

Sept. 8, 1953

H. H. BEARDSLEY
CONVERTIBLE COT AND CAMP CHAIR

2,651,352

Filed Jan. 13, 1949

3 Sheets-Sheet 1

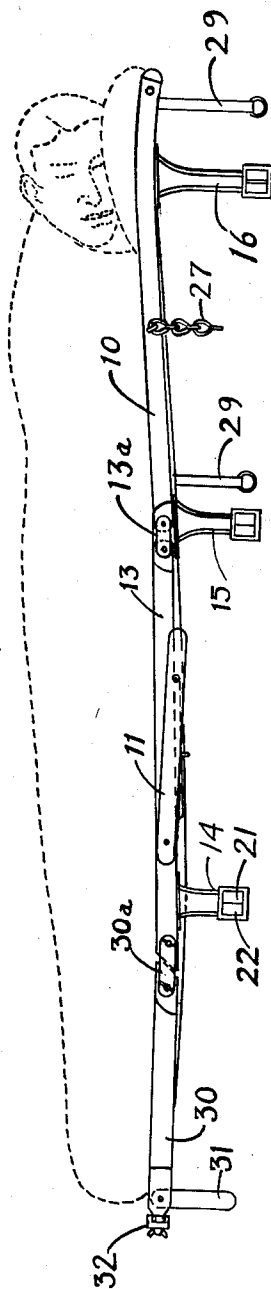


FIG. 1

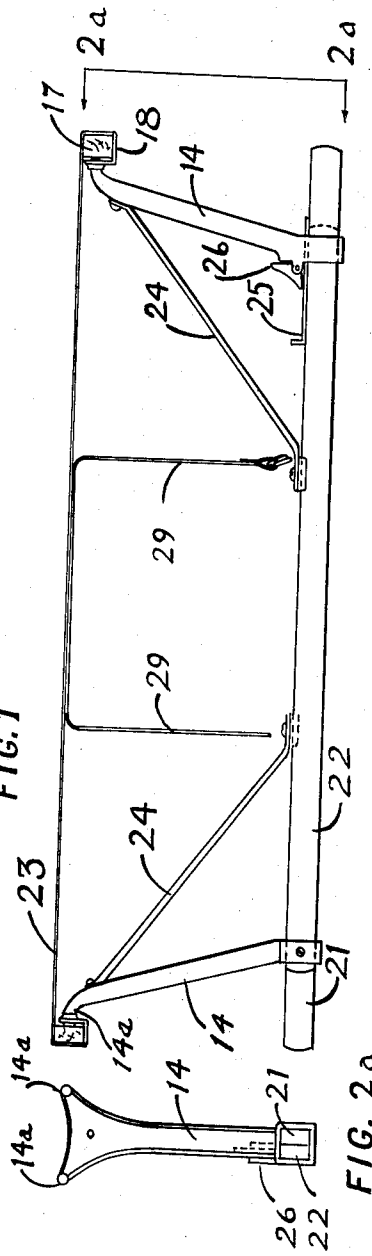


FIG. 2

INVENTOR.

