No. 823,690. PATENTED JUNE 19, 1906.

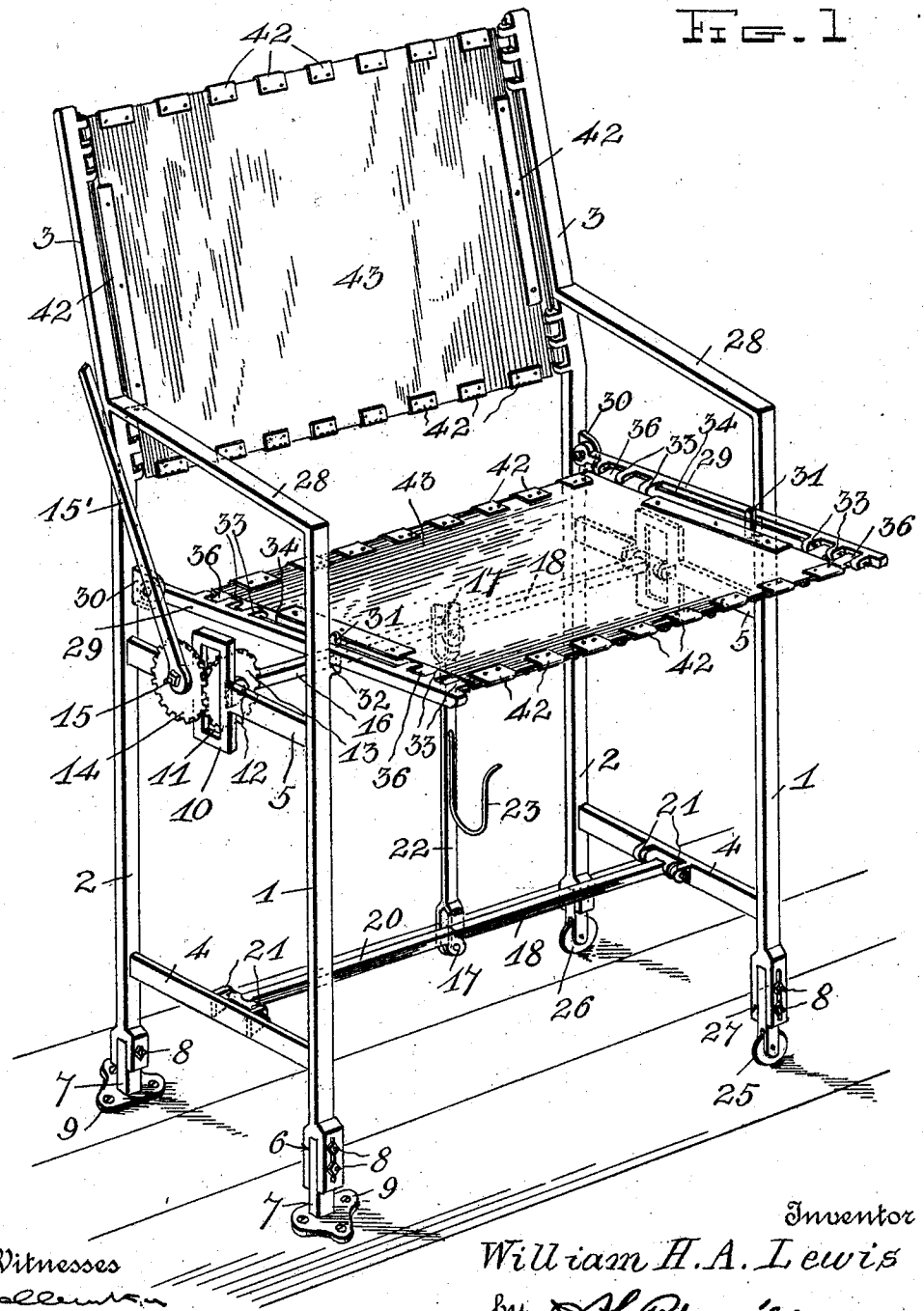
W. H. A. LEWIS.

SAFETY SEAT.

APPLICATION FILED JUNE 26, 1905.

3 SHEETS—SHEET 1.

Fig. 1



Witnesses

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3 SHEETS—SHEET 2.

FIG. 8

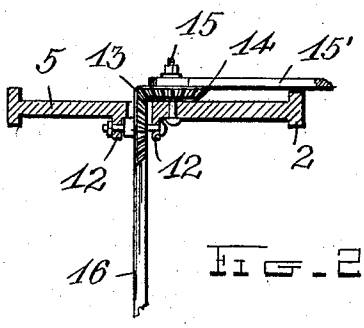


FIG. 2

FIG. 3

FIG. 5.

