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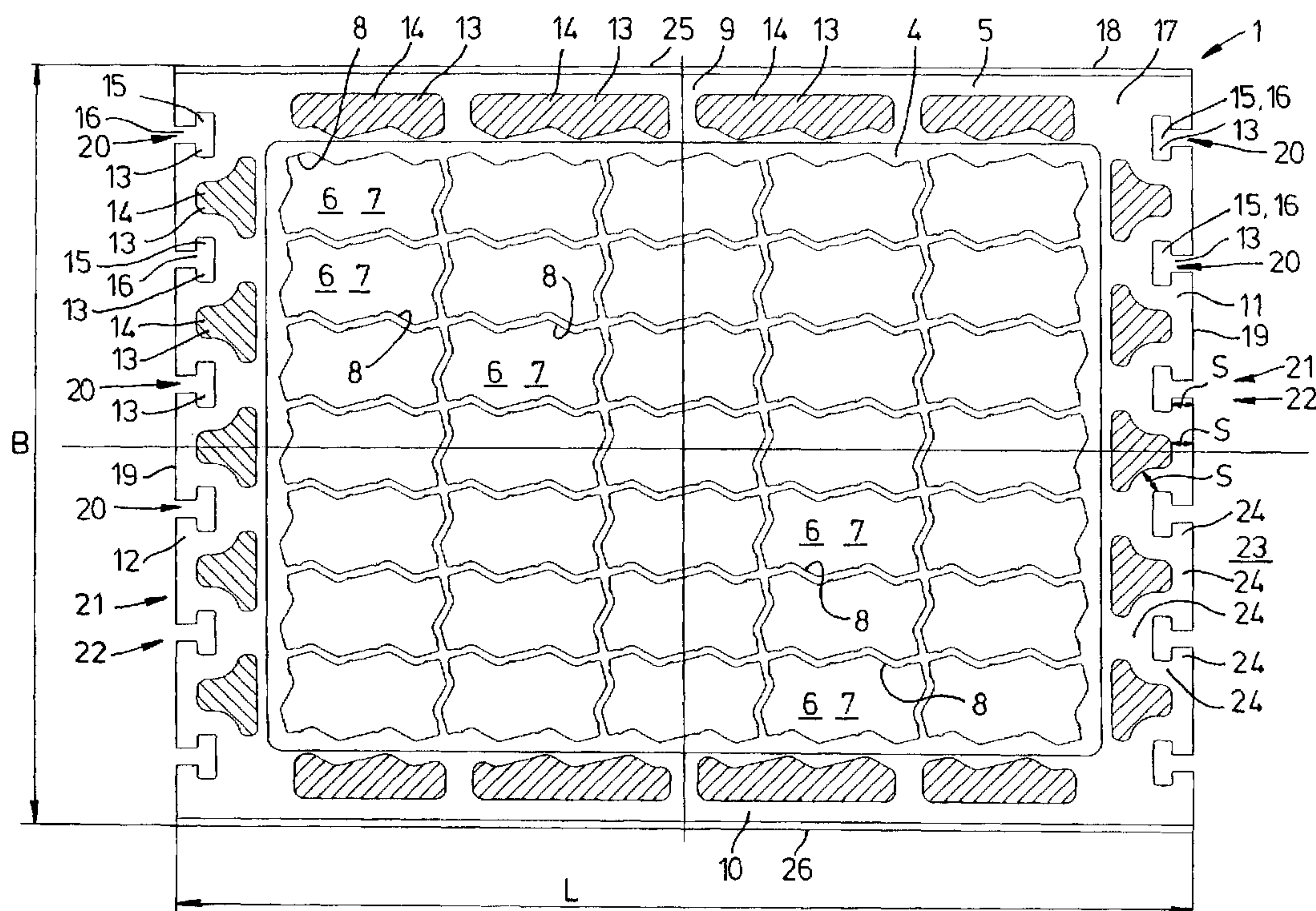
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(54) Title: MOLD FOR THE PRODUCTION OF CONCRETE ARTICLES



(57) Abrégé/Abstract:

The invention relates to a mould for producing pre-cast concrete units, in particular paving stones, comprising a lower mould section consisting of a mould cavity block (1) and side sections that are screwed thereto. The mould cavity block (1) has an internal area (4) comprising mould cavities (6, 7) and an edge area (5), on at least part of which recesses (13) are provided. An efficient method of production and suitability of the mould for hardening are achieved by a constant thickness of the mould cavity block (1), by recesses (13), that create intermediate webs (24) with a web width (S) that remains approximately constant, by recesses (13), which are partly configured in the edge area (5, 11, 12) as undercut grooves (15, 16) and by the screwing of the side sections crosswise to the course of the undercut groove (15, 16).



ABSTRACT

The invention relates to a mould for producing pre-cast concrete units, in particular paving stones, comprising a lower mould section consisting of a mould cavity block (1) and side sections that are screwed thereto. The mould cavity block (1) has an internal area (4) comprising mould cavities (6, 7) and an edge area (5), on at least part of which recesses (13) are provided. An efficient method of production and suitability of the mould for hardening are achieved by a constant thickness of the mould cavity block (1), by recesses (13), that create intermediate webs (24) with a web width (S) that remains approximately constant, by recesses (13), which are partly configured in the edge area (5, 11, 12) as undercut grooves (15, 16) and by the screwing of the side sections crosswise to the course of the undercut groove (15, 16).

WO 02/078920

PCT/DE02/01140

- 1 -

"Mold for the production of concrete articles"

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The invention relates to a mold for the production of concrete articles as defined in the preamble of claim 1.

10 Such molds are employed as interchangeable molds in molding machines, known as block-making machines. They comprise a mold upper part with punches and a mold bottom part that comprises a molding chamber block and side parts, the punches fitting into chambers formed in
15 the molding chamber block. The mold bottom part lies on a molding table, with the result that the chambers are closed at the bottom for the purpose of filling and subsequent compaction. Compaction is effected by vibrations which are transmitted from a vibrator to the
20 concrete articles via the molding chamber block. The shaped articles formed are removed from the mold by raising the mold bottom part while keeping the position of the punches unchanged. The side parts serve for securing and guiding the molding chamber block and as
25 rails for the charging carriage.

The prior art discloses mold bottom parts which comprise a molding chamber block and side parts screwed laterally to the latter. The molding chamber block has
30 an inner region with molding chambers and an edge region provided to some extent with cutouts. A drawback of such mold bottom parts is the fact that they only allow limited curing since high stresses build up in the molding chamber block during the curing operation.
35 Furthermore, extensive manufacturing steps, such as drilling and thread cutting, are required for screwing the side parts to the molding chamber block.

WO 02/078920

PCT/DE02/01140

- 2 -

It has also been demonstrated by means of tests that the continued vibration of the mold after the vibrator has been switched off leads to an impairment in the quality of the surface of the concrete article in
5 contact with the mold.

It is the object of the invention to develop a mold for the production of concrete articles which is suitable for curing and can be manufactured efficiently.
10 Furthermore, it is the object of the invention to develop a mold for the production of improved concrete articles in which, in particular, the production process is influenced in a positive manner by means of the mold. The aim of both objects is to increase the
15 service life of the mold and to improve the quality of the concrete articles produced with the mold.

