March 25, 1930. A. P. MacLEAN 1,751,518

TENT

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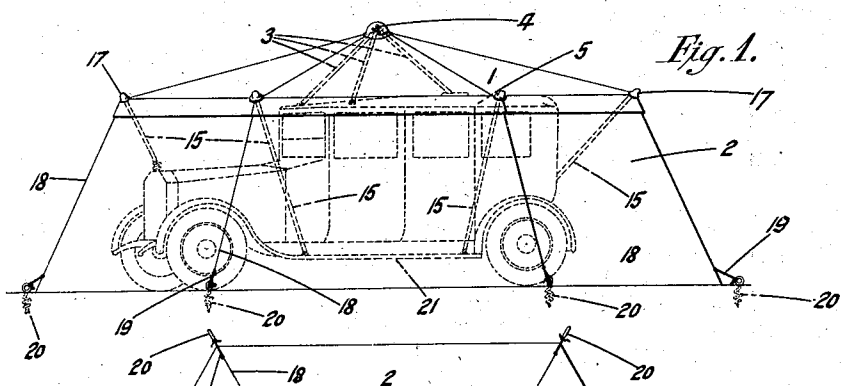


Fig. 1.

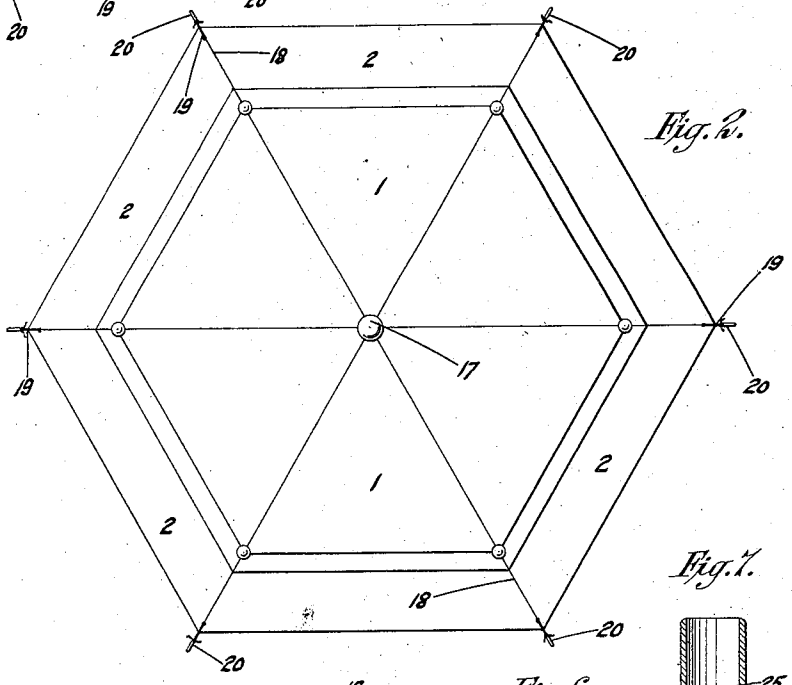


Fig. 2.

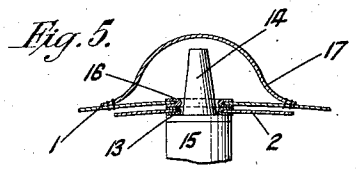


Fig. 5.

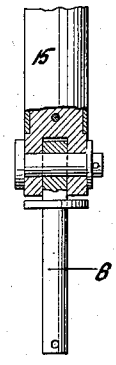


Fig. 6.

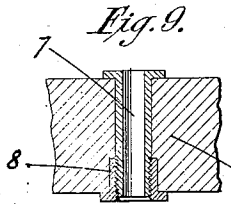


Fig. 9.

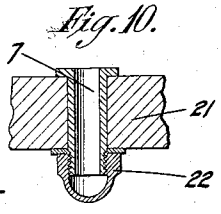


Fig. 10.

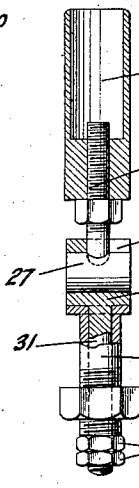


Fig. 7.

