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DESCRIPTION

[0001] The present invention relates to a knob for a leveling spacer for laying wall tiles, floor tiles and the like with the interposition of gaps.

[0002] The laying of floor pavings and wall claddings composed of wall tiles, floor tiles or slabs of medium and large dimensions with reduced or recessed thickness entails considerable difficulties in the steps of leveling the laying and of arranging the tiles at equal distances to provide the gaps.

[0003] In order to ensure adequate relative arrangement between the tiles and give uniform leveling to the floor, tools provided specifically to achieve this goal are normally used. Such known tools are disclosed in the documents EP 2966238 A1, EP 2952652 A1 and EP 3106586 A2.

[0004] One type of tools of this type comprises a leveling element and a knob.

[0005] The leveling element is constituted by a base which is inserted below the corners of, for example, four tiles being laid, from which four spacing raised portions extend for abutment of the edges of the corresponding tiles.

[0006] A threaded stem protrudes centrally from the base in a direction that is perpendicular to the plane of the base.

[0007] The knob is screwed onto the threaded stem and is substantially cylindrical with a central female thread portion adapted for the insertion of the stem. The female thread portion is axially symmetrical and its axis coincides with the axis of extension of the knob.

[0008] The knob has a flat part which is adapted to press on the tiles in order to lock and align the edges and the corners of the tiles arranged on the base of the leveling element.

[0009] After laying, the knob, coupled to the stem, is removed by applying pressure in a direction that is perpendicular to the direction of the stem.

[0010] Preweakened points provided on the base proximate to the spacing raised portions facilitate the separation of the stem from the base.

[0011] The base and the spacing raised portions are embedded and concealed by the paste with which the gaps are subsequently provided.

[0012] However, these known methods have aspects that can be improved.

[0013] The knob has a substantially cylindrical body and does not allow visual contact with the

corners of the tiles that must be aligned.

[0014] Furthermore, the substantially cylindrical shape can cause difficult removal of the knob after leveling.

[0015] The aim of the present invention is to provide a knob for leveling spacer for laying wall tiles, floor tiles and the like with the interposition of gaps that is capable of improving the background art in one or more of the aspects indicated above.

[0016] Within this aim, an object of the invention is to provide a knob for leveling spacer for laying wall tiles, floor tiles and the like with the interposition of gaps that allows to visually check the alignment of the tiles.

[0017] Another object of the invention is to provide a knob for leveling spacer for laying wall tiles, floor tiles and the like with the interposition of gaps that allows convenient and easier removal of the spacer after laying with respect to those of the known type.

[0018] Another object of the invention is to provide a knob for leveling spacer for laying wall tiles, floor tiles and the like with the interposition of gaps that is highly reliable, relatively easy to provide and at competitive costs.

[0019] This aim, as well as these and other objects which will become better apparent hereinafter, are achieved by a knob disclosed in claim 1.

[0020] Further characteristics and advantages of the invention will become better apparent from the description of a preferred but not exclusive embodiment of the knob for leveling spacer for laying wall tiles, floor tiles and the like according to the invention, illustrated by way of nonlimiting example in the accompanying drawings, wherein:

Figure 1 is a view of a leveling spacer for laying tiles and the like with a knob according to the invention;

Figure 2 is a different perspective view of the knob of Figure 1;

Figure 3 is another perspective view of the knob of Figure 1, taken parallel to the plane of arrangement during use;

Figures 4a and 4b are views of two different application configurations of the invention;

Figure 5 is a view of the step of removal of the knob of the invention of Figure 4a after application.

[0021] With reference to the figures, a knob for leveling spacer for laying wall tiles, floor tiles and the like according to the invention is designated generally by the reference numeral 10.

[0022] The knob 10 is applied to a leveling element 11 of a known type, which comprises a base 12, provided with a plurality of spacing raised portions 22 for the abutment of the edges of corresponding tiles, from which a stem 13 extends at right angles to said base 12 and is threaded and fixed at right angles to the base 12 in at least one breaking point 23.

[0023] The knob 10 has a substantially frustum-like tubular shape.

[0024] The two ends 14 and 15 of the knob 10, the one that faces the tile and the opposite one, in the configuration for use, therefore have different diameters.

