June 4, 1957 R. A. HOPKINS 2,794,491

FOLDING BACK REST FOR COLLAPSIBLE CHAIRS

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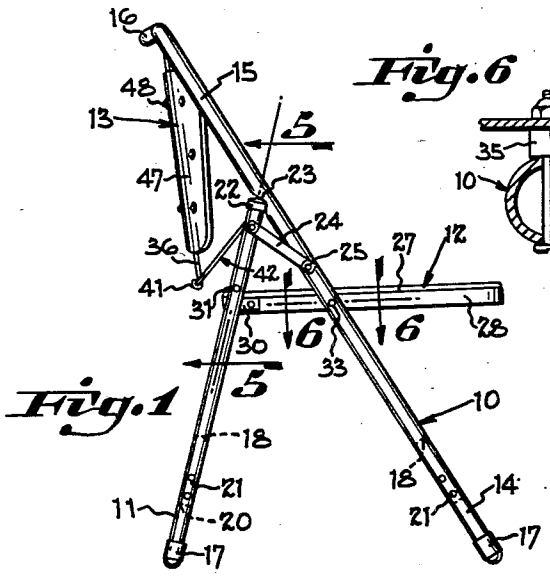


Fig. 1

Fig. 6

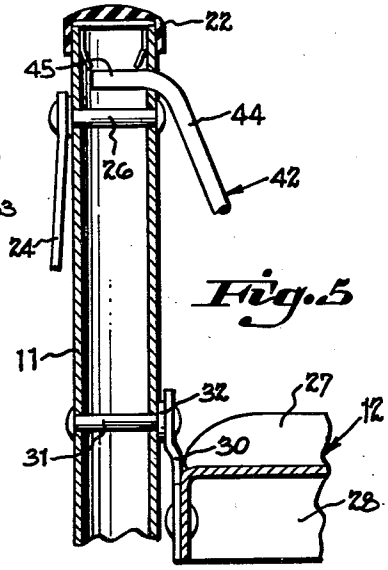


Fig. 5

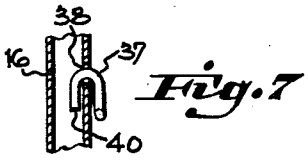


Fig. 7

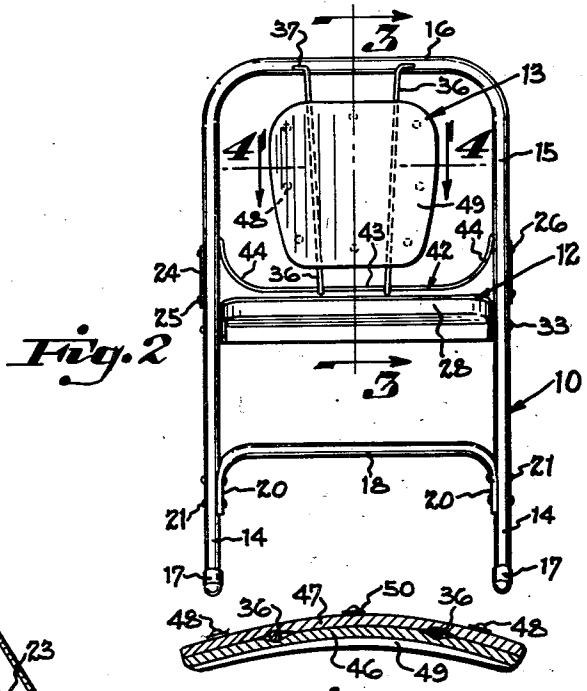


Fig. 2

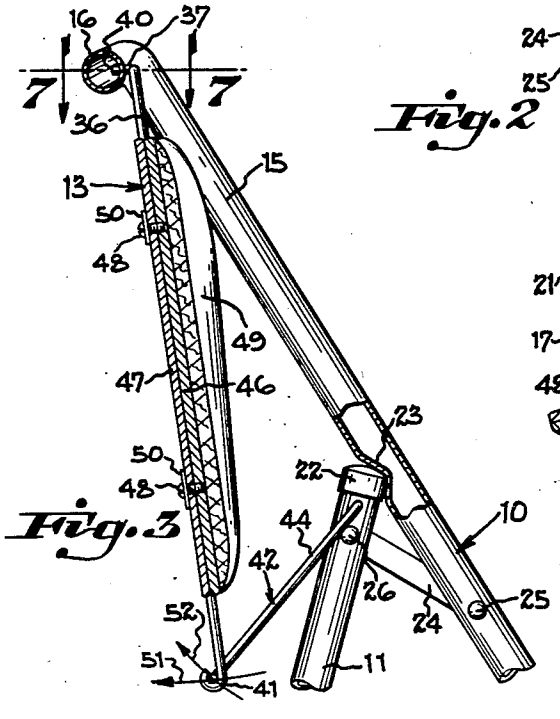


Fig. 3

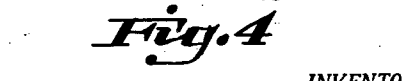


Fig. 4

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Fig. 9

