Oct. 5, 1943. R. K. LEE 2,331,203

CHAIR

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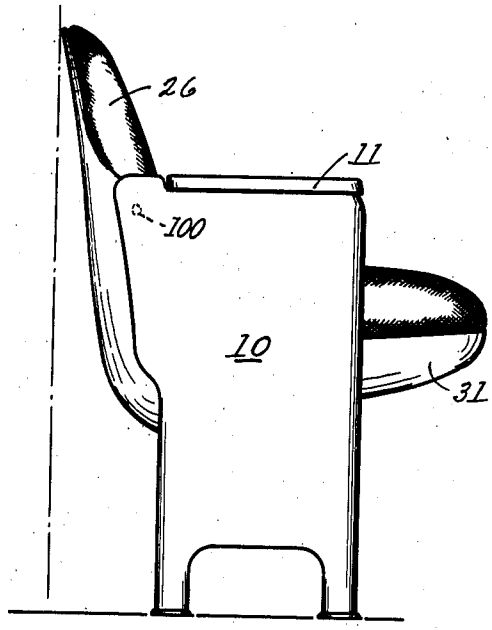
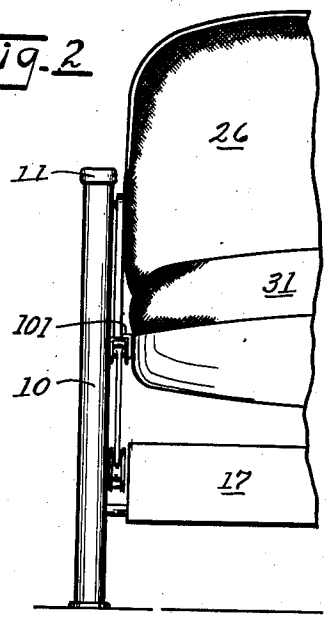


