Sept. 2, 1969 K. L. SMITH 3,464,735

SNOWMOBILE CAMPER

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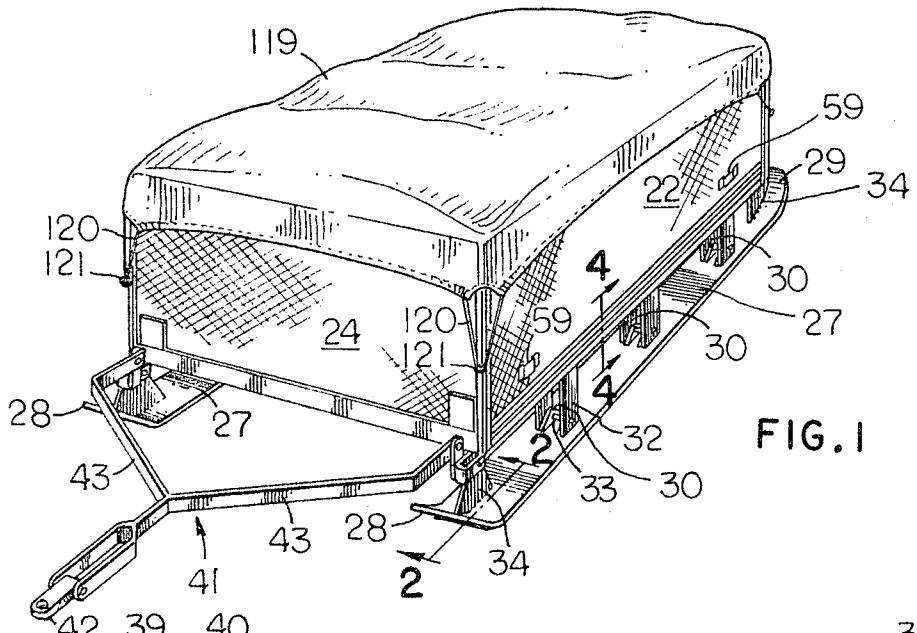