Starting from the features of the preamble of claim 1, this object is achieved according to the invention by
20 the characterizing features of claim 1. Advantageous and expedient developments are given in the subclaims.

The mold according to the invention for the production of concrete articles comprises a mold bottom part with
25 a molding chamber block having a thickness or height which is substantially uniform over the length and width of the molding chamber block, the edge regions of the molding chamber block being provided with cutouts which lead to the formation of intermediate webs of
30 approximately uniform web width, and the cutouts or the intermediate webs being used for the purpose of fastening side parts, the cutouts, as seen in plan view, being formed at least in part as an undercut slot with lateral opening to the edge region and the side
35 parts being screwed transversely with respect to the profile of the undercut slot. As a result, an open-edge structure is formed in the edge region of the molding chamber block which counteracts the buildup of stresses

WO 02/078920

PCT/DE02/01140

- 3 -

or suppresses the buildup of annular stresses through the lateral openings. Furthermore, such a construction of the molding chamber block allows side parts to be fastened by means of standard components, such as screw
5 and slot block, without requiring drilling or thread-cutting operations on the molding chamber block. The alignment of the screw connection of the side parts transversely with respect to the profile of the slot allows a high degree of loading of the side parts,
10 since large contact areas thereof are pressed by the screw connection onto the edge region of the molding chamber block. Undercut slots are slots whose width at the base of the slot is greater than the width of the slot opening, with the result, when seen in cross
15 section, the slot runs in a wedge-shaped, step-shaped or arc-shaped manner relative to the slot opening.

A connection with a particularly high loadbearing ability is obtained by the side parts being screwed to
20 and/or braced with the molding chamber block via the slot and, where appropriate, by additionally welding the side part and molding chamber block.

Furthermore, it is advantageous to center the side part
25 and the molding chamber block via pins and/or bearing surfaces. As a result, the tolerances for the screw connections or bracing connections can be selected more roughly since these are not decisive for the alignment of the side parts with the molding chamber block.

30 Furthermore, it is advantageous to design the cutout, which is designed in particular as a T-slot or L-slot, with a cross-sectionally angular and/or rounded cavity and a neck which opens the latter to the surround, the
35 cavity and the neck preferably being designed as a torch-cut clearance. As a result, it is also possible to employ the torch cutting method, which is used for forming the molding chambers in the inner region of the

WO 02/078920

PCT/DE02/01140

- 4 -

molding chamber block, for the formation of the edge region of the molding chamber block. This means that the inner region and the edge region of the molding chamber block can be machined by the same method on a machine.

In an advantageous embodiment of the subject matter of the invention, provision is made for the slots or the cutouts to be arranged at regular intervals from one another in the edge region of the molding chamber block. This results in the formation of webs of equal width between the cutouts. Through the effect of these webs, the entire edge region demonstrates uniform behavior in respect of the curing operation. Provision is made in particular for the use of cross-sectionally T-shaped or L-shaped slots.

According to a particular embodiment of the subject matter of the invention, provision is made to design the undercut slots with different neck lengths and, in particular, to arrange slots with a different neck length next to one another in an alternating manner. Consequently, it is possible to design a wider edge region with webs of uniform width.

The use of a threaded rod with a wedge clamp as fastening means makes it possible to provide particularly rapid fastening of a side part to the molding chamber block.

By connecting the molding chamber block and the side part by means of claw-type clamping devices and/or a combination of eyebolt and wedge bolt, it is possible to connect these components particularly rapidly to one another or to release them from one another.

Provision is made according to the invention for at least one of the cutout [sic] situated in the edge

WO 02/078920

PCT/DE02/01140

- 5 -

region of the mold to be filled with a damping filler. This spares the complicated operation of welding in a cover to protect the cutout from the penetration of concrete and, in particular, also avoids the occurrence
5 of thermal distortion during welding. Furthermore, during the operation of the vibrator and after the vibrator has been switched off, a filled cutout acts on the mold in such a way that, in particular, the vibrations of the mold once the vibrator has been
10 switched off die away quickly, and hence the formation of horizontal cracks on the side faces of the concrete articles in contact with the mold is largely avoided. Thus, the lateral surfaces of the concrete article are technically and visually improved by means of the
15 damping.

Provision is made in particular according to the invention to use polymer concrete as the filler. Polymer concrete is substantially composed of a
20 synthetic composition in which gravel and/or sand is embedded, for example. This material is highly suitable for the loads occurring on the mold, since it is particularly resistant to chemical and mechanical loads.

25 Furthermore, provision is made to configure the opening cross section of the cutout in an irregular manner or such that it deviates from a simple geometric shape. By providing narrowings and/or widenings in the cross
30 section of the cutout, it is possible not only for the compressive loads which can be absorbed by each opening but also for tensile loads to be transmitted to the filling material. If, for example, the opening cross section of the cutout has the shape of a dog's bone,
35 tensile stresses are transmitted in the longitudinal direction of said bone. This means that, given such a design, the filling material develops an additional effect by absorbing and damping tensile loads in at

WO 02/078920

PCT/DE02/01140

- 6 -

least one direction, without additional construction space being required for this purpose. This also leads in particular to greater damping of bending vibrations, since then approximately the entire filling material
5 has a damping effect irrespective of the bending direction, since tensile and compressive loads occur simultaneously with each bending.

According to an alternative embodiment, the invention
10 provides for walls of the cutout to be connected by means of at least one anchor having at least two anchor points. Such an interconnection of walls makes it possible to keep the mold stable even with a large number of cutouts and/or with large-volume cutouts, and
15 to concentrate and/or channel loads and vibrations in a targeted manner by means of the anchors.

Provision is made according to the invention to fill all annularly closed cutouts with the filler. As a
20 result, maximum damping of the vibrations present in the mold is possible.

Advantageously, the invention provides for the cutout [sic] in the molding chamber block to be oriented in
25 any desired spatial direction. As a result, it is possible to act on all the vibrations, or bending, tensile, compressive and torsional loads, present in the molding chamber block or to influence certain directions of vibration or loads in a targeted manner.

30

Furthermore, the invention provides for at least two cutout [sic] to be connected by means of at least one connecting space and for the latter to be designed in particular as a bore. This makes it easily possible to
35 couple the damping elements to one another or to interconnect them to form an operative assembly.

WO 02/078920

PCT/DE02/01140

- 7 -

Provision is made according to the invention to fill the connecting space with filling material. This makes optimum interaction between the filled cutouts possible.

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It is also provided for the cutout to be arranged in a corner region of the molding chamber block in order to prevent convergence of vibrations here.

10 Finally, the invention provides for an insert prefabricated from filling material to be fitted into or adhesively bonded into the cutout. This makes it possible to manufacture the insert efficiently.

