(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 690 188 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.01.1996 Bulletin 1996/01

(51) Int Cl.[6]: **E04H 15/08**, E04H 15/48

(21) Application number: **95304405.4**

(22) Date of filing: **22.06.1995**

(84) Designated Contracting States:
BE DE DK ES FR GB IT NL

(30) Priority: **24.06.1994 GB 9412745**

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(54) Improvements in or relating to shelters

(57) An awning 10 comprises a sheet 12 extending from a caravan schematic view as represented at 14. The sheet 12 comprises a roof portion 16, a front portion 18 and opposite side portions 20,22. The awning 10 is attached to the caravan 12. A support pole 24 extends diagonally from the bottom of the side portions 20,22 towards the join between the front portion 18 and the roof portion 16, and a longer join between the roof portion 16 and the front portion 18. The pole 24 forms an arch which is in a plain canted away from the wall, to tension the roof portion.

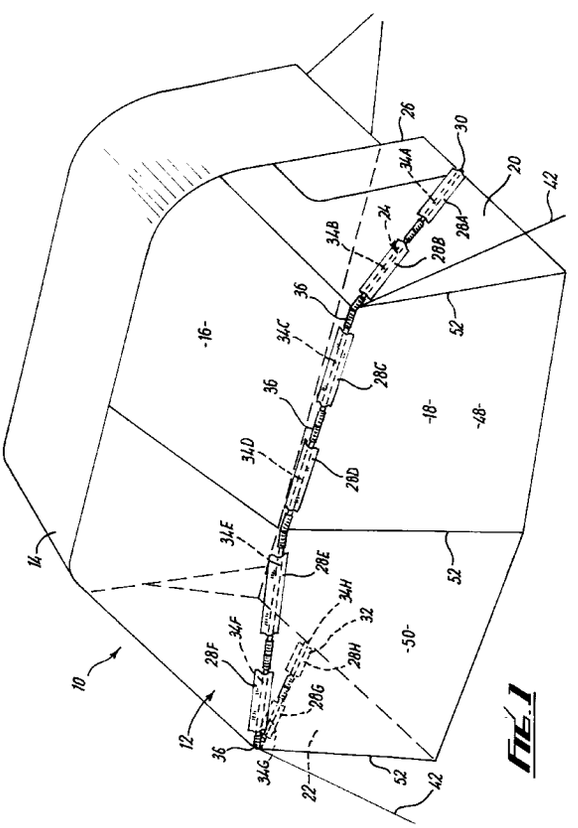

Fig.1

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Description

This invention relates to shelters. In particular, but not exclusively, this invention relates to tents and awnings.

Known awnings, such as caravan awnings and tent awnings, are usually bulky and consist of two separate parts, namely the fabric and the poles. So that awnings can be fitted to caravans, the caravans are usually provided with a channel extending around the outside edge of the door side. One edge of the awning is provided with a continuous bead sewn to the fabric which is known as the kader. When assembling an awning, the kader first has to be slid into the channel, which involves moving the whole fabric up and across the caravan until it is eventually in the correct position. The poles are then assembled from short sections, and inserted into the appropriate positions to support the awning. Guy lines, if provided, can be secured to the ground to hold the awning in place, or the lower edge of the fabric is pegged, into place. This process is particularly time consuming, and can be extremely frustrating.

It is the object of this invention to obviate and/or mitigate the above disadvantages.

According to one aspect of this invention there is provided a shelter comprising a sheet of a fabric material, an elongate support member to support said sheet, the support member being canted relative to the ground thereby to tension said sheet and to support the sheet to define an internal space.

In this specification, the expression "shelter" encompasses tents, awnings, and other shelters, particularly temporary, portable and collapsible shelters such as those made from fabric sheets and having a supporting pole or frame.

Preferably, the support means defines a substantially U-shaped support for the sheet, wherein the U-shaped support may be supported by the ground at opposite ends thereof. In the preferred embodiment, the sheet comprises a roof portion and the support means extends along an edge of the roof portion, the weight of the support means tensioning the roof portion. The sheet preferably further comprises a wall portion attached to the roof portion along the said edge.

Preferably, the U-shaped support is in the form of an arch defining a canted plane.

