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(72) Inventor: **Kelly, Christel Elfriede**
London
NW3 7DH (GB)

(74) Representative: **Rees, Alexander Ellison et al**
Urquhart-Dykes & Lord LLP
30 Welbeck Street
London W1G 8ER (GB)

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(71) Applicant: **Kelly, Christel Elfriede**
London
NW3 7DH (GB)

(54) **Shoe tree**

(57) A shoe tree for use with a shoe including a main body (9) with a narrow forward end (8) adapted to fill a cavity in a shoe beyond where, in use, toes are accom-

modated. The narrow forward end is removable so it can be replaced or tailored to fit into a variety of different shoe types, primarily shoes with pointed toes that are otherwise prone to damage.

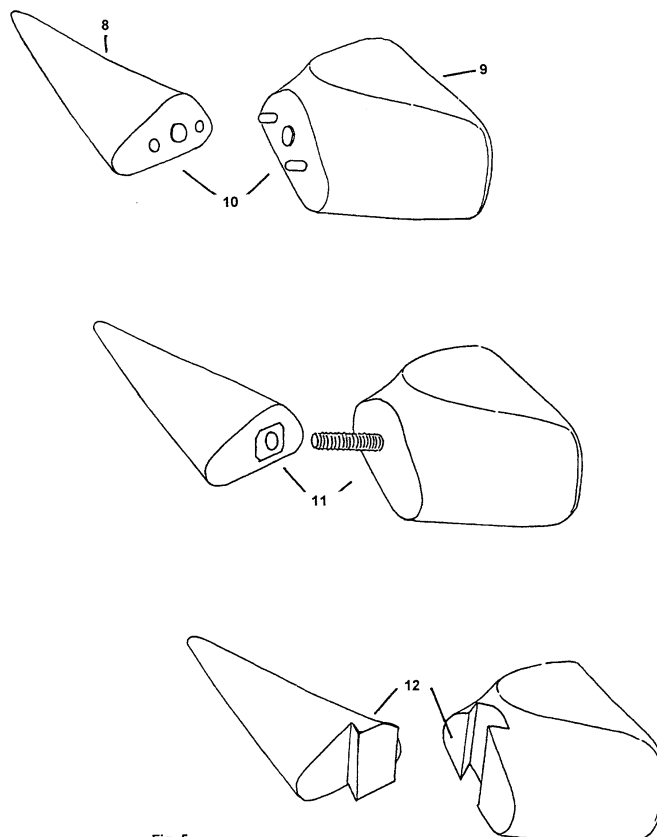


Fig. 5.

Description

[0001] The present invention relates to a shoe tree.

[0002] When shoes, in particular (but not limited to) women's dress shoes, are worn they will automatically begin to fall out of shape and appear ruffled, often wrinkled from spending the majority of their life off a person's feet and unsupported by a firm substitute. When a shoe is exposed to elements such as rain, heat, dryness and normal wear and tear, the shoe will degrade over time until it must be thrown away.

[0003] Shoe trees were invented primarily to tackle this problem by becoming a substitute for the foot when the shoe is not being worn. While a shoe tree is in the shoe, it is providing support which is needed to allow the shoe to maintain its form and to remain in as close to a "new" condition as possible. Common designs of shoe tree are usually in the form of a foot-shaped wooden insert, sometimes adjustable in various directions.

[0004] However, the shoe trees which are currently available do not generally address the problems found with very pointed shoes and boots. If a pointed pair of shoes is outfitted with a conventional shoe tree, only the back of the shoe (where the heel sits) and part of the foot (where the arch and forefoot end at the beginning of the toes) are preserved by the shape of the shoe tree. The very end point of the shoe where it is too narrow for toes to actually fit into when worn, has no off-foot protection from the elements and from the normal wear and tear of being worn. The condition of the shoe can deteriorate relatively quickly.

[0005] It is an object of the present invention to provide a shoe tree which addresses the problems associated with wear and tear on particularly pointed shoe types.

[0006] In one broad aspect of the present invention there is provided a shoe tree according to claim 1.

[0007] This invention creates off-foot support for not only the main body of the shoe but also for the extended pointed toe of the shoe and/or boot. This added dimension for the shoe tree allows for the protection of a pointed toe of a shoe or boot which is often the most affected by the lack of any off-foot support because it is the smallest part of the body of a shoe or boot. Even while being worn, it does not have any support since it is too narrow for any part of the toes to fit into. Because of this fact, it is the most flexed, and therefore vulnerable part of a shoe or boot.

[0008] In a preferred form the narrow forward end is removable/detachable and/or replaceable from the main body. This gives the clear advantage of being able to tailor a shoe tree to the individual needs of the toe of the shoe it fits into. Small variations such as a flat end can be addressed by a suitably shaped or malleable detachable end. In various embodiments the forward end is attached to the main body by a dove-tail (tongue-in-groove) joint, screw or bolt, magnet, Velcro®, hooks or a snap-on mechanism or like arrangement.

[0009] The general shape of the assembled shoe tree

will hold it together while in place in a shoe, however, the attachment means provides a convenient coupling when the shoe tree is removed from the shoe.