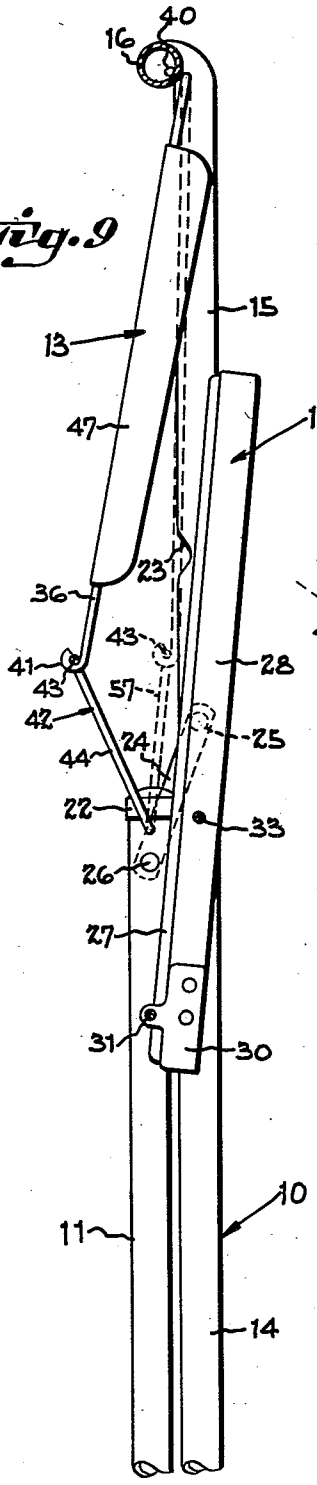
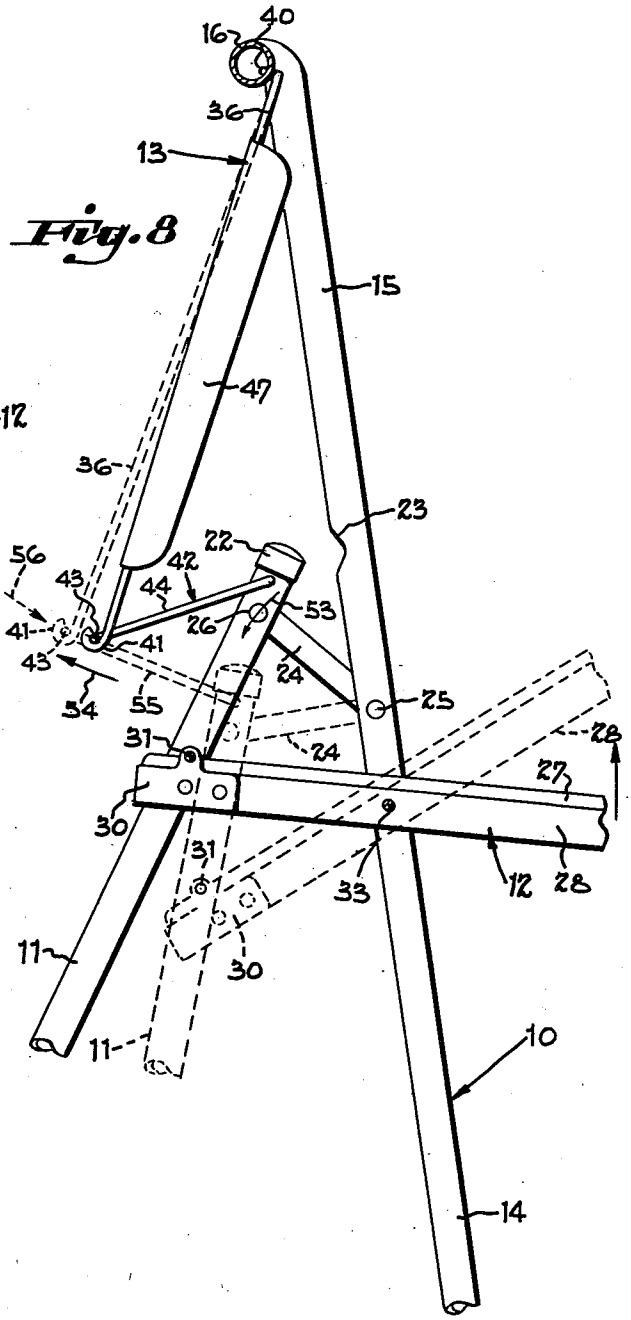


Fig. 8



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FOLDING BACK REST FOR COLLAPSIBLE CHAIRS

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Application February 21, 1956, Serial No. 566,877

10 Claims. (Cl. 155—142)

This invention relates to collapsible chairs and is directed to an erect-posture back rest which folds to a relatively flat position when the chair is collapsed for storage.

