United States Patent

[11] 3,596,788

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[54] **TELESCOPIC RETRACTING CAMPER**
10 Claims, 15 Drawing Figs.

[52] **U.S. Cl.** **214/450,** 214/83.24, 214/141
[51] **Int. Cl.** **B60r 9/00**
[50] **Field of Search** 214/450, 141, 505, 516, 83.24, 501

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Assistant Examiner—John Mannix
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ABSTRACT: A camping kit carried on luggage supports on top of an automobile. The kit is pivotally connected to one of the supports and has a telescopic frame which can be extended from the vehicle to the ground. The end section of the frame carries a platform provided with extensible legs so that it can be used as a bed. The platform is also provided with a tent which can be erected over the bed to form a shelter.

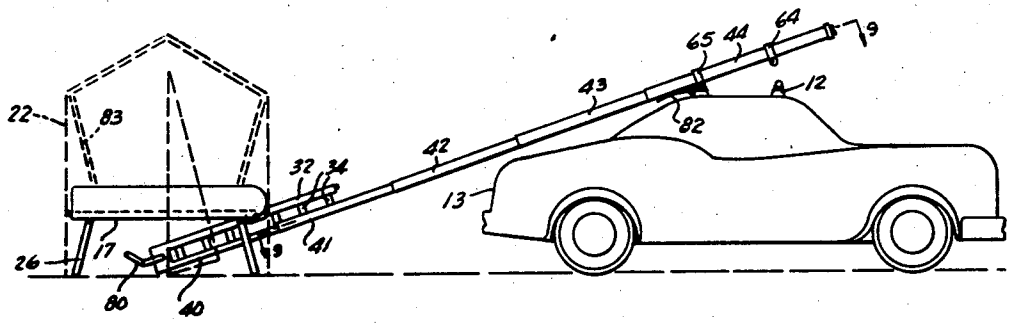


FIG. 1.

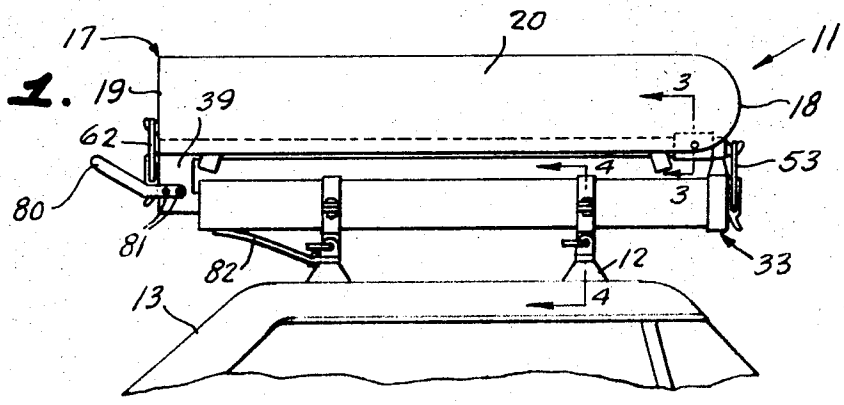


FIG. 2.

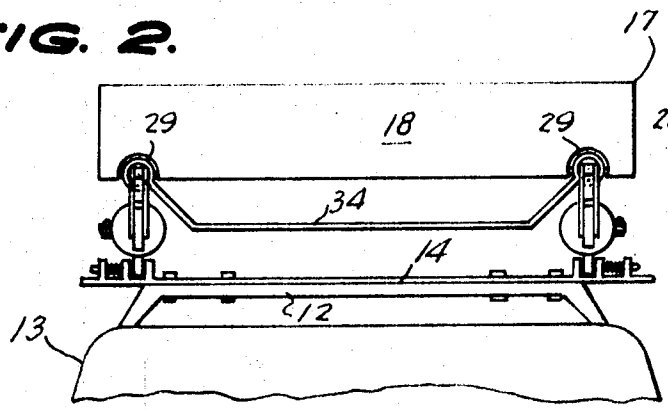
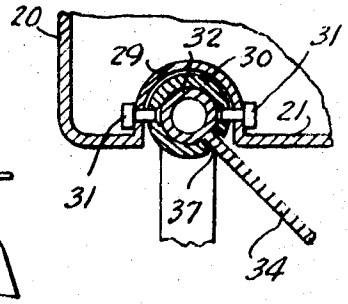


FIG. 3.



