

May 27, 1958

B. I. DAVIS

2,836,334

INDIVIDUAL CARRYING PACK

Filed April 9, 1956

3 Sheets-Sheet 1

FIG. 1

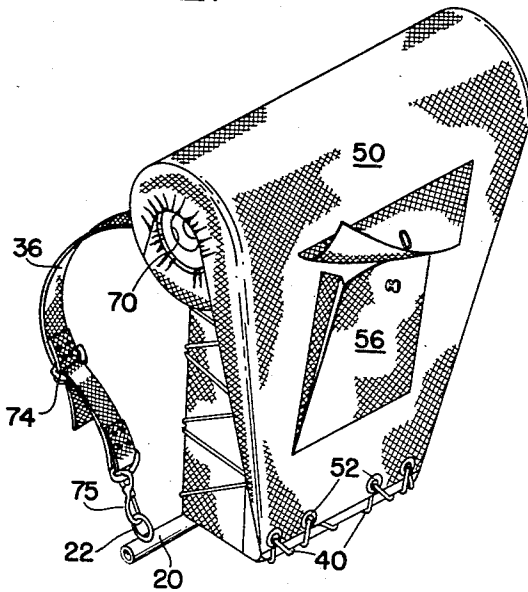


FIG. 2

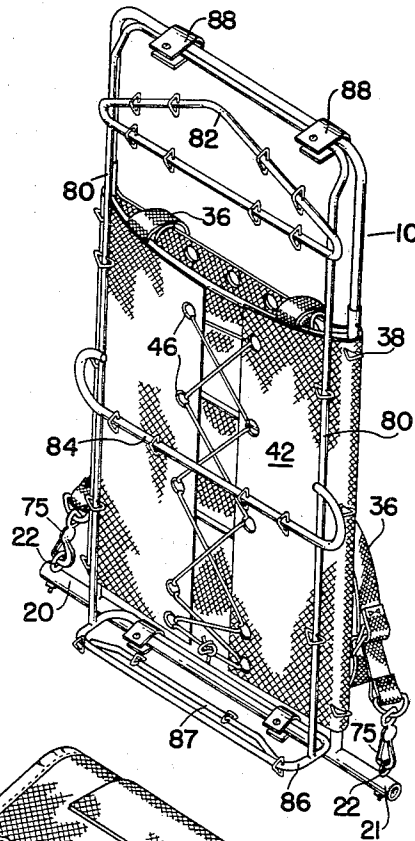
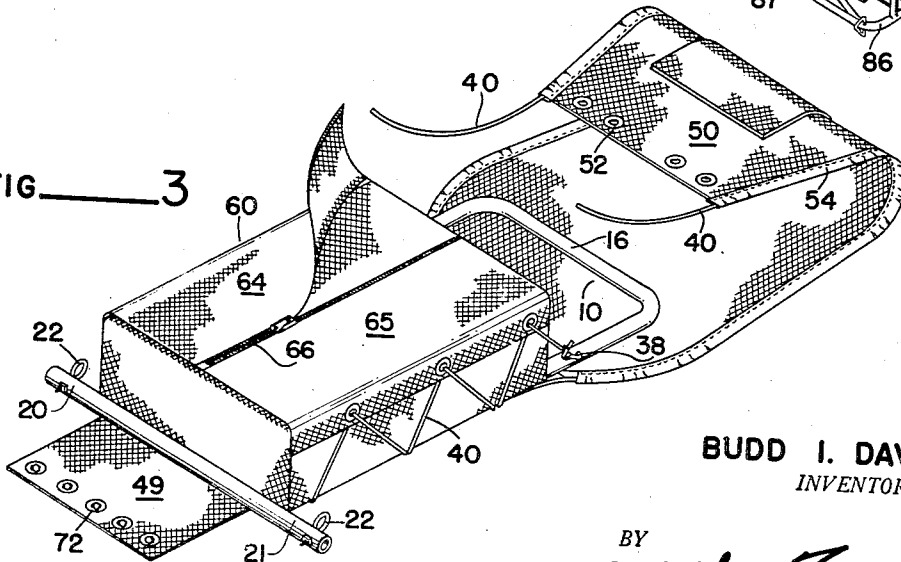


FIG. 3



BUDD I. DAVIS
INVENTOR.

