

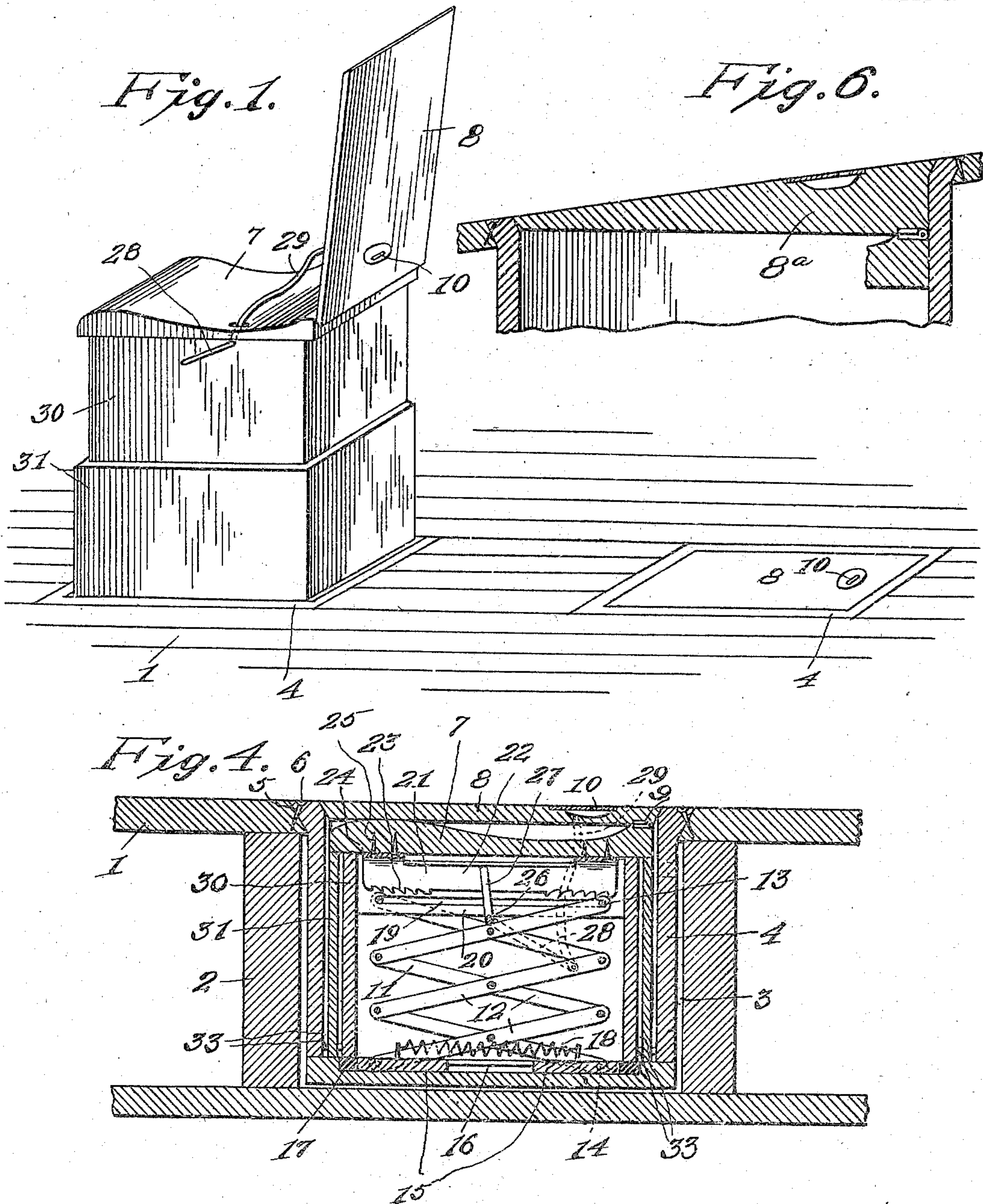
J. PETERSON & J. G. CALLAWAY.
CHAIR.

APPLICATION FILED JUNE 15, 1909.

958,000.

Patented May 17, 1910.