[0025] The frustum-like side wall 17 is interposed between said two ends.

[0026] Advantageously, the side wall 17 can be cylindrical.

[0027] The knob 10 has a central female thread section 18 which is extended with an axis that coincides with the axis of extension of the frustum-like shape of the knob 10.

[0028] The central female thread section 18 is shorter than the distance between the ends 14 and 15.

[0029] The central female thread section 18 is connected to the internal face of the frustum-shaped side wall 17 of the knob 10 by means of a plurality of supporting ribs 19.

[0030] The ribs 19 extend radially from said central female thread section 18 to said side wall 17.

[0031] In this manner, the ribs 19 allow adequate redistribution of the lateral tensions in the step of removal of the knob following leveling.

[0032] The frustum-like side wall 17 is provided with grooves 21 to facilitate adequate non-slip grip.

[0033] A particularity of the invention is the presence, on the frustum-like side wall 17 of the knob 10, of at least one opening 16.

[0034] In the example shown in the figures, for example, the openings 16 are six.

[0035] Such openings 16 are substantially rectangular, but they can also have a different shape.

[0036] Such at least one opening 16 has the purpose of ensuring visual contact between the tile setter and the tiles during alignment.

[0037] Considering the ends 14 and 15, the first end 14, which has a smaller diameter, is annular and has a greater wall thickness than the side wall 17.

[0038] This greater thickness than the side wall 17 ensures greater resistance during the removal step.

[0039] The second end 15, which has a larger diameter, is tubular and frustum-like.

[0040] Advantageously, the second end 15, which has a larger diameter, can be tubular and cylindrical.

[0041] Substantially at the internal face of the second end 15, the ribs 19 are fixed to the side wall 17.

[0042] With reference to Figures 4a and 4b, depending on the type of tile and its thickness, the configuration of the knob 10 can be changed.

[0043] For tiles with a reduced thickness, for example up to 20 mm, the end 14, which is a smaller diameter, is arranged so as to face the tile 20a, as shown in Figure 4a.

[0044] For thicker tiles, for example over 20 mm and up to 40 mm, the end 15, which has a larger diameter, is arranged so as to face the tile 20b, as shown in Figure 4b.

[0045] Figure 5 is a view of the step of removal of the knob applied with the configuration shown in Figure 4a.

[0046] In order to be able to remove the knob 10 screwed onto the stem 13, after the leveling step, it is sufficient to impart a blow in a direction that is perpendicular to the direction of the axis of extension of the knob 10 at the height of the end 15 that has a larger diameter.

[0047] In this manner, the frustum-like shape of the knob 10 facilitates removal by means of a lever effect.

[0048] The knob 10 is for example made of at least partially transparent plastic material.

[0049] It should be noted that the presence of openings on the frustum-shaped side wall of the knob allows continuous visual contact with the tiles during the leveling and laying step.

[0050] It should be noted that the presence of a plurality of supporting ribs for the central female thread section, connected to the frustum-like side wall substantially only at the larger-diameter end, allows to vary the configuration of the knob, which can be used both for low-thickness tiles and for thicker tiles.

[0051] It should be noted that the frustum-like shape of the knob allows faster and easier

removal thereof after laying.

[0052] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0053] In practice, the materials used, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to the requirements and the state of the art.

[0054] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP2966238A1 [0003]
- EP2952652A1 [0003]
- EP3106586A2 [0003]