FIG. 1

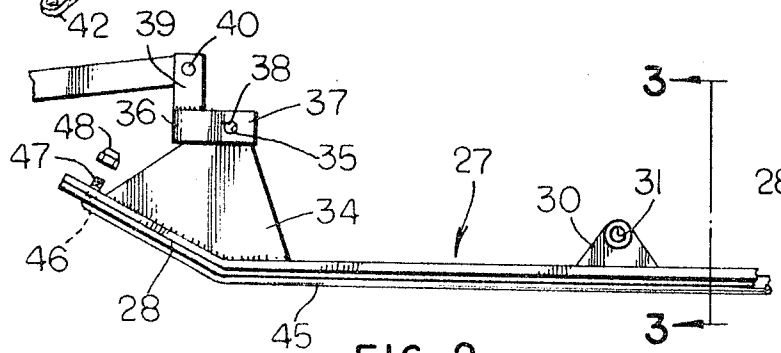


FIG. 2

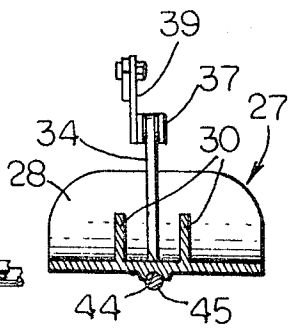


FIG. 3

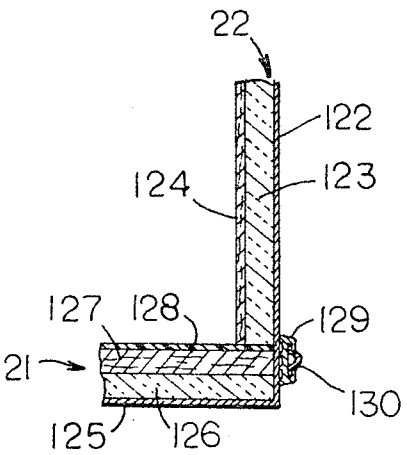


FIG. 4

INVENTOR

KENNETH L. SMITH

by HOOD, GUST, IRISH & LUNDY

Attorneys

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SNOWMOBILE CAMPER

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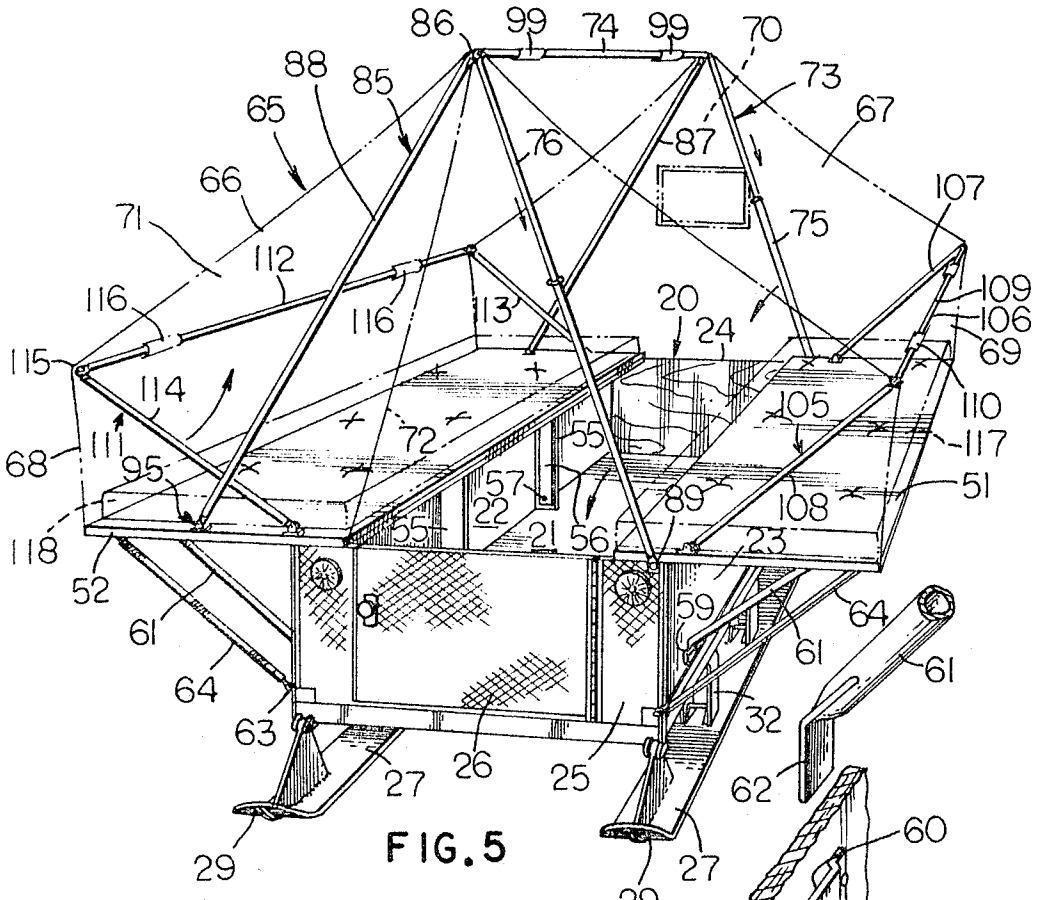


FIG. 5

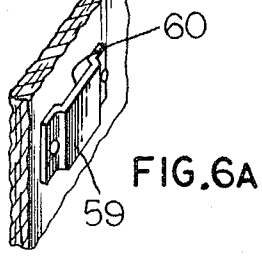


FIG. 6A

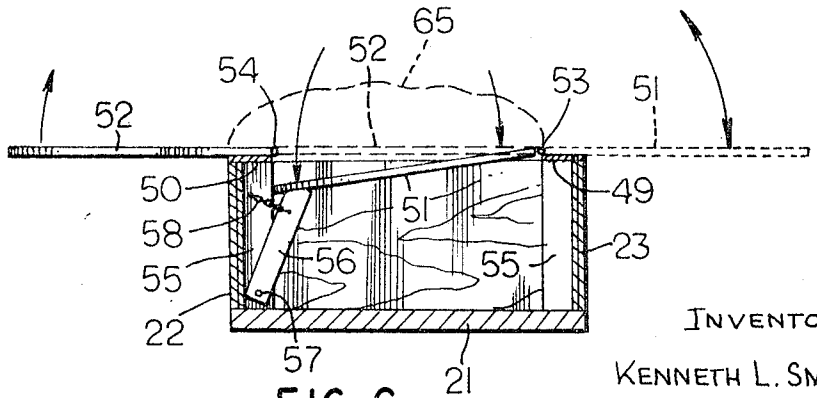


FIG. 6

INVENTOR

KENNETH L. SMITH

by HOOD, GUST, IRISH & LUNDY

Attorneys

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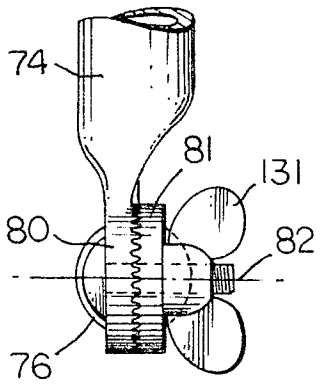