15 Further details of the invention are described in the drawing with reference to schematically represented exemplary embodiments. In the drawing:

20 figure 1 shows a plan view of a molding chamber block,

figure 2 shows the molding chamber block shown in figure 1 with screwed-on side parts,

25 figure 3 shows a side view of the mold bottom part represented in figure 2, from the arrow direction III,

30 figure 4 shows a section through the mold bottom part represented in figure 2, along the section line IV-IV,

35 figure 5 shows a section through the mold bottom part represented

WO 02/078920

PCT/DE02/01140

- 8 -

in figure 2, along the section
line V-V,

5 figure 6 shows a side view of the mold
 bottom part represented in
 figure 2, from the arrow
 direction VI,

10 figure 7 shows a section through the
 mold bottom part represented
 in figure 2, along the section
 line VII-VII,

15 figure 8 shows a detail view, indicated
 by VIII, of the mold bottom
 part represented in figure 2,

20 figure 9 shows a first variant of a
 molding chamber block,

 figure 10 shows a second variant of a
 molding chamber block,

25 figure 11 shows a third variant of a
 molding chamber block,

30 figure 12 shows a plan view of the
 transverse side of a fourth
 variant of a molding chamber
 block,

35 figure 13 shows a perspective partial
 view of a molding chamber
 block with differently
 designed cutouts,

WO 02/078920

PCT/DE02/01140

- 9 -

- figure 14 shows a plan view of the molding chamber block shown in figure 13,
- 5 figure 15 shows a section through the molding chamber block represented in figure 14, along the section line XV-XV,
- 10 figure 16 shows a section through the molding chamber block represented in figure 14, along the section line XVI-XVI,
- 15 figure 17 shows a section through the molding chamber block represented in figure 14, along the section line XVII-XVII,
- 20 figure 18a - 18h shows schematically represented plan views of the cutouts,
- 25 figure 19 shows a side view of a further molding chamber block with oblique cutouts,
- 30 figure 20 shows a plan view of a further molding chamber block, and
- figure 21 shows a plan view of a further molding chamber block with connecting spaces between the cutouts.
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WO 02/078920

PCT/DE02/01140

- 10 -

Figure 1 depicts a molding chamber block 1 which, together with side parts 2, forms a mold bottom part 3 (see also figure 2). The molding chamber block 1 has an inner region 4 and a peripheral edge region 5. Arranged within the inner region 4 are 35 cutouts or perforations 6 which serve as molding chambers 7. The molding chambers 7 pass through the molding chamber block 1 in a direction which is perpendicular to the plane of the drawing. The molding chambers 7 have a contour 8 which corresponds to the contour of concrete articles or paving blocks (not shown) which can be molded in the molding chamber block 1. The edge region 5 is composed of two opposite longitudinal edges 9, 10 and two opposite transverse edges 11, 12. The cutouts 13, which are in part closed by means of covers 14, are formed in the edge region 5 such that they run peripherally around the inner region 4. The covers 14 prevent filling material from entering the cutouts 13. Furthermore, the molding chamber block 1 has, at the transverse edges 11, 12, cutouts 13 which are designed as undercut slots 15 and extend parallel to the perforations 6. In the molding chamber block 1 shown in figure 1, the slots 15 are embodied as T-slots 16. The T-slots 16 run from a top side 17 to a bottom side 18 of the molding chamber block 1 and have lateral openings 20 toward transverse sides 19 of the molding chamber block 1. At the transverse edges 11, 12, toward the transverse sides 19, the slots 15 give rise to an open-edge structure 21 which, disregarding the covers 14, forms a web structure 22 in plan view. In this arrangement, the webs 24 formed between a surround 23 and slots 15 or cutouts 13 have approximately a uniform web width S. The web structure 22 extends substantially over a width B of the molding chamber block 1. According to an alternative embodiment (not shown), the molding chamber block 1 also has slots which generate an open-edge structure in the region of longitudinal

WO 02/078920

PCT/DE02/01140

- 11 -

sides 25, 26, in particular over a length L of the molding chamber block 1.

Figure 2 depicts the molding chamber block 1 shown in figure 1, together with the screwed-on side parts 2. The molding chamber block 1 and the side parts 2 together form the mold bottom part 3 which, together with punches (not shown) that are tailored to the molding chambers 7, forms a mold for the production of shaped articles, in particular concrete articles. The side parts 2, or the left side part 2a and the right side part 2b, are screwed to the molding chamber block 1 via the T-slots 16. Arranged in the slots 16 are slot blocks 27 or nuts 28 which have a threaded bore 29 and serve as mating bearings for screws 30 (see also figure 8). Furthermore, the side parts 2 are connected to the molding chamber block 1 via pins 31 which serve to center the side parts 2 onto the molding chamber block 1 (see also figure 7).

Figure 3 depicts a side view of the mold bottom part 3 shown in figure 2, from the arrow direction III. The L-shaped cross section of the side parts 2 can be seen in this view. Said side parts have a multi-part construction and comprise a connection profile 32, a wearing strip 33 placed atop said profile, and a bracket 34. In this arrangement, the wearing strip 33 is screwed to the connection profile 32 and may, where appropriate, be underlaid. Furthermore, the side view shows that the thickness D of the molding chamber block 1 is substantially uniform over the entire length L of the molding chamber block 1.

Figure 4 shows a section through the mold bottom part 3 along the section line IV-IV depicted in figure 2. The slot block 37 is designed as a slot strip 35 in each case having two threaded bores 29 situated one above the other, with only the lower threaded bore 29 being

WO 02/078920

PCT/DE02/01140

- 12 -

used in the region of the bracket 34. In figure 4, just as in figure 2, the slot 16 is covered toward the top side 17 of the molding chamber block 1 by means of a cover 36.

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Figure 5 depicts a section through the mold bottom part 3 shown in figure 2, along the section line V-V. This view shows a screw connection 37, which connects the wearing strip 33 to the connection profile 32.

10 Furthermore, the screwing to the molding chamber block 1, via the slot strip 35, of the connection profile 32 by means of two screws 30 situated one above the other is shown.

15 Figure 6 shows a side view of the mold bottom part 3 depicted in figure 2, from the arrow direction VI. The arrangement of the individual screw connections can be seen here.

20 Regarding figures 7 and 8, reference is made to the description for figure 2.

Figure 9 shows a molding chamber block 40 which has, at transverse edges 11, 12, cutouts 13 which are designed
25 as undercut slots 15 and have lateral openings 20 toward transverse sides 19. The slots 15 possess cavities 41 which open to the transverse sides 19 via necks 42. The slots 15 are embodied as torch-cut clearances 43 which, just like cutouts 13 arranged on
30 longitudinal edges 9, 10 and molding chambers 7, can be cut by means of a torch jet running perpendicular to the plane of the drawing.

Figure 10 shows a molding chamber block 50 which has,
35 toward a transverse side 19, undercut slots 15 which possess necks 42 with different neck lengths l_1 and l_2 . Furthermore, the slots 15 possess slot bases 51 which

WO 02/078920

PCT/DE02/01140

- 13 -

have a width b_2 and slot openings 52 which have a width b_1 .

Figure 11 shows a molding chamber block 60, which, toward a transverse side 19, has cutouts 13 of which two are designed as undercut slots 15. The latter have a slot base 51 with a width b_2 and a slot opening 52 with a width b_1 , b_2 being greater than b_1 . The undercut slots 15 are suitable for the insertion of slot blocks 27 (shown by dashed lines) for the purpose of fastening side parts (not shown).

