May 27, 1947. O. C. DAIBER 2,421,244

PACKBOARD

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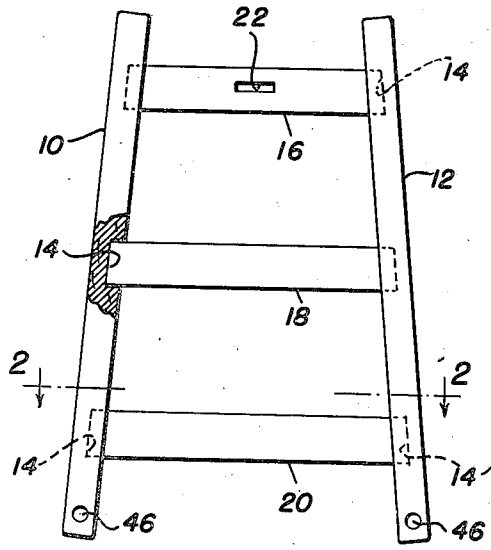


FIG. 1

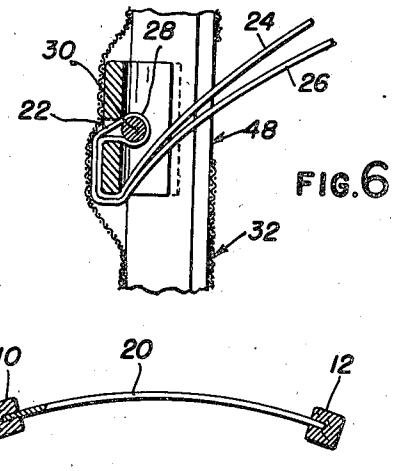
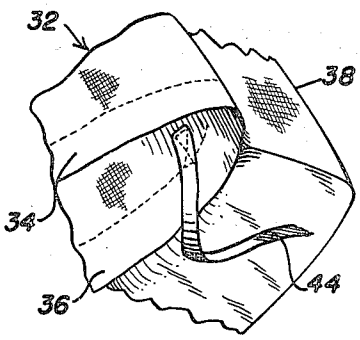


FIG. 6

FIG. 2

FIG. 5



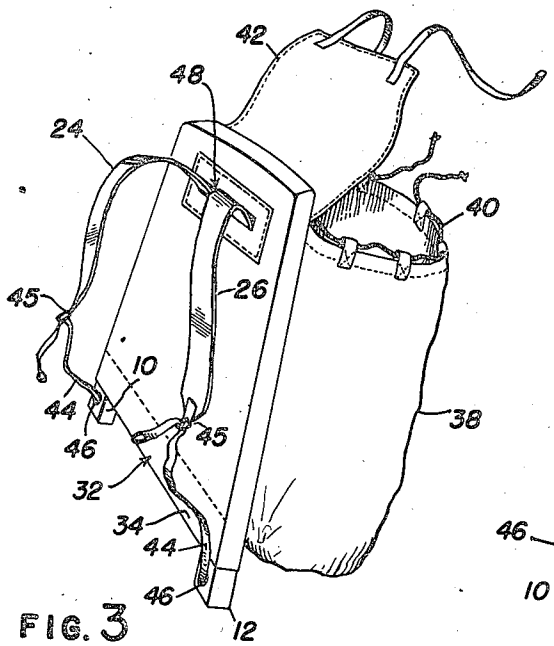


FIG. 3

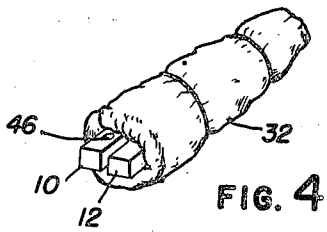


FIG. 4

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PACKBOARD

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3 Claims. (Cl. 224—25)

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This invention relates to a packboard useful in the support of loads to be carried and, more particularly, to a demountable frame construction system for load carriers for the human body.