FIG. 7

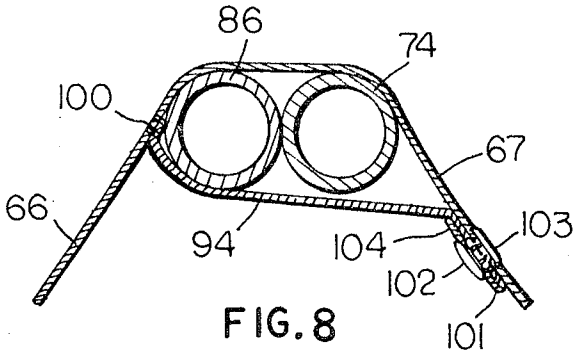


FIG. 8

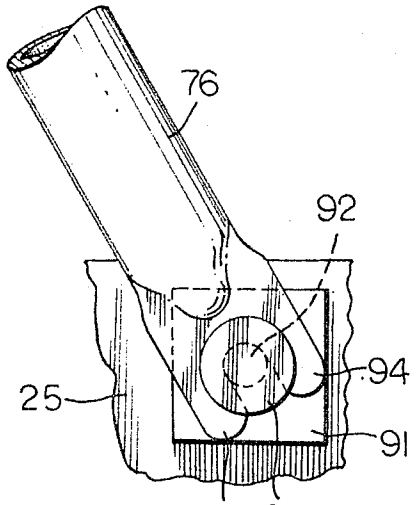


FIG. 9

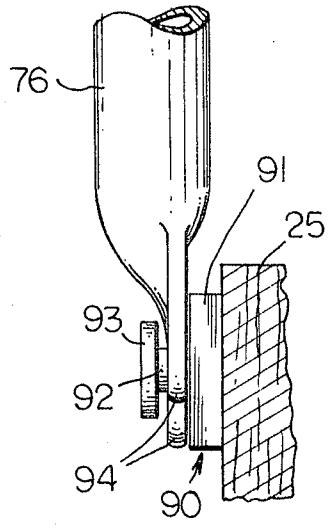


FIG. 10

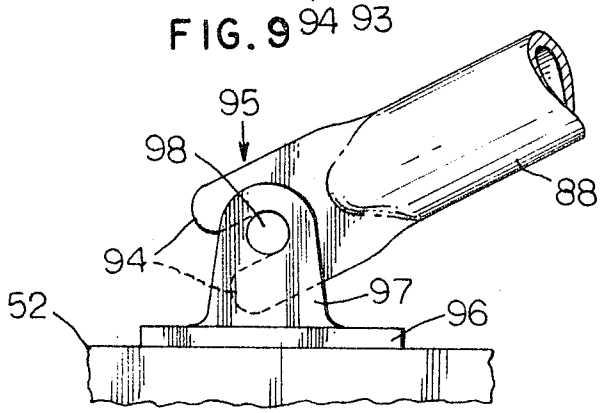


FIG. 11

INVENTOR

KENNETH L. SMITH

by HOOD, GUST, IRISH & LUNDY

Attorneys

Sept. 2, 1969 K. L. SMITH 3,464,735

SNOWMOBILE CAMPER

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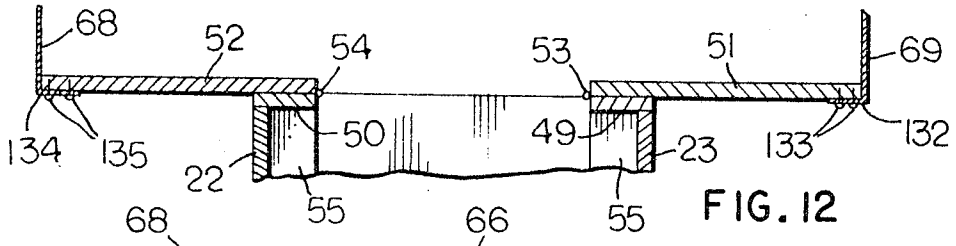


FIG. 12

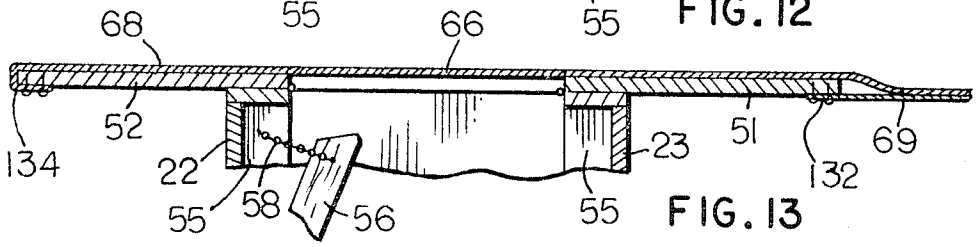


FIG. 13

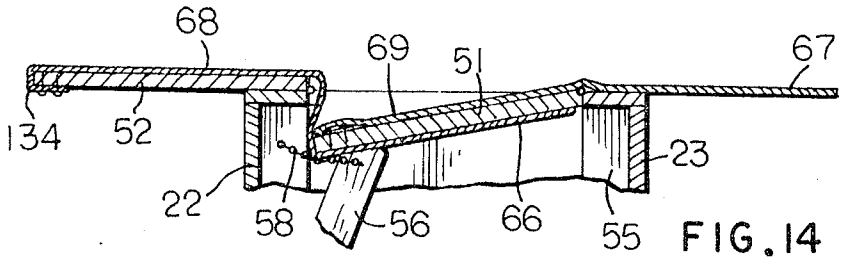


FIG. 14

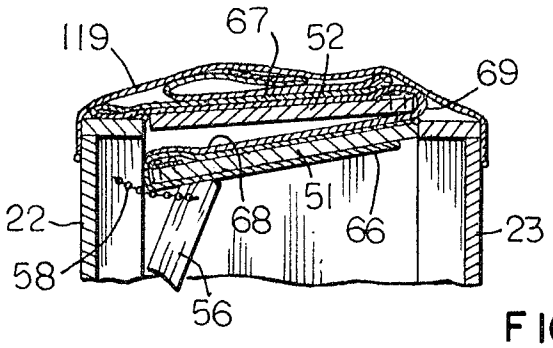


FIG. 15

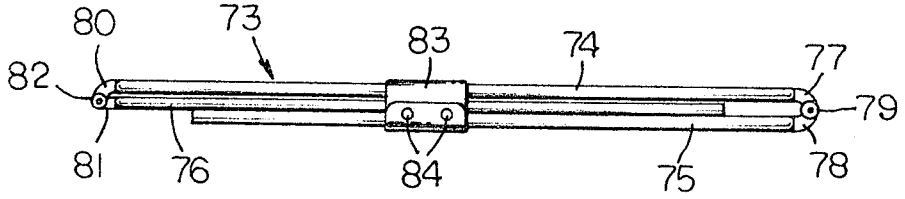


FIG. 16

INVENTOR

KENNETH L. SMITH

by HOOD, GUST, IRISH & LUNDY

Attorneys

United States Patent Office 3,464,735 Patented Sept. 2, 1969

3,464,735

SNOWMOBILE CAMPER

Kenneth L. Smith, Corunna, Ind., assignor to Dolphin-Kamper, Inc., Corunna, Ind., a corporation of Indiana

