Jan. 16, 1934. M. J. BYER 1,944,064

FOLDING COT

Filed May 22, 1933

Fig. 1.

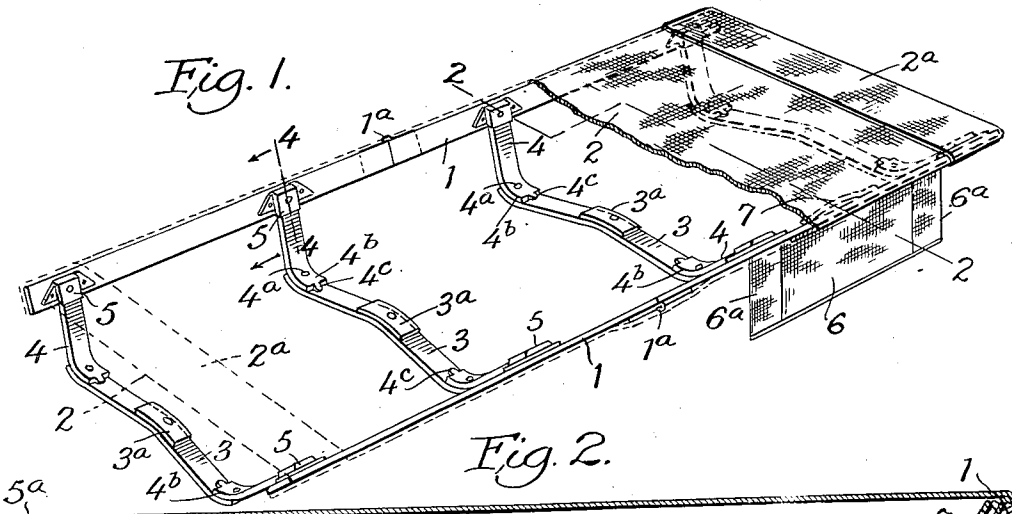


Fig. 2.

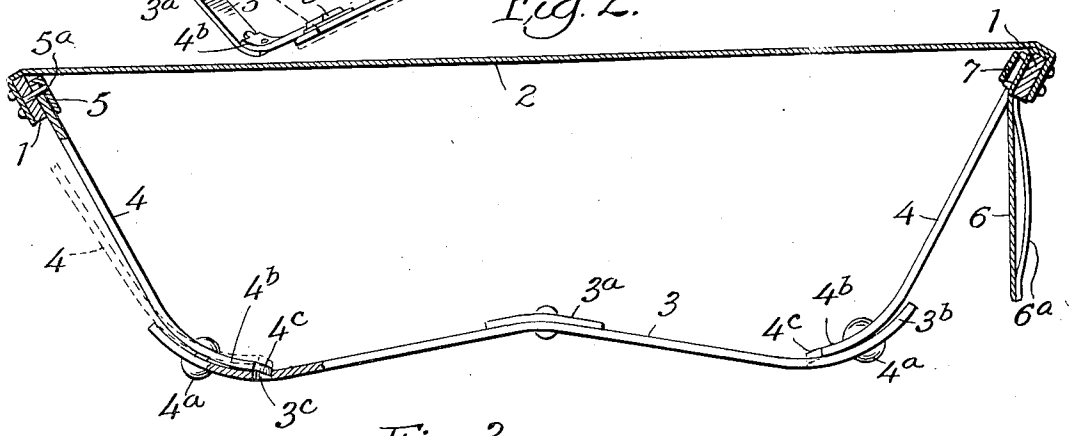


Fig. 3.

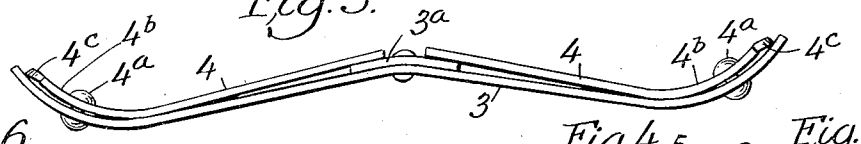


Fig. 6.

