May 8, 1962 S. PAZAN 3,033,614

FOLD-AWAY SEAT STRUCTURES

Filed Jan. 21, 1959 2 Sheets-Sheet 1

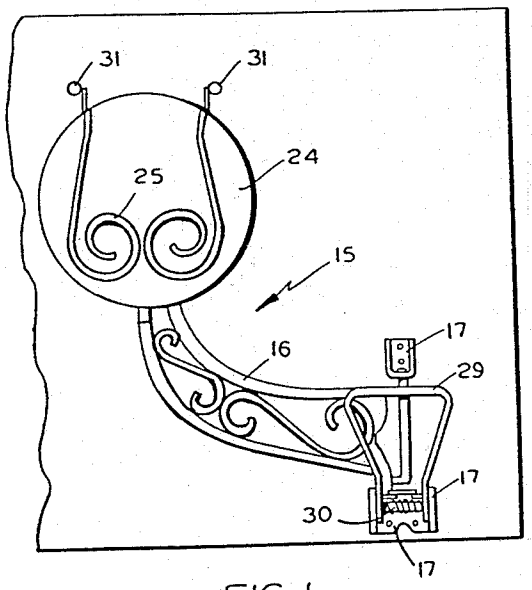


FIG.1

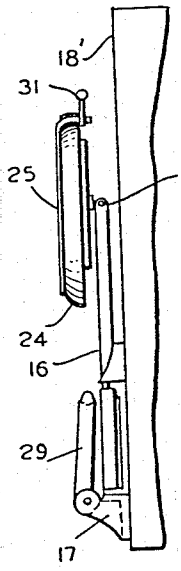


FIG.3

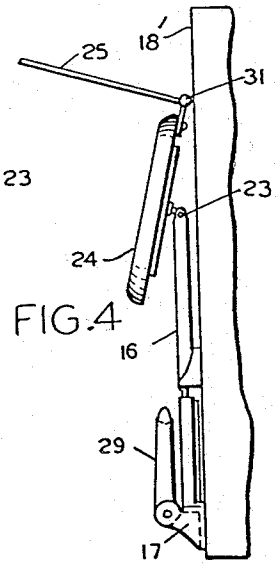


FIG.4

FIG.2

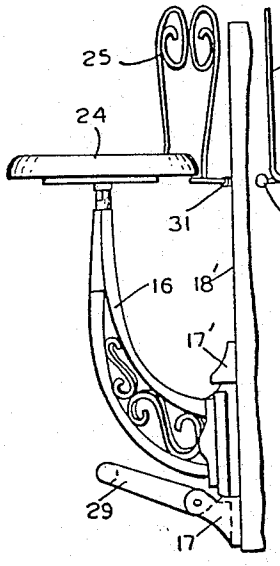


FIG.5

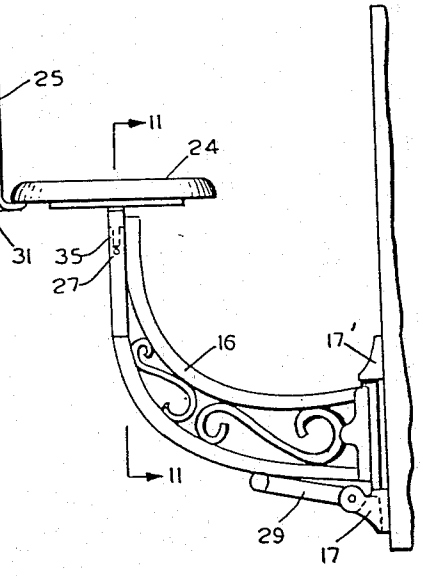
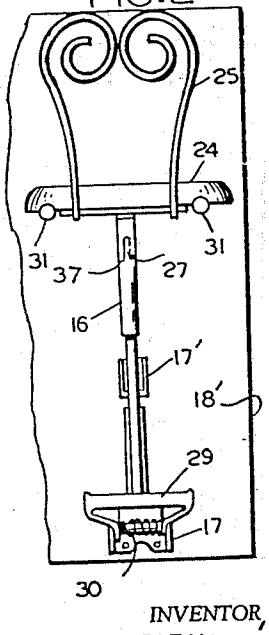