Figure 12 shows a plan view of a transverse side 19 of a molding chamber block 17. The molding chamber block 70 has three undercut slots 15 toward the transverse side, the left and the right undercut slots 15 being arranged obliquely with respect to a perpendicular 71 and thus preventing a side part suspended therein from above sliding through if the screws have not yet been tightened.

Figure 13 shows a perspective partial view of a molding chamber block 1 with differently configured cutouts 13. The molding chamber block 1 forms, together with side parts 2 (not shown), a mold bottom part 3. The molding chamber block 1 has an inner region 4 and a peripheral edge region 5. Arranged in the inner region 4 are cutouts or perforations 6 which serve as molding chambers 7. The molding chambers 7 pass through the molding chamber block 1 in a direction z which is perpendicular to the plane of the drawing. The molding chambers 7 have a contour 8 which corresponds to the contour of concrete articles or paving blocks (not shown) which can be molded in the molding chamber block 1. The edge region 5 is composed of two opposite longitudinal edges 10 (only one of the longitudinal edges is visible in figure 13) and two opposite

WO 02/078920

PCT/DE02/01140

- 14 -

transverse edges 12 (only one of the transverse edges is visible in figure 13). Cutouts 13 which are in part filled with polymer concrete 72 are formed in the edge region 5 such that they run peripherally around the inner region 4. On filling the perforations 6, the polymer concrete 72 prevent [sic] filling material from entering the cutouts 13 and acts in a vibration-damping manner on the molding chamber block 1, which is excited by a vibrator (not shown). Furthermore the molding chamber block 1 has, at the transverse edges 12, cutouts 13 which are designed as undercut slots 15 and extend parallel to the perforations 6. In the molding chamber block 1 shown in figure 13, the slots 15 are embodied as T-slots 16. The T-slots 16 run from a top side 17 to a bottom side 18 of the molding chamber block 1 and have lateral openings 20 toward transverse sides 19 of the molding chamber block 1. At the transverse edges 11, 12, toward the transverse sides 19, the slots 15 give rise to an open-edge structure 21 which, disregarding the polymer concrete fillings, forms a web structure 22 in plan view. In this arrangement, the webs 24 formed between a surround 23 and slots 15 or cutouts 13 have approximately a uniform web width S. The web structure 22 extends substantially over a width B of the molding chamber block 1. According to an alternative embodiment (not shown), the molding chamber block 1 also has slots which generate an open-edge structure in the region of longitudinal sides 26, in particular over a length L of the molding chamber block 1.

Figure 14 shows the partial view of a plan view of the molding chamber block 1 shown in figure 13. In the region of a longitudinal edge 10, the molding chamber block 1 has, shown by way of exemplary representation, a large number of different cutouts 13. In this case, these are the cutouts 13a, 13b, 13c. These have different opening cross sections 73a, 73b, 73c which

WO 02/078920

PCT/DE02/01140

- 15 -

are characterized by narrowings 74 and widenings 75. Walls 76 have projections 77 and recesses 78. Opposite walls 76 of the cutout 13c, or web portions 24a, 24b, are connected by means of anchors 79, which are
5 positively connected to the web portions 24a, 24b in anchor points 18. According to an alternative embodiment (not shown), all the annularly closed cutouts 81 are filled with polymer concrete. In order to achieve maximum vibration damping, optional
10 provision is made for laterally open cutouts 82 (designated by 15 and 16 in figure 1 to 12) to be filled with polymer concrete as well after the side parts (not shown here) have been mounted.

15 Figure 15 shows a section in the region of the cutout 13a or 81 depicted in figure 14, along a section line XV-XV through the molding chamber block 1. The walls 76 which can be seen in the sectional view have slot-shaped recesses 78 which run parallel to the top side
20 17 and the bottom side 18 of the molding chamber block 1. The polymer concrete filling (not shown) which is present in the cutout 81 is held positively in the latter by virtue of the shaping of the walls 76. Consequently, acceleration forces which, during
25 vibration, act approximately in the arrow directions z, z' on the polymer concrete filling are not transmitted solely via the adhesive bond existing between the polymer concrete and the walls 76. Vibration of the molding chamber block 1, which, for example, causes
30 flexion of the molding chamber block 1 in the region of the cutout shown in figure 15, in the arrow direction z, is damped by compaction of the polymer concrete filling. In this context, the polymer concrete filling is compacted or compressed in a region situated above a
35 central plane M.

Figure 16 shows a section through the molding chamber block 1 in the region of the cutout 13b depicted in

WO 02/078920

PCT/DE02/01140

- 16 -

figure 14, along a section line XVI-XVI. The cutout 13b has projections 83 in the region of recesses 78 (see figure 14). This makes it possible, just by way of the opposite walls 76 depicted in figure 16, for the
5 polymer concrete (not shown), which fills the cutout 13b, to be held positively in all spatial directions x, x', y, y', z, z' (see figure 13).

Figure 17 shows a section through the molding chamber
10 block 1 in the region of the cutout 13c depicted in figure 14, along a section line XVII-XVII. The anchor 79 is screwed into the web portions 24a, 24b, said anchor being held in a through thread 84 in the web portion 24b and in a blind hole thread 85 in the web
15 portion 24a. The anchor serves as a tension and compression bar for stabilizing the molding chamber block 1. For vibration damping and to reduce weight, the anchor 79 makes it possible to make available large cutouts 13c without having to dispense with the
20 stability of the molding chamber block 1. Vibrations of the anchor 79 are damped by means of polymer concrete (not shown) surrounding said anchor.

Figure 18a to 18h show schematically represented plan
25 views of walls 76 which delimit cutouts. A common feature of all the wall profiles is that they have projections 77 and recesses 78 which lead to positive meshing of the polymer concrete with the molding chamber block. This makes it possible for tensile
30 stresses acting in the longitudinal direction a of the wall 76 to be damped in a targeted manner via the polymer concrete, since the stresses are transmitted directly to said concrete from the walls 76.

35 Figure 19 shows a side view of a further molding chamber block 1 with oblique cutouts 81. The left cutout 81 runs diagonally from a bottom side 18 to a top side 17 of the molding chamber block 1. The right

WO 02/078920

PCT/DE02/01140

- 17 -

cutout 81 is designed to be approximately Y-shaped in cross section and has, toward the bottom side 18 and toward the top side 17 of the molding chamber block 1, widenings 75 by means of which positive fixing of the polymer concrete filling (not shown) is achieved.

Figure 20 shows a plan view of a further molding chamber block 1. In a corner region 86, the molding chamber block 1 has a laterally open cutout 82 into which a polymer concrete element 87 has been inserted. The latter is provided for damping vibrations which converge in the corner region 86 and is held positively on the molding chamber block 1 via lugs 88 which engage in slots 89 of the molding chamber block 1.

15

Figure 21 is a schematic representation of a detail of a further molding chamber block 1. The molding chamber block 1 has cutouts 81 which are connected by means of connecting spaces 90 that are open toward a top side 17 of the molding chamber block 1. Like the cutouts 81, the connecting spaces 90 are filled with polymer concrete.

The invention is not restricted to exemplary embodiments which have been represented or described. Rather, it encompasses developments of the invention within the scope of the patent claims. In particular, the invention also provides for the use of cutouts and slots with rounded corners and edges. The filling of cutouts with polymer concrete is intended both for screwed-together and for welded-together mold bottom parts, also referred to as the mold in some cases.

