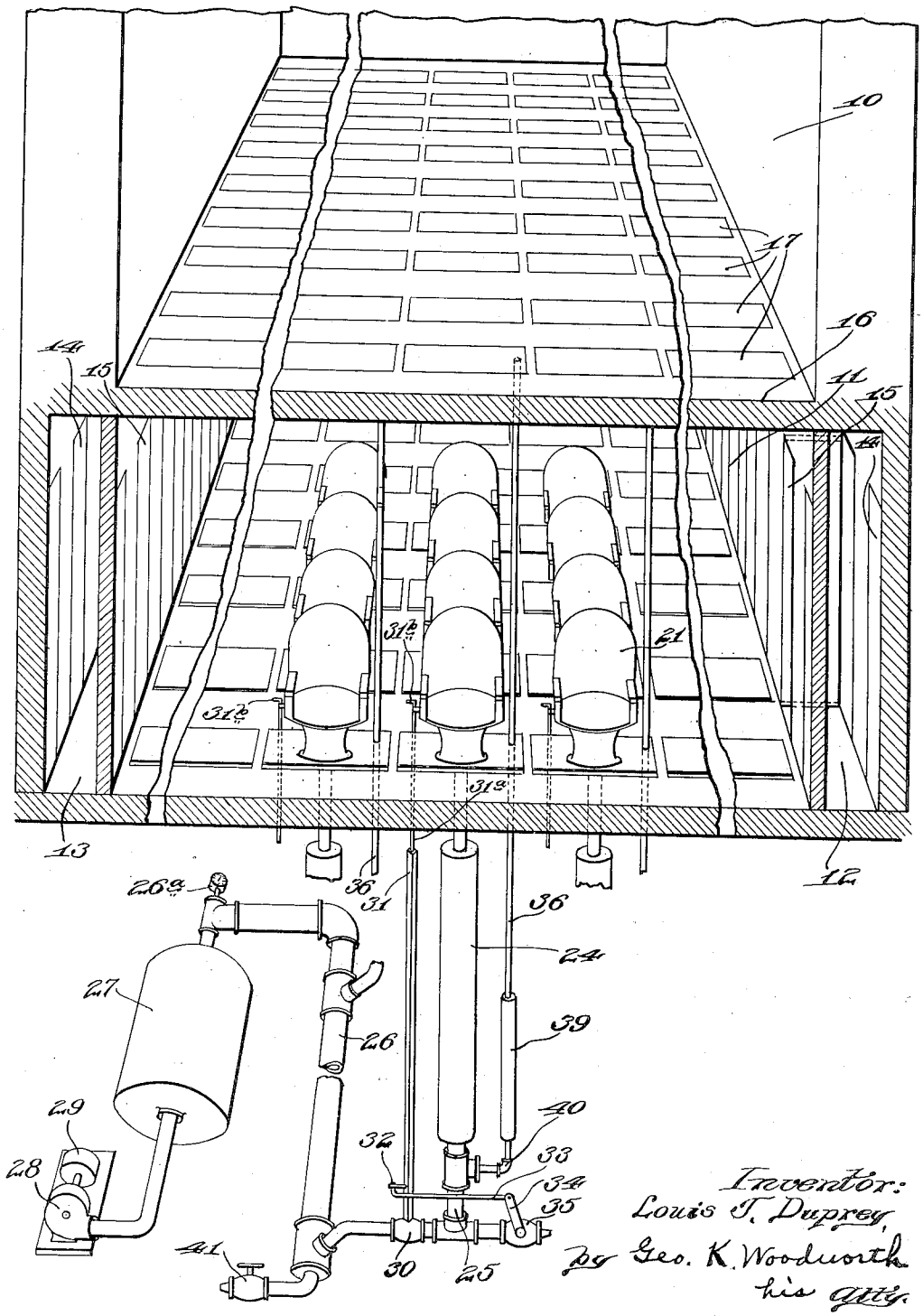
Dec. 2, 1924. 1,517,774

L. J. DUPREY

THEATER SEATING EQUIPMENT

Filed July 10, 1923 2 Sheets-Sheet 1

Fig. 1.



