April 26, 1932. W. D. RICH 1,855,439

CONVERTIBLE FURNITURE

Original Filed March 22, 1928 3 Sheets-Sheet 1

Fig. 1.

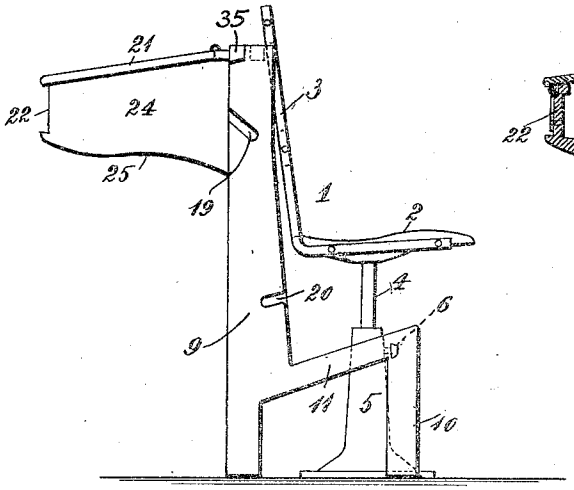


Fig. 2.

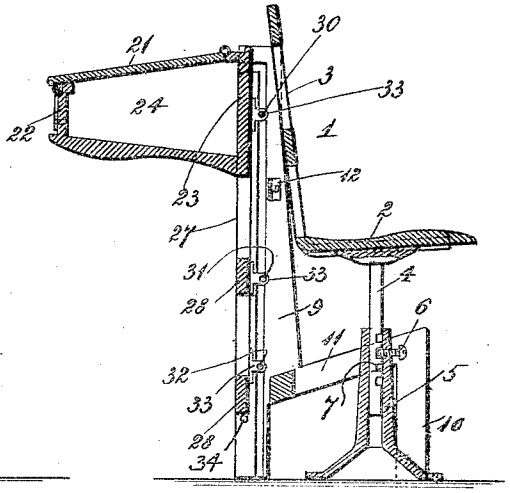


Fig. 3.

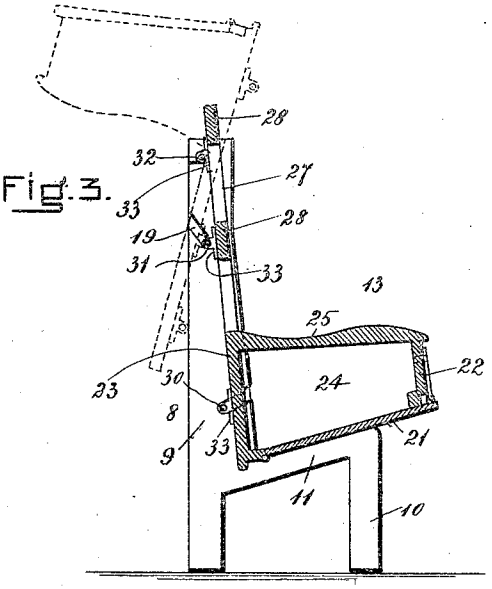
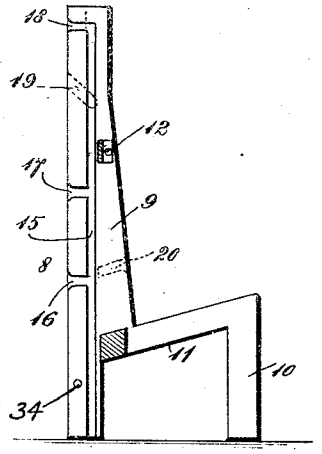


Fig. 4.



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April 26, 1932. W. D. RICH 1,855,489

CONVERTIBLE FURNITURE

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Fig. 5.