Knapsacks have been widely used by trappers, foresters, sportsmen and outdoorsmen to transport upon their backs heavy and bulky loads. To the improvement of the art of carrying articles about the body, certain innovators devised frames about which they place canvas or web coverings to cushion the frame from the back and to permit the attachment or accommodations of various articles or for the support of pockets in which articles might be stowed. Most of these frames have been of a type that, once assembled, comprise a permanent structure. Those capable of disassembly have been complicated to knock down in addition to requiring the use of tools to loosen the fastenings. More recently, the military has required a packboard that can be furnished in disassembled conditon in a compact bundle for storage in a small space and which can be quickly assembled into a strong rigid structure with the minimum requirements of skill.

Having in mind the defects of the prior art packboards, it is an important object of this invention to provide a packboard and frame therefor that is easily assembled without requiring skill or tools to do so.

Another object of the invention is the provision, in a packboard of the type described which, in use, is self tensioning or tightening without requiring the attention of the user.

A further object of this invention is to provide a packboard frame tightening element which will constantly serve to maintain the parts of a frame in proper and tight association.

The foregoing objects and other ancilliary thereto I prefer to accomplish as follows:

According to a preferred embodiment of my invention, I provide a frame which comprises a pair of side rails that in use are normally positioned in an upright manner. Each of the rails has a series of sockets in matching relation for the reception of the ends of certain cross bars disposed between the side rails. The cross bars are curved to provide some resiliency in the frame and also to permit the arch members to be positioned away from a person's back. Preferably the length of the cross bars decrease from bottom to top of the series to such an extent that the side rails tend to converge in upward extension and the assembled frame is tapered in at least one dimension. A sheath of fabric material is provided to slide over the frame from the top downward. The shape of the sheath conforms in taper in the converging shape of the frame. The sheath is in effect an envelope to cover both faces as well as the sides of the frame and may be open at top and bottom. That portion of the sheath

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lying adjacent the inner curved face of the frame rests upon a person's back and the other is stretched across the curved faces of the cross rails to serve to support a load directly applied thereto or to carry a pouch as shown in the drawings for the reception of certain articles to be carried. A pair of shoulder straps are secured to the uppermost cross rail and extend through an opening provided therefor in the sheath. The straps loop to encircle the shoulders and are anchored on their lower ends to the side rails. In certain instance the shoulder straps are anchored through the lower ends of the side rails to the lower portions of the sheath to draw the same downward and thereby increase the tightening action of the same upon the frame.

The novel features that I consider characteristic of my invention are set forth with particularity in the appended claims. The invention itself, however, both as to organization and its method of assembly, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment when read in connection with the accompanying drawings, in which

Figure 1 is a face view of the frame of my packboard,

Figure 2 is a cross-sectional view taken on the plane indicated by line 2—2 of Figure 1,

Figure 3 is a perspective view of the assembled packboard, sheath and a packsack thereon,

Figure 4 is a perspective view of a disassembled frame and sheath as it appears bundled for stowage,

Figure 5 is a fragmentary view in perspective of a lower corner of the sheath and pouch thereon, and

Figure 6 is a cross-sectional view showing in detail the mode of attaching the shoulder straps to a cross bar of the frame.

A packboard construction to overcome the defects hereinbefore enumerated must have at least two totally distinct characteristics; it must be capable of carrying extreme loads with ease and comfort for the user; and must also provide a structure that is easy to assemble or disassemble without tools or fastenings and yet be rigidly compacted at all times. Accordingly, a preferred embodiment of the invention, referring to Figure 1 of the drawing, is constituted by a frame over which is slipped a sheath and a load receiving element. The frame comprises side rails 10, 12 which are each provided with a plurality of spaced apart sockets 14 along the length thereof. The rails here are shown as formed from wooden members. Between the side rails, and each having its ends seated in opposed sockets of the two side rails, are cross bars 16, 18, and 20, usually formed of plywood and preferably curved from end to end, as appears in Figure 2. The upper

cross bar 16 has an intermediate slot 22 for the attachment of shoulder straps 24, 26 in the manner shown in Figs. 3 and 6 where, it will appear, the two strap ends emanate from a loop 28 that is inserted through slot 22 from the convex face thereof and is engaged by pin 30 which lies against the concave face of bar 16 to restrain the loop 28 from being withdrawn. The two strap ends pass under the lower edge of bar 16 from where they extend outward from the frame to engage a person's shoulders.

