

No. 895,552.

PATENTED AUG. 11, 1908.

R. H. GEHRKE.
THEATER CHAIR.
APPLICATION FILED DEC. 16, 1907.

3 SHEETS—SHEET 1.

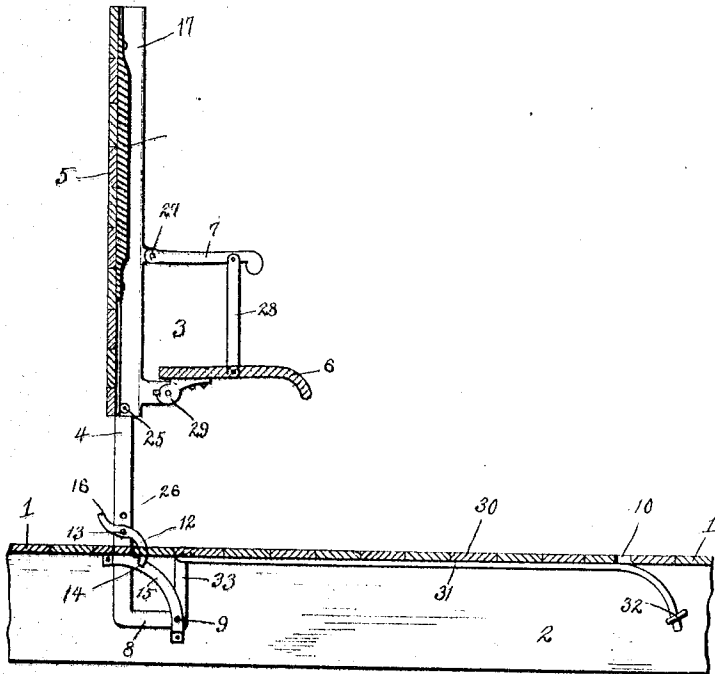


FIG. 1.

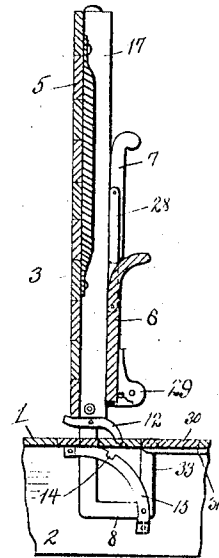


FIG. 2.

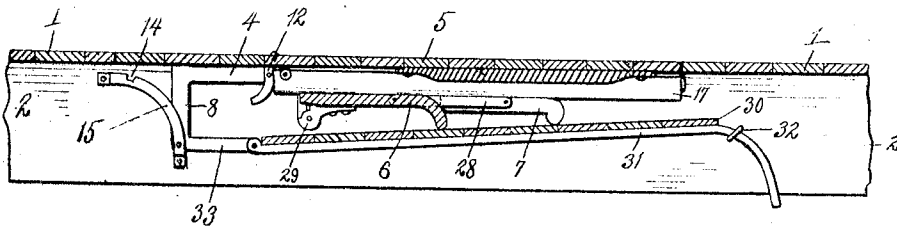


FIG. 3.

Witnesses

Chas. J. Jennings.
L. D. Little

Inventor
Robert H. Gehrke

By Watson E. Coleman

Attorney

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3 SHEETS—SHEET 2.

