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H. P. NORDMARK

2,201,450

SEAT HINGE

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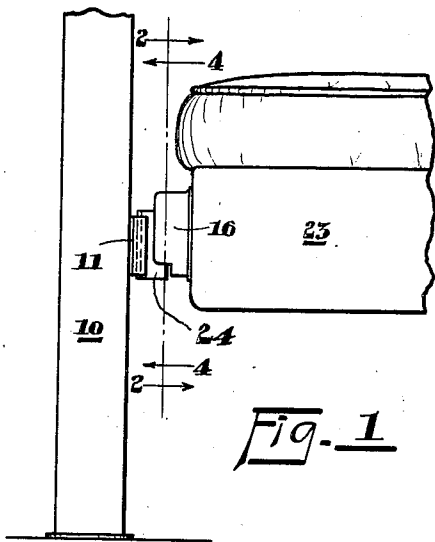


Fig. 1

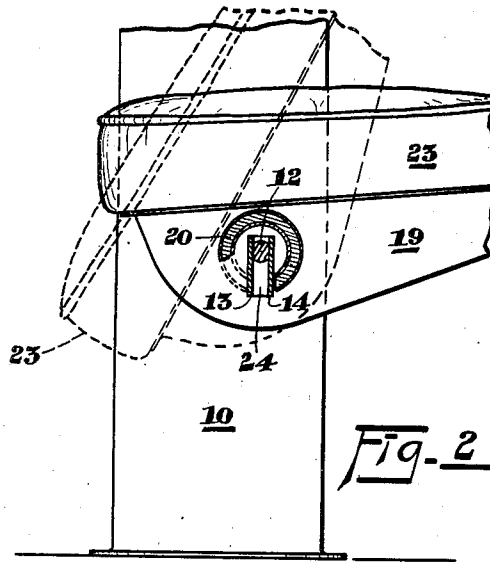


Fig. 2

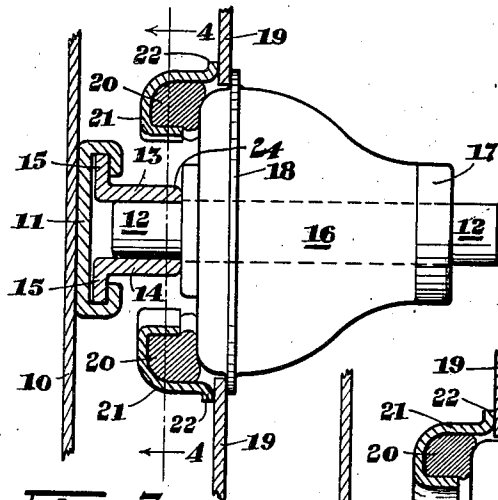


Fig. 3

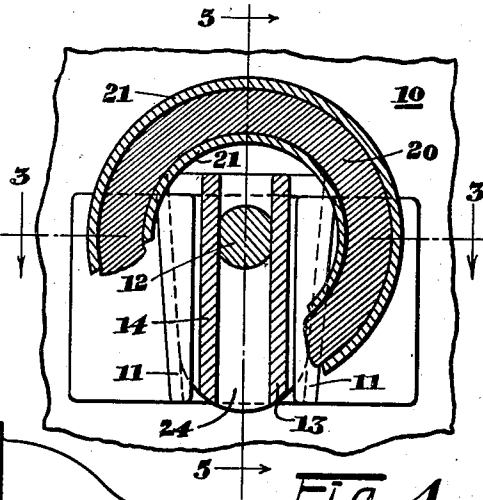


Fig. 4

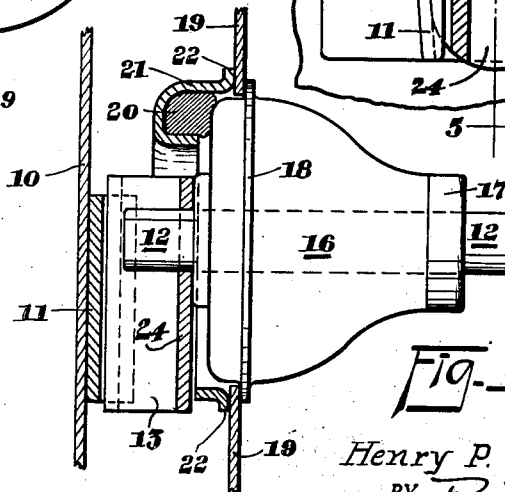


Fig. 5

Witness
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UNITED STATES PATENT OFFICE

2,201,450

SEAT HINGE

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2 Claims. (Cl. 155—85)

The present invention relates to seat hinges and more particularly to a hinge provided with a resilient supporting member. The seat hinge herein shown and described is a modified form of the construction illustrated and described in my copending application filed October 8, 1937, Serial No. 167,868.

