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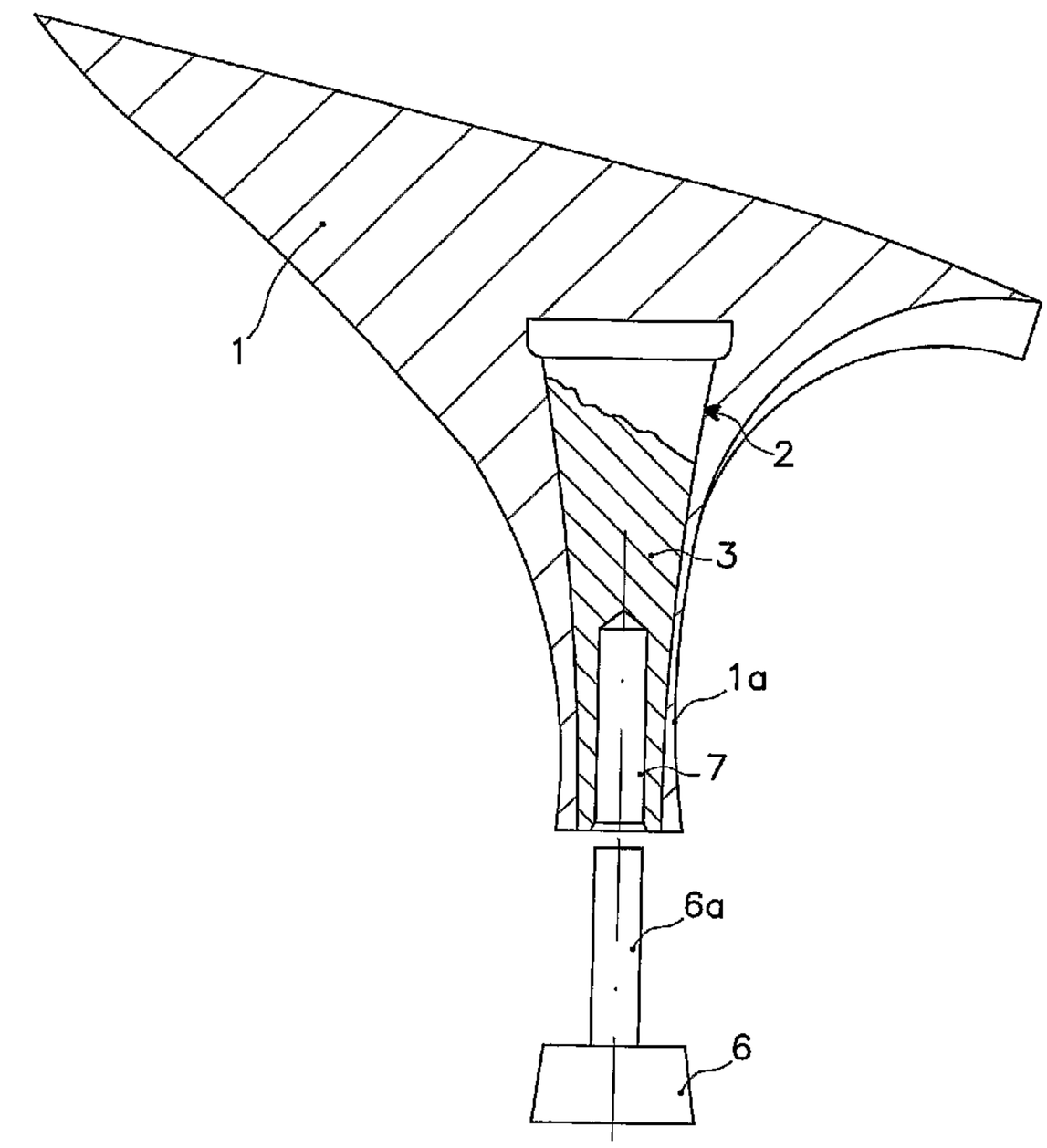

(57) Abrégé/Abstract:
A heel for footwears including a body (1) and an elongated support portion (1a) wherein a rigid reinforcing core (2) is embedded and has a stem-like structure with a substantially frusto-conical cross section.