Preferably, the sheet comprises holding means to hold the support means to the sheet. The holding means may be adapted to prevent removal of the support means therefrom. Preferably, the holding means comprises a sleeve, or a plurality of sleeves, in which the support means is held. The ends of the sleeves adapted to engage the ground may be closed to prevent removal of the support means, whereby the support means is supported by the ground via said closed ends.

The support member may be canted at an angle in the range of between 40° and 60°, preferably between 45° and 55°, more preferably substantially 500.

According to another aspect of this invention there is provided a shelter comprising a sheet of a fabric material having an edge adapted to be connected to a support structure, and an elongate support member to support said sheet, the sheet comprising holding means to hold the support means to the sheet, whereby the holding means is adapted to prevent removal of the support member therefrom.

The support member may be in the form of a pole, which may comprise a plurality of sections joined together at opposite ends of each section. Preferably, the sections are joined to each other at hinges, at which hinges the sections may be folded to allow storage.

The holding means may comprise at least a sleeve in which the support means is held. The sleeve may be closed at each end to prevent removal of the support means. Preferably, the holding means comprises a plurality of sleeves, each sleeve being adapted to hold a respective one of said sections of the pole. Each hinge may be exposed between adjacent sleeves.

According to another aspect of this invention, there is provided a shelter comprising a sheet of a fabric material, and an elongate support means to support said sheet, wherein the support means comprises a plurality of support sections connected to each other at hinges whereby the support means can be folded at said hinges for storage.

The support means may be in the form of a pole, which may comprise a plurality of sections joined together at opposite ends of each section. Preferably, the sections are joined to each other at hinges, at which hinges the sections may be folded for storage.

Preferably, the hinges are adapted to fold alternately in opposite directions, whereby upon folding, the sections adopt a zig-zag folded condition, whereby the sheet adopts a zig-zag condition to enable storage of the tent. The feature of the hinges adopting a zig-zag configuration on folding enables the shelter to be folded to a small size so that the minimum amount of room is taken up during storage.

In a preferred embodiment of the invention, the shelter is in the form of an awning, for example, a caravan awning, wherein the awning is supported at the rear thereof by a wall such as a caravan wall.

According to another aspect of this invention there is provided an attachment arrangement for a shelter formed of a sheet of a fabric material, said arrangement comprising a first part which, in use, extends along an edge of the sheet, and a second part which is releasably engageable with the first part, the arrangement further comprising release means operable to release the first and second parts from each other.

In the preferred embodiment, the first and second parts each comprise a plurality of teeth wherein the teeth of the first and second parts are adapted to interlock with each other to engage the first and second parts together.

The attachment arrangement may further comprise a slider to releasably engage the first part to the second

part. Thus, in use, the tent can be attached to the supporting structure by use of the preferred embodiment by erecting the tent, attaching the second part to the structure by operation of the attachment means and attaching the first and second parts together by operation of the slider.

Preferably, the attachment arrangement further comprises releasable attachment means operable to attach the second part to a supporting structure.

The attachment means may comprise a channel member in which the second part may be mounted.

The attachment means is preferably mountable in the channel member by feeding the second part along the channel member from one end thereof.

The channel member may be permanently attached to the supporting structure.

The first part is preferably permanently attached to the shelter.

According to another aspect of this invention there is provided a shelter comprising an attachment arrangement as described above.

Embodiments of the invention will now be described by way of example only with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view of a awning;

Fig. 2 is a side view of the awning shown in Fig. 1;

Fig. 3 shows schematically the support means of the awning; and

Fig. 4 is a highly schematic section through an attachment arrangement.

Referring to the Figs. 1 to 3 of the drawings, there is shown an awning 10 comprising a sheet 12 extending from a caravan schematically represented at 14. The sheet 12 comprises a roof portion 16, a front portion 18 and opposite side portions 20,22. The awning 10 is attached to the caravan 12 by any suitable means known in the art along an edge 26. The sheet 12 is made of fabric material which may be natural or synthetic, woven or non-woven.

A support pole 24 extends diagonally from the bottom of the side portions 20,22 towards the join between the front portion 18 and the roof portion 16, and along the join between the roof portion 16 and the front portion 18. The pole 24 extends to the ground at a position spaced from the edge 26 of the awning 10 which connects to the caravan 14.