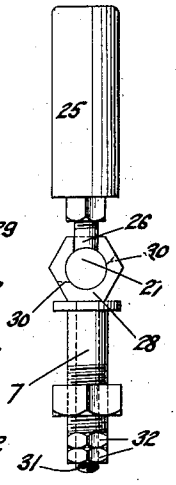


Fig. 8.

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Fig. 3.

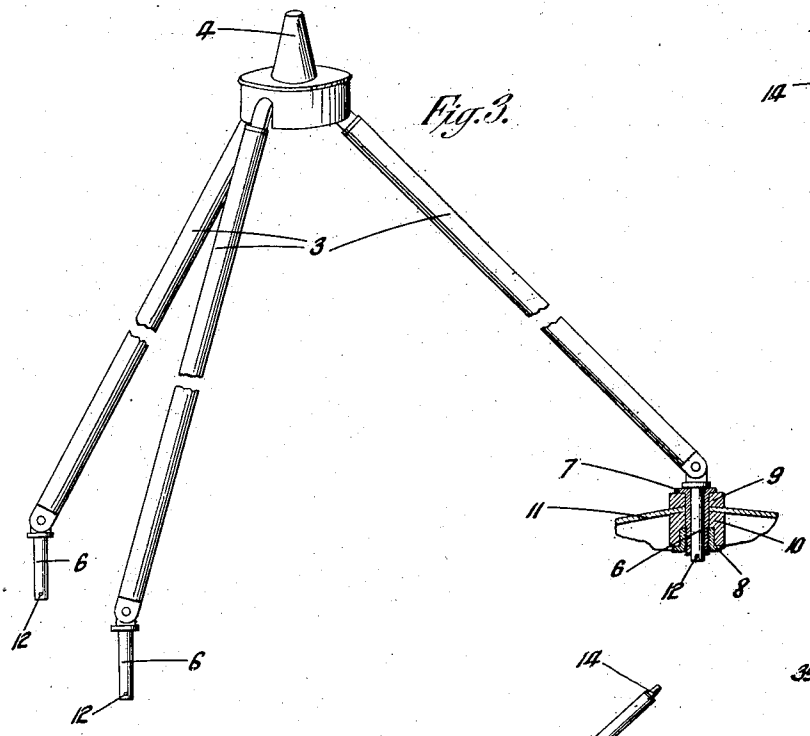


Fig. 4.

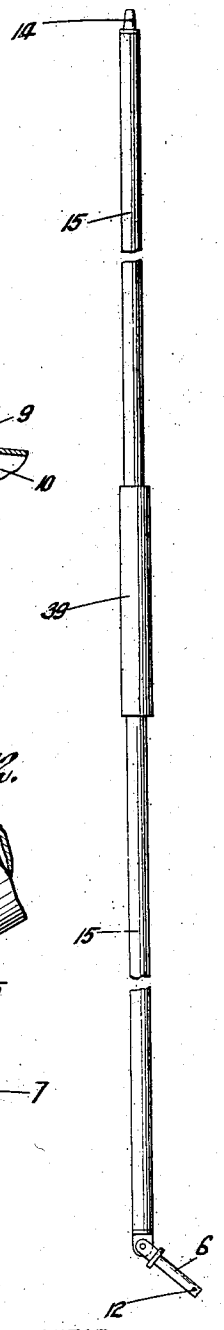


Fig. 11.

