June 21, 1927. 1,633,476

V. COLLIER

SUPPORT FOR SEATS AND THE LIKE

Filed March 19, 1925

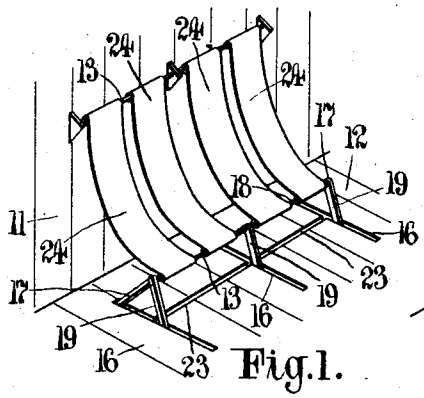


Fig.1.

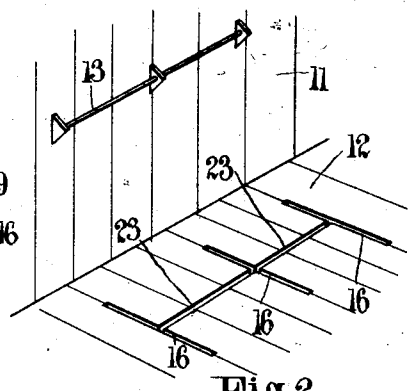


Fig.2.

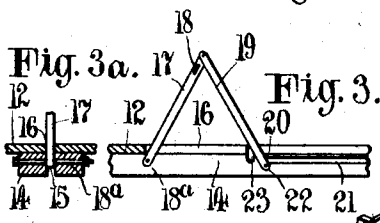


Fig.3a.

Fig.3.
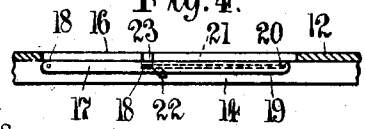


Fig.4.

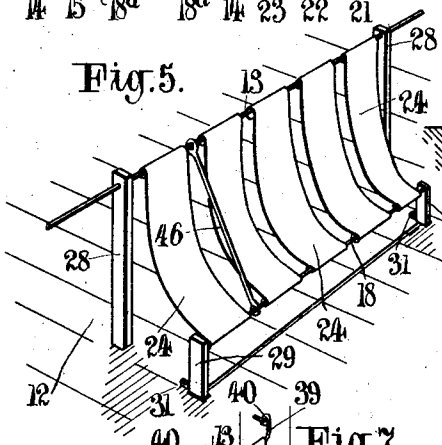


Fig.5.

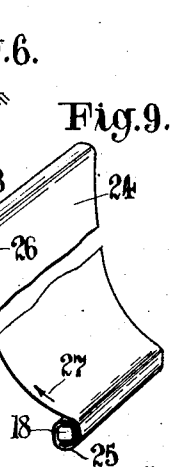


Fig.9.

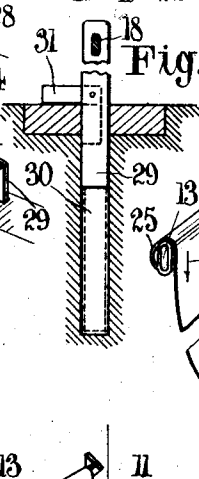


Fig.6.

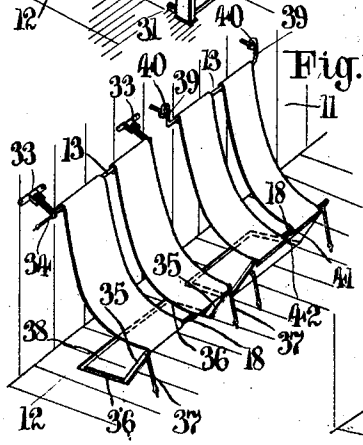


Fig.7.

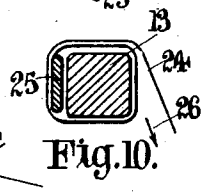


Fig.10.

