tubes 11, as plainly illustrated. The free end of each half circular section 5 is provided with an apertured plug 12, for the reception of a bevelled latch pin 13, carried by plugs 14, fixedly positioned in the free ends of the half circular members 7. A spring pressed latch 15 carries a latch 16 that normally extends into the path of travel of the pin 13 and serves to maintain the half circular members in a position to form a complete wheel-like device. The latches are obviously carried upon opposite sides of the device.

Each half circular frame carries a chair, indicated as a whole by the reference numeral 17. The structure of the chairs are identical and a description of one will suffice for both. The chair structure is preferably fabricated from light weight tubular metal, such as aluminum and embodies side sections 18 of generally U-shape, including a straight horizontal traverse rail 19 and angularly disposed legs 20. The rails 19 are rigidly maintained in parallel spaced relation, by tubular cross rails 21, bolted or other-
wise connected to the rails 9 adjacent to the legs 20. Inwardly spaced from the rails 19, are parallel tubular rails 22, bolted or otherwise rigidly connected to the rails 21, as more clearly shown in Figure 10. Arm rests 23, of wood, metal or any other desirable material are supported upon generally U-shaped tubular supports 24, embodying a straight supporting rail 25 and angularly disposed legs 26. The legs 26 are rigidly connected to the legs 20, as by bolts or welding and the supports 24 are angularly arranged to position the arm rests 23 outwardly of the seating area of the chair 17. At assembly, the legs 23 are bolted or welded to the half-circular members 7 and 8 and rigidly supports the chair structure with respect to its respective pair of half-circular frames. A suitable flexible seat fabric 27, is jointly connected to the rails 21 and 22 in any desirable manner. A recessed tray device 28 is provided for each chair and is rigidly connected at one side to the cross members 10 and at the opposite side to the rails 26.

A back support, indicated as a whole by the numeral 29, is adapted to be supported in an inclined manner upon the seat frame. The support 29 consists of a U-shaped tubular frame 30 having its terminal ends pivotally supported in traverse brackets 31, as at 32. The brackets 31 provide a socket of V-shape, with the angularity of the socket determining the angularity of the back support. Each bracket 31 is preferably formed integral with a sleeve 33, that is adapted to be able to have shiftable sliding movement on the rails 10, for a purpose to be presently described. Each frame 32 is preferably covered by a flexible slab of fabric 34 or fabric cover 34. While the seat 27 and back 29 have been described as being of fabric, it will be apparent that other suitable coverings may be employed, such as plastic strips or the like.

In the construction of the device, the several half-circular members 7 and 8 are formed and rigidly connected by the tubular members 10 and 11. The chair structure is then fabricated by suitably shaping the several rails. Prior to the shaping of the side sections 18, a bracket 31 is placed thereon, after which, the legs 26 are angularly bent. The rails 21 and 22 are then bolted in position. The arm rests are then formed and assembled and their legs 23 bolted to the legs 20. The chair structure is then rigidly bolted in position by bolting the legs 23 to their respective half-circular members 7 and 8. The tray devices 28 are then bolted in position between the arm rests and the member 10. Hinges 3 are then connected to each of the members 11, by screws or bolts and serve to permit the arcuate swinging movement of the half circular sections toward and from each other. The back support frame 30 is then pivotally connected to the brackets 31, after which the fabric 27 and 34 is attached to the seat frame and back respectively. The device is now ready for use.

With the half circular sections 5 and 6 in the closed or wheel-like position, as shown in Figures 1 to 4, it will be apparent, that in order for the chairs to shift with the half circular sections, it is necessary that the backs 29 be oppositely positioned to permit the overlapping of the backs with respect to the adjacent chair. For this purpose, prior to the collapsing of the device, one back support is shifted to the opposite end of its respective rails 19, after which the sections 5 and 6 can be swung together and the backs 29 overlapping the adjacent chair structure, clearly shown in Figures 1 to 4. The latches (15 securely retain the sections 5 and 6 in the closed or collapsed position of Figure 1 to permit the device to be easily rolled from place to place with no interfering projections. While the hinges 9 will project slightly beyond the circumference of the device, it is contemplated that each half-circular member 7 and 8 will be equipped with a narrow rubber tire for its entire outer circumference with the tire having the thickness substantially the degree of projection of the hinges. However, the tires may or may not be employed and it is not believed that the hinge projection will offer any objection to the free rolling of the closed wheel-like device.

