

No. 761,823.

PATENTED JUNE 7, 1904.

H. J. DOHRER.
AUTOMATIC AISLE CONVERTING CHAIR.

APPLICATION FILED JAN. 25, 1904.

NO MODEL.

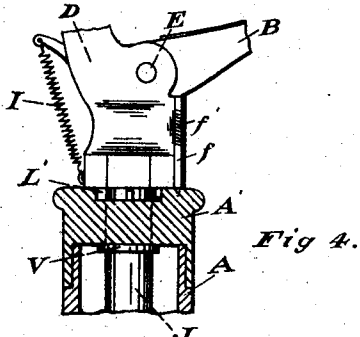


Fig. 4.

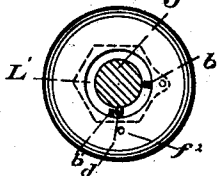


Fig. 3.

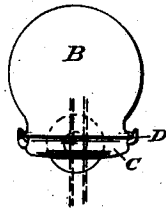


Fig. 5.

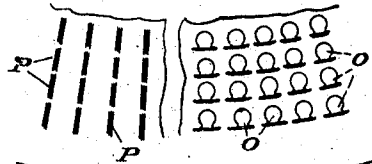


Fig. 6.

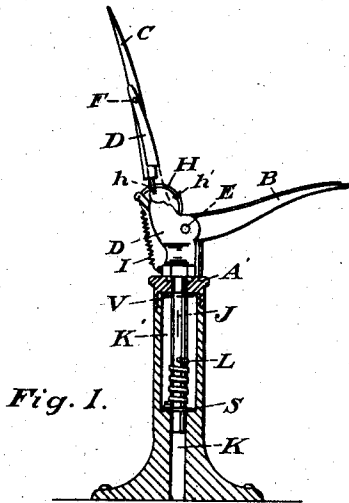


Fig. 1.

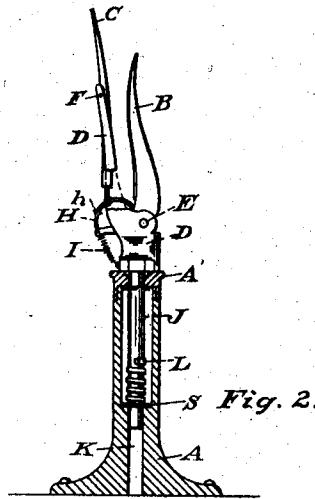


Fig. 2.

Witnesses:
a. Ben Cornelius
Reba Davies

Inventor:
Henry J. Dohrer,
by *Esmeralda Ayres*
Attorney.

UNITED STATES PATENT OFFICE.

HENRY J. DOHRER, OF ST. JOSEPH, MISSOURI, ASSIGNOR OF TWO-THIRDS TO DAVID E. CURTIN AND JOSEPH W. DOHRER, OF ST. JOSEPH, MISSOURI.

AUTOMATIC AISLE-CONVERTING CHAIR.

SPECIFICATION forming part of Letters Patent No. 761,823, dated June 7, 1904.

Application filed January 25, 1904. Serial No. 190,474. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. DOHRER, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Automatic Aisle-Converting 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 letters of reference marked thereon, which form a part of this specification.

The object of my device is to provide a chair for theaters, churches, and public halls which is adapted to revolve automatically to any segment of a circle and by which when all the seats in a line extending from the platform or stage to the rear of that section of seats are automatically folded an aisle is instantly formed for all who have occupied said chairs in that line, thus permitting quick exit in case of fire, as well as at other times.

I accomplish my object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a chair and its back and a vertical section view of the pedestal and the stem and the coil-spring therein. Fig. 2 is a similar view except the chair is shown partly revolved and folded. Fig. 3 is a detail top view of the pedestal, the stem and lugs for locking, and the hole for receiving the plunger end. Fig. 4 is a detail top view of the pedestal and chair connections. Fig. 5 is a plan of the seat, the dotted lines showing its position when folded; and Fig. 6 is a plan of the seating arrangement, the chairs at one side shown in their position when occupied and shown on the other side of the figure folded, thus leaving aisles for exit between each line of chairs.

Similar letters refer to similar parts throughout the several views.

A represents the pedestal of the chair; B, the seat, and C the back of the chair.

D is the frame of the chair; E, a rod on which the seat is pivoted.

F is a rod through the upper part of the frame below the center of the back upon which the back swings.

H H are rings rigidly fastened on the rear corners of the seat which pass through perforations in the chair-back.

When the seat is dropped in position shown in Fig. 1, the back part of the seat has passed under the chair-back, the lower end of the back and the seat being spaced apart, and a lug *h* on ring H has crowded the lower part of the chair-back forward, thus throwing and holding the back in an inclined position, as shown in said Fig. 1. The party intending to occupy the chair having unfolded the chair-seat and taken his seat thereon, it is held by his weight in said position. The instant he rises therefrom the chair seat and back assume the position shown in Fig. 2, a lug *h'*, also on said ring H, serving the purpose of pressing the lower end of the chair-back backward in the same manner that lug *h* serves the purpose of pressing it forward. Two coil-springs I I are attached at their upper ends to the corners of the back of the seat and at their lower ends to the lower part of the frame. These springs control the folding of the seat by instantly drawing the back of the seat downward when the weight of the person is removed therefrom, thus throwing the seat into the position shown in Fig. 2.

