

C. E. EDMUND.
DISAPPEARING CHAIR.
APPLICATION FILED APR. 30, 1909.

982,710.

Patented Jan. 24, 1911.

2 SHEETS-SHEET 1.

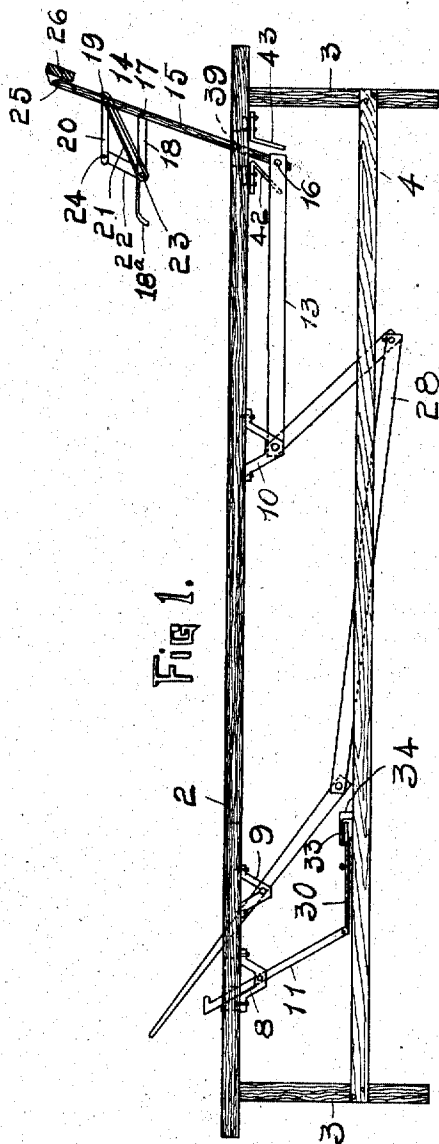


Fig 1.

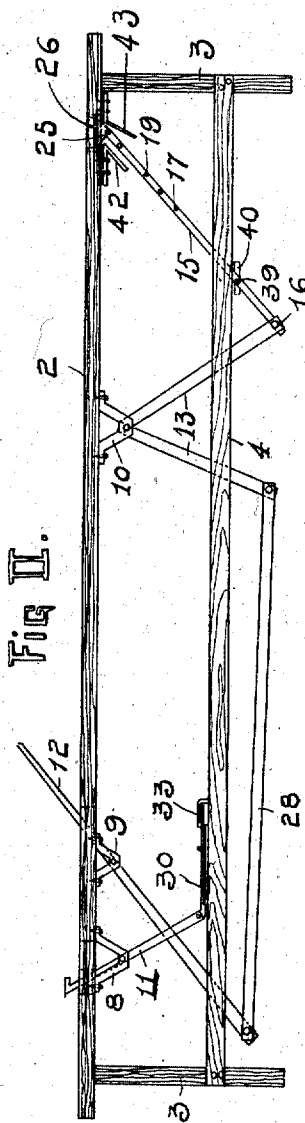


Fig II.

WITNESSES:
Harbert S. Miller.
Johnston.

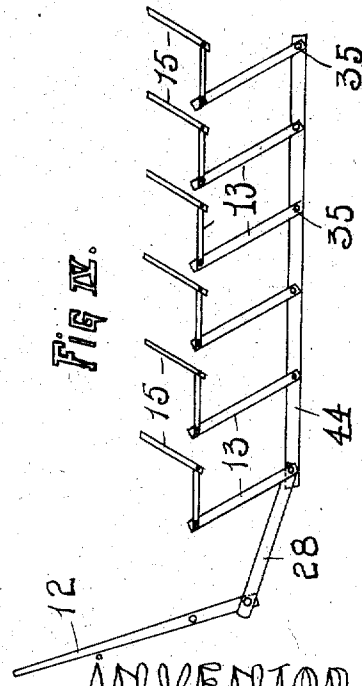
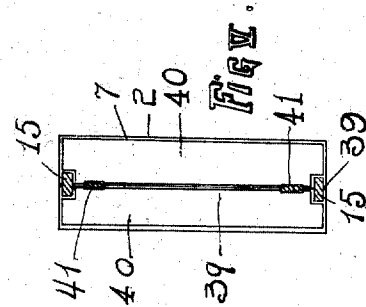
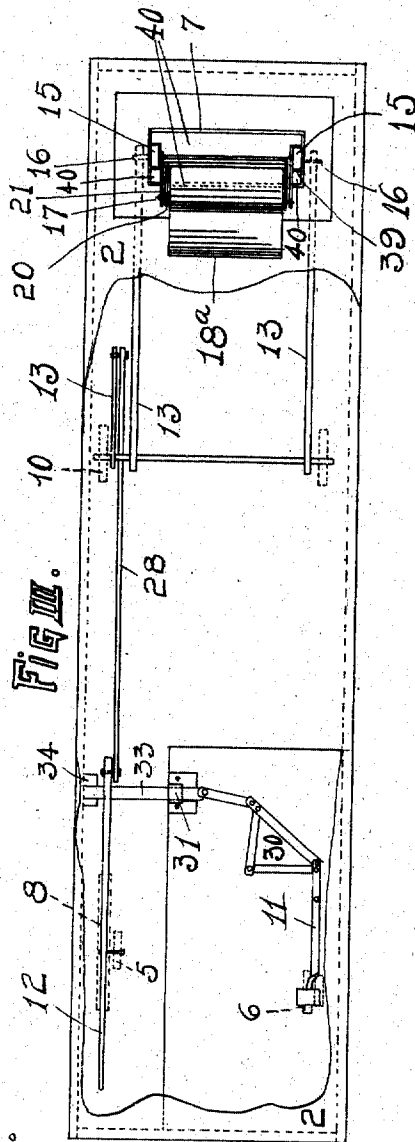
INVENTOR:
C. E. Edmund.
By A. M. Richards
his atty.