Fig. 1

Fig. 2



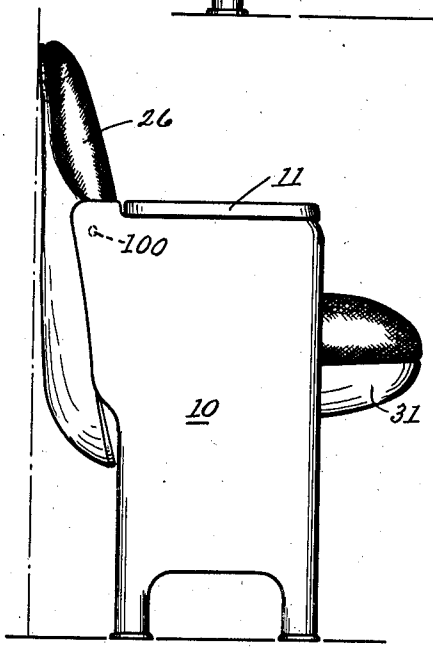


Fig. 3

Witness:
Geo. L. Chapel

Inventor
Roger K. Lee

By Rice and Rice

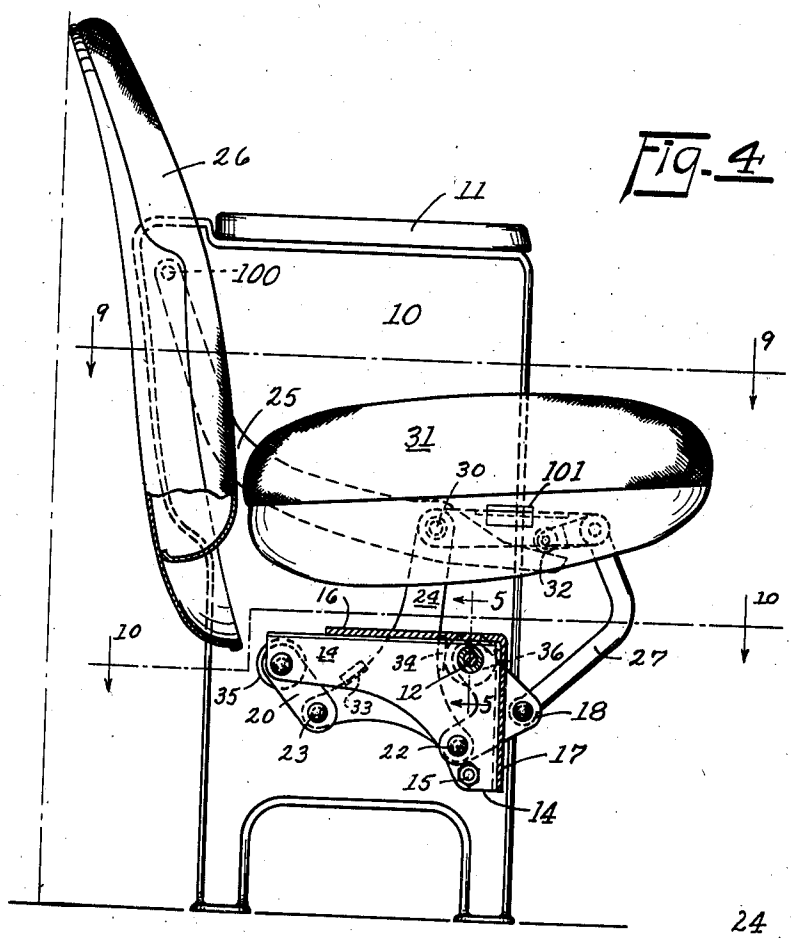
Attorneys

Oct. 5, 1943. R. K. LEE 2,331,203

CHAIR

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Fig. 4



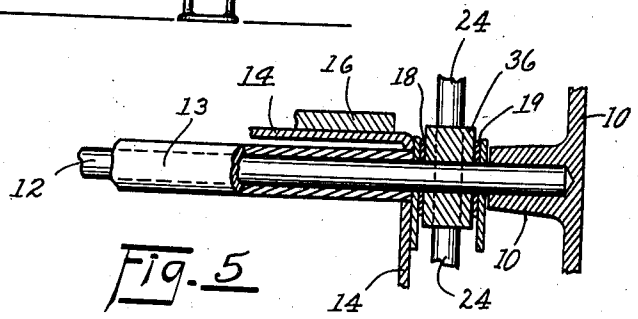


Fig. 5

Witness:
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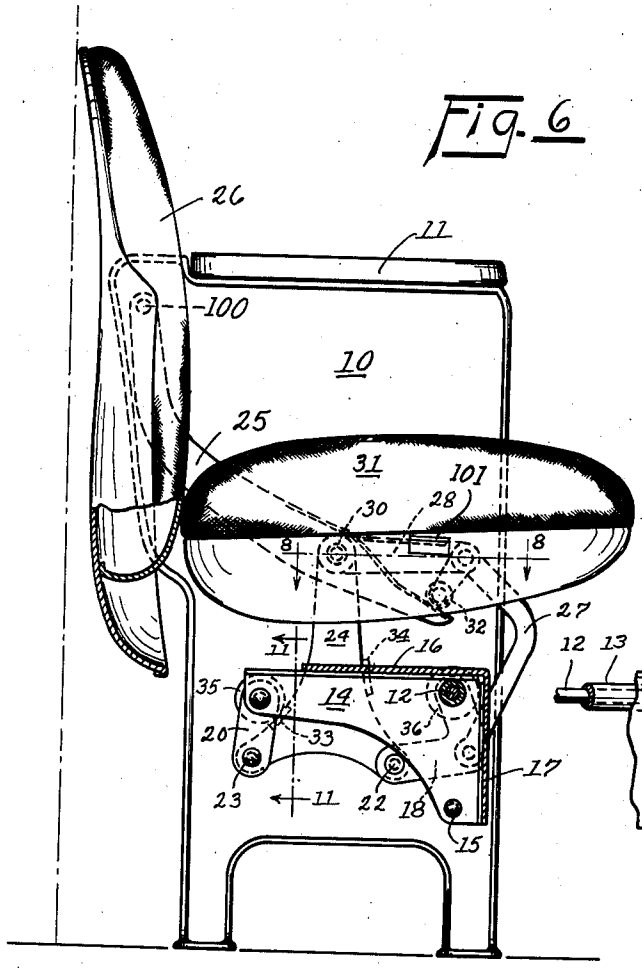
Attorneys