HAROLD H. BEARDSLEY

BY

H. A. M. Drew
ATTORNEY

Sept. 8, 1953

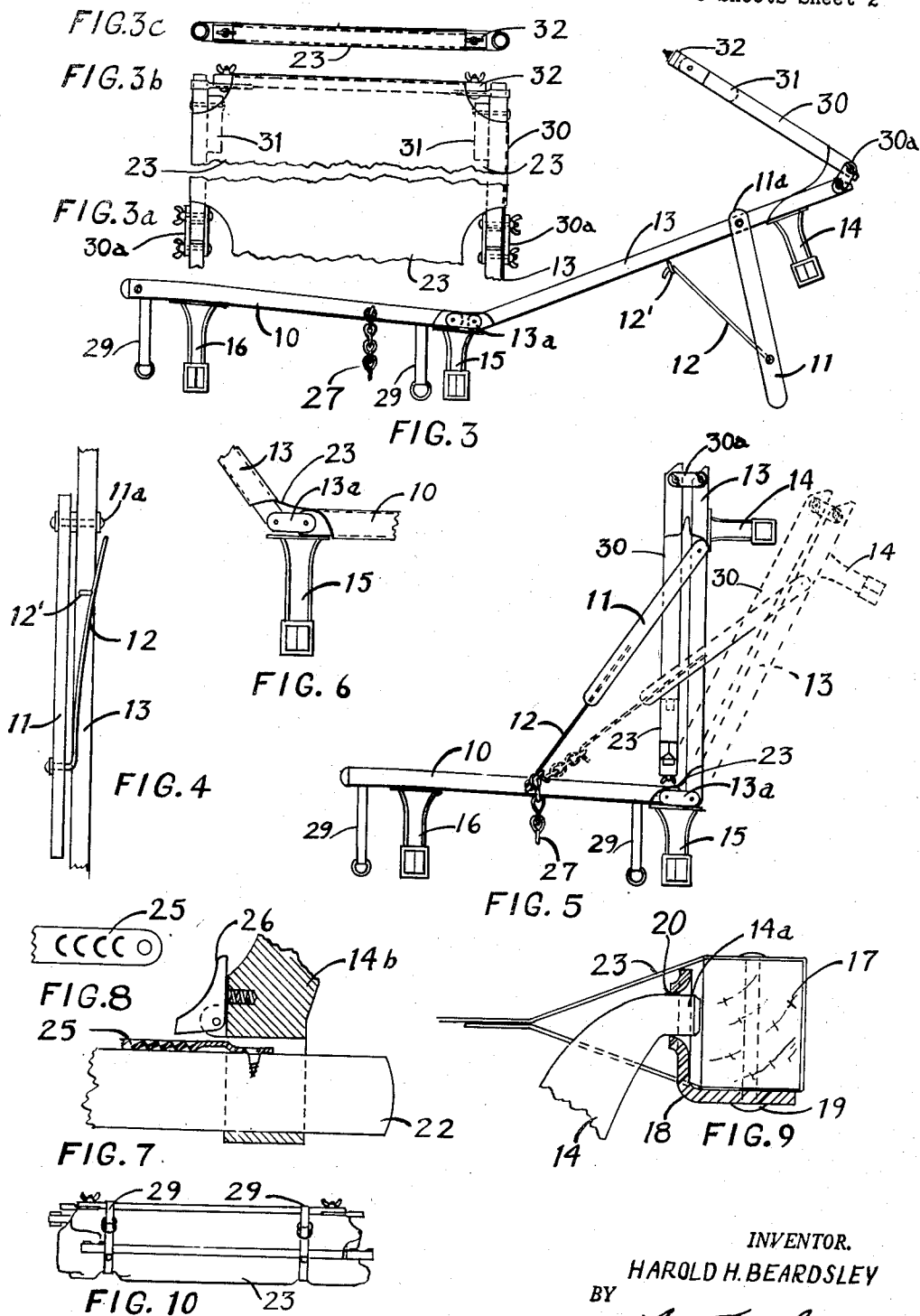
H. H. BEARDSLEY

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3 Sheets-Sheet 2



INVENTOR.
HAROLD H. BEARDSLEY
BY
H. A. McCreary
ATTORNEY

Sept. 8, 1953

H. H. BEARDSLEY
CONVERTIBLE COT AND CAMP CHAIR

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3 Sheets-Sheet 3

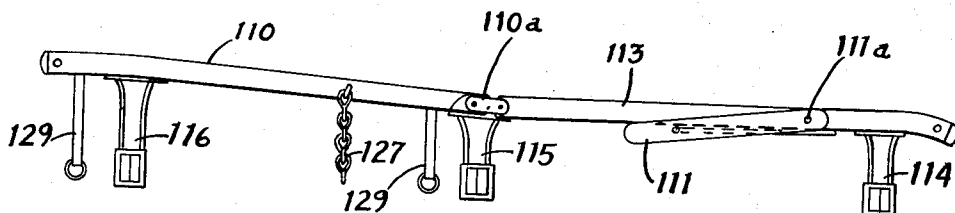


FIG. 11

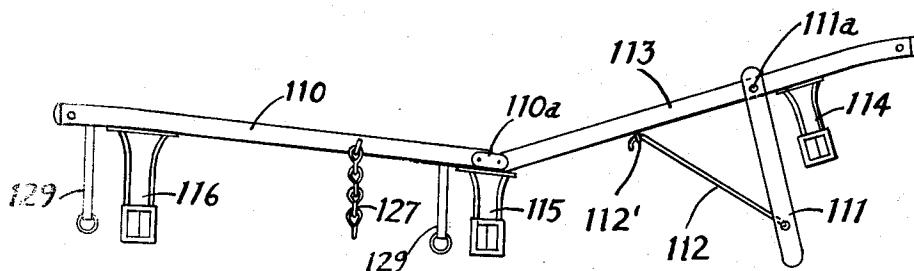


FIG. 12

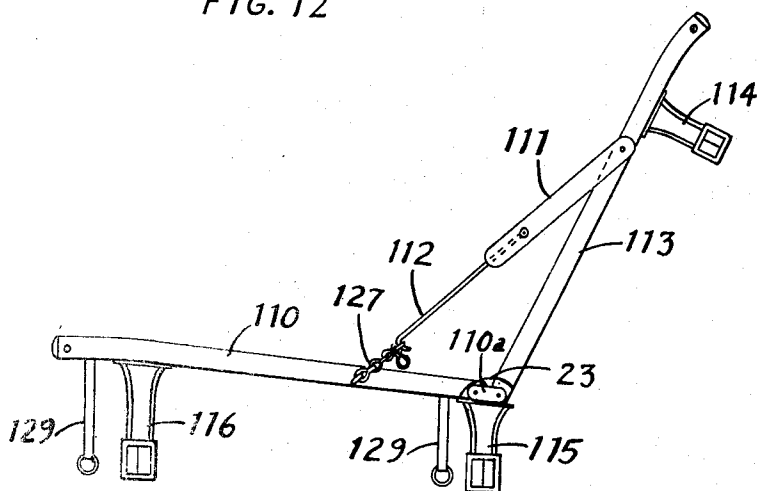


FIG. 13

INVENTOR.
HAROLD H. BEARDSLEY
BY
H. O. McGraw
ATTORNEY

UNITED STATES PATENT OFFICE

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CONVERTIBLE COT AND CAMP CHAIR

Harold H. Beardsley, Denver, Colo.

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5 Claims. (Cl. 155-47)

1

This invention relates to new and useful improvements in folding or "knock-down" furniture, and more particularly to a bed or cot which can be easily converted into a chair or couch, or vice versa and can be readily "knocked down" or folded into a compact bundle for storage and transportation.

An important object of the invention is to provide furniture of the above type which has its body supporting part composed simply of a pair of side rails and a body supporting strip or sheet of flexible material stretched between them and secured in a novel manner which also provides for the quick attachment and detachment of detachable supporting legs for storage purposes.

Another object of the invention is to provide novel leg structure for the furniture which can be easily adjusted to tension the supporting strip as desired; it being a further object to provide legs of such length and proportion that with the two-part type, the legs of the occupant may rest on the ground without discomfort.

A further object of the invention is to provide the bed structure with a component for converting it into a chair with a back which can be held upright or in reclining positions with one relation of said component, or in a further reclining couch-like position by adjusting said component to a different relation to said back.

Another and important object of the invention is to provide one form of the structure with an extra section to provide standard length for the cot to thereby support the lower limbs and feet of a person and to serve as a cover or sun shade when the structure is serving as a chair.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the accompanying drawings forming a part of the description and wherein like numerals are employed to designate like parts throughout the several views;

Fig. 1 is a side elevation of a preferred form of the invention shown set up as a cot or bed.

Fig. 2 is an enlarged end elevation of the same.

Fig. 2a is a side elevation of one of the detachable legs looking in the direction of the arrows, 2a-2a of Fig. 2, with a side rail removed.

Fig. 3 is a side elevation of the other side of the structure and showing the invention converted into a couch with a slightly reclined back or head portion and with the extra section being used as a head cover.

Fig. 3a is a fragmentary top plan view taken in the region of the joint between the back section and extra section.

2

Fig. 3b is a fragmentary plan view of the outer end portion of the extra section.

Fig. 3c is an edge view of the outer or free end of the extra section.