2 SHEETS—SHEET 1.



Witnesses

James F. Brown
E. M. Ricketts

James Peterson
J. G. Callaway

Inventors

By Watson & Coleman
Attorney

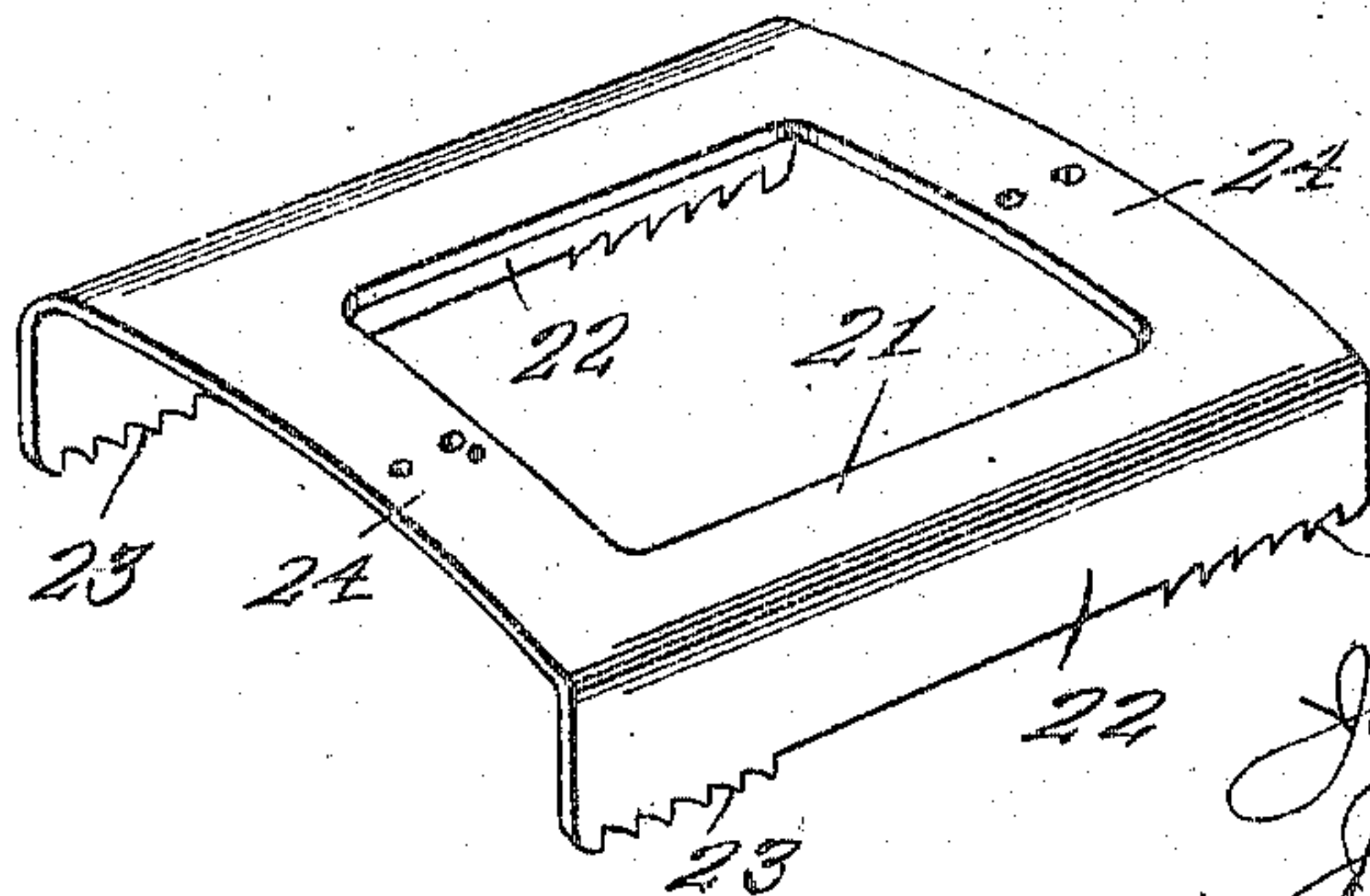
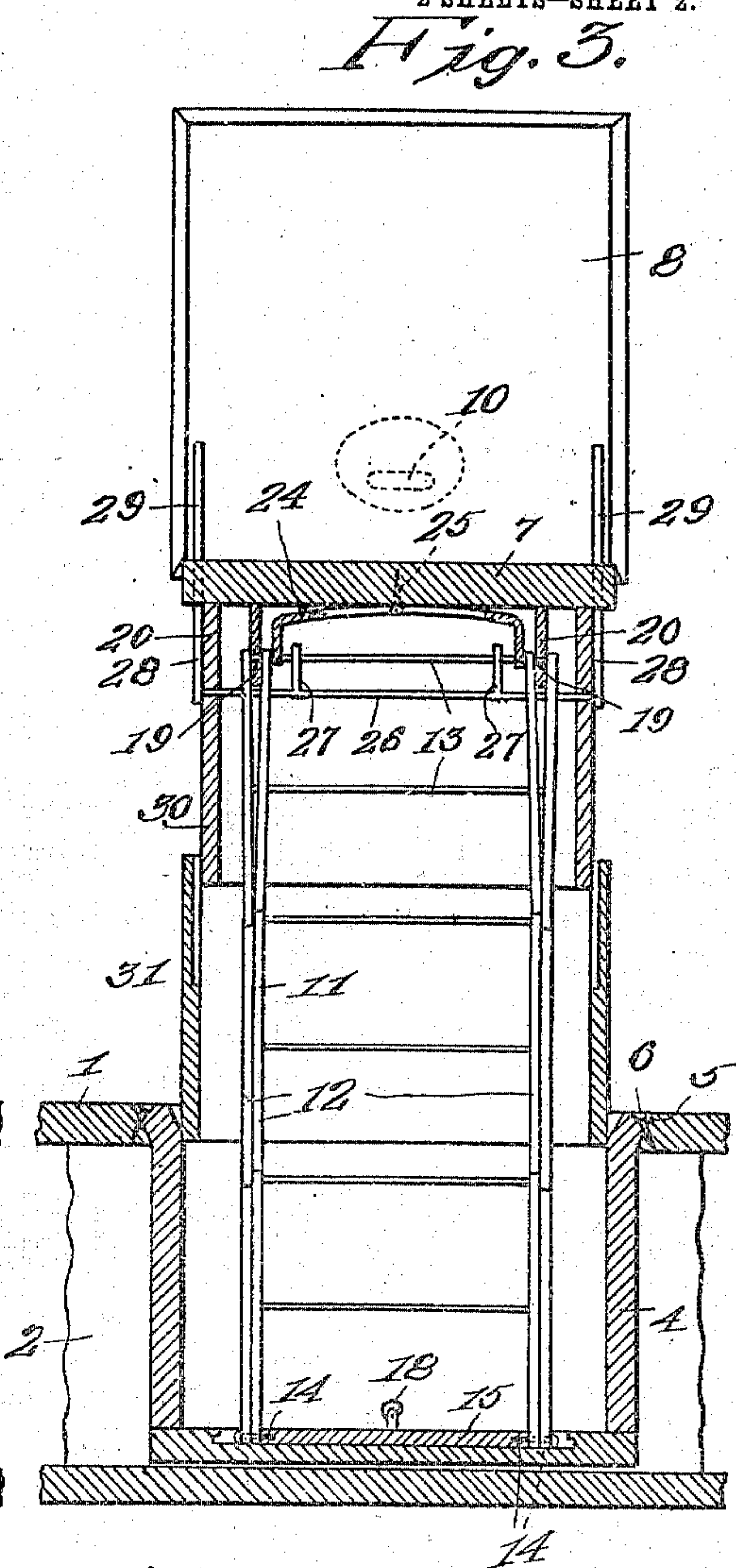