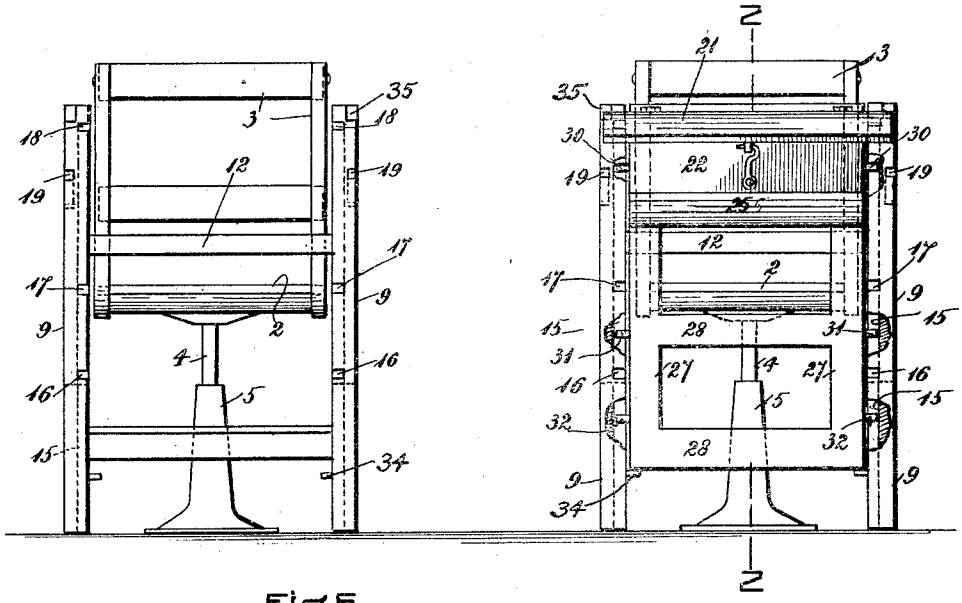
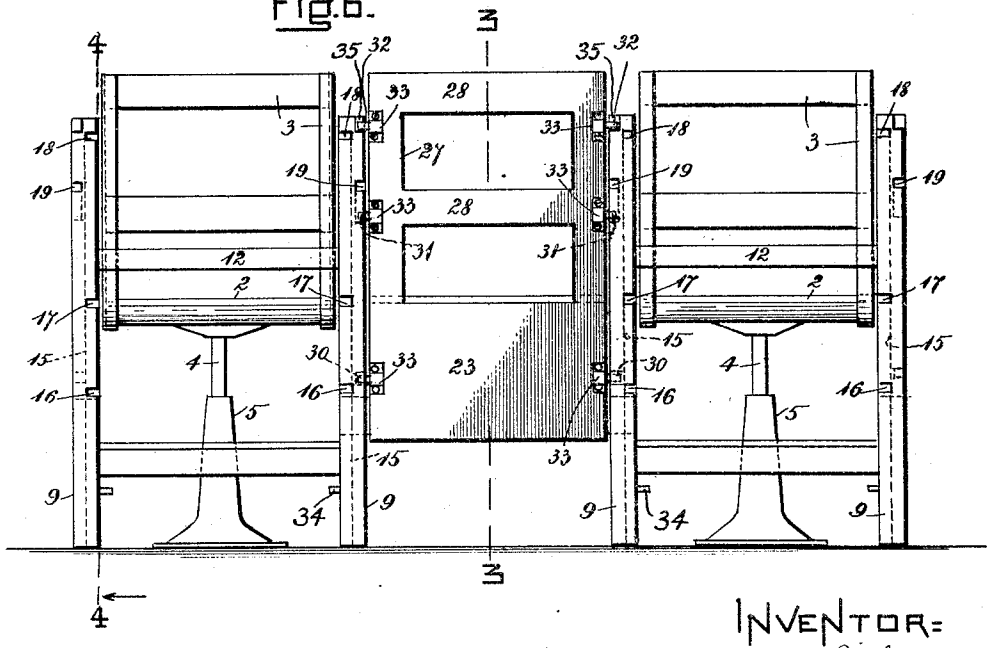


Fig. 6.