Fig. 4 is an elevation of a part of one of the side rails of the back portion showing the folded position of a component leg thereof.

Fig. 5 is a side elevation of the invention converted into a chair with the back and extra section thereof in an upright position shown in full lines and also shown in dotted lines in a reclining position.

Fig. 6 is a slightly enlarged side elevation of the hinged joint between the two larger sections of the body supporting part of the bed or cot.

Fig. 7 is an enlarged section of the foot of the leg showing the pawl and ratchet arrangement for holding the legs in adjusted positions to tension the body sheet.

Fig. 8 is a top plan of the ratchet of Fig. 7.

Fig. 9 is an enlarged cross section of one of the side rails of the invention showing the means for attaching the body supporting sheet thereto and for detachably connecting the legs to the rails.

Fig. 10 is a side elevation of the entire invention knocked down and rolled or wrapped into compact form for storage and transportation.

Fig. 11 is a side elevation of another form of the present invention shown set up as a cot or bed.

Fig. 12 is a side elevation of the form shown in Fig. 11 and showing the structure converted into a couch with a slightly reclined back or head portion; and

Fig. 13 is a side elevation of the form of structure shown in Figs. 11 and 12, with the back section slightly inclined rearwardly to provide a comfortable chair.

Referring now particularly to Figs. 1 through 10 of the drawings for further particulars of one form of the invention, the numeral 13 designates a back frame portion composed solely of a pair of side rails or bars 17 of wood hingedly connected by hinge links 13a to corresponding bars of a seat frame portion 10. The free ends of the bars of both the seat and back portions may be curved or contoured slightly for greater body comfort, see also Figs. 11, 12 and 13. A single strip 23 of flexible material, such as canvas or the like, forms the sole body supporting element extending the entire length of the seat and back portions 10 and 13 and is secured to the side bars 17 thereof as shown in Fig. 9 by wrapping the longitudinal margins of the strip 23 around the bars and securing these margins thereto by a series of angle irons 18 with their

3
bases secured to the bottoms of the bars 17 with rivets or screws 19. The bases of the angle members 18 firmly clamp the edges of the strip 23 against the bottoms of the bars and the rivets, as shown merely by way of example, penetrate the fabric strip or metallic eyes therein and anchor in the bars, as is clear from Fig. 9. The upright flanges of these angle members 18 are each provided with a pair of horizontally spaced apertures 20 and extend vertically in spaced relationship to the inner vertical side of its respective side bar 17 wherever a leg 14, 15 or 16 is attached to a side bar. A pair of legs 16 are attached to the curved foot ends of the side bars 17 of the seat frame 10, and another pair of legs 15 is attached to the same bars beneath the links 13a to support the inner end of the seat frame, while a third pair of legs 14 it attached to the curved head end of the bars of the back frame 13, as shown. Each leg of these three pairs of legs 14, 15, and 16 consists preferably of an aluminum casting for lightness. The upper end of each leg is widened out in Y-shape and provided with a pair of outwardly extending horns or rounded projections 14a to be detachably engaged in the pair of apertures 20 of the vertical flange of each angle member 18, one such aperture being shown in Fig. 9 of the drawings. Each leg is inclined inwardly and downwardly toward the longitudinal center line of the body supporting sheet 23 as best seen in Fig. 2 and its lower end is provided with an integral foot piece 14b (see Fig. 7) having a square opening or socket which extends transversely of the cot or chair when the leg is associated therewith. The pairs of legs 14, 15 and 16 are arranged opposite each other at opposite sides of the cot so that the foot pieces 14b of each pair of legs are in alignment transversely of the cot whereby a pair of transverse wooden strips or bars 21 and 22 can be inserted through the aligned feet of its respective pair of legs. The leg at one side of the cot is secured to the strip 22 to move therewith and this strip is provided with a ratchet plate 25 with which a spring pressed pawl 26, mounted on the foot 14b at the opposite side of the cot, cooperates, as the strip 22 is slid through this foot to adjust the tautness of the fabric strip 23. This same foot 14b receives and is secured to the strip or bar 21 which slides alongside of the strip or bar 22 and through the opening in the foot of the leg 14 at the opposite side of the cot. Thus, it will be seen that one leg 14 of the pair is secured to the strip 22, so that as the legs are moved away from each other, the strips 21 will be moved in opposed directions to cause the pawl 26 to slide over the ratchet plate 25 and automatically lock in its teeth when the desired tautness of the strip 23 is reached. When it is desired to move the pair of legs toward one another, the pawl 26 is pressed to release it from the ratchet teeth so that the interlock formed between the strips 21 and 22 is released. The legs are braced by braces 24 secured by screws to the strip which is secured to the foot of that respective leg. A fourth pair of legs 11, consisting merely of a pair of bars are pivotally connected at their upper ends at 11a to the bars of the back frame 13 adjacent the legs 14, to swing down from their folded position parallel with the bars of the frame 13, shown in Fig. 4, to the inclined position shown in Fig. 3 to engage the ground and support the back frame