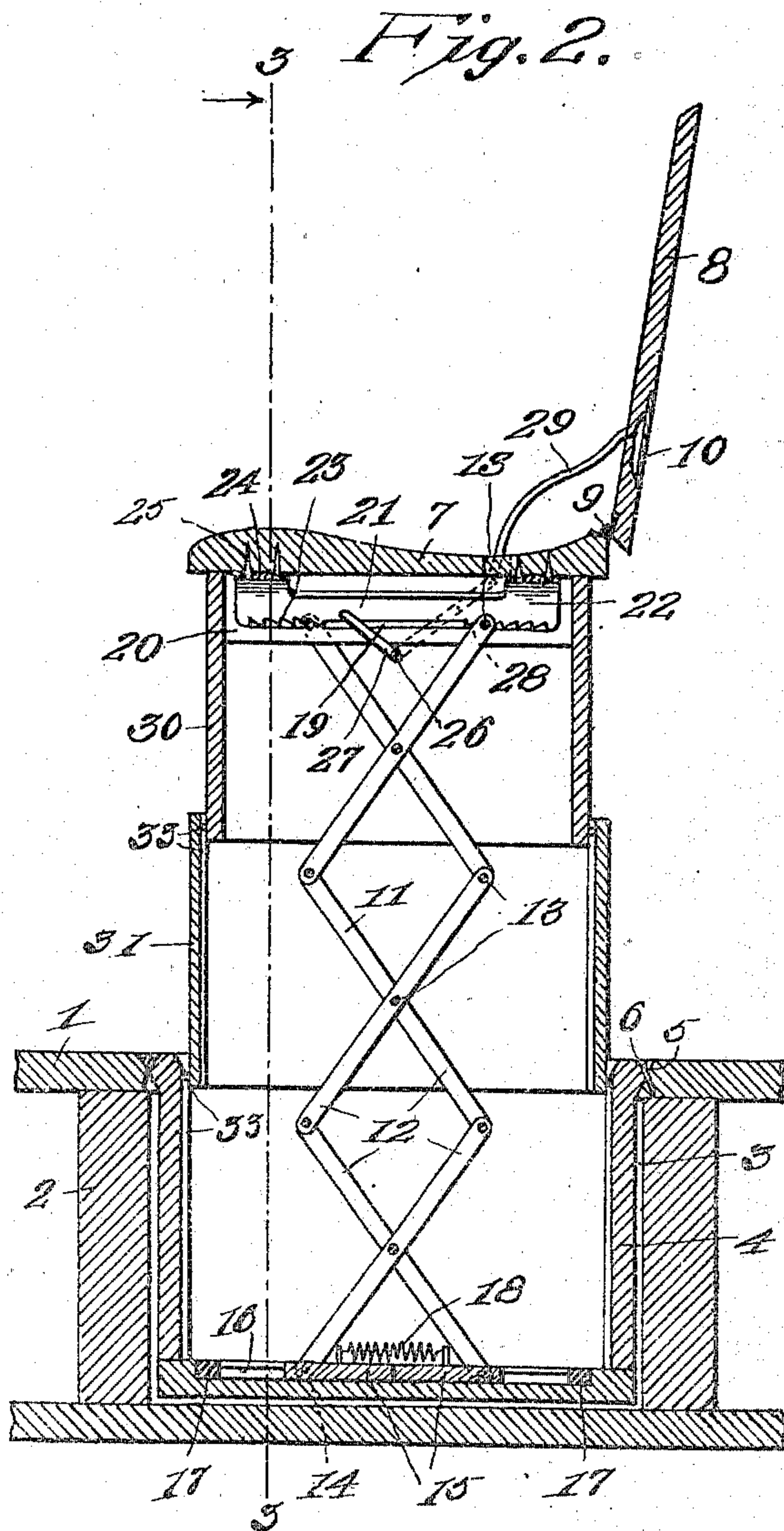
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UNITED STATES PATENT OFFICE.

