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(54) **Sealing for tent**

(57) A sealing for a tent or a similar accommodation for sealing a slit between a wall and/or roof of a tent or similar accommodation and a caravan, camper or the like and/or forming a sealing between the side walls of a tent or similar accommodation and the ground, where-

in the sealing comprises at least one airtight, inflatable tubular body of flexible material, which, in operation, is arranged along the edge of the wall and/or the roof of the tent, and which is provided with at least one inflating connection for inflating the tubular body soft.

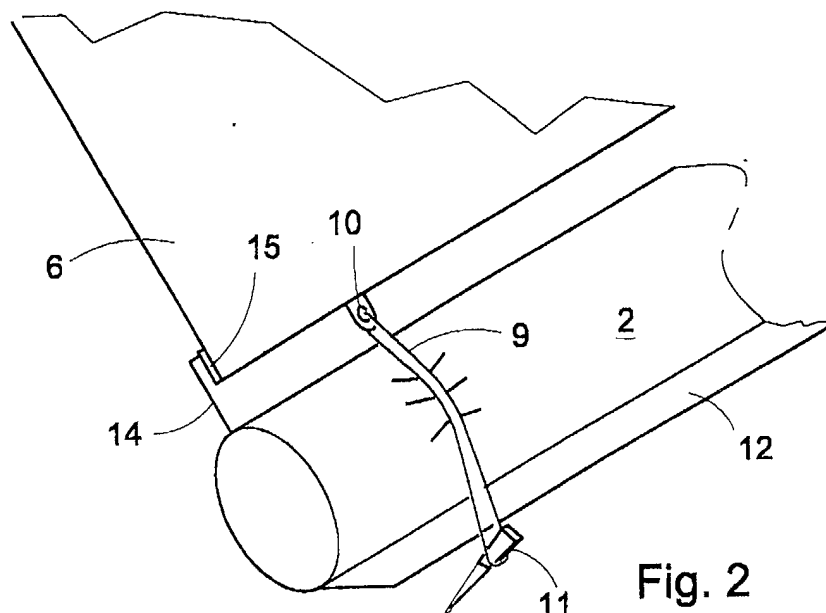


Fig. 2

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Description

[0001] The present invention relates to a sealing for a tent or a similar accommodation for sealing a slit between a wall and/or roof of a tent or similar accommodation and a caravan, camper and the like and/or forming a sealing between the side walls of a tent or similar accommodation and the ground. The invention further relates to a tent or similar accommodation provided with such a sealing.

[0002] Sealings of this type have long since been known from practice. A camping tent, a little tent house or an awning for, for instance; a caravan or camper or the like is mostly provided with a mud edge. Such a mud edge may, for instance, consist of a strip, for instance, ± 30 cm broad, of plastic foil or of a suitable, often plasticized fabric. In particular in the case of a tent or the like not provided with a groundsheet fastened to the walls an adequate sealing in relation to the ground must be provided by mud edges.

[0003] A mud edge may be arranged in outward or inward position. Also, a mud edge may be firmly or detachably fastened. In the latter case, for instance, Velcro or a zipper may be used. A mud edge may further be provided with fastening eyes or loops for ground pins. All these variants are also possible with a mud edge according to the invention.

[0004] Sealings in relation to a fixed wall of, for instance, a caravan or camper mostly comprise a section fastened to the wall, into which a cloth edge, provided with a hem in which a rope, cord or the like is arranged, is inserted (welt connection).

[0005] With the known sealings the problem occurs that the sealing edges, mud edge and/or sealings with welt section can hardly, if at all, adapt themselves to irregularities of a caravan, camper or the ground to be connected thereto. As a result thereof, even relatively small holes or rises in the ground may cause problems and unacceptably reduce the sealing effect of a sealing. For uses with caravans having special forms and campers and the like it is often not possible to work with welt sections. The result often is that unacceptable slits remain between the objects to be connected together. Moreover, it is often laborious and time-consuming to realize a welt connection, because corrosion, dirt or deformations in the section impede the insertion of welt connections.

[0006] The object of the invention is to remove the drawbacks described and to provide a reliable effective sealing. To this end, according to the invention a sealing of the type described above is characterized in that the sealing comprises at least one airtight, inflatable tubular body of flexible material, which body is provided with at least one inflating connection for inflating the tubular body soft.

