

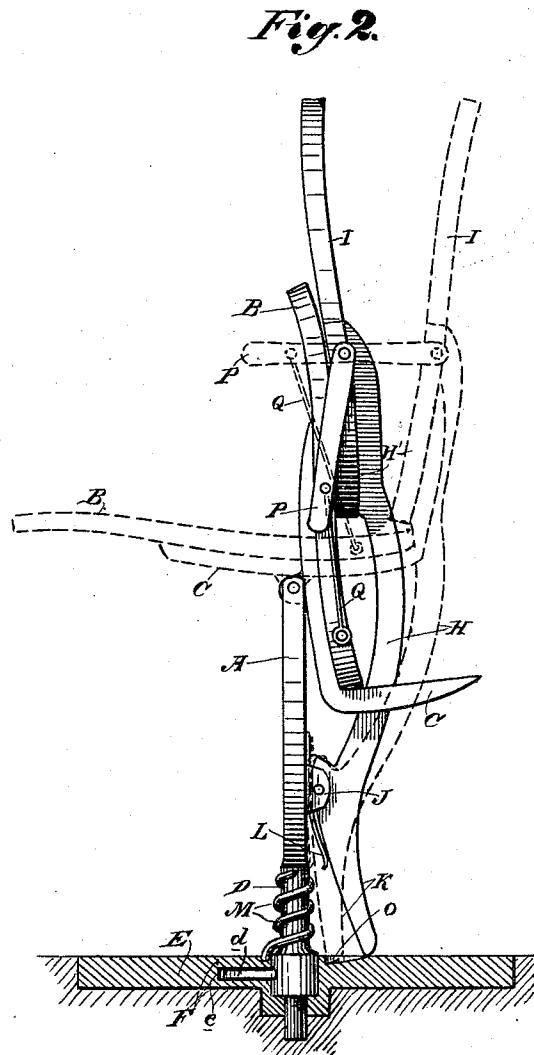
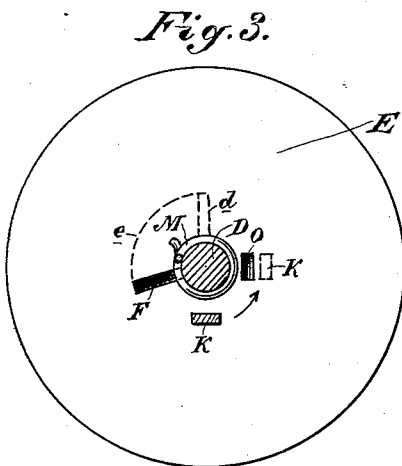
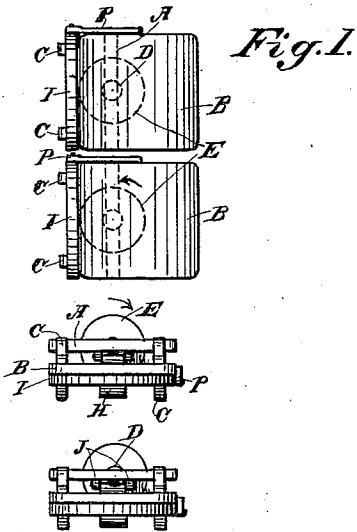
(No Model.)

2 Sheets—Sheet 1.

J. T. McKEAN.
OPERA CHAIR.

No. 475,019.

Patented May 17, 1892.



Witnesses,
J. H. House
H. F. Aschbeck

Inventor,
John T. McKean
By Dewey & Co.
att_{ys}

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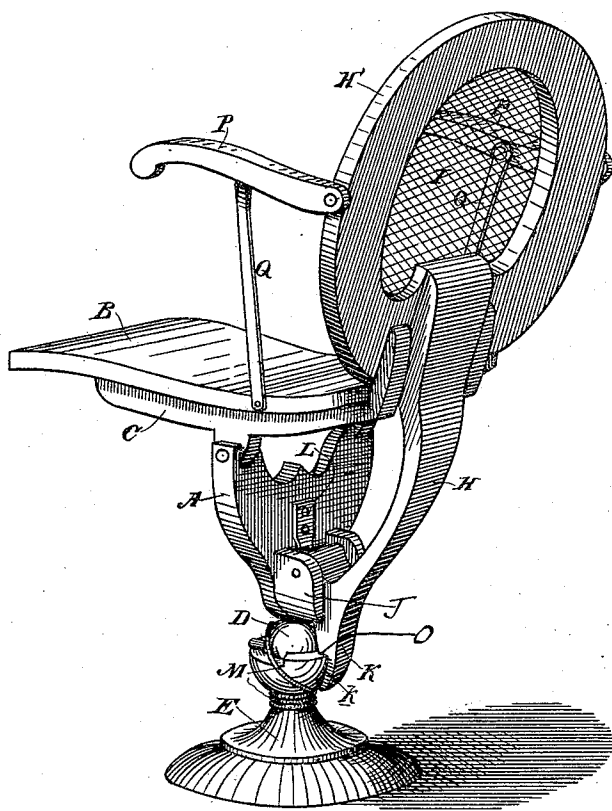
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Fig. 4.