BY

Smith & Tuck

May 27, 1958

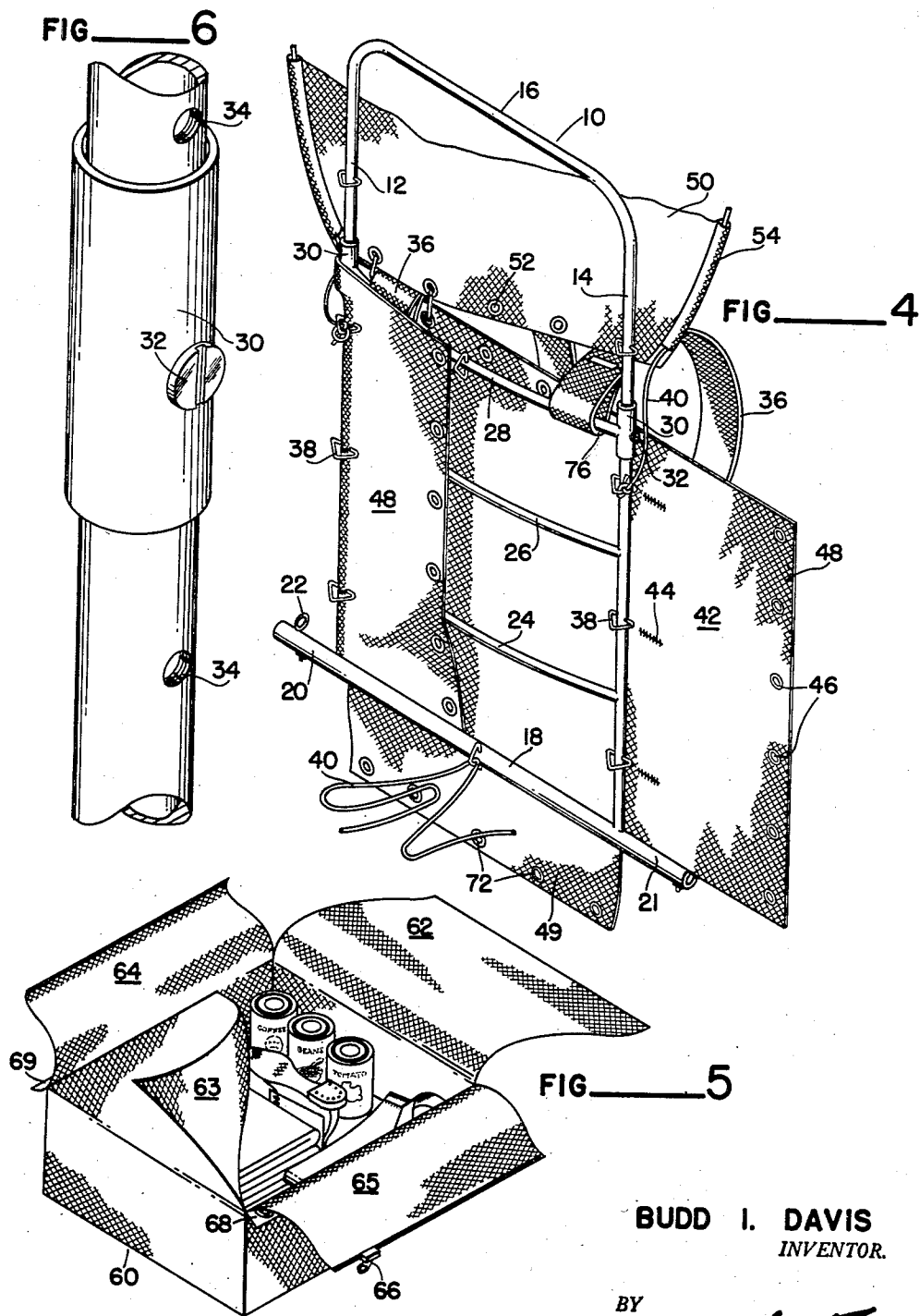
B. I. DAVIS

2,836,334

INDIVIDUAL CARRYING PACK

Filed April 9, 1956

3 Sheets-Sheet 2



BUDD I. DAVIS
INVENTOR.