[0007] It is noted that German Offenlegungsschrift 29 24 256 discloses a mud edge for a tent having steep walls, consisting of a tubular body formed at the bottom

of the tent walls, which body is provided with one or more filling nozzles for completely or partly filling the tubular body with water. Through the weight of the water the tubular body follows irregularities in the ground, so that a proper sealing is obtained. A drawback of this known mud edge capable of being filled with water is that, in fact, it is only suitable for a substantially horizontal use, because the water will flow to the lowest parts. Furthermore, it is difficult to fill the tubular body, also when used substantially horizontal, because the water must often be supplied from elsewhere with a bucket or the like and must be poured into the filling opening via a funnel.

[0008] It is further noted that the German Offenlegungsschrift also mentions that with a flat ground it could be sufficient to inflate the tubular body intended for water filling hard with air. This possibility, however, is not suitable for sealing a slit between a tent wall and a non-flat surface.

[0009] The invention is based on the insight that by means of a tubular body inflated soft it is possible to obtain both a sealing between a tent and the like and the caravan, camper etc. and a sealing between a tent and an uneven ground.

[0010] The invention will be explained below in more detail with reference to the enclosed drawings of some exemplary embodiments, in which:

Fig. 1 diagrammatically shows in part a first exemplary embodiment of a sealing according to the invention;

Fig. 2 diagrammatically shows in part a second exemplary embodiment of a sealing according to the invention;

Fig. 3 diagrammatically shows a third exemplary embodiment of a sealing according to the invention;

Fig. 4 diagrammatically shows a fourth exemplary embodiment of a sealing according to the invention;

Fig. 5 diagrammatically shows a fifth exemplary embodiment of a sealing according to the invention;

Fig. 6 diagrammatically shows a sixth exemplary embodiment of a sealing according to the invention;

Fig. 7 diagrammatically shows a use of a sealing according to the invention in relation to a vehicle; and

Figs. 8 and 9 diagrammatically show two examples of a sealing according to the invention used against a side wall of a vehicle.

[0011] Fig. 1 diagrammatically shows an example of a sealing 1 according to the invention. The sealing 1 shown by way of example comprises a substantially tubular body 2 of a suitable flexible airtight material, for instance plastic foil or cloth. The material may also be a multilayer material, in which at least one of the layers is airtight. Flexible airtight materials are known in various embodiments and are commercially available.

[0012] The material is formed into an inflatable tube in one of the manners known for the purpose. To this

end, one or more valves may be provided, as diagrammatically shown at 3. The tubular body is closed at the ends, for instance because the free edges are fastened together by sewing and/or gluing and/or melting or the like, as diagrammatically shown at 4.

[0013] The tubular body 2 may be used as a separate sealing if the tent wall is fixed first, for instance with tent pegs and/or tension rubbers slightly drawn inwards, then the tubular body, inflated or not inflated before, is laid on the outside against the tension rubbers, and subsequently, the tent wall is fixed on the outside of the tubular body with, for instance, pegs and/or tension rubbers. This technique is diagrammatically shown in Fig. 3 for a ground sealing. Fig. 3 shows a tent wall 6, fixed on the ground by means of a number of tension rubbers or the like, slightly directed inwards, one of which, designated by 7, is visible. A corresponding tent peg is shown at 8. In the situation shown in Fig. 3 the tubular body 2 is laid in inflated condition against the tension rubbers 7 or the like turned inwards. Subsequently, on the outside tension rubbers 9 or the like are also arranged over the tubular body, which, on the one hand, are fastened in an eye or loop 10 in or on the tent cloth and, on the other hand, are fixed with a tent peg 11. The tubular body is now enclosed between the inner and the outer tension rubbers or the like. It is noted that in the case of a sealing according to the invention not designed as ground sealing, but as wall sealing in relation to a fixed wall, no pegs can of course be used, but the fixed wall may be provided with fastening or fixation points, such as, for instance, small stainless steel hooks or the like, which can cooperate with tension rubbers, cords or the like fastened to the tent wall. Such tension rubbers or cords or guy ropes may also be fixed to the body of a camper or caravan in a suitable place, for instance by hooking them around the edge of a wheelhouse with hooks. Besides the above example, this also applies to the examples to be described below.