Collapsible chairs of this general class have been widely used for many years. They are especially suited for temporary use because they are capable of being collapsed to a flat condition and stacked one against the other in a relatively small storage area. The conventional collapsible chair is reasonably comfortable and is collapsed and erected very conveniently.

The invention is directed specifically to a foldable back rest for the well-known collapsible chair which, when erected, has an articulated frame of inverted Y-shape, as shown in the attached drawing. This chair essentially comprises a main frame providing front legs and a back rest frame, with a pair of rear legs pivotally linked to the main frame, and a seat carried between the legs and pivotally linked for folding. In erected position, the main frame resides in a rather steep, rearwardly inclined position with the rear legs projecting angularly from a midway portion of the main frame. In collapsed condition, the seat and legs swing into parallel relationship, creating a flat compact unit conveniently carried about and occupying very little space when stacked.

Because of the rather sharp rearward inclination of the back supporting portion of the main frame, it is difficult to provide a comfortable, erect-posture back rest. In other wards, if the back rest panel or pad follows the rearwardly inclined plane of the main frame, then it offers no support unless the user leans back in an uncomfortable position. On the other hand, efforts have been made to create an erect-posture back rest by mounting a back rest panel rigidly in a plane more nearly at right angles to the seat. While this arrangement creates a more comfortable contour, the back rest naturally projects downwardly and rearwardly at an angle from the inclined main frame; therefore, the projecting back rest increases by several times the thickness of the unit when the chair is collapsed to its flat condition. When the chairs are used on a quantity basis, as in auditoriums and other public functions, the projecting back rests do not permit the chairs to be stacked closely against one another when collapsed; hence, this structure requires a great deal more storage space than the less comfortable, stuply inclined, back rest.

It has been a primary object of this invention to provide a folding back rest which, when the chair is erected, assumes a comfortable, erect-posture position generally at right angles to the seat, but which swings to a flat folded position for compact stacking when the chair is collapsed. Otherwise expressed, the invention contemplates a back rest which has the advantage of a full length erect-posture support, and on the other hand, has the advantage of folding itself to a flat, noninterfering position when the chair is collapsed for stacking.

A further object has been to provide an articulated linkage which imparts a measure of flexibility to the back rest, thereby taking advantage of the linkage to increase the comfort to the chair.

The invention is based upon the concept of pivotally suspending the folding back rest from the cross bar at the top of the main frame, utilizing an arched swinging bail to connect the lower portion of the back rest to the rear legs. The back rest linkage takes advantage of the curved path of motion of the rear legs in erecting or collapsing the chair to swing the suspended back rest outwardly to its erect position or inwardly to its flat position. The bail is formed of slightly flexible rod stock and has its limbs pivotally connected to the rear legs and its cross member or bight connected to the lower portion of the back rest.

In erected position, the limbs of the bail assume a downwardly inclined position with its pivot points approaching a dead center position in relation to the curved path of motion of the rear legs. This relationship causes the bail to act in toggle fashion to swing the back rest outwardly, then inwardly to its folded position as the rear legs swing downwardly toward collapsed position.

The toggle relationship of the bail, combined with its pivotal connection with the folding back rest, allows the back rest to yield when the user leans back against it. The spring effect is created by the toggle relationship of the bail between the back rest and rear legs, the relationship being such that pressure acting against the back rest is converted into a compressive force acting along the limbs of the bail. Since the limbs are confined between the rear legs, the compressive force tends to bow the limbs outwardly and tends to bow the cross number of the arch-shaped bail inwardly; hence the bail, as a whole, acts as a spring for the back rest.

Another feature of the invention is embodied in the novel construction of the back rest and its actuating linkage, making it simple in structure and easily assembled. The structure takes advantage of the tubular framing members of the chair, the back rest suspension rods and bail having ends which simply pass through apertures in the tubular members. The back rest pad or cushion is made up of two panels residing on opposite sides of the suspension rods and secured in facial engagement by screws which thereby clamp the suspension rods in parallel relationship between the panels. Accordingly, the back rest pad locks the rod members permanently in pivotal connection with the tubular members of the chair in a simple manner.

The various features and advantages of the invention are brought out in greater detail in the following description in conjunction with the drawings.

In the drawings:

Figure 1 is a side elevation of the collapsible chair in its erected position.

