This invention relates to new and useful improvements in adjustable lounge and chair construction.

An object of this invention is to provide improved foldable chair means adapted to be adjusted to a compact unit for storage and transportation purposes.

Another object of this invention is to provide extensible base means for adjusting the relative angularity of the headrest.

A further object of this invention is to provide locking means for securing the component thereof in a predetermined fixed relation.

A still further object of this invention is to provide extensible means for elongating the cradle or occupant recipient means.

Another object of this invention is to provide a commercially feasible device of the character described which lends itself well to common shop practices and principles in manufacture.

Other objects and features of novelty will be specifically pointed out, or will become apparent to those skilled in the art, in following the description of the preferred embodiment of the present invention, illustrated in the accompanying drawing, wherein—

Figure 1 is a perspective view of the preferred embodiment of the present invention, showing the same adjusted to be used as a reclining chair;

Figure 2 is a perspective view of the preferred embodiment of the present invention showing the same adjusted for use as a cot or bed;

Figure 3 is a perspective rear view of the invention in its folded position;

Figure 4 is an elevational end view of the invention disclosed in Figure 2;

Figure 5 is a longitudinal sectional detailed view of the invention taken substantially on the line 5—5 of Figure 3 and in the direction of the arrows;

Figure 6 is a sectional detail of construction taken on Figure 1 and on the line 6—6, in the direction of the arrows;

Figure 7 is an exploded fragmentary perspective detail of construction showing a preferred form of locking means used in connection with the present invention;

Figure 8 is a longitudinal detail of construction of the invention disclosed in Figure 2 and taken substantially on the line 8—8 thereof and in the direction of the arrows;

Figure 9 is a transverse sectional detail taken substantially on the line 9—9 of Figure 3 and in the direction of the arrows, and

Figure 10 is an enlarged perspective fragmentary detail view showing the preferred webbing attachment means and locking means used in connection with the adjustable extensible means, forming part of the present invention.

Referring now in detail to the illustrated preferred embodiment of the present invention, like reference characters are used throughout to indicate similar elements.

This invention relates to improved adjustable chairs which may be utilized for usual chair purposes as well as a bed or cot. It is noted that the invention may be provided of varying widths thereby affording a 1, 2, or more occupant supporting device. The materials of construction are preferably metallic, primarily. The cover or webbing means may be of any suitable material such as canvas, nylon, etc. with conventional wadding also used in conjunction therewith.

A substantially rectangular base is composed of two U-shaped members 10 and 12 slidably received within each other. Apertures 14 may be provided in each longer side of said rectangular base and thumbscrews 15 or other equivalent clamping means may be received in said apertures 14. Referring now to Figure 7 it is seen that the member 12 is provided with a reduced shank 18 adapted to be received in the bore of the tube 10. This provides the preferable construction of the elements since the base member is normally in the closed position while the invention is adjusted to be utilized as a chair. By this means the shoulder 20 may abut the terminal portion of the said tube member 10 thereby relieving possibilities of distortion in the locking means 16.

A pair of perches 22 are secured adjacent the terminal portions of the member 12 by welding, brazing or any suitable conventional securing means. A slot 24 is provided in each of said perches 22 for purposes which will be described hereinafter.

A cradle means, generally indicated by the reference numeral 26 forms a back rest frame and will be described at this time. A pair of tubes 28 are provided, one of which is secured to each perch 22. In the securing means associated with said tubes and said perches there may be welded (or brazed) 30 an eye bracket 30 adjacent the terminal portion of said tubes. A second pair of said eye brackets 30 are fixedly secured to the tubes 28 and a substantially U-shaped member 32 forming a seat frame is pivoted by the legs thereof thereto. Any suitable pivot means may be used, preferably a conventional rivet means 34. Pitman rods or links 38 are pivoted to the forward
end of said base member 10 and adjacent the forward end of the leg of said substantially U-shaped member. As is conventional in pitman rods, pivot means, preferably rivets 34, are utilized in the manner thereof.

