2 Sheets--Sheet 1.

J. RICHARDSON.

Opera-Chair.

No. 162,951. Patented May 4, 1875.

Fig. 1.

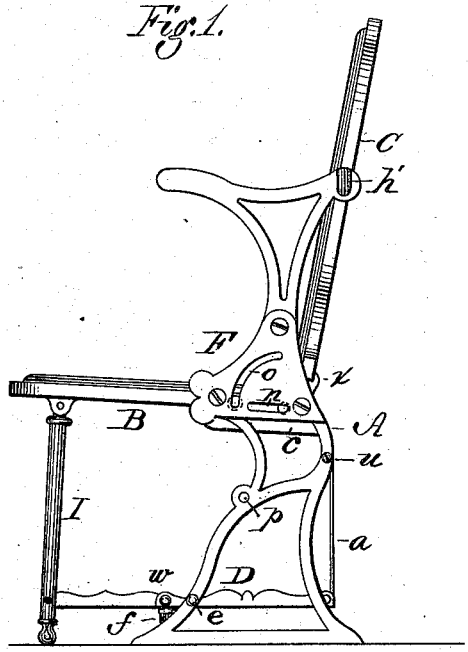


Fig. 3.

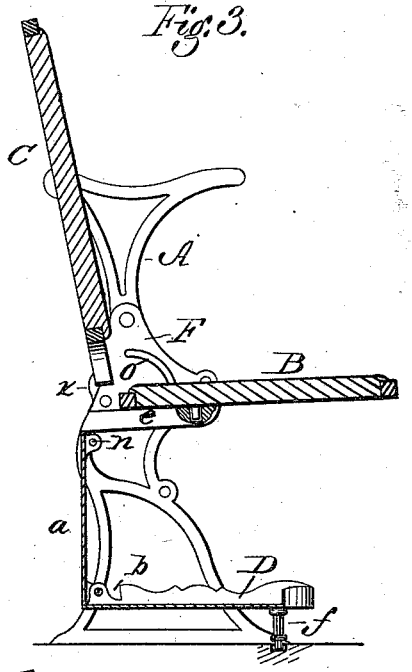


Fig. 2.

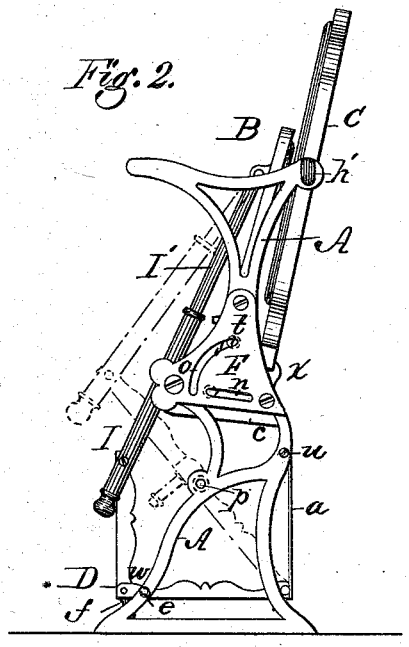
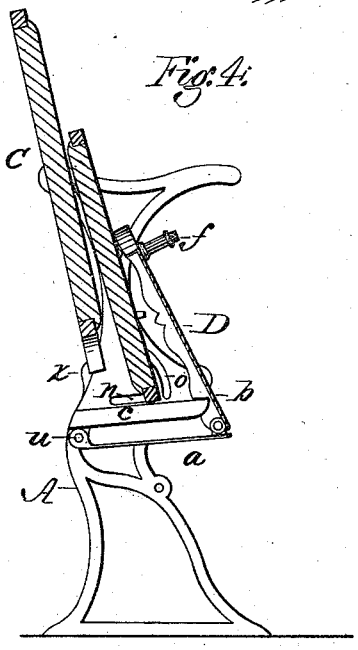


Fig. 4.



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2 Sheets--Sheet 2.

J. RICHARDSON.
Opera-Chair.

No. 162,951. Patented May 4, 1875.

Fig. 5.

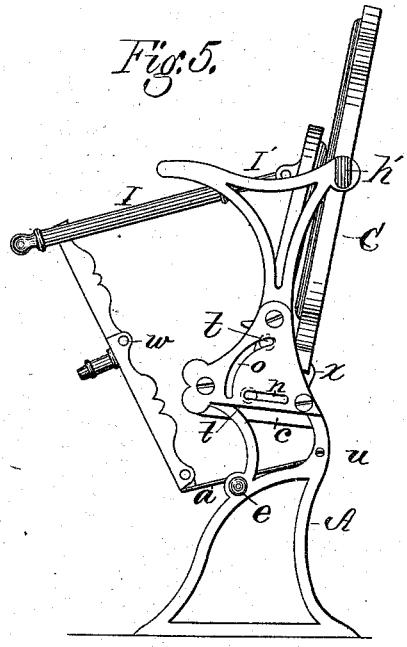


Fig. 6.