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2 SHEETS-SHEET 2.



WITNESSES:

Harold S. Miller
J. Fenton

INVENTOR:

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UNITED STATES PATENT OFFICE.

CHARLES EDWIN EDMUND, OF WOODHULL, ILLINOIS.

DISAPPEARING CHAIR.

982,710.

Specification of Letters Patent.

Patented Jan. 24, 1911.

Application filed April 30, 1909. Serial No. 493,199.

To all whom it may concern:

Be it known that I, CHARLES EDWIN EDMUND, a citizen of the United States, residing at Woodhull, in the county of Henry and State of Illinois, have invented certain new and useful Improvements in Disappearing Chairs, of which the following is a specification.

In theaters and other buildings provided for public gatherings, where great numbers of people attend, it has frequently been demonstrated that in the event of a fire or other cause of alarm, many either lose their lives or meet with serious injuries because of rushing toward the aisles and there forming such a compact, crowding mass that little, if any, advance can be made toward the exits.

The primary object of my invention is to provide a disappearing chair, or more properly, a series of such chairs, which may be controlled from the stage or from any other suitable place.

A further object is to provide means for locking said chairs in their elevated positions.

A still further object is to provide automatic means for closing the opening in the floor (through which opening the chair passes,) when the chair is in an elevated position; and

A final object is to provide means for closing said opening when the chair is lowered or falls by gravity, whereby a smooth, unobstructed and practically uninterrupted floor surface is had, and over which a large audience may quickly pass to the various exits, without crowding, without interference and without danger of tripping or falling. It will be manifest that sweeping and scrubbing may be accomplished with as little effort as on a normally plane floor, and it will be further evident that the chairs may be lowered immediately after each performance, for the twofold purpose of permitting a free means of exit and for so disposing of the chairs (usually upholstered) that they will not be subjected to the dust caused by a large audience passing over the floor. It will be further evident that the uses of my improvements are not confined to public halls or theaters, but that they are readily adaptable to barber shops, dentist's rooms and in fact all places where collapsible chairs are employed.

In order that my invention may be better

understood I have appended hereto sheets of drawings which illustrate it as embodied in the best way now known to me; obviously, however, some of these improvements may be used without the others, and the details of construction may be altered to conform to necessities or preferences.

In said drawings:—Figure 1 is a side elevation, the chair in elevated position; Fig. 2, a like elevation, but the chair in lowered position; Fig. 3, a top plan, partly broken away, the chair in the same position as in the principal figure; Fig. 4, a side elevation, illustrating the manner of connecting a series of chairs whereby they may be simultaneously actuated; Fig. 5, a plan of the swinging doors.

Throughout the several figures of the drawing the same reference numeral designates the same part.

2 represents the floor of a building, it being supported by any suitable means 3 connected by strips 4 which may generally be dispensed with. The floor is provided at 5 with a slot for the passage of the actuating lever, at 6 with a slot for the locking lever, and at 7 with a transverse opening or openings through which the chair or chairs pass in their rising and falling movements, the number of slots or openings 7 being of course equal to that of the chairs.

Brackets 8, 9 and 10 are suitably fixed to the floor or elsewhere according to or depending upon the construction of the building. To the bracket 8 is fulcrumed the locking lever 11, to the bracket 9 is fulcrumed the actuating lever 12, and to the bracket 10 is pivoted the apex of a triangular rocker 13 which actuates the chair 14.

