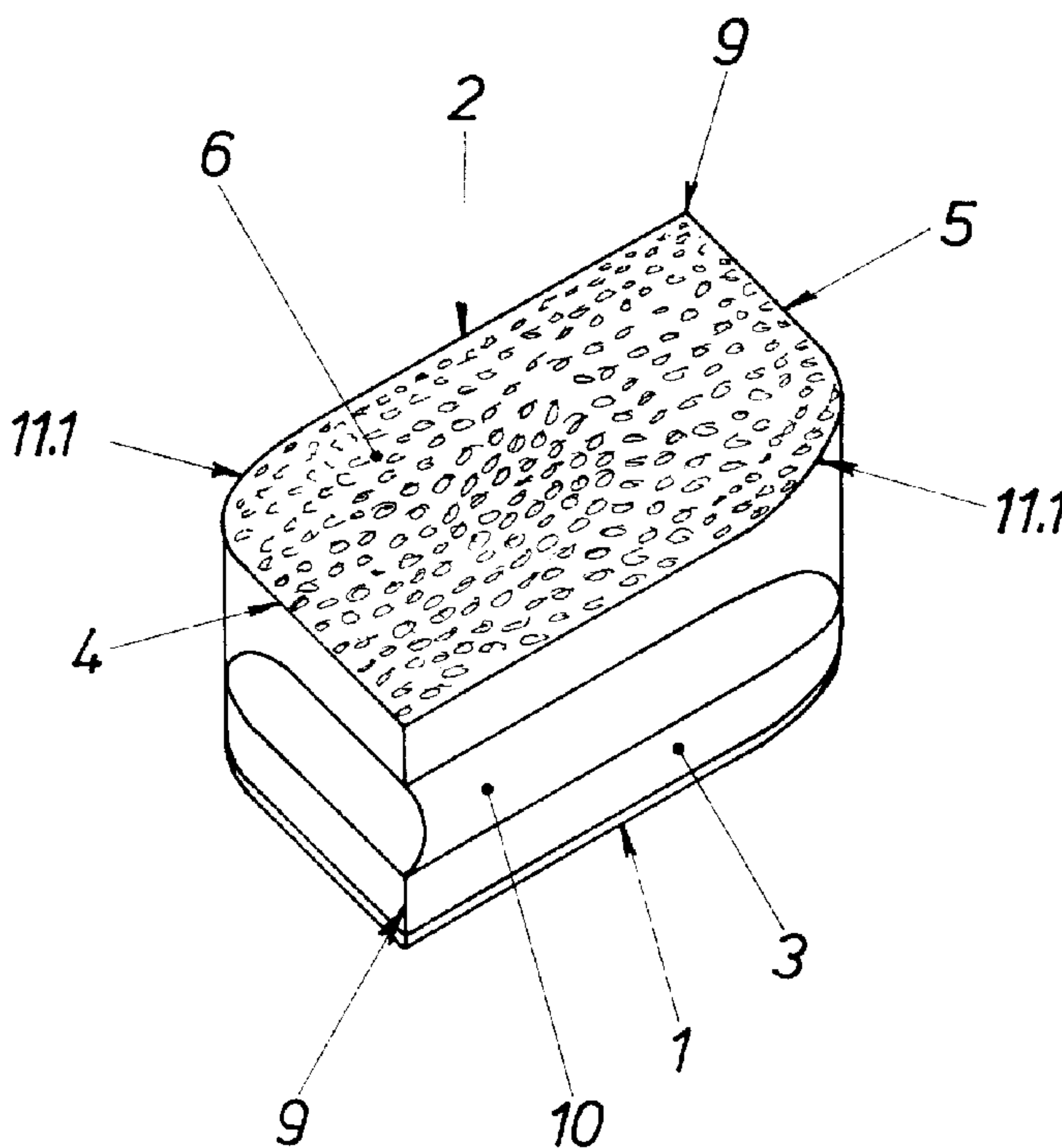




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(57) **Abrégé/Abstract:**

Absorbent, flexible brick-shaped cleaning pad which is defined at its underside by a scrubbing surface, whereby at least one longitudinal end surface is adjoined at one corner by a sharp edge and connected at the other corner by an oblique surface to the respectively adjacent other side surface. The pad is more easily and reliably gripped by the user and, due to its shape, facilitates the cleaning of hard to reach grooves and curved surfaces.

ABSTRACT

Absorbent, flexible brick-shaped cleaning pad which is defined at its underside by a scrubbing surface, whereby at least one longitudinal end surface is adjoined at one corner by a sharp edge and connected at the other corner by an oblique surface to the respectively adjacent other side surface. The pad is more easily and reliably gripped by the user and, due to its shape, facilitates the cleaning of hard to reach grooves and curved surfaces.