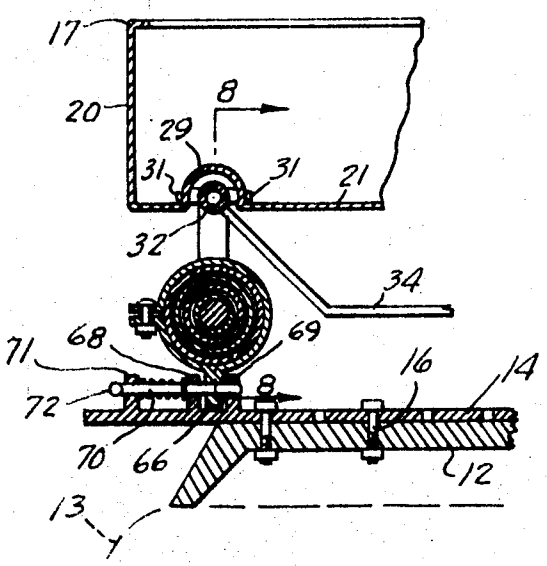
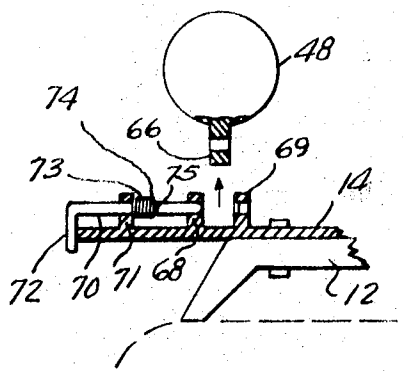


FIG. 4.

FIG. 5.



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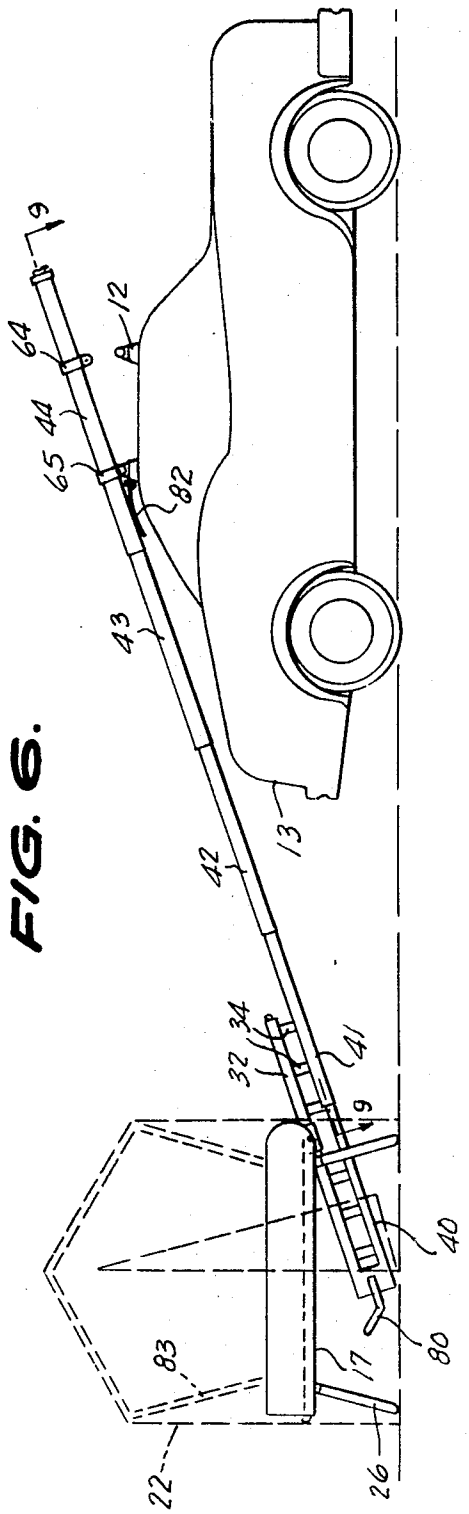


FIG. 6.

