Nov. 8, 1938. S. PEPPAS 2,136,058

CHAIR

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Fig. 1.

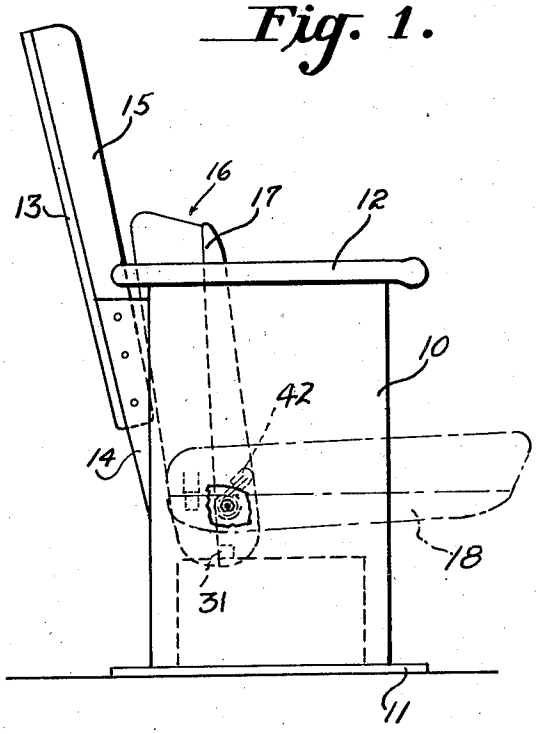
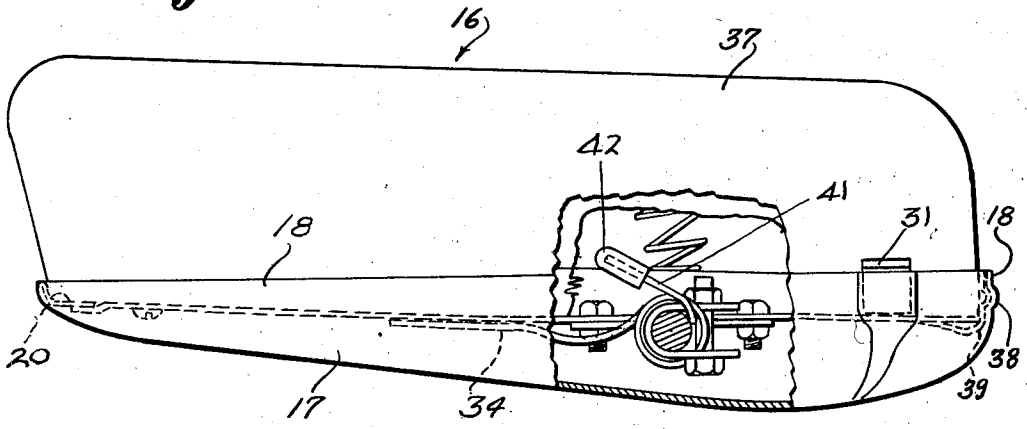


Fig. 2.



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Fig. 3.