BY

Smith & Tuck

May 27, 1958

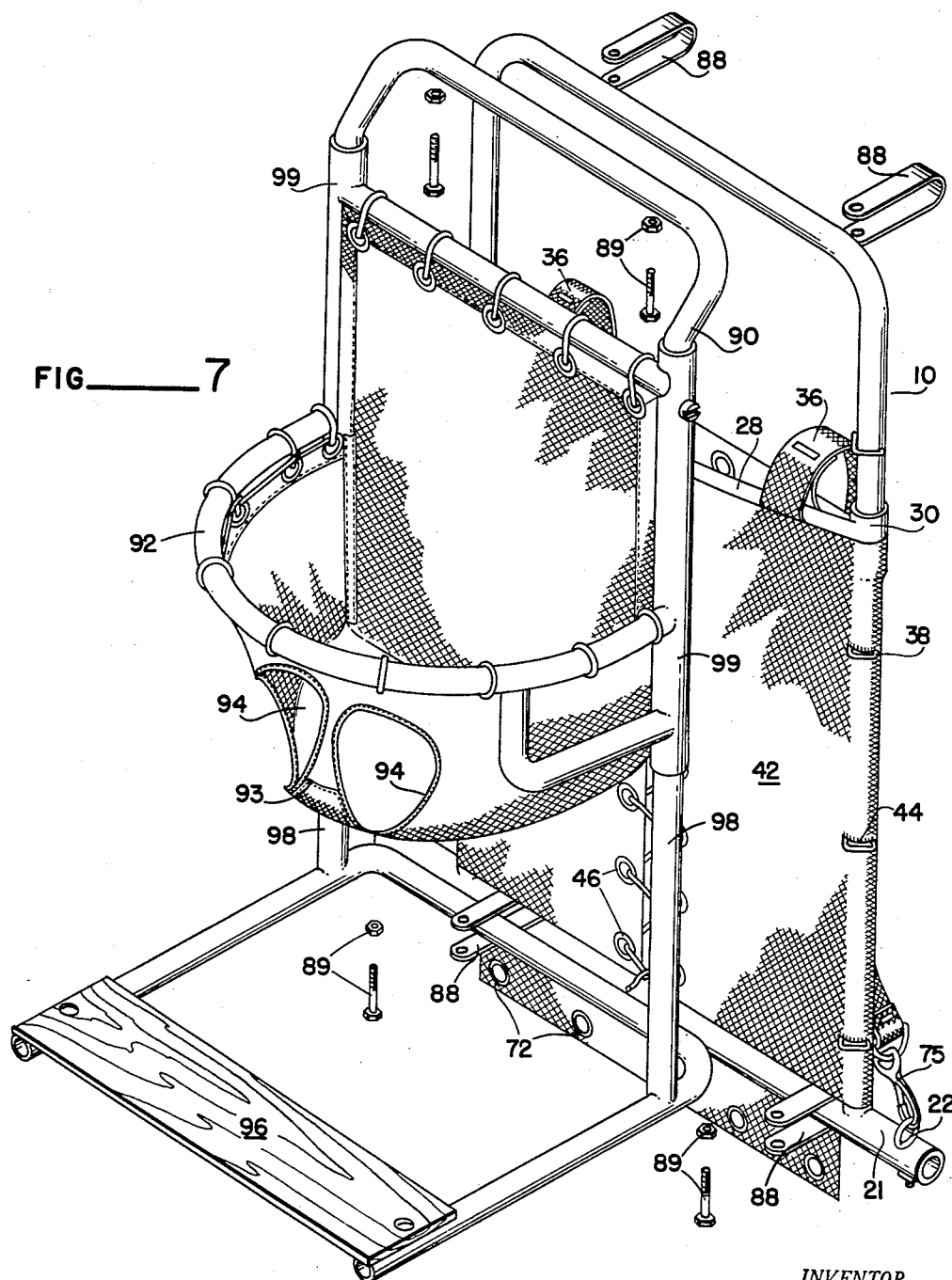
B. I. DAVIS

2,836,334

INDIVIDUAL CARRYING PACK

Filed April 9, 1956

3 Sheets-Sheet 3



INVENTOR.

BUDD I. DAVIS

BY

Smith & Tuck

1

2,836,334

INDIVIDUAL CARRYING PACK

Budd I. Davis, Seattle, Wash.

Application April 9, 1956, Serial No. 577,071

7 Claims. (Cl. 224—25)

This present invention relates to the general art of packs used by individuals in camping and the like, and more particularly, this invention relates to a pack for individual use which is constructed of light weight metal tubing and is provided with unique means for adapting the basic pack frame to a wide variety of back portable loads.