JAMES PETERSON AND JAMES GEORGE CALLAWAY, OF PRICE, UTAH.

CHAIR.

958,000.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed June 15, 1909. Serial No. 502,316.

To all whom it may concern:

Be it known that we, JAMES PETERSON and JAMES G. CALLAWAY, citizens of the United States, residing at Price, in the county of Carbon and State of Utah, have invented certain new and useful Improvements in Chairs, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in chairs and more particularly those adapted for use in theaters and the like and which may be made to collapse and drop beneath the surface of the floor.

15 The object of the invention is to provide a chair of this character which will be simple and practical in construction, strong and durable in use, and easy to open and close.

20 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 fully described and claimed, and illustrated in the accompanying drawings, in which—

25 Figure 1 is a perspective view showing two of the improved chairs, one being opened and the other closed; Fig. 2 is a vertical front to rear sectional view; Fig. 3 is a vertical transverse section taken on the plane indicated by the line 3—3 in Fig. 2; Fig. 4 is a section similar to Fig. 2, showing the chair in its folded or collapsed position; Fig. 5 is a perspective view of the spring ratchet locking device; and Fig. 6 is a detail view showing the shape of the chair back for a pitched floor.

35 In the drawings 1 denotes the flooring supported on the usual joists 2 and having openings 3 between said joists for the reception of the improved chairs. Each of the latter comprises a box-like body or casing 4 which is adapted to fit between two of the joists 2 and into which other portions of the chair are adapted to collapse or fold. The casing or base 4 is preferably of rectangular shape and may be secured in the floor by providing its upper edges with outwardly projecting beveled flanges 5 which rest upon the beveled edges of the opening 3 and may be secured by screws or similar fastenings 6.

45 The improved chair comprises a seat 7 of any suitable shape and construction and a back 8 which is connected to the rear edge of the seat by hinges 9 so that it may fold down upon the same as shown in Fig. 4. In the rear or upper face of the back 8 is a recess

covered by a plate containing a hand opening 10 whereby the chair may be lifted out of the floor to its open position, as presently explained. The seat 7 when in its elevated position is adapted to be supported by a lazy tong structure 11 consisting of a plurality of pairs of crossed levers 12 pivotally united at their ends and at their intersecting points by transverse pivot rods 13. The levers 12 of the lower pair are pivoted at 14 to slides 15 the beveled ends of which are slidable in undercut guide grooves 16 of a recess in the upper face of the bottom of the body or base 4. When the chair is raised the slides 15 move toward each other and are adapted to engage each other to limit the upward movement of the chair and when the latter is lowered said slides move away from each other and their movement in the last mentioned direction may be limited by cushioning blocks 17 of rubber or cushioning devices of any other form and construction. If desired a coil spring 18 may be arranged between the said slides 15 for the purpose of assisting in raising the chair and also preventing the chair from being jarred when it is lowered into the floor.

50 The transverse connecting and pivot rods 13 of the uppermost pairs of levers 12 are slidable in slots 19 formed in bracing plates 20 secured to the bottom of the seat 7. Said uppermost rods 13 are adapted to be engaged by a spring ratchet locking device 21 by means of which the lazy tong structure will be locked against movement to hold the chair elevated. Said locking device 21 comprises two ratchet bars or plates 22 which extend transversely with respect to the uppermost rods 13 and which are movable toward and from the same, said bars or plates 22 having upon their bottom edges series of ratchet teeth 23 to engage said rods 13 and hold them against movement. The ratchet bars or plates 22 are preferably made of resilient metal so as to form springs and they are also preferably made from one piece of resilient sheet metal by bending down the opposite sides of an open rectangular plate, the crossed or connecting portions 24 of which are curved longitudinally and secured by screws or other fastenings 25 to the bottom face of the seat 7 as clearly shown in Fig. 3 of the drawings. By constructing the locking member or plate 21 in this manner it will be seen that the ratchet bars 22 will be normally projected down-

wardly to engage and lock the uppermost rods 13, and for the purpose of retracting said ratchet bars, retracting means are provided and adapted to be automatically actuated by the folding movement of the back 8. Such means consist of a transverse rock shaft 26 having upon its intermediate portion two arms 27 which are adapted to lift the spring ratchet bars or plates 22 out of engagement with the rods 13. On the ends of the rock shaft 26 are also provided actuating arms 28 the ends of which are connected by links 29 to the seat back 8. Owing to this construction it will be seen that when the back 8 is folded to a horizontal position the locking bars or plates 22 will be automatically lifted to unlock the lazy tong structure 11 and thereby permit the seat to drop, and that when said seat is raised and the back 8 swung to an upright position the lazy tong structure will be automatically locked to hold the seat supported.

For the purpose of strengthening the supporting structure for the seat when the latter is raised and also for protecting and hiding such structure, a telescoping casing is preferably provided, such casing consisting of one or more box-like sections which telescope within each other and within the body or base 4. As illustrated two of such sections 30, 31 are provided, the upper section being secured to the seat bottom 7 and telescoping within the lower section 31 which latter in turn telescopes into the body 4. The parts 30, 31 and 4 are preferably provided with pin and groove connections 33 whereby they are properly guided and operatively connected to each other and their movement limited. The shaft 26 is shown as being journaled in the upper casing section 30 but it will be understood that it may be pivoted in bearings upon the braces or cleats 20 when said casing is not used.

When the chair is arranged in a pitched floor its back may be constructed as shown at 8^a in Fig. 6.