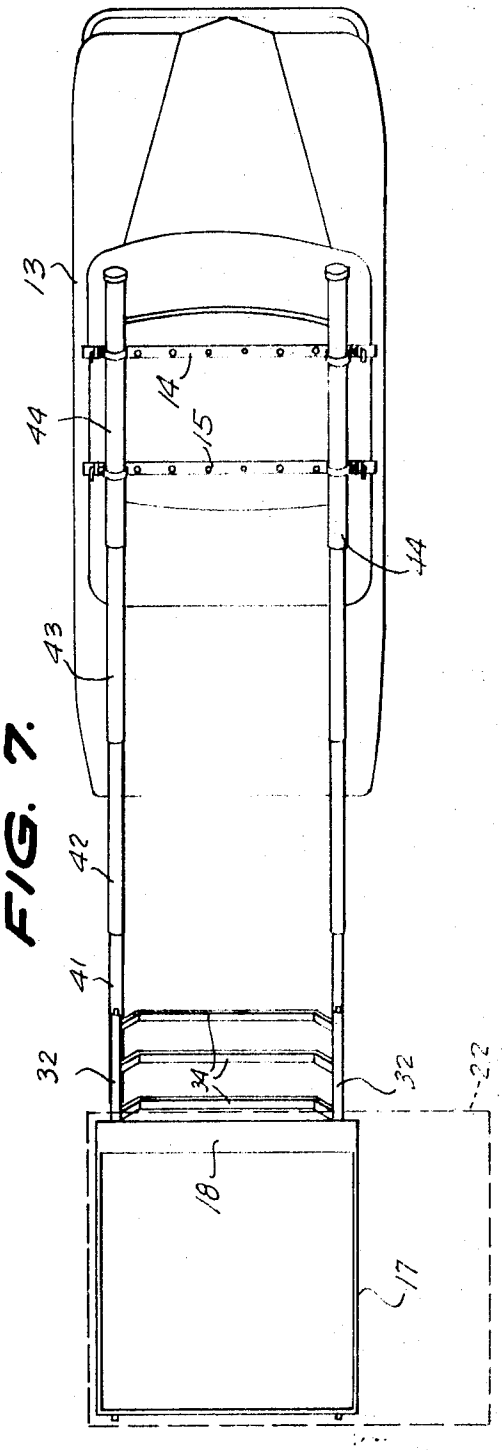


FIG. 7.

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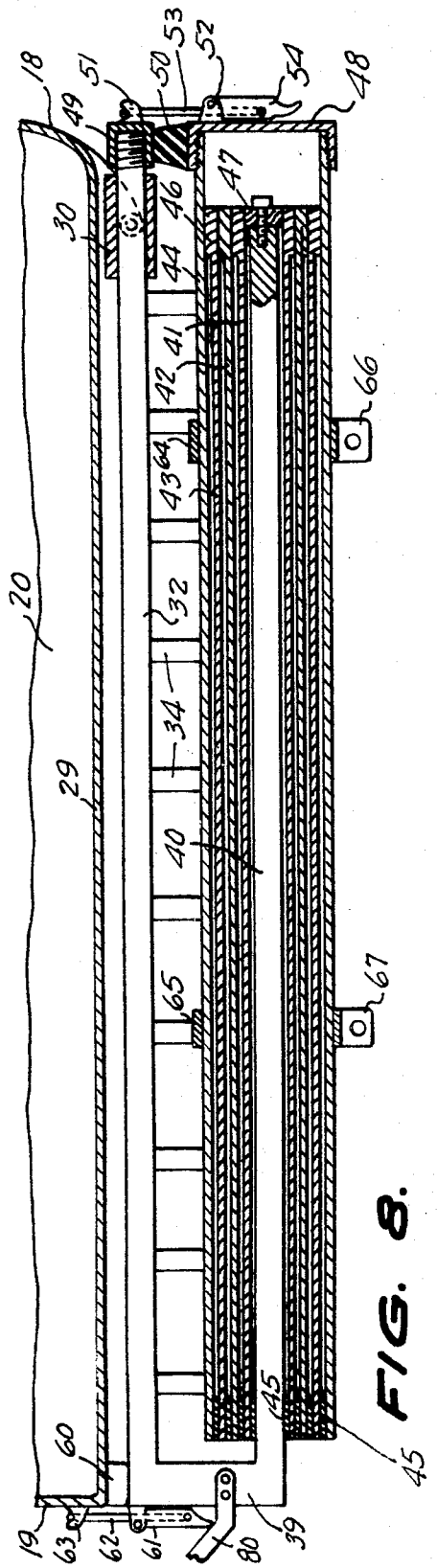


FIG. 8.

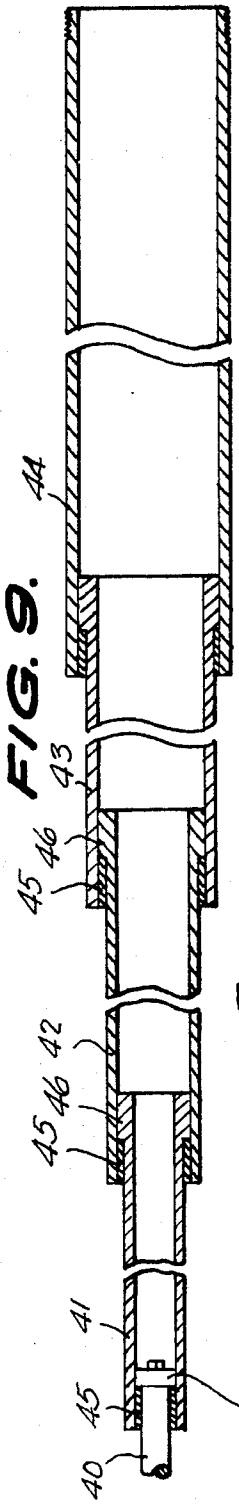


FIG. 9.