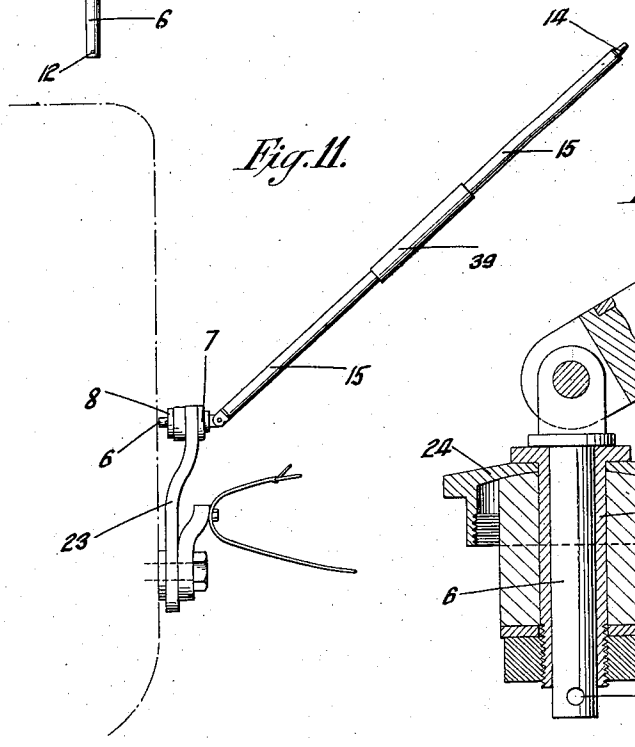


Fig. 12.

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Fig. 13.

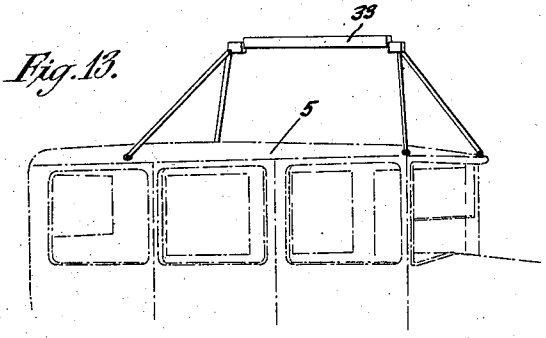


Fig. 14.

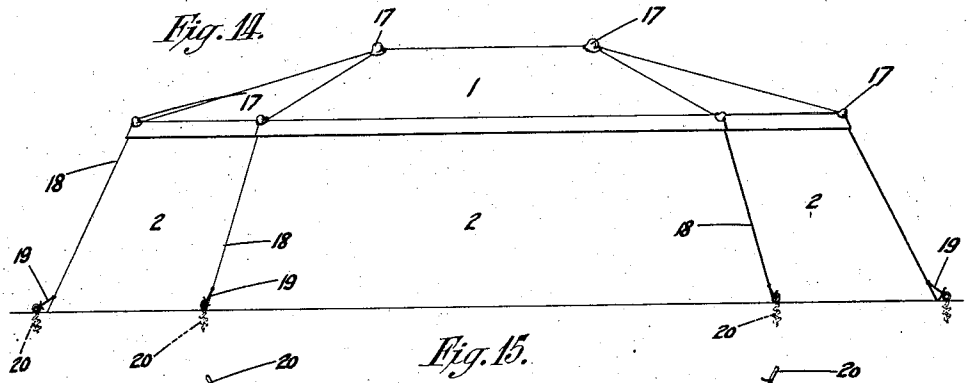
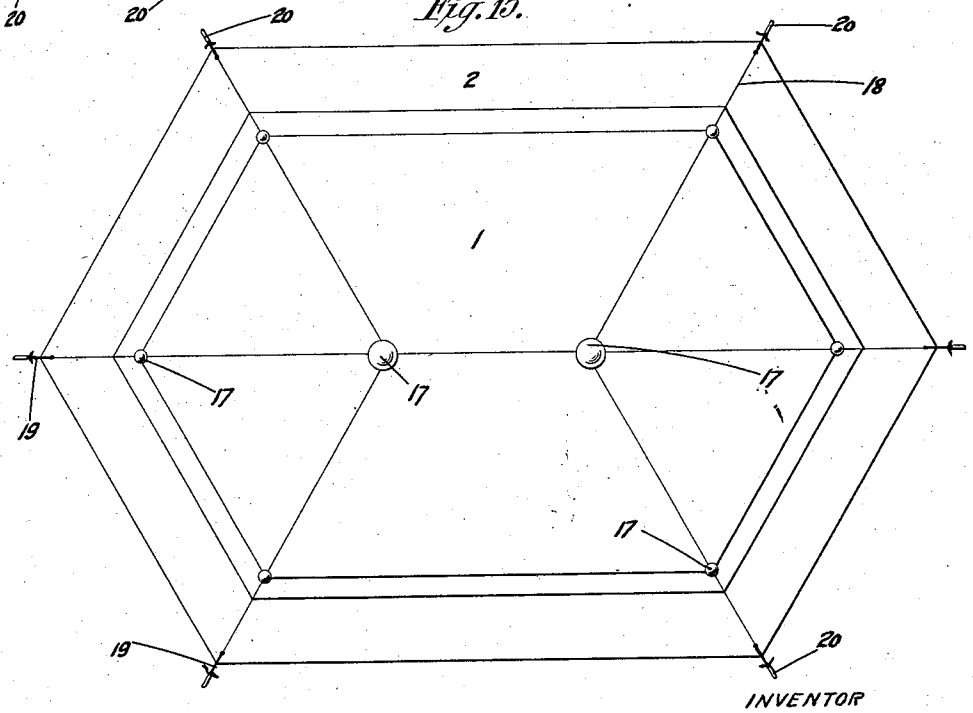


