No. 656,583. Patented Aug. 21, 1900.

A. L. LEVIN.

PORTABLE FOLDING CHAIR.

(Application filed Nov. 13, 1899.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

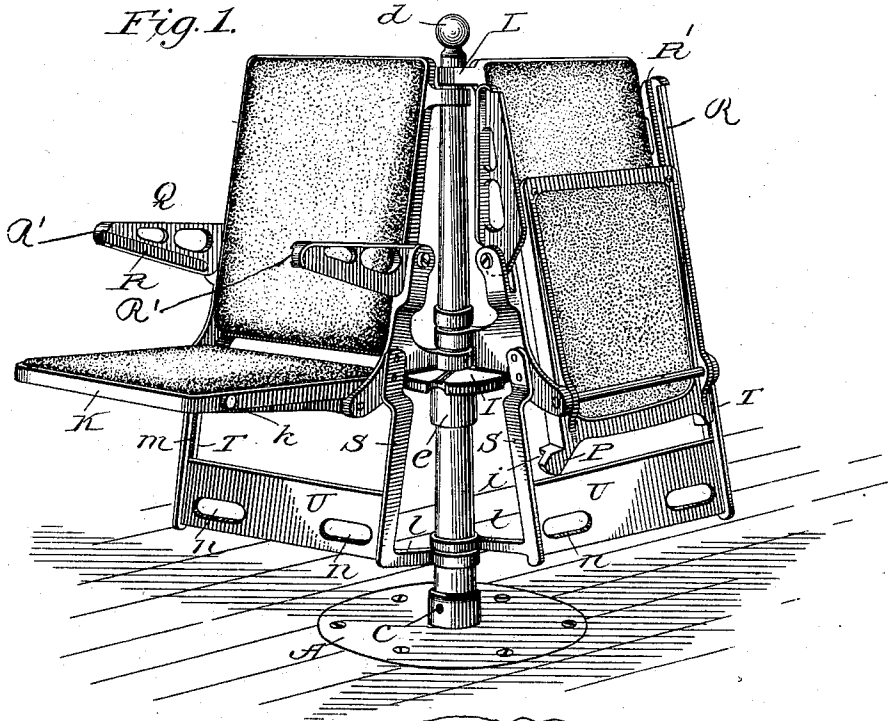
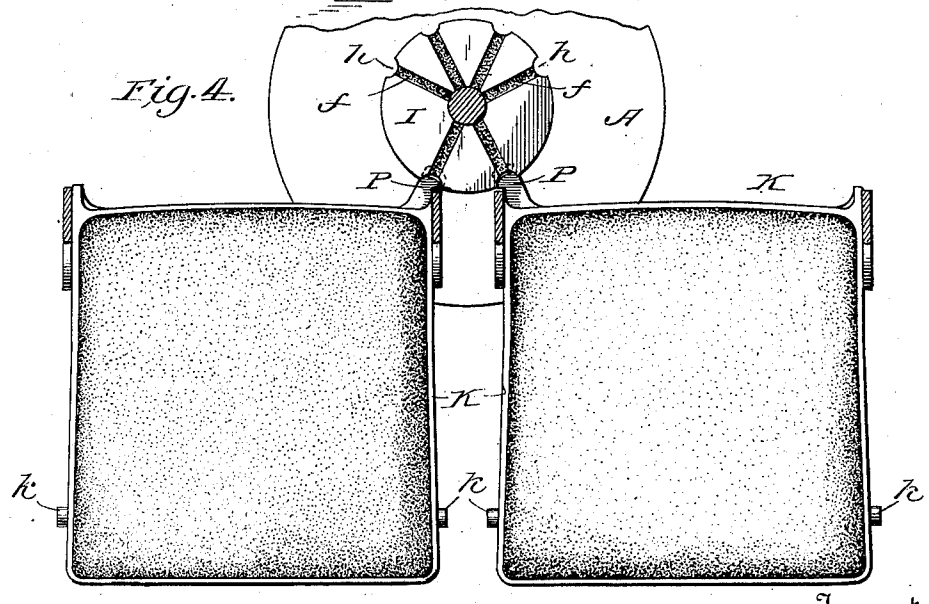


Fig. 4.



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Fig. 2.