Extensible means forming an extension of said tubes 28 is provided at the terminal portion of each tube 28. This extensible means consists of a substantially U-shaped bracket 40 forming a head rest frame and having a second U-shaped bracket 42, pivot thereof for the purpose of supporting the member 40 and the members 28 when the invention is utilized in a reclining position such as shown in Figure 2. The legs of said U-shaped bracket or member 40 are provided with reduced shank portions 44 which are slidably and adjustably received in the bore of the said tubes 28 and held in selected positions by the set screws 43 in the tubes 28. It is readily seen from a comparison of Figures 1 and 2 that the extension bracket 40 may be utilized in selective positions in accordance with the particular use of the invention. It might be noted at this point that each pivot used throughout the invention is preferably a conventional rivet since this construction lends well to commercial manufacture. However, if so desired other pivot means may be utilized. In Figure 3, member 42 in the proper operative relation relative to the extensible means, a pivot latch means is provided thereon. The construction of the pivot latch means is conventional in nature, consisting of a first link 48 pivotally linked to the member 40 and a second link 50 pivotally linked to the support member 42. Both of said links 48 and 50 are pivotally linked together at the free ends thereof and a latch keeper 52 is provided on said link 50 and is adapted to engage a suitable notch in the link 48. It may be seen by the construction set forth hereinabove, that various angular positions of the invention may be attained. After a selected one of said angular positions is reached, an improved latching means is utilized to lock the invention in the desired position. The said improved latching means forms an important part of the present invention and will be described at this point. An arcuate segmental gear 54 is rigidly secured to the terminal portion of each tube 28. Since the said tubes 28 are pivotally linked to the upper portion of said perches 22, the arcuate gear segment 54 will travel in a predetermined path relative to said perches. The gear segments 54 are so positioned that they extend through the said slots 24, mentioned hereinbefore. A single-piece rigid rod 56 is pivotally linked to said perches, extending therebetween. The said rod 56 engages selective teeth of the segmental gear 54 thereby constituting a latch keeper. It is apparent from an inspection of Figure 1 that said rod 56 is composed of a substantially straight portion having right-angular extensions 60 thereon and a second pair of right-angular extensions 62 integrally therewith. The last mentioned extensions 62 are adapted to be received in suitable apertures in the perches 22.

A plurality of eye members 70 are secured to the tubes 28 and the legs of the U-shaped member 32. Resilient means, preferably springs 72, are removably secured on said eye members and spring steel strips 74 are removably received on the opposite ends of the springs 72. Obviously, a resilient base or cradle is provided by this construction. A cover 76 is secured to the cross-member 18 of said substantially U-shaped element 32 and said cover is secured at the opposite end thereof to the extensible means 40. The preferred construction of said cover is to double a single strip of some suitable material such as canvas, nylon and the like and to receive wadding thereof. It provides a soft and resilient foundation to be used as the recipient of a person in utilizing the invention. The said cross-members 74 are adapted to be received between the wadding 80 and one of the portions of the preferred manner of securing the cover 76 to the member 78 and to the member 40 is as follows: A tongue 82 is secured to a reinforcing member 84 and a buckle 86 is secured to a selected portion of the cover 76 through the medium of a hook member 88. When desirous, as when the invention is used as a bed, the tongue 82 is threadingly received in the buckle 86. This construction affords a rapid, secure and inexpensive means of adjusting the cover member. When the invention is used as a chair, the excess portion of said cover 76 is simply folded over to form a pillow member.

It is deemed that an invention has been described herein capable of performing all the specifically mentioned objects as well as other ancillary objects. However, it is apparent to those skilled in the art that various changes including omission of certain positions may be made herein without departing from the spirit of the invention. Accordingly, limitation is sought only in accordance with the scope of the following claims.

Having thus described the present invention what is claimed as novel and improved is as follows:

1. An adjustable chair comprising a substantially rectangular extensible base, a substantially U-shaped member, pitman rods joined to said member and the forward end of said base, a perch secured substantially intermediate each longer leg of said rectangular base, a tube pivotally linked to each terminal portion of said perches, brackets on said tubes, means for pivoting said brackets to the legs of said U-shaped member, means for selectively locking said tubes in predetermi ned radial positions relative to said perches, a frame extensibly secured to said tubes, means for locking said frame in selected positions relative to said tubes, support means pivotally linked to said frame, means for latching said support means and a cover resiliently secured to said tubes and U-shaped member.

2. An adjustable chair comprising a substantially rectangular extensible base, a substantially U-shaped member, pitman rods joined to said member and the forward end of said base, a slotted perch secured substantially intermediate each longer leg of said rectangular base, a tube pivotally linked to each terminal portion of said perches, brackets on said tubes, means for pivoting said brackets to the legs of said U-shaped member, means for selectively locking said tubes in predetermined radial positions relative to said perches, a frame extensibly secured to said tubes, means for locking said frame in selected positions relative to said perches, support means pivotally linked to said frame, means for latching said support means and a cover resiliently secured to said tubes and U-shaped member.