The primary objects of the instant invention are to provide a seat hinge of the general character above indicated which is especially well adapted for use in conjunction with chairs of the opera type; to provide such a hinge whose resilient seat supporting member causes the seat to be tilted upwardly when unoccupied, permitting ready and convenient ingress and egress of persons passing the unoccupied seat; to provide such a hinge whose resilient seat supporting member is torsionally twisted when the seat is occupied and which is reversely torsionally twisted when the occupant of the seat arises therefrom and forces the seat rearwardly beyond its normally tilted position to permit passage of another in front of the occupant of the seat; to provide such a hinge whose resilient supporting member abuts against a stop when the seat is occupied and which likewise abuts against a stop when the occupant of the seat arises therefrom; and, to provide such a hinge which is novel in construction, utilitarian in use and economical in manufacture.

An illustrative embodiment of the invention is shown in the accompanying drawing, wherein:

Figure 1 is a fragmentary front elevational view of a chair of the opera type whose seat is hingedly mounted and resiliently supported by the novel type hinges;

Figure 2 is a sectional view thereof on line 2—2 of Figure 1, showing in full lines the seat in the position when occupied and in dotted lines showing the seat when unoccupied;

Figure 3 is an enlarged sectional view of the seat hinge per se on line 3—3 of Figure 4, and in this view, the parts of the hinge are shown in positions corresponding to the raised position of the seat;

Figure 4 is a sectional view thereof on lines 4—4 of Figures 1 and 3;

Figure 5 is a sectional view on line 5—5 of Figure 4.

Referring then to the drawing wherein like parts of the chair and its seat hinge are all designated by the same numerals in the several views, the structure comprises a pair of spaced vertically disposed chair supporting standards 10 (one standard only being here shown) adjacent

the inner sides of both of which standards a downwardly tapered supporting bracket 11 is rigidly secured.

The outer end of a seat supporting spindle 12 is rigidly secured as by spot welding to the side portions 13, 14 of a cross-sectionally U-shaped member 24 whose bight portion is apertured to permit insertion of the spindle 12 between the side portions 13, 14 and whose side portions 13 and 14 are flanged outwardly at 15 as best shown in Figure 3 and are downwardly tapered as best shown in Figure 4. The downwardly tapered flanges 15 are adapted to be seated within the downwardly tapered supporting bracket 11 secured adjacent the inner side of each vertically disposed chair supporting standard 10.

The spindles 12 extend laterally inwardly from their respective standards and toward each other, and are each provided with an embracing resilient hub member 16 of rubber or the like fixedly secured thereto intermediate the ends of the spindle as by vulcanizing. The inner side of the hub member here shown is provided with a cap 17 of metal or the like secured to the inner end of the spindle and likewise secured to the hub member as by vulcanizing and a ring 18, seated and secured within a circumferential groove of the resilient hub member 16 as by vulcanizing, embraces the hub member and projects radially therefrom.

A seat supporting arm 19 preferably of stamped or cast metal is provided with a bore within which the inner end of the hub member 16 extends and against whose radially projecting ring 18 the arm 19 is secured in any suitable manner as by spot welding.

A broken resilient ring 20 of rubber or the like is secured adjacent the outer side of the resilient hub member 16 within a grooved broken ring 21 of metal having a flanged lip 22 which is secured to the metal seat supporting arm 19 as by spot welding. The broken resilient ring 20 is wedged between the ring 21 and the hub member 16.

The seat supporting spindles 12, their resilient hub members 16, together with the rings 18, form a hinge for the seat 23 whose supporting arms 19 are each secured to a ring 18 in a manner normally maintaining the seat in its tilted position shown in dotted lines in Figure 2 to permit ready ingress and egress past the unoccupied seat.

When the seat is occupied as shown in full lines in Figure 2, the resilient hub member 16 is caused to be torsionally twisted, one end of the broken resilient ring 20 engaging the side portion 14 of the cross-sectionally U-shaped

member 24 which forms a stop and when thus occupied, the occupant of the seat in arising to permit another to pass before him, tilts the seat rearwardly to its position shown in dotted lines 5 in Figure 2, causing the opposite end of the broken resilient ring to engage the side portion 13 of the cross-sectionally U-shaped member 24 which likewise forms a stop.

10 It will thus be seen that the hinge herein shown and described maintains the chair seat in a conveniently tilted position when unoccupied, the resilient hub member permitting the seat to assume a substantially horizontal position when occupied.

15 While but one specific embodiment of the invention has been herein shown and described, it will be understood that certain details of the construction shown may be altered or omitted without departing from the spirit of this invention as the same is defined by the following 20 claims.

I claim:

1. A seat hinge for a chair comprising a spindle having a portion thereof provided with an em-

bracing and fixedly secured resilient hub member to whose circumference a seat is fixedly secured, one end of said spindle being non-rotatably attached to a chair standard having a stop 5 secured thereto, said seat having a laterally projecting broken ring whose one end is adapted to resiliently engage said stop when the seat is occupied and whose opposite end is adapted to resiliently engage said stop when the seat is unoccupied. 10

2. A seat hinge for a chair comprising a spindle having a portion thereof provided with an embracing and fixedly secured resilient hub member, a metal ring fixedly circumferentially embracing said hub member to which ring a seat is 15 fixedly secured, one end of said spindle being non-rotatably attached to a chair standard having a stop secured thereto, said seat having a laterally projecting broken ring whose one end is adapted to resiliently engage said stop when 20 the seat is occupied and whose opposite end is adapted to resiliently engage said stop when the seat is unoccupied.

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