30

WO 02/078920

PCT/DE02/01140

- 18 -

List of reference numerals:

- 1 molding chamber block
- 2 side part
- 2a left side part
- 2b right side part
- 3 mold bottom part
- 4 inner region (of 1)
- 5 edge region (of 1)
- 6 cutout/perforation (of 1)
- 7 molding chamber
- 8 contour (of 7)
- 9 longitudinal edge
- 10 longitudinal edge
- 11 transverse edge
- 12 transverse edge
- 13, 13a, 13b, 13c cutout (in 5)
- 14 cover
- 15 slot
- 16 T-slot
- 17 top side (of 1)
- 18 bottom side (of 1)
- 19 transverse side (of 1)
- 20 lateral opening
- 21 open-edge structure
- 22 web structure
- 23 surround
- 24 web
- 24a, 24b web portion
- 25 longitudinal side (of 1)
- 26 longitudinal side (of 1)
- 27 slot block
- 28 nut
- 29 threaded bore
- 30 screw
- 31 pin
- 32 connection profile
- 33 wearing strip

WO 02/078920

PCT/DE02/01140

- 19 -

34 outer bearing [sic]
35 slot strip
36 cover
37 screw connection
40 molding chamber block
41 cavity
42 neck
43 torch-cut clearance
50 molding chamber block
51 slot base
52 slot opening
60 molding chamber block
70 molding chamber block
71 perpendicular
72 polymer concrete
73a, 73b, 73c opening cross section
74 narrowing
75 widening
76 wall
77 projection
78 recess
79 anchor
80 anchor point
81 annular, closed cutout
82 laterally open cutout (= 15, 16)
83 projection in the region of 78
84 through thread
85 blind hole thread
86 corner region
87 polymer concrete element
88 lug of 87
89 slot in 1
90 connecting space

WO 02/078920

PCT/DE02/01140

- 20 -

Claims:

1. A mold for the production of concrete articles, in particular paving blocks, with a mold bottom part (3) which comprises a molding chamber block (1, 40, 50, 60, 70) and side parts (2, 2a, 2b) screwed to said block, the molding chamber block (1, 40, 50, 60, 70) having an inner region (4) with molding chambers (6, 7) and an edge region (5) on which cutouts (13) are provided at least to some extent, characterized in that
- the molding chamber block (1, 40, 50, 60, 70) has a substantially uniform thickness (D),
 - the edge region (5, 11, 12) has, for the purpose of fastening side parts (2, 2a, 2b), cutouts (13) by means of which intermediate webs (24) of approximately uniform web width (S) are formed,
 - the cutouts (13) in the edge region (5, 11, 12) for fastening the side parts are designed, as seen in plan view, at least in part as an undercut slot (15, 16) with lateral opening (20), and
 - the side parts (2, 2a, 2b) are screwed transversely with respect to the profile of the undercut slot (15, 16).
2. The mold as claimed in claim 1, characterized in that the side part (2, 2a, 2b) is screwed to and/or braced with the molding chamber block (1, 40, 50, 60, 70) via the undercut slots (15, 16) and, in particular, is additionally welded.
3. The mold as claimed in either of the preceding claims, characterized in that the side part (2, 2a, 2b) and the molding chamber block (1, 40, 50, 60, 70) are aligned with one another via pins (31) and/or bearing surfaces.
4. The mold as claimed in one of the preceding claims, characterized in that the undercut slot (15) is

WO 02/078920

PCT/DE02/01140

- 21 -

designed in particular as a T-slot (16) or L-slot and has, in cross section, in particular an angular and/or rounded cavity (41) and a neck (42) which connects the latter to the surround (43), and is preferably designed
5 as a torch-cut clearance (43).

5. The mold as claimed in one of the preceding claims, characterized in that the slots (15, 16) and/or the cutouts (13) are arranged at regular intervals from
10 one another.

6. The mold as claimed in one of the preceding claims, characterized in that the slots (15, 16) have different neck lengths (l_1 , l_2) and, in particular,
15 T-slots (16) with different neck lengths (l_1 , l_2) are arranged next to one another in an alternating manner.

7. The mold as claimed in one of the preceding claims, characterized in that the fastening means for
20 connecting the molding chamber block (1, 40, 50, 60, 70) to the side part (2, 2a, 2b) are designed as a threaded rod with a wedge clamp.

8. The mold as claimed in one of the preceding
25 claims, characterized in that the fastening means for connecting the molding chamber block (1, 40, 50, 60, 70) to the side part (2, 2a, 2b) are designed as a step-shaped, dowel-like claw-type clamping device.

30 9. The mold as claimed in one of the preceding claims, characterized in that the fastening means for connecting the molding chamber block (1, 40, 50, 60, 70) to the side part (2, 2a, 2b) are designed as an eyebolt with a wedge bolt.

35

10. The mold, in particular as claimed in one of the preceding claims, characterized in that a cutout (13,

WO 02/078920

PCT/DE02/01140

- 22 -

15, 16, 81, 82) situated in the edge region (5) of the mold (1 or 3) is filled with a damping filler.

11. The mold as claimed in one of the preceding
5 claims, characterized in that polymer concrete (72) in particular is provided as the filler.

12. The mold as claimed in one of the preceding
claims, characterized in that the cutout (13, 15, 81,
10 82) has an opening cross section with narrowings (74, 77) and widenings (75, 78).

13. The mold as claimed in one of the preceding
claims, characterized in that walls (76) of the cutout
15 (13, 13a, 13b, 13c, 15, 81, 82) are connected by means of at least one anchor (79) having at least two anchor points (80).

14. The mold as claimed in one of the preceding
20 claims, characterized in that all the annularly closed cutouts (81) are filled with the filler.

15. The mold as claimed in one of the preceding
claims, characterized in that the cutout (81, 82) runs
25 through the molding chamber block (1) in any desired spatial direction.

16. The mold as claimed in one of the preceding
claims, characterized in that at least two cutout [sic]
30 (81, 82) are connected by means of at least one connecting space (90), in particular bores.

17. The mold as claimed in one of the preceding
claims, characterized in that the connecting space (90)
35 is filled with filling material.

18. The mold as claimed in one of the preceding
claims, characterized in that the cutout (81, 82) is

WO 02/078920

PCT/DE02/01140

- 23 -

arranged in a corner region (86) of the molding chamber block (1).

19. The mold as claimed in one of the preceding
5 claims, characterized in that a prefabricated insert
(87) composed of filling material can be inserted into
or adhesively bonded into the cutout (81, 82).