[0010] The invention will now be described by way of example and with reference to the accompanying drawings in which:

Figure 1 shows an overhead plan view of a solid single extended toe piece 1 "pointed" shoe tree according to the present invention, with a levered metal separating center rod 2 and an adjustable heel piece 3. Also shown in Figure 1 is a flexible spring coil center rod 4 attached to a stationary ball shaped heel 5 as an alternative to the center rod 2/heel 3,

Figure 2 shows a side view of the invention from Figure 1, with the levered center rod 2,

Figure 3 shows side views of the alternatives: levered center rod 2 and flexible spring center rod 4,

Figure 4 shows a plan view of a further embodiment of a shoe tree according to the invention with three different variations of the solid single extended toe: very pointed 1, an extended small square tip 6 and a extended wider square toe 7,

Figure 5 shows the separated pointed toe in three different attachment methods: magnet/tongue-in-groove 8, screw or bolt 9 and dove tail 10,

Figure 6 shows two toe ends 11 and 12 to be used separately as toe supports with strings 13 attached for easy withdrawal,

Figure 7 shows a further embodiment of a shoe tree according to the invention,

Figure 8 shows a rear perspective view of the shoe tree from Figure 2, and

Figure 9 shows a side view of the shoe tree from Figure 2,

[0011] In Figure 1 a pointed, narrow ended, single main body 1 will typically be made out of wood, however many different materials will suffice such as plastic, rubber or metal. The general shape of main body 1 (apart from the pointed end) will generally resemble the dimensions of a foot, or the front part of a foot.

[0012] Also shown in Figure 1 is a levered metal center rod 2 that adjusts to fit a particular shoe size. As an alternative to the levered center rod 2 Figure 1 illustrates a flexible spring/coil 4 that would extend from a rearward end of the main body 1 in the same way. At the right end of the spring coil center rod 4 rests an oval ball 5 which, when the flexible spring/coil 4 is bent to fit the shoe, allows the ball 5 to fit snugly into the heel of the shoe, thus

applying pressure to the front of the shoe tree and extending the pointed toe into the tip of the shoe and filling the shoe with all of the necessary support. The ball end 5 may be designed to fit the entire heel section of the shoe 3 and not resemble a ball at all.

[0013] In a yet further embodiment (not illustrated) these structures could be replaced by a telescopic metal rod able to adjust to fit many different shoe sizes. The adjustable rods 2,4 may be made of different materials like plastic or wood to achieve the same effect.

[0014] In Figure 2 the invention is seen from a side view demonstrating the lever action of the center rod 2. Figure 3 shows close-up views of center rods 2 and 4.

[0015] Figure 4 shows three separate styles of the solid single extended toe piece 1 shown in Figure 1. Reference numerals 6 and 7 represent solid single extended toe pieces as in Figure 1 but with a square and wider point respectively in order to fit squared shaped extended toe shoes and or boots.

[0016] Figure 5 demonstrates three variations of a removable pointed tip 8 that may be made of different material to the main body 9. For example, the body 9 may be of wood and the pointed tip 8 may be made of a firm but malleable foam rubber which allows it to be deformed for use separately with another conventional shoe tree, and therefore somewhat moulded into both the tip of the shoe or boot as well as into the toe of the conventional shoe tree, allowing a nice snug fit. Figure 5 demonstrates a plug-type attachment means 10 (which could in some embodiments be magnetised), a screw or bolt 11 and dove-tail (jig-saw) attachment means 12 to enable coupling to the body 9.

[0017] As illustrated, the tip 8 generally conforms with the contours of the main body 9 and should enable a smooth transition between the components.

[0018] In Figure 6 the pointed toe pieces 13 and 14 are demonstrated separately by having a stringed attachment 15 to be used by itself or in combination with a conventional shoe tree. This unit may be manufactured separately and used as a separate toe piece and not necessarily sold separately with the rest of the invention.

[0019] The present invention enables a user to protect pointed toe shoes from deterioration in a way that has not been possible with conventional designs. Conventional designs may include means to expand the shoe tree laterally (to simulate a wider foot) and sometimes longitudinally but do not extend to the cavity of a pointed toe end to maintain a desirable shape.

[0020] A kit set could be provided where a user can mould their own extended toe end (from a material that sets in shape or cut from a template) to tailor the shoe tree to their own shoes and can be incorporated detachably (or not) with the main body of the shoe tree.

[0021] The present invention is intended to extend the life of pointed shoe types by a simple insertion means. The ability to interchange toe points on a shoe tree according to one aspect of the present invention enables it to be tailored to the requirements of the user.

Claims

1. A shoe tree for use with a shoe including a main body (9) with a narrow forward end (8) adapted to fill a cavity in a shoe beyond where, in use, toes are accommodated.
2. The shoe tree of claim 1 including a distal end (3, 5) adapted to contact with a heel of the shoe.
3. The shoe tree of claim 1 or 2 wherein the forward end (8) is removable and/or replaceable from the main body (9).
4. The shoe tree of claim 3 wherein the forward end (8) includes an attachment means (10, 11, 12) in the form of a dove-tail joint, tongue-in-groove joint, screw or bolt, magnet, plug, hook and pile fastener, or a snap-fit mechanism.
5. The shoe tree of any of the preceding claims wherein the forward end (8) is made from a malleable material.
6. The shoe tree of claim 2 wherein the distal heel end is connected to the main body by a telescopic connection.
7. A shoe tree kit providing a main body and a separate mouldable material for forming a narrow forward end for the main body and adapted to fill a cavity in a shoe beyond where, in use, toes are accommodated.

