Nov. 6, 1951 J. E. TURNER 2,574,302

FOLDING WALL SEAT

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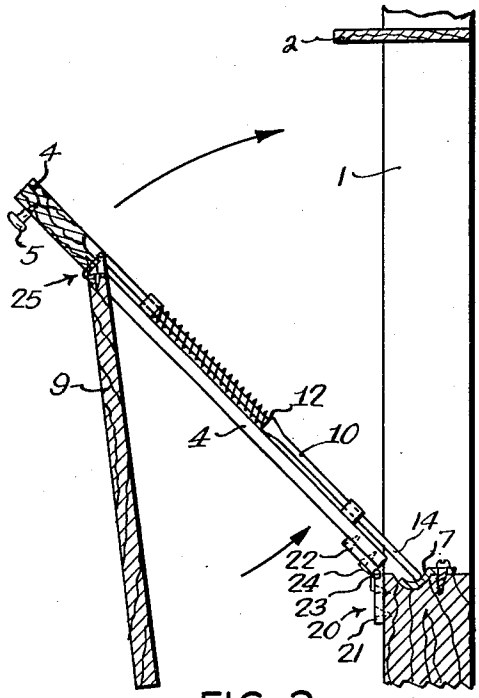


FIG. 2

FIG. 1

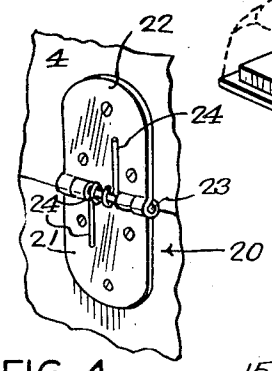


FIG. 4

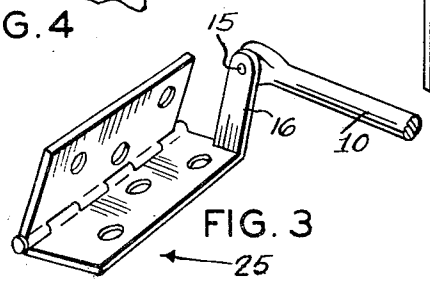


FIG. 3

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FOLDING WALL SEAT

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12 Claims. (Cl. 155—83)

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The present invention relates to seats of the built-in type which are swingably mounted to the wall of a room.

Built-in wall seats, when not in use, are ordinarily adapted to be manually swung upwardly into a wall niche, so that they do not occupy any room space. Most of such seats are provided with some sort of a movable support for their outer ends, when they are swung downwardly and outwardly into position to be occupied by a person.

One of such seats is disclosed in United States patent numbered 1,754,501, which was issued April 15, 1930, to Ernest G. Covell. The downwardly swinging leg of such a seat may at times fail to be properly aligned in a vertical position beneath the seat when a person sits down, and when this occurs, an accident may happen to injure either the person, the seat, or both.

It is an object of the present invention to provide a vertically swinging wall seat, in which a supporting leg is positively actuated into and out of seat supporting position when the seat is swung downwardly and upwardly, respectively.

Another further object is to provide a simple yet positive means for swinging the supporting leg.

An additional object is to provide a seat of this class in which the leg operative mechanism is completely concealed, and in which the leg when in retrieved position nests within an opening or pocket within the seat, and lies flush with the outer surface thereof, thus presenting a smooth surface to the room.

Another object of the invention is to provide a seat of this class which may be cushioned or upholstered, without interfering with the leg operating mechanism.

Other objects will be apparent from the following description when taken in conjunction with the accompanying single sheet of drawings, wherein:

Figure 1 is a fragmentary perspective view of a wall having a framed niche, the seat of the present invention being hinged to the frame at the lower end of the niche, and the seat being shown in its downwardly swung or extended position;

Figure 2 is a vertical sectional view of the wall and seat, the seat being shown in partially extended position;

Figure 3 is a fragmentary perspective view detailing the leg connecting hinge and a portion of the leg actuating thrust rod; and,

Figure 4 is an enlarged perspective view of one of the two seat supporting hinges.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

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In the embodiment illustrated in the accompanying drawings, the seat of the present invention is shown operatively installed beneath a conventional telephone wall niche, so that a person may be seated while using the telephone, not shown.

In carrying out the invention, a rectangular wall cavity 1 is formed beneath the conventional telephone supporting shelf 2, and the cavity 1 is of sufficient depth to nest the seat 3 of the present invention.

The seat 3 consists substantially of a rectangular wall panel 4 which has its lower end pivotally connected upon a horizontal axis in the lower end portion of the wall opening 1. The panel 4 is therefore adapted to be swung upwardly and downwardly upon its axis and when in its uppermost position, is adapted to be latched flush with the wall surface by a suitable spring bolt 5. The cavity 1 has a horizontal bottom or floor 6 upon which is rigidly positioned an arcuate wear plate 7. The center portion of the panel 4 is cut out to form a rectangular or elongated opening 8 which extends upwardly from the bottom edge of the panel, but which does not reach the top edge thereof. A rectangular leg 9 has its upper end pivotally connected in the upper end of the opening 8 so that it may swing on a horizontal axis.

As a means for hingedly mounting the panel 4 to the wall surface beneath the niche or wall cavity 1, there are provided two or more identical hinges 20. One of such hinges is illustrated in Fig. 4, and consists of two conventional hinge plates 21 and 22 pivotally connected together by a hinge-pin 23. The central part of the hinge-pin 23 is surrounded by a helical spring 24 which is adapted to swing the panel 4 upwardly into the wall cavity 1. The seat 3 is therefore normally retained in the wall cavity 1 by action of the springs 24.

