April 25, 1967 C. J. BARECKI 3,316,014

TELESCOPING CHAIR

Filed Nov. 19, 1965

3 Sheets-Sheet 1

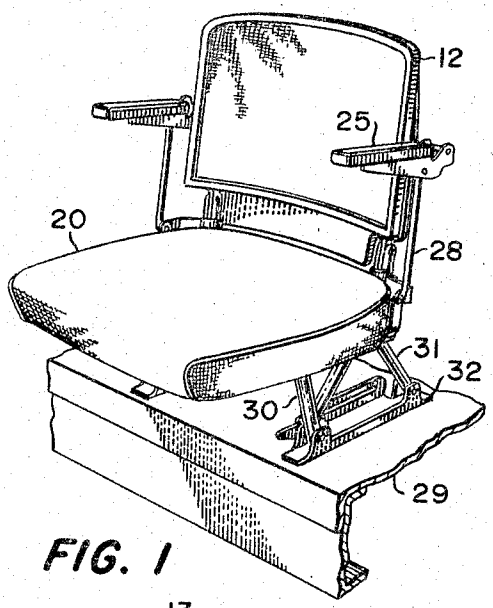


FIG. 1

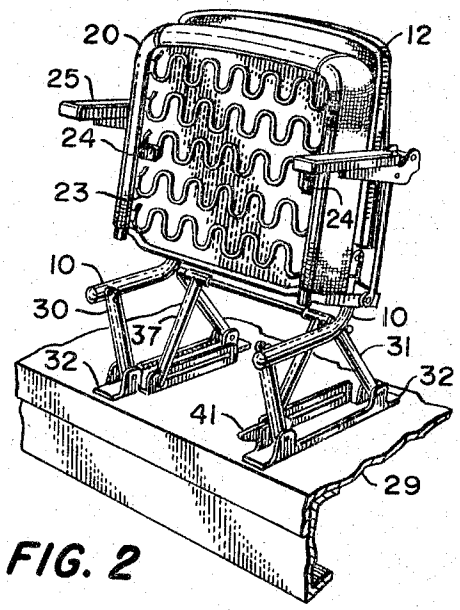


FIG. 2

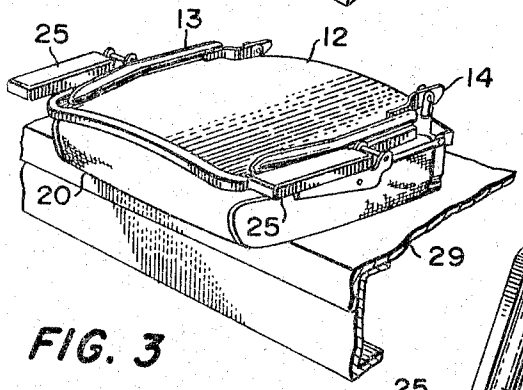


FIG. 3

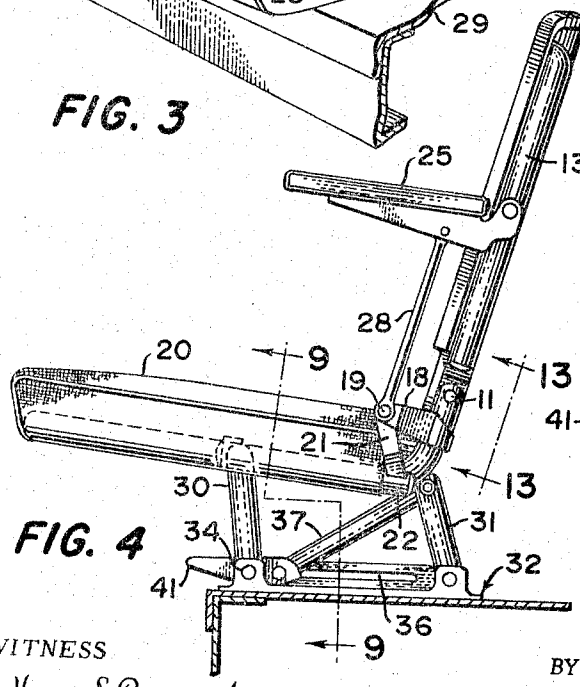


FIG. 4

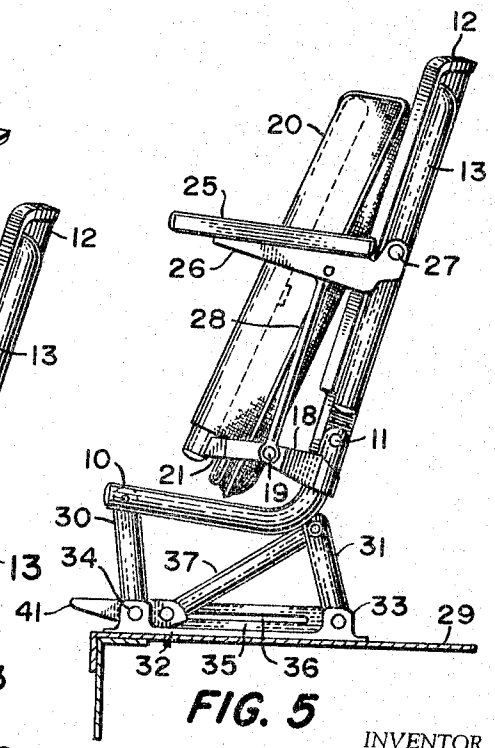