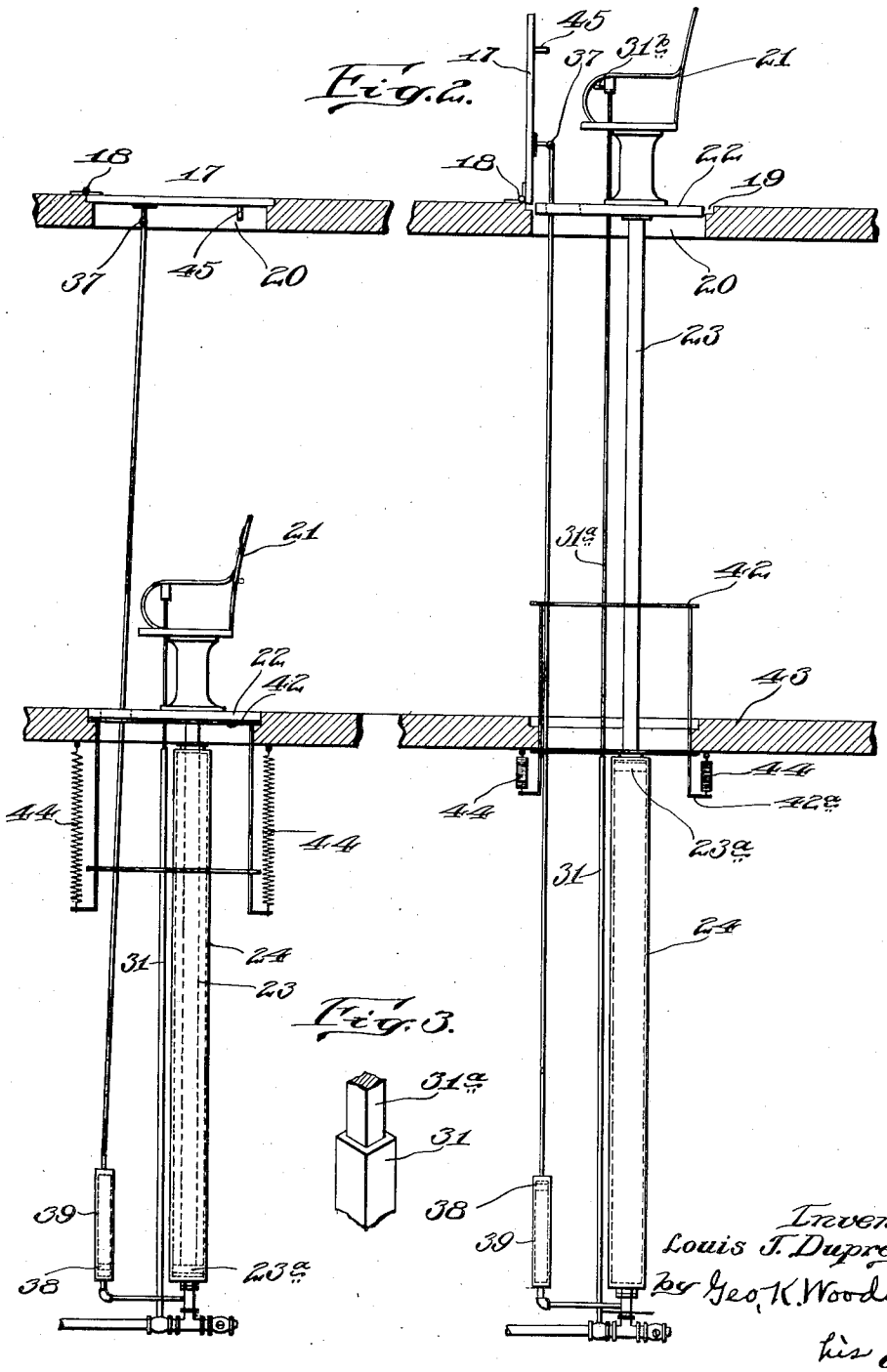
Inventor:
Louis J. Duprey,
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his Atty.

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THEATER SEATING EQUIPMENT

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Patented Dec. 2, 1924. 1,517,774

UNITED STATES PATENT OFFICE.