Figure 2 is a front view of the erected chair.

Figure 3 is a sectional view taken along line 3—3 of Figure 2, detailing the back rest construction.

Figure 4 is an enlarged sectional view taken along line 4—4 of Figure 2, further detailing the back rest.

Figure 5 is an enlarged sectional view taken along line 5—5 of Figure 1, detailing the pivotal connection of the folding back rest and seat to the rear legs.

Figure 6 is a sectional view taken along line 6—6 of Figure 1, detailing the pivotal connection of the seat to the front legs.

Figure 7 is a sectional view taken along line 7—7 of Figure 3, detailing the pivotal connection of the upper portion of the back rest.

Figures 8 and 9 are diagrammatic views showing the motion of the parts as the chair is collapsed.

Chair structure

In its preferred form shown in the drawings, the articulated framing members of the chair are fabricated from metal tubing to conserve weight and create a strong reliable structure. In general, the chair comprises a

main frame **10**, rear legs **11**, a seat **12**, and a folding back rest **13**. These members are pivotally interconnected with one another to form a rigid, self-locking erected structure, capable of being folded to a compact, generally flat shape when not in use. In erected for use, the back rest **13** is sustained in an erect position, generally at right angles of the plane of the seat to support the user in an erect but comfortable posture. The degree of rearward inclination of the main frame **10** is necessary to provide a stable support; hence the erect back rest **13** projects rearwardly and outwardly beyond the main frame but within the vertical plane of the rear legs for stability.

If the back rest were attached rigidly to the main frame, then it would greatly increase the thickness of the flat collapsed chair. Therefore, a fixed, protruding back rest would interfere with compact stacking of the chairs, particularly where they are used in large numbers, for example, in auditoriums, churches or the like.

According to the present invention, the folding back rest **13** is pivotally interconnected with the chair frame in such a way that, as an incident to collapsing the chair, the back rest swings from the extended position shown in Figure 1 to the folded position of Figure 9 in which it resides in a plane almost parallel to the main frame **10** and facially embracing the folded seat. In this position, the back rest adds very little to the thickness of the folded chairs and allows them to be stacked compactly one against the other.

Described in detail, the main frame **10**, as viewed in Figure 2, consists of a length of metal tubing bent to an inverted U-shape, the lower portions of the parallel limbs forming the front legs **14**, their upper portions forming a back rest frame **15**. The upper portion includes a bight or cross bar **16** from which the folding back rest **13** is pivotally suspended. The lower ends of the front legs **14** are tipped with cushion caps **17** engaging the floor and they are reinforced transversely by a tubular cross brace **18** having downward end portions **20** which are flattened and curved in cross section to nest between the legs. The down-turned portions are secured by rivets **21** passing through the legs. The rear legs **11** include caps **17** and a similar cross brace **18** secured by rivets **21** as indicated in Figure 1.

As viewed from the front (Figure 2), the front and rear legs reside in the same vertical plane at opposite sides. The upper end of each rear leg includes a closure cap **22** seated in an indentation **23** formed in the intermediate portion of each limb of the main frame as shown in Figure 3. The abutting cap locks the articulated structure in erect position. The upper end of each rear leg **11** is connected to the main frame **10** at opposite sides by a link **24** having its opposite ends pivotally connected by rivets **25** and **26** to the front and rear legs.

The seat **12** resides between the legs and comprises a padded panel **27** supported by a metal flange **28** which forms the seat frame. The rearward edge of the seat includes an upstanding suspension bracket **30** at opposite sides (Figure 5), the brackets pivotally attached to the rear legs by rivets **31**. A spacer washer **32** is interposed between each rear leg and suspension bracket.

The seat frame is pivotally connected to the front legs at opposite sides by screws **33** as shown in Figure 6 Each screw **33** passes through the front leg and seat flange **28** and includes a nut **34** engaging the flange beneath the seat panel. A spacer **35** resides between the flange and front leg to provide clearance for folding the seat to its parallel position between the limbs of the main frame.

As viewed from the side in Figure 1, the front leg **14** and rear leg **11**, combined with the link **24** and seat **12**, form a modified parallelogram at each side of the chair. Since these four elements are pivotally connected at their points of intersection, they are free to be articulated relatively from the erected parallelogram formation to a collapsed position. To collapse the chair, the forward edge of the seat **12** is pivoted upwardly (Figure 8), causing its rearward edge to shift the rear legs bodily through a curved path downwardly. The relationship of the pivot points of the link and chair seat create two arcs of motion to swing the rear legs through an angle during downward motion and finally to a position parallel with the main frame when the seat is completely folded (Figure 9). The chair is most conveniently folded by grasping the cross bar **16** of the main frame with one hand and swinging the forward edge of the seat upwardly with the other hand, with the main frame in an upright position to provide clearance for the swinging movement of the rear legs.