[0014] The tubular body must not be inflated hard in most cases, because otherwise the desired flexibility disappears and a proper adaptation to irregularities in the ground can no longer be realized. With a very flat ground the tubular body can be inflated harder than with an uneven ground. In the embodiment shown in Fig. 3 the tubular body is further provided at the bottom with a longitudinally extending strip-shaped flap 12 to enhance the sealing effect. Similarly, the tent wall may be provided with a lower edge extending downwards beyond the eyes or loops 10 or the like.

[0015] It is noted that for sealing a tent or the like a number of sealing elements fitting together may be used in general.

[0016] In the exemplary embodiment of Fig. 2 the tubular body 2 is provided at the top with a longitudinally extending strip-shaped flap 14, which, by means of suitable connecting means, such as, for instance, Velcro or a zipper, may be connected with corresponding connecting means 15 arranged along the (lower) edge of

the tent wall.

[0017] It is possible to design the tubular body, if desired, with similar connecting means at the ends for coupling with a next sealing element.

[0018] Fig. 4 shows a variant of a tubular sealing element 2 with a strip-shaped ground flap 12, provided with eyes 16 for fixing the sealing element in the ground by means of ground pins or to a vehicle or the like with tension rubbers and hooks. The use of loops is also possible.

[0019] Fig. 5 diagrammatically shows an exemplary embodiment of a sealing element according to the invention built up from two strips 20, 21 of plastic or plasticized material. In this example the strips 20, 21 are sealed together at the bottom to form a strip-shaped longitudinal flap 22, which may be provided with eyes 23 or loops to enable fixation of the sealing element in the ground or to a vehicle or the like.

[0020] Furthermore, in this example the upper edges are connected together by means of relatively strongly adhering Velcro 24, while, likewise at the upper edge of the resulting tube, Velcro 25 or a zipper is arranged for fastening to corresponding means along the edge of the relevant tent wall.

[0021] The resulting tube may be designed as an inflatable tubular body, but may also serve to receive one or more separately inflatable bodies, for instance the type shown in Fig. 1. In that case the material of the tube itself need not be airtight. Commercially available are suitable inflatable plastic tubes in various dimensions. Such inflatable tubes or hoses are often used as buffer between, for instance, articles packed in a container.

[0022] Fig. 6 diagrammatically shows a tent wall 30, provided along an edge with a receiving tube 31 for receiving an inflatable tubular body. The receiving tube may be simply formed by folding back an edge strip 32 of the tent cloth and fixing it to the tent cloth. In the example shown a tension rubber 33 or the like is arranged in a loop 34 on the edge strip, so that the edge strip can be fixed with a tent peg 35 or, in the case of a sealing in relation to a wall of a vehicle or the like, with a hook. Furthermore, eyes 36 or loops may be provided to fix the edge strip with ground pins or the like, not shown. Such a receiving tube may of course also be designed as a separate element capable of being detachably fastened to the tent wall.

[0023] It is noted that after the foregoing various modifications are obvious to those skilled in the art. It is further noted that in non-inflated or pumped condition the ground sealing described functions as a conventional mud edge.

[0024] The embodiments described above and shown in Figs. 4 through 6 may also be used to seal a tent wall and/or tent roof in relation to a caravan, camper and the like. To this end, the sealing edge, also called sealing collar, may be arranged, if desired, on the inside of the tent cloth, so that the sealing edge is positioned between the tent cloth and the body of the caravan or

the like. If it is desirable to fasten the sealing edge itself, located or not located on the inside of the tent cloth, directly to the caravan or the like, this may be done by using tension rubbers, tension cords, guy ropes or the like, fixed in the eyes, as indicated at 16, 23 and 36, and fastened in some way or other, for instance to hooks arranged for the purpose or to suitable body parts of the caravan or the like.

[0025] When the sealing edge is firmly fastened to the tent cloth, the tent cloth may, if desired, be capable of being fastened to the caravan or the like via the sealing edge. The sealing edge may, for instance, be stitched on the tent cloth.

[0026] Fig. 7 diagrammatically shows a sealing collar for use between a tent cloth and a vehicle.

[0027] Fig. 7 diagrammatically shows the back of a vehicle 40, for instance a camper and a roof 41 of a tent construction, not shown. The roof 41 of the tent construction lies on the roof 42 of the vehicle and is, in this example, fixed to the vehicle with cords or tension rubbers or the like and hooks. A tension rubber or cord with hook is shown at 43. In this example the hook 44 engages the handle 45 of a door 46 of the vehicle. At the side of the tent roof eyes or loops or the like may be provided for fastening tension rubbers, cords or the like.