As can be seen from Figs. 1 and 2, the support pole 24 is in the form of a substantially U-shaped arch which defines a plane that is canted away from the wall of the caravan 14. Thus, the pole 24 leans away from the caravan 14 and the weight of the pole 24 tensions the roof portion 16. The front portion 18 hangs from the roof portion 16 to be tensioned by being attached to the ground by the use of appropriate pegs passed through suitable apertures in a bottom region in a manner that is known in the art. Similarly, the side portions 20,22 are tensioned by being attached to the ground by the use of pegs.

The pole 24 is located within a plurality of sleeves 28A to 28H at various locations along the pole 24. The ends 30,32 of the sleeves 28A and 28H engage the ground and are closed to prevent removal of the pole 24 therefrom.

The pole 24 comprises a plurality of sections 34A to 34H which are attached to each other at opposite ends by hinges 36, and each section 34A to 34H is held in a respective one of the sleeves 28A to 28H, as shown in Fig. 1, so that each hinge is exposed, but most of the length of each section 34A to 34H is covered by a sleeve 28A to 28H. Thus, it will be seen that the pole 24 is integral (i.e. captive) with the sheet 12.

The hinges 36 are arranged to be folded alternately in opposite directions, as indicated by the dotted lines 38 in Fig. 3. These indicate schematically the positions to which the sections joined by the corresponding hinge can be moved by closing the hinge. Thus, it will be appreciated that the awning 10 can be packed away and stored by simply folding the sections 34 about the hinges 36, to adopt a zig-zag folded condition. The sheet 12 would be folded at the same time, but remain attached to the pole by virtue of the sleeves.

As can be seen from the Figures, and particularly from Fig. 2, the pole 24 forms an arch which occupies a plane canted to the ground, preferably at an angle of substantially 50°. This causes the pole 24 to pull away from the caravan, and enables the sheet 12 to be tensioned while being simultaneously supported.

A storm pole 40 (Fig. 2) may be optionally provided at the front portion 18 to support the awning in the event of a storm or high winds. The awning 10 may also include guy lines 42, if desired, or be adapted to allow the lower edge to be pegged down.

As can be seen from Figs. 1 and 2, the awning may be provided with windows 44 and doors 46. Also, the front portion 18 may be divided into first and second panels 48,50 attached to each other and to the side portions 20,22 by zips 52 whereby, if desired, the panels 48,50 can be unzipped and rolled up to be secured to the roof portions 16 by any suitable means, whereby the awning can act as a sun canopy. It may also be convenient for some or all of the panels or doors to be completely detachable to facilitate collapsing the structure.

It can be seen that there is no vertical pole in the middle of the front portion (unless a storm pole has been fitted), so that when the zip 52 is opened, the front portion can be rolled away to leave an opening which is unobstructed by poles across the whole of the front of the awning. Furthermore, because the lean of the pole 24 tensions the roof 16, the number of guy lines required across the front of the awning is minimised and indeed they may not be required at all, further enhancing the unobstructed nature of the front.

Fig. 4 illustrates an arrangement for attaching a tent (such as an awning) to a supporting structure (such as a caravan). The arrangement comprises a toothed slide fastener (of the type commonly known as a "zip fastener") 150. This has a first toothed part 152 which, in use, extends along the edge of an awning. A second toothed part 154 is releasably engageable with the first part 152 by operation of a slider 156 in a manner which is conventional in itself. The second part 154 is releasably attached to the supporting structure 158 by means of a channel section 160. The channel 160 is permanently attached to the structure 158, for instance by a line of rivets 162. The channel 160 has an internal cavity 164 with a relatively narrow mouth 166. The second part 154 has a relatively wide base 168 on which its teeth are mounted by means of a relatively narrow neck 170. In use, the base 168 is located in the channel 160, with the neck 170 projecting out through the mouth 166. The base 168 is too large to pass through the mouth 166, thereby retaining the second part 154 in position, supported by the structure 158.

The first part 152 is permanently secured along the edge of the awning 172, for instance by stitching.

In use, the awning 172 is first erected in normal manner. The second part 154 is then mounted on the structure 158, using the channel 160. This is done by introducing one end of the base 168 into the cavity 164 at one end of the channel 160, and passing that end of the base 168 along the length of the channel 160, while feeding the remainder of the base 168 into the cavity 164 at the first end. This mounts the part 154 on the structure 158, with the teeth exposed. The teeth of the part 152 on the awning 172 are then offered to the teeth of the part 154, and secured to them by passing the slider 156 along the length of the fastener 150, to close the zip fastener in a manner which is in itself conventional.