Back rest structure

The folding back rest **13** is suspended from the cross bar **16** of the main frame by a pair of suspension rods **36—36** having their upper ends pivotally connected to the cross bar. For this purpose, the upper end of each rod is bent outwardly at right angles, then doubled over upon itself to form a hook **37** passing through a respective aperture **38** of the cross bar (Figure 7). The free end **40** of each U-shaped hook resides within the tubular cross bar and thus locks the suspension rod in the cross bar. The mounting apertures **38** are sufficiently large to provide clearance for pivotal movement of the suspension rods. The lower end of each suspension rod is curled as at **41** (Figure 3) around a swinging bail **42** also formed of rod stock. The curled ends of the suspension rods provide a pivotal connection with the bail.

As viewed from the front in Figure 2, the bail consists of a straight cross rod or bight **43** having upwardly curved limbs **44—44** at opposite ends which are pivotally connected to the upper portions of the rear legs. As detailed in Figure 5, the free end of each limb is bent to provide a horizontal pivot pin **45** passing through an aperture in the rear leg, the bail thus being pivotally engaged between the rear legs.

As detailed in Figures 3 and 4, the back rest consists of a pair of panels **46** and **47** disposed on opposite sides of the suspension rods **36** and secured in position by a series of screws **48** passing through the outer panel **47** and threaded into the inner panel **46**. The heads of the screws have washers **50** bearing against the outer panel **47**. The rods **36** are thus clamped firmly between the two panels by the screws **48**. The inner panel **46** includes a cushion or pad **49**. As viewed in Figure 4, the panel structure is curved transversely and has sufficient length (Figure 3) to create a comfortable contour. The top cross bar **16** which suspends the folding back rest has a corresponding transverse curvature.

It will be noted that the suspension rods and bail constitute the entire operating linkage for the back rest. To assemble the linkage, the hooks **37** of the suspension rods are first passed through the apertures of the cross bar **16**, then their lower ends are curled about the bail. In this way, the suspension rods are locked against turning motion about their own axes, the hooks **37** providing a self-locking action since they cannot be withdrawn from their apertures without rotating the suspension rods.

The bail may be connected to the rear legs either by springing its curved limbs **44** inwardly for insertion of their pivot pins **45** or it may be connected to the legs as they are attached to the main frame. After the linkage is assembled and installed, the two back rest panels **46** and **47** are clamped in position on the suspension rods. The clamping action of the panels locks the rods in parallel relationship and prevents their curled lower ends **41** from shifting lengthwise along the cross rod of the bail.

In the erected position shown in Figure 3, the back rest hangs suspended from the cross bar **16** by the suspension rods and the bail pivotally ties the back rest to the rear legs. When the user leans against the back rest, the force tends to swing the back rest rearwardly about

the arc of swing indicated by the arrow 51. However, the cross rod 43 of the bail tends to swing along the intersecting arc indicated by the arrow 52 thus creating a toggle effect. The rearward force acting upon the back rest is converted by the toggle effect into a compressive force acting through the curved limbs 44 of the bail, tending to bow the limbs outwardly and tending to bow the cross rod 43 upwardly. Since the bail is formed of rod stock which is slightly resilient, the application of forces in this manner causes the bail to act as a spring which imparts yieldability to the back rest. Moreover, applying the force in compression through the limbs overcomes any tendency to disconnect their pivot pins 45 from the legs because of the spreading action thus created.

As the chair is collapsed as shown in Figure 8, the upper ends of the rear legs swing downwardly through an arc as indicated by the arrow 53. This motion causes the lower end of the back rest to swing outwardly as indicated by the arrow 54. The links 24 of the chair frame coact with the bail to create a toggle action since the links and bail form opposite link elements or a toggle connection between the main frame and back rest as the rear legs move down as indicated. After the parts pass beyond a dead center position 55, as indicated in broken lines in Figure 8, the toggle motion reverses, causing the back rest to begin swinging inwardly toward the main frames as indicated by the arrow 56 in broken lines. When the rear legs reach the fully collapsed position shown in Figure 9, the bail is in a plane nearly parallel to the rear leg 11 and back rest and the back rest is folded in facial plane with the seat.