FIG. 5

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TELESCOPING CHAIR

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3 Sheets-Sheet 2

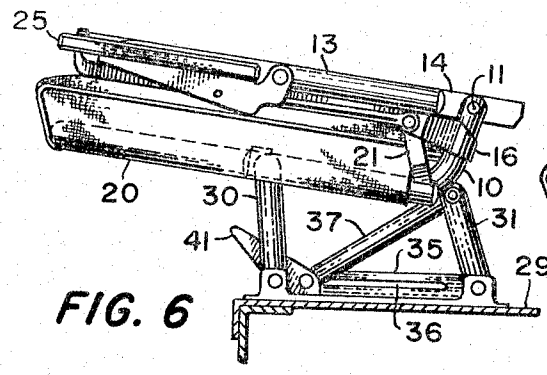


FIG. 6

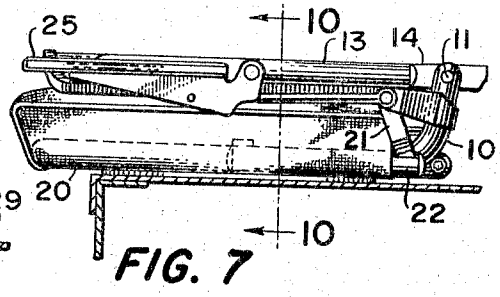


FIG. 7

FIG. 8

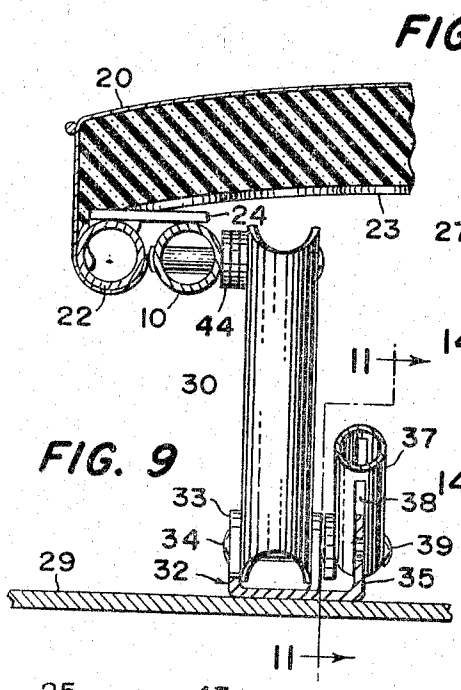
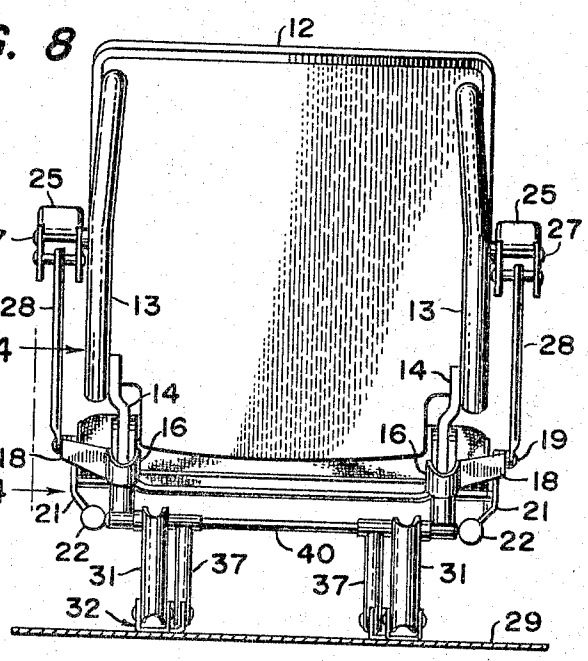