As best illustrated in Fig. 2, the upper surface of the wear plate 7 is concave. The purpose for making the wear plate concave will be more fully described hereinbelow.

In Fig. 3 of the drawings is shown a hinge 25 which connects the upper end of the leg 9 to the panel 4 at the upper end of the opening 8, and which acts as the horizontal axis therefor.

Mounted upon the inner surface of the panel 4, and lying parallel to one side edge of the opening 8, is an elongated leg actuating rod 10 having its lower end projecting below the lower edge of the panel 4. The rod 10 is movable longitudinally within a pair of bearing brackets 11 which are held with screws to the inner surface of the panel. The rod 10 has an abrupt enlargement 12 which forms an annular shoulder. A compression spring 13 surrounds the rod 10 between the shoulder 12 and the bearing 11, so

that the rod is resiliently urged to travel toward its lowermost end. The projecting end portion of the rod 10 is indicated by the reference numeral 14, and the end 14 is adapted to bear against the upper arcuate surface of the wear plate 7, when the panel is swung upwardly. As the panel 4 is swung upwardly, and as the end 14 of the rod 10 contacts the wear plate 7, the rod 10 is moved toward the free end of the panel against the action of the spring 13.

The upper or outermost end of the rod 10 is connected to the upper end of the leg element 9 by a pivot pin 15 and an ear or link 16 which forms a part of the hinge 25.

When the panel 4 is moved from its upper or closed posiiton, the spring 13 urges the rod 10 away from the free end of the panel, and swings the leg 9 downwardly into a vertical position, so as to support the panel in a horizontal position, in which position it may act as a seat. When the panel is raised, the projecting end 14 of the rod 10 contacts the wear plate 7 and urges the rod toward the free end of the panel, and thus swings the leg 9 into closed or nesting position within the opening 8. The operating mechanism on the inside surface of the panel 4 may be hidden by an upholstered pad 17.

When the pad 17 is once installed, the leg actuating mechanism is completely hidden, except for a portion of the wear plate 7, and the projecting end portion 14 of the thrust rod 10. When the seat is in its normal position, it nests flatly within the wall niche 1, and the leg 9 nests flatly within the panel opening 8, and fills the same. The seat therefore presents a flat surface toward the room in which it is installed.

It is pointed out that the leg 9 is positively actuated in both directions by the rod 10.

Obviously the invention is susceptible to some change or alteration without defeating its practicability, and I therefore do not wish to be confined to the preferred embodiment shown in the drawings and described herein, further than I am limited by the scope of the appended claims.

I claim:

1. A wall seat including: a panel having its lower end hinged to a wall above a floor, whereby the panel may be swung downwardly from a vertical position parallel to the wall, to a horizontal position outstanding from the same; a leg hinged at its upper end to the upper central portion of the panel; spring means for urging the leg to a vertical panel-supporting position beneath the panel when the panel assumes a horizontal position; and means for maintaining said leg in a vertical position as the panel is moved to a vertical position along the wall.

2. Structure as specified in claim 1, in which said maintaining means includes: a longitudinally extending movable rod on the panel having its lower end projecting beyond the lower end of the panel and adapted to contact an upwardly facing surface carried by the wall, said rod having its other end pivotally connected to the hinged end of the leg.

3. Structure as specified in claim 2, in which the urging means includes: a spring engaging the rod and the panel, and urging the rod toward the downward end of its travel.

4. Structure as specified in claim 1, and: spring means for returning the panel from a horizontal to a vertical position when weight is removed therefrom.

5. Structure as specified in claim 1, in which the panel is provided with a nest for receiving the leg, when the panel is in its upwardly swung position.

6. A wall seat including: a panel having its lower end hingedly connected to a wall above a floor and adapted to be swung downwardly from a vertical position in a wall niche to a horizontal position outstanding from said wall; a leg hingedly connected at its upper end to said panel; spring means for urging the leg to a vertical position beneath the panel to support the same when the panel assumes its horizontal position; and means for maintaining said leg in a vertical position as the panel is moved to a vertical position within said niche.

7. Structure as specified in claim 6, in which said maintaining means includes: a longitudinally extending movable rod on the panel having its lower end projecting beyond the lower end of the panel and adapted to contact the floor of said niche, said rod having its other end pivotally connected to the hinged end of the leg.

8. Structure as specified in claim 6, and: spring means for returning the panel from a horizontal to a vertical position when weight is removed therefrom.

9. Structure as specified in claim 8, in which said returning means includes: springs associated with the panel mounting hinges.

10. Structure as specified in claim 6, in which the panel is provided with a nest for receiving the leg, when the panel is in its upwardly swung position.

11. In a wall seat, the combination with a wall having a niche, with a panel having a horizontal hinged connection to the wall at the lower end of said niche, and with a leg having its upper end hingedly connected to the panel, of means for maintaining the leg in a vertical position as the panel is swung from a vertical position in the niche to a horizontal position in which it projects laterally from the wall, said means including: a longitudinally extending rod slidably mounted on the panel, said rod having its lower end projecting beyond the panel to contact the bottom of said niche when the panel is in closed or partially closed position, and having its other end pivotally connected to the hinged end of said leg; and spring means for urging the rod toward the bottom of said niche.

12. A wall seat including: a panel having its lower end hinged to a wall above a floor, whereby the panel may be swung downwardly from a vertical position parallel to the wall, to a horizontal position outstanding from the same; an elongated opening formed in the panel; a leg hinged at its upper end to the panel adjacent the upper end of said opening, and adapted to nest therein; means for urging the leg to a vertical panel-supporting position beneath the panel when the panel is swung to a horizontal position; and means for maintaining said leg in a vertical position as the panel is moved to a vertical position along the wall.

JULIUS E. TURNER.

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