P a t e n t k r a v

- 5 **1.** Knap (10) til en nivelleringsafstandsholder til lægning af vægfliser, gulvfliser og lignende, hvor afstandsholderen er af den type, der omfatter en basisdel (12) med afstandsholdende forhøjede afsnit (22) til anlægning af kanterne af tilsvarende fliser an og et skaft (13), hvor knappen (10) har en keglestublignende sidevæg (17), som er anbragt inde imellem en første ende (14) og en anden ende (15), hvor knappen (10) omfatter en central hun-gevindsektion (18), der er forbundet med en indvendig side af sidevæggen (17) ved hjælp af
- 10 en flerhed af ribber (19), hvor ribberne (19) har en radial udstrækning fra den centrale hun-gevindsektion (18) til sidevæggen (17), **kendetegnet ved, at** knappen (10) er forsynet med åbninger (16) langs omkredsen på sidevæggen (17), **at** knappen (10) har en i det væsentlige keglestublignende form, hvor den første ende (14) har en mindre diameter, og den anden ende (15) har en
- 15 større diameter, og **at** ribberne (19) er fastgjort til sidevæggen (17) i det væsentlige på en indvendig side af den anden ende (15).
- 20 **2.** Knap (10) ifølge krav 1, **kendetegnet ved, at** den første ende (14) er ringformet og har en større vægtykkelse end sidevæggen (17).
- 3.** Knap (10) ifølge et eller flere af de foregående krav, **kendetegnet ved, at** den anden ende (15) er rørformet og keglestublignende.
- 25 **4.** Knap (10) ifølge et eller flere af krav 1 til 3, **kendetegnet ved, at** den anden ende (15) er rørformet og cylindrisk.
- 5.** Knap (10) ifølge et eller flere af de foregående krav, **kendetegnet ved, at** den keglestublignende sidevæg (17) er forsynet med en flerhed af riller (21).
- 30 **6.** Knap (10) ifølge et eller flere af de foregående krav, **kendetegnet ved, at** den er fremstillet i det mindste delvist af transparent plastmateriale.
- 7.** Knap (10) ifølge et eller flere af de foregående krav, **kendetegnet ved, at** åbningerne langs omkredsen har en i det væsentlige rektangulær form.