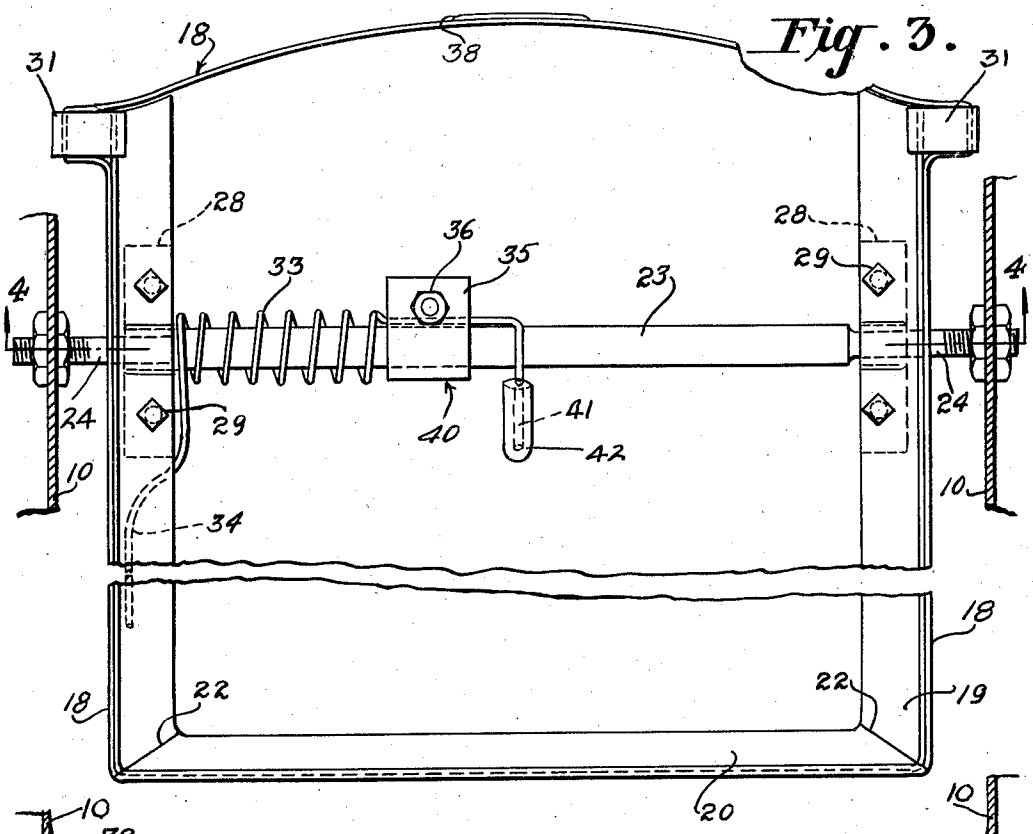
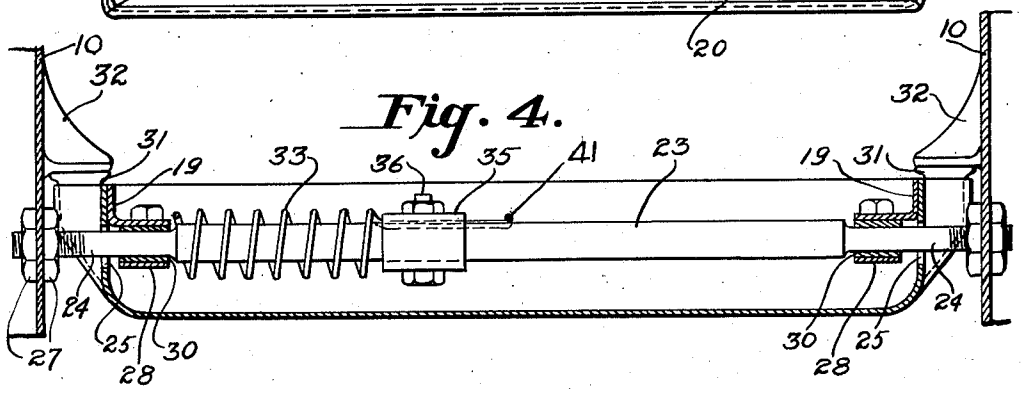


Fig. 4.



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2,136,058

CHAIR

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Application June 15, 1936, Serial No. 85,221

4 Claims. (Cl. 155—85)

This invention relates to improvements in chairs and more particularly to that type of chair having a pivoted seat and used primarily in theatres.

Chairs of this type are usually arranged in rows, one behind the other, leaving spaces to provide aisles through which access is had to the chairs for seating or leaving. When the seat is in its lower or seating position it usually extends considerably into these aisles and it is for this reason that the seats are pivotally mounted so that they may be swung to their upper or unoccupied position to free the aisle so as not to interfere with persons taking or leaving the seats. Some of these seats are freely pivotable for movement manually by the user while others have spring means to maintain the seats in raised position, being adopted for manual movement into seating position by the user when desired. These spring means have been, however, mounted upon the outside of the seat readily accessible in case of breakage, but this arrangement has the disadvantage that the spring means is accessible to any one and therefore mischievous children damage or otherwise render the spring means ineffective so that the seats do not return to their intended upper positions therefore necessitating the persons leaving a seat or going to one, to raise, by hand, all seats which are in a lowered position between the main aisles of the theatre. Furthermore, the persons sitting in seats have the habit of putting their feet on the chairs directly in front of them and in some cases, the spring means are damaged and rendered useless in this fashion.

It is therefore an object of the present invention to provide a pivoted seat for a chair of the type referred to which will eliminate the aforementioned objections with the result that the seats will at all times assume an upright or unoccupied position the moment a person lifts his weight from the seat thus providing for a free unobstructive aisle through which persons may readily pass.

A further object of the invention is to provide a spring means which is enclosed within the seat structure but readily available for installation or adjustment.