The awning can be dismantled by reversing the above operations.

Alternatively, the edge of the awning 170 could be mounted on the structure 158, using the fastener 150, but before the awning 172 is fully erected, for instance before supporting poles have been installed. This may be convenient in some circumstances, but in other circumstances, it is expected that the bulk of the awning material may make this sequence more difficult.

It is to be understood that the attachment arrangement described in Fig. 4 can be used with an awning as described in relation to Figs. 1 to 3, but that the attachment arrangement of Fig. 4 could also be used with an awning which is otherwise conventional.

Various modifications can be made without departing from the scope of the invention, for example, the number of hinges 36 and sections 34 could be varied. Also, the overall shape of the awning can be varied.

Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or shown in the drawings whether or not particular emphasis has been placed thereon.

Claims

1. A shelter comprising a sheet of a fabric material, an elongate support member to support said sheet, the support member being canted relative to the ground thereby to tension said sheet and to support the sheet to define an internal space.

2. A shelter according to Claim 1, wherein the support means defines a substantially U-shaped support for the sheet, wherein the U-shaped support may be supported by the ground at opposite ends thereof.

3. A shelter according to Claim 1 or 2, wherein the sheet comprises a roof portion and the support means extends along an edge of the roof portion, the weight of the support means tensioning the roof portion.

4. A shelter according to Claim 3, wherein the sheet further comprises a wall portion attached to the roof portion along the said edge.

5. A shelter according to any preceding claim, wherein the U-shaped support is in the form of an arch defining a canted plane.

6. A shelter according to any preceding claim, wherein the sheet comprises holding means to hold the support means to the sheet.

7. A shelter according to Claim 6, wherein the holding means are adapted to prevent removal of the support means therefrom.

8. A shelter according to Claim 6 or 7, wherein the holding means comprises a sleeve, or a plurality of sleeves, in which the support means is held.

9. A shelter according to Claim 8, wherein the ends of the sleeves adapted to be supported by the ground are closed to prevent removal of the support means, whereby the support means is supported by the ground via said closed ends.

10. A shelter according to any preceding claim, wherein the support member is canted at an angle in the range of between 40° and 60° to the horizontal.

11. A shelter according to Claim 10, wherein the angle is between 45° and 55°.

12. A shelter according to Claim 10 or 11, wherein the

angle is substantially 50°.

13. A shelter comprising a sheet of a fabric material having an edge adapted to be connected to a support structure, and an elongate support member to support said sheet, the sheet comprising holding means to hold the support means to the sheet, whereby the holding means is adapted to prevent removal of the support member therefrom.

14. A shelter according to any preceding claim, wherein the support member is in the form of a pole.

15. A shelter according to Claim 14, wherein the pole comprises a plurality of sections joined together at opposite ends of each section.

16. A shelter according to Claim 15, wherein the sections are joined to each other at hinges, at which hinges the sections may be folded for storage.

17. A shelter according to any of Claims 13 to 16, wherein the holding means comprises at least a sleeve in which the support means is held.

18. A shelter according to Claim 17, wherein the sleeve is closed at each end to prevent removal of the support means.

19. A shelter according to Claim 17 or 18, wherein the holding means comprises a plurality of sleeves, each sleeve being adapted to hold a respective one of said sections of the pole.

20. A shelter according to Claim 19, wherein each hinge is exposed between adjacent sleeves.

21. A shelter comprising a sheet of a fabric material, and an elongate support means to support said sheet, wherein the support means comprises a plurality of support sections connected to each other at hinges whereby the support means can be folded at said hinges for storage.

22. A shelter according to Claim 21, wherein the support means are in the form of a pole, comprising a plurality of sections joined together at opposite ends of each section.

23. A shelter according to Claim 22, wherein the sections are joined to each other at hinges, at which hinges the sections may be folded for storage.

24. A shelter according to any of Claims 21 to 23, wherein the hinges are adapted to fold alternately in opposite directions, whereby upon folding, the sections adopt a zig-zag folded condition, whereby the sheet adopts a zig-zag condition for storage of the shelter.

25. A shelter according to any preceding claim, and in the form of an awning, for example, a caravan awning, wherein the awning is supported at the rear thereof by a wall such as a caravan wall.