FIG.6



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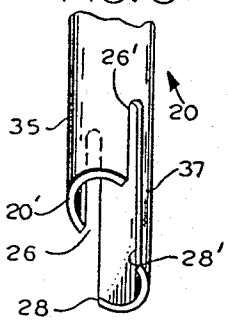
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FOLD-AWAY SEAT STRUCTURES

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FIG. 8



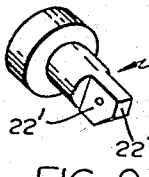


FIG. 9

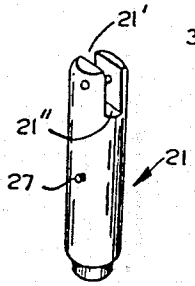


FIG. 10

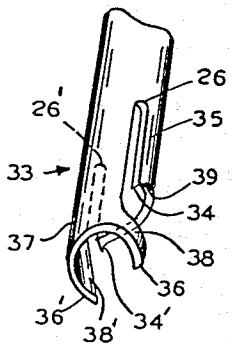


FIG. 14

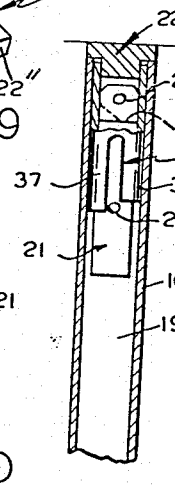


FIG. 12

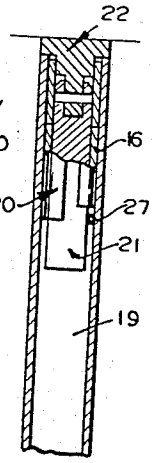


FIG. 11

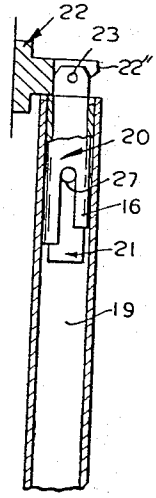


FIG. 13

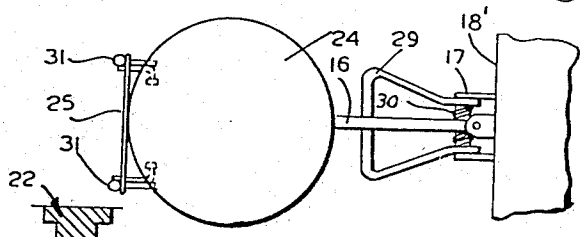


FIG. 7

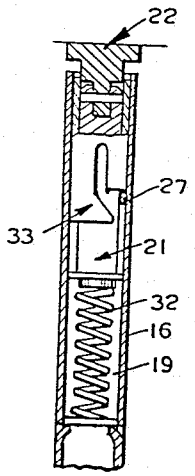


FIG. 15

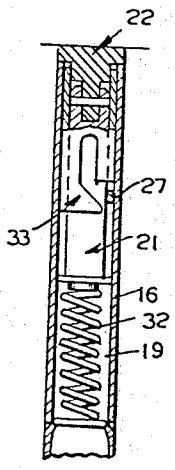


FIG. 16

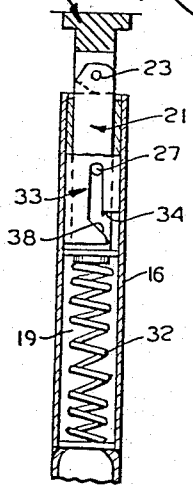


FIG. 17

BY

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United States Patent Office 3,033,614 Patented May 8, 1962

3,033,614

FOLD-AWAY SEAT STRUCTURES

Seymour Pazan, North Massapequa, N.Y., assignor to Joseph Rosenfeld, New York, N.Y.

Filed Jan. 21, 1959, Ser. No. 788,075
15 Claims. (Cl. 297—331)

The present invention relates to fold-away seats and more particularly to the type adapted for use in conjunction with bars, counters and the like.