A further object of the invention is to provide an adjustment for the spring means whereby the seat may be perfectly balanced so as to operate freely but quietly.

A further object of the invention is to provide a stop means whereby the upward position of the seat may be predeterminately fixed.

With the objects above indicated and other objects hereinafter explained in view, my invention consists in the construction and combination of elements hereinafter described and claimed:

Referring to the drawings,

Figure 1 is a side elevational view of a chair embodying the present invention showing the seat in full lines in its normal unoccupied position and in dot and dash lines in its lowered or occupied position.

Figure 2 is a side elevational view of the seat structure on an enlarged scale with a portion broken away to more clearly show the structural details.

Figure 3 is a top plan view of the seat with the cushion removed and on an enlarged scale to more clearly show the spring arrangement.

Figure 4 is a transverse sectional view taken on line 4—4 in Figure 3.

In the drawings I have shown one type of chair to which the invention is particularly well adapted, but it should be understood that I am not to be limited thereto as it is obvious that the invention is as well adapted to other types of chairs.

The chair comprises upwardly extending side members 10—10 which are spaced apart and preferably made from steel plates and being of any desired shape. Base members 11—11 are welded or otherwise secured to the lower ends of the side members 10—10 and are adapted for connection with a floor or other suitable supporting structure. On the upper ends of the side members 10—10 are removably mounted arm rests 12—12, in this case of wood, which are properly arranged for the ease and comfort of the person occupying the chair. A back rest 13 is removably secured at its lower end to extensions 14—14 which in turn are secured to the side members, the back rest 13 extending upwardly at the desired angle and having a padded front portion 15.

A seat 16 comprises a metal bottom 17 slightly rectangular in shape, preferably formed by stamping, to thereby provide a continuous upstanding marginal flange 18 formed integral therewith, thus providing a hollow structure. Angular members 19 have their upstanding legs welded or otherwise secured to the upper inner adjacent side portions of the flange 18 and their other legs projecting laterally toward each other, as more clearly shown in Figures 3 and 4. A similar angle member 20 has its upstanding leg secured to the front portion of the flange 18 and its other leg extends laterally between the lateral legs of the angle members 19, the adjacent ends

being mitred at 22 and welded or otherwise connected to provide a rigid seat for the cushion.

A rod 23 is disposed transversely across the bottom 17 and has reduced end portions 24—24 which project freely through aligned openings 25—25 provided in the opposite side portion of the flange 18. The opposite ends of the rod 23 are screwthreaded and project through aligned openings in the side members 10—10 where they are rigidly secured against rotation and accidental removal by cooperating pairs of nuts 27. Clamps 28—28 are removably secured to the under side of the laterally extending legs of the angle members 19 by bolts 29 and both are provided with complementary recesses to receive bushings 30—30 which in turn are rotatably supported upon the reduced end portions 24 of the rod 23. At the rear of the bottom portion and on opposite sides the flange 18 is offset to provide openings for the reception of stops 31—31 which cooperate with extensions 32—32 secured to the inside of the side members 10—10 to predeterminately limit the movement of the seat so as to properly position the same for occupancy.

To effect automatic pivotal movement of the seat about its axis into a normally unoccupied position such as shown in full lines in Figure 1, I employ a coiled spring 33, of high quality spring steel, the convolutions of which encircle a portion of the rod 23. One end of the spring extends laterally and is bent at 34 so as to be disposed beneath the laterally extending leg of the adjacent angle member 19 the spring being arranged so that the tension thus causes the end of the spring to constantly engage the leg. The other end of the spring 33 extends parallel with the axis and is secured within a clamp member 40 adjacently mounted, both as to rotation and axial movement, on the rod 23. The clamp preferably has spaced ears 35 provided with aligned openings adapted to receive a bolt 36 by which the proper tension may be provided in the spring and its position on the rod secured against accidental movement. The free end 41 of the spring 33 beyond the clamp 40 is bent laterally and a rubber tube 42 is placed over the end of the spring as more clearly shown in Figure 3. This free end 41 is bent at the desired angle as shown in Figures 1 and 2 so that the end engages the seat bottom and holds the seat in the desired unoccupied position. The end 41 may be bent manually by the use of pliers or a similar tool to the desired position for abutment with the seat bottom for the purpose intended. This free end 41 may be bent so as to predeterminately position the upward location of the seat. It will be noted that in this construction pressure is exerted by the spring which tends to move the seat about its pivotal axis until the seat bottom engages the free end 41 of the spring where the seat is thus maintained out of the way so that the aisles are normally unobstructive. A padded cushion top 37 is adapted to be fitted snugly within the bottom portion 17 as shown in Figure 2 and is supported upon the sides by the laterally extending legs of the angle members 19—19 and 20. At the rear of the seat the rear portion of the flange 18 has an offset portion 38 with which a complementary offset portion 39, provided on the adjacent end of the cushion which resiliently maintains the cushion in place, the flange 18 being sprung by a suitable tool for removal or insertion of the cushion.