Fig. 15.



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Fig. 16.

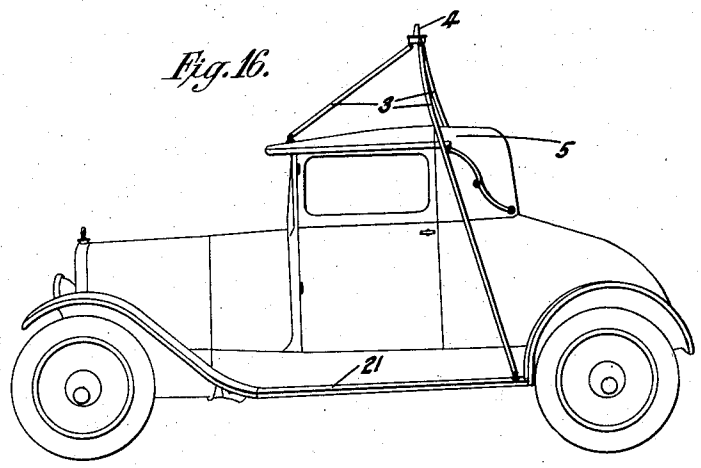


Fig. 21.

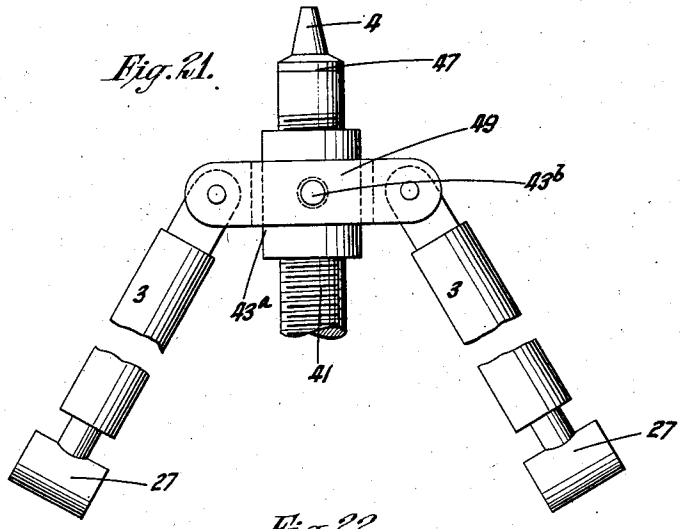
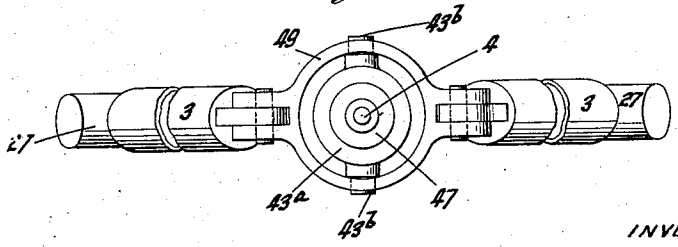


Fig. 22.



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Fig. 17.

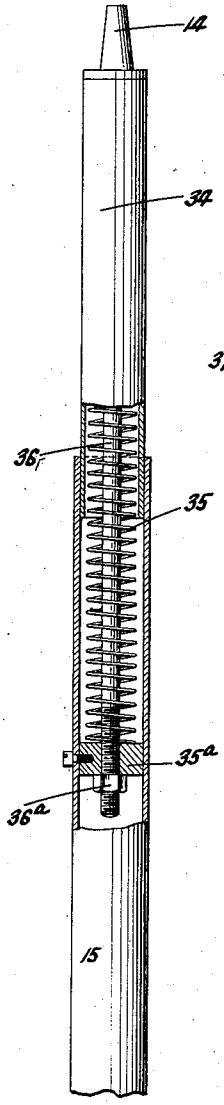


Fig. 18.