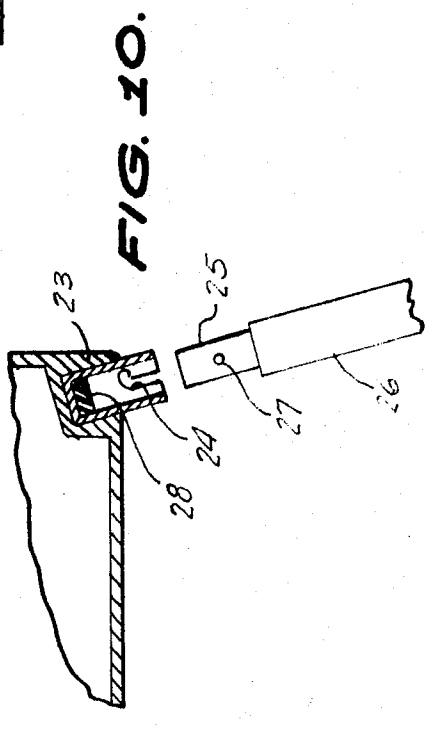


FIG. 10.

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FIG. 11.

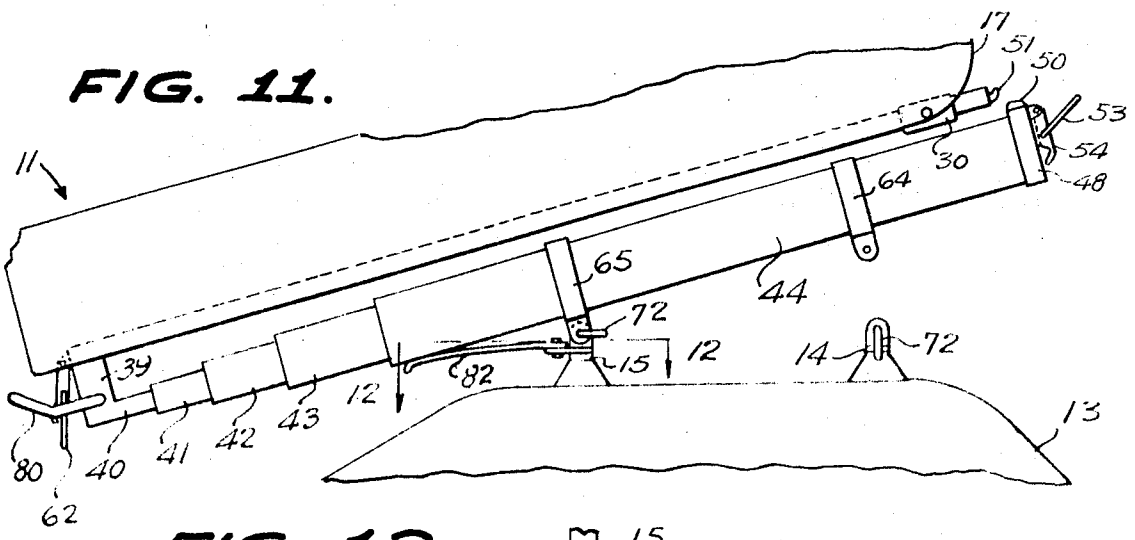


FIG. 12.

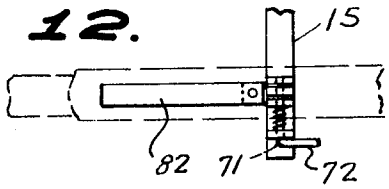
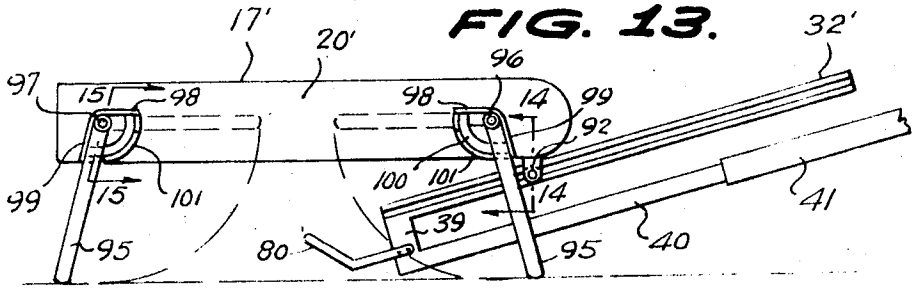


FIG. 13.



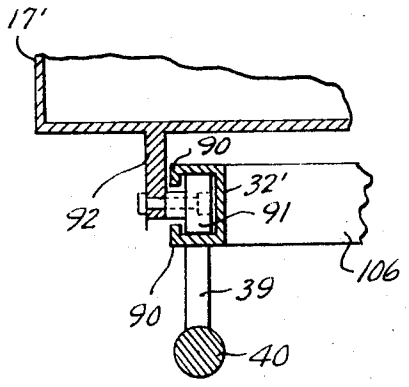


FIG. 14.