It will be noted that the spring mechanism is mounted within the seat structure where it is normally inaccessible and therefore damage from external sources is eliminated. Furthermore, while only one chair is illustrated and described it is understood that ordinarily there are a plurality of chairs in rows with intervening aisles therebetween and which aisles should be kept unobstructed. Under ordinary circumstances the ends of the cushions project toward the next preceding row of chairs a considerable distance into the intervening aisles as indicated by the position of the seat and in dot and dash lines in Figure 1.

While I have described the preferred embodiment of the invention it is to be understood that I am not to be limited thereto inasmuch as changes and modifications may be resorted to without departing from the spirit of the invention as defined in the appended claims.

What is claimed is:

1. A chair construction comprising a frame having spaced side members, a seat adapted for pivotal movement in relation to said side members, said seat including a bottom member provided with upwardly extending flanges on diametrically opposite sides, said flanges having transversely aligned openings therein, a rod extending across said bottom member and having its opposite ends projecting through the aligned openings in said flanges, the ends of the rod being secured against movement respectively in said side members, a spring member having a coiled portion encircling a portion of said rod and laterally extending opposite end portions, one of which end portions engages said bottom member and is movable therewith and the other of said end portions being secured to said rod, said spring member being tensioned to resistibly maintain said seat in its normal raised position, and a cushion top member removably mounted in the upper portions of said flanges whereby said spring member is concealed between said cushion and bottom member.

2. A chair construction comprising a frame having spaced side members, a seat adapted for pivotal movement in relation to said side members, said seat including a bottom member provided with upwardly extending flanges on diametrically opposite sides, said flanges having transversely aligned openings therein, a normally stationary rod extending across said bottom member and having its opposite ends projecting through the aligned openings in said flanges, the ends of said rod being adjustably secured against accidental movement respectively in said side members, a spring member having a coiled portion encircling a portion of said rod and one end portion extending laterally in engagement with said bottom member for movement therewith, the other end portion of said spring member being secured to said rod, said spring member being desirably tensioned by adjustment of said rod to resistibly maintain said seat in its normal raised position, and a cushion top member removably mounted in the upper portions of said flanges whereby said spring member is concealed between said cushion and bottom member.

3. A chair construction comprising a frame having spaced side members, a seat adapted for pivotal movement in relation to said side members, said seat including a bottom member provided with upwardly extending flanges on diametrically opposite sides, said flanges having transversely aligned openings therein, a rod extending across said bottom member and having

its opposite ends projecting through the aligned openings in said flanges, the ends of the rod being secured against movement respectively in said side members, a spring member having a coiled portion encircling a portion of said rod and laterally extending opposite end portions, one of which end portions engages said bottom member and is movable therewith and the other of said end portions connected to said rod and having a free end projecting beyond the latter, the free end being positioned for engagement by said bottom member to limit its upward movement, said spring member being tensioned to resistibly maintain said seat in its normal raised position, and a cushion top member removably mounted in the upper portions of said flanges whereby said spring member is concealed between said cushion and bottom member.

4. A chair construction comprising a frame having spaced side members, a seat adapted for pivotal movement in relation to said side members, said seat including a bottom member provided with upwardly extending flanges on diametrically opposite sides, said flanges having transversely aligned openings therein, a rod extending across said bottom member and having its opposite ends projecting through the aligned openings in said flanges, the ends of the rod being secured against movement respectively in said side members, a spring member having a coiled portion encircling a portion of said rod and laterally extending opposite end portions, one of which end portions engages said bottom member and is movable therewith, a clamp adjustably mounted on said rod and receiving the other end portion of said spring member, said clamp being adapted for adjustment angularly about the axis of the rod for desirably tensioning said spring member to resistibly maintain said seat in its normal raised position, means on said clamp for securing the latter in its adjusted position, and a cushion top member removably mounted in the upper portions of said flanges whereby said spring member and clamp are concealed between said cushion and bottom member.

SAM PEPPAS.