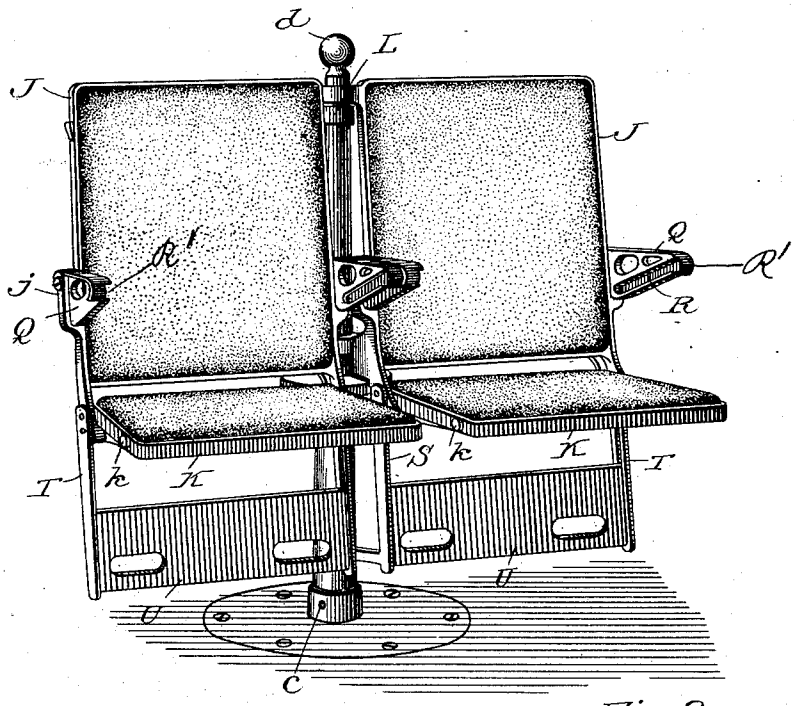


Fig. 8.

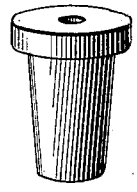


Fig. 6.

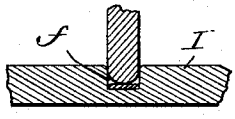


Fig. 5.

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(Application filed Nov. 13, 1899.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 3.

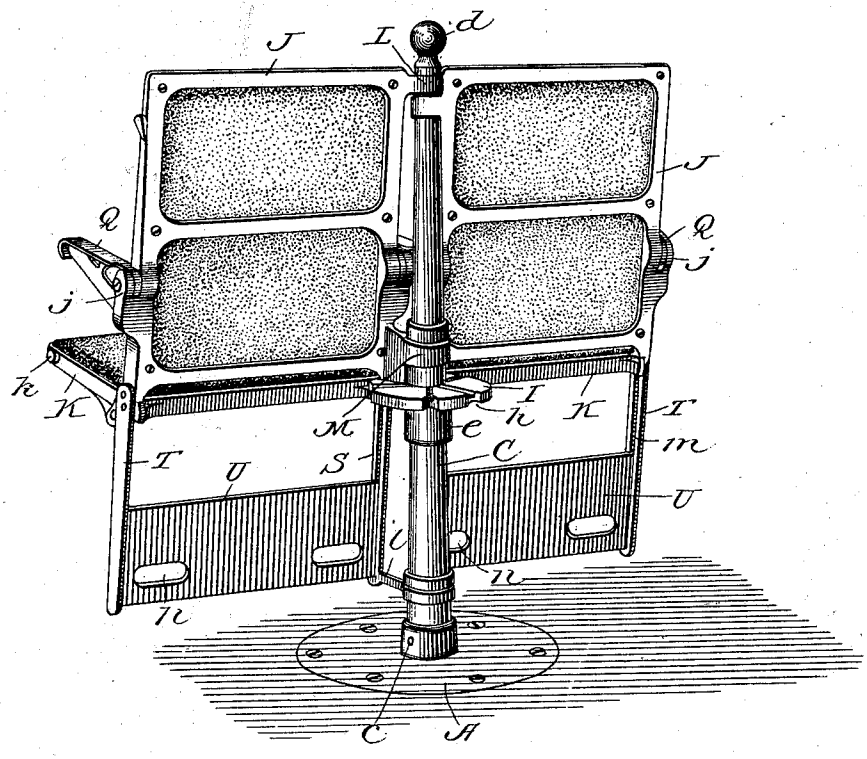


Fig. 9.