Fig.1.

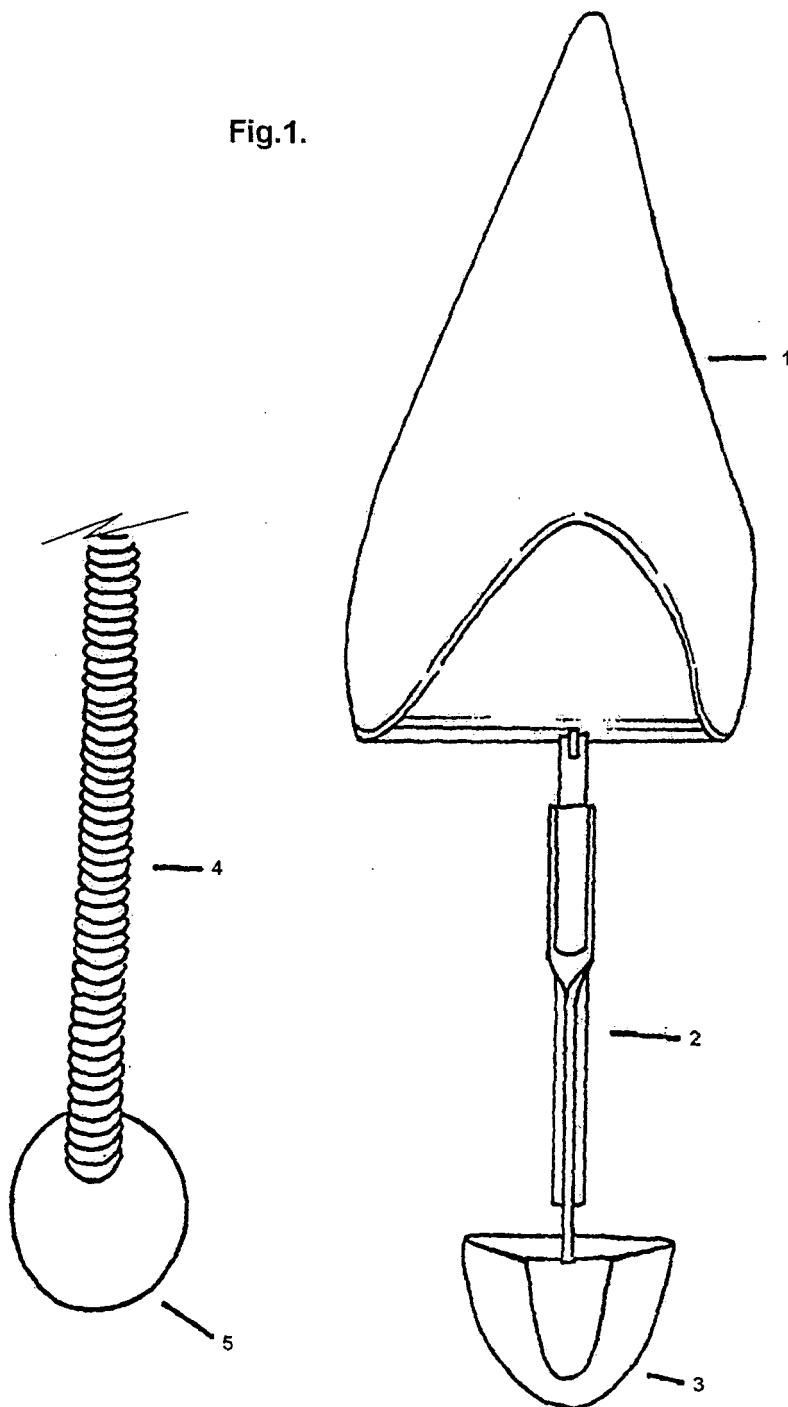
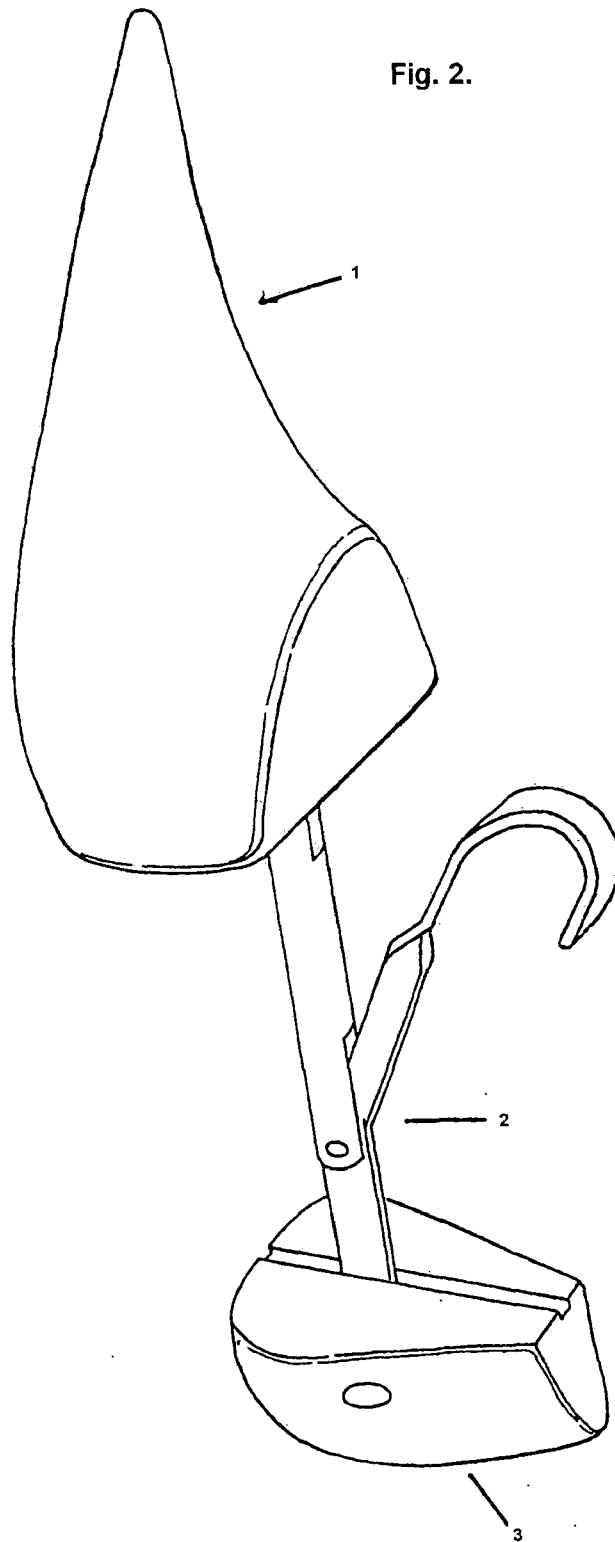