The back packing or the carrying of loads on the back of an individual has, of course, a history going back as far as mankind and a large number of devices have been produced to make the carrying of back transported loads more easily achieved. Means have been provided, for instance, for the ventilation of the space behind the back and for the provision of bearing points so that pressure will not be exerted upon certain of the muscular structure which can ill afford to accept pressure, but rather the pressure is distributed over those areas that are sufficiently muscled to readily admit of heavy loading. There have been in general use many types of frames which in turn were supplied with straps over the shoulders and following the same general plan, baskets have been provided for the attainment of carried products. In addition a large number of unframed pack sacks, knapsacks, and the like, have been produced from time to time. A study of these various items over a considerable period leads to the conclusion that it is very desirable that a pack be provided with a rigid frame so that the loading can be maintained in the desired position and the rigid framing in turn insures that the bearing of the load upon the packer's back will be maintained on the basis that experience has proven to be most acceptable.

In my individual carrying pack I have therefore provided a rigid frame made of light weight metal tubing. To this frame are secured the carrying straps with provision for their attachment such that the spread of the straps can be changed very quickly to give a change in bearing point of the load carrying straps as they pass over the shoulders. A wrap-around woven cover of duck, preferably, is provided so that a smooth bearing comes up against the user's back and with this arrangement the curving of the cross members of the main frame provides a definite air pocket between this covering and the framing and in turn holds the framing away from the user's back. When one goes seriously into camping and back packing or on a commercial basis one is immediately confronted with the necessity of having a pack unit that readily adapts itself to the carrying of a wide range of loads. With this thought in mind I have illustrated in the accompanying drawings three different forms of attachments that can be easily and fixedly secured to my pack frame. It is therefore believed that I have produced an individual carrying pack that overcomes many of the disadvantages and inconveniences of the packs as now available on the market.

The principal object of my present invention therefore is to provide an individual carrying pack formed of light weight metal tubing and associated fabric which

2

is arranged so that a number of auxiliary load carrying devices can be secured to the basic frame and thus adapt the carrier to a wide range of back packing activities.

5 A further object of my present invention is to provide a back pack in which means are provided for securely positioning and maintaining a load in the adjusted position during the entire time it is being carried.

10 A further object of this present invention is to provide means for selectively varying the load bearing points while the pack is being carried.

A further object of this present invention is to provide means whereby a load may be positioned on the carrier so as to place the center of gravity high on the back of the one carrying it, and thus prevent the necessity for the person carrying the pack to lean far and unnaturally forward in order that the center of gravity should not tend to tip him over backwards.

15 A further object of this present invention is to provide adjustable means whereby the height of attachment of the load carrying straps on their upper attachment can be varied at the will of the user.

20 A further object of this present invention is to provide means whereby the spread of the upper anchors of the load carrying straps can be changed at will and during the period the pack is being carried.

25 Further objects, advantages and capabilities will be apparent from the description and disclosure in the drawings, or may be comprehended or are inherent in the device.

In the drawings:

Figure 1 is a perspective view showing one form of my individual carrying pack;

30 Figure 2 is a perspective view illustrating the main pack frame and an auxiliary frame secured thereto such as is useful in carrying case goods, an outboard motor or forest type fire pumps or items of that order;

35 Figure 3 illustrates the manner in which the entire pack is assembled and made up, the same is being shown in perspective arrangement;

40 Figure 4 is a perspective view illustrating the basic frame of my pack together with certain portions of a duck covering used to space the pack from the user's back and also showing how the pack cover is secured in place;

45 Figure 5 shows a preferred form of load carrying pannier which is preferably packed apart from the frame and then secured to the frame, as illustrated in Figure 3;

50 Figure 6 is an enlarged detailed view illustrating the vertical adjustment means for the cross-bar which positions the upper strap anchor;

55 Figure 7 is a perspective view illustrating my basic frame and one form of auxiliary frame, such as is adapted for the carrying of an infant.

Referring more particularly to the disclosure in the drawings, the numeral 10 designates generally the main frame of my individual carrying pack. This frame consists of spaced and parallel side portions, as 12 and 14, which are joined at their top by a continuous run of the same tubing to provide the raised head protecting portion 16, of the frame. At its lower end side members 12 and 14 joined in a fixed manner as by welding thereto, to a somewhat enlarged transverse cross member 18. This member is provided with lateral extensions, as 20 and 21, so that the carrying strap attaching eyes, as 22, may be well spaced apart and at a distance from the load itself so that a very free action of the straps can be thus secured. Intermediate the two ends of frame 10 are provided a plurality of transverse frame members, as 24 and 26. These members are backwardly bowed so as to give additional clearance for the user's back.