FIG. 9



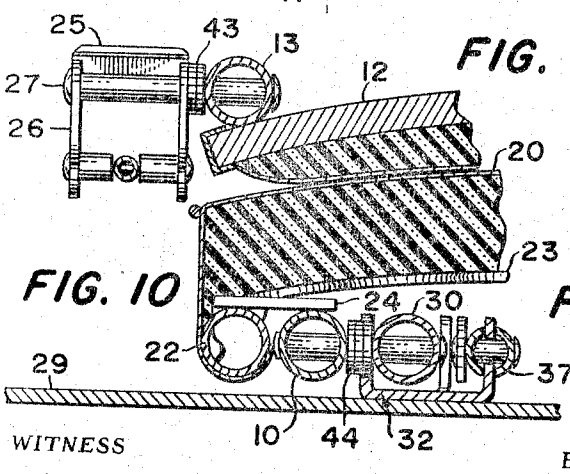


FIG. 10

FIG. 11

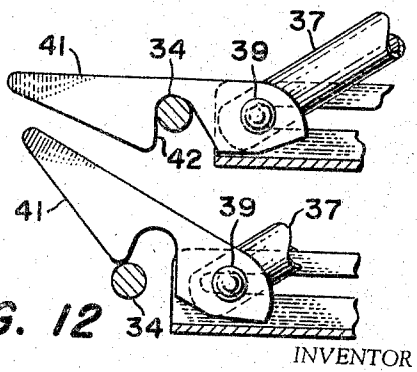


FIG. 12

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TELESCOPING CHAIR

Filed Nov. 19, 1965 3 Sheets-Sheet 3

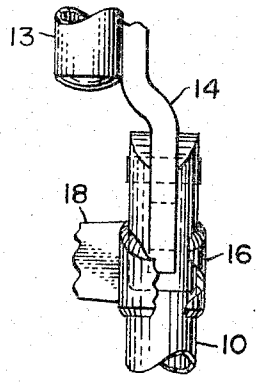


FIG. 13

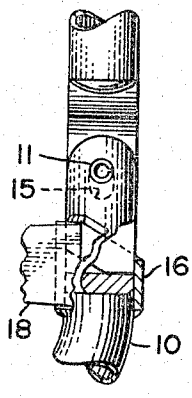


FIG. 14

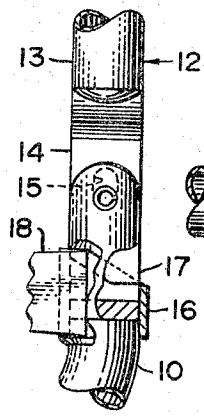


FIG. 15

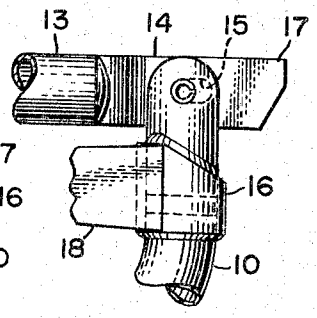


FIG. 16

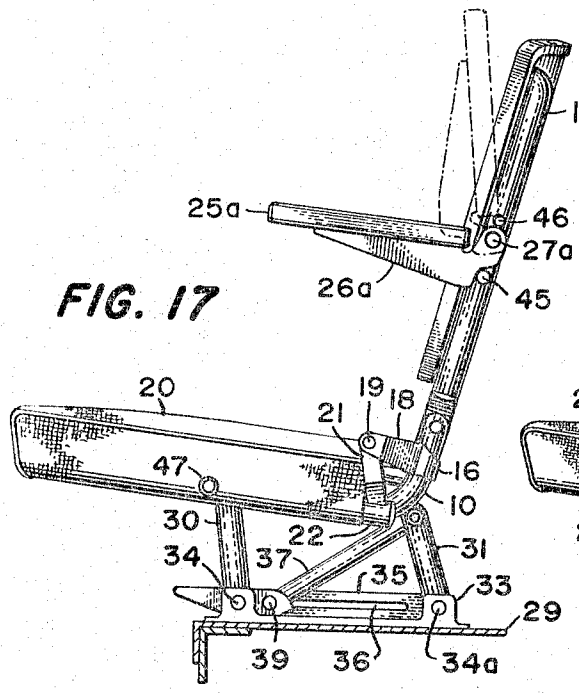


FIG. 17

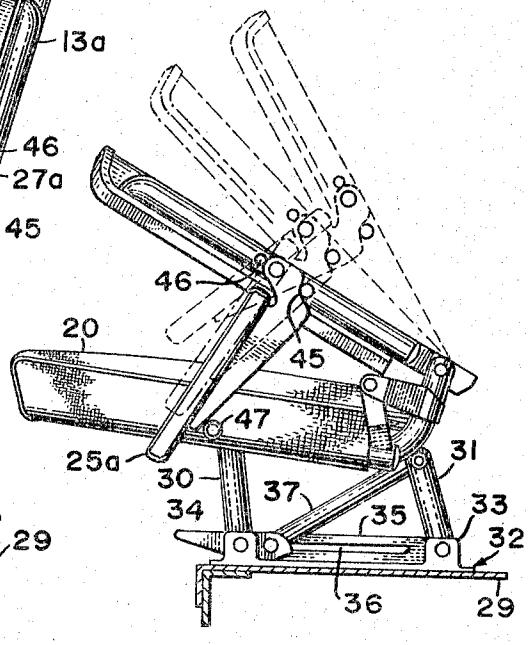


FIG. 18

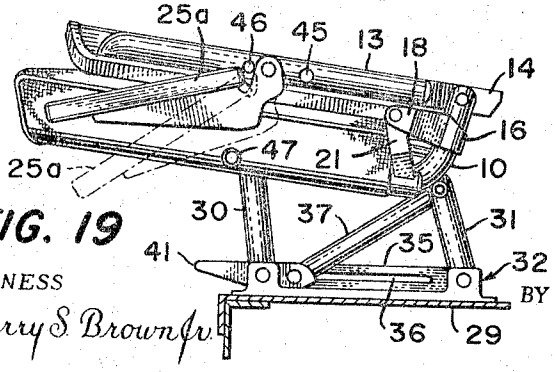


FIG. 19

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United States Patent Office 3,316,014 Patented Apr. 25, 1967

3,316,014

TELESCOPING CHAIR

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Filed Nov. 19, 1965, Ser. No. 508,747
1 Claim. (Cl. 297—35)

This invention relates to a telescoping chair, and more particularly to a type of chair which may be collapsed or folded in a vertical plane to occupy a minimum of space. Such a chair is particularly useful in connection with telescoping metal bleachers since the chair can be contracted into a compact folded position enabling the bleachers to be telescoped with the folded chairs thereon.

An object of the invention is to provide a telescoping chair which when expanded vertically will provide a sturdy chair structure while at the same time being foldable in a vertical plane to provide a compact structure occupying a minimum of space. A further object is to provide in such a seat structure means for locking the foldable parts against accidental folding movement while the chair is occupied. Another object is to provide latching means for maintaining the foldable parts against movement until positive action is taken to unlatch such means. A still further object is to provide means for automatically directing the arm rests of the chair into compact folded position as the chair is being folded to non-use position. Other specific objects and advantages will appear as the specification proceeds.

The invention is shown, in illustrative embodiments, by the accompanying drawings, in which—