Fig. 2.



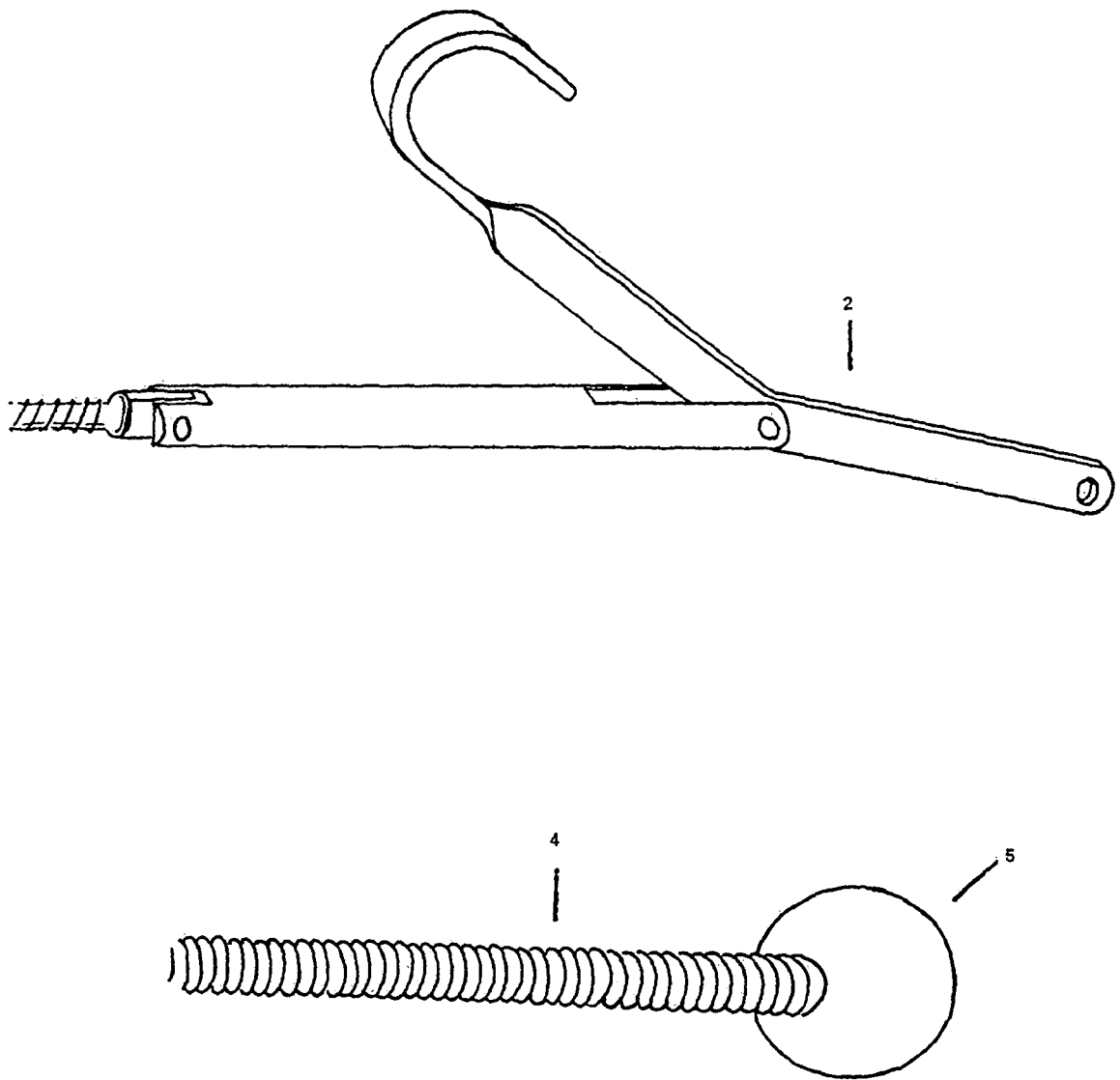


Fig. 3.