J is the stem, the upper end of which is stationary on the under part of frame D.

The pedestal is cast hollow, the lower part, K, being of circumference simply large enough to permit the lower end of stem J to work therein freely. The upper part, K', is enlarged to allow for a spring L on the stem. The cap A' of pedestal A is cast separate and attached to the pedestal by bolts or screws to permit the insertion of said spring L into the interior of the pedestal when the device is constructed. A cavity L' is countersunk in the pedestal-cap. Within this countersunk space there are two upwardly-projecting lugs

b b'. On the stem there is another lug *d*, projecting outwardly and adapted to travel in the space between lugs *b* and *b'*.

In the front of the bottom of the frame of the chair there is a vertical aperture in which a plunger *f* and its spring *f'* operate. In the pedestal-cap *A'* there is a hole *f''* of circumference corresponding with the hole in which plunger *f* operates in the front of the frame.

O O in Fig. 6 represent chairs in the position they will be in when occupied, facing the stage or platform.

P P represent the chairs when unoccupied, the seats folded, and the chairs revolved into a position that will allow an aisle from the stage to place of exit between each line of chairs.

When the chair is in the position shown at *P P*, it is folded together, lug *d* is in contact with lug *b*, and spring *L* is untensioned. When the chair is in the position shown at *O O*, it is unfolded, facing the stage or platform, lug *d* is in contact with *b'*, and plunger *f* is in hole *f''*, having been driven therein by the pressure of the descending seat, spring *L* is tensioned, and the chair is thus prevented being turned or revolved back. The instant its occupant rises and his weight is off the chair-seat coil-springs *I I* recoil, causing the seat to be folded. The folding up of the seat at once releases plunger *f* from hole *f''*. This releases the tension of spring *L* and permits said spring to swing the chair back to the original folded position shown at *P P*. The lower end of spring *L* is rigidly attached to the pedestal at shoulder *S*, while its upper end is rigidly attached to stem *J*. On said stem there is a collar *V*, adapted to fit beneath pedestal-cap *A'* to prevent spring *L* raising the stem out of position. With spring *L* working on the stem from the opposite direction from that shown in the drawings and lug *b* placed upon the opposite side from that in which it is shown the chair may be swung in the opposite direction from that illustrated and described.

The pedestals are adapted to be rigidly attached to the floor in any convenient way and are made to fit any incline of the floor.

What I claim, and desire to secure by Letters Patent, is—

1. In an automatic aisle-converting chair, the combination of a chair-frame provided with a vertical perforation in its front, a hollow supporting-pedestal provided with an interior shoulder, a removable cap having a central countersunk cavity and a plunger-receptacle, a revoluble stem having rigid connection at its upper end with the chair-frame and

a rigidly-attached collar adapted to operate beneath the pedestal-cap, a spring rigidly attached at its lower end to the pedestal at said shoulder and its upper end to the stem, the chair seat and back pivotally attached to the chair-frame, the rings rigidly fastened to said seat and connected with said back through perforations in the back of the chair, the lugs on said rings one of which is adapted to hold the chair-back in an inclined position when the seat projects under the chair-back and the other to hold said back in a vertical position when the chair-seat is folded, the coil-springs connecting the lower part of the chair-frame and the back corners of the seat, a plunger adapted to travel in the chair-frame perforations and engage with the hole in the pedestal-cap when the seat is occupied, the lugs in said cavity and a lug upon said stem adapted to engage with one cavity-lug when the chair is unfolded and with the other when folded, said lugs controlling as to direction of the aisles, substantially as described and shown.

2. In a chair the combination with a hollow pedestal, a frame, a pivoted back and seat, of rings rigidly fastened on the back of said seat and on which the lower end of the chair-back is adapted to travel and lugs thereon adapted to hold the back of the seat vertical or inclined as desired, and coil-springs, their ends being connected with the lower part of the chair-frame and the back of the seat, adapted to fold and hold the seat in a vertical position, substantially as set forth and shown.

3. The combination in revoluble chairs with the pedestals, the frames, the backs, seats and stems, of the rings provided with lugs connecting the chair seats and backs, the coil-springs connecting the seats and lower parts of the chair-frames and adapted to hold the seats in vertical positions when released from the weight of the occupants, the plungers in the perforations in the front of the frames adapted to be withdrawn from their engagement with their receptacles in the pedestal-caps when the seats are folded thus releasing the chairs from their rigidly-held positions, and the springs on the stems adapted as said plungers are withdrawn from their pedestal-cap connections to instantly swing and hold the chairs in positions that will allow aisles at any desired angle between each line of chairs, substantially as shown and set forth.

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

HENRY J. DOHRER.

Witnesses:

E. A. BERTRAM,
CLAY J. CARSON.