Witnesses

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3 SHEETS—SHEET 3.

Fig. 4

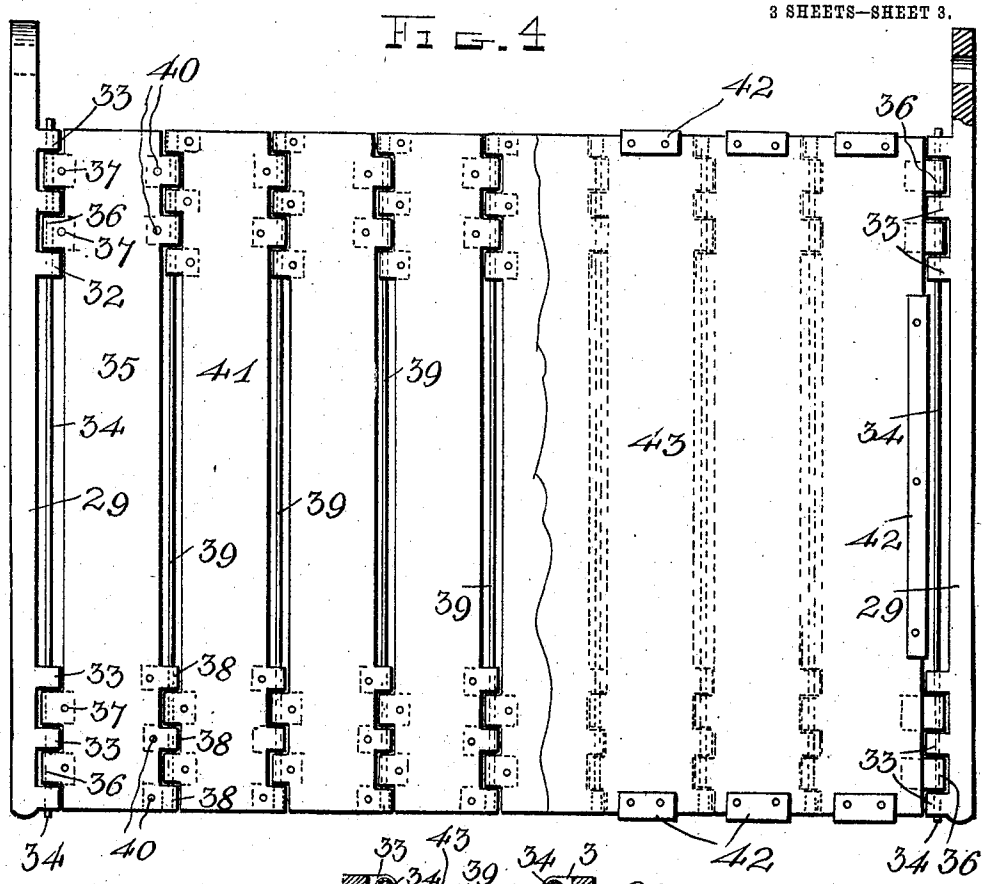


Fig. 6

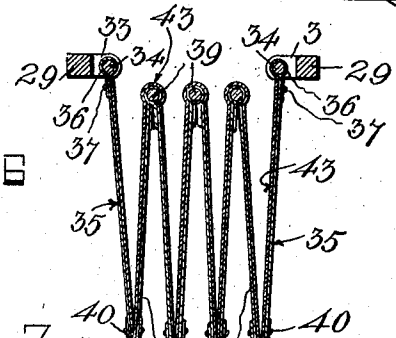
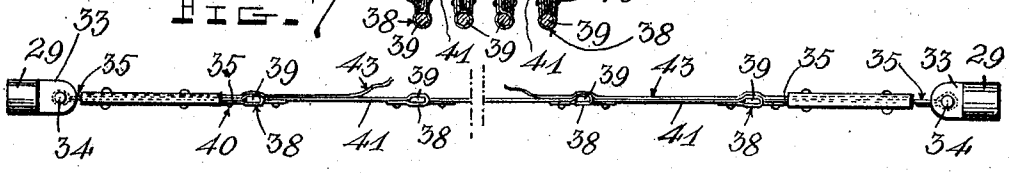


Fig. 7



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. A. LEWIS, OF EVANSVILLE, INDIANA.

SAFETY-SEAT.