13 in the inclined couch position. When so positioned, a rod 12 with one end bent and extended through each leg 11 as a pivot, is swung from the position shown in Fig. 4 to an acute angle with respect to the leg 11 so that its free hooked end may be engaged in the eye of a loop 12' extended from the bottom of each rail of the frame 13 to securely retain the legs 11 in their couch forming positions until released. These legs 11 and rods 12 are also employed to hold the back frame 13 in the more upright position shown in Fig. 5 when it is desired to convert the cot into a chair. Cooperating with these legs in such conversion is a short length of chain 27 secured to the intermediate portion of each side bar of the seat frame 10 so that any of their links can be engaged with the hooks of the rods 12 for holding the back of the chair at any desired angularity to the seat. When the conversion into a chair or couch is made, the pair of legs 14 is, of course, left attached to the back frame 13 to adjust the fabric sheet 23 of the back frame to the desired tautness for the most comfort. In any converted form of the cot or chair, any pair or pairs of the legs can be relatively adjusted to tighten or loosen the body supporting sheet of fabric 23 to the comfort of the user at the portion desired.

It is desirable for unusually tall persons to have sufficient support for their lower limbs and feet when the device is being used as a cot. For this purpose, the outer end of back section 33 is provided with a similar though shorter extension section 30 having pivotally mounted adjacent its outer end, short legs 31. The side rail members of section 30 are maintained in spaced relationship to hold the canvas 23 taut by a removable spacer or stretcher bar 32, see especially Fig. 3b. The extension or auxiliary section 30 is pivotally connected to section 13 by means of hinge links 30a. When the device is being used as a cot, section 30 extends outwardly beyond back section 13 and is supported in substantially horizontal position by its swingable legs 31. Section 30 also serves as a weather shield for the head of the occupant when the device is being used in its form as illustrated in Fig. 3 of the drawings.

By virtue of the fact that section 30 is connected to section 13 by the links 30a, section 30 may be swung into position to overlie section 13 when the device is arranged as a straight-back chair or an inclined-back chair, as indicated in full lines and in broken lines, respectively, in Fig. 5 of the drawings.

When it is desired to store or transport the invention, it can be collapsed or knocked down by simply lifting the pawls 26 and sliding the legs 14, 15 and 16 toward their complementary legs in the respective pairs to loosen the supporting sheet 23 so that the projections 14a of the legs can be disconnected from their respective angle members 18 and each leg with its attached strip 21 or 22 slipped out of the socket in the complementary foot. The legs 31 of extension or auxiliary section 30 are swung from their position of Fig. 1 to their position of Fig. 3 and section 30 is folded upon back section 13, whereupon the seat frame 10 can be folded upon the back frame 13 and auxiliary frame 30 and the individual legs, with or without their respective strips 21 or 22 and braces 24 attached or unattached, can be bundled together and wrapped or rolled up in the sheet 23 which has fastening straps 29 on its underside to be used in wrapping around the bun-

dled furniture to form a compact package as shown in Fig. 10. If it be desired to remove the legs from their respective strips 21 or 22, the screws shown holding these legs and braces on the strip can be readily removed, leaving the braces 24 attached to the legs.