Fetherstonhaugh & Co.
Ottawa, Canada
Patent Agents

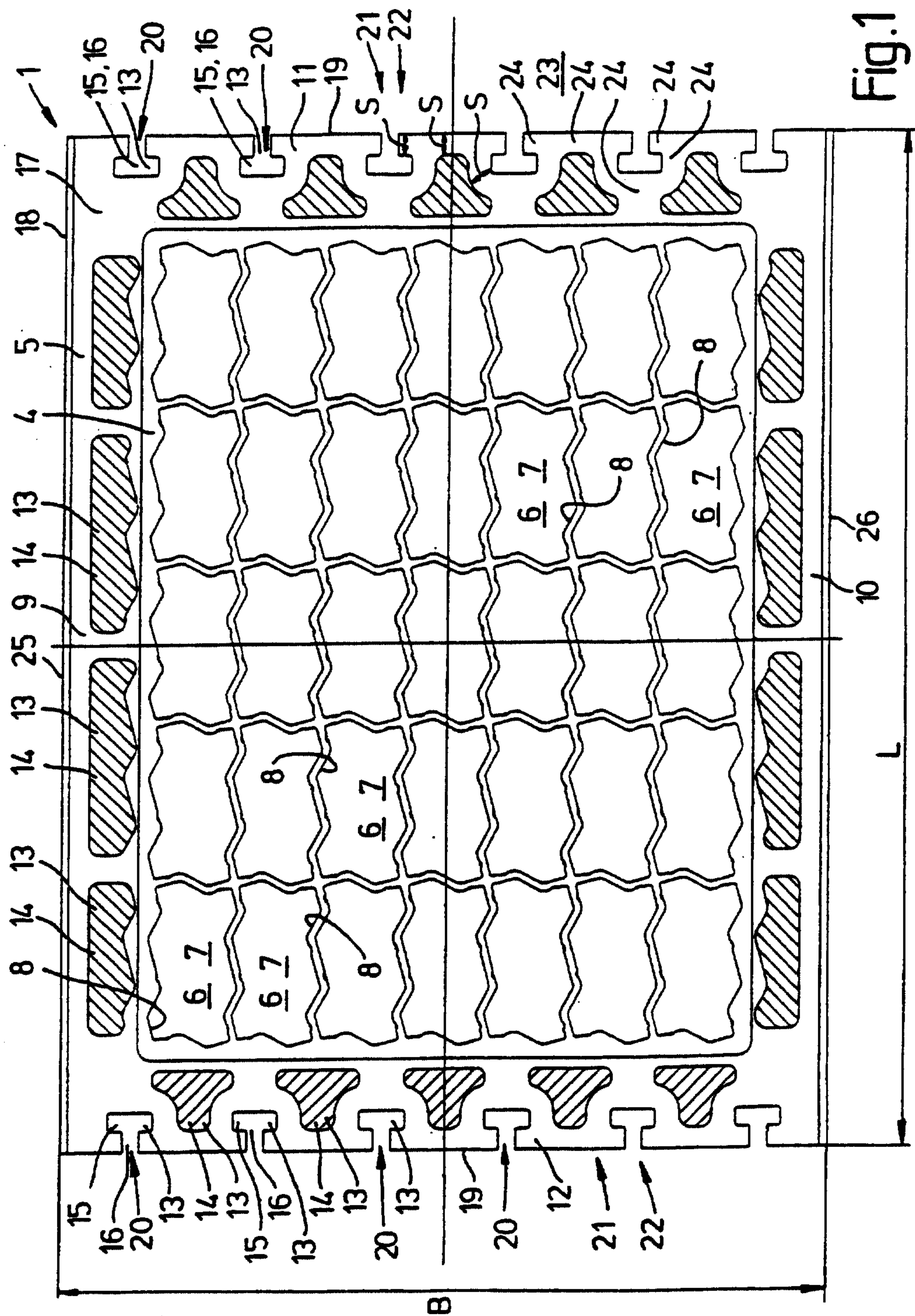
