June 28, 1960 E. O. FERGUSON 2,942,609

CAR TOP TENT

Filed Sept. 24, 1958 3 Sheets-Sheet 1

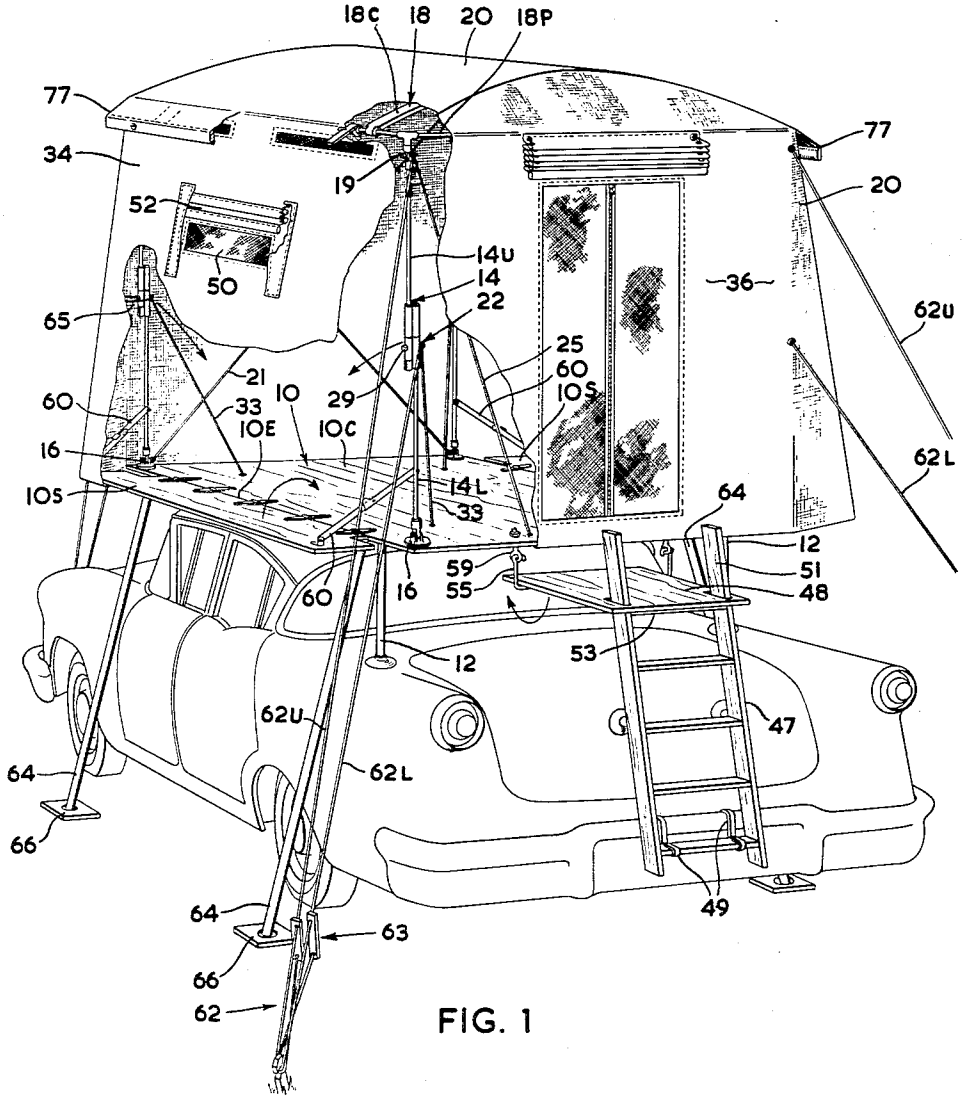


FIG. 1

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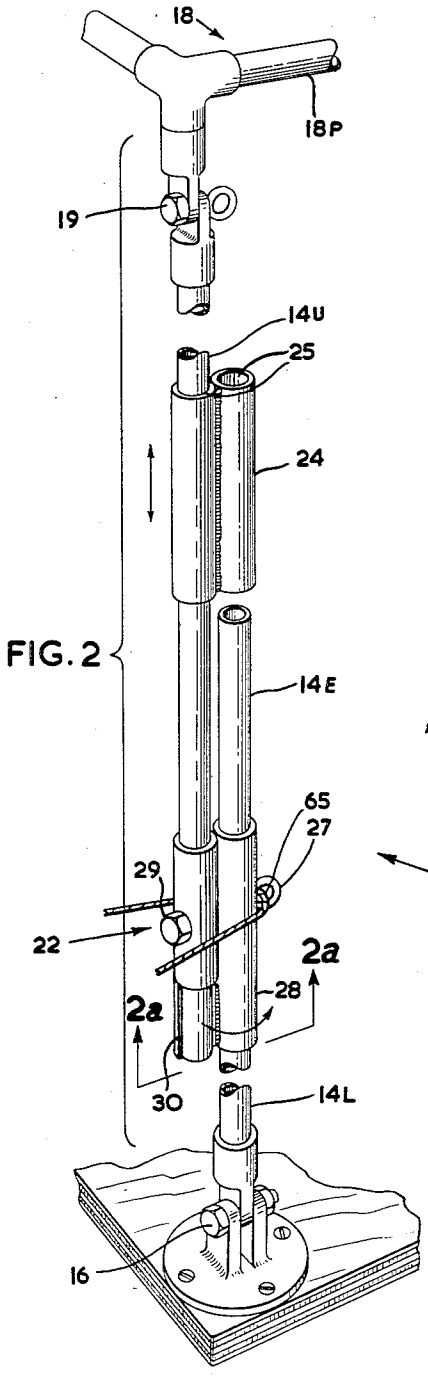