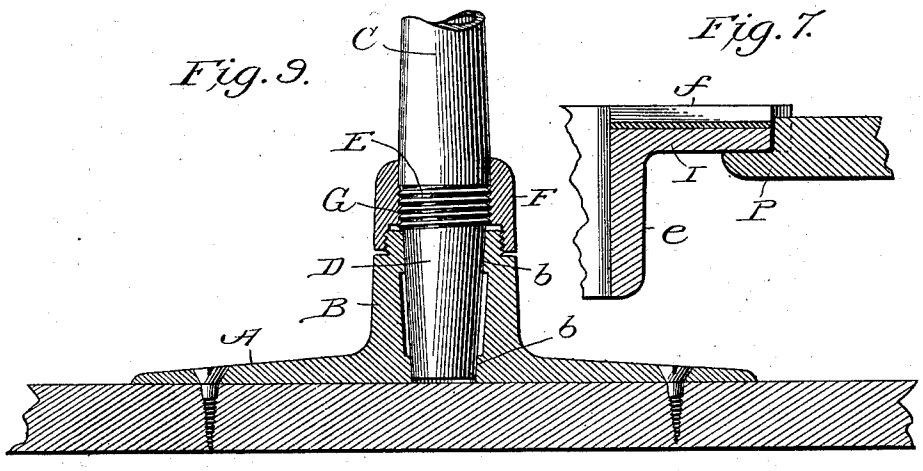


Fig. 7.

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UNITED STATES PATENT OFFICE.

ADOLPH L. LEVIN, OF DENVER, COLORADO.

PORTABLE FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 656,583, dated August 21, 1900.

Application filed November 13, 1899. Serial No. 736,875. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH L. LEVIN, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Portable Folding Chairs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to seating appliances, and has particular reference to chairs of that class exemplified by United States Letters Patent No. 501,896, at present owned by me, designed especially for the equipment of theaters, churches, and halls wherein large audiences and congregations assemble.

The object of my invention is to provide a comfortable and commodious seat or seats for individuals, which seats, in addition to the ordinary requirements of comfort imposed upon similar articles of furniture in their best-known forms of construction, are possessed of peculiar advantages relating to the convenient and speedy ingress or egress of an audience and to the ready removal of all seats should it be desired to utilize the hall or auditorium as a ball-room or for other purposes requiring an unobstructed floor.

To these ends, therefore, the novel and distinctive features of my invention reside in the structural arrangement and combination of parts, in the economical construction and distribution of strains, and in general efficiency, as hereinafter set forth, particularly claimed, and illustrated by the drawings forming part of this specification.

In the accompanying drawings like characters of reference indicate corresponding parts in the several views.

Figure 1 is a perspective view of the invention in its preferred form of construction, one of the two chairs being in position for use, the other folded and turned at an angle of ninety degrees. Fig. 2 is also a perspective view, the two chairs being ready for occupancy and the point of observation being from the front. Fig. 3 is another perspective view, corresponding with that last described, but from the opposite point of observation. Fig. 4 is a horizontal sectional view cutting Figs. 1, 2, and 3 in a plane immediately above the seats proper, showing the main supporting-standard in section and its surrounding platform in plan. Fig. 5 is a fragmentary view of the supporting-standard at its lower screw-threaded tapering end and also a central vertical section through its socketed floor-plate and interposed nut. Figs. 6 and 7 are sectional detail views, each showing a fragment of the supporting-platform and means for interlocking a seat therewith. Fig. 8 shows in perspective a plug or closure for use in the floor-plate when the supporting-standard has been removed, and Fig. 9 is a modification illustrating a floor-plate with upstanding socket containing the tapering extremity of the supporting-standard.

Reference being had to the drawings and characters thereon, I will now proceed to describe my invention as illustrated in its preferred or duplex form, both chairs being mounted upon a common supporting-standard and adapted to fold, as indicated by part of Fig. 1. It should be understood at the beginning, however, that I do not confine myself to this duplex construction, and a greater or less number of chairs may be employed in like manner without in the least departing from the spirit of my invention. The individual members or chairs comprising a duplex chair are counterparts one of the other, with the exception only of those slight structural differences incident to the manner in which they are journaled upon a common supporting-standard, one at the right and one at the left hand rear corner. Accordingly a description of one chair member will apply to both, the reference characters being the same in each.

Referring more particularly to Figs. 1, 2, 3, and 5, the letter A indicates a floor-plate cast or otherwise formed with a plain upper surface set flush with the line of flooring, its lower surface being provided with a boss B. Said plate A and boss B are both perforated, the former by a shallow screw-threaded chamber *a* and the latter by a tapering socket *b*, as best shown by Fig. 5. Mounted in this tapering socket *b* is an upright supporting-standard C, finished at its lower end by a slow taper D, corresponding with that of the socket *b*, and provided above with a screw-thread E, cut upon the parallel portion thereof.