[0028] Located along the edge of the tent roof 41, but in this example between the tent roof and the vehicle roof 42, is an inflatable sealing 47 according to the invention. The inflatable sealing may be fastened to the tent cloth with Velcro or the like in the manner described before, but may also consist of a hem formed at the tent cloth, in which separate inflatable hoses are placed, as indicated above.

[0029] Preferably, the hem is detachably connected with the tent cloth along at least one edge, for instance via Velcro or a zipper or the like, so that the inflatable hoses can be simply placed and, if necessary, replaced or mended. The sealing may of course continue naturally over the side walls of the tent construction and of the vehicle.

[0030] Figs. 8 and 9 diagrammatically show sealing edges 50 used between a wall 51 of a vehicle 52 and an awning construction 53 designed in the manner of a frame tent. In the examples of Fig. 8 and Fig. 9 the awning construction has a frame of its own, not shown in detail, and a short tunnel- or porch-shaped part 54 fitting to the vehicle 52 or the like, which may be provided at the location of a door, not shown. In the example of Fig. 8 the sealing edge lies against the vehicle wall. Through the tunnel shape and the stability of the awning construction provided by its own frame a proper sealing between the wall 51 of the vehicle 52 or the like and the awning construction 53 is obtained when inflating the sealing collar 50.

[0031] In the example of Fig. 9 a tunnel- or porch-shaped frame with (vertical) parts 55, which may consist of, for instance, tent poles, is used near the wall 51 of the vehicle or the like. The material of the wall of the

tunnel- or porch-shaped part 54 lies between the parts 55 and the wall 51 of the vehicle or the like and terminates in the sealing collar 50. In inflated condition the sealing collar cannot pass the slit between the wall 51 and the frame parts 55, so that the collar is fixed by the frame parts.

[0032] It is noted that the wall 51 may be a wall of rigid material, but may also be a wall consisting of soft or flexible material, for instance tent cloth, such as, for instance, a wall of a folding caravan.

Claims

1. A sealing for a tent or a similar accommodation for sealing a slit between a wall and/or roof of a tent or similar accommodation and a caravan, camper and the like and/or forming a sealing between the side walls of a tent or similar accommodation and the ground, **characterized in that** the sealing comprises at least one airtight, inflatable tubular body of flexible material, which body is provided with at least one inflating connection for inflating the tubular body soft.
2. A sealing according to claim 1, **characterized in that** the tubular body is provided with at least one strip-shaped longitudinal flap.
3. A sealing according to claim 2, **characterized in that** the strip-shaped longitudinal flap is provided with means for receiving one or more fastening members.
4. A sealing according to claim 1 or 2, **characterized in that** the inflatable body is provided with a strip-shaped longitudinal flap provided with fastening means for detachable fastening to corresponding fastening means along the edge of a wall and/or roof of a tent or the like.
5. A sealing according to claim 1, **characterized in that** the inflatable body is provided with a first strip-shaped longitudinal flap provided with means for receiving one or more fastening means for fastening to the ground or to a caravan, camper or the like and with a second strip-shaped longitudinal flap provided with fastening means for cooperation with corresponding fastening means along the edge of a wall and/or roof of a tent or the like.
6. A sealing according to any one of the preceding claims, **characterized in that** the tubular body is formed from two material strips fastened together with the edges, each built up from one or more layers.
7. A sealing according to any one of the preceding

claims, **characterized in that** the sealing comprises a tubular body for, in operation, receiving at least one inflatable tubular body.