LOUIS J. DUPREY, OF DORCHESTER, MASSACHUSETTS.

THEATER SEATING EQUIPMENT.

Application filed July 10, 1923. Serial No. 650,596.

To all whom it may concern:

Be it known that I, LOUIS J. DUPREY, a citizen of the United States, and a resident of Dorchester, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Theater Seating Equipments, of which the following is a specification.

This invention relates to seating equipment for theaters and like auditoriums and assembly halls, and more particularly to an improved type and arrangement of auditorium or assembly hall wherein the seats are individually movable vertically from their normal position in the auditorium to a sub-chamber or lobby which constitutes a loading compartment.

A principal object of the invention is to provide a seating arrangement of this character which permits any patron of the theater to enter or leave his place without at all disturbing other patrons.

A further object of the invention is to provide means whereby all of the seats of the auditorium may be simultaneously lowered in case of fire or other panic to an exit sub-chamber that is preferably of completely fireproof construction and that is also arranged for most convenient whosesale exit of persons therefrom.

Further objects are to enhance the personal comfort of patrons, to avoid any obstruction to the view at any time, and to provide a convenient clothes-rack.

The foregoing and other objects and advantages of the invention will be better understood from the following detailed description taken in connection with the accompanying drawings, and the distinctive features of novelty will be thereafter pointed out in the appended claims.

Referring to the drawings wherein like characters indicate like parts in each of the several views—

Figure 1 is a perspective view with portions broken away and in section showing an auditorium having a seating equipment embodying the invention;

Fig. 2 is a partial side view and vertical section illustrating the manner of mounting and operating the individual chairs, and

Fig. 3 is a fragmentary perspective view of an operating detail.

10 indicates an auditorium or assembly room of a theater or like place of assemblage.

In accordance with my invention a sub-chamber or lobby 11, constituting a loading compartment, is provided directly underneath the auditorium. This lobby or loading compartment may be located at approximately the street level, and has extending along the sides thereof corridors 12, 13. Doors 14 open outward from these corridors, preferably in alignment with each row of seats, and other doors 15 open into these corridors from the lobby or loading compartment 11, also preferably at the locality of each row of seats.

In practice it is contemplated that these doors 14, 15 will constitute exits from the chamber 11, while for ingress into the theater patrons would be required to enter the corridors 12, 13 from a front entrance with a usual ticket gate (not shown).

In accordance with my invention, the floor 16 of the auditorium 10 is provided at the locality of the several seats with trap doors 17, hinged at the front thereof as indicated at 18, and adapted to fit into rabbeted seats 19 to normally close openings 20 through the floor into the loading compartment 11.

The individual chairs 21 are equipped with bases 22 normally closing these openings, and each chair with its base 22 is mounted for vertical movement at the upper end of a plunger 23. This plunger is equipped with a piston head 23^a at its lower end which fits in a cylinder 24, the series of cylinders 24 with the operating connections therefor to be described, being shown as housed in a basement underneath the loading compartment 11.

The range of vertical movement thus provided for the chairs 21 is such that at the upper limit thereof they are located in proper position in the auditorium 10 with the bases 22 in alignment with the floor of the auditorium, while when in fully lowered position they rest upon the floor of the lobby or loading compartment 11.

The series of cylinders 24 have pipe connections 25 to the lower ends thereof, to receive hydraulic pressure from a main 26 which is connected with a reservoir 27 that may be kept supplied with hydraulic pressure to the requisite degree by a suitable pump 28 and electric or other motor 29.

A turning valve 30 is provided in the pipe connection 25 from the pressure main to each cylinder for controlling the inlet of fluid pressure to the cylinder. This valve is operated by a rod composed of squared telescopic sections 31, 31^a with the upper section 31^a held at the side of the seat which it controls, and equipped at its top with a suitable handpiece 31^b. The operating rod section 31 is provided near its lower end with a short arm 32 to which is connected a link 33, the other end of which is engaged with an arm 34 of an exhaust valve 35, also applied to the pipe connection 25.

It will be understood that this operating connection is so arranged that when the valve 30 is open to supply fluid pressure to the cylinder the exhaust valve 35 is closed, and vice versa.