Witnesses,
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John T. McKean
By Dewey & Co.
attys

UNITED STATES PATENT OFFICE.

JOHN T. MCKEAN, OF SANTA CRUZ, CALIFORNIA.

OPERA-CHAIR.

SPECIFICATION forming part of Letters Patent No. 475,019, dated May 17, 1892.

Application filed April 13, 1891. Serial No. 388,760. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. MCKEAN, a citizen of the United States, residing at Santa Cruz, Santa Cruz county, State of California, have invented an Improvement in Opera-Chairs; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in chairs which are designed to be used in theaters, opera-houses, and other places of public assembly; and my invention consists of the constructions and combinations of devices which I shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 shows a series of chairs, some folded and some opened. Fig. 2 is an elevation of my chair, the dotted lines showing the position of the relative parts when ready for use, and the full lines indicating a quarter-turn of the chair from its normal folded position to one at right angles thereto preparatory to the parts being brought into a position of use. Fig. 3 is a plan of the floor-plate. Fig. 4 is a perspective view of the open chair.

A is the seat-support.

B is the seat, having suitable strengthening bars or frame C beneath and provided with lugs or means by which the seat is hinged to the top of the support A, the latter being approximately beneath that portion of the seat which receives a greater part of the weight. This seat-support has at its lower end a shank or standard D, which fits a socket in the plate E. This plate is preferably fitted into the floor so as to be flush with its surface, and it has sufficient depth in its center to form a guide and support for the standard. The latter has a spur or lug *d* projecting from it and entering a corresponding slot F in the plate, and the lug then turns beneath the plate and within a curved channel *e*, formed in its under side for the purpose. The lug is thus locked, so that the standard cannot be lifted out without turning the chair so as to bring the lug opposite the slot through which it was introduced, after which the chair and standard may be lifted out of the plate and suitable plates or stoppers may be employed to close the holes through which the standards pass,

thus leaving the floor perfectly smooth whenever it is desirable to remove the seats.

If it is not desired to entirely clear the floor by the removal of the seats, an elevated pedestal may be employed to receive the seat-standard.

H is the support for the back I of the chair. This support is curved, as shown, at the point which corresponds with the rear of the seat, and at the lower end it is hinged between lugs J to the lower part of the seat-support A. At the upper end this support H has preferably a circular frame H', connected and extending around in a circular form, so as to provide a rigid support for all portions of the back of the chair.

The rear ends of the seat bars or frame C are extended and curved upward, so that when the seat is opened these bars extend up behind the lower part of the back to give it an additional support and strength. Below the hinge, at the lower end of this back-supporting bar H, is an extension K. When the seat is folded, it stands about parallel with the back, the latter being moved forward by means of a spring L, interposed between the seat-support and the extension K, so as to meet the seat when the seat is folded up. The two will then stand in an approximately vertical position and occupy the least possible space. The projection K at the bottom of the bar H is at the same time disengaged from a slot O, which is made in the supporting plate or pedestal, for a purpose to be hereinafter described.

A coil, spiral, or other spring M has one end fixed to the base-plate E and the other end to the bottom of the seat-support A or to the standard thereof, and this spring is sufficiently powerful to turn the seat around upon its vertical supporting-standard, so that it will stand when closed in a position at right angles with the position which it occupies when open. When in this folded position, the seat cannot be opened, because the projection K will strike against the supporting-plate or the upwardly-projecting side of the pedestal, and thus prevent the seat from being turned down.

When it is desired to turn the seat down for occupancy, it is first turned one-quarter round upon its standard and against the ten-

sion of the spring M. When it reaches a position at right angles with that which it occupies when folded up, the projection K will stand in line with a slot O, which is made in the pedestal or supporting-plate.

In Fig. 2 the dotted lines indicate the normal position of the chair ready for use, while the full lines indicate a quarter-turn of the chair from its normal folded position to one at right angles thereto preparatory to the parts of the chair being brought into position of use.