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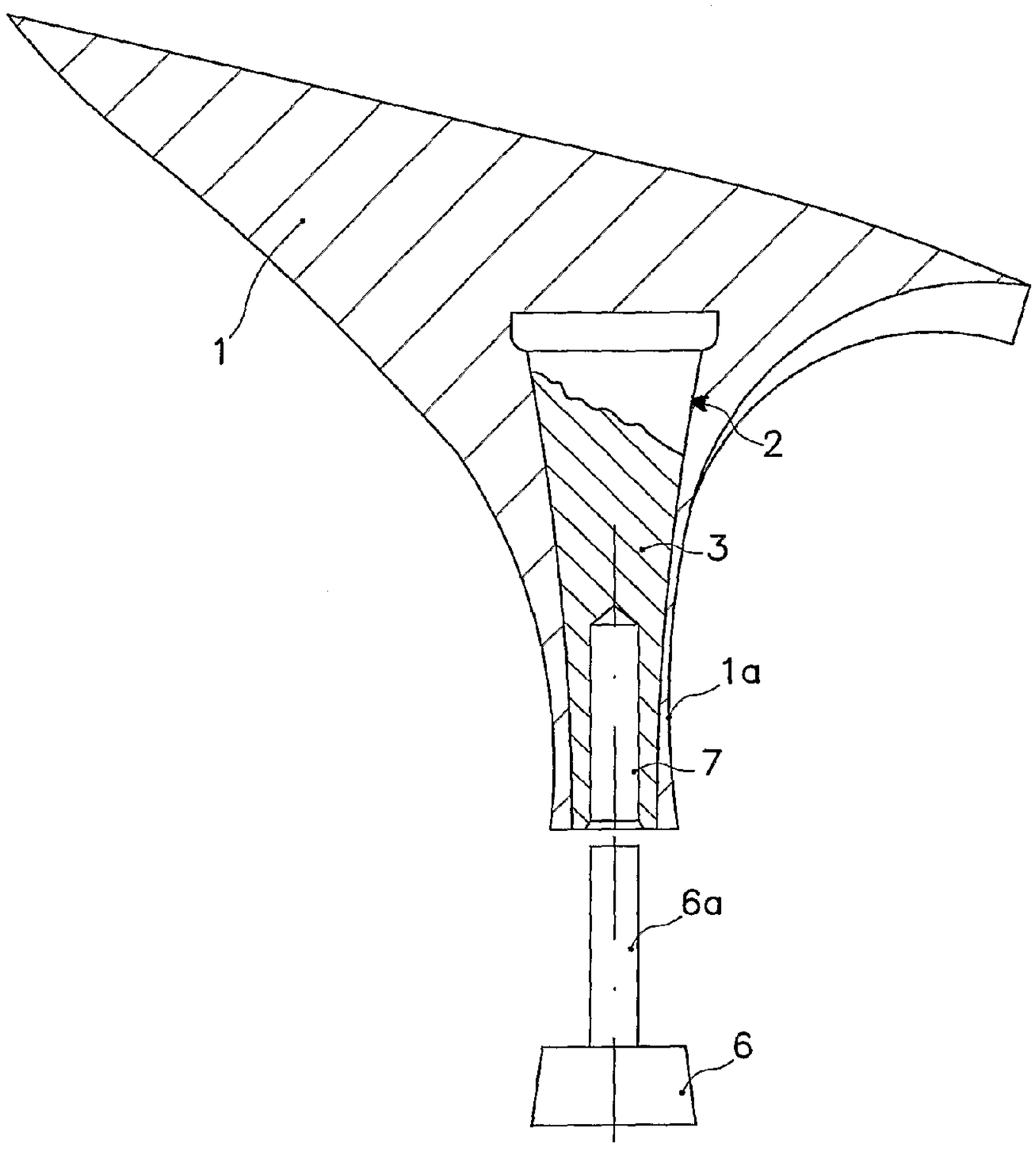

(57) Abstract: A heel for footwears including a body (1) and an elongated support portion (1a) wherein a rigid reinforcing core (2) is embedded and has a stem-like structure with a substantially frusto-conical cross section.

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TITLE

FOOTWEAR HEEL

DESCRIPTION

Field of the Invention

The present invention relates generally to the field of footwear, in particular woman's footwear, and more in particular relates to a heel for footwear, especially a so called stiletto heel.