An object of this invention is to provide a novel and improved fold-away seat structure which can be mounted for instance on the front wall of a bar and by simple manipulation, can be folded flat against said wall when not in use and then whenever desired, can be easily made to assume use condition in front of said wall, be sturdy and afford swivel movement of the seat member.

Another object thereof is to provide a novel and improved fold-away seat structure of the character described, which includes a chair back if desired.

A further object thereof is to provide a novel and improved fold-away seat structure of the kind set forth, offering a foot rest when the seat is in use position; the movement of such foot rest being automatic from use to non-use positions and vice versa; the inclusion of such foot rest being optional.

Still another object thereof is to provide a fold-away seat of the nature described, of novel and improved construction, which is reasonably cheap to manufacture, easy to use and efficient in carrying out the functions for which it is designed.

Other objects and advantages will become apparent as this disclosure proceeds.

For the practice of this invention, one form it may assume is to have an upright, substantially L-shaped bracket with the distal end of its horizontal leg swingably mounted near the bottom of the front wall of a bar, for movement about a vertical axis. At least the upper portion of its vertical leg is a round tube in which slidably fits a knuckle whose two parts are pivotally connected by a horizontal axis pin. The upper part of said knuckle is fixed to the underside of a seat which is above said bracket. In use condition, the mentioned axis pin is within said tube, thereby holding the seat in horizontal position. Lifting the seat so that said axis pin is outside said tubular component permits the seat to be positioned in a vertical plane. In use condition, said swing bracket extends forwardly of the front wall of the bar and the seat is horizontal. In fold-away, non-use condition, the seat is vertical and said swing bracket and seat are up against said wall. In fact, in said tubular member there is a fixed tubular liner in which said knuckle parts fit slidably as mentioned. The lower part of the knuckle has a pin projecting laterally therefrom which cooperates with formations in said liner to hold the seat in its lowered position when in use and affords limited swivel movement for said seat, at the limits of which, the seat can be raised so that it can be swung to vertical. Spring means may be included to automatically effect such upward movement of the seat. If desired, the seat may be provided with a chair back which is swingable to lie flat on the seat when not in use and as will be shown, there may be a foot rest which is spring-loaded to swing flat up against the swing bracket when said bracket is in non-use position up against the bar's front wall and which will be automatically shifted to substantially horizontal position for use when said bracket is swung to use position; said foot rest being swingably mounted on a horizontal axis on a mounting bracket which also carries the aforementioned L-shaped bracket, so that the entire article is a unitary structure

adapted to be mounted on the front wall of a bar and hence can be bought by owners of bars and counters for attachment thereto.

In the accompanying drawings forming part of this specification, similar characters of reference indicate corresponding parts in all the views.

FIG. 1 shows a seat structure embodying the teachings of this invention in non-use condition, folded and swung away flat up against the front wall of a bar on which it is mounted. A chair back and a foot rest are included in this preferred embodiment.

FIG. 2 shows the seat structure in use condition. This is a rear view of the chair which is positioned in front of the bar.

FIG. 3 is a side view of the seat of FIG. 1.

FIGS. 4, 5 and 6 are side views akin to FIG. 3, showing successive positions assumed by the various components as the seat member is manipulated to bring the structure from non-use condition shown in FIG. 1, to assume use condition shown in FIG. 6; said FIG. 6 being a side view of the seat in the condition of FIG. 2. The automatic positioning of the foot rest is also shown in these views. It is evident that to reverse these steps, the structure is brought from use to non-use condition.

FIG. 7 is a top plan view of the seat in the condition of FIG. 6, which shows the chair structure in use condition.

FIG. 8 is a perspective view of one form of the mentioned liner in which the knuckle parts are slidably fitted.

FIG. 9 is a perspective view showing the upper part of the knuckle which carries the seat member.

FIG. 10 is a perspective view showing the lower part of the knuckle.

FIG. 11 is a fragmentary central section taken at lines 11—11 in FIG. 6.