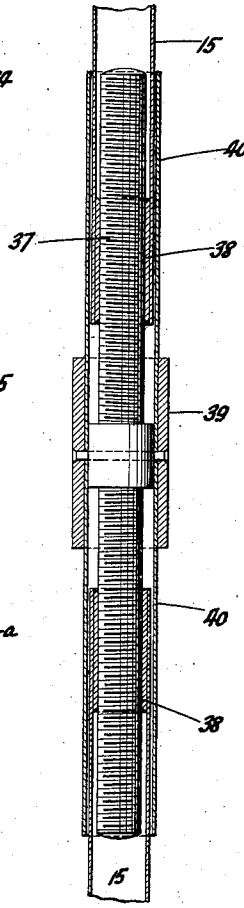


Fig. 19.

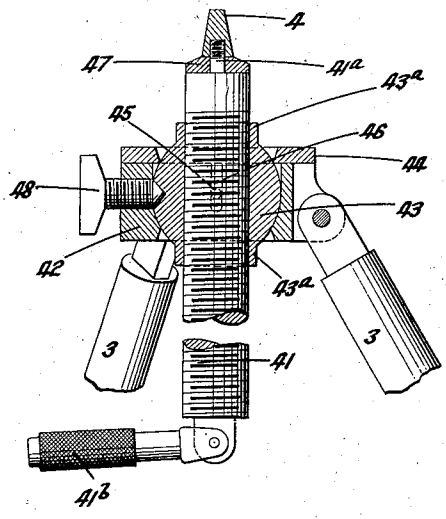
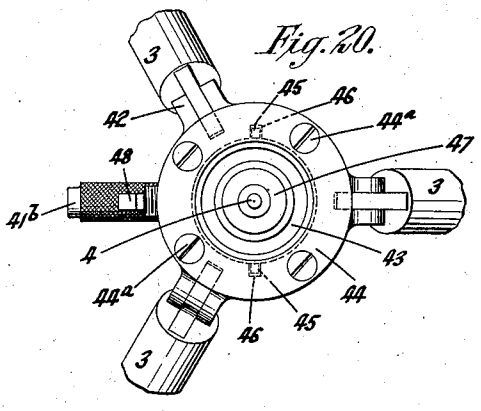


Fig. 20.



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Fig. 23.

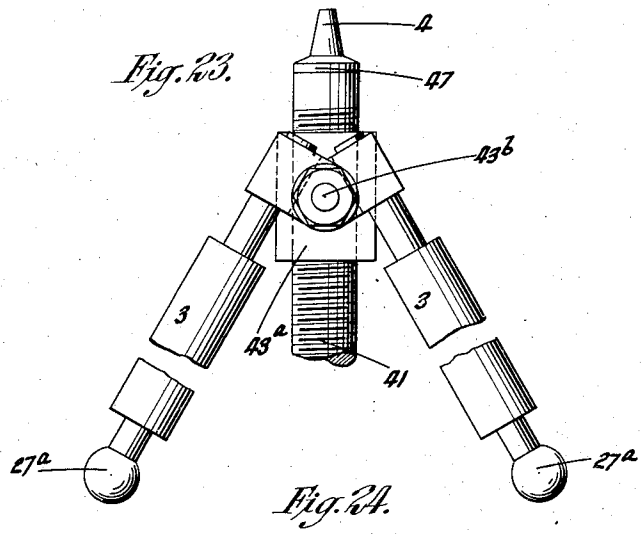


Fig. 24.