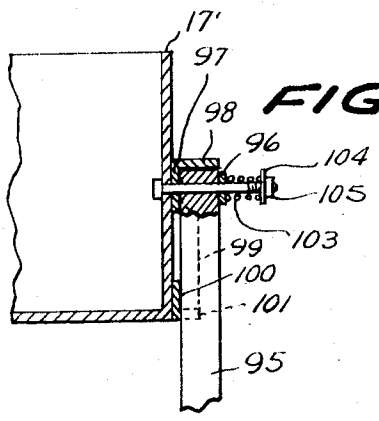


FIG. 15.

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TELESCOPIC RETRACTING CAMPER

This invention relates to portable camping shelter devices adapted to be used with automobiles, and more particularly to a portable camping kit that may be carried on the top of an automobile and may be extended therefrom to the ground to a position wherein it can be set up for use.

A main object of the invention is to provide a novel and improved portable camping apparatus which may be carried on the top of an automobile, the apparatus being relatively simple in construction, being easy to set up for use and requiring no special tools or skills to operate the apparatus.

A further object of the invention is to provide an improved portable camping apparatus adapted to be mounted on the roof of an automobile, the apparatus being normally folded to a very compact condition, but being easily unfolded and extended for use whenever it is desired to set up the apparatus, the camping apparatus involving relatively inexpensive parts, being durable in construction, and providing a comfortable shelter.

A still further object of the invention is to provide an improved portable camping shelter apparatus adapted to be carried on the roof of an automobile and to be extended therefrom when its use is required, the apparatus being easily accessible for extension, being safe to carry when it is in its folded condition, and being arranged so that it can be set up quickly and with a minimum amount of labor.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

FIG. 1 is a side elevational view of an improved portable camping apparatus according to the present invention, shown in folded condition and mounted on the top of an automobile.

FIG. 2 is an end elevational view of the apparatus of FIG. 1.

FIG. 3 is an enlarged transverse, vertical cross-sectional view taken substantially on the line 3–3 of FIG. 1.

FIG. 4 is an enlarged transverse, vertical cross-sectional view taken substantially on the line 4–4 of FIG. 1.

FIG. 5 is a fragmentary cross-sectional view, similar to FIG. 4, and illustrating the manner in which the forward end of the telescoped frame assembly can be released for upward movement so that the camping apparatus can be set up for use.

FIG. 6 is a side elevational view showing the apparatus extended for use and supported on the ground rearwardly of the associated automobile.

FIG. 7 is a top plan view of the apparatus in extended position, as seen in FIG. 6.

FIG. 8 is a longitudinal, vertical cross-sectional view taken substantially on the line 8–8 of FIG. 4.

FIG. 9 is an enlarged fragmentary, cross-sectional view taken substantially on the line 9–9 of FIG. 6, and illustrating one of the telescopic side members of the frame of the apparatus in fully extended position.

FIG. 10 is an enlarged transverse, vertical cross-sectional view taken through a corner portion of the platform member of the apparatus and illustrating the structure of the leg sockets and cooperating locking portions of the legs employed with the platform member, in the form of the apparatus illustrated in FIGS. 1 to 9.

FIG. 11 is an enlarged side elevational view of a modified form of camping apparatus, according to the present invention, shown in tilted position preparatory to extension of its telescopic frame.

FIG. 12 is a fragmentary, horizontal cross-sectional view taken substantially on the line 12–12 of FIG. 11.

FIG. 13 is a side elevational view of the platform member and a portion of the telescopic frame in extended position of a further modified form of camping apparatus, according to the present invention, shown with the supporting legs of the platform member in operative supporting positions.

FIG. 14 is an enlarged vertical cross-sectional detail view taken substantially on the line 14–14 of FIG. 13.

FIG. 15 is an enlarged cross-sectional detail view taken substantially on the line 15–15 of FIG. 13.

Referring to the drawings, 11 generally designates a typical camping kit according to the present invention, shown mounted on conventional luggage supports 12,12 mounted in the usual manner on the roof of an automobile 13. Secured on the luggage rack supports 12,12 are respective front and rear flat bars 14 and 15, said bars overlying the supports 12,12 and being fastened thereto in any suitable manner, for example, by bolts 16, as shown in FIG. 4. The bars 14 and 15 project short distances outwardly from the ends of the supports 12, as will be clearly apparent from FIGS. 2 and 4.

Designated at 17 is a rigid tray member of suitable durable, relatively rigid material, such as sheet metal, or the like, the member 17 being generally rectangular in plan and having an arcuately curved front end wall 18, a flat vertical rear wall 19, flat vertical sidewalls 20,20, and a flat bottom wall 21. The member 17 is adapted to contain the various auxiliary portions of the camping apparatus, such as bedding material, a folding tent 22 and the frame elements thereof, and the like.