FIG. 12 is like FIG. 11, but the seat has been turned a quarter turn from the normal rest position shown in FIG. 11.

FIG. 13 is a view like FIG. 11, but the seat is here in non-use position, the same as shown in FIG. 3.

FIG. 14 is a fragmentary perspective view of a modified form of liner, to be used in place of that shown in FIG. 8.

FIG. 15 is like FIG. 11, but here the liner of FIG. 14 is used and the chair is shown in use position, but not sat on.

FIG. 16 is like FIG. 15, but the chair is sat on.

FIG. 17 is like FIG. 15, showing the seat raised, ready to be swung to a non-use position.

In the drawings, the numeral 15 designates a preferred form of the fold-away seat structure comprising a bracket or arm denoted generally by the numeral 16, which is preferably a substantially upright L-shaped member, the distal end of whose horizontal leg is hinged on the mounting brackets 17, 17' for swinging movement about a vertical axis; said mounting bracket being attached so that 17 is near floor plane onto the front wall of a bar or counter 18 or to any upright, depending where this seat structure is to be utilized. In normal use position, arm 16 is in a plane perpendicular to said wall 18' and in non-use position, it is parallel up against said wall. The upper end of the upright leg of the L-shaped arm 16 has a deep socket 19, or it may be tubular. This socket is lined with a sleeve 20 fixed therein to house a knuckle consisting of a lower vertical rod piece 21 whose upper end terminates preferably as a clevis 21' holding the tine 22' of an upper rod piece 22 for pivotal movement about the horizontal axis pin 23 linking said knuckle parts together. These rod pieces as a unit are axially rotatable in said socket and are longitudinally slidable therein. The

upper part 22 of said knuckle depends fixed from the central region of the underside of a seat member 24 which is here shown of circular form and it is optional to provide a chair back 25 hinged to said seat member to be swung downwardly forwardly so that it shall lie against the upper surface of said seat member.

The tubular liner or sleeve 20 has diametrically opposite elongated notches or slots 26, 26' therealong opening in its bottom edge; such slots being of uniform width. The knuckle's lower rod piece 21 has a laterally extending pin 27 which is adapted to slidably fit in said slots, in one slot at a time and is movable therealong upon up and down movement of the knuckle part 21 when said pin is in line with a slot. When the seat is in use condition, the knuckle axis pin 23 is within the sleeve 20 and the seat member 24 rests horizontally, supported on the top end of the arm 16, and the pin 27 is at the entrance of slot 26 as shown in FIGS. 2 and 11. The sleeve 20 has stops 28, 28' to halt the pin 27 at the entrances to the slots 26, 27 respectively and thus limit the permitted rotary movement of the seat member 24 to a half turn in total, which is a quarter turn in either direction from use position shown in FIG. 2.

It is optional to include a foot rest 29 which may be a U-shaped member whose distal ends are pivotally mounted about a common horizontal axis on the mounting bracket 17 and is spring loaded by a torsion spring 30 in well known manner to be biased for upward swing against the arm 16 which is over it when the seating device is in use condition as in FIG. 2 and directly in back of it when the seating device is in non-use condition as shown in FIG. 3.

In non-use condition as shown in FIGS. 1 and 3, the L-shaped swingable arm 16 is flat against the front wall 18' of the bar, the upper part 22 of the knuckle is horizontal, the seat member 24 is positioned in vertical plane in front of said arm 16, the chair back 25 hangs downwardly in vertical plane against the seat member and the foot rest 29 extends upwardly in front of said arm 16. It is to be noted that the sleeve 20 is so fixed that its slots 26, 26' have their longitudinal center lines in a plane perpendicular to the plane of the L-shaped arm 16. The pin 27 is at the upward end of the slot 26' as shown in FIG. 13 and it is there stopped to avoid any further upward movement of the knuckle part 21.