It will be observed that when fully collapsed (Figure 9), the links 24 of the chair frame have pivoted to a downward inclination almost parallel to the folded front and rear legs, the seat 12 having pivoted upwardly to a position almost parallel with the links. The folded members (front and rear legs, seat and links) thus delineate a collapsed parallelogram. In this position, the limbs 44 of the bail reside in an upward inclination opposed to the links 24. The relationship of the several pivot points is such that a limited tension force is applied to the bail as the folded back rest approaches its final position near the seat. This tension is developed by the links 24 and seat 12 as they approach the dead center position of Figure 9 and urges the back rest toward the seat, the bail being sprung lengthwise slightly. The folded components of the chair thus react with the back rest linkage to create a self-locking action which holds the back rest in its flat folded position for compact stacking.

The chair is erected for use simply by forcing the forward portion of the seat in the downward direction. This pivotal seat motion swings the rear legs upwardly and outwardly through the path described, earlier with reference to Figure 8. The upward motion of the rear legs acts in compression through the bail to swing the back rest outwardly to its extended position.

If desired, the chair may be locked in the collapsed position by springing the back rest linkage to the position shown at 57 in Figure 9. As bail and suspension rods are sprung inwardly, the bail yields slightly under endwise pressure, then snaps the linkage inwardly after passing beyond a dead center position, thereby creating a locking action and further decreasing the thickness of the collapsed unit. In order to erect the chair from this condition, it is necessary to spring the back rest linkage out beyond dead center to its original position before the seat can be pivoted down to erect the framing members.

Having described my invention, I claim:

1. A collapsible chair having a folding back rest comprising a U-shaped chair frame having a pair of spaced parallel limbs joined by a cross bar at the upper end thereof, said limbs forming the front legs of the chair, said limbs residing in an upwardly and rearwardly inclined plane, a pair of rear legs extending from said limbs intermediate the length thereof, the rear legs residing in a downwardly and rearwardly inclined plane, a respective link at opposite sides pivotally connecting the upper portion of said rear legs to said limbs, a seat residing between said limbs and rear legs in a generally horizontal plane below said links, spaced pivot elements connecting the chair seat to the limbs and rear legs at opposite sides, a back rest suspended from said cross bar and residing between the limbs of the chair frame, a bail disposed between the rear legs and having one end pivotally connected to the rear legs and having an opposite end pivotally connected to the lower portion of the back rest, the bail sustaining the back rest in a plane inclined downwardly and rearwardly from the limbs of the chair frame in an erect posture relationship substantially at right angles to the plane of the seat, said bail residing in a plane inclined downwardly and rearwardly from the rear legs at less than right angles to the plane of the back rest, said seat pivoting upwardly to a collapsed position and swinging said rear legs downwardly away from the cross bar toward the limbs of the chair frame while said links pivot the same toward a collapsed position parallel with said limbs, said bail swinging in toggle fashion relative to the rear legs and back rest, thereby pivoting the suspended back rest outwardly then inwardly toward the limbs to a folded position facially related to the seat in response to the swinging motion of the rear legs toward collapsed position.

2. A collapsible chair having a folding back rest comprising a chair frame having a pair of spaced parallel limbs joined by a cross bar at the upper end thereof, said limbs forming the front legs of the chair, said limbs residing in an upwardly and rearwardly inclined plane, a pair of rear legs extending rearwardly from said limbs, a respective link at opposite sides pivotally connecting the upper portion of said rear legs to said limbs, a seat residing between said limbs and rear legs in a generally horizontal plane below said links, spaced pivot elements connecing the seat to the limbs and rear legs at opposite sides, a back rest suspended from said cross bar and residing between the limbs of the chair frame, a back rest link element disposed between the rear legs and having opposite ends pivotally connected to the rear legs and lower portion of the back rest, the link element sustaining the suspended back rest in a plane inclined downwardly and rearwardly from the limbs of the chair frame in an erect posture relationship substantially at right angles to the plane of the seat, said seat pivoting upwardly to a collapsed position and swinging said rear legs downwardly away from the cross bar of the chair frame toward a collapsed position, said link element pivoting relative to the rear legs and back rest and pivoting the back rest toward the limbs to a folded position facially related to the seat in response to the swinging motion of the rear legs toward collapsed position.

3. A collapsible chair having a folding back rest comprising a chair frame having a pair of spaced limbs joined by a cross bar at the upper end thereof, said frame residing in an upwardy and rearwardly inclined plane and forming the front legs of the chair, a pair of rear legs extending in a downwardly and rearwardly inclined plane from the limbs of the chair frame, a respective link pivotally connecting the upper portion of each rear leg to said limbs at opposite sides, a seat residing between said limbs and rear legs in a generally horizontal plane below said links and pivotally connected at spaced points to the limbs and rear legs at opposite sides, a back rest having an upper portion suspended from the cross bar of the chair frame and residing between said spaced limbs, a bail member pivotally connecting the lower portion of the back rest to the upper portion of said rear legs at opposite sides, said bail member sustaining the suspended back rest in a plane inclined downwardly and rearwardly from the limbs of the main frame in an erect posture relationship generally at right angles to the plane of said

seat, said bail member being formed of yieldable material and imparting flexibility to the back rest in response to pressure acting rearwardly against the back rest, the chair seat pivoting upwardly to a collapsed position generally parallel with said limbs and swinging said rear legs downwardly, said limbs pivoting the rear legs to a position adjacent the limbs of the frame and generally parallel therewith, said bail member swinging the back rest toward the limbs in response to the downward motion of the rear legs, whereby the back rest is folded to a position generally parallel with said limbs with the back rest and seat in facial relationship generally parallel with the limbs when the chair is collapsed.