Oct. 5, 1943. R. K. LEE 2,331,203

CHAIR

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Fig. 6



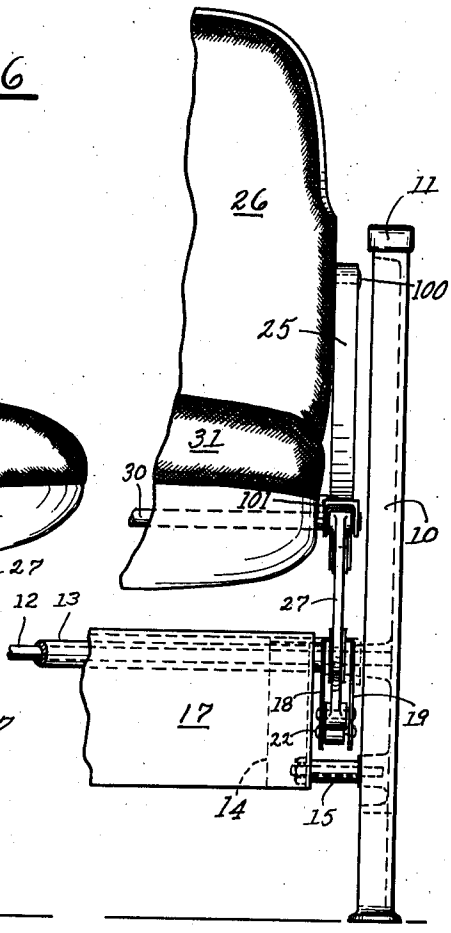


Fig. 7

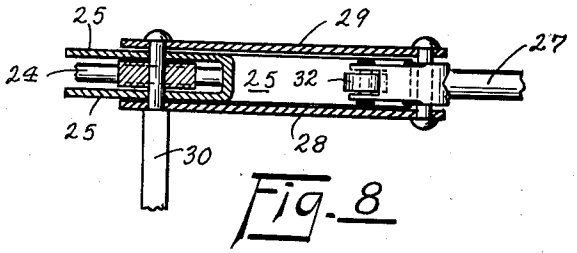


Fig. 8

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Oct. 5, 1943. R. K. LEE 2,331,203