FIG. 2

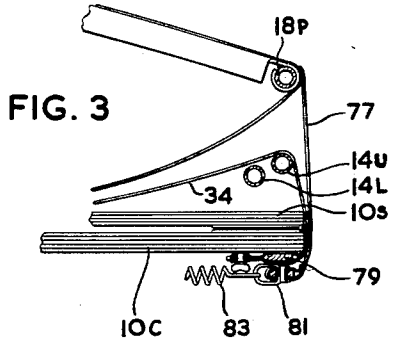


FIG. 3

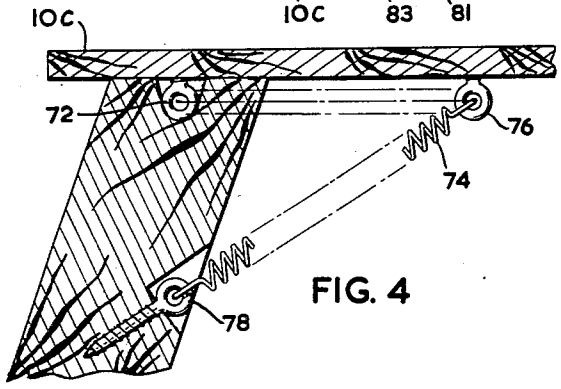


FIG. 4

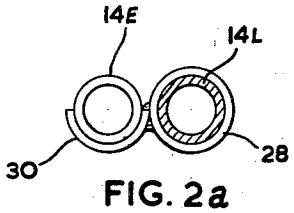


FIG. 2a

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CAR TOP TENT

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FIG. 6

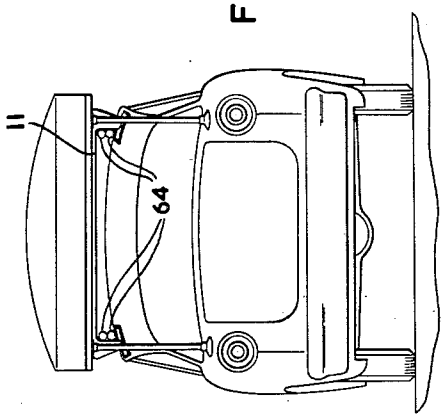


FIG. 5

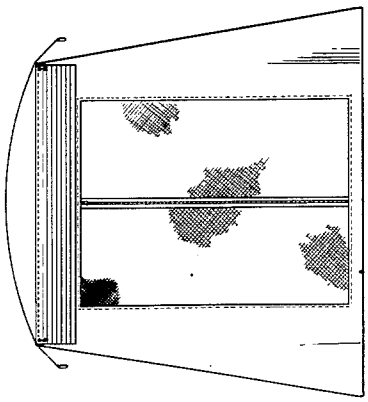
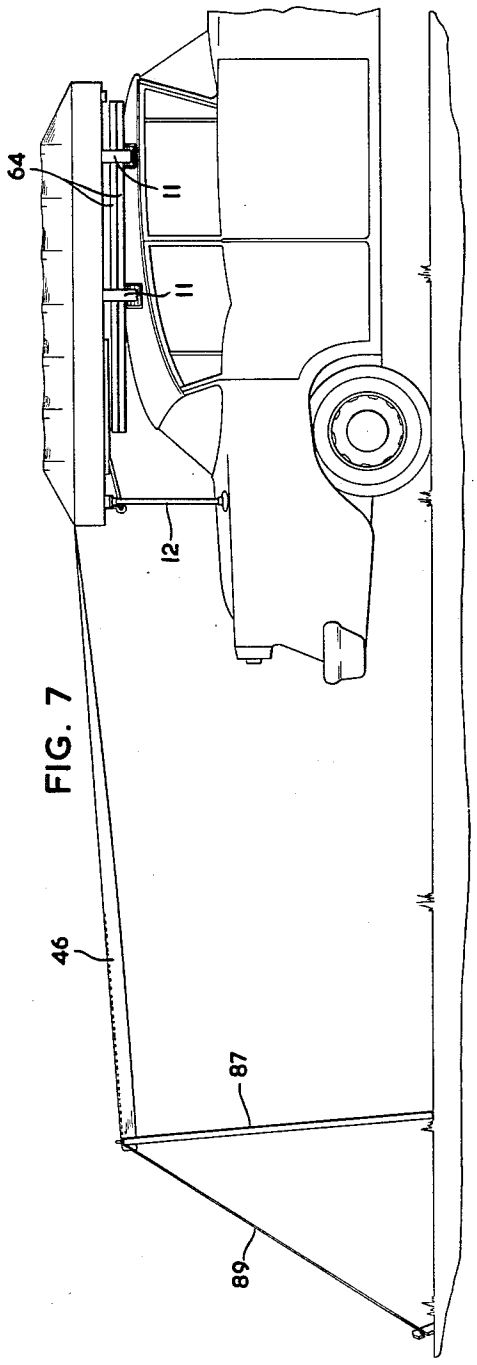


FIG. 7



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CAR TOP TENT

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1 Claim. (Cl. 135—1)

This invention relates to a collapsible tent.

It is the object of this invention to provide a tent whose design is such that it is mountable on a car roof.

It is an object of this invention to provide a tent erectable above a floor which in turn is mountable above a car roof and is easily collapsible to a compact form for travelling.

It is an object of this invention to provide a tent of the type described in the previous paragraph having a flap type door and wherein said tent door is so designed that when the tent is collapsed the flap may be extended in a generally horizontal direction to form a canopy.

In the drawing:

Figure 1 shows the tent erected.

Figure 2 shows the standards in detail.

Figure 2A is a cross-section along the lines 2A of Figure 2.

Figure 3 indicates the collapsed arrangement of the tent.

Figure 4 shows a detail of the floor support.

Figure 5 shows an alternate door arrangement.

Figure 6 shows the tent in position on a car in a collapsed arrangement, and

Figure 7 shows use of a part of the tent to provide a canopy.

In the drawings as shown a tent having a floor **10** mounted on a car by metal channel supports **11** that extend across the roof of the car and bear on bearing plates at each side of the car (the supports **11** and their bearing plates are well known construction) and support legs **12** bearing on suction cups at the back of the car. A skeleton comprising standards **14** is mounted on the floor by pivotal mountings **16** and the bases of the standards are arranged in rectangular array on the floor and the standards are adapted in the erected position to project upwardly from the floor.

A top frame **18** is pivotally mounted on the upper end of said standards by pivots **19** and is shaped to define the upper contour of the tent. The top frame comprises a peripheral member **18P** and arched chord members **18C**. A skin **20** is designed to define the top and side walls of the tent, to overlie said skeleton and to be shaped by said frame. The skin is shaped by the arched chord members to form an arched roof. The skin **20** may be formed of any desired tenting material.