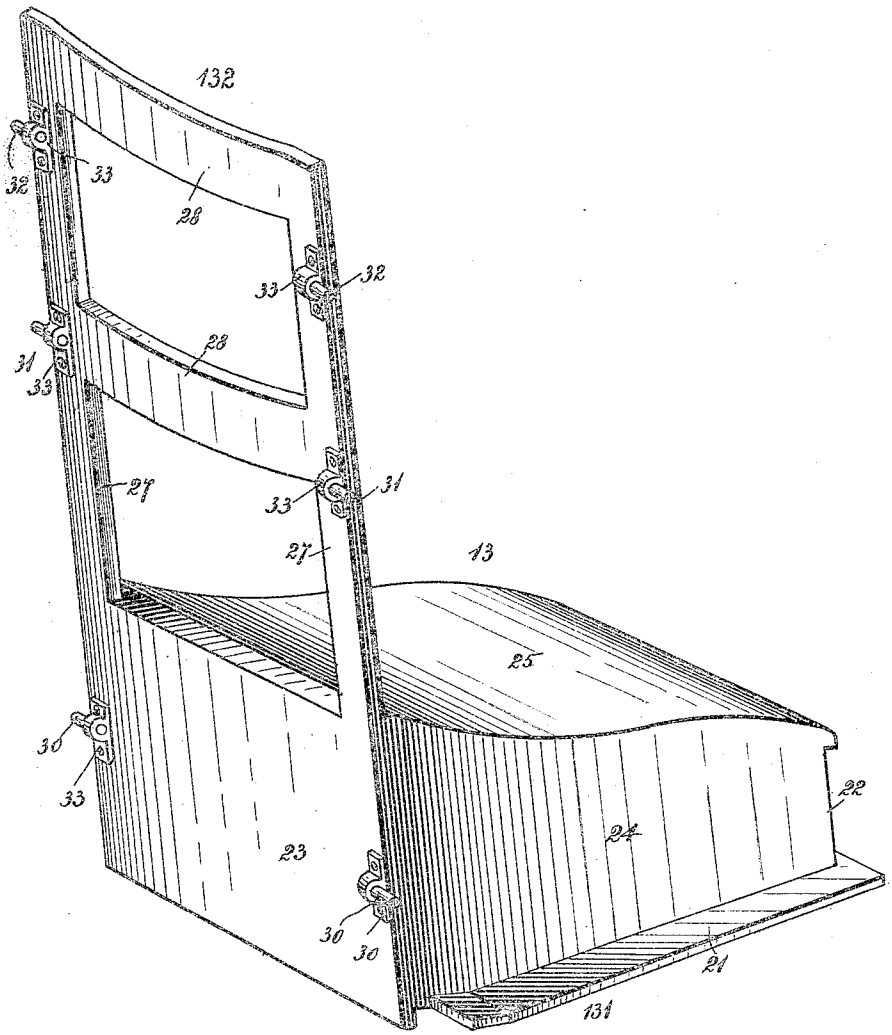
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April 26, 1932. W. D. RICH 1,855,489

CONVERTIBLE FURNITURE

Original Filed March 22, 1928 3 Sheets-Sheet 3

Fig. 7.



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Patented Apr. 26, 1932 1,855,489

UNITED STATES PATENT OFFICE

WILLIS DOANE RICH, OF HINGHAM, MASSACHUSETTS, ASSIGNOR TO DESKOR CHAIR SALES CORPORATION, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS

CONVERTIBLE FURNITURE

Application filed March 22, 1928, Serial No. 263,755. Renewed May 7, 1931.

The invention relates to convertible furniture of a type essentially adapted for schoolroom use by which the normal seating capacity of a schoolroom may be increased and the room be used for assembly purposes.

In a schoolroom the chairs with accompanying desks are ordinarily arranged with aisles between the chairs. The object of the invention is to provide these chairs with convertible desk members or attachments which allow the desks to be eliminated as occasion may require and the desk members or attachments converted into chairs for filling the aisles between the permanent chairs. Especially is it my object in the present connection to provide an arrangement permitting of the permanent chairs being adjustable in height as such kind of chairs are customarily used in schoolrooms. A further object of the invention is to provide an arrangement of as simple a character as possible and one permitting of easy convertibility and of a positive setting of the converted parts especially when these parts are used in the making of aisle chairs.

The invention can best be seen and understood by reference to the drawings in which—

Figure 1 is a side elevation of one of the chairs with associated frame built around it and convertible attachment mounted thereon, the desk portion thereof then functioning as a desk.

Fig. 2 is a section on the line 2—2 of Fig. 5.

Fig. 3 is a section on the line 3—3 of Fig. 6.