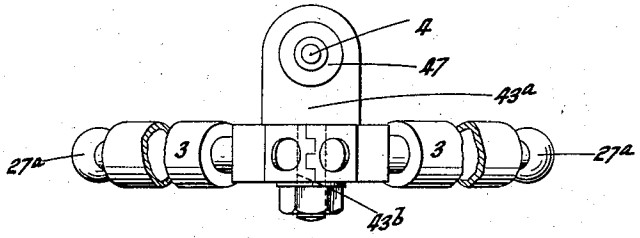
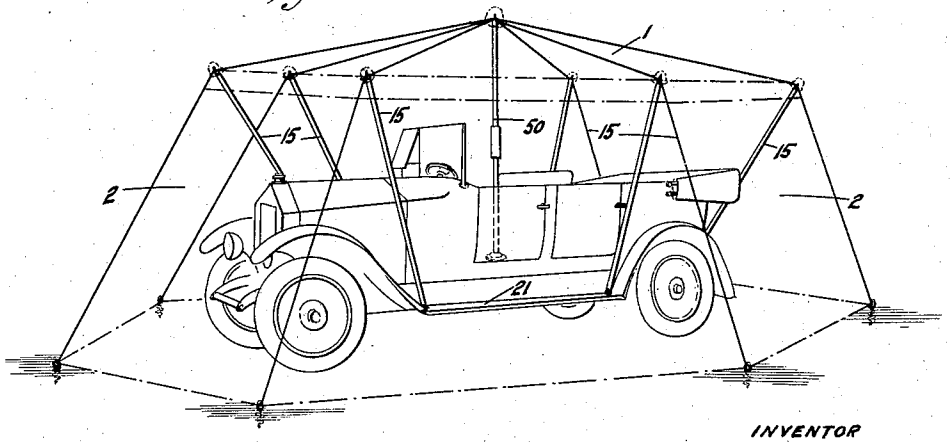


Fig. 25.



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UNITED STATES PATENT OFFICE

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TENT

Application filed October 9, 1928, Serial No. 311,402, and in Great Britain July 17, 1928.

This invention relates to tents and has for its object to provide means whereby the desired fabric can be supported in a reliable and expeditious manner from a motor car or other vehicle so as to envelope the latter and at the same time leave ample accommodation therearound for any desired purpose.

Broadly, means according to the invention comprise fittings secured to or upon the car or vehicle, a triangulated or braced system of struts adapted to be removably secured to some of said fittings and when in position to afford a supporting structure above the vehicle which will be rigid without dependence being placed upon the fabric of the tent, and other struts also adapted to be removably secured to the remaining vehicle fittings aforesaid but held in proper spaced position conjointly by the tent fabric and guys.

When not required the tent can be collapsed and transported upon the vehicle until it is to be re-erected.

The accompanying drawings illustrate how the invention may be carried into effect, Fig. 1 being a side elevation and Fig. 2 a plan of a hexagonal tent, which may however be of any other regular polygonal shape, the centre of which is supported by a rigid system of struts localized to the top of the vehicle. Fig. 3 is a perspective view of such strut system with a part of the vehicle, in section, associated therewith. Fig. 4 is a view of one of the remaining struts employed in supporting the fabric. Fig. 5 shows the upper end of Fig. 4 to a larger scale and with a part of the tent covering in place thereon, Fig. 6 is a part sectional view of the lower end of Fig. 4, at right angles to the latter, Figs. 7 and 8 are views at right angles one to the other of a socket for application to a strut forming a modification of Fig. 4 and the associated fittings for securing same to the vehicle. Figs. 9 and 10 are sectional views illustrating two forms of fittings to be secured to the vehicle to receive struts such as shown in Fig. 4. Fig. 11 illustrates a strut secured to the rear of the vehicle. Fig. 12 illustrates the lower end of a strut secured to the radiator cap of a vehicle. Fig. 13 illustrates a roof system of struts for supporting a tent of irregular polygonal shape such as is shown in elevation and plan in Figs. 14 and 15. Fig. 16 illustrates a car with a rigid system of struts supported conjointly by the roof and running boards. Figs. 17 and 18 are part longitudinal sectional views illustrating two methods of adjusting the length of stays. Figs. 19 and 20 show respectively in elevation with part in section, and in plan modified adjusting means. Figs. 21, 22, 23, and 24 show, respectively in elevation and plan, further modified constructions of adjusting means. Fig. 25 is a perspective view showing the invention applied to an open touring car.