The corner portions of the tray member 17 are formed with downwardly and outwardly inclined recesses in which are rigidly secured respective generally cylindrical sockets 23 formed with bayonet slots 24 adapted to receive the reduced end portions 25 of respective legs 26, the reduced portions 25 being provided with bayonet pins 27 to cooperate with the bayonet slots 24 of sockets 23 in a conventional manner so that the legs 26 can be detachably secured in the sockets 23. The inner ends of the sockets 23 are provided with resilient deformable pads 28 which are compressed when the reduced portions 25 are locked in the sockets 23 and which act as spring elements to maintain tight interlocking connections between the reduced portions 25 and the sockets 23. As will be readily understood, in inserting the legs 26, the reduced portions 25 are engaged in the sockets 23 with pins 27 received in the slots 24. When the legs are substantially fully inserted, the legs are rotated to engage the pins 27 in the locking portions of the bayonet slots 24. The legs are detached from the sockets 23 by following a reverse procedure.

The legs 26 are ordinarily carried in the tray member 17, along with other items associated with the camping kit.

Inwardly adjacent the sidewalls 20,20, the bottom wall 21 of the traylike platform member 17 is formed with downwardly facing longitudinal channels 29,29. Pivoted in the forward end portions of the channels 29 are respective sleeve members 30 said sleeve members being secured in the channels by diametrically opposite fastening bolts 31,31, as shown in FIG. 3. The sleeves 30,30 receive respective tubular rods 32,32 which form part of a telescopic supporting frame assembly, designated generally at 33.

The respective parallel longitudinally extending upper frame rods 32,32 in the form of the invention shown in FIGS. 1 to 10 are interconnected by a plurality of spaced generally U-shaped, transversely extending rack bars 34, whereby the frame assembly 33 may be employed merely as a luggage carrier in the absence of the platform member 17, as will be presently described. As shown in FIG. 3, the sleeves 30 are, therefore, provided with longitudinal slots 37 to provide clearance for the respective end portions of the transversely extending luggage rack bars 34. This clearance is necessary when the platform member 17 is extended rearwardly to the position of FIG. 6, as will be presently explained.

As shown in FIGS. 1 and 8, the rear ends of the upper rod members 32 are rigidly connected by vertical bight elements 39 to bottom longitudinally extending rod members 40 which underlie and are parallel to the top rod members 32. The rod members 40 are telescopically received in inner sleeve members 41 which are, in turn, telescopically received in adjacent sleeve members 42. The sleeve members 42 are similarly telescopically received in further adjacent sleeve members 43, and the sleeve members 43 are telescopically received in outer sleeves 44. The respective sleeves are provided with rear internal annular stop shoulders 45 and with forward end stop ribs

46 which cooperate with the stop shoulders 45 to limit the extension of the telescopic assembly to the condition illustrated in FIG. 6, wherein the major portions of the lengths of the respective components of the telescopic assembly are exposed. Thus, the inner rod 40 is provided at its forward end with an enlarged stop disc 47 which is engageable with the rear stop shoulder 45 of sleeve 41 to limit the extension of rod 40 relative to said sleeve 41, for example, to the position shown in FIGS. 6 and 7. The stop members 45 may comprise suitable bushings of metal, plastic material, or the like, secured inside the end portions of respective sleeves. The bushings can be fastened in their proper locations by welding, gluing, or by any other suitable method.

The forward end of the outer sleeve 44 is provided with a cover cap 48 which is threadedly engaged on the forward end of outer sleeve 44, as shown in FIG. 8. A cap 49 is threadedly engaged on the forward end of each top rod 32. A suitable rubber bumper is provided on the periphery of the cap 48, said bumper being shown at 50, and being located so that it can be resiliently engaged by the cap member 49 of the upwardly adjacent rod 32, as shown in FIG. 8. Each cap 49 is provided with a latch hook 51, and each cap 48 is provided with a conventional pivoted latch assembly 52 having a bail 53 lockingly engageable with the upwardly adjacent hook 51. Thus, each latch assembly 53 cooperates with its associated upwardly adjacent hook 51 in the manner of a conventional luggage latch assembly. The bight elements 53 may be disengaged from the hooks 51 by swinging the pivoted operating portions 54 upwardly in the well-known manner.

In the clamped condition of the latch assemblies 52, it will be seen, from FIG. 8, that the caps 49 are pressed tightly against the bumpers 50, so that there is no looseness and so that rattling cannot occur.

The bottom rear portions of the platform member 17 are provided with depending abutment elements 60 of rubber, or other suitable resilient material, which are engageable with the rear end portions of the top rods 32 and which are clamped thereagainst during transportation of the kit by the provision of latch members 61 on the top end portions of the vertical members 39, the latching bails 62 thereof being engageable with hooks 63 provided on the rear wall 19 of the platform member 17. The latch assemblies 61 are similar to the previously mentioned latch assemblies 52 and are operated in the same manner. With the latch assemblies 61 and the latch assemblies 52 in their released positions, the platform member 17 is free to slide rearwardly relative to the subjacent rods 32.