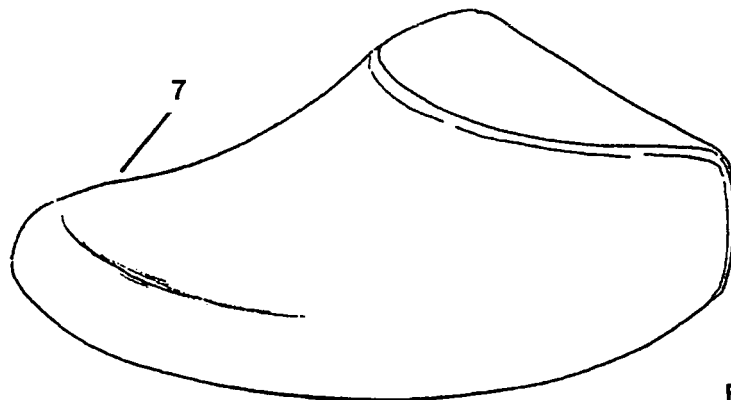
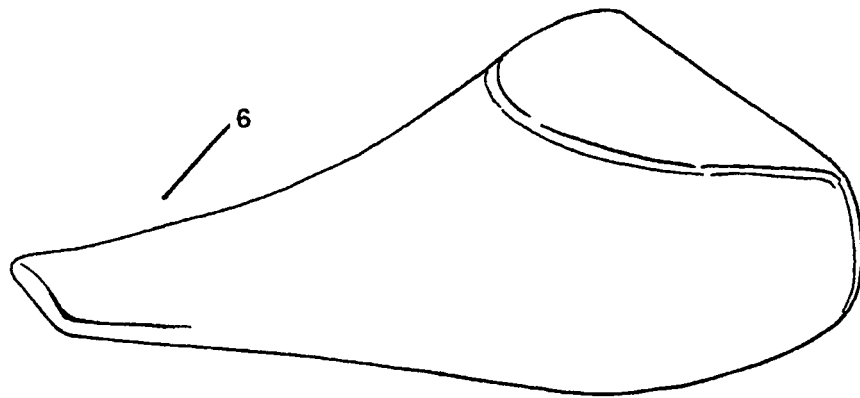
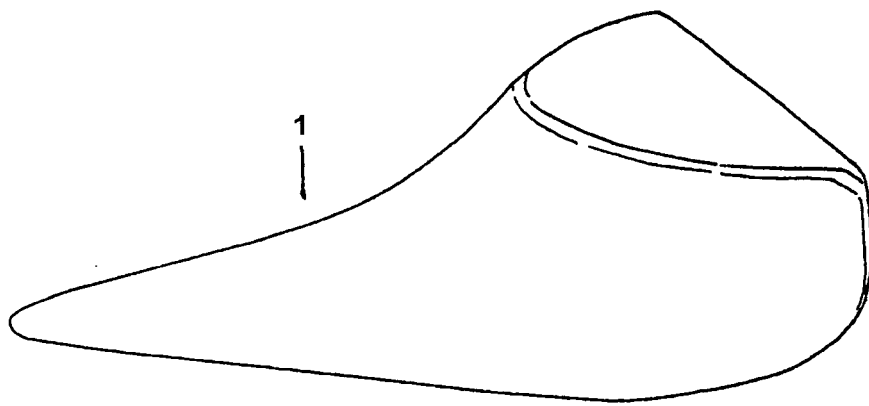


Fig. 4.