3. An adjustable chair comprising a substantially rectangular extensible base, a substantially U-shaped member, pitman rods joined to said
member and the forward end of said base, a pair of perches secured substantially intermediate each longer leg of said rectangular base, a tube pivoted to each terminal portion of said perches, brackets on said tubes, means for pivoting said brackets to the legs of said U-shaped member, means for selectively locking said tubes in predetermined radial positions relative to said perches, brackets on said tubes, means for pivoting said brackets to the legs of said U-shaped member, means for selectively locking said tubes in predetermined radial positions relative to said perches, a cover resiliently secured to said tubes and U-shaped member, and said perches extending means comprising a U-shaped frame, the legs thereof slidably received in said tubes.

4. An adjustable chair comprising a substantially rectangular extensible base, a substantially U-shaped member, pitman rods joined to said member and the forward end of said base, a slotted perch secured substantially intermediate each longer leg of said rectangular base, a tube pivoted to each terminal portion of said perches, brackets on said tubes, means for pivoting said brackets to the legs of said U-shaped member, means for selectively locking said tubes in predetermined radial positions relative to said perches, a frame extensibly secured to said tubes, means for locking said frame in selected positions relative to said tubes, support means pivoted to said frame and means for latching said support means, a cover resiliently secured to said tubes and U-shaped member, and said perches extending means comprising a U-shaped frame, the legs thereof slidably received in said tubes.

5. An adjustable chair comprising a base, a seat frame, means spacing said seat frame from said base and pivotally connecting said seat frame with the front of said base, a pair of perches carried by said base, a chair back frame member pivoted to said perches, means pivotally mounting said seat frame on said chair back frame member, a locking device mounted on chair back frame member and said perches locking said chair back frame member in selected positions, and a cover secured to said seat frame and said chair back frame member, a head rest frame having legs forming a part of said chair back frame member, and extendible means attaching said head rest frame to the remainder of said chair back frame member.

6. An adjustable chair comprising a base, a seat frame, means spacing said seat frame from said base and pivotally connecting said seat frame with the front of said base, a pair of perches carried by said base, a chair back frame member pivoted to said perches, means pivotally mounting said seat frame on said chair back frame member, a locking device mounted on chair back frame member and said perches locking said chair back frame member in selected positions, and a cover secured to said seat frame and said chair back frame member, a head rest frame having legs forming a part of said chair back frame member, and extendible means attaching said head rest frame to the remainder of said chair back frame member.

7. An adjustable chair comprising a base, a seat frame, means spacing said seat frame from said base and pivotally connecting said seat frame with the front of said base, a pair of perches carried by said base, a chair back frame member pivoted to said perches, means pivotally mounting said seat frame on said chair back frame member, a locking device mounted on chair back frame member and said perches locking said chair back frame member, a head rest frame having legs forming a part of said chair back frame member, and extendible means attaching said head rest frame to the remainder of said chair back frame member.
mounting said legs on said head rest frame, locking means releasably retaining said legs in the operative position.

12. An adjustable chair comprising a base, a seat frame, means spacing said seat frame from said base and pivotally connecting said seat frame with the front of said base, a pair of perches carried by said base, a chair back frame member pivoted to said perches, means pivotally mounting said seat frame on said chair back frame member, a keeper pivoted to at least one of said perches engaging said gears and retaining said chair back frame member and said seat frame in selected adjusted positions, and a cover secured to said chair back frame and said seat frame, a head rest frame having legs and forming a part of said chair back frame member, means pivotally mounting said legs on said head rest frame, locking means releasably retaining said legs in the operative position, said chair back frame member pivoted to said perches including a pair of perches, means engaging said legs to said head rest member disposed in the bores of said tubes thereby extensibly mounting said head rest member with respect to the remainder of said back rest frame member.

13. A reclining collapsible chair comprising a pair of detachably connected sections forming a base, a substantially U-shaped seat frame having legs and a web, pitman rods secured to the forward portion of one of said sections and to the forward portions of said legs, perches having slots therein and fixed to the other of said section, tubes having ends, means intermediate the ends of said tubes pivotally attaching said tubes to said perches, the ends of said legs pivoted to said tubes, gears attached at one pair of ends to said tubes and disposed in said slots, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, and a cover disposed on said web and carried by said tubes.

14. A reclining collapsible chair comprising a pair of detachably connected sections forming a base, a substantially U-shaped seat frame having legs and a web, pitman rods secured to the forward portion of one of said sections and to the forward portions of said legs, perches having slots therein and fixed to the other of said section, tubes having ends, means intermediate the ends of said tubes pivotally attaching said tubes to said perches, the ends of said legs pivoted to said tubes, gears attached at one pair of ends to said tubes and disposed in said slots, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps.