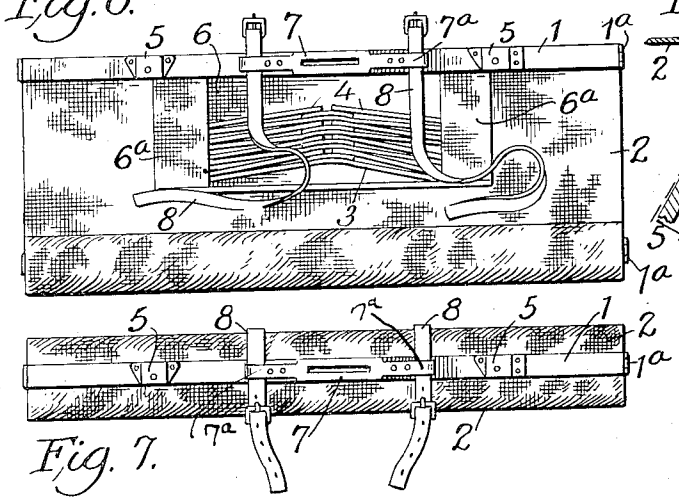


Fig. 7.

Fig. 4.

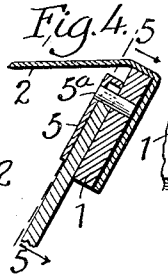
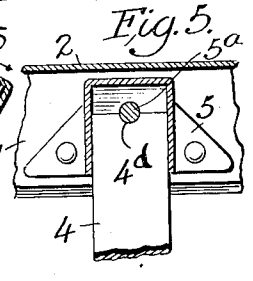


Fig. 5.



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FOLDING COT

Moses J. Byer, Orono, Maine

Application May 22, 1933. Serial No. 672,285

3 Claims. (Cl. 5—114)

This invention relates to improvements in folding or collapsible cots, beds, or the like, such as used by campers, consisting of side bars to which the side edges of the flexible sheet forming the body support is attached, the side bars being hinged or otherwise constructed for folding or collapsing into comparatively small size when not in use; and the principal object of the invention is to provide novel supports for the side bars tending to yieldably separate the side bars to stretch the flexible sheet and at the same time support the stretched sheet above the floor, said supporting members being made of spring steel, or other resilient material, formed into approximate W-shape, the ends of the supports being splayed outwardly with their upper ends detachably secured in sockets on the side bars, the splayed ends being separate members swiveled to the W-shaped support whereby the supporting members may be folded compactly when not in use; also to provide novel means for locking the splayed end members in alignment therewith.

Further objects of the invention are to provide a substantially flat W-shape having rounded angles and having a spring leaf reinforcement at its rounded apex, and the splayed swiveled end members conforming substantially in contour with half the width of the W-shaped member, the end members being adapted to be turned from a position overlying their respective halves of the W-shaped member into a position in alignment with the W-shaped member, with means for maintaining the members in alignment when the supports are attached to the side bars; also to provide a novel pocket formed of flexible material connected with one of the side bars, whereby when the legs are detached, and the side bars folded, the legs may be folded and placed in the pocket and the entire cot rolled into a cylindrical package of small diameter and of length equal to half the length of the side bars; also to provide novel straps and hand grip attached to the side bar adjacent the pocket whereby the rolled package may be held together and readily carried from place to place.

I will explain the invention with reference to the accompanying drawing which illustrates one practical embodiment thereof to enable others familiar with the art to adopt and use the same; and will summarize in the claims, the novel features of construction, and novel combinations of parts, for which protection is desired.

In said drawing:—

Fig. 1 is a perspective view of a folding cot with the canvas body support partly removed to show the arrangement of supports; also showing the pocket.

Fig. 2 is an enlarged section on the line 2—2, Fig. 1, showing in dotted lines one end of the support tilted to disengage the aligning means.

Fig. 3 is a view of the support, detached, showing the support folded.

Fig. 4 is an enlarged section on the line 4—4, Fig. 1.

Fig. 5 is a section on the line 5—5, Fig. 4.