SCOURING PAD

Field of the Invention

The invention relates to flexible cleaning pads with a scouring surface.

Background Art

Cleaning pads of this general type are normally used in household applications. They are essentially brick-shaped with longitudinal side surfaces and transverse end surfaces, made of foam and dimensioned to be comfortably gripped with one hand during cleaning applications. The cleaning pad is thereby normally gripped with one hand in the region of both longitudinal side surfaces and touched by the index finger on one end surface. Gripping grooves provided in the longitudinal side surfaces of the pad, which extend parallel to the longitudinal direction of the pad, are thereby provided to ensure that the cleaning pad made of flexible material does not inadvertently slip out of the hand during cleaning. However, this is not satisfactory, since that part of the flexible cleaning pad which is held in the palm of the hand has a large volume and compression of the pad causes an unsatisfactory deformation of the scouring surface and a simultaneous reduction in the absorbent capacity of the pad. The cleaning of hard to access corners and grooves is difficult with the known type of cleaning pad.

It is now an object of this disclosure to provide an improved cleaning pad, which facilitates the cleaning of hard to reach grooves and corners and which is easier to grip while preventing a cramped gripping position.

As here described a cleaning pad is provided which has an end surface and adjacent side surfaces and wherein the end surface meets one side surface at a sharp edge and is connected to the other side surface by an oblique surface.

Accordingly, there is an absorbent, flexible cleaning pad including top and bottom surfaces, side surfaces and end surfaces, the bottom surface being a scrubbing surface, at least one end surface adjoining one side surface in a sharp edge and

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being connected with the other side surface by an oblique surface. In this disclosure the term "oblique" is also intended to include a rounded surface, not only a flat or planar surface.

In the cleaning body described, at least the back surface of the block shaped pad is defined at one side by a sharp edge and at the other side by an oblique surface which extends between the end surface and an adjacent side surface. The back or rear surface in this context is the side of the cleaning pad directed away from the user during use.

The shape of the cleaning pad is easily produced. However, for ergonomic reasons, the shape should be adapted to fit the anatomical shape of the human hand during a gripping action. The contact regions by which the new cleaning pad is held during use are thereby significantly enlarged, which provides for a more reliable gripping and prevents a cramped holding of the cleaning pad. Furthermore, it is possible to compress the edge zones of the side and end surfaces of the cleaning pad, which are on opposite sides of the sharp edge, between the index finger and the thumb, until all pores are collapsed to further secure the cleaning body, without causing any significant deformation of the scouring surface. An especially good and comfortable securing of the cleaning pad in the human hand is thereby achieved while point form overloads of the flexible material or the human hand are avoided. This greatly reduces cramping of the user's hand during extended periods of use. It is also not necessary to deform the cleaning pad, with the resulting loss in absorbancy, to achieve a secure grip. This is of great advantage for the quick absorption of dissolved dirt.

The new cleaning pad is further improved by the provision of an oblique surface on the cleaning pad in addition to the scouring surface and the sharp edge, which in connection with the adjacent parts of the side and end surface, provides for easier removal of dirt from grooves and hard to reach corners.

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The cleaning pad can be made of one or more of the commonly used materials, for example from a flexible textile and/or foam block. When several materials are used in combination, for example, a layer of polyurethane foam and a layer of a textile material, the individual layers can be permanently or separably connected. In the latter case, it is possible, for example, to use hook and loop fasteners for connection of the layers.

It has proven advantageous to position the sharp corner at the left edge of the rear end surface and the oblique surface at the right edge thereof. During right handed use of the pad, most users are right handed, the sharp edge of such an embodiment thereby automatically ends up between thumb and index finger, so that it can be safely gripped.

According to a further preferred embodiment, the side and end surfaces of the brick-shaped cleaning pad are connected at two diagonally opposite corners of the pad by the oblique surface and at the remaining corners meet in the sharp edge. Due to the resulting symmetric shape of such a cleaning pad, one no longer needs to consider its respective orientation when picking up the pad to achieve a proper grip. The pad will always be oriented the same way in the hand after pick up when the scouring surface is oriented downward. Independently of its orientation, one sharp edge and one oblique surface will always be located at the back of the pad where the edge can be easily gripped. This is of great advantage for practical use.

The side surfaces can be provided with longitudinally extending gripping grooves in the manner known in the art, for example, a gripping groove which has a sinusoidal profile and merges with the top surface of the cleaning pad along a rounded top edge thereof.