The chair comprises, preferably, legs 15 connected at their lower portions by a rod 16, near their midlengths by a rod 17 on which the seat-arms which carry the seat 18 are hinged, and intermediate their midlengths and upper ends by a rod 19 on which the rear portions of the side arms 20 and slotted links 21 are pivoted. Connectors 22 are pivoted at their lower portions to a rod 23 which passes beneath and supports the front end of the seat, and each is pivotally connected by a rivet 24 to the forward portion of the co-acting arm-rest 20. Mounted to rock on a rod 25 at the upper ends of the legs 15 is a floor-block 26 for a purpose presently described. Upon the rod 16 which connects the lower ends of the chair legs are

pivoted the lower ends of the rear members of the rockers 13. A link 28 is pivotally engaged at its fore end with the end of the power arm of the actuating lever 12, and at its rear end is likewise engaged with the lower end of the forward member of the rocker 13.

Pivoted at 31 on a horizontal shelf (not shown) supported preferably between two of the strips 4 is a triangular rocker 30. One of its angles is pivotally connected to the rear end of the lever 11, and the other end to a link 32, the distant end of which is pivotally connected to a bolt or latch 33 which, when the lever 11 is thrown forwardly, engages the opening in a latch-keeper 34 fixed on one of the strips 4 or elsewhere if preferred.

31 is a guide for the latch.

42, 43 are guides for the chair in its ascending and descending movements, and may be secured to the floor as preferred to depend therefrom at the front and rear sides of the slot or chair opening 7.

On a rod 39 fixed between the chair legs are swung a pair of doors 40 actuated by a spring 41 and adapted to swing in either direction and to lie in a horizontal position flush with the floor when the chair is in an elevated position. They not only effectively close the floor opening against drafts or odors rising from below, but further serve to prevent articles falling therethrough. They may be perforated if preferred, however, to serve as ventilators or hot-air registers under favorable conditions and circumstances.

Fig. 4 shows means whereby a series of chairs, which may be a single longitudinal row as shown, their legs connected by a bar 44, or may be a plurality of such rows connected by several such bars, in which case the transverse rods 35 extend through all of the bars 44.

In operation, the parts being in the relative positions shown at Fig. 2, the operator will impart a forward movement to the power arm of the actuating lever, which lever rocking on its fulcrum will transmit through the medium of the link 28 a swinging movement to the rocker 13, whereby each chair will be elevated to the position best shown at Fig. 1, whereupon the operator will with his foot actuate the lever 11 to impart a rearwardly swinging movement to the rocker 30, which will throw the point of the latch into its keeper in front of the lever 12, whereby all the chairs actuated thereby will be securely locked in elevated position. The weight of the chairs will cause them to fall by their own gravity when the latch is withdrawn, each chair folding or collapsing as it passes through the opening 7, and

the edge of each floor-block (which was manually thrown back to the position shown at the principal figure when the chairs were elevated) coming in contact with the edge of the floor at the rear edge of the opening 7 will be tripped thereby and thrown forwardly to snugly and completely close said opening.

I am aware that chairs of this character have heretofore been equipped with blocks or other means intended to accomplish this purpose. However, they have been of less width than the chair sides and therefore of less width than the opening in the floor through which said sides must pass, whereby, when the chair was lowered, an open space was left at each side of the block, into which space the dust and dirt would fall when sweeping and into which the water would pour when scrubbing. An unbroken surface was not presented. The floor-closing block of my device is in length the same (or a little longer) than the width of the chair, and, completely and snugly closing said opening as above stated, both the foregoing offices may be successfully and readily performed.

Having thus set forth the preferred construction and operation, the purposes and advantages of my invention, I claim as new and desire to secure by Letters Patent the following, to-wit:

The combination with a floor provided with an opening, of a collapsible chair having parallel legs, a rod extending through the upper portions of said legs, a block pivotally mounted on said rod, its length being equal to the extreme width of the chair, a block adapted to be automatically tripped as the chair falls and to fit within and completely close said opening when the chair is in its lowermost position, a triangular rocker pivoted at its apex beneath the floor, one of its arms pivotally engaged with the chair legs, a link, one of its ends pivotally engaged with said rocker, an actuating lever in pivotal engagement with the other end of said link, whereby the chair may be elevated, a latch adapted for engagement with said lever, a link in engagement with said latch, a rocker in engagement with said link, and a locking lever in engagement with said rocker.

In witness that I claim the foregoing as my invention I hereunto affix my signature at Galesburg, Knox county, Illinois, this 21st day of April, 1909, in presence of two subscribing witnesses.

CHARLES EDWIN EDMUND.

Witnesses:

H. M. RICHARDS,
C. N. TEMPLE.