26. A shelter substantially as described above, with reference to the accompanying drawings.

27. An attachment arrangement for a shelter formed of a sheet of a fabric material, said arrangement comprising a first part which, in use, extends along an edge of the sheet, and a second part which is releasably engageable with the first part, the arrangement further comprising release means operable to release the first and second parts from each other.

28. An arrangement according to Claim 27, wherein the first and second parts each comprise a plurality of teeth, and wherein the teeth of the first and second parts are adapted to interlock with each other to engage the first and second parts together.

29. An attachment arrangement according to Claim 27 or 28 further comprising a slider to releasably engage the first part to the second part.

30. An attachment arrangement according to Claim 27,28 or 29 further comprising releasable attachment means operable to attach the second part to a supporting structure.

31. An attachment arrangement according to Claim 30, wherein attachment means comprise a channel member in which the second part may be mounted.

32. An arrangement according to Claim 31, wherein the attachment means is mountable in the channel member by feeding the second part along the channel member from one end thereof.

33. An arrangement according to Claim 32, wherein the channel member is permanently attached to the supporting structure.

34. An arrangement according to any of Claims 27 to 33, wherein the first part is permanently attached to the shelter.

35. A shelter comprising an attachment arrangement as described above.

36. An attachment arrangement substantially as described above, with reference to the accompanying drawings.

37. Any novel subject matter or combination including

novel subject matter herein disclosed, whether or not within the scope of or relating to the same invention as any of the preceding claims.

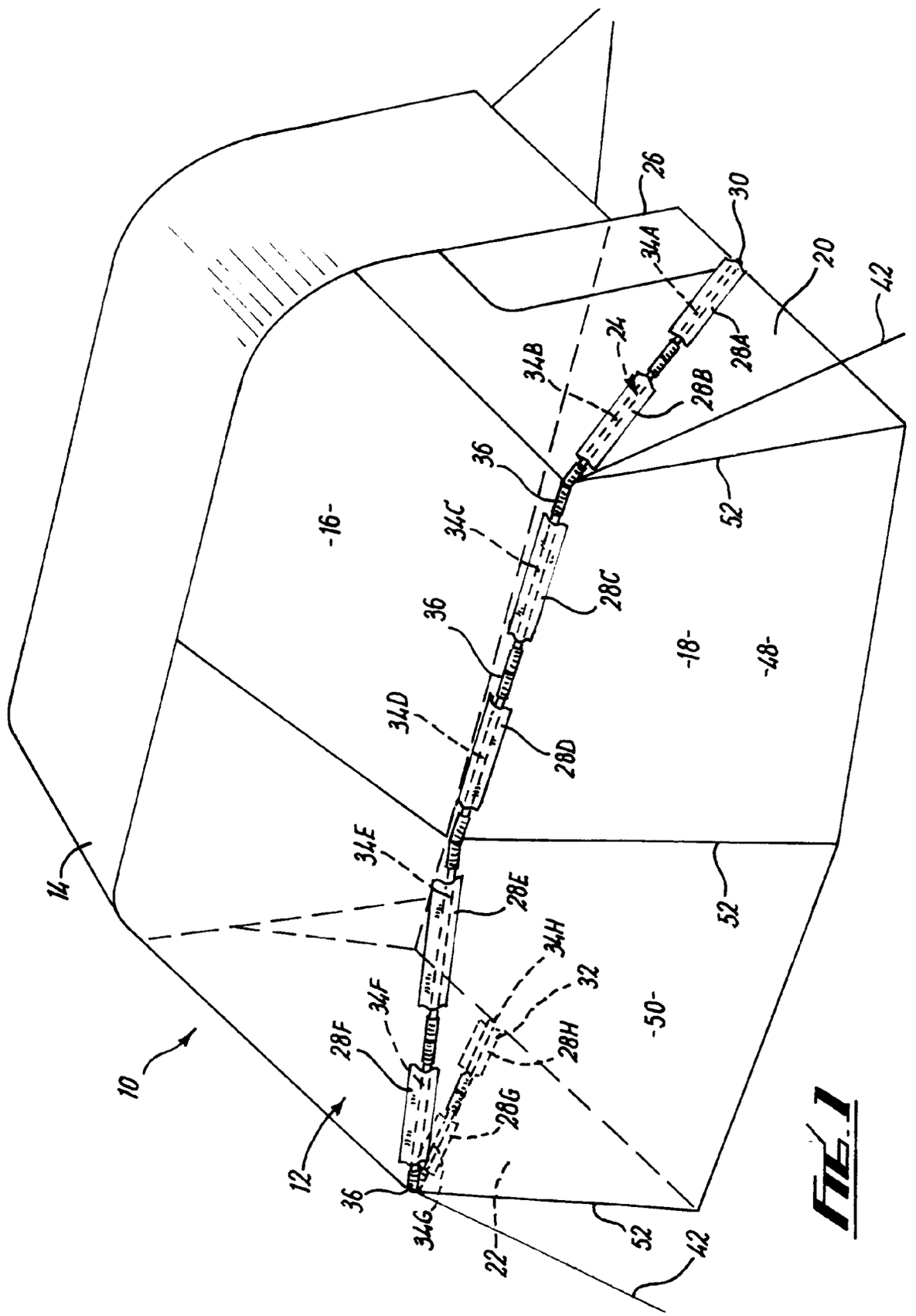
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FIG. 1