Fig. 4 is a section on the line 4—4 of Fig. 6.

Fig. 5 is a rear elevation of adjacent chairs and associated frames with aisle running between the chairs, the convertible attachment being shown applied to one of the frames as in Fig. 1.

Fig. 6 is a rear elevation substantially the same as Fig. 5 except that the convertible attachment is shown applied to the respective frames of the separate chairs to form an aisle chair between them, and

Fig. 7 is a view in perspective of the desk member or convertible attachment later to be referred to.

Referring to the drawings:—

1 represents a chair of which 2 represents its seat and 3 its back. The seat is mounted on a standard 4 preferably adjustably arranged within a base or pedestal 5 secured to the floor and supported in any determinate adjusted position by means of a pin or screw 6 passing through the side of the base and engaging the standard as by entering a slot 7 therein. This chair is of a type commonly employed for schoolroom use, and it will be assumed that the chairs are arranged in lines or rows as when used in such connection with aisles running between them.

Built around the chair is a frame 8. This frame consists of posts or uprights arranged cornerwise with relation to the chair and spaced from it with side bars supported by the posts adjacent either side of the chair. 9, 9 represent the back set of cornerposts or uprights at the rear of the chair. These posts rest upon the floor and extend upward to a height approximating the height of the back 3 of the chair. 10, 10 represent the front set of cornerposts of the frame. These posts are arranged adjacent the opposite sides of the front portion of the chair. They rest upon the floor and are of sufficient height to support side bars 11, 11 of the frame which extend with upward inclination from the back set of cornerposts 9, 9 to connect with the tops of the front set of cornerposts 10, 10. These connecting side bars assist in supporting the posts and the posts may also be otherwise supported by connecting braces 12.

The back set of cornerposts are fashioned to provide a mounting for a desk member 13 as shown more particularly in Fig. 7. To this end each of the back set of cornerposts 9, 9 along its inner side or face is provided with a vertical groove 15 with horizontal groovings 16, 17 and 18, respectively, extending from the back side or face of the post to connect with the groove 15. On its outer side or face each cornerpost 9 is provided with a downwardly inclined slot or groove 19 extending from the back side or face of the post, and also with a downwardly inclined groove or slot 20 extending from the front side or face of the post.

The desk member 13 comprises a desk 131 and a frame extension 132 from it. 21 repre-

sents the top of the desk, 22 its front, 23 its back, 24 its respective sides and 25 its bottom, these parts being indicated by a consideration of the desk when in its normal position functioning as a desk as shown in Figs. 1 and 2. The top 21 of the desk is made wider than the desk body having an edge projection at either side. The bottom 25 of the desk is fashioned to function as a chair seat when the desk becomes positioned in place and manner later to be referred to. The frame extension 132 extends from the back 23 of the desk in substantially the same plane with the back. This frame extension is generally rectangular in form with side bars 27 and crossbars 28 connecting the sidebars. The frame extension 132, as will later be explained, acts as a support for the desk when in its normal position functioning as a desk, and acts as a chair back when the desk is occupying a changed position functioning as a chair seat, as will later be explained. In width the back 23 of the desk and its frame extension 132 is slightly less than the width between the inner faces of the back set of cornerpost 9, 9 of the frame 8 so that the back of the desk and frame extension 132 may enter between them. Projecting laterally beyond the opposite sides of the desk and its attached frame extension 132 are a series of pins arranged in sets. Of these pins 30, 30 represent a set of pins projecting laterally beyond the sides of the desk at its back while 31, 31 and 32, 32 respectively represent sets of pins projecting laterally beyond the side edges of the frame extension of the desk. All these pins are carried by brackets 33 fastened respectively to the back of the desk or its frame extension 132.