In order to prevent an undesired decrease in capacity of the flexible cleaning pad in the region of the end surface, the cleaning pad is preferably shaped so that the gripping grooves and the oblique surface intersect at a second edge in such a way

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that no gripping groove is present in the region of the end surfaces. This is not disadvantageous, since in that region, the cleaning pad can only be held parallel to the scouring surface. However, it is of advantage that the transfer of high contact forces to the surface to be cleaned is also possible at the end surface. This improves the scouring action.

According to another preferred embodiment, the oblique surface is part of a rounded portion which evenly merges into the respectively adjacent end and side surfaces. This further facilitates the cleaning of grooves and the scouring of pots and kitchen utensils.

It has proven advantageous to provide the rounded portion with a radius that is 0.2 to 0.5 times as large as the width of the pad, preferably 0.3 to 0.4 times as large. With a conventional width of 60 to 80 mm, the resulting curvature of the rounded portion is such that the joint curvature of the thumb can particularly harmoniously follow the shape of the cleaning pad at the rounded portion, which also provides a safer grip.

The underside is used in many cases for the mechanical loosening of strongly adhered dirt particles. To allow the simultaneous cleaning of a directly adjacent side surface, for example, the side wall of a pot adjacent the bottom of the pot, it is advantageous that the shape of the cleaning pad provide a sharp edge in this region.

It is not necessarily required that the side and end surfaces enclose an angle at the sharp edge which is exactly 90°. Rather, in view of the ergonomic properties of the human hand, these two surfaces preferably join at a sharp edge at this location, enclosing an angle of less than 90° with each other, for example, an angle of 60 to 85°. Pore-free compression of the material block forming the cleaning pad for secure gripping is thereby substantially facilitated.

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More particularly, in accordance with the invention there is provided, an absorbant, flexible cleaning pad, comprising top and bottom surfaces, side surfaces and end surfaces, the bottom surface being a scrubbing surface, at least a first end surface adjoining a first side surface in a sharp edge and being connected with the other side surface by an oblique surface.

Brief Description Of The Drawings

Preferred embodiments of the invention will be described in more detail in the following by way of example only and with reference to the drawings, wherein

Figure 1 shows a first preferred embodiment of the cleaning pad in accordance with the invention and in a perspective view from above; and

Figures 2 to 5 respectively show alternative embodiments of the cleaning pad in accordance with the invention and in top plan view.

Detailed Description Of The Preferred Embodiments

The scouring pad illustrated in Figure 1 consists of a foam block of open porous polyurethane foam having a weight per volume of 30 to 40 kg/m², preferably about 35 kg/m². It is in the shape of a rectangular block and is dimensioned in such a way that normal gripping is possible without any difficulty. The cleaning pad is provided at its underside with a scouring surface 1. In longitudinal direction, the pad is defined by opposite transverse end surfaces 4, 5 and in transverse direction by two longitudinal side surfaces 2, 3. The side surfaces 2, 3 and the end surfaces 4, 5 extend essentially perpendicularly to the scouring surface 1. The top surface 6 preferably extends parallel to the scouring surface 1.

In the embodiment illustrated, the side surfaces 2, 3 and the end surfaces 4, 5 defining the block are connected at diagonally opposite corners by a rounded portion 11.1 and intersect at the other corners at a sharp edge 9. One of the sharp edges defines the rear end surface at the left corner. The side surfaces 2, 3 meet the end

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surfaces 4, 5 an angle of 75° . The cleaning pad can thereby be specially solidly gripped in the region of the sharp edges 9, without leading to localized overloading of its flexible material and without large dimensional changes or deformations of the scouring surface. Limitation of its range of use or inadvertent slipping of the cleaning pad from the hand is substantially prevented. This is also of great advantage with respect to avoiding fatigue of the human hand guiding the cleaning pad. The scouring surface 1 is provided with a liquid, penetratable scouring coating of elastomeric polyurethane.

Figures 2 to 5 show top views of other preferred embodiments of the cleaning pad in accordance with the invention which have shapes different from the embodiment described above. In all of these embodiments, the not visible scouring surface 1 extends parallel to the visible top surface 6. Similarly to the embodiment according to Figure 1, the cleaning pads of Figures 2 to 5 can be made of foam or textile materials commonly used for this purpose.

In the embodiment according to Figure 2, the front end surface 4, which is directed towards the user, is rounded to form a semi-circle. It merges tangentially into the side surfaces 2, 3 without sudden direction changes. The rear end surface encloses a sharp angle A of 75° with the longitudinal direction of the adjoining side surface 2. It ends on the left side at a sharp edge 9 and is connected on the right side with the right side surface 3 by way of a rounded portion 11.1. The rounded portion has a radius of about 20 mm for a cleaning pad of about 75 mm width. The cleaning pad therefore includes several radiuses, sharp edges and scouring surfaces of mutually different shape and size. It has manifold uses in the household and in commerce.