Fig. 6 is a plan view showing the cot folded and partially rolled up, and showing the folded supports in the pocket.

Fig. 7 is a view showing the folded cot completely rolled up, with the straps applied.

As shown in Fig. 1 the folding cot preferably comprises a pair of side bars 1, each preferably consisting of two aligned sections of equal length secured together by hinges 1*a* applied to the outer faces of the sections. The side bars are preferably made of wood, but may be made of any other desired material. Between the spaced side bars 1 is stretched a fabric canvas or other flexible body support 2, having its side edges preferably folded back upon itself and secured by tacks or nails to the outer faces of the side bars 1, the fabric extending over the hinges 1*a*. The fabric is preferably non-stretchable and limits the separation of the side bars 1. Preferably the ends of the fabric 2 are folded back upon itself as at 2*a* in order to reinforce the ends of the fabric at the ends of the cot.

Side bars 1 are supported by a plurality of yieldable supports consisting of substantially flat W-shape bars 3 or spring metal or other resilient material having rounded angles and having reinforcing plates 3*a* in the form of spring leaves applied at their rounded apexes by means of rivets, said plates 3*a* limiting the flexibility of the bars 3 at their centers. The ends of the sections 3 are rounded upwardly as at 3*b*, and splayed end bars or members 4 are swiveled to the upturned portions 3*b* by means of rivets 4*a*, the splayed end members 4 each substantially conforming in contour with half of the W-shaped bars 3, as shown in Fig. 3, and adapted to extend upwardly and outwardly to engage sockets 5 mounted upon the inner faces of side bars 1. The connection between the members 3 and 4 is preferably loose, whereby a slight rocking motion is permitted members 4, as indicated by dotted lines in Fig. 2, and the lower ends of the members 4 are rounded as at 4*b* to substantially conform with the curvature of the rounded ends 3*b* of bars 3; and at the lower end of each mem-

ber 4 is an integral tooth 4c having a slight downward deflection as illustrated in Fig. 2, each tooth being adapted to engage a depression or perforation 3c in the bar 3 when the arm 4 is aligned with bar 3 and the outer end of the members 4 pulled inwardly, the engagement of tooth 4c in the depression or hole 3 maintaining the bars 3 and 4 in axial alignment when the supports are in use. Preferably the upper ends of end bars 4 are provided with recesses 4d, Fig. 5, to engage pins 5a in the sockets 5 to maintain the members 4 centered therein. The sockets 5 preferably comprise rectangular casings open at their lower ends to receive the members 4, the sockets being secured to the side bars 1 by means of screws or the like.

When the supports are not in use, the end bars or members 4 may be pulled out of sockets 5 and tilted outwardly, as shown in dotted lines in Fig. 2, to disengage the teeth 4c from the perforations 3c, after which members 4 may be swiveled so as to overlie their respective ends of the central bar 3, and as members 4 have substantially the same curvature and are of substantially the same length as half of the bar 3, the legs 4 when folded will conform closely with the shape of the members 3 as shown in Fig. 3 and the supports may be thereby folded very compactly.

The use of the teeth 4c and notches 3c obviates the necessity of separate mechanical fastenings which need be manipulated in order to lock the parts 3 and 4 in alignment.

Each bedstead is provided with preferably four of these supports, but in any case, these supports are so disposed along the length of the side bars 1 as to coincide with the points at which a recumbent figure can receive more or less unyielding support without discomfort.

The splayed ends 4 of the support are sufficiently long to raise the canvas body support 2 of the cot sufficiently high from the floor or ground, and the use of relatively long splayed ends makes the entire cot frame far more flexible and more comfortable than would otherwise be the case if a shorter single piece support were used. The folding feature of my support is essential for a one-piece support of required size would be very cumbersome and would not pack compactly enough to make a practical portable cot. The double thickness of material in the portions 3b, 4b of the support makes the support much stronger in a cot of this height, as the material at that point will not reach a fatigued condition as quickly as would be the case if a one-piece support were used.

