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CANOPY SUPPORT FOR SLEEPING BAGS OR SUN MATS

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Fig. 1.

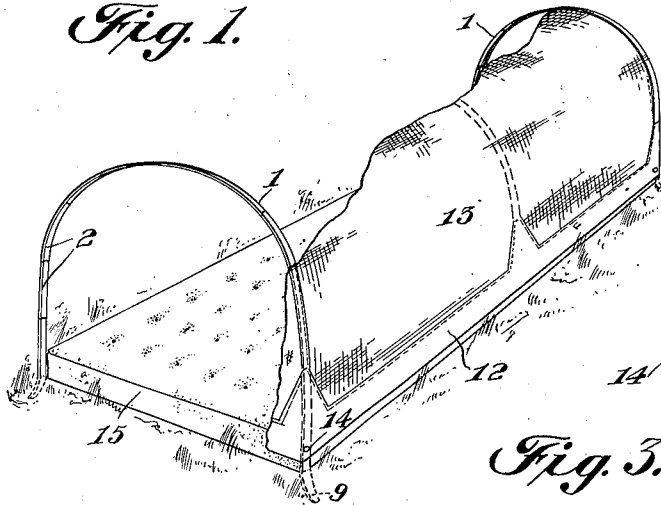


Fig. 2.

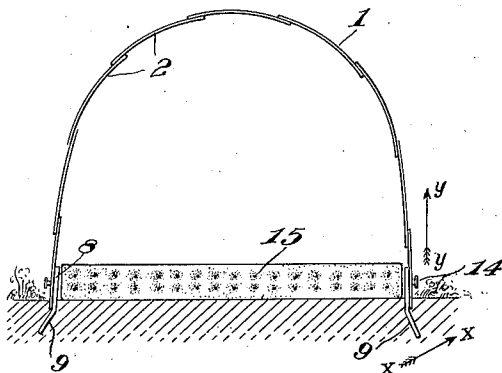


Fig. 5.

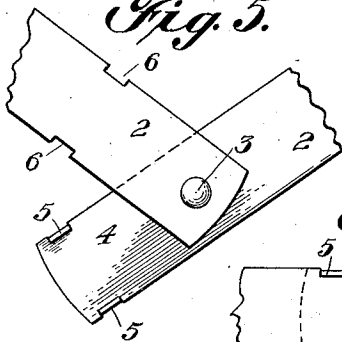


Fig. 6.

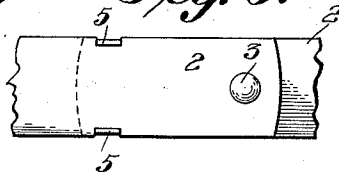


Fig. 3.

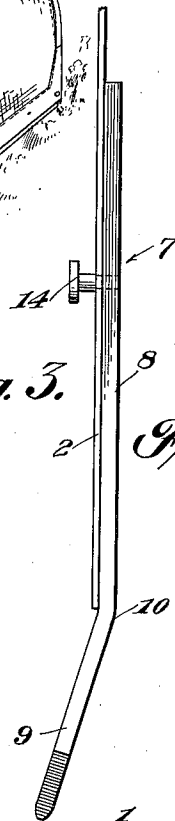


Fig. 4.

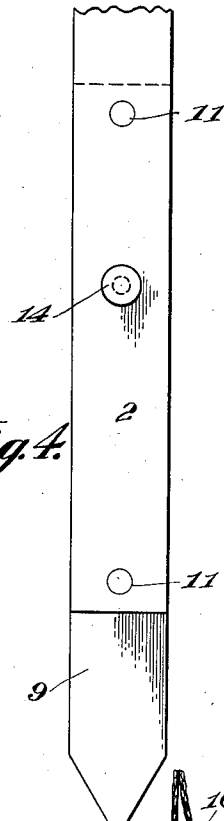


Fig. 7.