8. A sealing according to claim 7, **characterized in that** the tubular body is at least provided with means for fixing the tubular body to a caravan, camper or the like or the ground. 5
9. A sealing according to claim 7 or 8, **characterized in that** the tubular body is formed by a hem along the edge of the tent cloth of at least a wall and/or roof of a tent or the like. 10
10. A sealing according to claim 9, **characterized in that** the hem is connected along one of the longitudinal edges thereof with the tent cloth with detachable and refixable means, so that the hem can be opened to arrange or replace an inflatable tubular body. 15
20
11. A sealing according to any one of the preceding claims, **characterized in that** the tubular body is provided at at least one of the ends with fastening means for fastening the tubular body to a similar tubular body. 25
12. A tent or similar accommodation, provided with at least one sealing according to any one of the preceding claims. 30
13. A tent or similar accommodation according to claim 12, **characterized by** a wall and/or roof provided along an edge with fastening means for an inflatable tubular body or a receiving tube therefor. 35
14. A tent or similar accommodation according to claim 11 or 12, **characterized by** a hem formed at the edge of a wall and/or roof for receiving at least one inflatable tubular body. 40
15. A method for forming a sealing between a wall and/or roof of a tent or a similar accommodation and a caravan, camper and the like and/or forming a sealing between the side walls of a tent or a similar accommodation and the ground, **characterized in that** an inflatable tubular body of flexible material is arranged at the location of the slit to be sealed and that the tubular body is inflated to soft condition. 45
50
16. A method according to claim 12, **characterized in that** the tubular body is arranged between first and second tension means for fastening the wall and/or roof of the tent or similar accommodation to the ground or to the caravan, camper or the like. 55