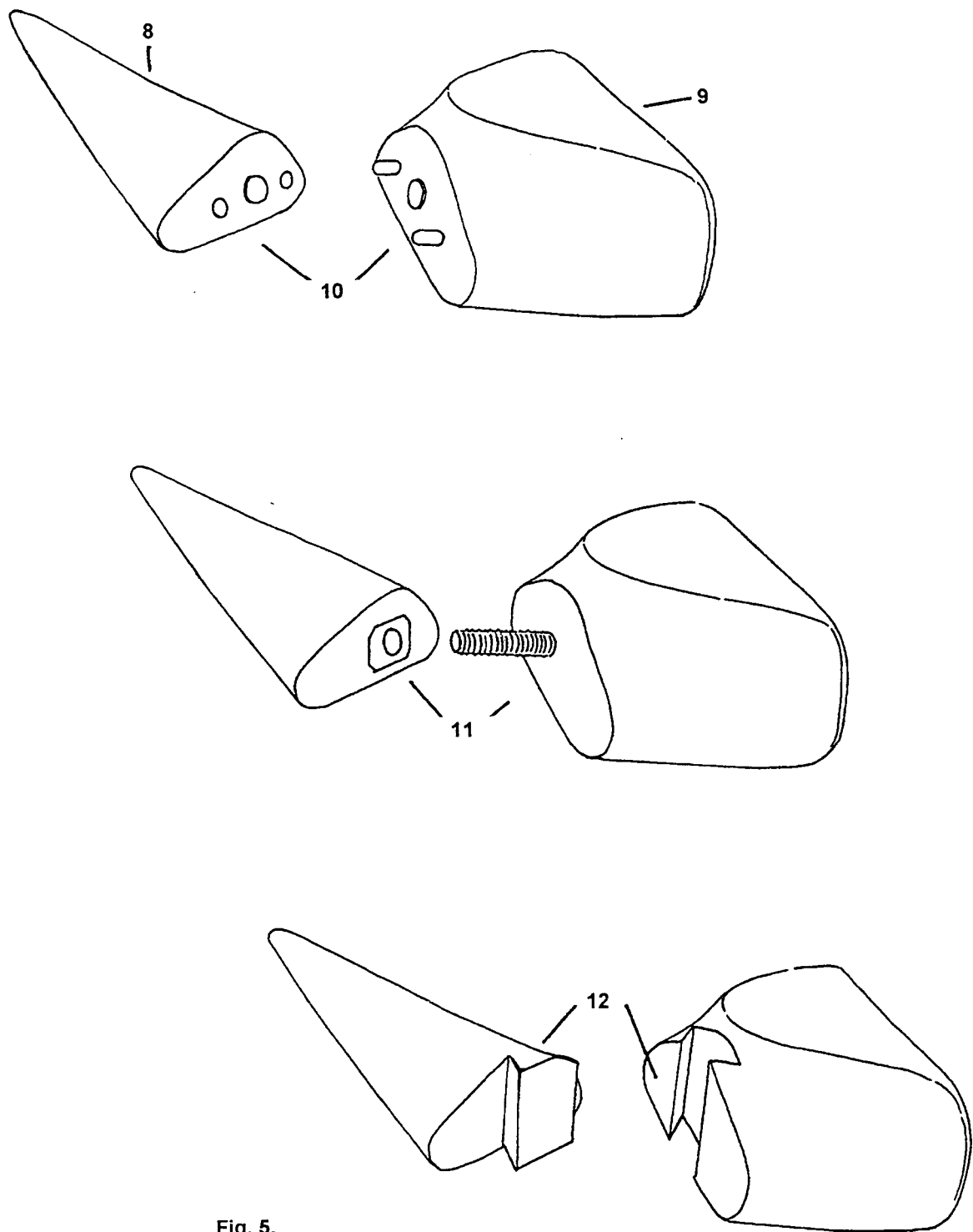


Fig. 5.

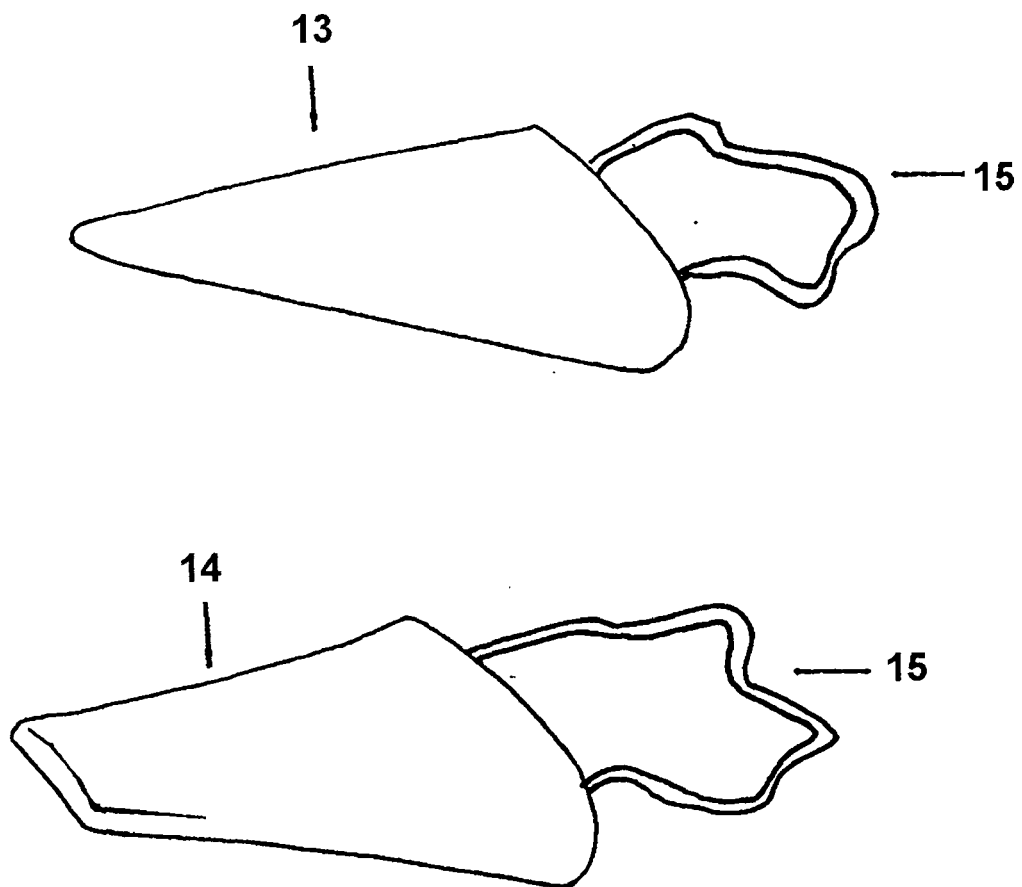


Fig. 6.