The embodiment illustrated in Figure 3 differs from the previous example in that the side and end surfaces 2, 3; 4, 5 of the block are connected at two diagonally opposite corners by a rounded portion 11.1 and are defined at the remaining corners by sharp edges 9. The end surfaces 4, 5 in this embodiment meet at a sharp angle of about 70° with the longitudinal side surfaces 2, 3.

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The embodiment shown in Figure 4 is characterized in that the side and end surfaces 2, 3; 4, 5 of the pad are connected at two diagonally opposite corners by an oblique surface 11 and are defined at the remaining corners by a sharp edge 9. The end surfaces 4, 5 meet at a right angle with the longitudinal side surfaces 2, 3.

In the embodiment shown in Figure 5, the end surface 5, which defines the pad at the rear end, is delimited at one corner by an oblique surface 11 and at the other corner by a sharp edge 9, whereby the end surface meets the longitudinal direction of the side surface 2 at an angle A of about 70° . The oblique surface 11 meets the side surface 3 at an angle B of about 150° . The front end surface 4 meets the side surfaces 2 and 3 at respective right angles.

The oblique surface 11 can be easily produced for the embodiments according to Figures 4 and 5 with a straight cut and without producing waste. Furthermore, it is possible with this embodiment, due to the elastic deformability of the material block forming the cleaning pad, to clean grooves and rounded corners, for example, of household utensils, particularly easily.

Changes and modifications in the specifically described embodiments can be carried out without departing from the scope of the invention which is intended to be limited only by the scope of the appended claims.

CLAIMS:

1. An absorbent, flexible cleaning pad, comprising top and bottom surfaces, side surfaces and end surfaces, the bottom surface being a scrubbing surface, at least a first end surface adjoining a first side surface in a sharp edge and being connected with the other side surface by an oblique surface.
2. A cleaning pad according to claim 1, wherein each end surface is adjoined by a said sharp edge and a said oblique surface.
3. A cleaning pad according to claim 2, wherein the side surfaces and the end surfaces are respectively connected at two diagonally opposite corners of the pad by a said oblique surface and at the remaining corners by a said sharp edge.
4. A cleaning pad according to one of claims 1 to 3, wherein the side surfaces are respectively provided with a gripping groove extending parallel to a longitudinal direction of the pad.
5. A cleaning pad according to claim 4, wherein each gripping groove and the respective oblique surface intersect at a respective second edge.
6. A cleaning pad according to one of claims 1 to 5, at least part of the said oblique surface or oblique surfaces being rounded.
7. A cleaning pad according to one of claims 1 to 5, wherein the cleaning pad has the shape of a rectangular block having a width, and the oblique surface has a rounded portion with a radius which is 0.2 to 0.5 times as large as the width of the rectangular block.
8. A cleaning pad according to claim 7, wherein the rounded portion has a radius which is 0.3 to 0.4 times as large as the width of the pad.

9. A cleaning pad according to one of claims 1 to 8, wherein at least at one sharp edge, the respective side and end surfaces meet at an angle of less than 90° .

