ABSTRACT OF THE DISCLOSURE

The disclosure describes an articulated, portable, collapsible beach chair and cot which can be set up in various ways on a sand beach to serve as a chair or as a cot or as both a chair and a cot. This “chair-cot” has a plurality of rectangular sections connected by hinge joints so that the sections can be rotated at various angles to each other. Clamps are provided for locking the sections in fixed angular positions to each other. One or more rails can be extended outwardly at one side of the chair or cot while another section at the other end serves as a seat or pillow, and still other sections serve as a seat back or a support for the sun shade.

The invention concerns a combination beach chair and cot herein designated as a “chair-cot.”

Collapsible, portable chairs and cots have heretofore been known. However none has been adaptable for use optionally as a chair or cot directly on a sand beach supporting surface, in the versatile, adjustable and simple manner of the present invention.

It is therefore one object of the invention to provide a chair-cot comprising a plurality of sections or panels defined by rectangular frames with webs extending across the frames, and with clamping hinges joining the sections for locking them in angular positions with respect to each other.

Another object is to provide a chair-cot of the character described, with a detachable mat which can extend from one end section arranged to serve as a seat or pillow.

Another object is to provide a chair-cot of the character described, in which the clamping hinges are integral with rails of the frames or are arranged as separate attached hinge members.

Another object is to provide a chair-cot as described, wherein the entire chair-cot can be collapsed into a compact pile, with the mat wound around the pile and tied for convenience in carrying and storage.

Further objects and advantages of the invention will become apparent from the following detailed description taken together with the drawing, wherein:

FIG. 1 is a perspective view of a chair-cot embodying the invention arranged for use as a beach chair.

FIG. 2 is an exploded perspective view of parts of the chair-cot.

FIG. 3 is a fragmentary perspective view of the chair-cot similar to a part of FIG. 1, but showing another arrangement of sun shade.

FIG. 4 is a perspective view of the chair-cot shown set up for use as a beach chair or as a beach cot.

FIG. 5 and FIG. 6 are perspective views of the chair-cot shown arranged in two ways for use as a cot.

FIG. 7 is a view of the chair-cot in completely collapsed and tied condition arranged as a portable package.

FIG. 8 is an exploded perspective view similar to portions of FIG. 2, showing parts of another chair-cot having a different hinge joint structure.

Referring first to FIGS. 1 and 2, there is shown a chair-cot 10 having a plurality of articulated generally rectangular sections 11–15. Section 11 serves as a seat or head-rest. This section has a rather rectangular pillow 16 disposed between two parallel rails 18. Long bolts 20 extend through holes 19 in the rails and are secured by nuts 21 and washers 22. The bolts extend transversely through the pillow near opposite ends thereof. The pillow may have a resilient filler 24 made of foam rubber or plastic, and an outer fabric or sheet plastic cover 25.

Extending from the outer edge of the pillow is a narrow flap 26 on which are spaced small fastener elements 28. These elements detachably engage with mating fastener elements 30 on a rectangular pad 32. The pad can be extended outwardly of the pillow on a beach while the pillow rests on the surface of the sand. Rails 18 will then be in a horizontal position shown in FIG. 1.