15. A reclining collapsible chair comprising a pair of detachably connected sections forming a base, a substantially U-shaped seat frame having legs and a web, pitman rods secured to the forward portion of one of said sections and to the forward portions of said legs, perches having slots therein and fixed to the other of said section, tubes having ends, means intermediate the ends of said tubes pivotally attaching said tubes to said perches, the ends of said legs pivoted to said tubes, gears attached at one pair of ends to said tubes and disposed in said slots, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps.

16. A reclining collapsible chair comprising a pair of detachably connected sections forming a base, a substantially U-shaped seat frame having legs and a web, pitman rods secured to the forward portion of one of said sections and to the forward portions of said legs, perches having slots therein and fixed to the other of said section, tubes having ends, means intermediate the ends of said tubes pivotally attaching said tubes to said perches, the ends of said legs pivoted to said tubes, gears attached at one pair of ends to said tubes and disposed in said slots, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps, a substantially U-shaped seat frame having shanks attached thereto and slidably disposed in the bores of said tubes thereby rendering said seat frame extensible with respect to said tubes.

17. A reclining collapsible chair comprising a pair of detachably connected sections forming a base, a substantially U-shaped seat frame having legs and a web, pitman rods secured to the forward portion of one of said sections and to the forward portions of said legs, perches having slots therein and fixed to the other of said section, tubes having ends, means intermediate the ends of said tubes pivotally attaching said tubes to said perches, the ends of said legs pivoted to said tubes, gears attached at one pair of ends to said tubes and disposed in said slots, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps, a substantially U-shaped seat frame having shanks attached thereto and slidably disposed in the bores of said tubes thereby rendering said seat frame extensible with respect to said tubes, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps, a substantially U-shaped seat frame having shanks attached thereto and slidably disposed in the bores of said tubes thereby rendering said seat frame extensible with respect to said tubes, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps, a substantially U-shaped seat frame having shanks attached thereto and slidably disposed in the bores of said tubes thereby rendering said seat frame extensible with respect to said tubes, a keeper pivoted to said perches engaging said gears to retain said tubes and said seat frame in selected positions, a cover attached at one end to said web, straps, springs securing said straps to said tubes and said cover being supported by said straps.
movement, perches fixed to the other section and having said back rest frame pivoted thereto, a gear segment secured to said back frame at one end thereof, a keeper operatively engaging said gear segment and pivotally attached to said perches retaining said seat frame, said chair back frame and head rest frame in selected adjusted positions, a cover fixed at its ends to said seat frame and said head rest frame, and resilient means carried by said chair back frame supporting said cover.

19. In a chair structure, a pair of substantially U-shaped sections, means detachably connecting the legs of said U-shaped sections to form a chair base, a chair seat frame, a chair back frame and a head rest frame, means pivotally attaching said seat frame to said back frame intermediate its ends, pitman rods fixing said chair seat frame to one of said sections for pivotal movement, perches fixed to the other section and having said back rest frame pivoted thereto, a gear segment secured to said back frame at one end thereof, a keeper operatively engaging said gear segment and pivotally attached to said perches retaining said seat frame, said chair back frame and head rest frame in selected adjusted positions, a cover fixed at its ends to said seat frame and said head rest frame, and resilient means carried by said chair back frame supporting said cover, legs pivoted to said head rest frame adapted to support said head rest frame when adjusted to the substantially horizontal position, and latching devices attached to said head rest frame and said last mentioned legs retaining them in the operative position, and means extensibly fixing said head rest frame to said back rest frame including shanks, and bores in said back rest frame receiving said shanks, at least one of said perches having a slot, and said gear disposed in and guided by said slot.

22. An adjustable chair comprising a pair of substantially U-shaped sections, pins at the ends of the legs of one section, bores in the ends of the legs of the other section, said pins being disposed in said bores, a screw in one of said sections and engaging said pins in the other of said sections and retaining said sections assembled to form a base, a substantially U-shaped seat member, pitman rods secured to said member and the forward end of said base, a pair of perches secured intermediate the forward and rear end of said base, a tube pivoted to each of said perches, means pivoting said U-shaped seat member to said tubes, locking means carried by said perches and said tubes for locking said seat member and said tubes in selected pivoted positions, a cover secured to said seat member, and resilient means secured to said tubes supporting said cover.

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