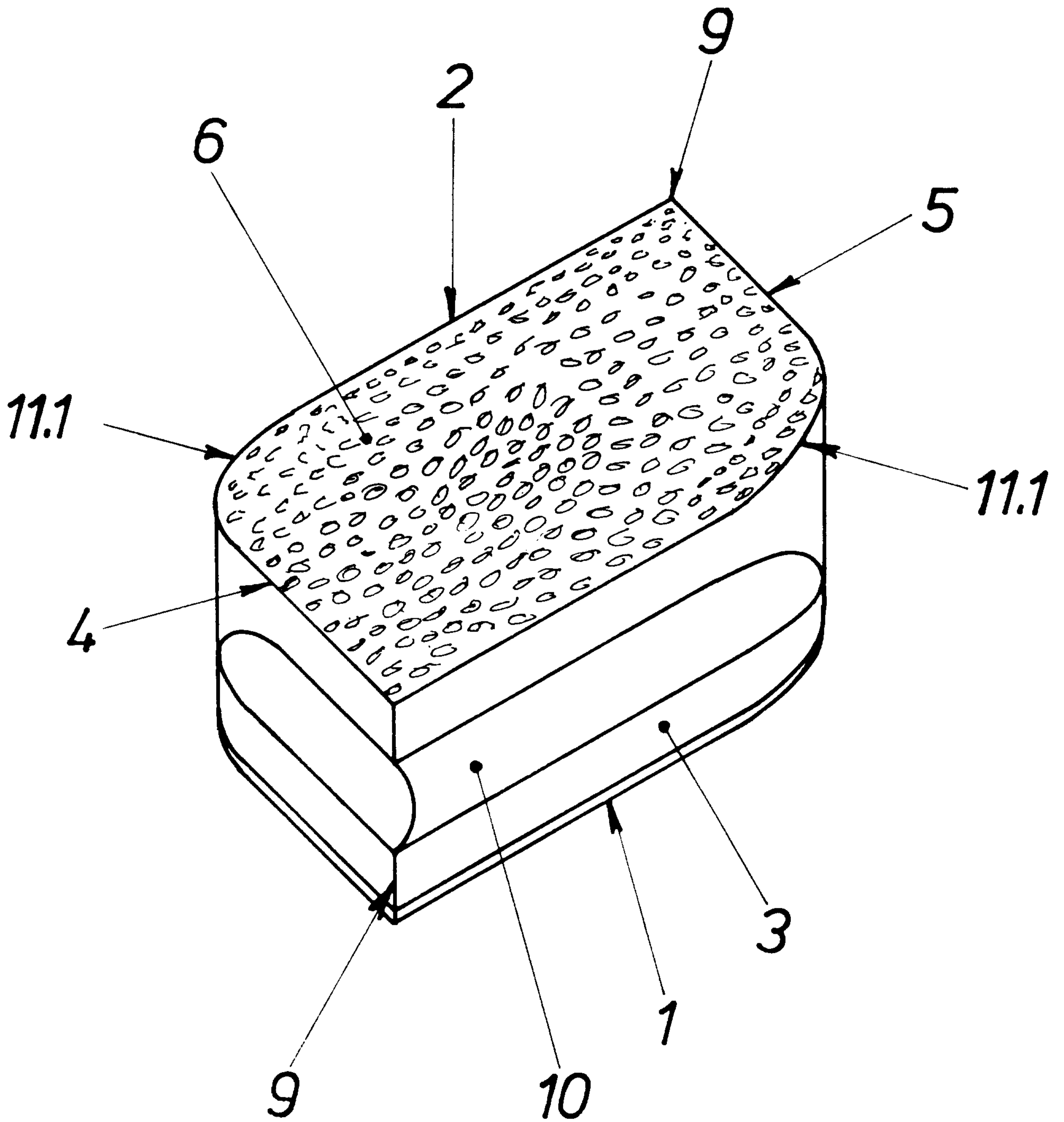


Fig.1