4. A collapsible chair having a folding back rest comprising a main frame having a pair of spaced limbs joined by a cross bar at the upper end thereof, said limbs forming the front legs of the chair and residing in an upwardly and rearwardly inclined plane, a pair of rear legs extending downwardly and rearwardly from the limbs intermediate the length thereof, a respective link pivotally connecting the upper portion of the rear legs to the limbs at opposite sides, a seat residing between the limbs and rear legs in a generally horizontal plane below said links, spaced pivot elements connecting the opposite sides of the seat to the limbs and rear legs, a back rest having an upper edge hingedly connected to the cross bar of the chair frame and suspended therefrom, a generally U-shaped bail formed of rod stock and providing a pair of arms joined by a cross rod, the outer free ends of said arms being pivotally connected to the upper portion of the rear legs and the cross rod thereof pivotally connected to the lower portion of the suspended back rest, the said bail sustaining the suspended back rest in a plane inclined downwardly and rearwardly from the inclined limbs of the chair frame in an erect posture relationship generally at right angles to the plane of said seat, said bail residing in an inclined plane between the rear legs and back rest at less than right angles to the plane of the back rest, the arc of swing of the cross rod intercepting the arc of swing of the lower portion of the suspended back rest, the suspended back rest tending to swing the cross rod in an arc upwardly in response to rearward force acting upon the back rest, the said intercepting arc of motion of the back rest and cross rod converting the rearward force by toggle action to a compressive force acting along the limbs of the bail from the cross rod thereof, the cross rod and limbs of the bail yielding and imparting flexibility to the back rest.

5. A collapsible chair having a folding back rest comprising a main frame having a pair of spaced limbs joined by a cross bar at the upper end thereof, said limbs residing in an upwardly and rearwardly inclined plane, a pair of rear legs extending rearwardly from said limbs, a respective link pivotally connecting the upper portion of said rear legs to the limbs at opposite sides, a seat residing between the limbs and rear legs in a generally horizontal plane below said links, spaced pivot elements connecting the opposite sides of the seat to the limbs and rear legs, a back rest having an upper edge hingedly connected to the cross bar of the chair frame and suspended therefrom, a generally U-shaped bail formed of rod stock and providing a pair of arms joined by a cross rod, the outer free ends of said arms being pivotally connected to the upper portion of the rear legs and the cross rod thereof pivotally connected to the lower portion of the suspended back rest, the said bail sustaining the suspended back rest in a plane inclined downwardly and rearwardly from the inclined limbs of the chair frame, said bail residing in a plane between the rear legs and back rest at less than right angles to the plane of the back rest, the arc of swing of the cross rod intercepting the arc of swing of the lower portion of the suspended back rest, the suspended back rest tending to swing the cross rod in an arc upwardly in response to rearward force acting upon the back rest, the cross rod and limbs of the bail yielding and imparting flexibility to the back rest, said seat pivoting upwardly to a collapsed position and swinging the rear legs downwardly away from the cross bar of the frame toward collapsed position, said bail pivoting relative to the rear legs and back rest and hinging the suspended back rest inwardly toward the limbs to a folded position facially related to the seat in response to the swinging motion of the rear legs toward collapsed position.

6. A collapsible chair having a folding back rest comprising a chair frame having a pair of spaced limbs joined by a tubular cross bar at the upper end thereof, said limbs forming the front legs of the chair, said limbs residing in an upwardly and rearwardly inclined plane, a pair of legs extending rearwardly from said limbs, a respective link at opposite sides pivotally connecting the upper portion of said rear legs to said limbs, a seat residing between said limbs and rear legs in a generally horizontal plane below said links, spaced pivot elements connecting the opposite sides of the seat to the limbs and rear legs at opposite sides, hook elements along the upper portion of the back rest, the tubular cross bar having apertures pivotally engaging the hook elements and suspending the back rest from the cross bar of the chair frame, a back rest link comprising a pair of arms joined by a cross rod, the outer ends of said arms being bent outwardly in opposite directions and providing pivot pins, the upper portions of the rear legs having apertures therein journalling said pivot pins, the cross rod of said link being pivotally connected to the lower portion of the back rest, the link suspending the back rest in a plane inclined downwardly and rearwardly from the inclined limbs of the rear frame, the chair seat pivoting upwardly to a collapsed position and swinging said rear legs downwardly away from the cross bar of the chair frame toward a collapsed position, said link pivoting relative to the rear legs and back rest and shifting the suspended back rest toward the limbs to a folded position facially related to the folded seat in response to the swinging motion of the rear legs toward collapsed position.