Now, to attain use condition as shown in FIG. 2, the chair back 25 is gotten hold of in hand and swung upwardly and continued in the same direction of its movement until the seat 24 assumes horizontal position as is indicated successively in the FIGS. 4 and 5; the knuckle parts 21, 22 will have become aligned with edge 22'' resting on surface 21''. In the meantime, the rollers 31 extending backwardly from the seat member 24, will have ridden along the front wall 18' of the bar 18 and the arm 16 will have swung a bit away from said wall, and said arm acting cam-like will have swung the foot-rest 29 a bit downwardly as is finally shown in FIG. 5. Now holding the chair back 25, it is shifted to turn the seat member 24 in a counter-clockwise direction from its position of FIG. 5 to use position shown in FIG. 6, at the same time pushing the seat down to rest atop the upper end of the arm 16, whereupon the knuckle part 22 will have entered the sleeve 20 and the pin 27 will have travelled downward in the slot 26 out therefrom and when the seat is arranged as in FIG. 2, said pin will be midway between the slots 26 and 26' and held against the underedge 20' of the sleeve 20 as shown in FIG. 6. The seat 24 is now turnable a quarter turn in either direction till the pin 27 is halted by one of the stops 28, 28'.

The modified form of sleeve denoted generally by the numeral 33 may be used in place of the sleeve 20. The differences in the sleeve 33 over the sleeve 20, are the provision of the downwardly extending teeth 34, 34' on the shorter channel-form tine 35 and the provision of the circumferentially laterally extending teeth 36, 36' on the longer channel-form tine 37; the pin 27 being able to pass between the pair of teeth 34, 36 into the slot 26, and between the pair of teeth 34', 36', into the slot 26'. It is to be noted that each of the laterally extending teeth extend so that their respective apices are below and between the teeth 34, 34', that their upper edges 38 slant upwardly towards the tine 37 they are part of, and that the side edges 39 which are nearest each other of the teeth 34, 34', slant upwardly away from said tine 37.

The manipulation of the structure employing the sleeve 20, from non-use condition shown in FIG. 1 to use condition shown in FIG. 6, has been described. Now, when a user alights from the seat and wishing to restore non-use condition, he turns the seat 24 until pin 27 is halted by one of the stops 28, 28' on the tine 37, whereupon on raising the seat, the knuckle is raised until the pin 27 is stopped at the upper end of one of the slots in the sleeve 20, depending upon the direction he has turned the seat 24. With the knuckle part 22 out of the sleeve, the conditions attained are as shown in FIG. 11. Swinging the swing arm 16 towards the wall 18', a roller 31 will have contacted said bar wall and thereby cause the seat and its back to fall down. The arm 16 is now swung to be up against the bar wall, thereby releasing the foot rest 29 to automatically swing upward due to action of the spring 30, whereupon the non-use condition shown in FIG. 1 is attained; the upward swing of the foot rest aiding to shift the arm 16 against the bar wall and finally to hold it there.

As a modification, sleeve 33 when employed offers the inclined edges 38 as the stops for pin 27 to limit the swivel movement of the seat 24 in use. When the seat is relieved of the user and if said pin is at any of said stop edges 38, the action of the spring 32 cannot bring the pin to enter up into the slot 26 or 26' because either the seat must be turned manually a bit so that the pin rides up along said inclined edge or else the spring must be strong enough to cause such partial turn of the seat, which it is not strong enough to do. Hence, the action of the spring is to raise the seat, but pin 27 will come against the inclined edge of a tooth as 34 or 34' on the tine 35 and bear up against the lower edge of such tine. The extent of the permitted upward movement of the seat is rather small. So that now if a person sits down, he will need to compress the spring 32 but slightly, which is easily effected by his weight. If when he gets off the seat and wishes to bring about non-use condition as in FIG. 1, and the pin 27 is between the teeth 34, 34', he will need to first press down with his hand on the seat 24 and turn it after the pin is released from the downward tooth and keep turning it until said pin hits the edge 38 and is free to enter the slot 26 or 26' of the sleeve 33, whereupon on letting go of the seat, the action of the spring 32 will raise the seat to expose the knuckle joint as in FIG. 17, whereupon the seat and back are manipulated as aforementioned to attain non-use condition as in FIG. 1.