Background of the Invention

As known in the field of footwear, a stiletto heel is a type of high heel, essentially for woman's footwear, featured by a high height/section ratio. Though all high heels require suitable means for their reinforcement, this is absolutely indispensable in the case of stiletto heels, in view of their slenderness, which makes them insufficiently resistant to shear stress and bending. Normally in order to increase the mechanical strength of high heels in general and of stiletto heel in particular, it is customary to reinforce them by a core made of rigid, generally metallic material. Examples of these reinforcing cores are illustrated for instance in the British patents n. GB 2012557 and 2063645. In these cases the reinforcing core is made up of a steel tubular member having a longitudinal slit, as the core is obtained by bending of a rectangular stripe. The tubular reinforcement member is embedded in the heel when it is injection moulded and then is finished with a heel tip having a shank forcibly engaged within the tubular member.

In the specific case of high heels the needs for lightness and resistance, which have to be both satisfied, are seriously hindered by the fact that the reinforcing core section has to be particularly small. This definitely

implies that no one of the high heels which are now available on the market meet the resistance provision set forth in ISO standards EN-ISO.19956/04, unless either increasing the reinforcing core section but losing high heel's slenderness, or using high resistance materials, such as steel, but in this way negatively affecting heel lightness.

Summary of the Invention

The object of the present invention is to provide a heel for footwear, in particular a stiletto heel, which has high lightness and, at the same time, mechanical resistance to shear and bending stress.

Another object of the present invention is to provide a heel of above mentioned type which meets the requirements of EN-ISO 19956/04 in the matter of fatigue strength.

These objects are achieved with the heel for footwear according to the invention, which includes a body and an elongated support portion wherein a rigid reinforcing core is embedded. According to the invention, the core has a stem-like structure with a substantially frustoconical cross section. Furthermore the reinforcing core is preferably made of ERGAL 7075.

Brief description of the drawings

The invention will now be illustrated more in detail by the following description of an exemplifying, non-limiting embodiment thereof, with reference to the attached drawings, in which:

- figure 1 is a partially exploded sectional view of a heel for footwear in accordance with the invention;
- figure 2 shows a perspective view of the

reinforcing core of the heel shown in figure 1.

Detailed description of the invention

Referring to the aforesaid figures, it has been indicated at 1 a body of a stiletto heel obtained by iniectjon molding in a conventional way, and at 2 a reinforcing core included in its elongated support portion 1a during the iniectjon moulding manufacturing process.

The reinforcing core 2 comprises a stem 3, with a substantially frustoconical section, ending with an head 4 of larger cross-section. The stem 3 has a length and a section suitable for allowing it to be embedded into a stiletto heel of conventional size.

The core 2 develops from a lower end 3a of the stem 3 with a first stem portion 5a that has a very low conicity and is radiused to a second stem portion 5b of greater conicity. The head 4 extends from the upper end 3b of the stem 3.

It is very important that the stem portions 5a and 5b with different conicity would be joined without discontinuity so as to avoid any presence of critical sections, on which outward stresses can concentrate, along the stem 3 of the core 2. To this end the reinforcing core conicity preferably increases from its lower end 3a, which is the one with the lowest section.

In a preferred embodiment of the invention the profile of the stem 3 is in the shape of an arc of circumference radiusing the lower end 3a to the upper end 3b of the stem 3. In particular said arc of circumference is substantially tangent to the line perpendicular to the lower end 3a of the stem 3 intersecting the stem lower end at the edge thereof. In order to maintain the same ratio between the radius of the lower end 3a and the radius of

the upper end 3b for varying heigths of the stem 3, the radius of curvature of the arc-shaped profile of the stem 3 has to be increased as a function of the stem height.

According to an important feature of the invention, optimum results are obtained with the above described shape of the reinforcing core 2 and using a metallic material with adequate resistance and lightness, such as in particular the aluminium alloy known as ERGAL 7075. Obviously materials having equivalent mechanical features and lightness can be used as an alternative.

The tests carried out on high heels according to the aforementioned ISO standards, have shown that the resistance requirements are widely fulfilled, in particular referring to the repeated shear fatigue resistance test, which provides that the resistance threshold is to be higher than 14.000 strokes.

Various modification and alterations to the invention may be appreciated based on a review of the disclosure. These changes and additions are intended to be within the scope and spirit of the invention as defined by the following claims.