Surrounding the standard C at this point is a nut F, having reverse screw-threads G H cut upon its interior and exterior surfaces, respectively, the former engaging threads E upon standard C and the latter engaging the interior threads of chamber *a* in the floor-plate A, while as a means of rotating said nut an aperture *c* is provided in its surface to receive the extremity of a spanner-wrench, as will later appear. For purposes of lightness and strength the standard C is preferably formed hollow and above the thread E is uniformly reduced in cross-sectional area and surmounted by an appropriate ornamental finishing *d*. At a height approximating that of an ordinary chair-seat the standard C is provided with a circular platform I, having a depending sleeve *e*, surrounding and securely embracing said standard through the agency of a shrunken or driven joint or by any other desirable means. The surface of platform I is broken by a series of grooves or depressions *f*, radiating from a common center, each being provided with a cushion of leather or other flexible material, as *g*, and each terminating in a notch, as *h*, formed in the periphery of platform I. (Best shown by Fig. 4.)

The back and seat frames J K employed are of ordinary construction and need not be herein particularly described. They are upholstered in appropriate cushioning material or cane, while from one side of the back-frame J project upper and lower rotating hinge members L M, cast integral with said frame or otherwise affixed and terminating in eyes of a diameter proportionate to that of standard C at points of engagement. The lower horizontal edge of hinge member M is designed to detachably engage the radial grooves or depressions *f*, as shown by Fig. 6, for the purpose of temporarily retaining the chair in any predetermined position. Extending rearwardly from the inner pivotal corner of seat-frame K is a lock-bar P for engaging one of the notches *h* in the periphery of platform I to prevent accidental rotation, and this lock-bar at its extremity is recessed, as at *i*, for the purpose of underlying said platform I and maintaining the seat in a horizontal position.

Upon each side of the back-frame J are branch lugs *j j*, rising from a point above the seat-line and receiving the pivotal end of suitable chair-arms Q Q, therein mounted. These arms are thus adapted to fold up against the back-frame when not in use, as indicated by part of Fig. 1, and to assume a horizontal position when required for use, as indicated by the balance of said Fig. 1. In the former instance the inner arms are arrested by engagement at their outer end with the standard C and the outer arms by engagement with lugs 5, formed on the outer edges of the chair-backs, and in the latter instance by engagement at their pivotal end with the angular bottom of their supporting-lugs *j j*. The inner faces of arms Q Q are indented by continuous longitudinal grooves R R for the reception and guidance of studs *k k*, fixed upon the sides of seat-frame K in such relation that they necessarily enter said grooves as the seat is folded upward, thus simultaneously folding the arms. Obviously the reverse of this action is equally true, so that the unfolding of a seat for use forcibly depresses its respective arms to their horizontal or normal position, where they are arrested and retained by engagement of their supporting-lugs, as aforesaid. Each stud *k* engages one wall of its groove R when the seat is raised and the opposite wall when the seat is lowered. The grooves R are open at their outer extremities, as shown at R′, to permit the studs *k k* to enter and escape therefrom as the seat is respectively raised and lowered.

Secured to the back-frame J upon each side are depending brackets S T, the latter being provided with an angular strap or extension *l*, which loosely encircles the standard C, and thus stiffens the structure. Between the parallel channels *m m*, milled out of the opposing faces of said brackets S T, is supported a suitable footboard U, perforated by openings *n n* at convenient points, serving as foot-rests for the occupant of a chair located in the rear of that described.

This being a description of my invention in its preferred form of construction, it should be understood that I by no means limit myself to the particular form and arrangement of parts herein set forth or to any particular material or materials employed. For instance, Fig. 9 of the drawings shows an embodiment, in part, of my invention especially adapting it for services in railway-cars and analogous uses wherein a raised floor-plate A and a protruding socketed boss B are not objectionable.

The use, operation, and advantages of my invention are quite obvious and need not be herein dwelt upon, except as to that feature providing for the ready removal of chairs in whole or in part from an auditorium or hall, as previously mentioned.