It is desirable that means be provided for automatically opening the trap door 17 associated with a given chair, as such chair starts on its upward movement. For this purpose I provide rods 36, pivotally engaged at 37, with the lower sides of the trap doors some distance outward from the hinges 18 thereof. These rods 36 extend downward with piston heads 38, at the lower ends thereof which operate in small cylinders 39 associated with the respective cylinders 24 and having fluid pressure connections 40 leading from the piping 25. Thus upon opening the pressure valve 30, and as the seat 21 controlled thereby starts to rise from the bottom of the loading compartment 11, the ingress of fluid pressure to the small cylinder 39 will first open the trap door 17 before the chair has had time to rise to any considerable extent, and before it nears the opening 20 of the auditorium floor.

The pressure main 26 is preferably provided with a hand-operated exhaust valve 41 which may be opened in emergency, or as desired, to permit all the seats to be lowered simultaneously from the auditorium into the lobby or loading compartment.

For guarding the operating mechanism of the several chairs when said chairs are raised from the loading compartment, suitable guard frames 42 are provided extending around such operating mechanism, and adapted to be yieldingly pressed down through the floor 43 of the loading compartment when the chairs are lowered thereinto.

For this purpose these guard frames extend down through the floor 43 with outturned lower ends 42^a thereof engaged by tension springs 44 which are anchored to the floor, and which thus tend normally to hold the frames 42 at their upper limit of movement, as indicated at the right in Figure 2, while when a chair is lowered upon the floor 43, the guard frame associated therewith is pressed downward as indicated at the left in said figure.

The pressure main 26 and reservoir 27 may be provided with a suitable pressure gauge 26^a to indicate the proper pressure for the operation of the system. Such operative pressure may be varied according to conditions, but is preferably in the neighborhood of two hundred pounds to the square inch.

The several trap doors 17 are preferably provided with suitable clothes or hatracks 45 on the under sides thereof which are thus convenient to the seat occupant as the trap door is raised, as indicated in Fig. 2.

Thus with the seats initially in the loading compartment 11, after patrons enter the theater and find their seats, upon turning the handpiece 31^b, the seat is moved quickly but gently upward into the auditorium.

During a performance, any seat occupant may depart by merely turning the handpiece 31^b, causing the seat to be lowered into the lobby or loading compartment, and in like manner he may again re-enter the auditorium without in anywise disturbing, or interfering with the view of, other patrons.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

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

1. Theater seating equipment comprising an auditorium, a lobby or loading compartment located thereunder, and fluid pressure means under the control of the occupant for raising the seats individually from said loading compartment to the auditorium at will.

2. Theater seating equipment comprising an assembly room, a lobby or loading compartment located thereunder, seats each having a fluid pressure plunger associated therewith for raising the same from said loading compartment to the assembly room at will, and means located in proximity to the respective seats for controlling said fluid pressure plungers.

3. Seating equipment comprising an auditorium, a loading compartment located thereunder, seats mounted for individual movement vertically into said loading compartment or said auditorium at will, fluid pressure means under the control of the occupant for operating said seats individually and a trap door associated with each seat so controlled by said fluid pressure means.

4. Theater seating equipment comprising an auditorium, a loading compartment located thereunder, seats borne by vertical plungers for movement upward into said auditorium or downward into said loading compartment at will, fluid pressure connections for operating said plungers having individual controlling means associated with the respective seats, and means permitting all the seats to be lowered simultaneously at will.

5. Seating equipment comprising chairs mounted on fluid pressure plungers for vertical movement upward into an auditorium or downward into a loading compartment at will, fluid pressure connections for operating said plungers having individual controlling means associated with the respective chairs, and trap doors equipped to also constitute clothesracks associated with the respective chairs.

6. Theater seating equipment comprising an auditorium, a loading compartment located thereunder, chairs mounted for movement upward into said auditorium or downward into said loading compartment at will, trap doors associated with said chairs in said auditorium, fluid pressure mechanism for operating said chairs and also said trap doors, and guard frames yieldingly mounted in said loading compartment and associated with said fluid pressure mechanism.

In testimony whereof, I have hereunto subscribed my name this 22nd day of June, 1923.

LOUIS J. DUPREY.