With particular reference to Figs. 11, 12 and 13 of the drawings, there is shown in these figures a structure which is virtually the same in all respects as that of the preceding views, except that the auxiliary section or unit 30 has been omitted. The present structure is a combined cot and camp chair which has a seat portion, section, or frame 110 and a back section 113, the two being connected together by links 110a. The seat section 110 is provided with two pairs of legs 115 and 116 and the back section has a pair of legs 114. Back section 113 also carries a pair of legs 111 in the form of a pair of bars which are pivotally connected at their upper ends at 111a to the bars of the back frame 113 adjacent legs 114, to swing down from their folded position of Fig. 11 to the inclined position shown in Fig. 12 to engage the ground and support the back frame 113 in the inclined couch position. When so positioned, a rod 112 with one end bent and extended through each leg 111 as a pivot, is swung from the position of Fig. 11 to an acute angle with respect to leg 111 so that its free end may be engaged in the eye of a loop 112' extended from the bottom of each rail of frame 113 to securely retain the legs 111 in their couch forming positions until released. The legs 111 and rods 112 are also employed to hold the back frame 113 in the more upright position shown in Fig. 13 when it is desired to convert the cot or couch into a chair. Cooperating with these legs in such conversion, is a short length of chain 127 secured to an intermediate portion of each side bar of the seat frame 110 so that any of their links can be engaged with hooks of rods 112 for holding the back of the chair at any desired angularity to the seat. When the conversion into a chair or couch is made, a pair of legs 114 is, of course, left attached to the back frame 113 to adjust the fabric of the back frame to the desired tautness for the most comfort. In any of the converted forms of the cot or chair, any pair or pairs of legs may be relatively adjusted to tighten or loosen the body supporting sheet of fabric 23 to the comfort of the user at the portion desired.

When it is desired to store or transport the structure, it can be collapsed or knocked down in substantially the same manner as described above in connection with the collapsing of the form of the present invention which is illustrated in Figs. 1 to 10, inclusive. The canvas or other fabric sheet or covering 23 has fastening straps 129 which are similar to and used for the same purpose as straps 29 of Figs. 1 through 10.

From the foregoing description, it will be apparent that a simple, cheap, comfortable and durable piece of camp or conversion furniture has been provided which can be easily transported, set up, knocked down and adjusted to suit the comfort of the most discriminating.

Various changes in the size, shape and relationship of the parts can be resorted to without departing from the spirit of the invention.

I claim:

1. A combination cot and chair comprising a pair of frames, each composed of a pair of side

rails hingedly connected to the side rails of the other frame to fold one upon the other and to be variously angularly disposed to one another whereby to form a seat portion and a back portion, a single strip of flexible material extending lengthwise of said two portions and secured to the side rails thereof and across said hinge, legs of varying heights secured to the side rails of said two portions for supporting them in the form of a cot, a pair of additional legs pivoted to the rails of the said back portion and optionally engageable with the ground to form a couch effect with rods pivoted to said additional legs and hooked to the rails of the back portion to brace said additional legs in inclined positions and adapted to be hooked to said seat portion in alignment with said additional legs when the back portion is pivoted to a position forming a reclining back for said seat portion.

2. A combination cot and chair comprising a seat portion and a back portion hingedly connected together and adapted to be arranged substantially coplanar to form a cot or at other angles to form a chair, short lengths of chains connected to said seat portion, a pair of legs pivoted to said back portion and optionally engageable with the ground to form a couch effect, and a rod having one end angularly disposed and passed into each leg to form a pivot for the rod and a hook formed on the free end of said rod to engage said back portion to brace said legs in inclined positions, and said rods and legs being swingable to substantial alignment whereby the hooked ends of said rods may be engaged with links of said chains to adjustably retain said back portion in inclined relation with respect to said seat portion to convert into a chair.

3. A combination cot and chair according to claim 1, wherein an auxiliary frame section is added for providing greater length when the device is used as a cot and for providing a weather shield when the device is used as a chair.

4. A combination cot and chair according to claim 2, wherein an auxiliary portion is hingedly connected to the seat or back portion to provide an extension for the structure when used as a cot and to provide a weather shield for the structure when used as a chair.

5. A combination cot and chair according to claim 2, wherein an auxiliary portion is hingedly connected to the back section to provide a weather shield when the structure is used as a chair and to provide supporting means for the lower limbs and feet of an occupant when the device is used as a cot.

HAROLD H. BEARDSLEY.

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