Similar, as far as the bowed construction is concerned to cross members 24 and 26, is a vertically adjustable cross member 28. This member has fixedly secured at each of its ends a tubular member 30, which is provided with a lock screw as 32, to the end that the tubular members 30 may be slid up and down on side members 12 and 14 throughout a considerable range. When the desired adjusted position is secured, screws 32, one in each of members 30, are then engaged in the appropriate threaded openings, as 34, in the side members 12 and 14, so that a fixed positioning of transverse member 28 is thus obtained and one that will not be disarranged by the load which is applied to this frame member by the two carrying straps 36.

The frame members, as 12, 14, 16, 18 and 28 are provided with attaching loops or rings 38. These are secured by drilling two small holes in the frame members and then engaging therein the open ends of a substantial hog ring, and then closing the ring so that the rings become, in effect, pivotal loops secured to their respective frame members. These hog rings which give the effect of a D ring, are used for the lacing cords, as 40, by which the various duck portions of the pack are secured in place. It is to be noted that where the wrap-around cover 42 meets with rings 38, and particularly in the vertical side bars 12 and 14, that bound slits are provided as at 44, so that the rings can be passed through the covering and thus the covering itself not be forced to accept the strain caused by the heavy tension that can be applied by the securing heavy thongs or cords 40. The wrap around cover 42 is provided at the desired points along its margin with a plurality of grommets, as at 46, so that the securing tie members 40 can be passed through and achieve the final positioning of the duct or canvas cover with respect to frame member 10. Cover 42 is provided with the two side flaps 48, and a bottom flap 49.

Secured to the upper margin of wrap-around cover 42 is the adjustable pack cover 50. This cover is preferably secured as by grommets 52 and suitable lashing thongs 40 to the upper margin of the wrap around cover 42. Means are further provided for the gathering of the margins of cover 50 so that it will always have a snug fit to the load, and it is to be borne in mind that the load may vary in size through a wide range. This snug fit is achieved by passing of thongs, as 40, through tunnels 54, which are placed along the two sides of cover 50 as will be noted from a study of Figures 3 and 4. Thongs or cords 40 are free to move within tunnels 54 so any degree of puckering that is required, can be achieved and this has been illustrated to a degree in Figure 1.

Adapted for association as part of my pack is the pannier 60, probably best illustrated in Figures 3 and 5. This member is formed, preferably, of a medium weight duck to the end that it will have adequate strength but no unnecessary weight, and this is formed substantially as a box with the material being stitched at the various corners so as to give the pannier 60 a box-like effect and then to provide two flaps or cover portions, as 62 and 63, which are secured on one margin to opposite top sides of the pannier. Attached to the other two sides so that they are oppositely disposed, are the securing cover members 64 and 65. These are adapted to be closed as by the "zipper" or hook fastener 66 and to be further provided with the outstanding reinforced grommet flaps, as 68 and 69. These grommet flaps are employed as in Figure 3 to accept the securing cord 40, which also passes through the rings 38 secured to frame members 12 and 14. When so secured to frame 10 the pannier is positively positioned on frame 10 and will be collapsed by the tension placed on cords 40 so there is no looseness of the material of the pannier, but rather it is lashed down snugly on the contents being carried and thus provides a means for definitely holding

everything in the preferred adjusted position without any voids of any kind on the interior of the pack. When the pannier has been secured in place, as indicated in Figure 3, the sleeping bag or blanket roll 70 may then be placed above the pannier and supported by the upper bar 16 of frame 10. The pack cover 50 is then brought down so that grommets 50 can be lashed to grommets 72 which are in position on the lower flap 49 of the wrap-around cover 42. A preferred lashing means are the two cords 40, which have been passed through tunnels 54 of cover 50. When these are so employed, a very secure covering of the pack is provided with the tension upon cords 40 tending to pucker the cover where required and then to bring it into tight fitting arrangement over the pannier itself. This form is pretty well illustrated in Figure 1. Cover 50 should be provided exteriorly with some form of pocket, as pocket 56, which may be provided with any suitable cover or may be hook fastener closed.