Secured on each of the outer sleeves 44 are respective forward and rear clamping rings 64 and 65 having depending apertured lugs, shown respectively at 66 and 67. The end portions of the bar 14 are formed with pairs of upstanding apertured lugs 68 and 69 between which the respective apertured lugs 66 are receivable and wherein the lugs 66 may be lockingly secured by respective transversely extending, horizontal lock bolts 70 slidably engaged through additional upstanding lugs 71 provided on the ends of the bar 14. As shown in FIG. 5, the bolts 70 are generally L-shaped and have right-angled outer arms 72 which may be, at times, rotated into engagement with the outer ends of the bar 14. Coiled springs 73 surround the lock bolts 70 and bear between the lugs 71 and washers 74 provided on the bolts and retained against inward movement by cotter pins 75. Thus, the bolts 70 may be employed to lock the lugs 66 between the lugs 68 and 69 under normal traveling conditions, but may be moved outwardly to the release positions thereof shown in FIG. 5 to permit the forward end portions of the sleeves 44 to be elevated, as shown, for example, in FIGS 6 and 11.

The rear clamping rings 65, provided with the depending lugs 67, cooperate with similar retaining structure provided on the rear bar 15, and the lock bolts thereof provide pivotal connections on a common transverse axis for the sleeve members 44, whereby to permit the angling of the frame assembly 33 from the horizontal position thereof shown in FIG. 1, to the inclined positions thereof shown, for example, in FIGS. 6 and 11.

The assembly 33 is provided with a suitable generally U-shaped handlebar 80 at its rear end portion, the respective side arms of the handlebar 80 being secured to the respective members 39, as shown, for example, at 81 in FIG. 1. The handlebar 80, therefore, facilitates pulling the assembly 33 rearwardly to extend the telescopic elements thereof, for example, from the position of FIG. 1 to the position of FIG. 6. Secured in any suitable manner to the rear transverse support bar 15 are respective rearwardly extending leaf springs 82 underlying the rear end portions of the sleeves 44,44 and serving as cantilever cushioning elements to cushion the rotative movement of the assembly 33 as it is rotated upwardly and as the telescoping elements thereof are extended rearwardly toward the positions shown in FIG. 6. The leaf spring 82 serve as counterbalance devices to cushion this action, and also to facilitate the return of the apparatus to its retracted position, inasmuch as the springs 82 exert upward forces on the rear end portions of the sleeves 44 to counterbalance the weight of the parts located rearwardly of the sleeves 44. Various other equivalent devices may be employed to provide this counterbalancing effect, such as coil springs, a spring-loaded cable winch, or electrical or hydraulically operated devices which may be energized from the associated automobile to provide the cushioning or counterbalancing effect.

In using the apparatus, the camping gear including the tent 22 and associated framing, shown at 83 in FIG. 6, is normally stowed in the platform member 17 with the parts in retracted positions and locked by the latch members 53 and 62 in the manner illustrated in FIGS. 1 and 8. To extend the apparatus for camping, the latch assemblies 54 and 61 are released, causing the latching members 53 and 62 to be disengaged from their hooks 51 and 63. The L-shaped bolt members 70 at the forward portions of the apparatus are pulled outwardly and locked in disengaging positions, as shown in FIG. 5, with the arms 72 engaged against the ends of the forward supporting bar 14. This allows the forward portion of the telescoped frame to be elevated and allows the frame to be pulled rearwardly by means of the handle 80 to the position shown in FIG. 6. The platform member 17 is then further moved rearwardly and the legs 26 are locked in the sockets 23 so that the platform member 17 is supported in a horizontal position, as shown in FIG. 6. The framing 83 can then be erected and the tent 22 can be engaged thereover to provide the desired camping enclosure. The platform member 17 then serves as a bedding support, and can be utilized as a bed in conjunction with one or more air mattresses.

To repack the device for traveling, the above-described procedure is reversed, whereby the telescoping frame is returned to its retracted condition, illustrated in FIG. 8, with the camping equipment stowed in the platform member 17, and the apparatus locked by the locking engagement of the latch members 53 and 62 with their associated hooks 51 and 63. The platform member may be locked in horizontal position by returning the bolt members 30 to their locked positions, wherein they engage through the apertured lugs 66, as shown in FIG. 4.