CLAIMS

1. A stiletto heel for footwear comprising a body (1) and an elongated support portion (1a) wherein a rigid reinforcing core (2) is embedded, characterized in that said reinforcing core has a stem-like structure with a substantially frusto-conical cross section and comprises a stem (3) with a lower end (3a) and a upper end (3b), said lower end (3a) being formed with a bore (7), in which a shank (6a) of a heel tip (6) is forcibly engaged, said upper end (3a) being formed with an enlarged head (4) to secure said reinforcing core into the heel body, the conicity of said stem increasing without interruption from said lower end (3a).

2. The heel for footwears according to claim 1, wherein the said reinforcing core (2) is made of an aluminium alloy, such as ERGAL 7075.

3. The heel for footwear according to any one of the previous claims, wherein the profile of said stem (3) is in the shape of an arc of circumference radiusing said lower end (3a) to said upper end (3b).

4. The heel for footwear according to claim 3, wherein said arc of circumference is substantially tangent to the perpendicular to said lower end (3a) of the stem (3) intersecting said stem lower end (3a) at the edge thereof.

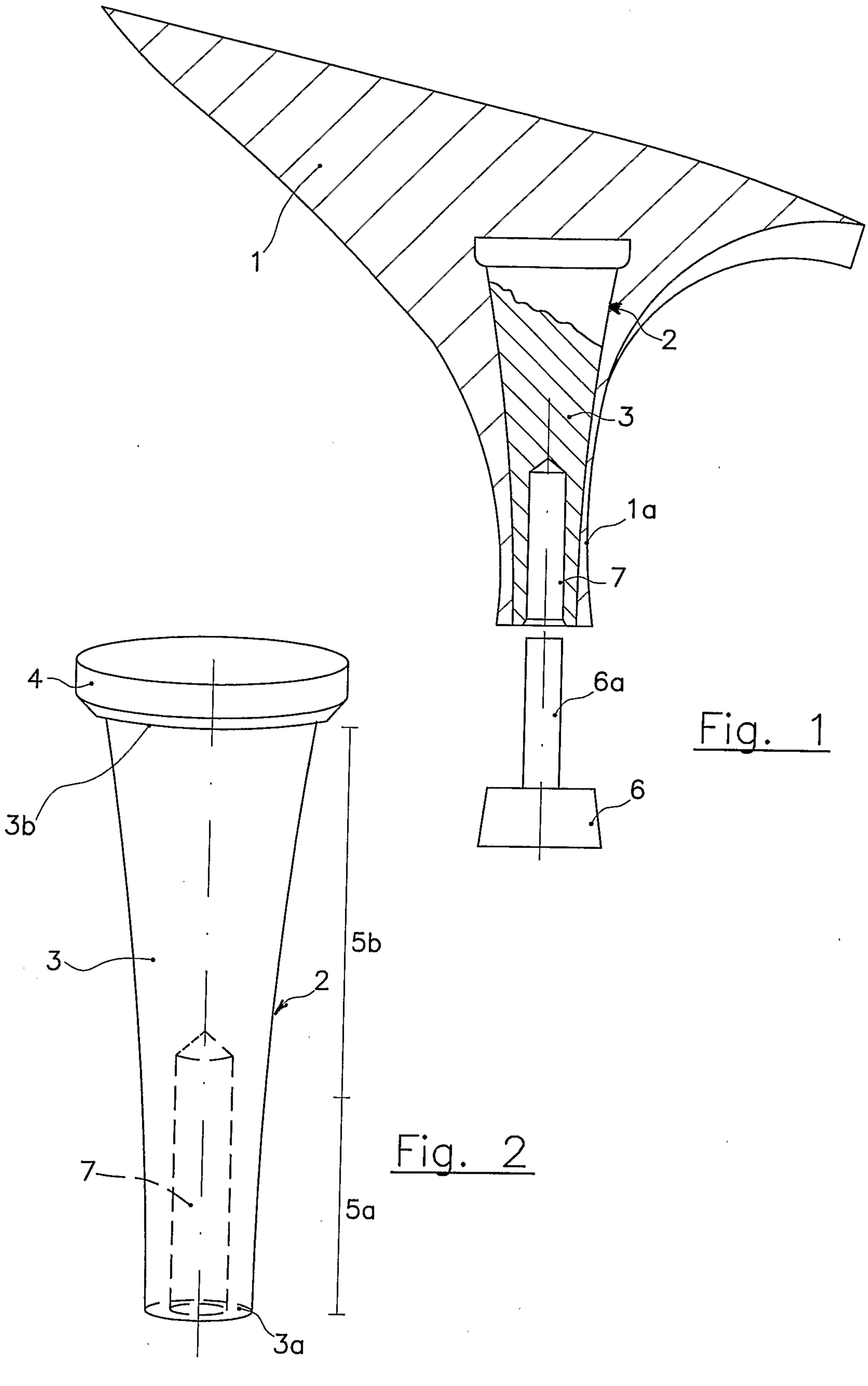
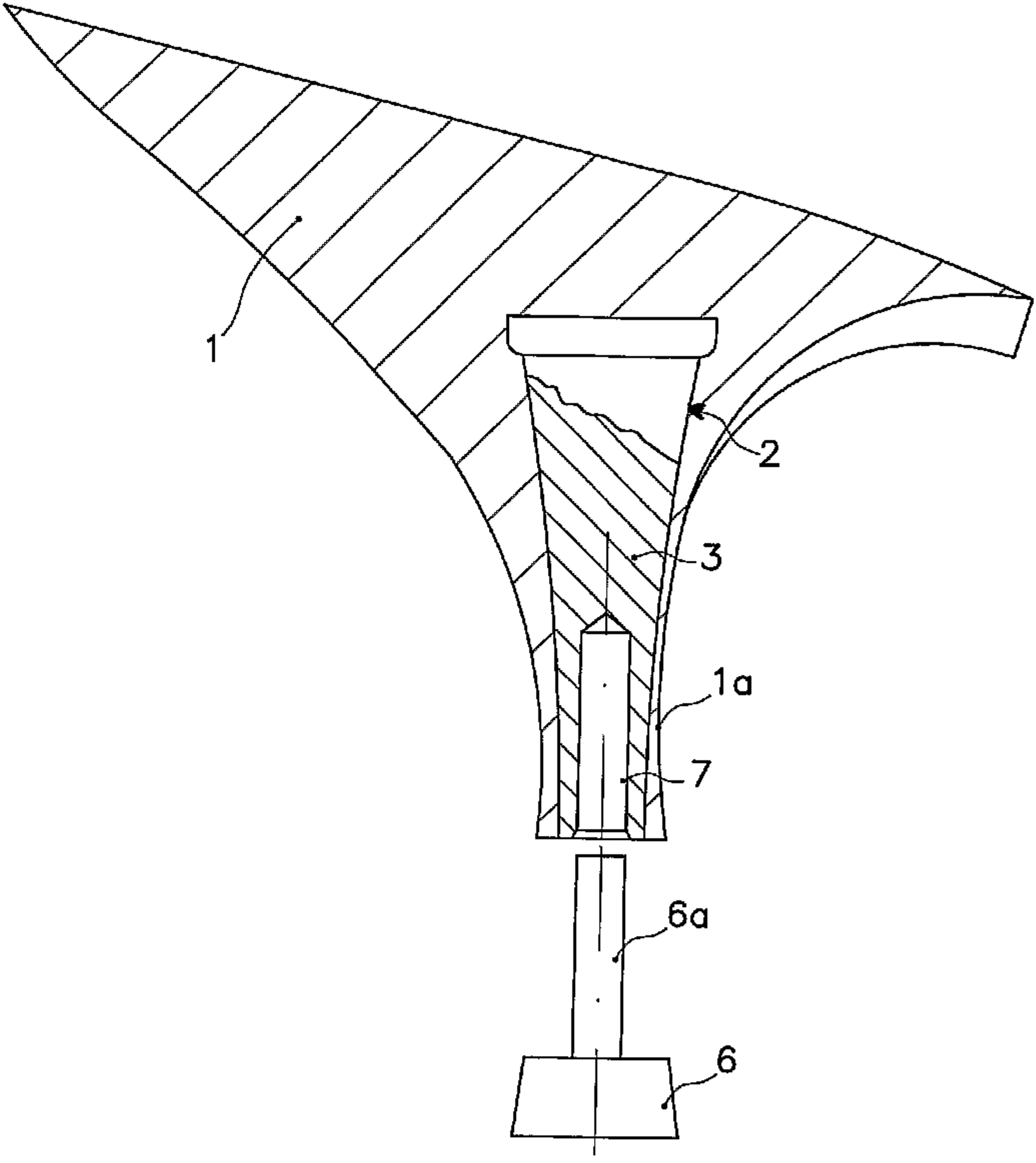


Fig. 1

Fig. 2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