The carrying pack is provided with the two carrying straps 36. These straps have the wide upper portion as is common with carrying straps of this order and then a reduced width in the lower portion with some means for providing an adjustment in length as the double D ring unit illustrated at 74. At the lower ends, straps 36 should preferably be provided with snaps, as 75, for the easy engagement or dis-engagement with eye rings 22. Straps 36 are doubled back on themselves on their upper ends to form loops as 76, which encircle the transverse bar 28. This bar is vertically adjustable, as previously explained, by means of the sliding tubular members 30 and the adjusting screw 32. It is desirable to bring out, however, that straps 36 are not anchored to bar 28 but rather are adjustably positionable on this bar. The fact that the bar is curved prevents any tendency for the two straps to work unevenly toward the center of the bar. The curvature causing them, if any movement is made, to normally work outwardly and in about the same degree. When under load however, there is enough friction or engagement between the web or leather straps 36 and bar 28 to hold it in position on the bar, yet the person carrying the pack can momentarily take the weight of the pack, as by one hand on bar 18 and can then re-adjust the lateral position of the straps 36 so that a new point of bearing can be obtained on the shoulders. This has proven to be a very desirable characteristic of this arrangement in that it prevents the formation of abrasions and the like of the skin which is often quite common among inexperienced packers or persons who only engage in back packing for very short periods of the year.

Referring to Figure 2, I have illustrated a clip-on frame having the side members 80, a top bar 82, which is reinforced and preferably welded to side members 80, in order to provide a triangular bearing point. This is very convenient as it provides a centering means, for instance, for an outboard motor, which might be clamped onto this bar which in the form illustrated gives sufficient bearing for the clamp members between the upper and lower bar members. A transverse bar is provided at 84 so as to prevent any portion of the outboard motor or similar loading sticking through into the pack and thus possibly causing a pressure point on the back of the packer. At its lowermost extent the frame is provided with a rectangular rest portion 86, which has an up-turned portion, as 87. This can provide a means for resting an outboard motor propeller assembly or at least a convenient frame on which to lash the same, but it also provides a convenient arrangement for supporting any carton or box load which it may be desired to carry. This auxiliary frame is secured to the main frame 10 by a plurality of bent-over or U-shaped clips 88, which in turn are provided with suitable bolts or machine screws to hold them in the desired adjusted position. Such screws and nuts are illustrated in Figure 7 at 89.

In order to illustrate the wide variety of loading that can be used with my individual carrying pack I have illus-

5

trated in Figure 7 an auxiliary or detachable frame, as 90, which is provided with a semi-circular curved frame at 92, supporting a canvas carrier 93. This carrier is in the form of a seat for an infant and is provided with openings as 94, through which the infant's legs may be extended in order to more-or-less secure them in place. Bar 92 normally provides sufficient security for the child although an additional strap or belt may be passed around the child and around the frame 90. Particularly for the older infants it is desirable to provide a foot rest, as 96. In this instance I have illustrated a foot rest having vertical frame portions 98 adapted to telescope within the tubular portions 99 of frame 90. As before it is to be noted that this auxiliary frame clamps onto the main frame 10 by a plurality of U-shaped clamps 88. It is desirable to point out, however, that the upper portion of these auxiliary frames should be bent toward the main frame so that the vertical side members of the auxiliary frames and any cross members involved in their construction will be spaced sufficiently from the structure of the basic carrier that the curved transverse members, as 24 and 26 and 28 will have adequate room. Thus the cushioning effect of the duck cover 42 stretched between the vertical side members, as 12 and 14 of the main carrier, will in no way be interfered with. It is desirable to have a definite air space between the pack and the individual's back or substantially so, in order first; that sweating will be reduced to a minimum, and particularly in cold countries it should be entirely avoided. It adds a great deal to the comfort and convenience to have the cushioning effect of the stretched duck against the carrier's back.

It is believed that it will be clearly apparent from the above description and the disclosure in the drawings that the invention comprehends a novel construction of an individual carrying pack.