The standards **14** are each preferably formed of upper and lower link members **14U** and **14L** respectively which are pivotally connected to one another at pivot joint **22** by means of a bolt **29**. Means are provided for releasably maintaining or locking the shanks in alignment when the tent is in the erected position and for releasing said shanks to swing relative to each other for packing the tent. This means preferably comprise a double sleeve member **24** best shown in Figure 2, having parallel bores **25** to slidably receive the two shanks **14U, 14L**. The double sleeve **24** mounted above the pivot **22** is permanently maintained on upper shank **14U**. Lower shank **14L** is provided with an extension **14E** above the pivot **22** and the sleeve **24**

may be slid downwardly over the extension **14E** to rigidly connect the members together or slid upwardly off the extension to allow the members to be folded relative to one another. If the sleeve **24** is permanently mounted below the pivot point **22** on lower shank **14** it will be necessary to provide means for releasably maintaining it in position against falling off the downward extension of upper shank **14U**.

Pivots **16, 22** and **19** are parallel in the various standards and the axes preferably run transversely of the car.

Referring briefly to Figures 5 and 6 it will be seen that for proper packing of the tent, the elbow formed by the upper and lower shanks bending about pivot **22** must move inwards so that no part of the pack tent projects outwardly relative to the car. To avoid inconvenience in collapsing the tent means are provided adjacent pivot **22** whereby the elbow cannot move outward. This means preferably comprises a stop **28** attached to one of the members **14L**, on the side of pivot **22** remote from sleeve **24**, having a projection **30** adapted to prevent relative movement of links **14U** in such a direction that the elbow can move in an outward direction.

In the erected position the pair of front standards **14** and the extents of peripheral top member **18P** and floor **10** extending between them define a four-sided frame which must be kept rigid. This is achieved by providing a diagonal brace wire **21** extending from the left front pivot **16** to the right front pivot **19** and from the right front pivot **16** to the left front pivot **19**. These brace wires **21** are of a length to be taut and brace the standards in their upright position.

A door is provided in the rear wall of the skin **20** and hence similar diagonal bracing cannot be used for the rear standards **14**. The brace wires **25** at the rear of the tent are preferably diagonals extending from the junction **19** of each rear standard with the top frame to the floor clear of the door opening.

The doorway so defined, may be relatively narrow as indicated in Figure 1 or relatively wide as indicated in Figure 5. The skeleton frame defined by roof standards **14** and the extent of top from **18P** between them is strengthened by guy wires **25**; strengthening effect of guy wires **25** increases with the angle which they make with standards **14**. On the other hand the guy wires **25** must not cross the doorway, and therefore the doorway must not be so wide as to reduce the effect of the guy wires.

Means are provided for bracing front standards **14** against movement forwardly by a guy wire **33** connected to each of the rearward standards intermediate its length, and anchored to the floor rearward of the standard by any desired means (not shown). The guy wires **33** are preferably connected to the rear standards at eyes **27** in pivot pins **29**. Similarly the rear standards are anchored against rearward movement by a guy wire **33** attached to each rearward standard **14** preferably to eye **29** and extending forwardly from the standard for anchorage in its floor.

All four guy wires **33** are arranged to be taut when the standards **14** are in the upright position and slackened when the tent is collapsed.

The floor **10** is provided with a central member **10C** of rectangular form with side edges **10E** located substantially parallel and slightly inwardly farthest lateral projections of the car. To provide a wider floor when the tent is erected side floor members **10S** are swingably connected to central floor **10C** adjacent each side edge **10E** and are moveable from a position overlying floor **10C** (Figure 3) in the collapsed position of the tent to a position extending outwardly from the central member **10C** and parallel thereto (Figure 1) in the erected position of the tent. The side members **10S** are supported in their

extended position by rigid links **60** attached to the outside of the side members **10C** and sloping upwardly and inwardly therefrom for detachable attachment to standards **14**.

Additional support for the tent is provided by poles **64** adapted to extend between the ground and the floor **10** to support the floor. The poles **64** are provided with ground contacting bases **66** and slope upwardly, inwardly toward the car to contact the base of the central floor **10C**. Each pole is provided with faces adapted to bear on the underside of the floor and these faces are recessed to receive an eye bolt **72** projecting downwardly from the floor **10C**. A tension spring **74** is connected at one end to an eye bolt **76** mounted in the floor and at the other end detachably to an eye bolt **78** in the standard and biases the pole **64** inwardly and with eye bolt **76** acts to steady a pole **64** in position. When the pole is taken down for storage, the spring is disconnected from eye bolt **78** and may be kept out of the way when not in use by attaching it to the eye bolt **72**.