FIGURE 1 is a perspective view of a chair embodying my invention, the chair being shown mounted in use position on a bleacher structure; FIG. 2, a view similar to FIG. 1 but showing the seat of the chair in raised position; FIG. 3, a view similar to FIG. 1 but showing the chair in collapsed or folded position; FIG. 4, a side view in elevation on an enlarged scale of the structure shown in FIG. 1; FIG. 5, a side view in elevation on an enlarged scale of the structure shown in FIG. 2; FIG. 6, a side view in elevation of the chair with the back folded; FIG. 7, a side view in elevation of the seat structure in completely folded position; FIG. 8, a rear view in elevation of the chair structure; FIG. 9, an enlarged detail sectional view, the section being taken as indicated at line 9—9 of FIG. 4; FIG. 10, an enlarged detail sectional view, the section being taken as indicated at line 10—10 of FIG. 7; FIG. 11, an enlarged broken detail view in elevation of the latch structure employed with the base plate of the chair; FIG. 12, a view similar to FIG. 11 but showing the latch in release position; FIG. 13, an enlarged broken detail view of the hinge and latch structure for mounting the back upon the seat base; FIG. 14, a view similar to FIG. 13 taken at right angles to the view in FIG. 13 and showing the hinge parts in locked position; FIG. 15, a view similar to FIG. 14 but showing the hinge parts separated to permit swinging movement of the back; FIG. 16, a view similar to FIG. 15 showing the back support members swung to horizontal position; FIG. 17, a view similar to FIG. 4 but showing a modified form of chair in which the arm rests are directed by guide means to folded position; FIG. 18, a view similar to FIG. 17 showing the guide means employed for directing the arm rests to folded position; and FIG. 19, a view similar to FIG. 18 showing the arm rests in folded position.

In the illustration given in FIGS. 1 to 16 inclusive, 10 designates a seat base which, in the illustration given, comprises a pair of tubular members which extend rearwardly toward the back of the chair and then upwardly. The seat base tubes 10 are provided at their upper ends

with pivot pins 11 upon which are mounted the seat back 12.

The seat back 12 is provided on either side with a seat back tube 13. Each tube at its bottom is provided with a depending bar 14 which extends downwardly and into a slot in the upwardly-turned end portion of the member 10, as shown best in FIGS. 13, 14, 15 and 16. The member 14 is hingedly mounted upon the member 10 in such a manner that the hinge is inoperative and hinging movement is restrained as long as the back is in its normal use position. However, when the back is raised slightly, the structure is such that the hinge then becomes effective to permit free horizontal swinging movement of the back 12.

To accomplish the hinge-locking operation described and shown best in FIGS. 13 to 16 inclusive, the bar 14 is provided with an elongated slot 15, as shown best in FIGS. 14 and 15, thus permitting relative movement of the member 14 with respect to the base tube 10. As shown best in FIGS. 8 and 13, there is provided a bushing or collar 16 about the upper end of each member 10, and when the seat back is in its lowered and normally use position as shown in FIG. 14, the bushing or collar 16 prevents swinging movement of the back. However, when the back 12 is raised slightly as shown in FIG. 15, this permits the lower end 17 of the member 14 to clear the upper edge of the collar 16, and the back tubes 13 carrying the back 12 may swing to the folded position illustrated best in FIG. 16.

Integrally formed with the bushing or collar 16 on each of the upturned seat base tubes 10 is a forwardly-extending support strap 18 carrying a pivot pin 19 for supporting a seat 20. The seat member 20 is provided with metal links 21 pivotally mounted on pin 19, and the straps 21 are fixed to the tubular seat supports 22. The seat 20 may be of any suitable structure, as shown best in FIG. 2. The seat consists of a cushion mounted upon a fabric base carried by springs 23, all of the structure being supported upon the U-shape seat support tube 22. In order to support the seat effectively upon the seat base tubes 10, I prefer to equip the tubular seat member 22 with metal seat stop members 24. In the use position, the seat stop members 24 rest upon the seat base tubes 10.

Arm rests 25 are provided with support bars 26 pivotally mounted by pins 27 upon the back tubes 13. Means are provided for automatically folding the arm rests simultaneously with the folding of the back 12. To accomplish this, a link rod 28 is apertured at its lower end to receive the pivot pin 19 and at its upper end is pivotally connected to the arm rest support bar 26. With this structure, when the chair back is folded downwardly, the arm rest is drawn into a position parallel with the back, as shown best in FIG. 6.

The seat base 10 which comprises a pair of tubular members is supported above a floor or base 29, such as a bleacher structure or the like, by a pair of front legs 30 and a pair of rear legs 31. The legs are pivotally supported at their lower ends upon the platform 29 by means of base plates or channel plates 32. The channel plates, as shown best in FIG. 9, are provided with raised ear portions 33 on one side for receiving pivot pins 34 passing through the legs, and on the inner side are provided with a raised wall 35 provided with a longitudinally-extending slot 36. In order to maintain the legs 30 and 31 in vertical and effective supporting position, I provide diagonal brace tubes 37 which, as shown best in FIG. 9, are slotted at 38 to receive the raised wall 35, and each of the brace tubes is provided at its lower end with a pin 39 which engages the slot 36.