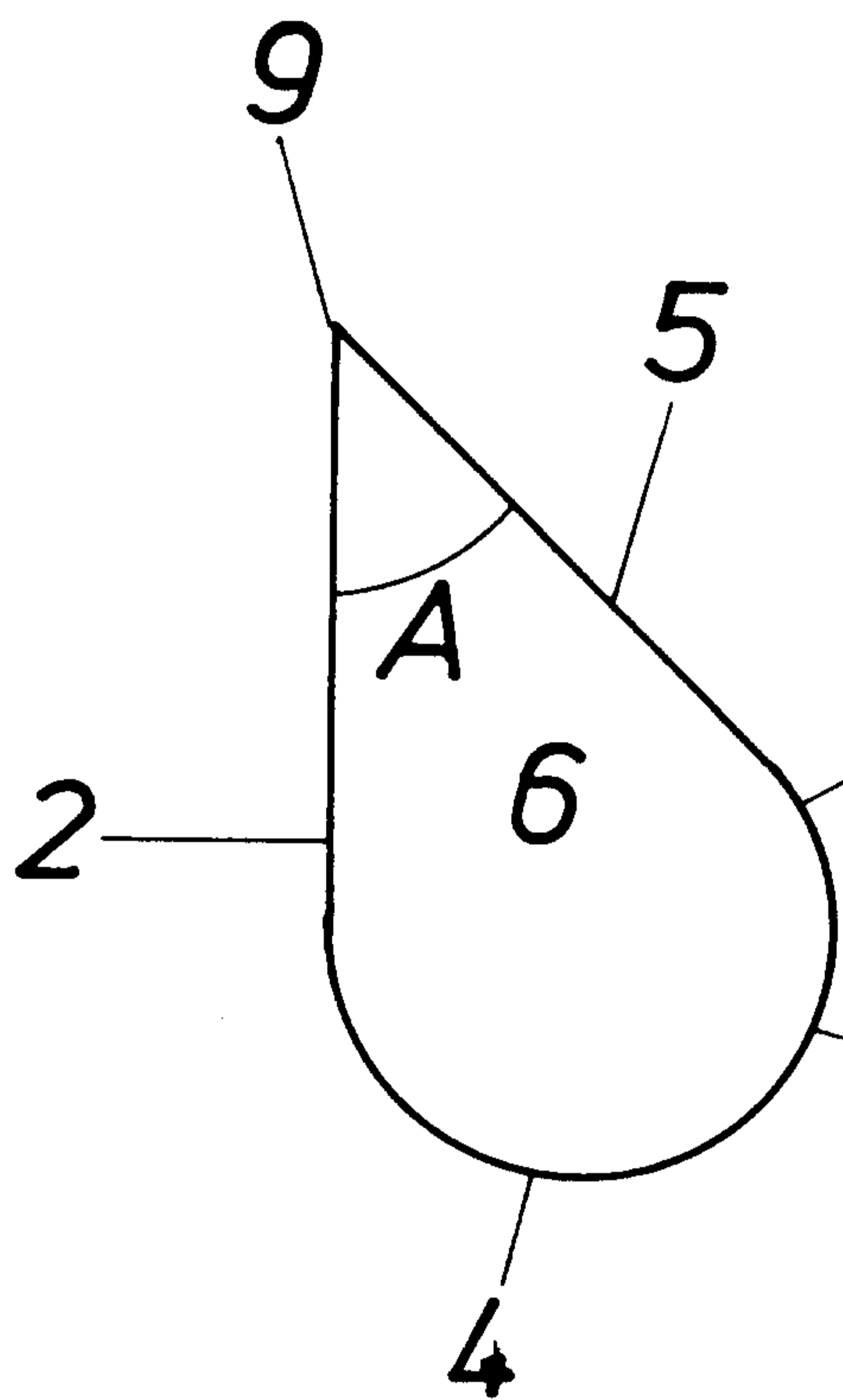


Fig. 2

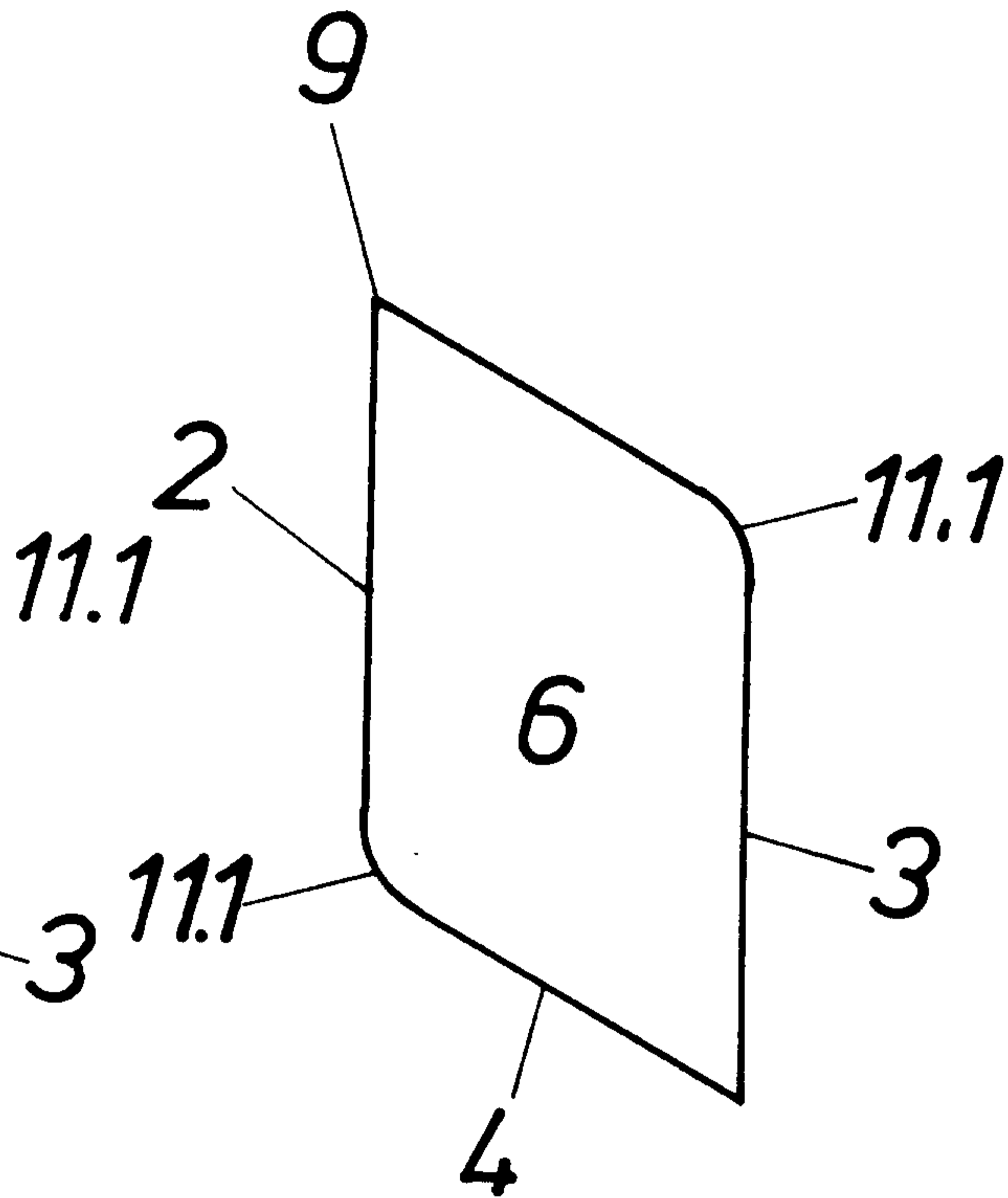