No. 823,690. Specification of Letters Patent. Patented June 19, 1906.

Application filed June 26, 1905. Serial No. 267,125.

To all whom it may concern:

Be it known that I, WILLIAM HENRY ALBERT LEWIS, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Safety-Seats; 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.

This invention relates to safety-seats designed more especially for use in opera-houses, theaters, and other places where large audiences congregate, but which are capable of use in other places and for other purposes.

One of the principal objects of my invention is to provide a seat which can be quickly folded into compact form both laterally and vertically in order to provide aisles or passage-ways in both directions in an auditorium in order that in cases of emergencies, like a fire or in providing a quick exit after a performance, the passage-ways in both directions across the auditorium may be quickly provided to permit persons to readily pass outward to the door.

Another object is to provide a seat of this character which will permit ready access to the seat by passage-ways running in opposite directions when the seat is unoccupied, thus obviating the necessity of disturbing persons who may be seated in adjoining seats.

Still another object is to provide a laterally-folding metallic chair seat and back which may be quickly folded laterally to provide space between seats running in opposite directions to the usual aisles which pass from the entrance-door to the stage.

These and other objects are attained by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a seat or chair made in accordance with my invention. Fig. 2 is a view in elevation of one side member of the chair or seat. Fig. 3 is a similar view of the other side of the seat or chair. Fig. 4 is a plan view of the seat portion of the chair. Fig. 5 is a detail sectional view through one of the legs and showing the means for adjusting the roller or caster. Fig. 6 is a transverse sectional view of the seat in folded or closed position. Fig. 7 is a front elevation of the seat opened or extended in position for use; and Fig. 8 is a detail sectional view taken on line 8 8, Fig. 2.

Referring to the drawings for a more particular description of my invention, the numeral 1 designates the front leg of the seat, and 2 is the rear leg, which extends upward and is formed integrally with the back-support 3. Cross-bars 4 and 5 extend from one leg to the other and brace them apart. The legs at their lower ends are provided with recesses 6, into which feet 7 are secured by bolts 8, said feet having flanges 9, adapted to be secured to the floor. The recess in the front leg of the chair is deeper than the one at the rear, the purpose of which is to permit a vertical adjustment of the foot to compensate for the pitch of the floor of the auditorium.

The cross-bar 5 is provided with an enlargement 10, through which an aperture 11 extends, and mounted upon lugs 12 at the sides of this aperture is a beveled gear 13, adapted to mesh with a similar gear 14, journaled upon a stub-shaft or bolt 15, extending through the cross-bar 5 and serving as a shaft for this beveled gear. A lever 15 extends outward from this beveled gear and may be formed thereon or secured thereto in any suitable manner.

Secured to or formed on the beveled gear 13 is a brace-bar 16, provided with a rule-joint 17 and connected to a similar brace 18, pivoted at its opposite end to the other side of the chair. Upon the cross-bar 4 a similarly-jointed brace 20 is pivoted between lugs 21, and a connecting-bar 22 extends from one pair of the jointed braces to the other, said connecting-bar having a hat-hook 23 formed thereon or secured thereto.

The opposite member of the chair-seat is similar to the one already described, the differences, however, being that instead of the beveled gears the member of the jointed lever upon that side is pivoted to lugs 24, and rollers 25 26 are provided instead of feet at the lower ends of the legs. The roller 25 for the front leg is seated in a slot 27 in the leg, and this roller may be adjusted vertically to compensate for the adjustment of the foot in the opposite front leg and to make allowance for the pitch of the floor in the auditorium. The front and rear legs are connected by arm-rests 28.

The seat portion of the chair comprises two side bars 29, pivotally connected at their rear ends to a lug 30, extending outward

from the rear legs, and at their front ends said bars are adapted to rest in a lug 31, provided with a seat 32 for said side bar when the seat is adjusted in position for use. The side bars 29 are each provided with lugs 33, and extending through these lugs is a pintle-rod 34. A thin sheet-steel plate 35 is connected to the pintle-rod 34 by means of lugs 36, bent around the pintle-rod between the lugs on the side bar. The lugs 36 extend some distance toward the center of the plate and are secured around the pintle by means of rivets 37. The sheet-steel plate 35 at its opposite side from the side bar of the chair is provided with a series of lugs 38, bent around a spring-rod 39, extending from back to front of the chair-seat, said lugs being secured to the rod by rivets 40. A plate 41, similar to the plate 35, is hinged to the rod 39 and is provided with a series of lugs that alternate with the lugs 38. The rod 39 at its ends is rigidly connected to the end lugs on the plates 35 and 41 in any desired manner. As shown, the rod 39 and the end lugs on the plate 41 and the plate 35 are pressed to flatten out the ends of the rod 39 and the bearing portion therefor. The purpose of this construction is to give to the rod 39 a torsional action having a tendency to close the two plates 35 and 41 one against the other, so that they would occupy a folded position and insure a uniform movement of said plates when the seat is being folded laterally. The ends of the rods 39 being rigidly connected to the plates 35, when the chair-seat is opened to the position shown in Fig. 7 the rods 39 are twisted, and thus have a torsional tendency to return the seat to its folded position. (Shown in Fig. 6.)