Referring first to Figs. 1 and 2, the tent comprises a roof 1 of canvas or equivalent material in one piece or made up of a number of pieces, and a side 2 of like material, which may also be in one piece or made up of a number of pieces. The centre of the roof 1 is supported by a tripod 3 such as shown in Fig. 3, the pin 4 extending into a grummet ring in the roof. The legs of the tripod are secured to the top or roof 5 of the car in any suitable way, 6 being pins hinged thereto and adapted to enter sockets, such as shown at 7 in Fig. 9, which, if there is sufficient thickness of material in the roof 5, can be secured by a countersunk flanged nut 8. If it be desired to employ one type of socket for all struts, it may be necessary in some cases to fit packing pieces such as those shown at 9 and 10 in Fig. 3, where one leg of the tripod is assumed to be attached to the ventilator 11 in the car roof. Removal of the pins 6 from the sockets 7 may be prevented by cotters or the like passed through holes 12 in the pins.

The tent may be distended in any suitable way, it being convenient for instance to pass eyelets in the side material 2, as indicated at 13 in Fig. 5, each over a pin 14 at the upper end of a strut 15 such as shown in Fig. 4, after which a companion eyelet 16 in the roof 1, Fig. 5, protected by a pocket 17 against entrance of rain, is applied to the pin. The struts 15 are arranged at an angle extending upwardly in a direction away from the vehicle, and the side material 2 may be pegged

to the ground so as to dispense with long guys if so desired, especially if the side walls be given a taper as indicated in Fig. 1, where the seams at 18 virtually act as extensions of short guys 19 connected to pickets 20.

The struts 15 will of course comprise a set of selected lengths and, as already stated may be secured at appropriate places by one type of socket, such as that shown at 7 in Fig. 9. Such a socket 7 is shown in Fig. 10 as secured to part of the running board 21 of the car, the countersunk nut 8 of Fig. 9, being replaced by a nut 22 with dust cap. In Fig. 11, the socket 7 is secured by a nut 8, as in Fig. 9, to a member 23 similar to that sometimes employed in the holding of a spare wheel, whilst in Fig. 12 the socket 7 is attached by an ordinary nut and washer to the underside of the radiator cap 24. The pin 6 which may be articulated, as shown in Fig. 6, to a tubular member of metal constituting the strut 15, Fig. 4, constitutes a universal joint with the socket 7, that may be replaced by any other suitable joint. A superior construction however is that shown in Figs. 7 and 8 where a socket 25 intended to receive a bamboo or the like rod, has adjustably secured thereto, as by a screw threaded stem 26, a cylindrical head 27 which in one position, viz that shown in Fig. 8, can be slid laterally into a companion cylindrical eye 28, formed with a slot 29 which, near the centre of the socket is extended circumferentially, as between the dotted line 30 Fig. 8. By this arrangement, after the parts occupy the position shown in Fig. 7 the stem 26 is free to enter the circumferential extension of the slot 29, allowing the rod to be brought to the proper inclination and locking it against accidental disengagement. The eye 28 is provided with a pin 31 which may be received by a socket such as 7 of the earlier described devices, and is intended to be secured there, as by nuts 32 so that it need not be removed when dismantling the tent, the rod being disconnected from the vehicle by disengaging the head 27 from the eye 28.

From the foregoing description, it will be obvious that various modifications may be adopted, Figs. 14 and 15 for instance indicating a tent of irregular shape in plan. In such an instance, a ridge pole 33 may be employed to support the roof, as illustrated in Fig. 13. In Fig. 16 again a tripod is shown having legs of unequal length extending from the top of the car and running boards thereof to produce a supporting apex equivalent to that of Fig. 3.

The details of construction can also be varied in many ways without departing from the scope of the present invention, the struts for example being made in parts adapted to be connected or folded together to shorten their length during transport. Furthermore, means may be employed for adjustment. In Fig. 17 for example, the strut 15 is shown as having a telescopic end portion 34, a compressible spring 35 being fitted internally tending to separate the parts which however is prevented by a tie 36 secured to the portion 34 and working loosely through a fixed collar 35a which serves as an abutment at one side for the spring and at the other for a nut 36a, or head, on the tie 36.