Section 12 of the chair-cot has two parallel rails 33 joined by two spaced round cross rods or bars 34, 35. Engaged on and around the bars between the rails 33 is a sheet plastic or fabric 36. The web is omitted from FIG. 2. The web can have abutted ends provided with eyelets or holes 37 in which is engaged a removable cord or facing 38. Alternatively the ends of the web can be stitched together. As further alternatives the web can be made of woven straw or reeds bound on the cross bars, or the web can be made of interwoven plastic strips secured to the rails and cross bars. The rails and cross bars define a rectangular frame. The entire section is light in weight but very strong. Rails 33 have inner recesses 39 formed on ends 41 thereof. The inner sides 42 of the recesses are formed with inwardly projecting ridges 43 extending radially of holes 44. Rails 18 of section 11 have recesses 45 formed in ends 46. Ridges 47 extend out of inner sides 48 of rail ends 46. Ridges 47 extend radially of holes 49 in rail ends 46. The recessed end 41 of rails 33 are abutted to outwardly recessed ends 46 of rails 18. Bolts 50 extend through registering holes and are engaged by wing nuts 51 which can be manually tightened or loosened. By the arrangement described, the parallel rails 33 can be disposed in any desired angular position with respect to rails 18 and can be locked in position by tightening the wing nuts on the bolts. Then the ridges 43 on ends 41 of rails 33 will interfit and engage with the ridges 47 of rails 18 in order to insure effective engagement between the ends of rails 33 and 18. When the wing nuts are tightened sections 11 and 12 will be securely locked together in desired relative angular position. In FIG. 1 the section 12 is shown held rigidly upright or about 90° to horizontal section 11. The recesses 39 and 45 should be deep enough so that the thin ends 41 and 46 of the rails can flex while the ridges 43 and 47 snap passed each other as the section 12 is turned with respect to section 11 on bolts 50 after the wing nuts are loosened. The upper or other ends 54 of the rails 33 have outer recesses 55 formed with outwardly projecting ridges 56 disposed radially of holes 58. These ridges interfit and engage with ridges 59 formed on ends 60 of rails 62 at the sides of section 13. Rails 59 are disposed on inner sides 61 of recesses 67 in rail ends 60 and extend radially of holes 63 in the rail ends. Bolts 64 are extended radially through the registering holes 56, 63 and are held by wing nuts 66. By this arrangement section 13 can be turned and locked to section 12 in any desired angular relationship. Section 13 has a web 68 engaged on and around cross bars 70, 70' near opposite ends 72, 72' and 72. A further cross bar 71 can be centrally located to help support web 68. Rails 62 and cross bars 70, 70' and 71 are connected together to form a rigid rectangular frame.

Ends 60 of rails 62 are widened and have ledges 72 formed thereon for a purpose to be described. The other ends 74 of rails 62 are also widened and are formed with recesses 75 laterally offset like ledges 72. In recesses 75 are ridges 76 disposed radially of holes 77.

Section 14 has rails 80 which are narrower than rails 62 and which are approximately as wide as ledges 72 and recesses 75. Rails 80 are less than half as long as rails
3

62. Ends 82 of the rails 80 have recesses 83 in which are ridges 84 disposed radially of holes 85 and facing outwardly of the rails. Bolts 86 extend through registering holes 77, 85 and are held by wing nuts 87. Ridges 84 engage with ridges 76 in recesses 75 so as to hold the section 14 in any desired angular position with respect to section 13. Section 14, when webbed on cross bars 89 joining rails 80 to form a rigid rectangular frame for section 14.

Section 14 has recesses 90 formed on the other ends 80 of rails 80. In these recesses are ridges 91 extending radially of holes 92 and facing inwardly of rails 80. Engaging with ridges 91 are ridges 94 formed in recesses 95 of rails 96. Ridges 94 are disposed radially around holes 97 and face outwardly. Bolts 98 extend through registering holes 92 and 97 and are secured by wing nuts 99. Rails 96 of section 15 have cross bars 100 forming a rigid rectangular frame structure. The recesses 90 and 95 are deep enough so that the rail ends are flexible and the ridges can snap passed each other when sections 14 and 15 are turned with respect to each other after the wing nuts 99 are loosened. A web 102 is engaged on cross bars 99. Rails 96 are less than half as long as rails 62. The combined length of rails 96 and 98 are approximately equal to the distance between recesses 75 of rails 80 ends 76 and ledges 72. Rails 96 are as narrow as rails 80. By this arrangement, sections 14 and 15 can be juxtaposed to rails 62, either to overlay section 13 as shown in FIG. 4 or to underlay section 13 as shown in FIG. 6.

In FIG. 1, section 13 extends upwardly to define with section 12 a back for the chair-cot which can be used in this arrangement as a beach chair. Sections 14 and 15 are disposed almost horizontally and serve as a sun shade. They extend over the seat defined by horizontal section 11 which rests on the sand or ground. Pad 32 extends horizontally outward to cover the sand so that the sitter can rest his legs on the pad.