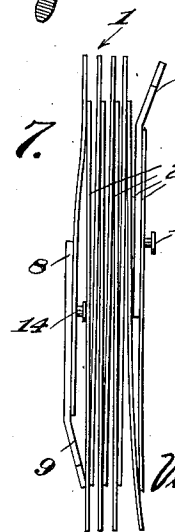
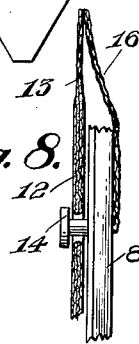


Fig. 8.



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CANOPY SUPPORT FOR SLEEPING BAGS OR
SUN MATS

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2 Claims. (Cl. 135-1)

This invention relates to canopy supports, especially for use with sleeping bags or ground beds and is particularly designed to provide a canopy support which may readily be collapsed into small compass or easily be extended and set up in operative position over the bed or bag.

An object of my invention is to provide such a support which may be formed of a few simple light-weight rust-resisting metallic parts, which, when set up for use, will yet provide a substantial and strong construction, fully meeting the demands for which the device is designed.

Another object is to provide a construction in which the several elements of the support may be folded into a compact unit for storage or handling, but which, when unfolded, may be locked into a strip, flexible only in a direction at right angles to the transverse plane of the several sections.

A further object is the provision with a collapsible support, of supporting means therefor, which according to the present invention, resides in a particular form of ground penetrating spurs, associated with each of the end sections of the support, whereby the entire device is readily set up for use, and further, whereby, due to the nature of the spurs, tendency of the members to pull from the ground is resisted.

Further features of advantage are the simplicity of the support, its adaptability to use with varying widths of ground beds or mattresses, the readiness with which it may be erected and collapsed and the manner in which the canopy may be attached to the support, whereby the entrance of insects to the interior of the canopy is minimized. These and other features of advantage will be apparent to those experienced in the use of such a device.

Referring to the accompanying drawing forming a part of this specification,

Figure 1 is a perspective view of the canopy support in erected position over a sleeping bag or ground bed or mattress, and illustrating a portion of the netting covering the said support;

Figure 2 is an end view of the canopy support showing its relation in use, to a sleeping bag or ground bed;

Figure 3 is a side elevation of one of the ground penetrating spurs or prongs, and showing its manner or connection or association with one of the end members of the flexible support;

Fig. 4 is a front elevation of the spur and associated parts shown in Figure 3;

Figure 5 is a detail elevation of one of the hinge joints between the flexible sections form-

ing the support, and showing the sections in partly folded condition;

Fig. 6 is a detail view of a portion of the flexible sections at the joint, and showing the sections in extended locked position.

Fig. 7 is a view of the support in collapsed condition, and

Fig. 8 is a detail view of the canopy securing stud and a portion of the lower edge of the canopy and showing one manner of securing the elements together.

Referring now more particularly to the drawing by numerals of reference, 1 indicates generally a flexible sectional metallic bar, formed of a plurality of flat metallic flexible sections or strips 2 of rust-resisting steel, hinged together by means of hinge pins 3, permitting the entire structure to be collapsed into compact form as shown in Fig. 7, or extended into a linear condition, wherefrom it may be bent into the form of an arch as shown in Figs. 1 and 2.

Each of the metallic flexible sections, in proximity to the hinge pin, is provided with an extension 4 having a pair of oppositely disposed tongues 5, which cooperate with, or lie within a pair of oppositely disposed notches or recesses 6 in the sides of the adjacent flexible section as shown in Fig. 6, so that the structure as a unit may be locked against collapse when in extended condition. Although I have illustrated and described a particular form of hinge joint, it is to be understood that in actual practice other constructions or modifications may be found fully as adequate, and therefor, that the present invention is not intended to be limited to this or any other special form of hinge.

Figures 3 and 4 illustrate in detail one of the important features of the present invention, namely that of the ground penetrating member shown generally at 7, which comprises a body portion 8 and a spur or prong 9, the latter being turned or bent adjacent its lower end laterally at 10 from the plane of the face of the main body portion. The main body portion 8 of each ground penetrating member 7 is suitably but rigidly joined to an end section 2 of the flexible bar as by spot-welds 11 or the equivalent securing means which may take the form of rivets or bolts.