Variation in strut length may however be obtained by a right and left hand threaded spindle 37, as shown in Fig. 18, engaging nuts 38 in the opposed ends of two strut sections 15. The spindle 37 may be rotated by a boss 39, knurled or roughened to give a good grip, and fitted with a sleeve 40 of a length to prevent the screw threads being exposed as the strut is extended. As will be obvious, the converse of this arrangement might be employed, two screw threaded spindles being adapted to be connected by a single sleeve nut common thereto.

If desired, adjustment of the roof 1 and side 2 of the tent can be made by altering the height of the roof, as for example, by means of a screw threaded spindle 41 as shown in Figs. 19 to 24. In this case, the side struts 15 would be of fixed length and not adjustable. In order that the increase in height of the tent shall increase the tension equally on all the seams, and vice versa, it is desirable that the spindle 41, provided with a point 4, shall have a universal movement.

In the example shown in Figs. 19 and 20, a rigid tripod 3 is employed having a head 42 recessed to receive a spherical sleeve 43 having extensions 43a to limit turning movement of the sleeve 43, a cover 44 being provided to hold the sleeve with the aid of screws 44a, within the head 42. The sleeve 43 is provided with trunnions 45 that extend into slots 46 in the tripod head 42 to prevent rotation of the sleeve when the spindle 41 is screwed up or down therein. The spindle 41 is provided at its upper end with a screw threaded extension 41a adapted to engage and carry the pin 4. A loose collar 47 is arranged between the top of the spindle and the bottom of the pin which engages an eyelet in the top of the tent, the arrangement permitting free rotation of the spindle in the eyelet. The spindle 41 may be rotated in any suitable way, as by a hinged arm 41b which can be moved into a position at right angles thereto so that it can be used as a lever. A set screw 48 may be provided for fixing the sleeve 43 in a central position, during the erection and dismantling of the tent and for convenience when packing.

In the modified arrangement shown in Figs. 21 and 22, the universal movement of the spindle 41 is obtained by means of a concentric ring fitting similar to that used for hanging lamps in ships. In this case, the outer ring 49 of the fitting comprises the head of a support comprising two supporting or

shear legs 3 jointed to the ring 49 and having at their lower ends cylindrical heads 27 for attachment to companion cylindrical eyes for attachment to the car, as in Figs. 7 and 8. The sleeve 43^a through which the spindle 41 extends, is in this case, provided with trunnions 43^b journalled in the outer ring 49.

In the further modified arrangement shown in Figs. 23 and 24, the sleeve 43^a is provided with only one trunnion 43^b which also acts as a stud for jointing the upper ends of the two supporting or shear legs 3 together. The lower ends of the legs are provided with balls 27^a to form ball and socket joints with sockets attached to the car.

In applying the invention to a touring car, the top would be down and the tripod or shear legs hereinbefore described would be replaced, as shown in Fig. 25, by a single strut 50 that may be made extensible in length to give the necessary vertical adjustment. Universal movement of the said strut may be provided for by attaching its lower end to the floor of the car by a ball and socket or other universal joint.

What I claim is:—

1. The combination with a vehicle, of a fabric tent covering, sockets secured to the vehicle, upwardly directed struts the lower ends of which are secured in said sockets and means connecting the upper ends together forming a supporting structure, extending well above the vehicle, which is rigid without dependence being placed upon the fabric of the tent.

2. The combination with a vehicle, of a fabric tent covering, sockets secured to the vehicle, a braced system comprising struts the lower ends of which are removably secured in some of said sockets, means connecting the other ends together forming a supporting structure extending well above the vehicle which structure is rigid without dependence being placed upon the fabric of the tent, other struts removably secured in the remaining vehicle sockets aforesaid and guys from the ground which conjointly with the fabric hold the last named struts in proper spaced position.

3. In a vehicle supported tent, a pin member having a cylindrical eye, a socket attached to the vehicle in which the pin of the member aforesaid can rotate, a strut adapted to support the tent fabric and a member at one end of such strut having a stem and cylindrical head adapted to be slid laterally into the eye aforesaid, such eye being formed with a circumferentially extending slot to secure the stem and prevent accidental separation of the parts when the strut is properly inclined to the vehicle.

Signed at Ardsheal, Kentallen, Argyll, Scotland, this 18th day of August, 1928.

AGNES PATRICIA MacLEAN.