DRAWINGS

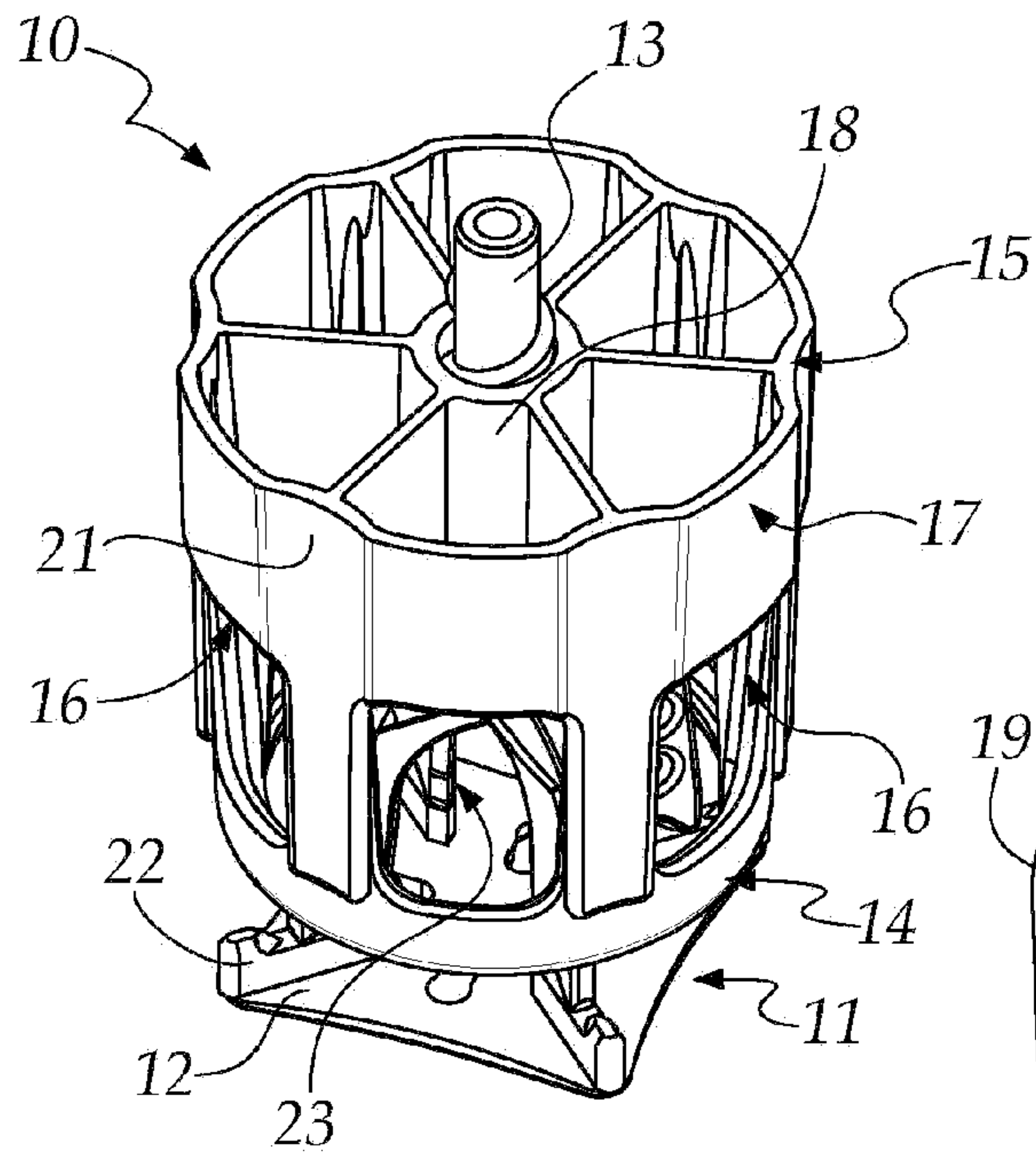


Fig.1

