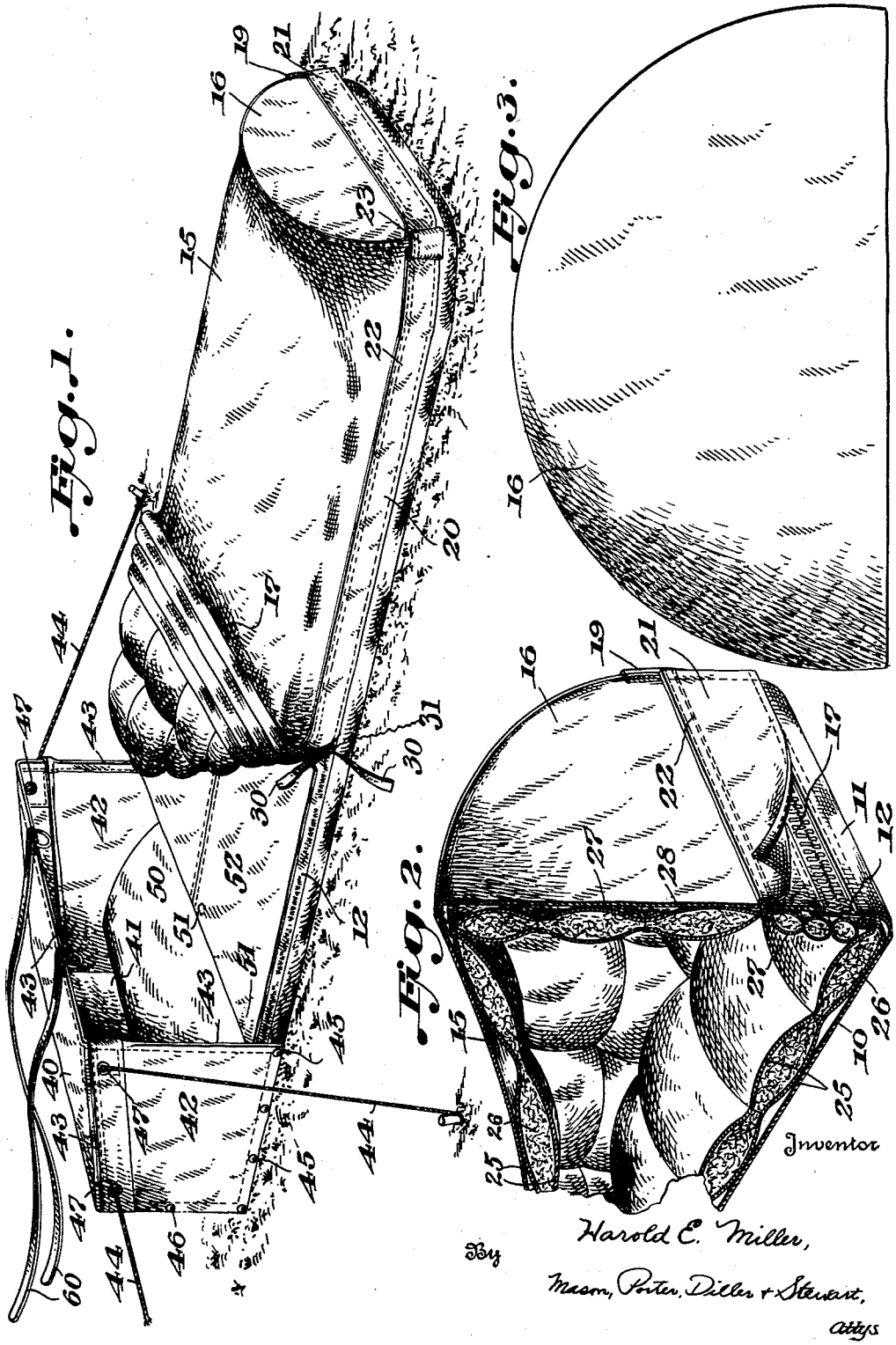
May 29, 1951 H. E. MILLER 2,555,051

SLEEPING BAG

Filed Jan. 20, 1948 2 Sheets-Sheet 1



May 29, 1951 H. E. MILLER 2,555,051

SLEEPING BAG

Filed Jan. 20, 1948 2 Sheets-Sheet 2

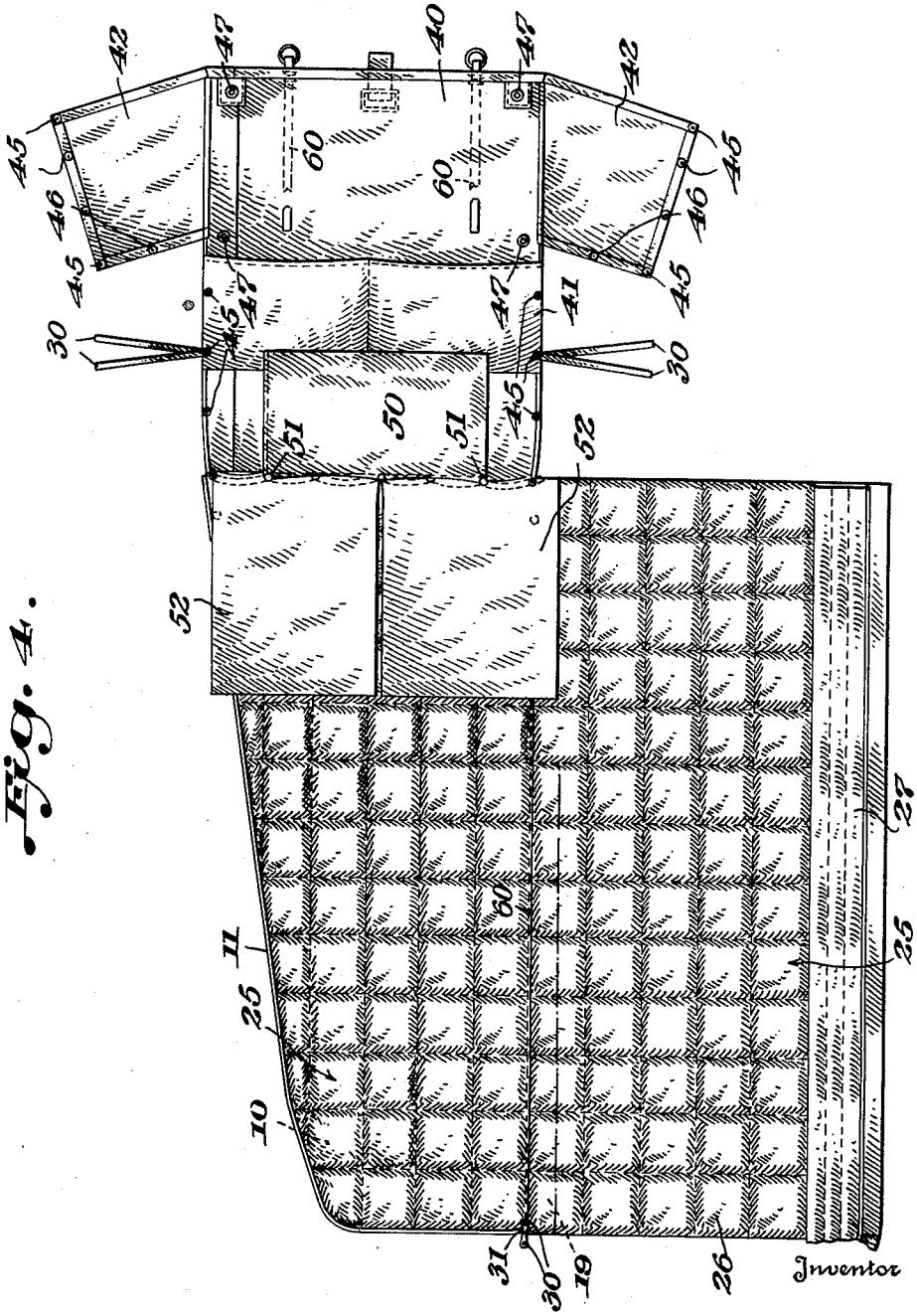


Fig. 4.

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SLEEPING BAG

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3 Claims. (Cl. 5—343)

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This invention relates to a sleeping bag, being more particularly addressed to the construction and arrangement thereof for the comfort and protection of the occupant.

A feature of the invention is the provision of a sleeping bag having a fullness or looseness at its foot end, whereby the occupant's feet are afforded space when the occupant is supine, and are free for movement when, for example, the occupant turns from resting on one side to a position of resting on his other side.

Another feature of the invention is the provision of a sleeping bag structure having an outer essentially impermeable portion and inner quilting and mattress portions which surround the occupant's body and provide both softness and heat insulation, and being extended in a foot end construction which provides fullness or looseness at the occupant's feet.

A further feature is the provision of a sleeping bag construction which may be made of fabric with a minimum of waste while providing fullness at the foot end thereof.

With these and other features as objects in view, an illustrative form of practice of the invention is shown in accompanying drawings in which:

Figure 1 is a perspective view showing the sleeping bag upon the ground, with its major parts in position for occupancy, but having an upper corner turned back to a position often employed when the user is about to enter or leave the bag.

Figure 2 is a perspective view, on a much larger scale, of the foot end of the bag, seen in an upright section taken longitudinal and centrally of the bag, with the parts distended to show the foot space afforded.