Guy wires or ropes **62** are provided to supply additional support for the standards **14**. A guy wire **62U** is attached at one end to the upper portion of each standard **14** and that the other end is anchored to the ground and a guy wire **62L** is attached to each standard **14** adjacent the middle thereof. The guy wires **62** are each provided with tightening means **63**.

The skin **20** may, if desired, be provided with transparent windows **50** having flexible shutters **52**.

The skin is shaped at the top by frame **18** and at the bottom by floor **10C** at each end and by the outer edges of side floor members **10S** at each side. The bottom edge of skin **20** is preferably anchored under floor **10** by any desired means such as by means **79** (Figure 2). The skin **20** is also preferably tied by string **65** to the standards **14** at pivot pin **29** to hold inwardly with the standards when the tent is being packed.

The skin **20** is provided adjacent to the top of side walls **34** with packing flaps **77** to cover the sides of the collapsed tent during travelling. With the doorway provided in rear wall **36**, steps and a platform may be provided for easy entrance to and exit from the tent. The steps **47** are provided with hooks **49** whereby they may be supported on the rear bumper and project upwardly with the sides **51** of the steps projecting upwardly beyond the highest step **53**. A platform **48** is provided at its forward end with hooks **55** projecting upwardly through the eyes of eye bolts **59** which project downwardly from the floor **10C**. The platform **48** is slotted at its rearward end to receive the sides **51** so that the platform is supported on the highest step **53**. When platform and steps are not required the step is removed and the platform may be swung rearwardly to be supported under floor **10C** by means (not shown).

The tent as shown in Figure 1 is collapsible to a packed position for travelling as follows: First the rigid links **60** are detached from the standards **14** and the side floor members **10S** are folded over floor **10C**. All the guy wires or ropes **62** are then lowered and the tent is then entered through the door in the rear wall and the locking sleeves **24** of forward standard **14** are lifted clear of extensions **14E** on each of the forward standards **14**. The forward supports **14** may then be folded inwardly about pivot **22** (and simultaneously fold about pivots **16** and **19**) to allow the forward end of the tent to drop toward the floor. At the same time a top frame **18** bends downwardly relative to the still rigid rear standards **14** about pivot points **19** and the rear standards bend forwardly relative to the floor above pivot points **16**.

The locking sleeves **24** of each of the rear standards are then lifted clear of extension **14E** and the rear standards are then folded inwardly to allow the rear and front of the top **18** to collapse to the floor. It will be appreciated that all the inside guy ropes slacken automatically.

It will be noted that since the skin **20** is tied to standards **14** at pivot pins **29** the skin folds inwardly with the standards when they are collapsed.

When the skin and standards are collapsed the packing flaps **77** are tied or anchored under the floor **10** by any convenient means such as by tension spring **83** and attaching means **81**, Figure 2.

The guy wires or ropes **62** are coiled out of the way, the support poles **64** are stowed on supports **11** under the floor as shown in Figure 7.

The tent now being collapsed it is possible to use the door drop flap **46** as an awning by stretching it out behind the car as shown in Figure 7 for support by poles **87** and guys **89**.

To erect a tent the above procedure is reversed, the packing flaps **77** are loosened and standards **14** are erected and sleeves **24** are moved downwardly on each to lock them in place. The poles **64** are placed in position, and it may be easier to do this when there is no weight to depress the automobile on its springs.

The guys **62** are then tightened, the side floor members swung outwardly and rigid links **60** hooked in place on standard **14**.

I claim:

A tent comprising a floor, a rectangular top frame, four standards each pivotally connected to said top frame and to said floor to provide eight pivotal axes, said eight pivotal axes being parallel, said four standards being erectable from said floor to support said top frame at the desired height above said floor, a skin adapted to rest on said top frame and to hang downwardly therefrom to define a top and side walls of said tent, said standards each being composed of a pair of foldable links pivotally joined intermediate the ends of said standards on pivotal axes parallel to said eight pivotal axes and means for releasably locking said links in extended position and means for releasably maintaining said standards in erected position, said floor having a central member, and a plurality of side members, hinges joining said side members to said central member whereby said side members can be hinged from an inoperative position to an operative position in the same plane as said central member, and means for supporting said side members in said operative position.

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