It is to be noted that when the seat 24 is swung to horizontal position, it comes so to rest because the end 22'' of the tine 22' will come to rest on the floor 21'' of the clevis 21', to offer good support for the seat. Of course, when the seat in horizontal position is in its lowered position as in FIGS. 11 and 16, the knuckle part 22 below its head, is within the socket 19.

It is evident that when no back member as 25 is provided, then manipulation to set the structure into use and then into non-use condition, is effected by direct hold of the seat member 24.

This invention is capable of numerous forms and various applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiment shown herein be deemed illustrative and not restrictive and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the

specific description herein to indicate the scope of this invention.

I claim:

1. In a fold-away seat structure of the character described, a bracket, an arm mounted at one end onto the bracket for swinging movement about a vertical axis whereby said arm can be swung to extend forwardly of said bracket, an upright tubular member fixed at the other end of said arm and having a longitudinal slot in its wall; the lower end of said slot having an entrance at the bottom edge of said tubular member and the upper end of said slot being closed, a pair of rod pieces slidably and rotatably fitted within said tubular member, one longitudinally above the other; the adjacent ends of said rod pieces being pivotally joined about a horizontal axis whereby they serve as a knuckle when the upper rod piece is withdrawn upwardly from said tubular member, a seat member; said upper rod piece being secured to said seat to extend downwardly therefrom, a pin extending laterally from the lower rod piece below the entrance to said slot, adapted to be entered into and move upwardly in and along said slot when the seat is turned to bring said pin to the entrance of said slot and the seat is thereupon raised; said pin being engaged by said slot when therein, for slidable movement along said slot and a stop element extending downwardly from said tubular member along one side edge of said slot to halt the pin when the seat is turned to bring the pin to the entrance of said slot, whereupon the seat can be raised to expose the knuckle joint and thereupon swing to vertical position; said pin being so positioned on the lower rod piece and the said slot being so positioned on said tubular member, that when the pin is in said slot, the axis of said knuckle oint is substantially in the plane determined by said arm and its axis of swing on the bracket.

2. A fold-away seat structure as defined in claim 1, including a chair back swingably mounted on the seat member, to be swung forwardly downwardly thereon; the axis of swing of said chair back being parallel to the axis of the knuckle joint; the plane of the longitudinal edges of the slot being parallel to the plane determined by the arm and its axis of swing on the bracket and including means on the knuckle rod pieces allowing said seat to be swung to a vertical position only whereupon said chair back is hanging downwardly, when the seat is free to be swung to vertical position upon the upper rod piece leaving the tubular member.

3. A fold-away seat structure as defined in claim 1, including a foot rest member extending from the bracket and mounted thereon for swinging movement about a horizontal axis below the arm and spring means associated with said foot rest and bracket, biasing said foot rest to extend upwardly from its axis of swing; said foot rest extending upwardly in front of said arm when the plane determined by said arm and the axis of swing of such arm is parallel to the line of the axis of swing of said foot rest; said arm being in contact with said foot rest whereupon movement of said arm so that said plane moves to a position where it is perpendicular to the axis of swing of said foot rest, said foot rest will automatically be swung to extend forwardly towards the seat.

4. The swing-away seat structure as defined in claim 1, including spring means associated with the tubular member and the unitary structure comprising the rod pieces, biasing said rod pieces upwardly.

5. The swing-away seat structure as defined in claim 1, wherein said tubular member is fixed within a socket in the arm.

6. The swing-away seat structure as defined in claim 5, including a tensed compression coil spring positioned within said socket below the rod pieces and biasing them upwardly.

7. The swing-away seat structure as defined in claim 1, wherein the tubular member has a second slot similar and diametrically opposite the mentioned slot and a second stop element extending downwardly from said tubular member along one side edge of said second slot to halt the pin when the seat is turned so that said pin is at the entrance of said second slot; said rod pieces being turnable so that said pin is free to move from one slot entrance to the other.

8. The swing-away seat structure as defined in claim 7, wherein said tubular member at its lower portion has a pair of downwardly extending tines, one longer than the other; the spaces between the tines constituting said slots and the side edges of the longer tine serving as said stop elements respectively.