Figure 3 is a view showing the layout of a blank for providing the foot end of the top part of the bag.

Figure 4 is a top view, on a smaller scale, showing top and bottom parts of the bag opened out, and assuming the foot end tucked under.

In these drawings, the sleeping bag is illustrated as formed of fabric and filling material, with certain metal parts in the form of slide fasteners, braces, securing rings or grommets, etc., whereby a flexible structure is provided which can be rolled in a compact form and tied by stay ropes and straps for convenient transportation.

In Figures 1 and 2, the bottom or bed portion of the sleeping bag is formed with an external layer 10 of heavy impermeable fabric such as duck or canvas, to the edge portion 11 of which

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is sewn a slide fastener tape 12 having the usual interengaging teeth thereon. The blank cut for the bottom layer 10 has the side edges convergent from the head end toward the foot and these edges converge more rapidly as they approach the foot end, as shown, starting at a transverse line, spaced approximately the length of the lower leg, above the foot end. In the illustrative form, the top sheet 15 has an effective length along the hinge line 60 of 75 inches: the bottom sheet 10 has a width at its head end of 33 inches and convergently tapers to 25 inches at a point about 14 inches from the foot end, and then has a greater taper to a foot end width of 21 inches. These dimensions have been found satisfactory as a standard for the majority of men: but it will be understood that the present elements of construction can be employed for larger or smaller bags. In the illustrated form, also, the tapering is effected along the right hand or openable edge; wherewith the upper and lower sheets, and the inner lining, can be unfolded about a straight hinging line 60. The top or cover portion of the sleeping bag is likewise formed with an impermeable outer fabric layer 15, the piece of fabric for this arrangement being formed of uniform width from the head end to the foot end. At the foot end, a substantially semicircular piece 16 of a like fabric is arranged with its arcuate peripheral edge turned beneath and sewed to the foot end of the layer 15. The convergence of the lateral edge 11 of the bottom layer 10 brings the foot width of this bottom layer essentially to the lower chordal dimension of the foot piece 16. The lower edge of the end 16 is connected by sewing to the second tape 17 of the slide fastener structure, and this tape 17 extends along and is sewed to the side edge of the layer 15. A tape 19 of impermeable fabric is sewed at its edges to the adjacent edges of the layers 10, 15 for closing the left-side edge of the sleeping bag; the tape 19 being also held by the stitches joining the top layer 15 to the foot piece 16. This tape 19 provides a box effect along the left side, and can be regarded as an extension of the top layer 15 for this purpose. A strip 20, 21 of impermeable fabric is sewed along the edge of the layer 15 and the lower edge of the foot piece 16 at the lower left-hand corner of the bag (Figure 2) and is connected by stitches 22 along a line parallel to, but above, the line of the slide fastener engagement so that the foot end portion 21 and the side portion 20, in the position of the parts for occupancy of the bag (Figure 1), extend downwardly opposite the slide fastener tapes 12,

17 and thus protect the same externally against rain water, etc., and prevent wind from blowing directly thereagainst. A pleating 23 is provided in the strip 20, 21 at the corner of the bag, to facilitate opening for airing.

Within the lower or bed portion of the sleeping bag is provided a quilting or mattress structure comprising the fabric layers 25 which are stitched from point to point upon a filling 26 of heat-insulating and cushioning material such as vegetable or animal down. The edges of this quilting are secured to the edges 11, e. g. by the same stitchings as employed for attaching the slide fastener tape 12 and the tape 19.

The quilting 25, 26 is preferably made up as a unit, folded longitudinally, and placed within the assembly of the outer fabric pieces 10, 19, 17; and secured at the free slide edges of the pieces 10, 19 so that a heat-insulating layer extends continuously beneath, at the left side, and above the occupant. The upper fold of this quilting is illustrated as attached to the side edge of layer 17 and to the foot piece 16 by the stitching 22 along lines spaced from the edges of the quilting. The margin of the quilting outside the stitching 22 is formed as individually smaller rolls parallel to the stitching and, in the closed position of the bag, laps past the slide fastener arrangement as shown in Figure 2 to provide a complete protective lining.

The slide fastener tapes 12, 17 thus extend along the edges over the bottom layer 10, and along the lower edge of the foot piece 16 and along the lower right edge of the cover layer 15, so that a single traveler element 31 with the inside and outside handgrips 30 (Figure 1) may be employed to seal the bag from its lower left-hand corner essentially to its upper right-hand corner, at the height of the occupant's chin; or, when the slide fastener elements are separated, to permit opening the bag fully about the permanently secured left-hand edge, at tape 19, for airing and sunning.