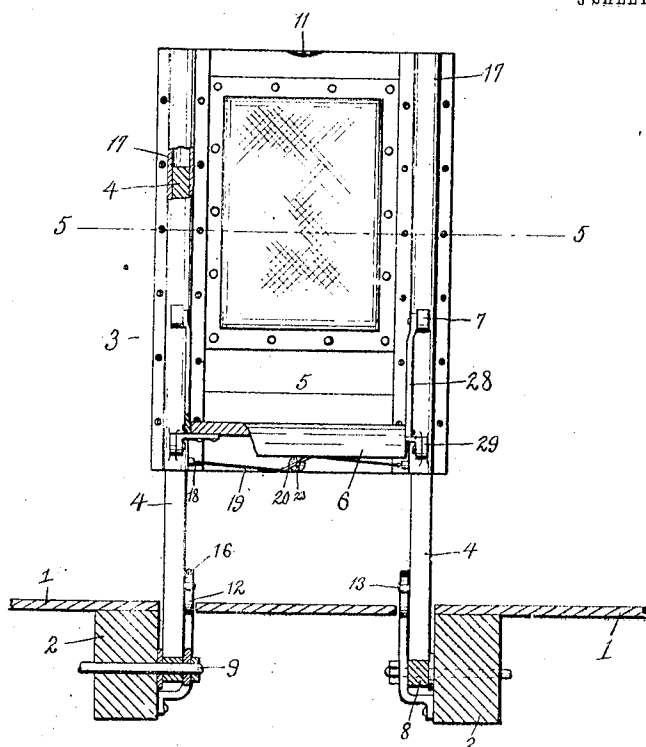


FIG. 4.

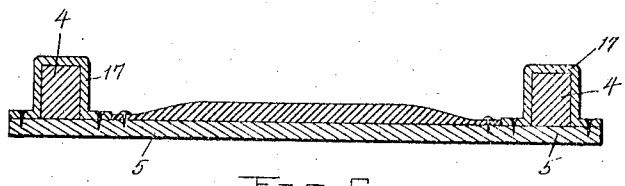


FIG. 5.

Witnesses

Chas. J. Jennings
L. O. Little

Inventor

Robert H. Gehrke

By

Watson E. Coleman

Attorney

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3 SHEETS—SHEET 3.

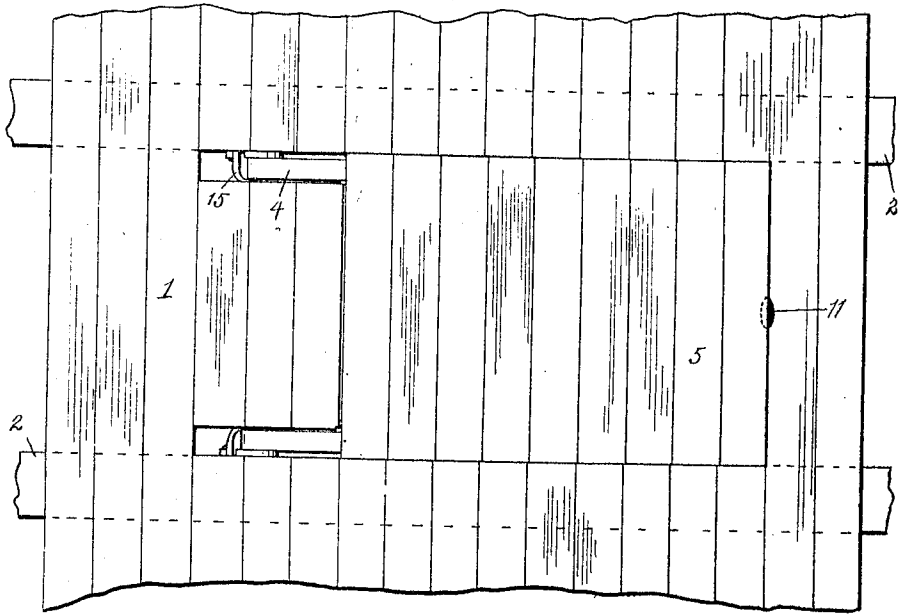


FIG. 6.

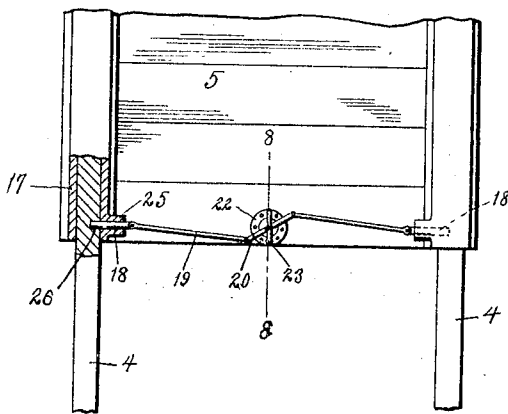


FIG. 7.