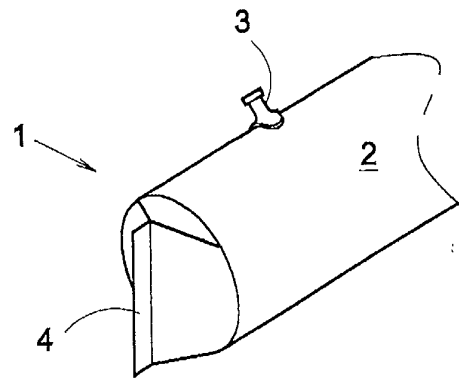


Fig. 1

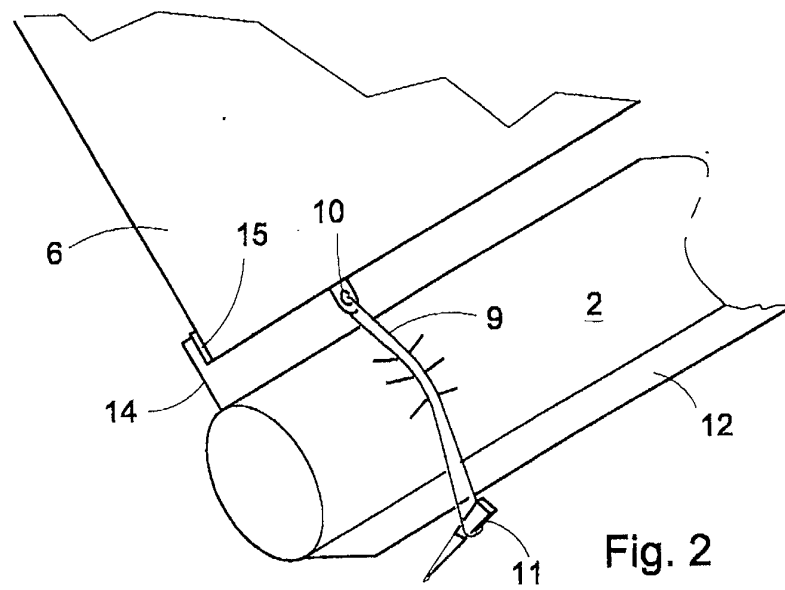


Fig. 2

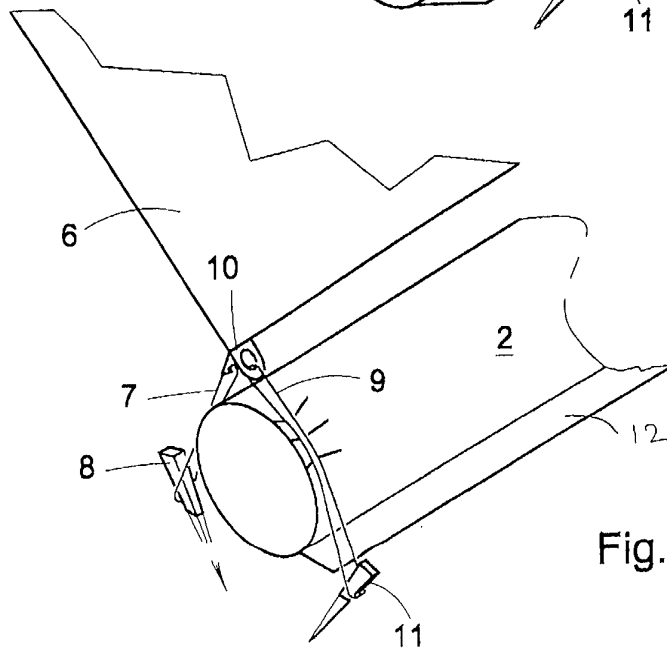
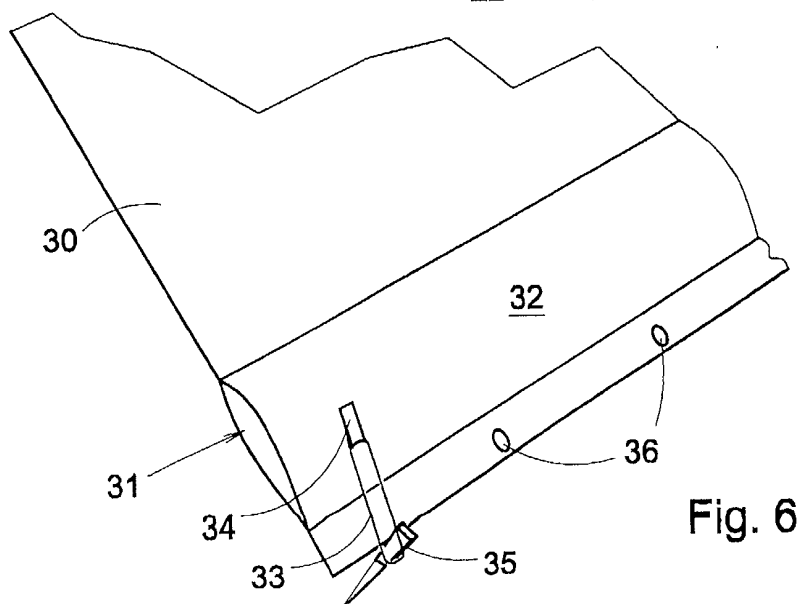
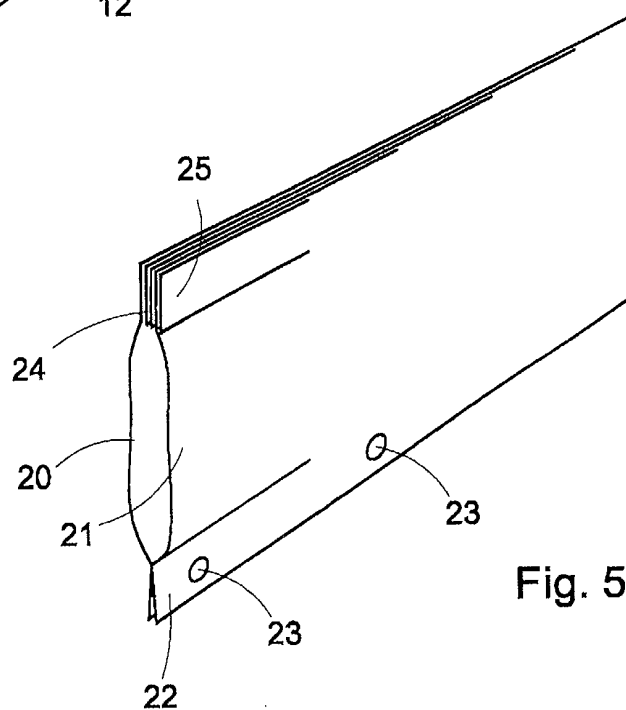
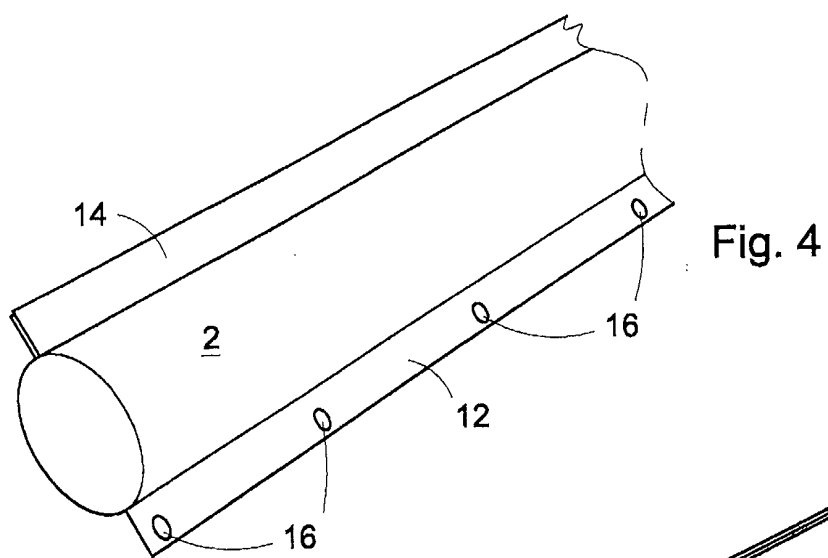