Extending across from one side bar to the other of the seat are a series of plates similar to plates 35 and 41 and connected together in a similar manner by torsional spring-rods 39, the arrangement of said plates being such that each alternate pair of plates will fold together oppositely—that is to say, plates 35 and 41 folding upwardly, the next pair of plates will fold downwardly, as will be understood—and all the plates will be so connected by the torsional spring-rods 39 that the torsional action will be exerted when the seat has been extended in position for use, so that when it is to be closed up or folded laterally the tendency to fold will be uniform between all the plates.

The back of the chair is composed of thin sheet-metal plates hinged together in the same manner as the seat.

A foldable seat or chair-back made as described may be used without upholstery, if desired; but I have provided means for connecting a cover, which may be of plush, leather, or other suitable material, to the sheet-metal sections of the seat or back. This may be accomplished by means of U-shaped clips 42, adapted to clasp the edges of the cover 43 and hold it in position to cover the plates forming the hinged members of the seat or back. When securing a cover to the seat, a certain fullness will be allowed in the material to compensate for the movement at the hinged portions, as will be understood.

The operation of my invention may be described as follows: When the chair is in folded position, the lever 15 may be thrown backward to operate the beveled gears and to throw the jointed bars 16 into horizontal position and at the same time to extend the seat, as will be readily understood. The opposite movement of the lever 15 will fold the sheet-metal strips of the seat and back together and move the jointed bars, as will be readily understood.

From the foregoing it will be obvious that my seat may be used to advantage as a school-desk by merely securing a desk-top to the back of the chair near its upper end, and thus making it possible to give extra floor-space in case of fire or in any condition which will require a sudden clearing of the room. Moreover, by folding the sides of the chair together facility is given for sweeping and cleaning the floor of the room or auditorium.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a seat of the character described, a chair-frame comprising two side members, one of said members being rigidly secured to the floor and the other member adapted to move to and from said rigidly-secured member, feet secured to the lower ends of one of said members, and one of said feet being vertically adjustable, the other side frame being mounted on rollers, one of said rollers being adjustable, a foldable chair-seat, jointed brace-bars pivoted to cross-bars below the seat, and means for moving the brace-bars to draw the movable member toward the rigidly-secured member to fold the chair, substantially as described.

2. In a safety-chair, the combination of a rigidly-secured frame, a movable frame, a foldable seat and back, jointed brace-bars pivotally connected to cross-bars under the seat, beveled gears mounted on the rigidly-secured frame, and a lever formed on one of said gears for moving the movable frame toward the rigidly-secured frame, substantially as described.

3. A chair-back comprising a plurality of sheet-metal plates hinged together by torsional spring-rods 7^a chair-seat comprising a plurality of thin sheet-metal sections, the outer sections being connected to the side bars of the chair-seat and the intermediate sections being connected to torsional spring-rods, said rods being secured rigidly to end lugs of the sections, for the purpose described.

4. A chair-seat comprising side bars, a plu-

rality of sheet-metal sections connected together and to the side bars of the chair-seat, said sections being connected together by torsional spring-rods and said sections creating a torsional stress in opposite directions, substantially as described.

5. A safety-seat of the character described comprising two side frames, one of which is adapted to be rigidly secured to the floor and the other being mounted on rollers to move in relation to the first-mentioned member, a foldable chair-seat comprising sheet-metal members connected together by torsional spring-rods, a chair-back formed of similar construction to the seat and means for moving the movable side frame in relation to the rigid frame and folding the sections of the seat and back together, substantially as described.

6. A chair-seat comprising a series of sheet-metal sections connected together by torsional spring-rods, a cover for said seat, U-shaped clasps for inclosing the sheet-metal sections and the cover and for holding said cover in place, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WM. H. A. LEWIS.

Witnesses:
BENJ. G. COWL,
JOS. N. THOMPSON.