Filed Aug. 28, 1968, Ser. No. 756,011
Int. Cl. B60p 3/34; B62b 19/00
U.S. Cl. 296—23 13 Claims

ABSTRACT OF THE DISCLOSURE

A vehicle, preferably on ski-runners, comprising a body having upstanding side and end walls surrounding a floor, with a hinged leaf at each side of the body, said leaves being respectively swingable about separate longitudinal axes, between in-folded and laterally extended, substantially horizontal positions, removable brace means for supporting said leaves in their extended positions, a hip-type tent having the lower edges of its side panels secured to the free edges of said leaves, respectively, two major U-shaped frames removably associated with the vehicle for supporting the apex of the tent and two minor U-shaped frames removably associated with the vehicle for supporting the respective hips of the tent to retain the tent in extended, use condition; all four frames being collapsible for storage in the body of the vehicle and the tent being foldable about the leaves, when collapsed, and when the leaves are in-turned, to establish a travel condition, a removable tarpaulin preferably being provided for securement to the vehicle to overlie and protect the folded tent. In the preferred form, the runners are provided with readily-removable wear bars and improved support means mounts the vehicle body on the runners and a draft tongue is connected in a novel manner to the runners.

BACKGROUND OF THE INVENTION

Field of the invention

The present invention relates to camper trailers, preferably for use behind a snowmobile, and more particularly to the provision of an improved form of trailer specially adapted for carrying a novel hip-type tent, collapsible supporting frame elements therefor and novel means for readily operatively associating the support frames with the tent and dismantling and storing the tent structure for travel.

Description of the prior art

The present invention is an improvement over prior art campers primarily in the leaf structure and arrangement, the disclosed brace means for the leaves when extended, and the novel frame structure and arrangement, as well as the manner of association of the tent with the leaves whereby erection, collapse and storage of the tent structure are facilitated.

SUMMARY OF THE INVENTION

The present invention relates to novel trailer body structure, novel tent and support means therefor, a novel association of the tent structure with the vehicle structure, novel runner structure and means for supporting the vehicle thereon and novel draft structure for the vehicle. Thus, the primary object of the present invention is to provide an improved camper trailer, particularly adapted for use in snow and to be drawn by a snowmobile, the structure being compact both vertically and transversely when arranged for travel and yet being quite commodious and comfortable when opened and with the tent structure erected for stationary camping.

Further objects of the invention will appear as the description proceeds.

BRIEF DESCRIPTION OF THE DRAWINGS

The above-mentioned and other features and objects of this invention and the manner of attaining them will become more apparent and the invention itself will be best understood by reference to the following description of a preferred embodiment of the invention taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of a snowmobile camper constructed in accordance with the present invention and arranged for travel;

FIG. 2 is a fragmentary side elevation, drawn to an enlarged scale, of one of the runners upon which the camper body is supported;

FIG. 3 is a transverse section taken substantially on the line 3—3 of FIG. 2;

FIG. 4 is a fragmentary section taken substantially on the line 4—4 of FIG. 1 and drawn to an enlarged scale;

FIG. 5 is a perspective view, taken from the rear of the camper, and showing the camper in erected position for camping, the tent itself being shown in shadow lines;

FIG. 6 is a transverse section, drawn to a reduced scale, one leaf being shown in solid lines in in-folded position with its free edge supported inside the vehicle body upon suitable brace means, the other leaf being shown in solid lines in extended position, and the first leaf being shown in broken lines in extended position while the other leaf is shown in broken lines in in-folded position, the folded tent being suggested in broken lines;

FIG. 6A is a fragmentary, exploded view illustrating details of a leaf-brace arrangement;

FIG. 7 is an enlarged, fragmentary view of a hinged connection between the elements of a U-shaped frame;

FIG. 8 is an enlarged, fragmentary section illustrating the manner in which the bases of the major frames are secured in supporting relation to the apex of the tent;

FIG. 9 is a fragmentary, end elevation of one form of anchoring means for a leg of a frame;

FIG. 10 is a side elevation of the same detail;

FIG. 11 is a fragmentary, end elevation of another form of anchoring means;

FIG. 12 is a fragmentary, transverse sectional view illustrating the manner in which the terminal edge regions of the side panels of the tent may be secured to the hinged leaves, the tent being in erected condition;

FIG. 13 is a similar view showing the manner in which the collapsed tent may be arranged after removal of the support frames, as a first step in arranging the tent for travel;

FIG. 14 is a somewhat diagrammatic illustration of the condition of the parts after the first leaf has been moved to in-turned position as a second step in arranging the vehicle for travel;

FIG. 15 is an illustration similar to FIG. 14 showing the condition of the parts after the second leak has been folded over the first leaf and the remainder of the tent has been folded in on top of the second leaf and a protecting tarpaulin has been applied to the vehicle to cover the folded tent; and

FIG. 16 is a perspective view of a first major U-shaped frame in folded and secured condition, exemplifying the construction and the storage condition of all four U-shaped frames.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring, now, particularly to FIGS. 1 to 6, it will be seen that I have illustrated an elongated body indicated generally by the reference numeral **20** and formed to provide a floor **21**, side walls **22** and **23**, a front wall **24** and a rear wall **25** which is preferably provided with

a hinged door **26**, the body being supported, in a manner to be described hereinafter, from a pair of longitudinally-extended, laterally-spaced, wide ski-runners **27**. Each of said runners is formed with a forward up-turned toe **28** and a rearward up-turned toe **29**. Since the two runners are preferably of identical construction, only one will be described in detail.