In referring to the operation of the parts it will be assumed that frames 8 built around adjacent ones of aisle chairs are so spaced that adjacent cornerposts 9 of these respective frames on either side of the aisle, will be separated from one another such distance that the space between the outer faces of these posts will be slightly greater than the width of the frame extension 132 secured to a desk so that the frame extension 132 may fit and turn between these posts. The operation is a follows: Under normal conditions when the desks are to be used in connection with permanent chairs as in schoolroom use with aisles running alongside the chairs, then each desk member 13 is mounted on one of the frames 8 built around one of the permanent chairs. Such mounting is obtained by turning the desk member to an upright position so that the frame extension 132 of the desk will depend from it. The desk member is then applied from the back to the frame 8 with the back of the desk and its frame extension 132 entering between the inner faces of the sets of cornerposts 9 of the frame 8 to which the desk member is applied. The sets of pins 30, 30, 31, 31 and 32, 32 on the desk member will enter the respective horizontal slots 16, 17 and 18 in the cornerposts and will pass along these slots until they enter the vertical slots 15 in the cornerposts. The desk member is then allowed to drop until it engages and comes to rest upon stops 34 on the inside faces of the cornerposts. The pins on the desk member will then be contained within the slots 15 out of line with the horizontal slots 16, 17 and 18 in the posts and will operate to hold the desk member in an upright position, the frame extension 132 to the desk then functioning as a support for the desk 131 which will then be held in proper position to be used as a desk by one seated in one of the permanent chairs arranged back of the frame 8 on which the desk member is mounted.

When it is desired to fill the aisles along the permanent chairs, then the desk members are lifted off the back of the frames 8 on which they are mounted, each desk member being moved over into the aisle with its desk extension 132 inserted to lie between the outer faces of adjacent cornerposts 9 of adjacent frames 8 on opposite sides of the aisle. The pins 31 are then inserted into the slots 19 on the outer faces of these cornerposts coming to rest at the bottom of the slots. The pins thus resting in the slots operate as trunnions for supporting the desk member which may then pivot or turn thereon. The desk member is then turned to an inverted position where the top 21 of the desk will engage and rest upon the side bars 11 of adjacent frames 8 on opposite sides of the aisle. The pins 30 on the desk member will then enter the slots 20 in the adjacent cornerposts of the respective frames 8 thus limiting the turned position of the desk member and holding it securely in place, and the pins 32 will enter seats or recesses 35 at the top of the posts 9. The bottom 25 of the desk 131 of the desk member will then provide a seat for a chair in the aisle while its frame extension 132 will provide a back for the chair.

When it is desired to clear the aisles the desk members 13 are turned into an inverted upright position and then lifted off the cornerposts of separate adjacent ones of the frames 8 on opposite sides of the aisle and mounted upon the backs of the cornerposts 9, 9 of a single one of the frames 8 as before described.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

1. In combination with separate adjacent chairs with an aisle running between the chairs, frames built around said chairs, a removable attachment mounted on the back of one of said frames and comprising a desk convertible into a chair seat, and fixed to the desk a support therefor convertible into a

chair back, and means whereby said attachment when removed from said one of the frames may be applied to and pivoted between the respective frames built around said adjacent chairs to form an aisle chair between them on pivotally turning said attachment, the desk being then converted to form the seat of the aisle chair and the desk support being then converted to form the back thereof.

2. In combination with separate adjacent chairs with an aisle running between the chairs, frames built around said chairs, each of said frames comprising a set of spaced posts arranged cornerwise back of a chair with side bars attached to the posts and front supports for the side bars, a removable attachment mounted on the back set of cornerposts of one of the frames and comprising a desk convertible into a chair seat, and fixed to the desk a support therefor convertible into a chair back, and means whereby said attachment when removed from said one of the frames may be applied to and pivoted between adjacent cornerposts of the respective frames to form an aisle chair between them on pivotally turning said attachment, the desk being then converted to form the seat of the aisle chair with bearing upon adjacent side bars of the respective frames and the desk support being then converted to form the back of the aisle chair.

3. In combination with separate adjacent chairs with an aisle running between the chairs, frames built around said chairs, a removable atachment mounted on the back of one of said frames and comprising a desk convertible into a chair seat and a support for the desk convertible into a chair back, and means whereby said attachment when removed from said one of the frames may be applied to and supported by the frames built around said adjacent chairs to form an aisle chair between them, the desk being converted to form the seat of the aisle chair and the support being converted to form the back thereof.