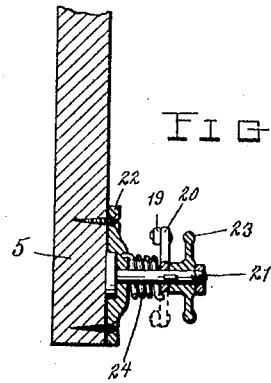


FIG. 8.

Witnesses

Chas. J. Jennings.
L. O. Little.

Robert H. Gehrke Inventor

By Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE.

ROBERT HERMAN GEHRKE, OF MERRILL, WISCONSIN.

THEATER-CHAIR.

No. 895,552.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed December 16, 1907. Serial No. 406,777.

To all whom it may concern:

Be it known that I, ROBERT HERMAN GEHRKE, a citizen of the United States, residing at Merrill, in the county of Lincoln and State of Wisconsin, have invented certain new and useful Improvements in Theater-Chairs, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in chairs for theaters or other auditoriums and its object is to provide a simple and practical one which may be collapsed and folded down into the floor.

With the above and other objects in view the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter described and claimed, and illustrated in the accompanying drawings, in which

Figure 1 is a vertical sectional view through my improved chair showing it in its elevated and open position ready for use; Fig. 2 is a similar view showing the back of the chair lowered and the seat folded ready to permit the chair to be swung down into the floor; Fig. 3 is a sectional view showing the chair in its lowered position; Fig. 4 is a front elevation of the chair in its open position, parts being in section; Fig. 5 is a horizontal section taken on the plane indicated by the line 5—5 in Fig. 4; Fig. 6 is a plan view of the chair and floor, the former being lowered into the latter; and Figs. 7 and 8 are enlarged detail views of the latch device for the back of the chair.

In the drawings 1 denotes the flooring, 2 the supporting joists and 3 one of my improved chairs which is constructed to fold down into the floor and to lie flush with the top of the same. The chair comprises two supporting standards 4 on which is slidably mounted a back 5 which carries a folding seat 6 and folding arm rests 7. The standards 4 have offset lower ends 8, preferably of right angular form, pivoted at 9 to the joists 2 or other suitable supports so that when the standards are swung down to a horizontal position the chair back 5 will enter an opening 10 in the floor 1 and form a part of the latter. To permit the chair to be readily raised out of the floor I preferably provide a hand opening or recess 11 at the top of the back 5. The standards 4 are locked in their upright position by pawls 12 which are pivoted intermediate their ends at 13 upon said

standards and are adapted to have their lower ends engage notches or seats 14 formed in segmental guide bars 15 preferably also secured upon the joists 2 as shown. Said lower ends 12 of the pawls are heavier than their upper ends 16 so that they drop by gravity into the seats 14 to automatically lock the chair in its upright position. Said pawls are adapted to be automatically released or disengaged from the seats 14 by the chair back 5 which, when lowered upon the standards 4 is adapted to depress the upper ends 16 of said pawls as shown in Fig. 2.

The chair back 5 has a straight rear face so that it may form a part of the flooring 1 when the chair is lowered, but its front face may be curved to receive the back or upholstered or otherwise finished to make it attractive in appearance. Said back 5 is slidably mounted upon the upper portions of the standards 4 by providing upon its vertical edges channel plates or bars 17 which slidably receive the standards as more clearly shown in Fig. 5. Said back is adapted to be locked in either its raised or lowered position on the standards by means of a latch device such as the one shown in Figs. 7 and 8. This device comprises two bolts 18 carried by the outer ends of rods or links 19 which have their inner ends pivoted to the ends of a lever 20. The latter is fixed at its center to a pivot 21 mounted for rotation in a bearing 22 upon the bottom of the back 5 and provided upon its front end with a hand piece 23. The pivot 21 is actuated by a coil spring 24 so that the bolts 18, which are mounted in suitable guides 25 upon the bottom of the back, are projected outwardly and into seats or openings 26 formed in the standards 4. Upper and lower sets of the openings 26 are provided in the standards so that the back will be locked in both its elevated and lowered position. By having the bolts spring projected they will automatically engage the openings 26 when the back is raised or lowered upon the standards, and they may be readily released by simply turning the handle 23.