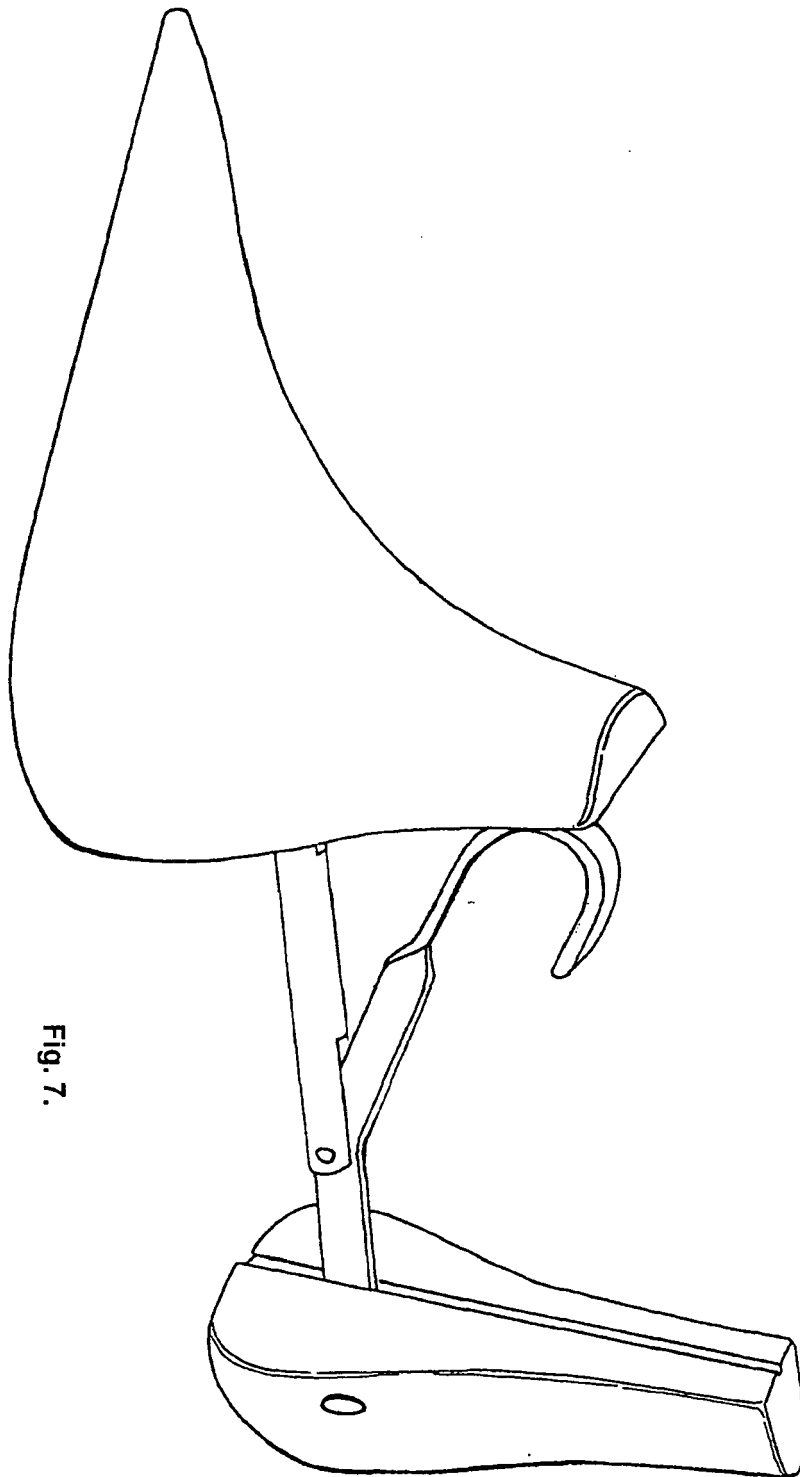


Fig. 7.