By forming the W-shaped legs into three parts, the legs may be made longer to a degree where resiliency or spring is definitely increased without sacrificing the compact foldable feature of the supports and cot; also such structure permits reinforcing of the leg at the point of fatigue, thereby increasing its wearability over a longer period of time. Also use of the tooth and notch lock eliminates side-sway, and gives added strength at the weakest point in the support, and distributing the point of fatigue from a definite point to a larger area definitely lengthens the life of the arrangement. By my arrangement, the more tightly supported portions of the canvas 2 come respectively at the extreme ends, also at approximately the line of the waist, and at approximately the line of the knees of a recumbent figure, thus leaving the more resilient portions of the canvas 2 to carry the shoulders and buttocks.

Depending from one section of the side bars 1 is a canvas pocket 6 consisting of a length of fabric secured to the side member having its ends folded back upon itself as at 6a and stitched along the lower edge to receive the ends of the folded supports (see Fig. 6) when the cot is to be folded and rolled up, the length of the pocket being substantially the same as the folded supports. Each of the folded supports may be placed in the pocket as indicated in Fig. 6 and the cot when folded up from the opposite end, and when so rolled the legs will obviously be inseparably wrapped in the roll. A hand grip 7 is provided (Figs. 1 and 6) attached to the side bar 1 opposite the pocket 6, the handle grip being disposed at substantially half the length of the section, and being provided with loops 7a (Fig. 7) retaining straps 8 disposed transversely to the section 1, whereby when the folded cot is rolled completely, as shown in Fig. 7, the straps 8 may be secured around the entire folded package with the grip 7 exposed and the folded package may be carried from place to place like a valise, utilizing the hand grip 7, thereby forming a very neat compact package of convenient size with all parts of the cot contained in the package.

A cot constructed according to my invention can be packed up into a small space, because the supports can be detached and nested one within the other, is more comfortable than the ordinary folding cot because of the arrangement of the supports, and is much less subject to breakage by misuse, because if unfairly loaded the supports will yield sufficiently to prevent the canvas body support 2 from reaching a fatigue point and tearing.

I claim:—

1. A foldable cot, comprising opposite side bars, a flexible sheet connected with the side bars, a plurality of foldable supports detachably attached to the side bars, each support comprising a central member bowed upwardly at its center and having its ends upturned, and arms having their lower ends curved like the curved outer ends of the central member and pivotally connected to the curved ends of the central member, said arms forming extensions of the ends of the central member and having their free ends detachably engaged with the side bars when the cot is assembled for use; the ends of the arms and central members overlapping adjacent the pivots in a manner to prevent said arms moving inwardly on the central members when load is placed on the flexible sheet; and said arms being foldable over the adjacent parts of the central member when the cot is knocked-down.

2. A foldable cot, comprising opposite side bars each provided on its inner side with a plurality of socket members, a flexible sheet connected with the side bars, a plurality of foldable supports each comprising a central member bowed upwardly at its center and having its ends upturned, and arm members having their lower ends curved like the outer ends of the central member and pivotally connected to the curved ends of the central member said arms forming extensions of the ends of the socket member and having their free ends detachably engaged with the socket members on the side bars when the cot is assembled for use; the arms being foldable over the adjacent parts of the central member when the cot is knocked-down, and the said central member and arms being provided with interen-

gaging means whereby the arms are locked in alignment with the central member when turned to operative position.

3. A foldable cot, comprising opposite side bars each provided on its inner side with a plurality of socket members, a flexible sheet connected with the side bars, a plurality of foldable supports each comprising a central member bowed upwardly at its center and having its ends upturned, a curved reinforcing plate riveted to the upper side and center of the said bowed member, and arm members having their lower ends curved like the outer ends of the central member and pivotally connected to the curved ends of the central member, said arms forming extensions of the ends of the center member and having their free ends detachably engaged with the socket members on the side bars when the cot is assembled for use; the arms being foldable over the adjacent parts of the central member when the cot is knocked-down, and the said central member and arms being provided with interengaging means whereby the arms are locked in alignment with the central member when turned to operative position.

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