The length of the bars 16, 18 and 20 increases from the former to the latter so that when they are properly seated in their respective sockets in the side rails 10, 12 these latter members are positioned with relation to each other in an upwardly converging manner illustrated in Figures 1 and 3.

Once assembled as described, the frame is encased from the top downward in a tapered fabric sheath 32 which is stretched taut by the frame so that one panel 34 spans the concave side of the frame and forms a resilient web to rest upon a carrier's back. The other panel 36 covers the convex face of the frame and, as here shown, supports a pouch 38 useful to stow articles to be transported. The numeral 40 designates drawstrings for the pouch and the flap 42 serves to cover the upper gathered end of a packed pouch.

On each of the lower corners of the panel 36 is attached a strap 44 which passes through an opening 46 in the lower end of a side rail 10 or 12 and extends up for engagement with a buckle 45 on the end of either shoulder strap 24 or 26.

Panel 34 has an opening 48 therethrough near the upper edge to permit the straps 24, 26 to pass outward from within the sheath for shoulder receiving purposes.

When the packboard is assembled as described and a load is placed in the pouch the packboard is ready for use. As used any tendency of the frame to further compact is accompanied by a corresponding downward shift of the sheath 32 which in consequence is also made more taut. Any tendency of the loaded packboard to pull down from the shoulders produces a pull upon the shoulder straps 24, 26 as well as upon the straps 44, 44 which thereupon will tend to draw the sheath downward in a tighter manner. It will no doubt be recognized that this tensioning of the sheath due to the forces constantly working upon it during use serves to constantly compress the frame if it should loosen due to drying out of the wooden parts or deeper seating of the cross bar ends in their respective sockets.

When the frame is to be disassembled and the sheath removed, the straps 24, 26 are slipped through the hole 48, straps 44 are withdrawn from holes 46, and the sheath is raised from enclosing the frame to expose the latter. At that time the cross bars and side rails are separated from each other whereupon they may be bundled and wrapped into a compact package as shown in Figure 4.

From the foregoing it can be seen that my packboard construction lends itself well to simple woodworking practices in the production of the frame parts; that it is easily assembled without reliance upon fasteners or joining members; that it is held in assembled condition solely by the sheath which also serves as a means for supporting a carrying pouch or other similar means; and that the sheath in its action upon the frame during use is one of constantly tightening the parts of the frame together.

Although I have shown and described a specific embodiment of my invention, I am fully aware that many modifications thereof are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the subjoined claims.

Having thus described my invention, I claim:

1. A packboard, comprising: cross members of different lengths, a pair of side members having sockets detachably receiving the ends of said cross members; the shorter of said cross members being uppermost and the longer being lowermost in their engagement with the side members whereby the latter are spaced apart in an upwardly converging manner; said cross members and side members forming a frame; means associated with said frame for supporting the same upon the back of a carrier; and around said frame, a load-carrying sheath shaped to fit the converging arrangement of the side members, and when drawn down thereon to hold the ends of said cross members socketed in said side members.

2. A packboard, comprising: thin arcuate spreaders of different lengths, a pair of side members having interfitting detachable joinder with the ends of said spreaders; the shorter of said spreaders being uppermost and the longer of said spreaders being lowermost in their engagement with the side members whereby the latter are spaced apart in an upwardly converging manner; said spreaders and side members forming a frame; means associated with said frame to the concave side of said spreaders for supporting the same upon the back of a carrier; and around said frame, a load-carrying sheath shaped to fit the converging arrangement of the side members, and when drawn down thereon, to hold the ends of said spreaders interfitted with said side members.

3. A packboard, comprising: a pair of spreaders of different lengths, a pair of side members having interfitting detachable joinder with the ends of said spreaders; the shorter of said spreaders being uppermost and the longer of said spreaders being lowermost in their engagement with the side members whereby the latter are spaced apart in an upwardly converging manner; said spreaders and side members forming a frame; around said frame a load-carrying sheath shaped to fit the converging arrangement of the side members; and when tautened thereon, to hold the ends of said spreaders interfitted with said side members; and shoulder straps having their upper ends attached to said frame and their lower ends passed in under a portion of said frame and secured to said sheath to act as a down-haul therefor.

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