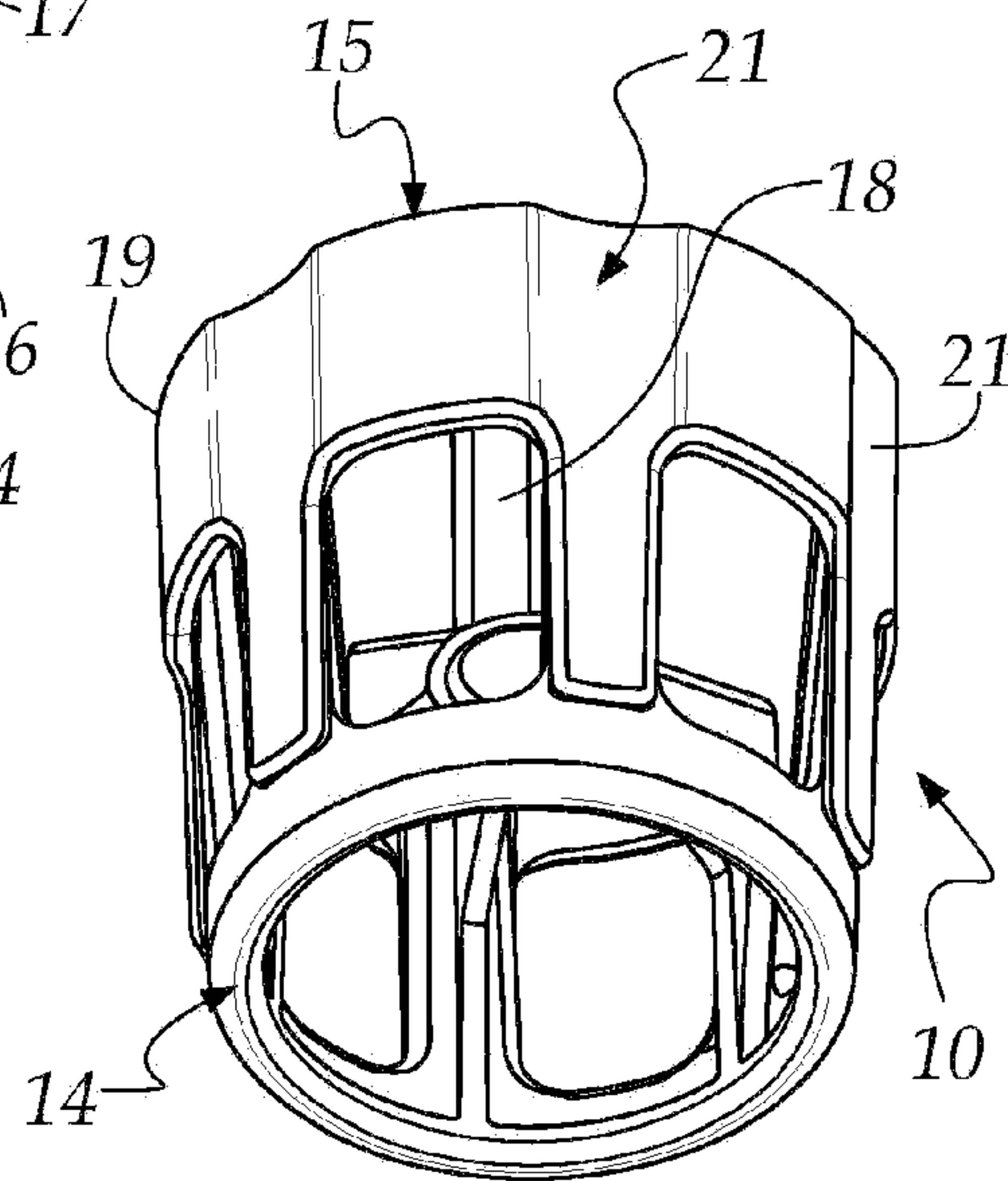


Fig.2