CHAIR

Filed Jan. 24, 1941 4 Sheets-Sheet 4

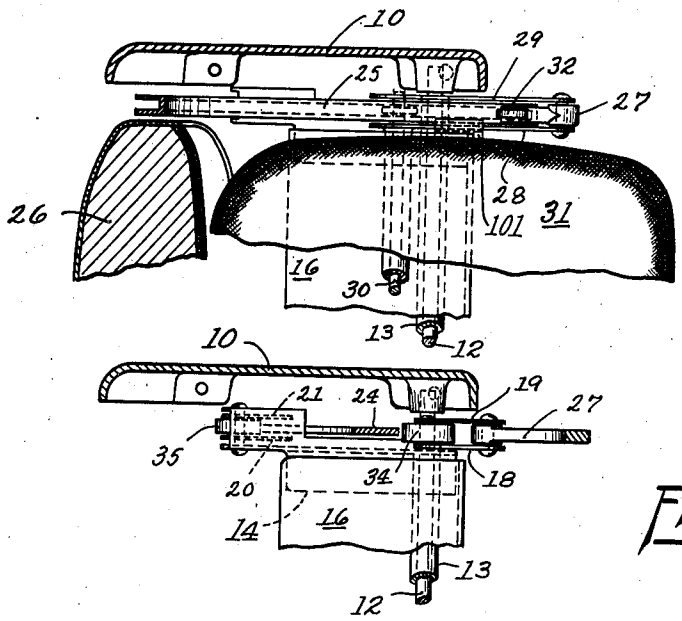


Fig. 9

Fig. 10

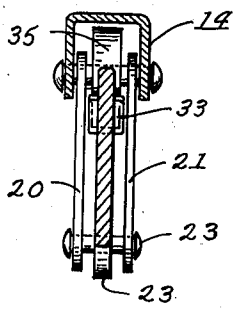


Fig. 11

Witness:
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Patented Oct. 5, 1943 2,331,203

UNITED STATES PATENT OFFICE

2,331,203

CHAIR

Roger K. Lee, Highland Park, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey

Application January 24, 1941, Serial No. 375,719

2 Claims. (Cl. 155—85)

The present invention relates to chairs and more particularly to those of the so-called opera type.

The primary objects of the instant invention are to provide a chair of the general character above indicated having a seat which is rearwardly movable on a substantially horizontal plane for a limited distance; to provide such a chair whose seat is upwardly tiltable as well as rearwardly horizontally movable; to provide such a chair whose back is so connected with the seat that a rearward movement of the seat effects a slight forward movement of the upper end of the back and a slight rearward movement of the bottom end thereof; to provide such a chair which when installed as one in a plurality of rows of like chairs and which when occupied provides for ready and convenient egress from and ingress to unoccupied seats in the same row without seriously disturbing the occupant of such an occupied chair or the occupant of a chair immediately rearwardly of such occupied chair; and, to provide such a chair which is comfortable and convenient in use, relatively simple in mechanical construction and reasonably economical in manufacture.

An illustrative embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a side elevational view of the chair with its seat and back shown in their respective positions of normal occupancy of the chair;

Figure 2 is a fragmentary front elevational view thereof;

Figure 3 is a side elevational view similar to that of Figure 1 but showing the seat and back when moved by the occupant thereof to their respective positions in instances wherein a person seeks ingress to or egress from another chair in the same row of chairs and past such occupied chair;

Figure 4 is an enlarged, fragmentary side elevational view of the chair, partly in vertical section, and showing its seat and back in their respective positions of normal occupancy of the chair;

Figure 5 is a sectional view thereof on line 5—5 of Figure 4;

Figure 6 is an enlarged, fragmentary side elevational view of the chair, partly in vertical section, and similar to that of Figure 4 but showing its seat and back when moved by the occupant of the chair to permit a person to pass before him;

Figure 7 is a fragmentary front elevational view of the chair;

Figure 8 is a sectional view on line 8—8 of Figure 6;

Figure 9 is a sectional view on line 9—9 of Figure 4;

Figure 10 is a sectional view on line 10—10 of Figure 4; and

Figure 11 is a sectional view on line 11—11 of Figure 6.

Referring then to the drawings wherein like parts of the structure shown are designated by the same numerals in the several views, the chair there shown as of the so-called opera type comprises a pair of spaced vertically disposed standards 10, each provided with an arm rest 11 secured thereto in any suitable manner.

A rod 12 disposed within a sleeve 13 is interposed and secured between the standards 10 and a pair of spaced vertically disposed brackets 14, generally triangular in shape. Each embraces the rod 12 adjacent the opposite ends thereof and each bracket is secured at its lower corner to its proximate standard 10 as by a bolt 15.

A horizontally disposed sheet metal plate 16 is supported along its opposite ends upon the upper edges of the brackets 14 to which it is secured and the plate has an integrally formed depending or flanged portion 17 engaging the forward edges of each bracket.

A pair of spaced bell crank levers 18, 19 are pivotally suspended from the rod 12 at its opposite ends and a pair of spaced links 20, 21 are pivotally suspended from each bracket 14 at its rear corner.