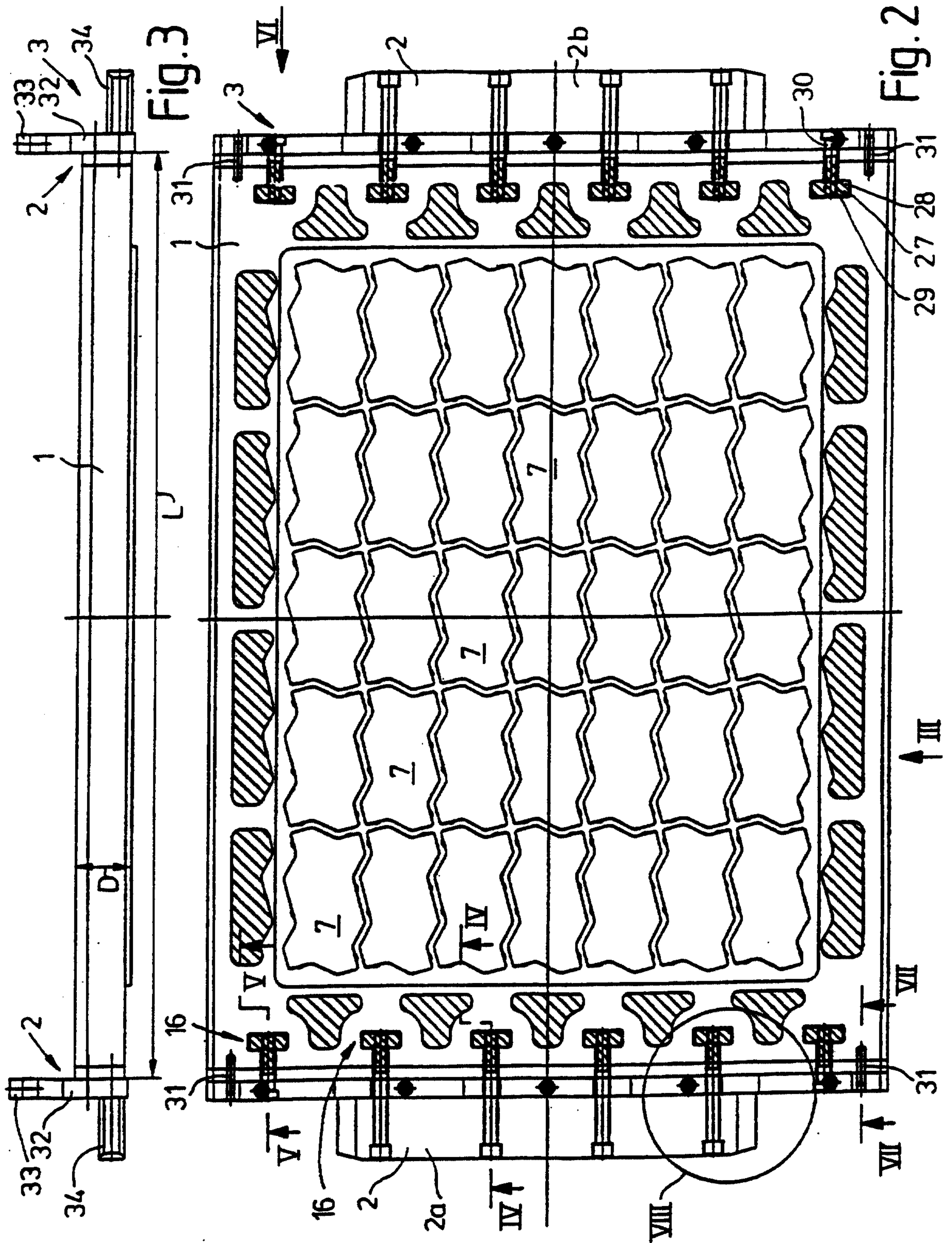
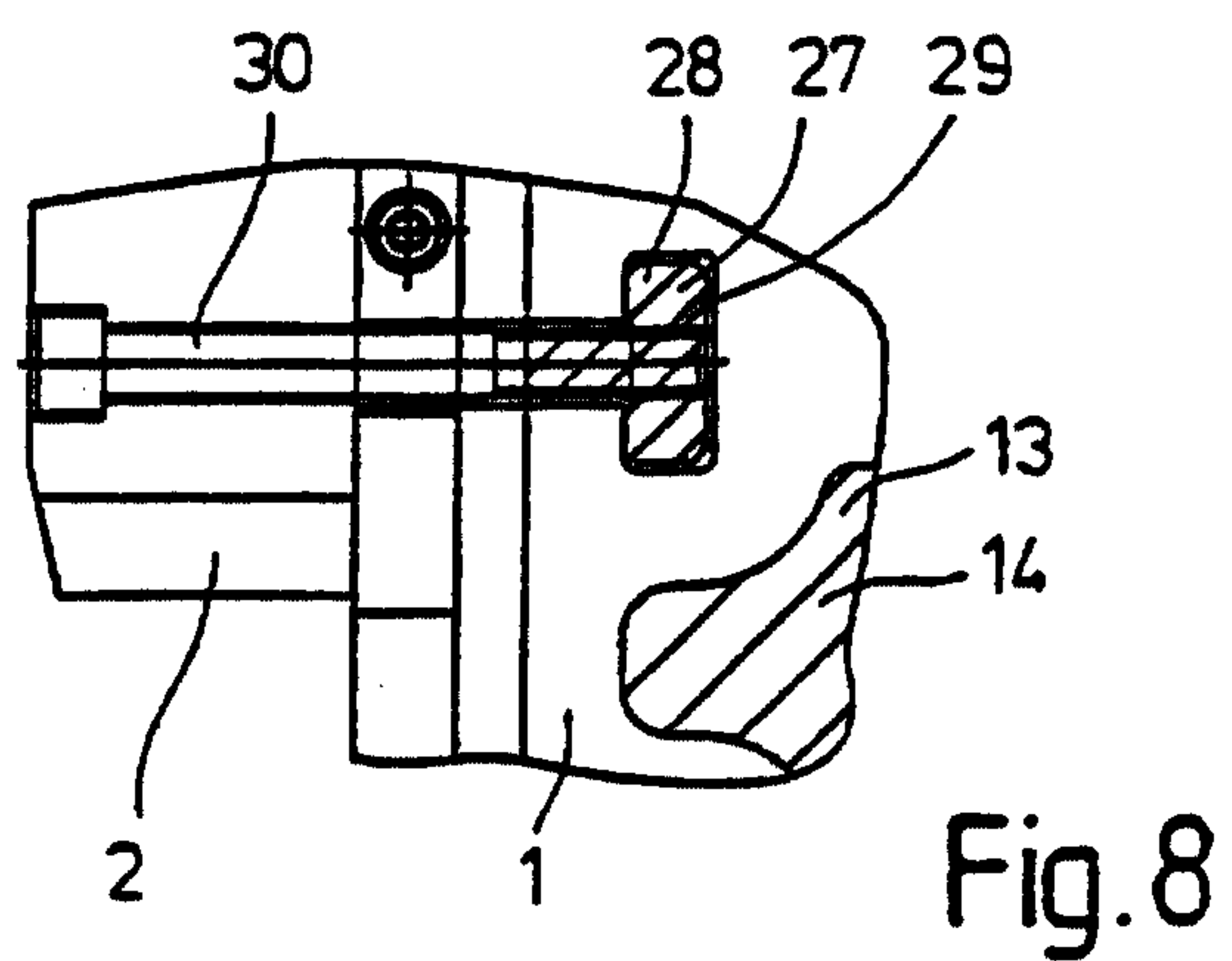
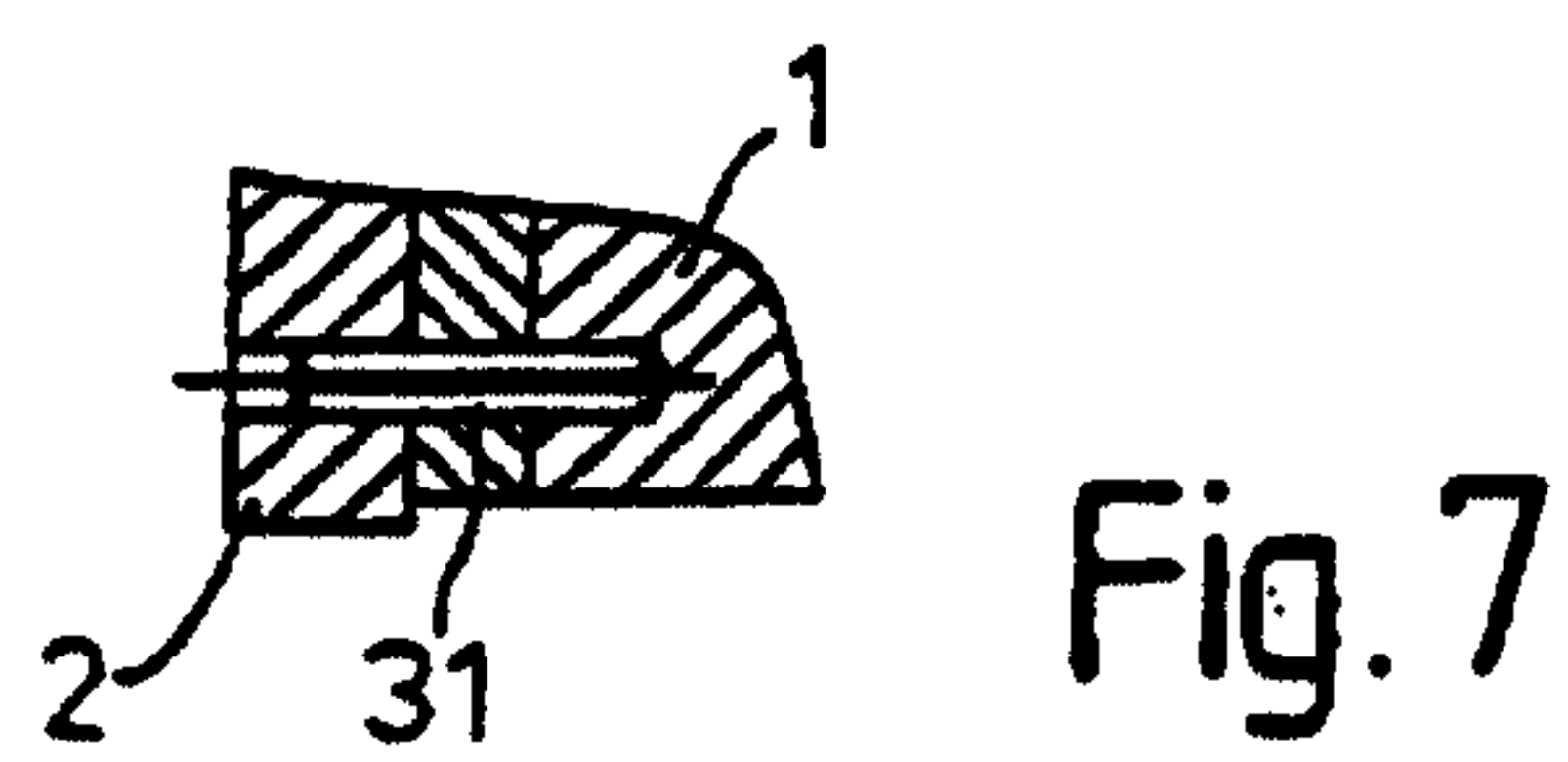