7. A folding back rest for a collapsible chair, said chair including a rearwardly inclined main frame having a tubular cross bar at the upper end thereof, rear legs pivotally linked to the frame and shiftable to a collapsed position, and a seat pivotally connected to the frame, said folding back rest comprising, a plurality of spaced, generally vertical suspension rods, each rod having an upper end portion bent angularly then doubled over upon itself in the form of a U-shaped hook having a free outer limb, the said tubular cross bar having a plurality of apertures formed therein and said free outer limbs projecting through the apertures and pivotally supporting the suspension rods, a swinging bail having a pair of arms and a cross rod, the said rear legs having apertures and the free end portion of said arms bent outwardly and forming pivot pins projecting into said apertures, the lower portion of each suspension rod curled around the cross rod of the bail and pivotally connecting the suspension rods to the bail, a pair of back rest panels clamped against the suspension rods on opposite sides, said panels holding said rods in spaced relationship, said bail sustaining the suspension rods and panels in a plane generally at right angles to the seat and in angular relation to the inclined frame, said bail swinging the suspension rods and panels to a flat position generally parallel with the frame in response to the shifting motion of the rear legs to said collapsed position.

8. A folding back rest for a collapsible chair, said chair including a main frame having a cross bar at the upper end thereof, rear legs pivotally linked to the frame and shiftable to a collapsed position, and a seat pivotally connected to the frame and disposed in a generally horizontal plane, the seat being collapsible to a position generally in alignment with the frame, said folding back

rest comprising, a plurality of spaced, generally vertical suspension rods, each rod having an upper end hingedly connected to the said cross bar, a generally U-shaped bail formed of yieldable rod stock, the bail having a pair of arms and a cross rod, the end portion of said arms being hingedly connected to the rear legs of the chair, the lower portion of each suspension rod curled around the cross rod of the bail and pivotally connecting the suspension rods to the bail, a pair of back rest panels clamped against the suspension rods on opposite sides, said panels holding said rods in spaced relationship, said bail sustaining the suspension rods and panels in a plane generally at right angles to the seat and in angular relation to the inclined chair frame, said bail yielding in response to rearward pressure upon the back rest panels and imparting flexibility to the back rest, said bail swinging the suspension rods and panels to a position generally parallel with the chair frame in response to the shifting motion of the rear legs to said collapsed position.

9. A folding back rest for a collapsible chair, said chair including a main frame having a cross bar at the upper end thereof, rear legs pivotally linked to the main frame and shiftable to a collapsed position, and a seat connected to the main frame and shiftable to a collapsed position, said foldable back rest comprising, a back rest panel having an upper portion pivotally connected to the cross bar of the frame, a back rest link having one end pivotally connected to the rear legs and an opposite end pivotally connected to the lower portion of the back rest panel, said link sustaining the suspended back rest panel in an erected position in angular relationship with the main frame and swinging the back rest panel inwardly toward the frame in response to shifting of the said rear legs to said collapsed position, whereby the back rest panel resides substantially in alignment with said frame when the chair is collapsed.

10. A folding back rest for a collapsible chair, said chair including a main frame having a cross bar at the upper end thereof, rear legs pivotally linked to the frame and shiftable to a collapsed position, and a seat connected to the frame and shiftable to a collapsed position generally in alignment with the frame, said foldable back rest comprising, a back rest panel having an upper portion pivotally connected to the cross bar of the main frame, a back rest link having one end pivotally connected to the rear legs and an opposite end pivotally connected to the lower portion of the back rest panel, said link sustaining the suspended back rest panel in an erected position in angular relationship with the main frame, said link being generally U-shaped and being yieldable in response to compressive force, said link folding the back rest panel inwardly toward the frame in response to shifting of the said rear legs and seat to the said collapsed position, said link and back rest panel normally residing in end-to-end angular toggle relationship in said folded position with the pivotal connection thereof disposed outwardly from the plane of the collapsed seat, said link compressing lengthwise by toggle action upon being forced toward the folded seat then expanding after passing beyond a dead center relationship of the link and panel, thereby forcing the back rest panel into facial relationship with the folded seat.

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