9. The swing-away seat structure as defined in claim 1, wherein the tubular member has a V-shaped tooth extending downwardly therefrom; one edge of said tooth being along the other side edge of the slot and the other edge of said tooth slanting upwardly away from said slot and wherein the stop element comprises a tooth extending below and across the entrance of said slot; the upper edge of this stop element tooth slanting downwardly towards the end and serving to stop the pin between the longitudinal edges of the slot; said pin being capable of movement between said teeth to enter and leave said slot and a tensed spring means associated with the rod pieces and the tubular member, biasing said rod pieces upwardly in said tubular member.

10. The swing-away seat structure as defined in claim 9, wherein the tubular member has a second slot similar and diametrically opposite the mentioned slot and a second stop element extending downwardly from said tubular member along one side edge of said second slot to halt the pin when the seat is turned so that said pin is at the entrance of said second slot; said rod pieces being turnable so that said pin is free to move from one slot entrance to the other and wherein said second stop element comprises a tooth identical to that associated with the first mentioned stop element; the upper inclined edges of said stop element teeth converging downwardly.

11. The swing-away seat structure as defined in claim 10, wherein the tubular member at its lower portion has a pair of downwardly extending tines, one longer than the other; the spaces between said tines constituting said slots and wherein the downwardly extending teeth are at the ends of the bottom edge of the shorter tine and wherein the teeth constituting the stop elements extend from the side edges of the longer tine.

12. In a swing-away seat structure of the character described, a bracket, an arm mounted at one end onto the bracket for swinging movement about a vertical axis whereby said arm can be swung to extend forwardly of said bracket, an upright tubular member fixed at the other end of said arm, a pair of rod pieces slidably and rotatably fitted within said tubular member, one longitudinally above the other; the adjacent ends of said rod pieces being pivotally joined about a horizontal axis whereby they serve as a knuckle when the upper rod piece is withdrawn upwardly from said tubular member; said upper rod piece being secured to said seat to extend downwardly therefrom, an element extending laterally from the lower rod piece, serving as a stop to limit the upward movement of said rod pieces so that at least part of the lower rod piece shall remain in the tubular member, a chair back swingably mounted on the seat member, to be swung forwardly downwardly thereon; the axis of swing of the chair back being parallel to the axis of the knuckle joint and means on the knuckle rod pieces allowing said seat to be swung to a vertical position when the upper rod piece is out of the tubular member, only whereupon said chair back is hanging downwardly.

13. A swing-away seat structure as defined in claim 12, including a foot rest member extending from the bracket and mounted thereon for swinging movement about a horizontal axis below the arm and spring means associated with said foot rest and bracket, biasing said foot rest to extend upwardly from its axis of swing; said foot rest extending upwardly in front of said arm when the plane determined by said arm and the axis of swing

of such arm is parallel to the line of the axis of swing of said foot rest; said arm being in contact with said foot rest whereupon movement of said arm so that said plane moves to a position where it is perpendicular to the axis of swing of said foot rest, said foot rest will automatically be swung to extend forwardly towards the seat.

14. In a swing-away seat structure of the character described, a bracket, an arm mounted at one end onto the bracket for swinging movement about a vertical axis whereby said arm can be swung to extend forwardly of said bracket, a seat member carried on the other end of said arm, a foot rest member extending from the bracket and mounted thereon for swinging movement about a horizontal axis below the arm and spring means associated with said foot rest and bracket, biasing said foot rest to extend upwardly from its axis of swing; said foot rest extending upwardly in front of said arm when the plane determined by said arm and the axis of swing of such arm is parallel to the line of the axis of swing

of said foot rest; said arm being in contact with said foot rest whereupon movement of said arm so that said plane moves to a position where it is perpendicular to the axis of swing of said foot rest, said foot rest will automatically be swung to extend forwardly towards the seat.

15. A swing-away seat structure as defined in claim 1, including a wall-contacting member extending rearwardly from the seat member.

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