In operation it will be seen that when the chair is in its lowered or folded position, shown in Figs. 1 and 4, it will lie flush with the upper surface of the floor and form no obstruction. When it is desired to use the chair it is only necessary to grasp the back 8 by means of the handhole 10 and pull the same upwardly, such operation raising the seat 7 to the limit of its upward movement whereupon the back 8 will be swung upwardly and rearwardly on its hinges 9 so that the chair will be locked in open position as shown in Figs. 1, 2 and 3. To fold the chair it is only necessary to swing the back 8 forwardly and downwardly whereupon the parts will drop by gravity to the position shown in Fig. 4.

From the foregoing it will be seen that the invention provides an exceedingly simple

and practical device of this character which may be produced at a comparatively small cost and will be exceedingly strong and durable. Its simple construction enables it to be easily opened and closed and renders it strong and substantial.

While the preferred embodiment of the invention has been shown and described in detail it will be understood that various changes in form, construction and arrangement of parts may be resorted to within the spirit and scope of the invention.

Having thus described the invention what is claimed is:

1. A chair comprising a base, a seat, a lazy tong structure between the seat and base and having pairs of crossed pivotally connected levers, the uppermost pair of levers being connected by rods, guides for said rods and arranged upon the seat, spring ratchet members upon the seat to engage and lock said rods, a rock shaft, arms upon the latter to engage and retract said members, and means for actuating said shaft.

2. A chair comprising a base, a seat, a lazy tong structure between the seat and base and having pairs of crossed pivotally connected levers, the uppermost pair of levers being connected by rods, guides for said rods and arranged upon the seat, spring ratchet members upon the seat and adapted to engage and lock said rods, a folding back, and means actuated by said back for retracting said members.

3. A chair comprising a base, a seat, a lazy tong structure between the base and seat and having pairs of crossed pivotally connected levers, the uppermost pairs of levers being connected by rods, guides for said rods and arranged upon the seat, an inverted U-shaped spring plate secured to the seat and having depending flanges formed with ratchet teeth to engage said rod and lock the lazy tong structure against movement, and means for retracting said ratchet teeth from engagement with said rods.

4. A chair comprising a base, a seat, a lazy tong structure between the seat and base and having pairs of crossed pivotally connected levers, the uppermost pair of levers being connected by rods, guides for said rods and arranged upon the seat, spring ratchet members upon the seat to engage and lock said rods, a rock shaft, arms upon the latter to engage and retract said members, a downwardly folding chair back, arms upon the ends of said rock shaft, and links connecting the last mentioned arms to said folding back.

5. A chair comprising a base formed with undercut guide grooves, a pair of slidable blocks having grooved edges to slide in said guide grooves, said blocks being movable toward and from each other, a seat, a lazy tong structure between said slide blocks and said seat and having pairs of crossed pivotally

connected levers, the uppermost pairs of levers being connected by rods, guides for said rods and arranged upon the seat, spring ratchet members upon the seat to engage
5 and lock said rods, a rock shaft, arms upon the latter to engage and retract said members, means for actuating said shaft, and cushioning members arranged in the ends of the grooves in said base and adapted to be
10 engaged by said slide blocks when the latter are moved from each other in the folding movement of the lazy tong structure.

6. The combination with a floor having an opening formed with downwardly and inwardly beveled edges, of a removable rectangular box having a closed bottom, sides and ends, and an open top formed with a surrounding outwardly projecting beveled flange to engage the beveled or inclined
15 edges of the floor opening, a chair seat, a lazy tong structure between said seat and the bottom of said box and comprising pairs of crossed pivotally connected levers, the uppermost pairs of levers being connected by
25 rods, guides for said rods and arranged upon

the seat, spring ratchet members on the seat to engage and lock said rods, a rock shaft, arms upon the latter to engage and retract said members, a chair-back hinged to said seat to fold downwardly upon the same, said
30 chair-back being adapted to close the top of the box and form a cover for the same and the opening in the floor, operative connections between the chair-back and said rock shaft, a cushioning means for said lazy tong
35 structure, and telescopically engaged rectangular sections surrounding the lazy tong structure and adapted to enter the box when the chair is folded, the uppermost casing section being fixed to the chair seat and depending therefrom.
40

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

JAMES PETERSON.
JAMES GEORGE CALLAWAY.

Witnesses:

L. A. LAUBER,
J. A. CROCKETT.