The folding seat 6 and arm rests 7 may be of any suitable form and construction and mounted in any suitable manner upon the back 5 but as illustrated in the drawings the arm rests are pivoted at their inner ends at 27 and are connected by links 28 to the seat 6, which latter has its pivotal connection 29 so constructed that its downward movement

will be limited and it will be retained in its elevated or folded position as is common in theater seats or chairs.

In order to close the opening in the floor which is left when the chair is elevated to its upright position I employ a platform 30 which is adapted to be automatically raised and lowered as the chair is operated. This platform consists of a suitable body secured to side bars 31 which have their forward ends slidably mounted by engaging them with staples 32 or any other suitable supporting and guide devices arranged upon the joists. Said front ends of the bars 31 are preferably curved downwardly so that the corresponding end of the platform will drop when the chair is lowered. The rear or inner ends of the side bars 31 are pivoted to arms 33 which project from the right angular offset lower ends 8 of the standards 4 and are preferably formed integral therewith. These arms 33 are substantially parallel with the standards 4 and are of such length that when the latter are swung downwardly to the horizontal the platform 30 will be lowered sufficiently to permit the chair back 5 and its attached parts to drop beneath the upper surface of the flooring 1 as will be understood upon reference to Fig. 3.

In operation, when it is desired to lower the chair into the floor the seat 6 and arm rests 7 are folded by swinging the seat upwardly as shown in Fig. 2. The handle 23 is then turned to release the seat back 5, which latter then drops to the position shown in said figure and is automatically locked by the engagement of the bolts 18 with the lower openings or seats 26 in the standards 4. When the seat back drops to this lowered position it depresses the ends 16 of the pawls 12 and lifts the latter out of their keeper seats 14 so that the standards may swing forwardly and downwardly to lower the chair into the floor. As said standards swing downwardly the platform 30 is lowered owing to the sliding connection at its front end and to the connection of its rear end with the arms 33 on said standards. When it is desired to raise the chair for use the hand is engaged with the recess 11 in the back 5 and the latter is swung upwardly to elevate the standards 4 to their upright position in which they will be locked by the engagement of the pawls 12 with the keeper seats 14. The handle 23 is then turned to disengage the bolts 18 from the standards 4 and the chair back 5 is then slid upwardly upon the standards until the bolts enter the upper openings or seats 26 therein. The seats 6 and arm rests 7 may then be lowered by swinging the seat downwardly.

From the foregoing it will be seen that my improved chair is simple, strong, durable and comparatively inexpensive in construction and that it may be conveniently and quickly

raised and lowered. It will be also noted that when elevated it occupies but little space especially when the seat and arm rests are folded, thus enabling the people to more readily pass between the rows of seats. In case of fire or other excitement the chairs can be quickly thrown down into the floor to permit of ready exit from the theater or auditorium.

Having thus described my invention what I claim is:

1. The combination with a floor having an opening, of a chair pivotally mounted adjacent to one end of the opening and adapted to swing down into and close the same, a platform adapted to close the floor opening when the chair is elevated and having its outer end slidably and pivotally mounted adjacent to the opposite end of the floor opening, and an arm actuated by the chair and pivotally connected to the inner end of the platform whereby the latter will be raised and lowered with the chair.
2. The combination with a floor having an opening, of a chair pivotally mounted adjacent to one end of the opening and adapted to swing down into and close the same, guides adjacent to the other end of the floor opening, a platform to close the floor opening when the chair is elevated, members carried by the outer end of the platform and slidably and pivotally engaged with said guides, and swinging arms actuated by the chair and pivotally connected to the inner end of the platform whereby the latter will be raised and lowered with the chair.
3. The combination with a floor having an opening, of standards having offset or angular lower ends 8 pivotally mounted and provided with arms 33, said standards being adapted to swing down into the floor opening, a seat carried by said standards, means for locking said standards in their upright position, a platform to close the floor opening when the chair is raised, the inner end of said platform being pivoted to said arms 33, and means for mounting the outer end of the platform for pivotal and sliding movement.
4. The combination with a floor having an opening, of standards having offset or angular lower ends 8 pivotally mounted and provided with arms 33, said standards being adapted to swing down into the floor opening, a seat carried by said standards, means for locking said standards in their upright position, a platform to close the floor opening when the chair is raised, the inner end of said platform being pivoted to said arms 33, guides and members projecting from the outer end of said platform and slidably and pivotally engaged with said guides.
5. The combination with a floor having an opening, of standards having the angular or offset ends 8 provided with the arms 33, said standards being pivoted to swing downwardly

into the floor opening, a seat carried by said standards, segmental guides for said standards, pawls pivoted to said standards and adapted to engage said guides to lock the standards in their upright position, and a platform to close the floor opening and actuated by said arms 33.

6. The combination with a floor having an opening, of swinging standards, a keeper seat, a pawl pivoted to the standards to engage said keeper seat and lock the standards in an upright position, and a chair carried by the standards and adapted to engage and actuate the pawl.

7. The combination with a floor having an opening, of swinging standards, a movable locking element carried by one of the standards to lock the same in their upright positions and a slidable chair upon the standards to engage and actuate said locking element.

8. The combination with a floor having an opening, of swinging standards therein, keeper seats, pivoted pawls upon the standards to engage said keeper seats and retain the standards in their upright position, a slidable chair back upon the standards to engage and actuate said pawls, means for locking said chair back upon the standards, and a foldable seat carried by said chair back.

9. The combination with a floor having an opening, of swinging standards therein, keeper seats, pivoted pawls upon the standards to engage said keeper seats and retain the standards in their upright position, a slidable chair back upon the standards to engage and actuate said pawls, means for locking said chair back upon the standards, a foldable seat carried by said chair back, and a platform to close the floor opening when the chair is raised and controlled by the movement of the chair.

10. The combination with a floor, of standards having offset lower ends pivotally mounted, keeper seats, pawls pivoted on the standards to engage said seats and lock the

standards in an upright position and a chair proper upon the standards adapted to engage and operate said pawls.

11. The combination with a floor having an opening, of swinging standards therein, a chair back adapted to close the floor opening, channeled members arranged on said chair back and slidably engaged with the standards, the latter being provided with upper and lower sets of keeper openings, sliding bolts arranged in said channeled members and adapted to enter the keeper openings in the standards to lock the chair back to the latter, a rotary shaft arranged upon the chair back and provided with an operating handle, a cross piece fixed to said shaft, links between the ends of said cross piece and said sliding bolts, and a coil spring surrounding said shaft and adapted to actuate it in one direction.

12. The combination with a floor having an opening, of standards having pivotally mounted offset lower ends provided with short angular arms, segmental guides for said standards and formed with notches, pawls pivoted intermediate their ends on the standards and adapted to have their lower ends engage the notches in said guides, a slidable chair back upon the standards and adapted to engage the upper ends of the pawls and actuate them, spring projected and hand retracted locking means for securing the chair back in either its raised or lowered position, a folding seat carried by the chair back, a platform pivoted at its inner end between the arms at the lower ends of the standards, downwardly and outwardly curved rods at the outer end of the platform, and guides to slidably and pivotally receive said rods, substantially as described.

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

ROBERT HERMAN GEHRKE.

Witnesses:

FRED. G. ROSSMAN,
FRANK METCALF.