Inverted Y-shaped links are each pivotally secured at their feet 22, 23 between each pair of spaced bell crank levers 18, 19 and between each pair of spaced links 20, 21 respectively and their heads 24 are each pivotally secured to a channel arm 25 between the upper ends of which spaced arms an upholstered chair back 26 is secured by a pivot pin 100.

A pair of C-shaped links 27 are each pivotally connected at one of their ends between a pair of spaced bell crank levers 18, 19 medially of each and each C-shaped link is pivotally connected short of its other end in an inverted channel member 28 whose other ends are each pivotally connected to a rod 30 on which an upholstered seat 31 is supported.

The opposite sides of the seat 31 are each provided with an outwardly projecting tongue 101 secured substantially medially of the length of the seat in any suitable manner, which tongues each rest upon the upper side of a channel member 28 when the seat is in occupied position.

The free end of each C-shaped link **27** is provided with a yoke and a roller **32** disposed between the arms of each yoke rides upon the upper surface of the forward end of its proximate seat supporting arm **25** during the movement of the seat **31** and back **26** from their respective positions shown in Figure 4 to their positions shown in Figure 6.

Stops **33** and **34** secured to the opposite sides of each inverted Y-shaped link respectively engage bumpers **35** and **36** of rubber or the like disposed between the pair of spaced bell crank levers **18, 19** and between the pair of spaced links **20, 21** for limiting the forward-rearward movement of the seat **31** and to provide for noiseless movement.

It will thus be seen that the chair herein shown and described provides for ready and convenient egress from and ingress to unoccupied seats in the same row of seats without seriously disturbing the occupant of such a chair or the occupant of a chair immediately rearwardly thereof.

While but one specific embodiment of the invention has been herein shown and described, it will be understood that certain details of the construction shown may be altered or omitted without departing from the spirit of the invention as the same is defined by the following claims.

I claim:

1. A chair comprising a pair of spaced vertically disposed standards; a pair of brackets disposed between the standards, each secured to its proximate standard in spaced relation thereto; a pair of bell crank levers, each pivotally suspended between a standard and its proximate bracket; a pair of inverted Y-shaped links, each pivotally connected at one leg to the free end of its proximate bell crank lever and pivotally connected at its other leg to a link pivotally connected to its proximate bracket; a pair of rearwardly-upwardly extending arms, each pivotally connected intermediate its length to a head of an inverted Y-shaped link; a chair back pivotally connected between the upper ends of each arm; a pair of C-shaped links, each pivotally connected to a bell crank lever intermediate the other pivotal connections of the latter and pivotally connected intermediate its ends to a link whose other end is pivotally connected to the head of its proximate inverted Y-shaped link, the free end of each C-shaped link having a roller bearing on the upper surface of the forward end of an arm; and a seat secured between the heads of the inverted Y-shaped links; and means for maintaining the seat in a substantially horizontal position.

2. A chair comprising a pair of spaced vertically disposed standards; a pair of brackets disposed between the standards, each secured to its proximate standard in spaced relation thereto; a pair of bell crank levers, each pivotally suspended between a standard and its proximate bracket; a pair of inverted Y-shaped links, each pivotally connected at one leg to the free end of its proximate bell crank lever and pivotally connected at its other leg to a link pivotally connected to its proximate bracket; a pair of rearwardly-upwardly extending arms, each pivotally connected intermediate its length to a head of an inverted Y-shaped link; a chair back pivotally connected between the upper ends of each arm; a pair of C-shaped links, each pivotally connected to a bell crank lever intermediate the other pivotal connections of the latter and pivotally connected intermediate its ends to a link whose other end is pivotally connected to the head of its proximate inverted Y-shaped link, the free end of each C-shaped link having a roller bearing on the upper surface of the forward end of an arm; and a seat pivotally secured between the heads of the inverted Y-shaped links; and means for maintaining the seat in a substantially horizontal position when occupied.

ROGER K. LEE.