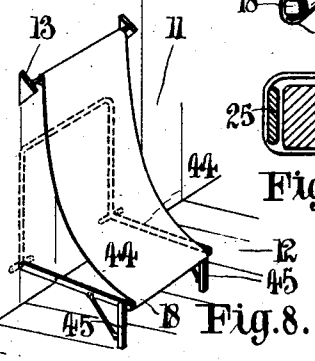


Fig.8.

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UNITED STATES PATENT OFFICE.

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SUPPORT FOR SEATS AND THE LIKE.

Application filed March 19, 1925, Serial No. 16,813, and in Great Britain March 21, 1924.

This invention relates to means for supporting detachable seating surfaces and the like.

With such seating surfaces it is necessary to provide upper and lower rails or rods around and to which the seating surfaces can be detachably attached.

According to the present invention upper and lower rails are provided of suitable length to detachably accommodate one or more seating surfaces, such rails being independently supported and carried by parts which are detachable, foldable or otherwise adapted to be removed or stowed away when the seating surface or surfaces are removed and not in use. Either or both the upper and lower rails may be so made, but in some cases the upper rail may remain fixed in position, for example on a wall or posts, whilst the lower rail is foldable or otherwise stowed away.

Many forms of the invention may be designed to suit particular uses, or positions for example, for sports pavilions, sports grounds, piers, bandstands and the decks of ships.

And in order that the invention may be better understood it will now be described with reference to the accompanying drawing in which,

Figs. 1 and 2 are diagrammatic perspective views illustrating one method of carrying the invention into effect, and

Figs. 3, 3ª and 4 constructional details of such method.

Fig. 5 is a similar view to Fig. 1 but illustrating another method, Fig. 6 being an enlarged view of a constructional detail therefor.

Figs. 7 and 8 are similar views to Fig. 1 illustrating other methods of carrying the invention into effect.

Figs. 9 and 10 are views showing the method of attachment of the seating surface to the rails.

Referring to Figs. 1 to 4, 11 is a vertical wall or the like and 12 a floor, deck or other similar horizontal surface. The wall has attached thereto brackets which form a support for a fixed upper rail 13. Beneath the floor 12, pairs of battens 14 are disposed having a gap 15 between them, which comes beneath slots 16 in the floor. Arms 17 of metal are pivoted on bolts 18ª passing through the battens 14 as shown in Figs. 3ª, 3 and 4; all the arms 17 are connected together by a bottom rail or rod 18. 19 are other arms pivoted to the free ends of the arms 17, and having their other ends located in the gap 15. These lower ends carry pins 20 projecting on both sides and entering slots or grooves 21 in the facing surfaces of the battens 14. 22 are notches in the slots or grooves 21 into which the pins 20 projecting at the ends of the arms 19 are adapted to drop in the position of the arms 19 shown in Figs. 1 and 3. 23 is a groove in the floor 12 adapted to take the lower rail 18.

It will be seen that when the arms 17 and 19 are in the turned up position as shown in Figs. 1 and 3 that the lower rail or rod 18 is held in a definite position parallel to the upper fixed rod 13 and a desired height above the floor 12.

In the turned down position the arms 17 and 19 come into the slots 16 and the rod 18 comes in the groove 23 as shown in Figs. 2 and 4 in which position the floor 12 is left free and unencumbered. The detachable seating surfaces can be placed in position when the lower rail 18 is in the upper position, in the manner indicated in Figs. 9 and 10. Each end of the seating surface 24 which is made from canvas or other textile is stiffened in any suitable manner, for instance by turning the material back upon itself and sewing the end to the material to leave a hem or pocket into which a strip of wood, cardboard or the like 25 can be inserted. The stiffened end at the top is placed against one flat face of the rail 13 and the material wound round as shown in Fig. 10. When a pull comes on the canvas in the direction of the arrow 26 it will be understood that no slipping takes place as the stiffened end is thereby bound tightly against the flat surface of the rail 13. In a similar manner the lower end is bound around the bottom rail 18 and when the canvas is pulled in the direction of the arrow 27 (Fig. 9) the lower end is bound to the lower rail. The action of sitting on the canvas produces the pulls in the directions of the arrows 26 and 27.