Each runner is provided with a plurality of pairs of upstanding brackets **30** arranged in a longitudinally-spaced series medially of the runner, each such bracket pair being provided, near the top thereof, with aligned perforations **31**. Depending from the body **20** adjacent each lateral side thereof is a plurality of pairs of laterally spaced supports **32** disposed in a longitudinally-spaced series so arranged that the lower ends of each support pair will straddle a corresponding bracket pair on a runner. The support pairs are provided, near their lower ends, with aligned perforations for registry with the perforations **31** whereby each such support pair may be joined to, and supported from, its corresponding bracket pair by means of a bearing pin **33** penetrating the aligned perforations. The pins **33** may be secured in place in any well-known fashion.

An upstanding fillet plate **34** is arranged at each end of the runner in such a fashion as to brace and strengthen the up-turned toe; and at least the plates **34** at the forward ends of the runners will be provided, near their upper ends, with perforations **35**. It will be clear that the perforations **35** on the two runners will be coaxial.

For each forward fillet plate **34** I provide a bell-crank lever **36** having a horizontal arm **37**, perforated near its rear end to receive a pivot pin **38** received in the perforation **35** of the corresponding plate, the levers **36** preferably being disposed at the inner sides of the respective plates **34**. Each such lever **36** further comprises a substantially vertical arm **39** provided with a perforation **40** at its upper end. A draft tongue, indicated generally by the reference numeral **41**, is provided at its forward end with a link **42** pivoted about a horizontal axis and adapted to be connected to a hitch element carried by a draft vehicle such as, for instance, a snowmobile (not shown). At its rear end, the tongue **41** is formed to provide diverging forks **43** each of which is perforated near its rear end to receive a pivot pin (not shown) supported in the perforation **40** of one of the levers **36**. This arrangement facilitates movement of the trailer, behind a draft vehicle, over relatively rough ground, in that it permits relatively free movement of the tongue **41**, relative to the towed vehicle, in a vertical plane.

It will be seen that the runners **27**, as illustrated, are quite broad to provide maximum area for supporting the trailer as it is drawn over snow; and I presently believe that it will be desirable to form the runners from aluminum or an aluminum alloy. Preferably, the spacing between the runners will be substantially equal to the spacing between the treads of a conventional snowmobile, so that the runners will follow closely in the packed-snow paths of the treads of the towing vehicle. In order to protect the relatively soft metal of the runner bodies against damage from logs, stones and other hard objects which may be encountered in transit, I prefer to thicken the medial region of the bottom surface of each runner and to form a longitudinal groove or channel **44** in such thickened portion, such channel extending substantially from end-to-end of the runner, and to mount a wear bar **45** in such channel in such a relationship that the wear body protrudes beyond the bottom surface of the thickened portion. As shown, and preferably, the channel will be substantially semi-cylindrical in form and the wear bar will be a steel rod of circular cross section and having a radius substantially equal to that of the channel, so that approximately one-half of the body of the rod **45** will protrude beyond the lowermost surface of the runner.

Preferably, each toe of the runner will be formed, near its distal extremity, with a perforation **46** therethrough adapted to receive and pass a turned-up end of the bar **45**, the extremity **47** of said turned-up end being threaded and protruding beyond the upper surface of the runner toe for the reception of a cap nut **48** which can be turned down into bearing relation with the upper surface of the runner toe thus securely, but releasably, fastening the wear bar **45** to the runner. It will be obvious that, because of this detail of construction, a worn or damaged wear bar **45** may be readily removed and replaced simply by removing the two cap nuts **48**, extracting the turned-up ends of the rod from the perforations **46** in which they are mounted, and mounting a new bar in the same way on the runner.

Referring, now, more particularly to FIGS. 5 and 6, it will be seen that I prefer to provide side boards **49** and **50** secured, respectively, to the side walls **23** and **22** of the body **20** and secured, as well, to the front and rear end walls **24** and **25**, each such side board extending a short distance inwardly over the open mouth of the body **20**. A first leaf **51** is arranged to span the walls **24** and **25** and is hinged to the inner edge of the side board **49** to swing about an axis parallel to the side wall **23**. Hinge means **53**, which may preferably be of the piano hinge type, so supports the leaf **51** to swing between the extended position illustrated in FIG. 5 and the in-folded position illustrated in solid lines in FIG. 6, the width of the leaf **51** being just small enough so that its free edge will clear the inner edge of the side board **50**. A second leaf **52**, similar in all respects to the leaf **51**, is similarly hinged at **54** to the inner edge of the side board **50**.

For supporting the free edge of the leaf **51** in its in-folded position, I provide one or more arms **56**, each pivoted at its lower end, as at **57**, to one of a plurality of braces **55** secured to the wall **22** and supporting the side board **50**. When the leaves **51** and **52** are extended, the arms **56** will be disposed in vertical positions within the boundaries of their associated braces **55**, as shown in FIG. 5. If desired, any conventional form of retaining means may be provided for holding the arms **56** in such vertical positions. When, however, the leaf **51** is to be moved to its solid line position of FIG. 6, the upper ends of the arms **56** will be swung away from the wall **22** to a limiting position, as shown in FIG. 6, which position may be determined by a chain **58** or other equivalent flexible strand means anchored at one end to the brace **55** and at its other end to the upper portion of the arm **56**. As is clearly illustrated in FIG. 6, the arms **56**, in their in-swung positions, will underlie the free edge of the leaf **51** when it is in its in-folded position, to support the same.