Fig. 3

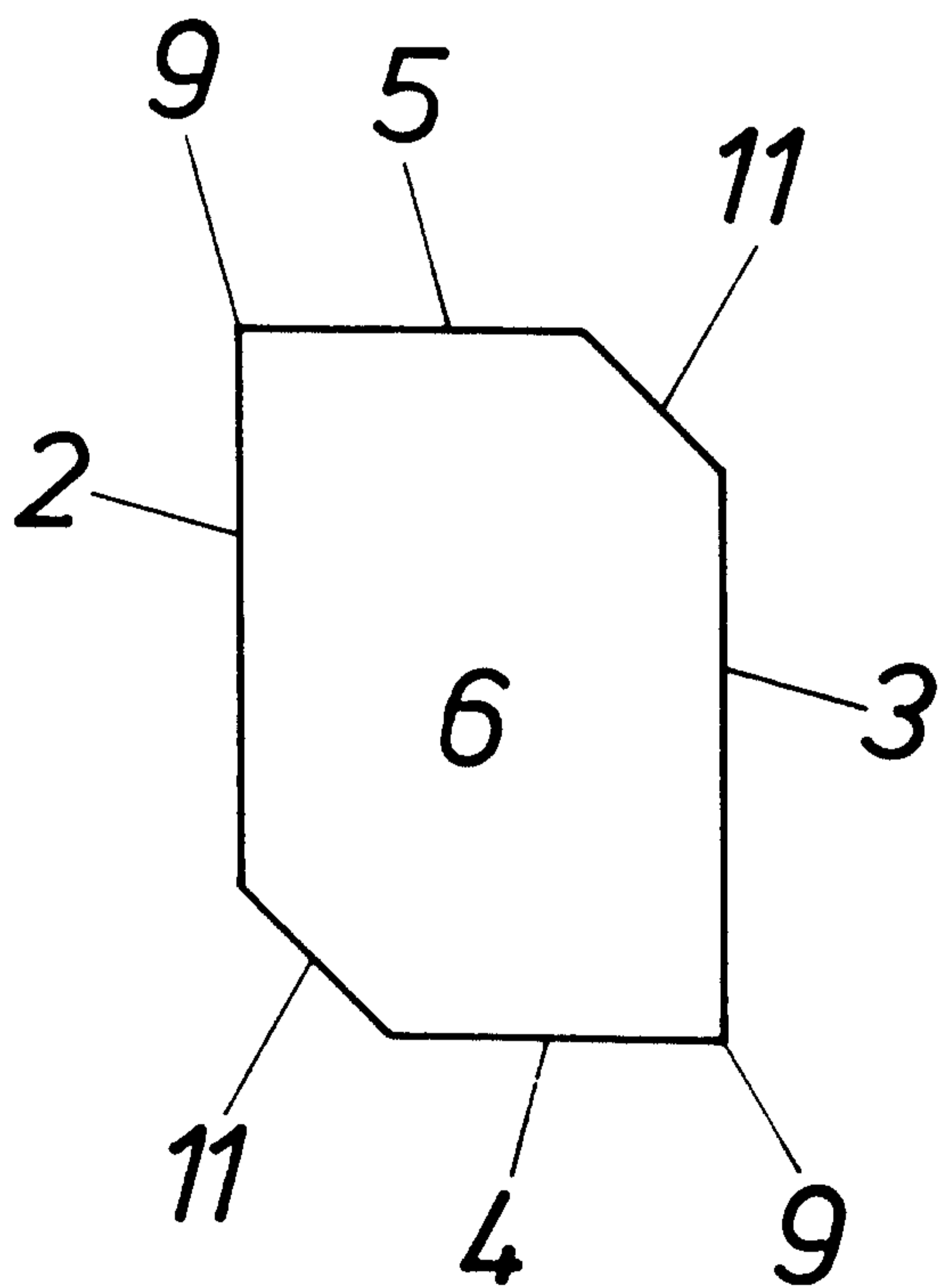