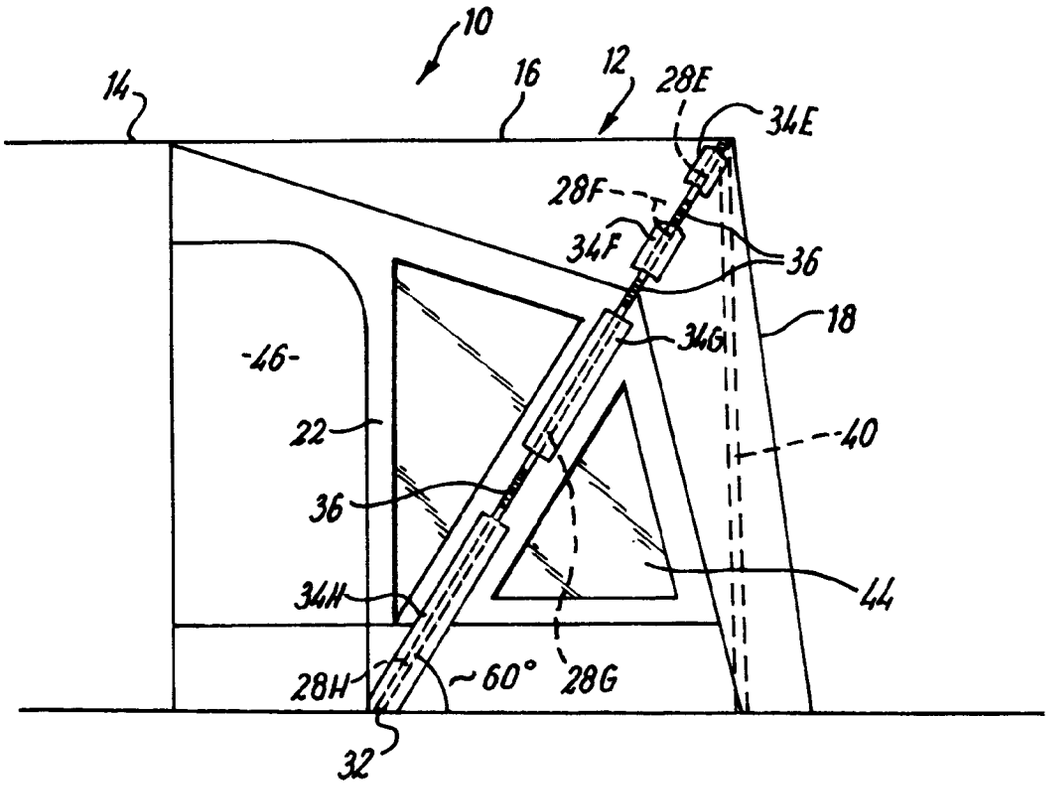
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FIG. 2

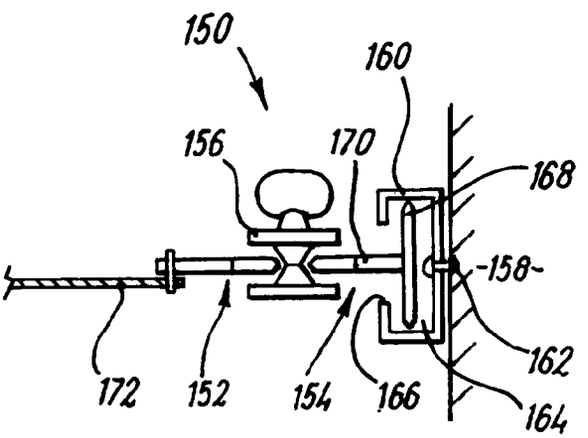
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FIG. 4