When it is desired to open and extend the sections to seat forming position, the operator presses upon the two latches 15 simultaneously, releasing the half circular sections with respect to the circular frame. The latches 15, shown in an arc to dispose the sections in end to end relation with the arcuate sections resting upon the ground. A brace bar 35, pivotally supported at 35 to one half-circular member 3, is then swung outwardly to engage a stud bolt 36, carried by the mating half-circular member 7. The free end of the bar 35 is notched at 36, to engage the stud 37 and is fixed in bracing position by a wing nut against accidental release. Inwardly of the notch 33, the bar 35 is notched at 35 to engage over a stud bolt 36, carried by the member 8 and serves to retain the brace in inoperative position against interference with the free rolling of the closed device. A wing nut serves to hold the brace in the inoperative position. After the sections have been swung to seat forming position, the back supports are shifted to the desired end of the rails 18, in the manner illustrated in Figures 5 and 6, or, either of the back supports may be arranged in a manner that permits the occupants to sit in a position facing in opposite directions. When the device is to be collapsed to a full-wheel-like position, either of the back supports 29 are shifted to an opposite position, the brace bar 35 released and the sections swung together and latched, with the back supports 29 overlapping the opposite seat section.

It will be apparent from the foregoing, that a very novel multiple chair device is provided. The structure is simple and easily assembled and is extended to form a pair of identical chairs with a minimum of effort or collapsed into a compact nested arrangement to form a complete wheel-like frame that facilitates moving the device from place to place by rolling or for storage. The chairs are offset inwardly toward each other from the arcuate center of each half circular section, providing adequate clearance for the trays 28 and placing the major weight upon the hinges 9 and brace bar 35. The seat 17 is of conventional height from the ground and the angularity of the back supports are such as to provide a very comfortable seating arrangement with the added convenience of the trays 28. The device is relatively cheap to manufacture, is strong, durable and highly convenient in use.

It is to be understood, that the specific structural details and arrangement of parts may be varied as readily fall within the spirit of the invention or the scope of the subjoined claims.

Having described our invention, what we claim as new and desire to secure is:

1. A wheel-like seating device that comprises a circular frame, multiple chairs supported in the circular frame, the circular frame being ex-
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2. A wheel-like seating device that comprises a pair of half-circular frame sections hinged together at one side, each frame consisting of a pair of parallel and spaced apart half-circular members, cross members for retaining the frame members in rigid spaced relation, a rigid frame for each chair that is connected to its respective half-circular members, arm rests for each chair, a back rest for each chair, the back rests being shiftable to opposite ends of a seat included in the chairs, a tray device for each chair, the half-circular frames being arcuately extended for disposing the frames in end to end relation, latch means for retaining the half-circular frame members in a wheel-like form and brace means for retaining the half-circular frame members in extended position, the frame members disposing the chairs in spaced apart seat forming position.

5. The structure as in claim 4, wherein the back rests are angularly disposed with respect to the seat in either position of adjustment.

6. A rolling wheel-like multiple chair supporting device that includes a pair of identical half-circular frames hinged together at one side, latch means for retaining the frames in a wheel-like position, each frame embodying a pair of identical spaced apart and parallel half-circular tubes, cross tubes retaining the half-circular tubes in spaced relation, a chair device rigidly supported in each half-circular frame, each chair including a seat and a back rest, a rigid frame for the support of the seat and back rest that consists of parallel side rails and parallel end rails, legs formed upon the side rails and having rigid connection with the half-circular tubes of their respective half-circular frame, brackets shiftable upon the side rails, the back rest consisting of a fabric supporting frame having its ends supported in the brackets, the back rests being bodily shiftable upon the side rails to be disposed at either end of the chair frame, a seat secured to the chair frame, arm rests for the opposite sides of each chair, supporting means for the arm rests that is rigidly connected to the legs, a tray device rigidly supported adjacent each chair, the half circular frames being hingedly connected at one side to be swung apart in an arc to be disposed in end to end relation to position their respective chairs in seating position, the frames when in wheel-like position being in abutting relation with their respective chairs in opposed relation and latch means for retaining the frames in the wheel-like position.

7. The device as in claim 6, wherein the back rests are provided with oppositely inclined end walls to angularly dispose the back rest with respect to the chair at opposite ends of the chair.

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