The upper ends of the diagonal brace tubes 37 are pivotally mounted upon cross rod 40, as shown best in FIG. 8, and the upper ends of the legs 30 and 31 are

pivotally connected to the seat base tubes **10**, as shown best in FIGS. 8 and 9.

In order to lock the brace tubes **37** in forward position, a latch bar **41** is provided having a notch or recess **42** adapted to engage the pivot pin **34** at the bottom of leg **30**, as shown best in FIG. 8. The latch bar **41** is pivotally mounted upon the pivot pin **39** and in its lowered position, as shown in FIG. 8, serves to hold the legs **30** and **31** in generally vertical seat-supporting position. When it is desired to fold the seat structure, the latch bar **41** may be raised to free it from the pivot **34**, as shown in FIG. 12, and the pivot pin **39** is then free to move rearwardly and to allow the legs **30** and **31** to swing rearwardly.

In the foregoing structure, I prefer to provide spacer members to facilitate the above operational movements described. For example spacer members **43** are provided between the back tube **13** and the pivot pin **27** in the support structure shown best in FIG. 10. Also, between the legs and the seat base tube **10**, I prefer to provide spacer members **44**, as shown best in FIGS. 9 and 10.

Operation

In the operation of the structure shown in FIGS. 1 to 16 inclusive, the seat when in the use position illustrated in FIGS. 1 and 4 is to be folded into compact position, the back **12** may be grasped and raised slightly to raise the back bars **14** to the position shown in FIG. 15, thus permitting the portion **17** thereof to clear the collar **16**, and the back may then be swung to horizontal position as shown in FIG. 16 and in FIG. 6. The latch bar **41** may then be raised to the position shown in FIG. 12 and the entire seat structure may be swung rearwardly to the completely folded position shown in FIG. 7. In the foregoing operation, the arm rests **25** are swung through the action of the rod link **28** into a position aligned with the back **12**.

For erecting the seat for use position, it is merely necessary to swing the seat base structure forwardly, and in its forward position the latch **41** falls over the pivot pin **34**, thus holding the legs **30** and **31** in vertical position. The chair back may then be swung rearwardly to vertical position and the back bars **14** allowed to drop into engagement with the slots in the seat base tubes **10**. The back is now anchored against accidental displacement movement while at the same time the chair legs are firmly held in rigid supporting position.

In the modification shown in FIGS. 17, 18 and 19, the structure is the same as that shown in the other figures except that the arm rests are not automatically moved to folded position, but instead are guided to folded position by the structure shown. In the structure shown in FIGS. 17–19 inclusive, the arm rests **25***a* are pivotally mounted upon the back tubes **13***a* by pivot pin **27***a*. A lower stop **45** mounted on the member **13***a* prevents the

arm from dropping below its desired use position. An upper stop pin **46** prevents the arm from swinging upwardly and around to an excessive position. Mounted on the seat tube **22** is a deflector pin or roller **47** which engages the arm rest **25***a* as it is moved downwardly to prevent the arm from striking the platform **29** and guiding it into the compact position shown in FIG. 19. In the operation of this structure, when the chair back is swung downwardly as indicated in dotted lines in FIG. 18, the deflector **47** guides the arm rest and a compact folding of the back structure is brought about, as illustrated in FIG. 19.

While in the foregoing specification I have shown specific structure in considerable detail for the purpose of illustrating embodiments of the invention, it will be understood that such details of structure may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

In a telescoping chair structure in which a seat base is supported by pivotally-mounted legs, said base having at its rear on one side thereof an upwardly-extending back support portion, a seat carried by said base, a seat back having a side bar pivotally mounted on said upwardly-extending base portion by pin and slot connections, a collar on said portion receiving and locking said bar against movement when the back is in lower position but permitting said back to swing forwardly when the back is raised to cause the bottom of the bar to clear the collar, an arm rest pivotally mounted at an intermediate point on a side of said seat back, and cooperating means on said base and arm rest for folding said arm rest alongside said seat base when said seat is swung forwardly, said cooperating means comprising a rigid link pivotally connected at one end to a strap extending forwardly from said upwardly-extending base portion and at the other end to said arm rest at an intermediate point.

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