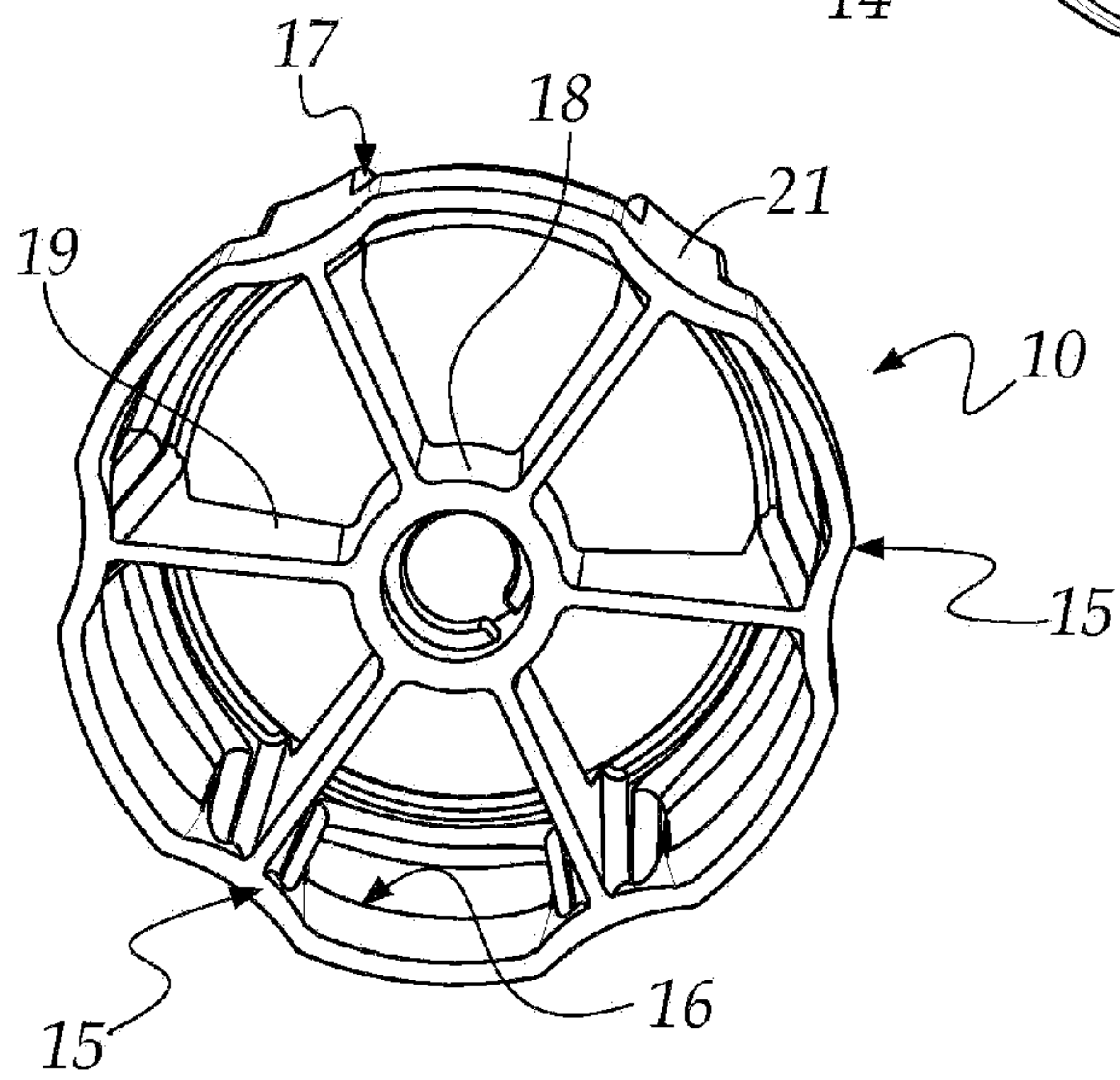


Fig.3

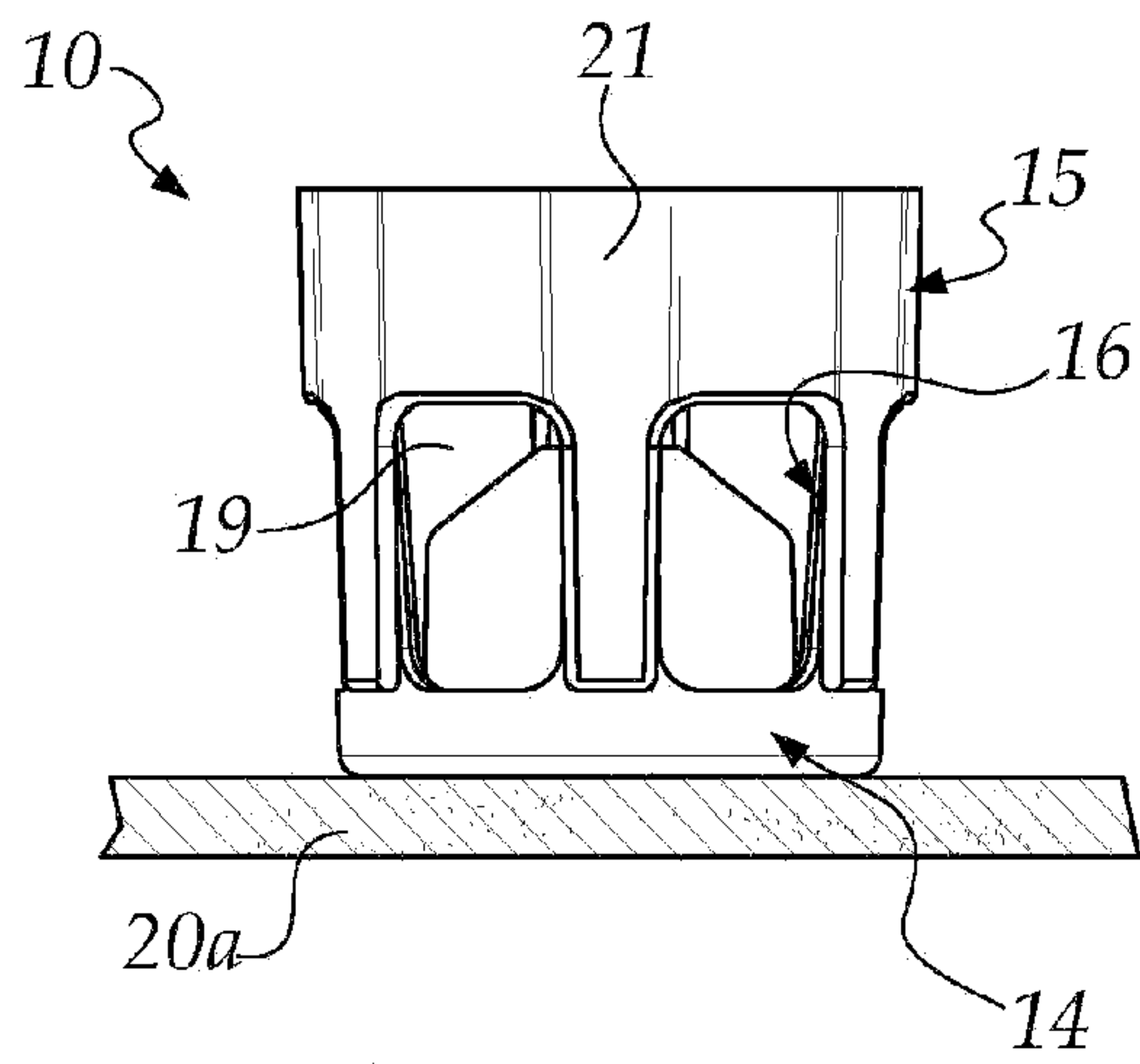