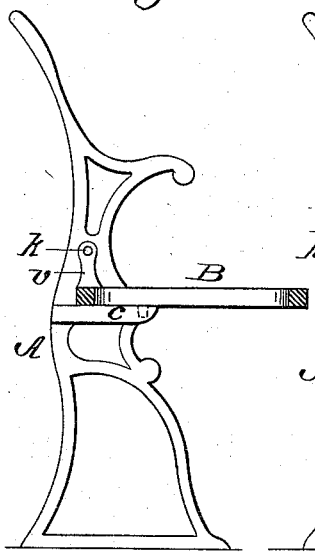


Fig. 7.

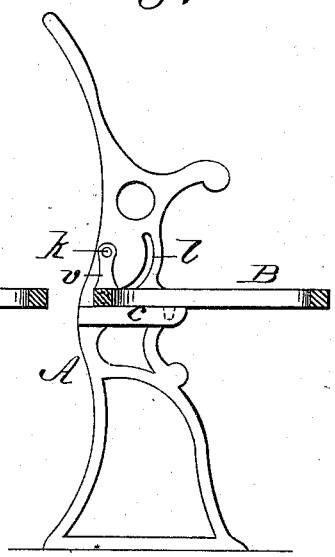


Fig. 8.

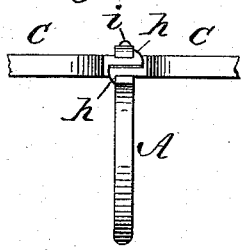


Fig. 10.

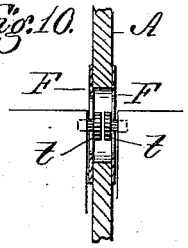
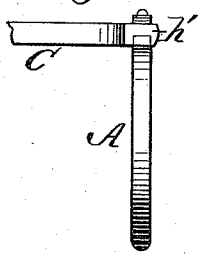


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN RICHARDSON, OF NEW YORK, N. Y.

IMPROVEMENT IN OPERA-CHAIRS.

Specification forming part of Letters Patent No. **162,951**, dated May 4, 1875; application filed November 14, 1874.

To all whom it may concern:

Be it known that I, JOHN RICHARDSON, of New York, in the county of New York and State of New York, have invented certain Improvements in Opera-Chairs, of which the following is a specification:

My invention relates to opera-chairs and similar seats; and the invention consists of a folding shelf of novel construction, located under the seat, a peculiar manner of hanging and supporting the seat, and a novel method of locking the frames of the chairs to each other, all as hereinafter more fully set forth.

Figure 1 is a side elevation of my improved seat in its position ready for use. Figs. 2 and 5 are side views of the same, representing the folding shelf folded up in different positions. Figs. 3 and 4 are vertical sections of the same, showing the shelf in a modified form. Figs. 6 and 7 represent slight modifications in the manner of hanging the seat to the frame; and Figs. 8, 9, and 10 represent the means used for locking the frames to each other.

This invention may be considered as an improvement upon the chair patented to me September 15, 1874, No. 155,107. In that a folding-shelf was used under the seat, but with a stationary back to it. It also had cleats or ribs, on which the seat was supported, and means for connecting one seat to the next.

My present invention contains improvements upon all of these features or devices, by which the seats are rendered stronger and better in several respects. In this class of seats the bottom is usually hung as shown in my previous patent—that is, it is so pivoted that when turned up its rear edge is thrown below the pivots or journals, and thus is liable to crush or injure a hat setting on the shelf underneath. To remedy this I pivot the seat B to the frame A in such a manner that when turned up its rear edge will rise, or at least not pass below the axis of motion. This may be done in a variety of ways, as shown in the drawings. The plan which I prefer is shown in Figs. 1, 2, 3, 4, and 5, in which plates F are shown secured to the frame A at each side, and have a horizontal slot, *n*, and a curved slot, *o*, formed therein, as represented. The bottom B has two laterally-projecting pins, *t*, which pass through these slots, and work therein as the seat is turned up or down, the lower pin sliding forward in its slot *n* as the other rides up in the curved slot *o*. As represented in Fig. 10, these pins *t* are provided with heads, which prevent their being pulled out of the slots, thus serving to lock one seat fast to the next, and assist in preventing the upright frames A from spreading or pulling apart; or the seats may be hung as represented in Figs. 6 and 7, which are modifications of the same idea. In both these figures the bottom B has a short arm, *v*, turned up at a right angle, and pivoted, on a pin or bolt, *k*, at its upper end, to the frame A. In Fig. 7 there is also a curved slot, *l*, in the frame, in which a pin attached to the bottom B may work, this being used or not, as may be preferred.

It will at once be seen that when the bottom B is thus hinged to its frame A, it can be turned up without depressing its rear edge, and thus avoid interfering with a hat or other article resting on the shelf D underneath the seat.

In all cases a plain straight rib, *c*, is cast on or secured to the frame A, in such a position that when the bottom is turned down it will rest flat on the upper side thereof, as shown in Figs. 3, 6, and 7, thus avoiding the irregular shape of the rib and bottom frame necessitated by the plan shown in my former patent, and simplifying the construction. In this, as in my former plan, there is a stud on the under side of the bottom frame B, which engages in a recess in the rib *c* on each side, thus assisting to prevent the uprights A from spreading apart.