FIG. 3 shows only the upper part of chair-cot 10, with section 14 disposed parallel to section 13 to define a higher back for the beach chair. Section 15 alone extends horizontally to serve as a head cover or sun shade.

FIG. 4 shows the chair-cot arranged to serve as a chair or cot. The pillows 16 can serve as a seat, while pad 32 serves as a leg rest and section 12 serves as a rearwardly slanted back rest. Section 13 is inclined downwardly and outwardly from section 12 in an inverted V-shaped arrangement. Sections 14 and 15 can be planar with each other and are abutted to the outer side of section 13. If the chair-cot is arranged as shown in FIG. 4 is to serve as a cot, then pillow 16 will serve as a head rest while the user reclines on the outstretched pad 32.

If the chair-cot is to be used as a cot with a sun shade, then section 12 will be tilted forwardly from its position in FIG. 4 and will be locked in that position as shown in FIG. 5. Sections 13, 14 and 15 will all be extended forwardly over section 11 and part of pad 32 to serve as a shaded extension length.

If a shortened sun shade is desired for the chair-cot when used as a cot, then sections 14 and 15 can be turned under horizontal section 13 as shown in FIG. 6 and locked there by tightening wing nuts 87 and 99.

In all arrangements of the chair-cot described, the pad 32 can be removed if desired by disengaging the snap fasteners, or the pad can be turned underneath section 11 which serves as seat or head rest.

FIG. 7 shows that the entire chair-cot can be collapsed to a small compact size for convenient portability. It will be noted that pad 32 has holes 106 at its four corners. These holes can be reinforced by eyelets or grommets. Cords 110 can be inserted in certain ones of the holes when the chair-cot is to be collapsed to the condition shown in FIG. 7. Sections 12 will be rotated around underneath section 11. Sections 14 and 15 will be abutted to section 11. Then section 11 will be rotated around to abut section 12. In this arrangement, section 11 will be located at one side of the collapsed chair-cot and sections 14, 15 will be located at the other side. Pad 32 can then be wrapped around the abutted sections. Marginal portions of pad 32 will be turned outwardly to expose holes 106. Cords 110 can then be inserted in pairs of holes 106 and used to tie the abutted corners of the rolled up pad. A long cord 112 can be inserted in other holes 114 spaced from corner holes 106 at the outer end of pad 32. Cord 112 can be tied around the entire collapsed assembly as clearly shown in FIG. 7, and loop 115 will serve as a carrying handle.

FIG. 7 shows that the entire chair-cot can be collapsed similar to chair-cot 10 and corresponding parts are identically numbered. In this chair-cot, a separate flexible hinge plates 120, 122 are provided for the mutually engaged ends of rails 18a, 33a of sections 11a and 12a. These plates are set in recesses 124, 125 formed in ends of the rails. The plates are secured by rivets or by bolts 126 and nuts 128. Facing sides of the abutted hinge plates have interlocking projecting ridges 47, 43 which lock together when wing nuts 51 are tightened on bolts 50. The joints on all the rails of the chair-cot 10 can be made in the same way as shown in FIG. 8. This arrangement may be desirable when the bars are made of inflexible material. However, if operation will be the same.

The wing nuts will lock the several sections claiming the chair-cot in any desired angular position to each other.

It should be understood that a wide variety of materials can be used for fabricating the several parts of the chair-cot. The frames of the several sections defined by the rails and cross rods or bars can be made of wood, metal, plastic or other rigid material. Among metals there is available a choice of aluminum, steel, copper, brass, etc. The rails and cross rods can be made of solid bars or of hollow tubing. The covers of the seat, the webbing of the several sections, and the mat can be made of cloth, plastic, straw or other sheet material. The pillow 16 can be filled with foam rubber or plastic. Alternatively it can be filled with kapok, or other resilient materials. If desired the pillow can have an air-filled rubber or plastic casing. Various other ways than lacing or stitching can be used to mount the webbing to the several rectangular sections. For example, it can be stapled, eyeleted, or snap fastened. A substitute for the snap fasteners removable attaching the mat to the pillow section 11. Other hinge parts and fasteners for the hinge parts can be used. If desired wing-nuts can be provided on just one side of some or all sections if the resulting one-sided clamping structure is strong enough to hold the joined sections in rigid angular disposition as explained above.