Fig. 4a

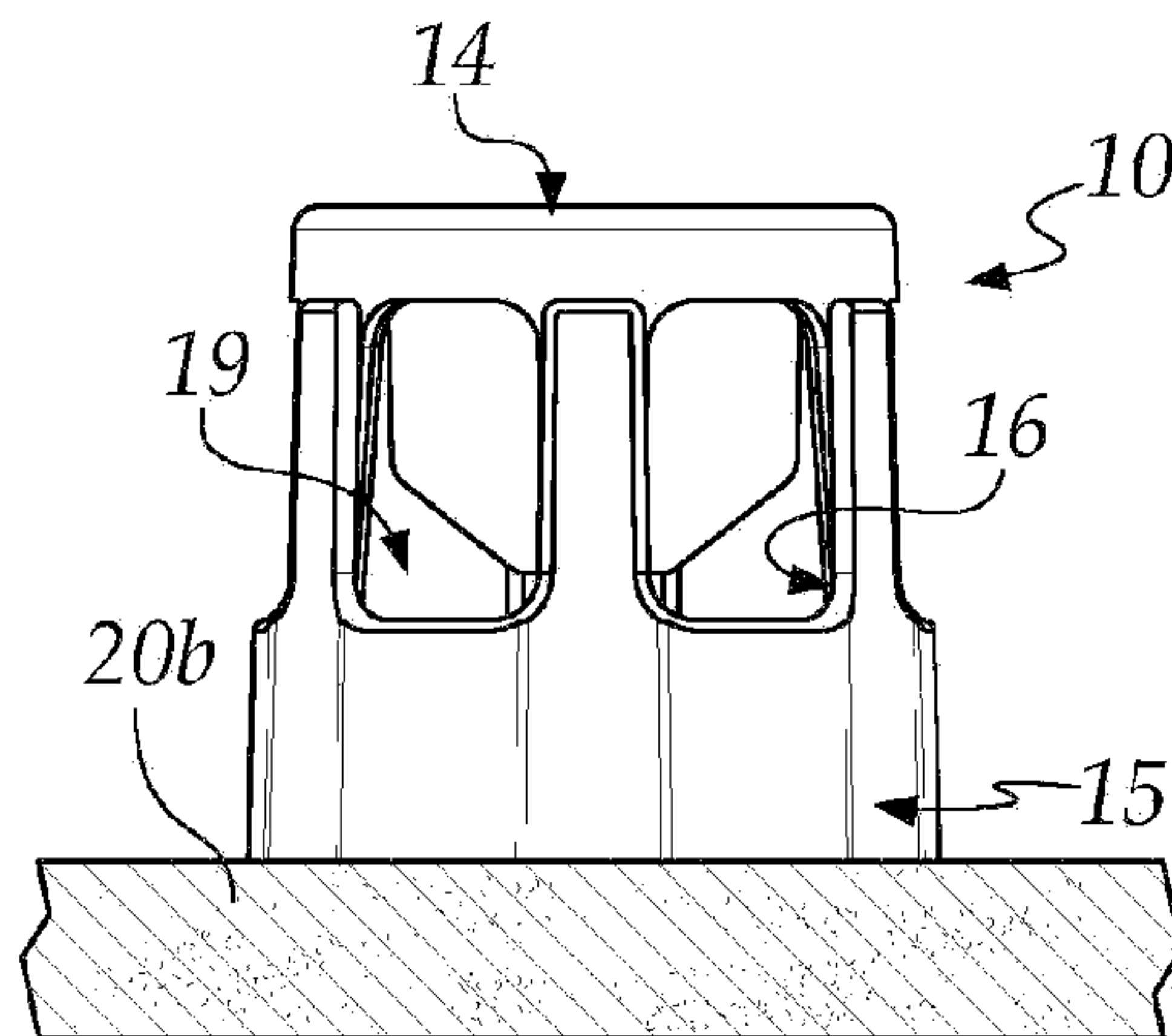