The relative position occupied by standard C and its supporting socketed floor-plate A when assembled for use is clearly indicated by Fig. 5 of the drawings. The tapering end of said standard snugly fits the corresponding taper of depressed socket *b*, whereby it is sufficiently supported without the aid of any additional coupling. It will be observed, however, that nut F, in threaded connection with the standard C, as aforesaid, also engages foot-plate A through the agency of threads the reverse of those connecting it with the standard. Thus the parts are locked in position against accidental dislodgment even though the structure be inverted; but at the same time it should be understood that the chief function of this nut F, with its interior and exterior reverse threads, resides in

its utilization as a lifting power for the purpose of loosening the standard in its socket. A turn of said nut, effected by the aid of an ordinary spanner-wrench applied to the aperture *c*, serves to lift same out of the threaded chamber *a* and, together with it, the entire standard C from its taper fit with socket *b*. Simultaneously with this an independent vertical movement is imparted to the standard by virtue of its reverse-threaded connection with the revolving nut F, so that a very slight turn of the latter is sufficient to overcome the close frictional bearing in socket *b* and to unseat the structure. This operation may then be quickly repeated with reference to each chair and its supporting-standard C, whereupon all being removed the socket *b* may be closed and the floor neatly leveled by any suitable means—such, for example, as the insertion of a flanged plug. (Shown by Fig. 8.)

The nut F, as shown, with its reverse threads G H, is desirable; but evidently this may be modified in various ways without departing from my invention and its practical operation. For example, exterior thread H may be omitted, the nut then abutting directly upon the surface of floor-plate A, or, on the other hand, interior thread G may be dispensed with, the nut in this latter case having a swiveled connection with the body of standard C.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a portable chair, the combination with a supporting-standard provided with a surrounding platform having radial depressions or grooves in its upper surface terminating at their outer extremities in notches formed in the periphery of said platform, a chair whose back is provided with a hinge member surrounding the standard adjacent the platform, the lower edge of the hinge member being adapted to engage the radial depressions in the platform, and a folding seat connected with the chair-back and provided with a lock-bar adapted to engage the notches at the extremities of the platform-grooves.

2. In a portable chair the combination with a supporting-standard, of a socketed foot-plate for the reception of said standard, and a screw-nut connecting said standard and foot-plate and provided with reverse threads engaging corresponding threads formed on the connected parts, substantially as described.

3. In a portable chair the combination with a supporting-standard, of a socketed foot-plate for the reception of said standard, and a screw-nut having internal and external reverse threads connecting said standard and foot-plate for the purpose of separating them, substantially as described.

4. In a portable chair, the combination with a tapering supporting-standard, of a corresponding socket for the reception of said standard, a screw-nut located between the standard and socket, a chair-back revolubly mounted on the standard and provided with a depending bracket having an angular strap which loosely encircles the standard below the seat, a folding seat pivoted upon the chair-back, and arms adapted to fold with the seat substantially as described.

5. In a portable chair the combination with a supporting-standard and a socketed floor-plate in taper fit, of a lifting-nut upon said standard, a chair-back revolubly mounted upon the standard, and provided with a depending bracket having an angular strap which loosely encircles the standard, a folding seat pivoted upon the chair-back, and arms likewise pivoted having longitudinal channels in their inner faces adapted to be engaged by studs upon the chair-seat when folded, substantially as described.

6. In a portable chair, the combination with a supporting-standard, of a folding chair having a back, hinge members connected with the back whereby the latter is rotatably mounted on the standard and provided with a depending bracket having an angular extension which loosely encircles the standard, and a platform surrounding the standard having a series of radial depressions for engaging one hinge member of the chair to retain it in a predetermined position substantially as described.

7. In a portable duplex chair, the combination with a supporting-standard, of folding chairs having backs, hinge members connected with each back whereby the latter is rotatably mounted on the standard, each back being provided with depending brackets, one of which is provided with an angular extension which loosely encircles the standard, foot-rests supported by said brackets, a platform surrounding the standard having a series of radial depressions for engaging one hinge member of each chair, and suitable cushions in said depressions substantially as described.

8. The combination of a chair-back, a folding seat supported thereon and provided with studs, and arms pivoted on the back and provided with longitudinal channels formed in their inner faces and arranged to be engaged by the studs of the seat as the latter is raised and lowered whereby corresponding movements are respectively imparted to the arms, the said channels being open at their outer extremities to permit the entrance and escape of the studs.

9. The combination of a chair-back, a folding seat supported thereon and provided with studs, and arms pivoted on the back and provided with longitudinal channels formed in their inner faces, said channels being bounded by walls on opposite sides, and open at their outer extremities to permit the entrance and escape of the actuating seat-studs.

In testimony whereof I affix my signature in presence of two witnesses.

ADOLPH L. LEVIN.

Witnesses:
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A. J. O'BRIEN.