The operation will then be as follows: Pressing upon the front of the seat B so as to bring it down into position to be occupied, the back of the seat will follow the curve in the back-support H, and by reason of the shape of that curve the back will be forced backward as the seat turns down into its horizontal position. By this action the projection K enters the horizontal slot or channel O in the pedestal or support, and when the seat is in position to be occupied this projection locks the device, so that the spiral spring cannot turn it around to the position which it occupies when folded. When the seat is again turned up or folded, the projection K will be released from the locking-slot by the action of the spring L, and the spring M then acts upon the seat-standard and automatically rotates it into the position shown in Fig. 1, in which the spaces or passages are made at right angles with those which exist between the rows of seats in their ordinary position.

Each seat-back has an arm P pivoted to it, and this arm is connected by a rod or bar Q with the rear portion of the seat, back of the hinge-line of the latter, so that when the seat is folded the action of this bar will be to draw the arm down into a line approximately parallel with the folded seat and back. When the seat is unfolded for use, the arm will be thrown up into the proper position with relation to the seat and back.

If desired, the seats may be provided with an arm upon each side or one arm may be fixed to each seat, and when all the seats are unfolded these single arms will form a sufficient dividing-space between the seats and will at the same time leave more room for each occupant.

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

1. In a folding chair, a seat and seat-support, a single centrally-located standard, to the top of which the seat-support is hinged, a vertical extension of the lower end of the standard and a socket in which it turns, a spring connected with the socket-piece and the standard, whereby the latter is turned in one direction automatically when free, a seat-back having a support hinged to the standard and an extension below the hinge, and a slot in the socket-piece which is engaged by the extension to lock the chair when it is opened

in line with the slot, substantially as herein described.

2. In a folding chair, a single standard, a socket in which the lower end of the standard turns about a vertical axis, a seat hinged to the top of the standard and capable of turning from a horizontal to a vertical position, a back having a support hinged to the standard below the seat, said support being engaged by the rear edge of the seat when the latter is turned to a horizontal position, whereby the support and back are forced backward, and a spring L, by which the back and its support are forced forward when the seat is turned to a vertical position, substantially as herein described.

3. In a folding chair, a central standard having a seat hinged to its upper end, a socket in which the lower end of the standard turns about a vertical axis, stops by which it is allowed one-quarter of a revolution, and a spring M, by which it is automatically turned to one of its positions, a seat-back with a support hinged to the standard below the seat, said support being forced back by contact of the rear edge of the seat when the latter is turned down, a spring L, by which it is thrown forward when the seat is turned up, an extension of the back-support below its hinge, which acts as a stop against the socket-piece to prevent the seat being turned down until the standard has been rotated so as to present the seat to the front, and a slot in the socket-piece which admits the extension and allows the seat to be opened when presented toward the front and which locks the standard to prevent the spring M from turning it about while the seat is turned down, substantially as herein described.

4. In a folding chair, a central standard rotatable in a socket-piece about a vertical axis, a seat hinged to the top of the standard, a spring M, by which the standard is turned one-quarter of a revolution, whereby when the seat is turned up it is retained in a position at right angles with that occupied when turned down, a seat-back with a support hinged to the standard below the seat and engaged by the rear of the seat and forced back about its hinge when the seat is turned down, an extension of the back-support below the hinge which acts as a stop against the socket-piece to prevent the seat being turned down until the standard has been turned a quarter of a revolution, and a slot in the socket-piece which admits the extension when the standard has been turned to its second position and which serves as a lock to maintain the standard in this position until the seat has been turned up, substantially as herein described.

5. In a folding chair, a central standard rotatable in a socket-piece about a vertical axis, a back with a support hinged to the standard to swing forward and back about its hinges, a seat-support hinged to the top of the standard and having a seat secured to it which en-

gages the back-support and forces it backward when the seat is turned down, and upturned ends at the rear of the seat-support against which the lower part of the back rests when
5 opened, substantially as herein described.

6. In a folding chair, a central rotatable standard, a seat hinged to the top of the standard and capable of turning to a horizontal or a vertical position about its hinges, a back
10 with a curved support hinged to the standard below the seat so that the rear edge of the seat follows the curvature of the support and forces the back and its support backward when the seat is turned down, a spring L, act-
15 ing to force the back and its support into an approximately vertical position parallel with

the seat when the latter is turned up, an arm hinged to the side of the back, and a link connecting the arm with the seat behind its hinge-line, whereby the arm and the top of the link
20 are drawn backward with the back and the bottom of the link is carried upward and forward with relation thereto when the seat is turned down and both are folded parallel
25 with the back and seat when the latter is turned up, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN T. McKEAN.

Witnesses:

LOUIS CONSTINE,
W. R. SPRINGER.