The modification illustrated in FIG. 11 is similar to that previously described, except that the transverse crossbars 34 are omitted, so that the apparatus is employed simply for use in conjunction with the platform member 17 and the camping equipment carried thereby. Obviously, in this modification, the platform member 17 may be employed as a luggage rack for transporting luggage, or other items, in place of camping equipment, so that it serves the purpose of a luggage carrier. However, the previously described modification, namely, the form of the invention illustrated in FIGS. 1 to 10, enables the telescoping frame, itself, to be employed as a luggage carrier, and does not require the use of the platform member 17 when only luggage, or other items of a similar nature are to be transported.

FIGS. 13, 14 and 15 illustrate a further modification of the present invention, wherein the parallel upper longitudinal rod members of the telescopic frame, shown at 32', are in the form of outwardly facing channels with inturned marginal flanges 90,90, as shown in FIG. 14, defining trackways for rollers 91 journaled to depending lugs 92 provided at the forward corner portions of the platform member shown at 17'. This provides a sliding connection between the platform member and the arms 32', similar to that provided in the previously described forms of the invention by the sleeves 30.

Another modified element in FIGS. 13 to 15 is the retractable leg arrangement illustrated in these Figures. Thus, the legs, shown at 95, are pivotally connected to the corner portions of the platform member 17' at the sidewalls 20' thereof by means of hinge pins 96. The top portions of the legs 95 are rotatably received in angle brackets 97, said angle brackets having horizontal flanges 98 facing inwardly, and having downwardly and outwardly inclined flanges 99 which are at obtuse angles to their associated horizontal flanges 98, as is clearly shown in fIG. 13. The ends of the flanges 98 and 99 are connected by arcuate tie bars 100 which are concentric with the pivotal connections of the legs at the hinge pins 96, and these arcuate bars 100 are formed with peripheral arcuate locking ribs 101 projecting outwardly and located between the two extreme positions of the associated pivoted legs 95. The hinge connections are provided with biasing coiled springs 103 which are interposed between washers 104 retained on the outer ends of the hinge pins 96 by nuts 105 and the adjacent surfaces of the top portions of the legs 95, whereby to bias said top portions inwardly into the corner recesses defined by the convergent flanges 98 and 99. The top ends of the legs 95 are rounded and the aforesaid corner recesses are correspondingly rounded to allow free pivoting action of the legs, for example, from the horizontal position thereof shown in dotted view in FIG. 13, to their downwardly and outwardly angled supporting positions, shown in full-line view. The springs 103 bias the legs to these extreme positions, since said springs act to retain the legs in the notches defined between the flanges 98,99 and the opposite ends of the locking ribs 101. However, the legs may be rotated by pulling them outwardly against the biasing force of the springs 103 and then rotating them, whereby the legs may be readily moved to extended working positions from their horizontal positions, or vice versa.

As shown in FIG. 14, the rail members 32' may be rigidly connected together by crossbars 106 to maintain said rail members in spaced parallel relationship.

While specific embodiments of an improved extensible camping kit apparatus have been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What I claim is:

1. An extensible load-carrying rack device for an automobile comprising a rack frame including a plurality of parallel telescopic longitudinally extensible members, means to pivotally connect said frame to the roof of an automobile, each telescopic member including an outermost sleeve and an innermost longitudinally extensible rod element having an outer end portion normally extending from said telescopic member, load-receptacle means, and support means rigidly secured to the outer end portions of the rod elements and supportingly connected to said load-receptacle means to support the receptacle means above and substantially parallel to said telescopic members.

2. The extensible load-carrying rack device of claim 1, and wherein said support means comprises rectangular bar members spaced above and extending substantially parallel to said telescopic members.

3. The extensible load-carrying rack device of claim 2, and means slidably interconnecting said load-receptacle means and said bar members.

4. The extensible load-carrying rack device of claim 3, and wherein the bottom of said load-receptacle means is formed with channels receiving said bar members.

5. The extensible load-carrying rack device of claim 4, and respective sleeves pivoted in said channels and slidably receiving said bar members.

6. The extensible load-carrying rack device of claim 3, and counterbalance means connected to the means to pivotally connect the frame to an automobile roof and acting on the rack frame to yieldably oppose pivoting of the frame from a substantially horizontal position on the automobile roof.

7. The extensible load-carrying rack device of claim 6, and wherein said counterbalance means comprises a leaf spring secured at one end to the means to pivotally connect the frame to an automobile roof and engaging beneath a telescopic member.

8. The extensible load-carrying rack device of claim 3, and wherein said load-receptacle means is in the form of a rectangular tray having upstanding peripheral walls, respective corner supporting legs, and means to at times releasably secure said legs in depending positions to the corner portions of the rectangular tray.

9. The extensible load-carrying rack device of claim 8, and wherein the rectangular tray is provided with downwardly facing corner sockets shaped to receive the top ends of the legs.

10. The extensible load-carrying rack device of claim 1, and wherein said load-receptacle means comprises respective bar members spaced above and extending substantially parallel to said telescopic members, and transverse crossmember means connecting said first-named bar members.