Brace means is provided for effectively retaining the leaves **51** and **52** in their extended positions. At spaced points along each side wall **22** and **23**, I mount hasps **59**, the configuration of which is illustrated in FIG. 6A. Each such hasp thus provides an upwardly-opening socket **60**. At correspondingly spaced points along the outer surface of each leaf and adjacent the free edge thereof, I mount similar hasps which provide sockets opening inwardly when the leaves are in extended positions. Strut members **61**, which may comprise tubular sections, are provided at their opposite ends with flattened tab extensions **62** proportioned and designed to be received with a slip fit in such sockets. Such tab extensions are turned, from a common side of the strut, at angles of substantially 45°. Thus, one tab extension of each strut may be entered in the socket **60** of a hasp **59** on a side wall of the body, while the opposite tab extension of the same strut may be entered in the socket provided by the correspondingly-located hasp on one of the leaves, thereby providing a support against downward movement of the free edge of that leaf. Several such struts will be arranged along each side of the assembly to provide adequate support for each leaf.

The brace means for the leaves in their extended posi-

tion includes, as well, hold-down means to restrain the free edges of the leaves against upward movement. As shown, connector means suggested at **63** in FIG. 5 will be arranged at suitably spaced points along each side wall and at corresponding points along the outer surface of each leaf near the free edge thereof; and suitable resiliently extensible means, as suggested at **64**, will be connected between each pair of such connector means. Each such resiliently extensible means **64** may assume any one of several known forms such as, for instance, a continuous, rubberoid strap with a medial metal guard sheath; or a metal strip with coiled springs arranged to extend beyond one or both ends thereof.

As an element of the camper, I prefer to provide a hip-type tent, indicated generally by the reference numeral **65** and comprising roof panels **66** and **67** meeting to define the apex of the tent, side panels **68** and **69**, a front panel **70** and a rear panel **71**, all joined in the conventional fashion and the rear panel preferably being provided with a slide fastener **72** substantially registering with the distal edge of the door **26**. As is perhaps most clearly illustrated in FIGS. 12 and 13, the lower edge region **132** of the side panel **69** is turned under the free edge of the leaf **51** and secured thereto by any suitable fastening means which, in the present drawings, is shown as nails or screws **133** providing a semi-permanent securement. Similarly, the lower edge region **134** of the side panel **68** is turned under the free edge of the lead **52** and is secured thereto by suitable means indicated at **135**. If desired, the lower edge regions of the front and rear panels **70** and **71** may be secured to the ends of the leaves **51** and **52**, but preferably by readily-separable fastening means (not shown).

A first major U-shaped frame is indicated generally by the reference numeral **73** and, in the preferred form of my invention (comprises a base **74** and two legs **75** and **76** hingedly connected, respectively, to opposite ends of the base **74**. As is most clearly illustrated in FIGS. 7 and 16, each member of the frame **73** may preferably be a hollow tube. One end portion of the base member **74** is flattened, and may be curved, as indicated at **77** in FIG. 16 and said flattened portion is perforated near its distal end. Similarly, one end of the leg member **75** is flattened as at **78** and may be correspondingly curved and is formed with a perforation near its extremity. Thus, the leg **75** is hingedly connected to one end of the base member **74** by a pivot member **79**.

Similarly, the opposite end of the base member **74** is formed with a flattened, and preferably curved, extension **80** which mates with a flattened portion **81** at one end of the leg **76**, whereby the leg **76** is hinged to the base member **74** by means of a pivot **82**.

As suggested in FIG. 7, the pivot members **79** and **82** may be headed bolts with each of which cooperates a securing device such as a wing nut **131**; and, if desired, the cooperating faces of the flattened extensions may be serrated, in a known manner, whereby the legs may be locked affirmatively in a multiplicity of desired relationships to the base member **74**.

Because of this hinged construction, it will be apparent, the frame **73** is collapsible to a storage condition as illustrated in FIG. 16, or erectable to a tent-supporting condition as illustrated in FIG. 5. When in storage condition, the frame parts may be secured against rattling, if desired, by means of a flexible strap **83** which may be passed around the adjacent portions of the base and the two legs and secured in embracing relation thereto by any suitable fastening means such as, for instance, snap fasteners **84**.

Means **89** is provided for releasably anchoring the distal end of each frame leg to an element of the vehicle; and in FIGS. 9 and 10 I have illustrated one preferred form of such anchoring means.

Fixed to the outer surface of the rear wall **25** of the body, near the upper righthand corner thereof, is a fitting **90** comprising a base **91**, an outstanding pin **92** and an enlarged head **93** carried at the distal end of said pin. A similar fitting is similarly mounted on the front wall **24** with its pin portion coaxial with the pin **92** of the fitting **90**. At the distal end of each leg **75** and **76** there is provided an open-ended fork **94** proportioned and designed to straddle the pin portion of one of the fittings **90** between the base **91** and the head **93** thereof. Thus, the frame **73** is supported upon the body **20** for oscillatory adjustment about the common axis of the pins **92**.

A second major U-shaped frame indicated generally by the reference numeral **85** comprises a base **86** similar to the base **74** and legs **87** and **88**. The frame **85** will be similar in construction to the frame **74** and will be similarly collapsible. As illustrated, the legs **87** and **88** are somewhat longer than the legs **75** and **76** of the frame **73**, for a reason which will appear.