Fig. 3



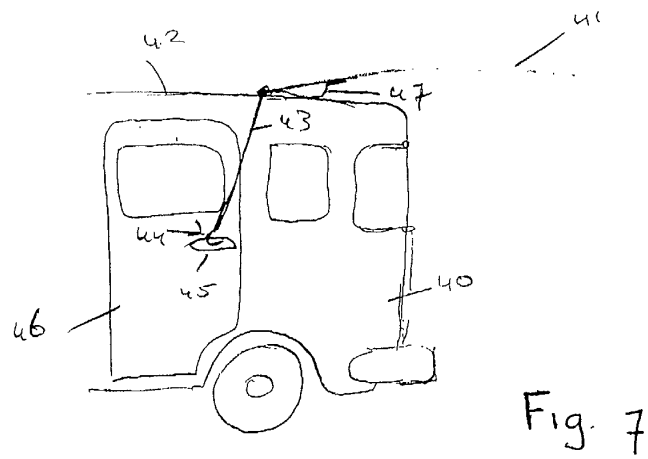


Fig. 7

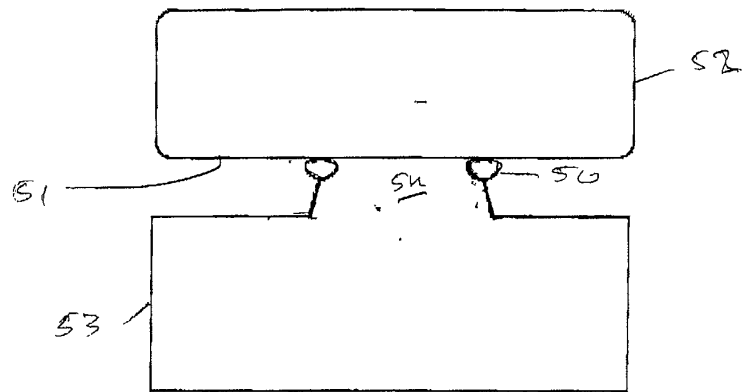


Fig. 8

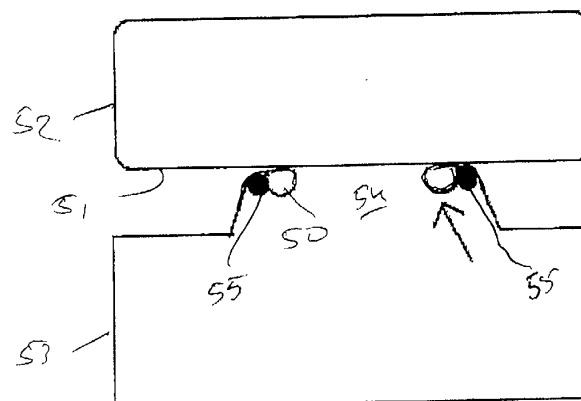


Fig. 9



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EUROPEAN SEARCH REPORT

Application Number
EP 02 07 6039

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	DE 29 24 256 A (CRAMER MICHAEL) 18 December 1980 (1980-12-18) * page 5, paragraph 7 - page 7; figures *	1,4,12, 13,15	E04H15/32
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Y	DE 23 16 824 A (BALLONFAB SEE LUFTAUSTR GMBH) 17 October 1974 (1974-10-17) * page 3, paragraph 6 - page 4, paragraph 1; figure 2 *	7	
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E04H
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		18 June 2002	Kriekoukis, S
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