The chair-cot can be made up to accommodate two persons by making it wider. If desired two identical chair-cots as shown in FIG. 1 can be used to accommodate two persons. The two chair-cots can have a single wide mat attached to both chair-cots. This wide mat will then serve as a wrapper for both chair-cots after they are individually folded or collapsed and placed side-by-side or one on top of the other.

Other arrangements, structural details and materials can be used in place of those already described which are presented only as exemplary. The invention is to be construed as limited only by the appended claims.

What is claimed and sought to be protected by Letters Patent is:

1. A beach chair and cot, comprising a plurality of sections, each of said sections having a rectangular frame, a pillow secured in the frame of a first one of the sections; a plurality of webs mounted across all the other frames respectively; a hinge means connecting all the frames successively together end to end in a chain so that the sections can be rotated with respect to each other; clamping means associated with the hinge means for locking the sections in fixed angular positions with respect to each other, said first one section being located at one end of the chain to serve as a seat when disposed horizontally,
3,404,915

a second section connected to said first one section being disposable upright to serve as a seat back, a third section connected to the second section being extensible upwardly to serve as an extension of the seat back, a fourth section connected to the third section being extensible upwardly to serve as a further extension of the seat back and being disposable horizontally over said first one section to serve as a sun shade, and a fifth section connected to the fourth section being disposable horizontally to serve as an extension of the sun shade.

2. A beach chair and cot as recited in claim 1, further comprising a flexible rectangular mat; quick detachable fastener means engaging one end of said mat to said one section so that the mat can be extended horizontally outward from said one section to serve as a cover on the beach while the pillow serves as a head rest for a person lying on the mat; and tying means at the other end of the mat, so that the mat can be wrapped around all the sections when they are abutted to each other to form a compact assembly, and so that the mat can be tied to form a package for convenient portability and storage.

3. A beach chair and cot as recited in claim 1, wherein the frames comprise parallel side rails, said hinge means comprising extensions of the rails rotatably abutted to each other, and said clamping means comprising manually operable members for locking the abutted rail extensions together.

4. A beach chair and cot as recited in claim 3, wherein said clamping means further comprise projections formed on abutted rail extensions, said projections engaging with each other when the manually operable members are tightened.

5. A beach chair and cot as recited in claim 3, wherein said clamping means further comprise projections formed on abutted rail extensions and engageable with each other when said manually operable members are tightened, said rail extensions being sufficiently flexible to permit the projections thereon to snap passed each other when the sections are rotated with respect to each other.

6. A beach chair and cot as recited in claim 1, wherein the frames comprise parallel side rails, said hinge means comprising separate plates secured to and extending from ends of the rails, the plates on successive sections being rotatably abutted to each other, said clamping means comprising manually operable members for engaging abutted plates together.

7. A beach chair and cot as recited in claim 6, wherein said clamping means further comprise projections formed on abutted plates and engageable with each other when the manually operable members are tightened.

8. A beach chair and cot as recited in claim 7, wherein the plates are flexible to permit the projections to snap passed each other when the sections are rotated with respect to each other while the manually operable members are loosened.

9. A beach chair and cot as recited in claim 1, wherein the fourth and fifth sections have lengths less than half the length of the third section, so that the fourth and fifth sections can be abutted in coplanar relationship to each other to the third section.

10. A beach chair and cot as recited in claim 2, wherein the frames comprise parallel side rails, and cross bars joining the rails; said hinge means comprising extensions of the rails rotatably abutted to each other; and said clamping means comprising manually operable members for locking the abutted rail extensions together.

References Cited

UNITED STATES PATENTS

D. 116,558 9/1939 Ficks 297—17
2,031,109 2/1936 Kersten 297—373
2,290,786 7/1942 Varady 5—344
2,946,067 7/1960 Wolshin 5—344

FOREIGN PATENTS

820,477 11/1951 Germany.
570,798 12/1957 Italy.

FRANCIS K. ZUGEL, Primary Examiner.