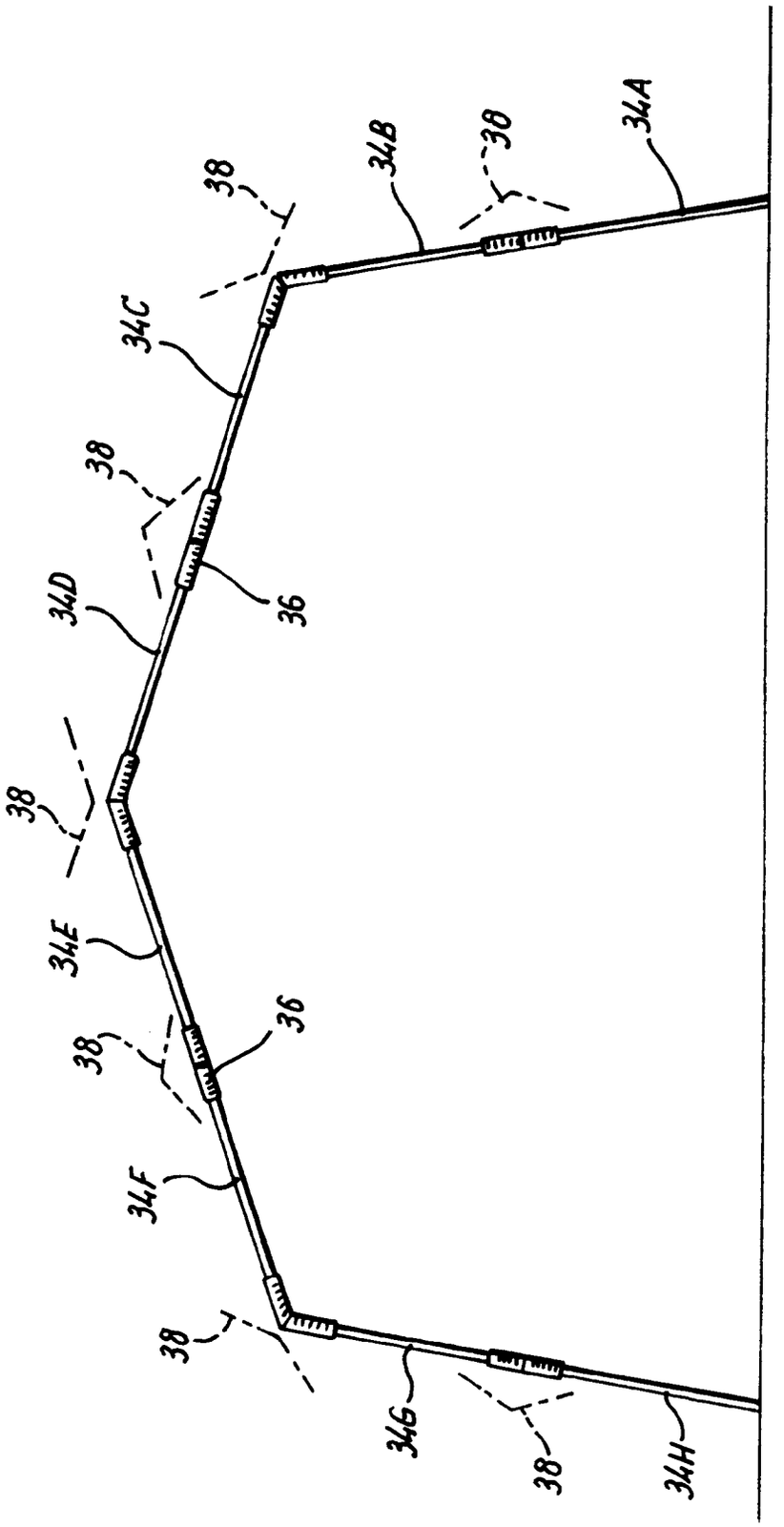

FIG. 3