Anchoring means for the frame **85** may be similar to that above described, but preferably will be of the form illustrated in FIG. 11. As there illustrated, such anchoring means comprises a fitting indicated generally by the reference numeral **95** and formed to provide a base **96** which may be secured to the inner surface of the leaf **52**. Such a fitting will be provided, of course, at each end of said leaf. The base **96** carries a pair of spaced, upstanding ears **97** spanned, near their upper ends, by a pivot pin **98**. Each of the legs **87** and **88** is provided at its distal end with a fork **94**, which may be identical with the forks on the legs **75** and **76**, each such fork straddling a pin **98** and being retained between the ears **97** of its associated fitting. Thus, the frame **85** is supported from the vehicle for oscillatory adjustment about the common axis of the pins **98** of the fittings **95** at opposite ends of the leaf **52**.

When the tent **65** is to be erected, the leaves **51** and **52** are extended and braced and thereupon the frames **73** and **85** are mounted upon their respective anchoring means and their bases **74** and **86** are moved into side-by-side contiguous relation as suggested in FIG. 8, whereby the apex of the tent will be elevated. One or more flexible flaps **99** are associated with the interior surface of the tent adjacent its apex. As shown, one end **100** of the flap **99** is sewn to the tent material. The free end **101** of the flap **99** carries elements **102** of one or more readily-separable fastening devices such as, for instance, snap fasteners, for cooperation with mating elements **103** of such fastening devices, sewn or otherwise secured to the tent surface. As shown, the first-mentioned end of the flap **99** is sewn to the roof panel **66** of the tent, while the fatsener elements **103** are secured to the opposite roof panel **67**. The flap **99** is so proportioned and designed that, when it is passed beneath the frame bases **86** and **74** and its free end **101** is secured to the roof panel **67**, it will act to secure the frame bases against separation and in supporting relation to the apex portion of the tent. One means of facilitating the securement of the flap end **101** in such relation is illustarted in FIG. 8 and comprises a loop or tunnel **104** secured to the roof panel **67** and so arranged that the flap end **101** may be threaded downwardly through such tunnel before bringing the elements **102** into securing relation with the elements **103**.

I provide a first minor U-shaped frame **105** comprising a base **106** and legs **107** and **108**, the construction of such frame being similar to that described above in connection with the frame **73**. The legs of the frame **105** may be anchored to the leaf **51** in the manner described in connection with the frame **85**, and said frame **105** is proportioned and designed so that its base **106** will engage the interior of the tent at the hip **109**, where the side panel **69** merges with the roof panel **67**. In that region, one or more flaps **110** will be provided to embrace the frame base **106** and hold the same in such cooperative relation with the tent hip.

A second minor U-shaped frame **111**, comprising a base **112** and legs **113** and **114** hinged to the opposite

ends of said base, is similarly anchored to the leaf **52** and is proportioned and designed to cooperate similarly with the hip **115** of the tent, where its base will be held in such cooperative position by means of one or more flaps **116**.

As suggested by broken lines in FIG. 5, mattresses **117** and **118** may be supported upon the leaves **51** and **52**, respectively, said mattresses being storable in the bed of the body **20** for travel.

Thus, it will be seen that, when the tent is erected by extending the leaves **51** and **52**, opening the frames **73**, **85**, **105** and **111**, mounting said frames on their respective anchoring means and securing them to the interior of the tent in the manner above described to support the tent, comfortable and reasonably commodious living space is provided.

When the camper is to be closed for travel, the mattresses **117** and **118** will be removed from the leaves **51** and **52** and placed in the bottom of the vehicle bed. Then the frames **105** and **111** will be disconnected from their respective anchoring means, folded, secured, if desired, by straps such as the strap **83**, and placed in the vehicle bed. Thereafter, the frames **73** and **85** will be removed from their anchoring means, folded, secured, and placed in the vehicle bed. Now, the apex region of the collapsed tent will be grasped and the tent material will be moved to the right, as viewed in FIG. **5**, and smoothly stretched generally in the manner illustrated in FIG. 13. The arms **56** having been moved to the position of FIG. 13, the leaf **51** will now be folded inwardly, carrying with it the attached side panel **69** and the overlying portion of the roof panel **66**, to fold the roof panel **66** upon itself and to move the tent parts substantially into the positions suggested in the diagrammatic illustration of FIG. 14. Now, the leaf **52**, carrying the side panel **68**, will be folded inwardly to overlie the leaf **51** and the tent portions overlying its outer surface, and thereupon the remaining portions of the tent will be folded over the leaf **52**, as suggested in FIG. 15. Thus, the tent will be relatively smoothly and compactly arranged within the boundaries of the body **20**; and a suitable tarpaulin **119**, provided at its corners with fastening means **120** cooperable with fastening means **121** secured to the body corners, can be arranged to overlie the whole tent package to protect the equipment and to give it a compact, neat appearance.

In FIG. 4, I have shown details of a preferred construction of the vehicle body **20**. As shown, the side wall **22** comprises an external skin **122** of aluminum sheeting internally backed by a layer of suitable thickness of insulating material such as, for instance, polystyrene foam **123**; and finish paneling **124**, which may be plastic sheeting, plywood or, in some instances, veneer or even heavy paper provides a finished appearance for the internal surface of the wall. Preferably, the side wall **23**, the front and rear walls **24** and **25** and the door **26** may be of similar construction.

The floor **21** will preferably comprise an external skin **125** of aluminum sheeting, a layer **126** of insulation which may be similar in character to the insulation **123**, and a layer of wood flooring **127** over which there may be applied a finish layer **128** of inlaid linoleum, composition tile, or the like.