In the form of the invention shown in Figs. 5 and 6 the upper rail 13 is supported by fixed posts 28 arranged a desired distance apart on the floor or ground 12. The lower rail 18 is carried by posts 29 housed in sockets 30. The posts 29 can occupy two positions, one the lower in which the tops of the posts come level with the ground 12 and

the other in which the said posts are partly withdrawn from the sockets as shown in the figures. Any suitable means may be provided for maintaining these parts in the upper position when desired. In the figures a recess 30a houses a pivoted catch 31 adapted to be turned out as shown to prevent the post being returned into the socket, but also adapted to be returned into the recess to permit the post to pass to its lowest position. 32 is a groove in the ground or floor 12 to take the rod 18 when in the lowermost position to give a clear unencumbered floor, deck or the like.

Fig. 7 shows two methods of carrying the invention into effect; in the method shown nearest the front the upper rail 13 is carried by pivoted arms 33, which in the outer position may be supported by stays or struts 34. The arms 33 may be turned to come on the vertical surface 11 and may in some cases come within grooves in such surface another groove being provided for the rail 13. The lower rail 18 is carried by pivoted arms 35 pivoted to a suitable fitting and adapted to be turned to come into the slots 36, in the floor 12. The arms 35 if desired may be supported by hinged stays or struts 37 adapted to be turned to lie alongside the arms 35 and to be accommodated in the slots 36. A groove 38 is also provided for the rod 18.

In the second form shown in Fig. 7 the upper rail 13 is suspended by hooks 39 from eyebolts 40 fastened in position to the wall 11. The lower rail 18 is formed by the edge of a hinged flap 41 formed with a slot 42 near the edge to leave a portion to form the rail 18. The flap may be supported by stays or struts if desired. In the closed position the flap comes into a recess 43 bringing the upper surface of the flap level with the floor.

The lower rail 18 may if required be supported from the wall 11 or posts and not from a part adapted to be turned down on to or into the floor. Such a construction is shown in Fig. 8, where arms 44 are hinged to the wall 11 in suitable brackets and carry the rail 18 between them. The arms in the outer position may have hinged legs 45 to rest on the floor if required and these legs may be supported by stays. In the upper position the arms 44 and rod 18 are supported against the wall 11 as shown dotted and means such as a clip or turnbutton may be provided for holding it in the raised position. In other cases grooves or slots may be provided in the vertical surface for accommodating the parts. The legs 45 in the collapsed condition lie against the arms 44.

With some forms of the device the supports for the rails only may be foldable, the rails being detachable from the supports. Triangular or other shaped flaps could be used folding towards each other to the closed position, maintained in supporting position by stays, stops or the like. Between each pair the rail could be disposed. This form would be suitable for top or bottom rails.

The top and/or bottom rails in all cases may be as long as desired or convenient, for instance they may simply be long enough to accommodate one seating surface such as 24 or they may take a much greater number. The supporting means may be provided to a required number according to strength and disposition and additional supports or struts may be provided between the top and bottom rails intermediate the main supports such as 28 and 29. Again supporting struts or ties preferably hinged or foldable may be provided if required in any suitable positions.

Detachable supporting means may be provided for the top and bottom rails in some cases.

What I claim and desire to secure by Letters Patent of the United States of America is:—

1. In supports for detachable seating surfaces of the type comprising upper and lower supporting rails to which the seating surfaces are attached, a support for one rail to fixedly connect the said rail at an elevated point, a main support such as a floor having slots, hinged arms for the other rail independent of and disconnected from the support for the first mentioned rail, said hinged arms extending through said slots and battens fixed beneath the main support and at each side of the slots and carrying the pivots of the hinged arms.

2. In supports for detachable seating surfaces of the type comprising upper and lower supporting rails to which the seating surfaces are attached, a support for one rail to fixedly connect the said rail at an elevated point, a main support such as a floor, having slots, hinged arms for the other rail independent of and disconnected from the support for the first mentioned rail, said hinged arms extending through said slots, battens fixed beneath the main support and at each side of the slots and carrying the pivots of the hinged arms, other arms pivoted to the ends of the first mentioned hinged arms remote from the pivots in the battens and carrying projections at their free ends, said battens having facing surfaces in which the projections slide.

In testimony whereof I affix my signature.

VINCENT COLLIER.