For the purpose of securing or fastening the lower reinforced edge 12 of the netting 13 stretched over the arched support formed by a plurality of these flexible bars 1 as shown in Figures 1 and 2, I provide each of the end sections which is secured to the ground penetrating mem-

ber 7, with a stud or button 14, which as shown, passes through said section and the ground penetrating member and has its rear end in the form of a rivet butt. Other specific forms of netting securing means may be readily substituted for the arrangement illustrated and described, although the present construction has been found fully adequate and probably the lowest in cost from a manufacturing standpoint.

10 In the views shown in Figures 1 and 2, I have clearly illustrated the manner of use of the present canopy support, a sleeping bag or ground bed being shown at 15, and it will be observed upon reference to Fig. 1 particularly, that the ground penetrating members are inserted sufficiently far into the earth to bring the netting securing studs rather close to the surface of the ground and thus below the upper face of the ground mattress or bag, while permitting the reinforced lower edge 12 of said netting to lie practically elevated from the ground as shown in Fig. 1, the net being provided with an inside ruffle 16 to seal any gap that may remain between the lower edge of the bag or mat against entrance of insects from the ground thereby adding additional protection.

This arrangement will prevent insects, especially the winged variety from gaining access to the interior of the canopy, and it will be further noted that the lower edge of the reinforced netting attaching portion will lie below the bed or mattress. This arrangement, therefore, affords a very practical seal against the entrance of insects, especially the flying type, into the space beneath the canopy.

The flexibility of the bars permits the canopy to be readily adapted to any width bed or mattress with reasonable limits, and the collapsibility of the sections in a plane at right angles to that of the faces of the several sections making up the bar, permits the entire structure to be folded into small compass for handling or transportation, yet readily permits it to be quickly set up into a substantially rigid and operative device.

45 The particular form of the ground penetrating prong or spur and the manner in which it is bent is further of especial importance, since, as shown in Fig. 2, due to the tendency of the flexible bar to straighten itself, were it not for the angular formation of the lower spur extremity, there is a possibility that the spurs might pull out of the ground. According to the present construction, as will be readily appreciated, the tendency of the prongs to pull out of the ground, is overcome, at least to a great extent, by the fact that the spur end of the ground engaging member is stressed in the direction of the arrow $x-x$ in Figure 1, as

distinguished from a normal upward pull in the direction of the arrow $y-y$.

It might further be noted that the canopy support is not necessarily limited in use to that of supporting an insect excluding netting, but may as well be employed as a support for tenting material, in which event, it might be necessary to provide the several parts of heavier material in order to support the greater weight of tenting material.

10 It is to be further understood that, as applied to sleeping bags and sun mats, a single support may as readily be employed, in which instance, the netting would be supported by said single support at the head end of the bag or mat, and the unraised end of the netting brought down and suitably attached, say about midway of the length of the mat. However, since the present support is adapted for use in varying types of sleeping and reclining beds or the like, I do not wish to limit the invention to any special number of supports employed, or as to where they may be placed to elevate the netting.

Having described my invention and its manner of use, what I claim and desire to protect by Letters Patent is:

1. A collapsible canopy support adapted to be bent into arched form, comprising a plurality of flexible pivoted metallic section strips having overlapping portions adjacent their pivotal connection, locking means complementary to said overlapping portions for maintaining said sections in extended position against collapse in a direction at right angles to their direction of bend, said locking means comprising oppositely disposed notched edge portions on one of said pivoted section strips adjacent the pivotal connection, and oppositely disposed tongues on the other of said pivoted sections, said tongues and said notched edge portions being disposed in equidistant positions from the pivotal point, whereby, when said sections are extended, said tongues and notched portions will register and be maintained in locking relation.

2. A collapsible canopy support adapted to be bent into arched form comprising a plurality of flexible metallic sections, pivoted together, one of said metallic sections in proximity to one of its pivots being provided with an extension having oppositely disposed marginal tongues, another of said sections to which said one section is pivoted adjacent said extension being provided with oppositely disposed marginal recesses, which, when the adjacent sections are extended in linear form, register with and receive the tongues of said tongue carrying section, to lock the joint against collapse.

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