Fig. 4b

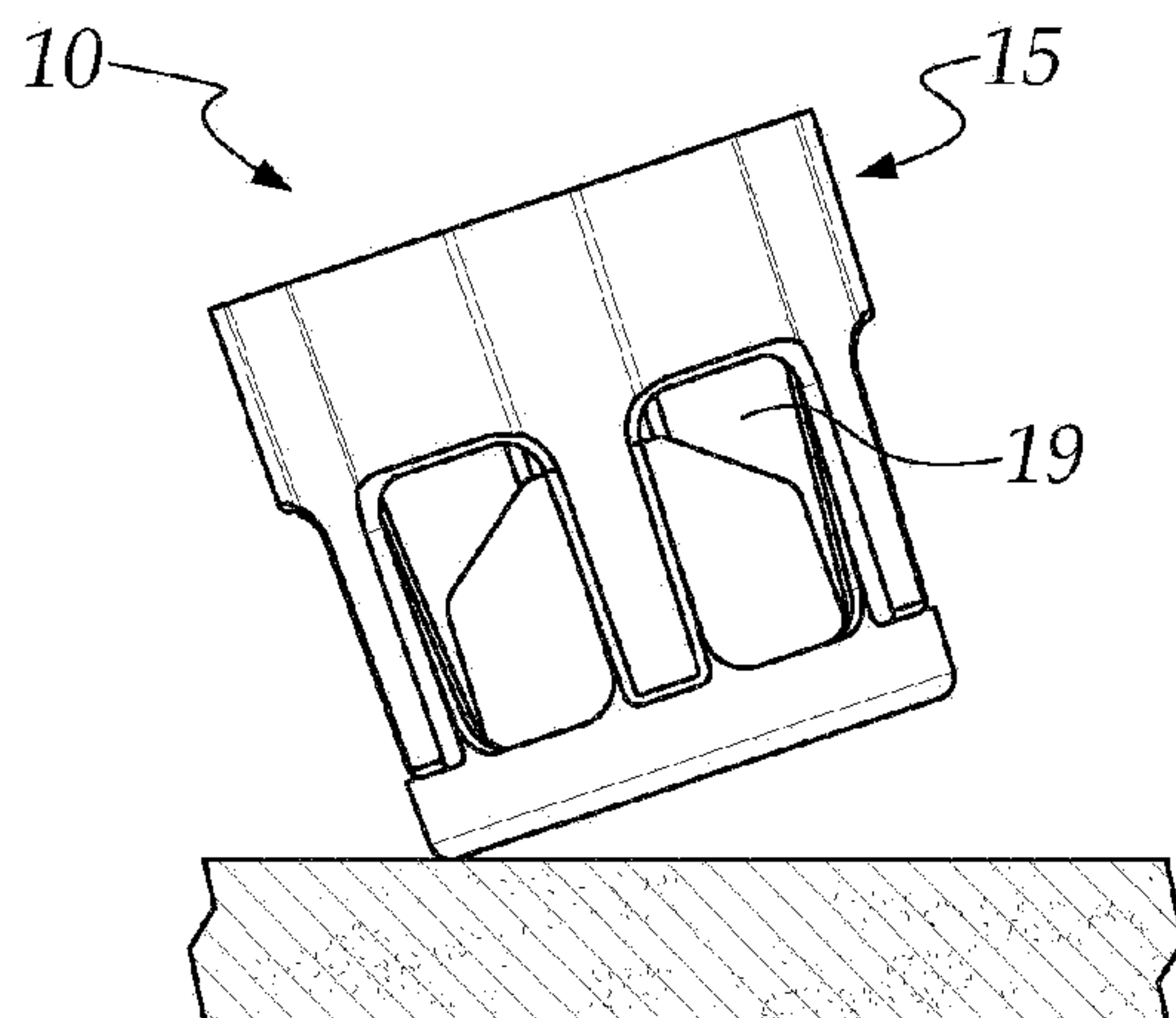


Fig. 5