4. In combination with separate adjacent chairs with an aisle running between the chairs, frames built around said chairs, each of said frames comprising a set of spaced posts arranged cornerwise back of a chair with side bars attached to the posts and front supports for the side bars, a removable attachment mounted upon the back set of cornerposts of one of the frames and comprising a desk convertible into a chair seat and a support for the desk convertible into a chair back, and means whereby said attachment when removed from said one of the frames may be applied to and supported by adjacent cornerposts of the respective frames to form an aisle chair between them, the desk being converted to form the seat of the aisle chair with bearing upon adjacent side bars of the respective frames and said desk support being converted to form the back of the aisle chair.

5. In combination with separate adjacent chairs, a set of spaced posts arranged cornerwise at the back of each of said chairs, a removable attachment mounted upon the set of cornerposts at the back of one of said chairs and comprising a desk convertible into a chair seat and a support for the desk convertible into a chair back, and means whereby said attachment when removed from the set of cornerposts at the back of one of said chairs may be applied to adjacent cornerposts of the respective sets of cornerposts for said adjacent chairs to form an aisle chair between them, the desk being converted to form the seat of the aisle chair and the desk support the back of the aisle chair.

6. In combination with separate adjacent chairs, a set of spaced posts arranged cornerwise at the back of each of said chairs, a removable attachment mounted upon the set of cornerposts at the back of one of said chairs and comprising a desk convertible into a chair seat, and affixed to said desk a support therefor convertible into a chair back, and means whereby said attachment when removed from the set of corner posts at the back of one of said chairs and inverted may be applied to the adjacent cornerposts of the respective sets of cornerposts for adjacent chairs to form an aisle chair between them, the desk being converted to form the seat of the aisle chair and the desk support the back of the aisle chair.

7. In combination with separate adjacent chairs with an aisle running between the chairs, sets of spaced posts arranged cornerwise at the back of each of said chairs, each of said posts having slotted ways in its inner and outer faces, a removable attachment comprising a desk convertible into a chair seat and a support therefor convertible into a chair back, and means carried by said attachment whereby it may be mounted on the set of spaced posts at the back of one of said chairs by engagement with the slotted ways on the inside faces of said posts and whereby also on removal of said attachment it may be applied to the slotted ways in the adjacent cornerposts of the respective sets of cornerposts for said adjacent chairs to form an aisle chair between them, the desk being converted to form the seat of the aisle chair and the desk support the back of the aisle chair.

8. In combination with separate adjacent chairs with an aisle running between the chairs, frames built around said chairs, each of said frames comprising a set of spaced posts arranged cornerwise back of a chair, each of said posts having slotted ways in its inner and outer faces, a removable attachment comprising a desk convertible into a chair seat and support therefor convertible into a chair back, and means carried by said attachment

whereby it may be mounted on the spaced posts of one of said frames by engagement with the slotted ways on the inside faces thereof and whereby also on removal of said attachment it may be applied to and pivoted within the slotted ways in the outer faces of the cornerposts of the respective frames to form an aisle chair between them on pivotally turning said attachment, the desk being then converted to form the seat of the aisle chair and the desk support being then converted to form the back of the aisle chair.

9. In combination with separate adjacent chairs with an aisle running between the chairs, frames built around the chairs, each of said frames comprising a set of spaced posts arranged cornerwise back of a chair with side bars attached to the posts and front supports for the side bars, said posts being provided on the inside faces thereof with vertical slotted ways and horizontal slotted ways entering said vertical ways, said posts being provided also with slotted ways on the outside faces thereof, a removable attachment comprising a desk convertible into a chair seat and fixed to said desk a support therefor convertible into a chair back, pins extending laterally from said attachment by which it may be mounted upon the posts of one of said frames by entry into the slotted ways on the inner faces of said posts and whereby also it may be pivotally mounted upon and between adjacent cornerposts of the respective frames to form an aisle chair between them on pivotally turning said attachment, the desk being then converted to form the seat of the aisle chair with bearing upon the side bars of the respective frames and the desk support being then converted into a back for the aisle chair.

10. In a chair combination, frames built about a chair, each of said frames comprising a set of spaced posts arranged cornerwise back of a chair with side bars attached to the posts and front supports for the side bars, said posts being provided on the inside faces thereof with vertically slotted ways and horizontally slotted ways entering said vertical ways, said posts being provided with slotted ways on the outside faces thereof.

WILLIS DOANE RICH.