Having thus disclosed my invention, I claim:

1. An individual carrying pack, comprising: a light tube main frame having an inverted U-shaped portion providing spaced, parallel side bars and a head-protecting top bar, the side bar lower ends being joined by a transverse bottom bar with lateral extensions beyond said side bars having carrying strap-attaching eyes, a plurality of intermediate transverse frame members between said top and bottom bars and a vertically adjustable strap-attaching cross member having tubular members at its ends slidably mounted on said side bars and manually adjustable securing means between said tubular members and said side bars, said intermediate frame members and said strap-attaching cross member being bowed backwardly away from the body of the user, a pair of adjustable length shoulder straps each having a loop on its upper end slidable on said strap-attaching cross member and having a snap at its lower end attached to the corresponding strap-attaching eye, a wrap-around cover having a central portion covering the major portion of said frame at the side facing the user's back and having grommeted side flaps extending around said side bars and cords lacing the same together and said wrap-around cover having a grommeted bottom flap for lashing loads on said main frame, and said main frame having at spaced intervals therealong loops to receive cords in lashing loads thereon and said wrap-around cover in the area of said loops having bound slits to pass said loops.

2. An individual carrying pack, comprising: a light tube main frame having spaced side bars, and connecting top and bottom bars, a pair of shoulder straps attached to and extending between upper and lower portions of said main frame, and an auxiliary frame detachably connected to said main frame rearwardly and substantially coplanar thereof, and means for attaching a load on the rearward side of said auxiliary frame, in which said auxiliary frame is adapted for supporting an outboard motor or the like, said auxiliary frame having side bars

6

and connecting top and bottom bars, and said auxiliary frame having outward rearwardly of the plane of the auxiliary frame side bars an upper supporting bar, an intermediate supporting bar and a lower rest bar to which the corresponding portions of such outboard motor may be secured and rest.

3. The subject matter of claim 2, in which said upper supporting bar is in the form of a triangle in a plane substantially parallel to the plane of said auxiliary frame side bars, said bottom bar of said auxiliary frame and said lower rest bar being in the form of a rectangle in a plane substantially normal to said plane of said auxiliary frame side bars and said lower rest bar having a rest member thereabove, said rest member, intermediate supporting bar and triangular upper supporting bar having at spaced intervals loops to receive cords in lashing loads thereon.

4. An individual carrying pack, comprising: a light tube main frame having spaced side bars, and connecting top and bottom bars, a pair of shoulder straps attached to and extending between upper and lower portions of said main frame, and an auxiliary frame detachably connected to said main frame rearwardly and substantially coplanar thereof, and means for attaching a load on the rearward side of said auxiliary frame, in which said auxiliary frame has side bars and connecting top and bottom bars, said auxiliary frame being attached to said main frame by manually operable securing means between the top and bottom bars of main and auxiliary frames, said top and bottom bars of said auxiliary frame being offset forwardly from the plane of said auxiliary frame side bars toward said main frame thereby holding the supported load from contact with the user's body, and means on said auxiliary frame for securing a load thereto.

5. An auxiliary frame for an individual carrying pack, comprising: a pair of side bars, a top and a bottom bar connecting the ends of said side bars, means for attaching said top and bottom bars to the main frame of an individual carrying pack, means for securing a load to the rearward side of said auxiliary frame, and said top and bottom bars being offset forwardly of the plane of said side bars to hold the supported load from contact with the user's body.

6. An auxiliary frame for supporting an outboard motor or the like on an individual carrying pack, comprising: a pair of side bars, an upper supporting bar, an intermediate supporting bar and a lower rest bar disposed outward rearwardly of the plane of the auxiliary frame side bars and secured to said side bars, said upper and intermediate bars and said rest bar being adapted for the securing of the corresponding portions of said outboard motor thereto, and means for securing said auxiliary frame to the main frame of an individual carrying pack.

7. The subject matter of claim 6, in which said upper supporting bar is in the form of a triangle in a plane substantially parallel to the plane of said auxiliary frame side bars, said lower rest bar being in the form of a rectangle in a plane substantially normal to said plane of said auxiliary frame side bars, and loops for lashing the motor secured on said auxiliary frame at spaced intervals.

References Cited in the file of this patent

UNITED STATES PATENTS

1,505,661	Nelson	Aug. 19, 1924
1,816,510	Anderson	July 28, 1931
2,456,247	Bernaw	Dec. 14, 1948
2,537,864	Skaer	Jan. 9, 1951
2,712,404	Miller	July 5, 1955
2,742,212	Siftan	Apr. 17, 1956
2,764,327	Stevenson	Sept. 25, 1956

FOREIGN PATENTS

210,294	Switzerland	Sept. 2, 1940
---------	-------------	---------------