Under each bottom B I secure a hinged folding shelf, D, on which to place a hat or other article. This shelf D in this case is hinged at its rear edge to a back piece, *a*, which, in turn, is hinged to the uprights A by a pin, *u*, as shown in Figs. 1, 2, 3, 4, and 5. This shelf D has projecting from its under side at the front a stud, *f*, the lower end of which, as shown in Fig. 3, fits in a hole in the floor, or in a plate secured thereto, thus supporting the front edge of the shelf D, and holding it, and thereby the back piece *a*, in position when down. This shelf D is provided with a raised edge or rim, in which is a notch, *b*, as shown in Fig. 4, in such a position that when the shelf is

folded up, as there shown, the notch *b* will engage upon the rib *c*, and thus hold the shelf up, the back piece *a* being at the same time folded close up under the bottom B, thus leaving an unobstructed space between the uprights A under the seat, to facilitate the sweeping or cleaning of the floor, which was not the case when the back piece *a* was rigidly secured in position.

It is obvious that, instead of the notch *b* in the rim for holding up the shelf, the rim may be dispensed with, and a pin or hook used for the same purpose.

In Figs. 1, 2, and 5, I have shown the shelf D made wider, and composed of two parts hinged together by a joint, *w*, the rear portion being pivoted to the back piece *a*, as before, with the supporting-stud *f*, and the front edge of the front part being pivoted at each side to a tube, I, within which is fitted loosely a rod, I′, the upper end of which is pivoted to the under side of the bottom frame B, the rod I′ sliding telescopically in the tubular portion I, the latter being of such a length that when the bottom B is turned down it will reach and rest on the floor, as shown in Fig. 1. In the front lower portion of the uprights A, I make two holes, *p*, and provide a pin or screw, *e*, to fit therein, its end protruding through and entering a hole in the rim of the shelf D, as shown in Figs. 1 and 2, thereby securing the rear portion of the shelf in position, but leaving the front portion free to be raised when the bottom B is turned up, as shown in Fig. 2, it being drawn up with the bottom by the connecting-rods I and I′.

When it is desired to sweep the floor, the entire shelf D may be raised to the position shown in dotted lines in Fig. 2, and held there by removing the pin *e* and inserting it in the upper hole *p*; and if it be desired to fold up the back piece *a*, it may be done by drawing the shelf forward, as shown in Fig. 5, and securing the parts in position by inserting the pin *e* through the upper hole *p*, and letting the part *a* rest thereon, as represented.

In order to more securely lock the frames of the adjoining seats to each other, and prevent them from spreading, I make the uprights A with a notch or recess in their upper portion, at the point where the back frame C is united to them, as shown in Fig. 8, and these frames C are provided on each side with a projecting lug or ear, *h*, having a shoulder on its outer end, as shown, the shoulders projecting backward on one frame and forward on the next, the ears or lugs *h* being made of such a size that the adjoining ones of two frames C can both be inserted in the notch or recess in the upright A, with their shoulders locking against opposite sides thereof, as shown in Fig. 8, thus securely locking the frames and uprights of an entire row of seats together. The ear which is to fit in the notch at the end of the row may be made of such a size as to fill the notch, as shown at *h′* in Fig. 9, though it is obvious that instead of this it may be made as shown in Fig. 8, and a small block be used to fill the space.

A locking lug or hook, *x*, is also formed or cast on the rear edge of the uprights A, at a point where the lower edge of the backs C come against them, and when the backs C are placed in position, as shown in Figs. 1, 2, 3, 4, and 5, their lower edges are held by these lugs or hooks *x*. A bolt or screw, *i*, being then inserted in a hole in the upright A, and passing through the ears *h*, secures the backs C firmly in place.

By these several improvements I am enabled to produce a very superior and convenient seat, admirably adapted to the necessities of theaters and similar places, where it is desired to seat large numbers of persons in a compact body.

While providing a means of stowing away hats or other articles, so as to have them out of the way, and at the same time protect them from being crushed or trampled upon, the receptacles therefor are so constructed and arranged that they can be readily folded up out of the way for sweeping or cleaning the floor.

Having thus described my invention, what I claim is—

1. An opera-chair having a shelf or receptacle arranged under the seat for receiving hats, in combination with the seat B, pivoted upon the frame, substantially as described, whereby the seat can be tilted without depressing its rear edge, thus avoiding the crushing of hats on the shelf below, as set forth.

2. The slotted plates F, secured to the uprights A, in combination with the seat B, provided with the headed pins *t*, whereby said pins act as pivots for the seat, and also serve to unite the series of seats and their uprights, and prevent the latter from spreading apart, as set forth.

3. The combination of the back frames C, provided with the ears *h*, and the uprights A, provided with a notch for said ears to fit in, whereby the series of seat-frames are locked together, substantially as described.

4. The combination of the pivoted seat B and the folding shelf D with the telescopic legs I I′, all constructed to operate substantially as described.

5. The stud *f*, attached to the folding shelf D, for supporting and locking it in place, as set forth.

JOHN RICHARDSON.

Witnesses:
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