The illustrated bag is provided with a hood piece over the occupant's head, comprised of a top wall 40, a back wall 41, and the side walls 42 which are sewed together and provide hems or tubes within which are positioned individual stiffening wires 43 which operate in conjunction with the guy ropes 44 to support the structure over the head end of the sleeping bag bed portion, extending past the upper end of the cover 15 when the bag is closed. It is preferred to connect the lower edges of the side walls 42 to the bottom fabric 10 of the bed structure by separable connectors such as glove snap fasteners 45, so that one or the other side may be opened as desired, and similarly, glove fasteners 46 are employed at the upright edges of the walls 42, to permit release of these side walls from the end wall 41. The guy ropes 44 may be passed through grommets 47 provided in the reinforced upper part of the side walls 42.

The lower or bed portion of the sleeping bag may be provided with a pillow portion 50 at the head end (Figure 1), this being separably connected to the bottom fabric 10 by snap fasteners 51. In the illustrated form, shoulder sheets 52 are provided over the layers 25 at the point encountered by the occupant's shoulders, thereby to lessen the wear upon the quilting layers 25 and also to restrict the distortion of the wadding incident to direct contact of a moving body with a layer 25.

In the form shown in Figure 1, the structure can be rolled into a compact bundle about a transverse axis, by pressing down the flexible fabrics at the foot end, and rolling toward the head end. The hood structure can be likewise collapsed, folded, and rolled into the package, whereupon the straps 60 can then be employed for securing the bundle in its rolled condition.

In Figure 1, the sleeping bag has been shown as made up ready for use. The occupant can seat himself on the shoulder sheet 41, and then slide down into the bag. The occupant then brings the turned-back triangular portion over his shoulders into position, pulls the inside handgrip 30 upwardly toward the hood, and thus seals the bag against rain and cold. In so engaging the slide fastener, the edges of the bottom fabric sheet 10 are drawn upwardly, thus providing against water seepage through the fastener.

The occupant can turn from side to side, or sleep on his back, without a "bowstring pull" of the fabric upon his toes during movement or while in position, and hence the bag is fully comfortable in service.

The plural overlapping layers at the slide fastener zone assures against penetration of cold or rain.

It is obvious that the invention is not limited to the illustrative form shown and described, but can be employed in many ways within the scope of the appended claims.

What is claimed is:

1. A sleeping bag comprising a bottom sheet and a top sheet, said sheets being connected together along one side, said bottom sheet having convergent side edges toward the foot end, said top sheet having essentially the same width along its length, a foot piece having a substantially semi-circular shape, with the dimension along the arc essentially equal to the said width of the foot end of the top sheet and with its chordal edge having essentialy the same dimension as the foot end of the bottom sheet, said foot piece having its arcuate edge secured to the foot edge of the top sheet, and separable fastening means along the free side edge of the top sheet, along the free side edge and foot edge of the bottom sheet, and along the free edge of the foot piece and cooperative to connect the parts to form the bag.

2. A sleeping bag comprising a bottom sheet and a top sheet, said sheets being connected together along one side, said bottom sheet having convergent side edges toward the foot end, said top sheet having essentially the same width along its length, a foot piece having a substantially semicircular shape, with the dimension along the arc essentially equal to the said width of the foot end of the top sheet and with its chordal edge having essentially the same dimension as the foot end of the bottom sheet, said foot piece having its arcuate edge secured to the foot edge of the top sheet, slide fastener tapes secured to the free side and foot edges of said sheets and foot piece, a traveller for engaging the fasteners of said tapes, and an external tape strip connected to said top sheet and foot piece above the zone of the slide fastener engagement and having its free edge projecting downwardly past said zone when the bag is closed.

3. A sleeping bag comprising a bottom sheet and a top sheet, said sheets being connected together along one side, said bottom sheet having convergent side edges toward the foot end, said top sheet having essentially the same width along

its length, a foot piece having a substantially semicircular shape, with the dimension along the arc essentially equal to the said width of the foot end of the top sheet and with its chordal edge having essentially the same dimension as the foot end of the bottom sheet, said foot piece having its arcuate edge secured to the foot edge of the top sheet, slide fastener tapes secured to the free side and foot edges of said sheets and foot piece, a traveller for engaging the fasteners of said tapes, an external tape strip connected to said top sheet and foot piece above the zone of the slide fastener engagement and having its free edge projecting downwardly past said zone when the bag is closed, and a quilting between said sheets and secured along the free side and foot edges of the bottom sheet, said quilting having a fold adjacent the connection between said sheets, said quilting being connected to the top

sheet and to the foot piece along lines above the slide fastener engagement zone and having a free margin extending downwardly past said zone for lapping engagement with the part of the quilting secured to the bottom sheet.

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