Fig. 4

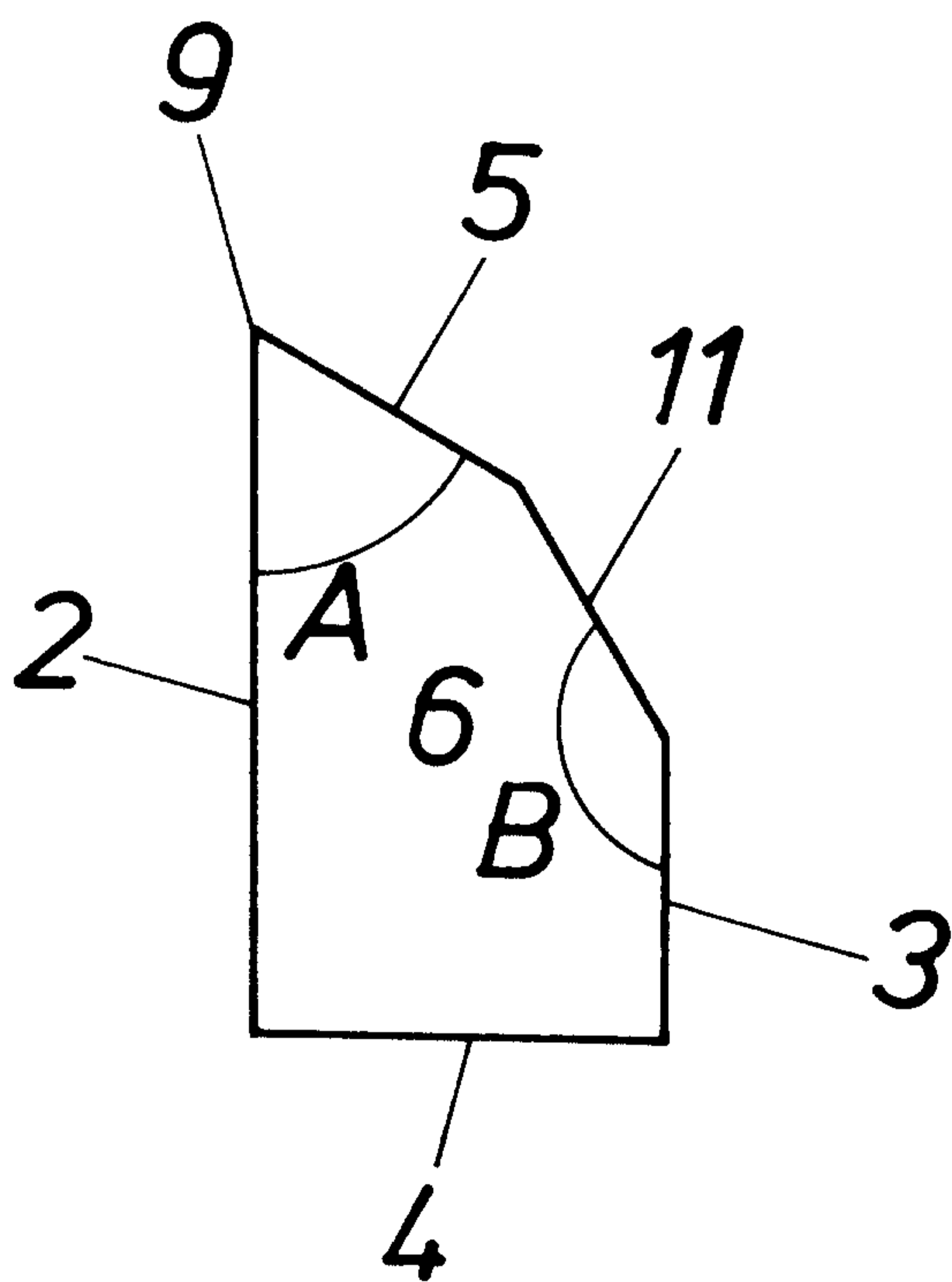


Fig. 5