Preferably, for the protection of the body **20** against damage from relatively light collisions, I provide a perimetral molding rail **129** which may be formed of any suitable metal, extruded plastic or the like and which, as shown, is externally channeled to receive a continuous bumper strip **130**, preferably of rubberoid material.

It will be seen that I have provided a snowmobile camper embodying numerous features of structural novelty cooperating to provide an assembly having significant functional advantages over previously known devices intended for a comparable purpose. While the prinicples of this invention have been discussed above in connection with a specific form of apparatus, it is to be clearly understood that this description is made by way of example and not as a limitation to the scope of the invention.

What is claimed is:

1. A trailer comprising a body having a floor and upstanding side and end walls, a first leaf spanning said end walls, means hingedly mounting said first leaf for swinging movement about an axis parallel to, and spaced inwardly from, one of said side walls, a second leaf spanning said end walls, means hingedly mounting said second leaf for swinging movement about an axis parallel to, and spaced inwardly from, the other of said side walls, each of said leaves being proportioned and arranged to extend, when in one limiting position, laterally outwardly beyond its associated side wall, brace means removably connected to each leaf and to its associated side wall when said leaves are so extended, a first major U-shaped frame having its legs removably connected respectively to said end walls adjacent said one side wall, a second major U-shaped frame having its legs removably connected respectively to said second leaf, when extended, adjacent the opposite ends of said second leaf, a hip-type tent, means at the apex of said tent embracing the bases of said frames to secure said bases to said tent and to each other, a first minor U-shaped frame having its legs removably connected respectively to said first leaf adjacent the opposite ends of said first leaf and near the hinge axis of said first leaf, means at one hip of said tent embracing the base of said first minor frame to secure said base to said tent, a second minor U-shaped frame having its legs removably connected respectively to said second leaf adjacent its opposite ends of said second leaf and near the hinge axis of said second leaf, and means at the other hip of said tent embracing the base of said second minor frame to secure said base to said tent.

2. The trailer of claim **1** in which each of said U-shaped frames comprises a base member and two leg members, the leg members being respectively hinged to opposite ends of said base member for independent swinging movement about substantially parallel axes transverse relative to the length of said base member.

3. The trailer of claim **1** in which each leg of each frame is provided, at its end remote from its base, with an open yoke engageable with a pin carried on the trailer member to which said leg is to be connected and disposed on an axis substantially parallel with the hinge axes of said leaves.

4. The trailer of claim **1** in which each means for securing a frame base includes flexible flap means disposed inside said tent with its ends secured to said tent and its intermediate portion overlying a region of the associated frame base whereby such region is retained between the inner surface of said tent and said intermediate portion of said flap means.

5. The trailer of claim **4** in which at least one of the ends of each flap means is secured to said tent by quick-release fastener means.

6. The trailer of claim **1** in which said brace means includes a rigid strut supporting the laterally-outward edge of each leaf against depression, and a resiliently-extensible member restraining the laterally-outward edge of each leaf against elevation.

7. The trailer of claim **1** in which said brace means comprises, for each leaf, a rigid strut, means on the under surface of said leaf providing a laterally-inwardly-opening socket, and means on the external surface of the adjacent body side wall providing an upwardly-opening socket, said strut being formed at its opposite ends with tab extensions turned from a common side of said strut at angles of substantially 45° and respectively removably received in said sockets.

8. The trailer of claim **1** in which the lateral width of at least one of said leaves is less than the distance between the hinge axes of said leaves, and support means inside said body for supporting the free edge of said one

leaf at a level below said hinge axes when said one leaf is swung inwardly.

9. The trailer of claim 8 in which said support means comprises an arm, hinge means mounting the lower end of said arm to swing, about an axis adjacent, and substantially parallel with, the side wall of said body remote from the hinge axis of said one leaf, between a substantially vertical position and an upwardly and inwardly inclined position, and means limiting the degree of inward inclination of said arm.

10. The trailer of claim 9 in which said limiting means is a flexible strand having one end anchored on said body adjacent said remote side wall and having its other end secured to said arm at a point above said arm hinge means.

11. The trailer of claim 1 in which the lower edges of the side skirts of said tent are respectively secured to the free edges of said leaves whereby, upon removal of said frames and inward folding of said leaves, said tent will automatically be folded to lie within the perimetral boundaries of said trailer.

12. The trailer of claim 11 including a tarpaulin proportioned and designed to overlie said tent when so folded, and cooperating fastening means at the corners of said body and at the corners of said tarpaulin for releasably retaining said tarpaulin in such overlying relation.

13. The trailer of claim 1 including a pair of laterally-spaced, longitudinally-extending ski-runners, means supporting said body from said runners, an upstanding element fixed to each runner adjacent its forward end, a bell-crank lever for each such element, each lever having a substantially horizontal arm pivoted at its rear end to the upper portion of its upstanding element upon an axis transverse relative to the length of said runners, and each lever having an upstanding arm spaced forwardly from the common pivotal axis of said levers, and a forked tongue, the forks of said tongue being respectively pivotally connected to the upper ends of said upstanding arms of said levers.

References Cited

UNITED STATES PATENTS

1,285,794	11/1918	Reid	296—23
1,499,972	7/1924	Canfield	135—1
1,564,257	12/1925	Lippman	296—23

LEO FRIAGLIA, Primary Examiner

ROBERT R. SONG, Assistant Examiner

U.S. Cl. X.R.

280—15; 135—1, 4