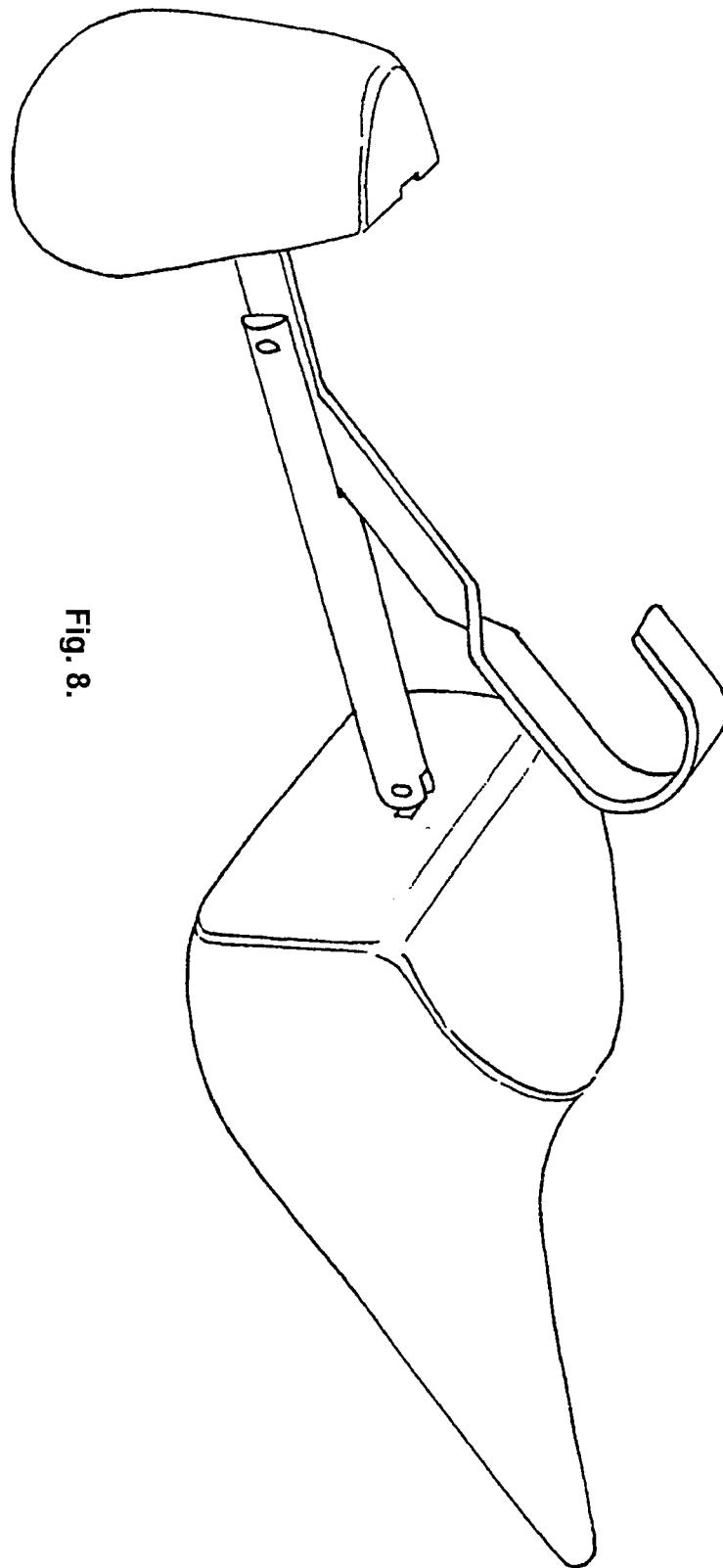


Fig. 8.

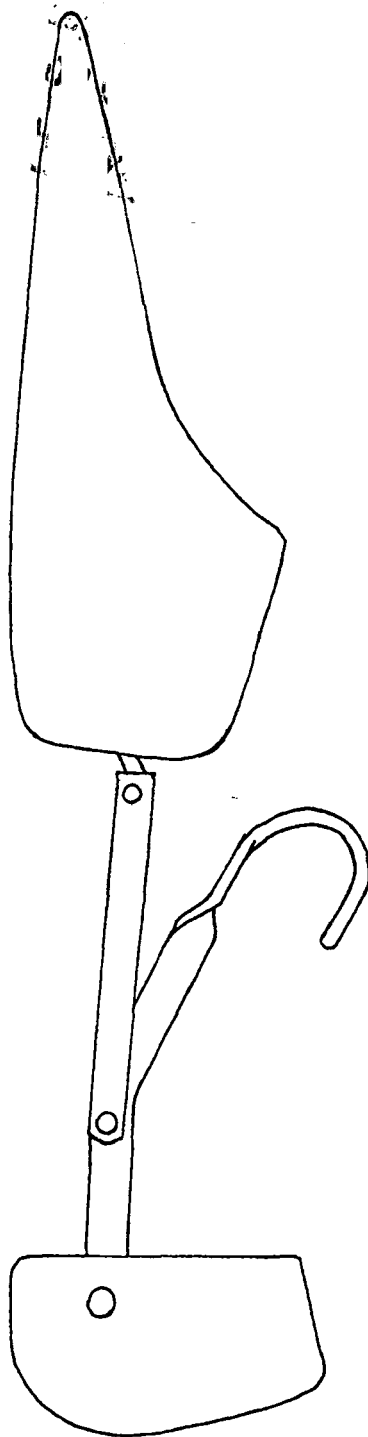


Fig. 9.



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 25 0649

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2003/177593 A1 (CHANG YU CHING) 25 September 2003 (2003-09-25) * paragraph [0004] - paragraph [0022]; figures *	1-7	INV. A43D3/14
X	DE 83 13 093 U1 (LUTZ, RAINER M., 7827 LOEFFINGEN, DE) 8 December 1983 (1983-12-08) * page 12, line 20 - page 15, line 18; figures 13,14 *	1-7	
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A	US 3 705 433 A (IVAN STODDARD ET AL) 12 December 1972 (1972-12-12) * the whole document *	4	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
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Place of search		Date of completion of the search	Examiner
The Hague		30 March 2006	Cianci, S
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 06 25 0649

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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