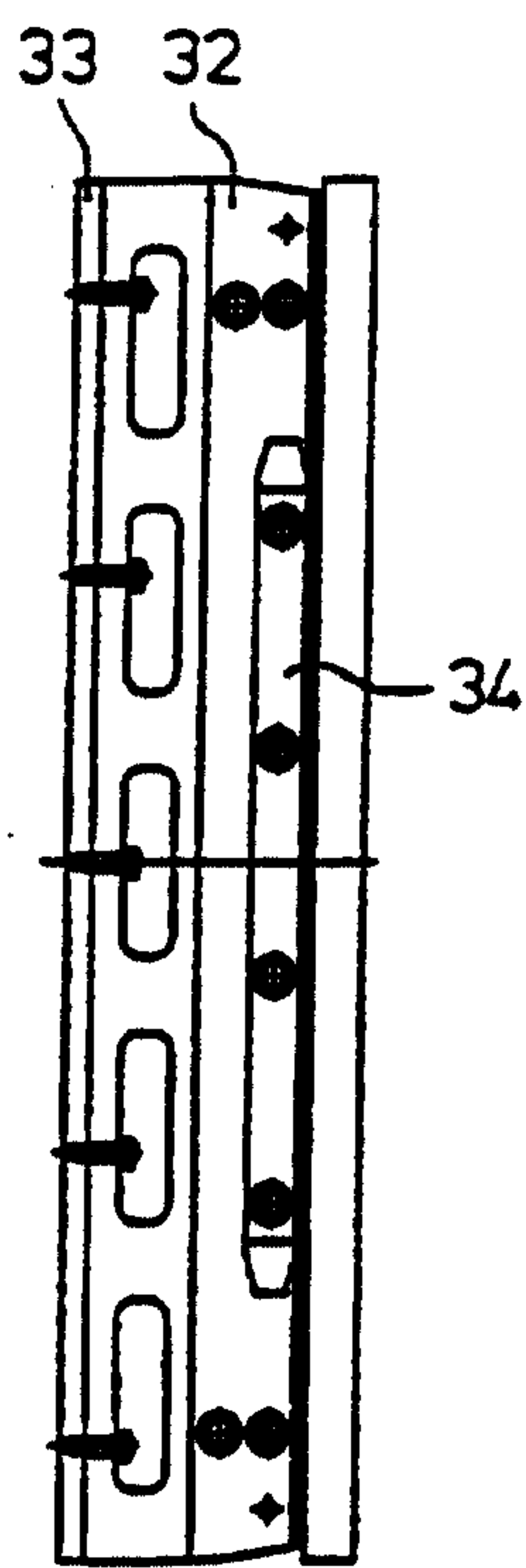
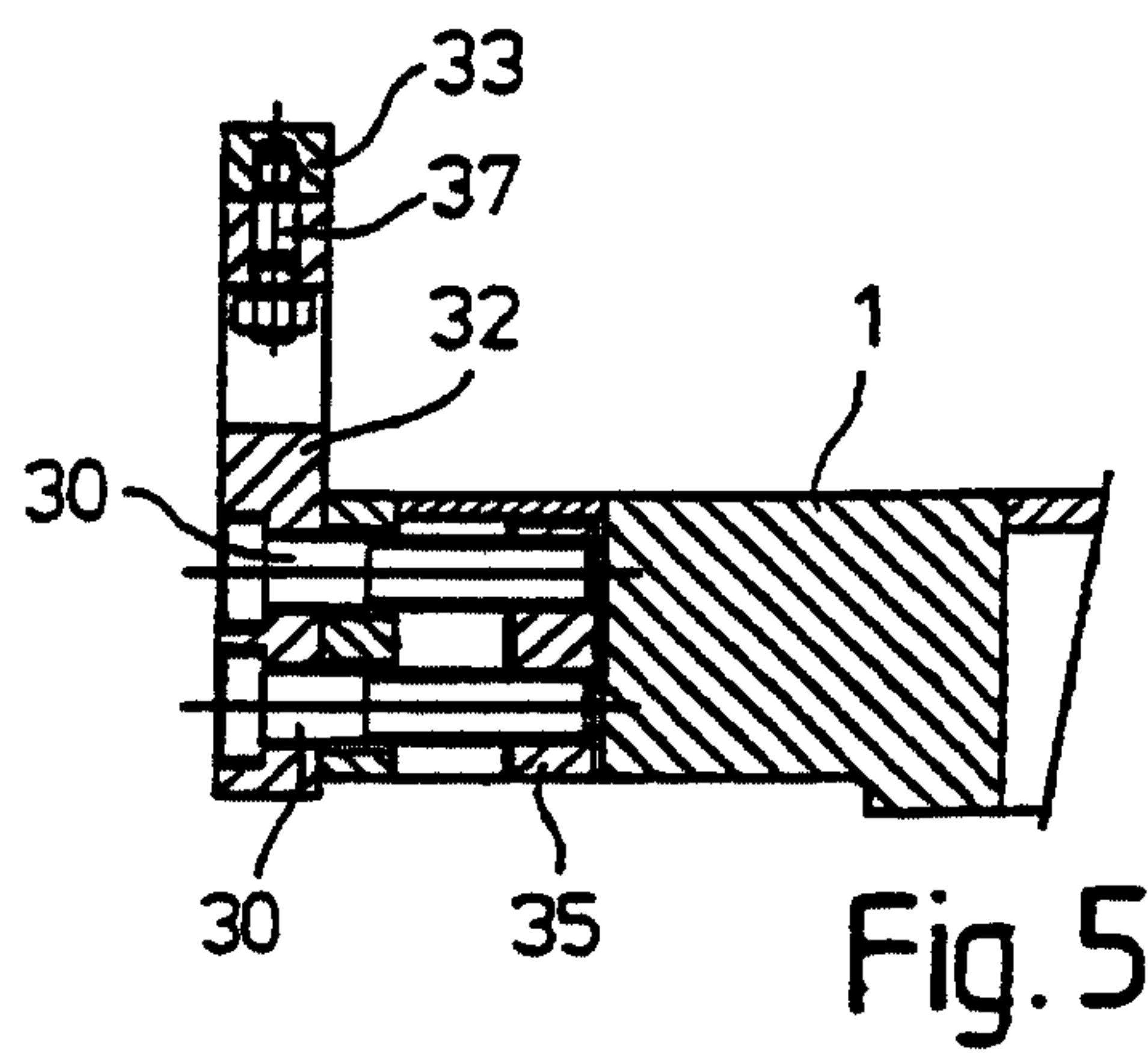
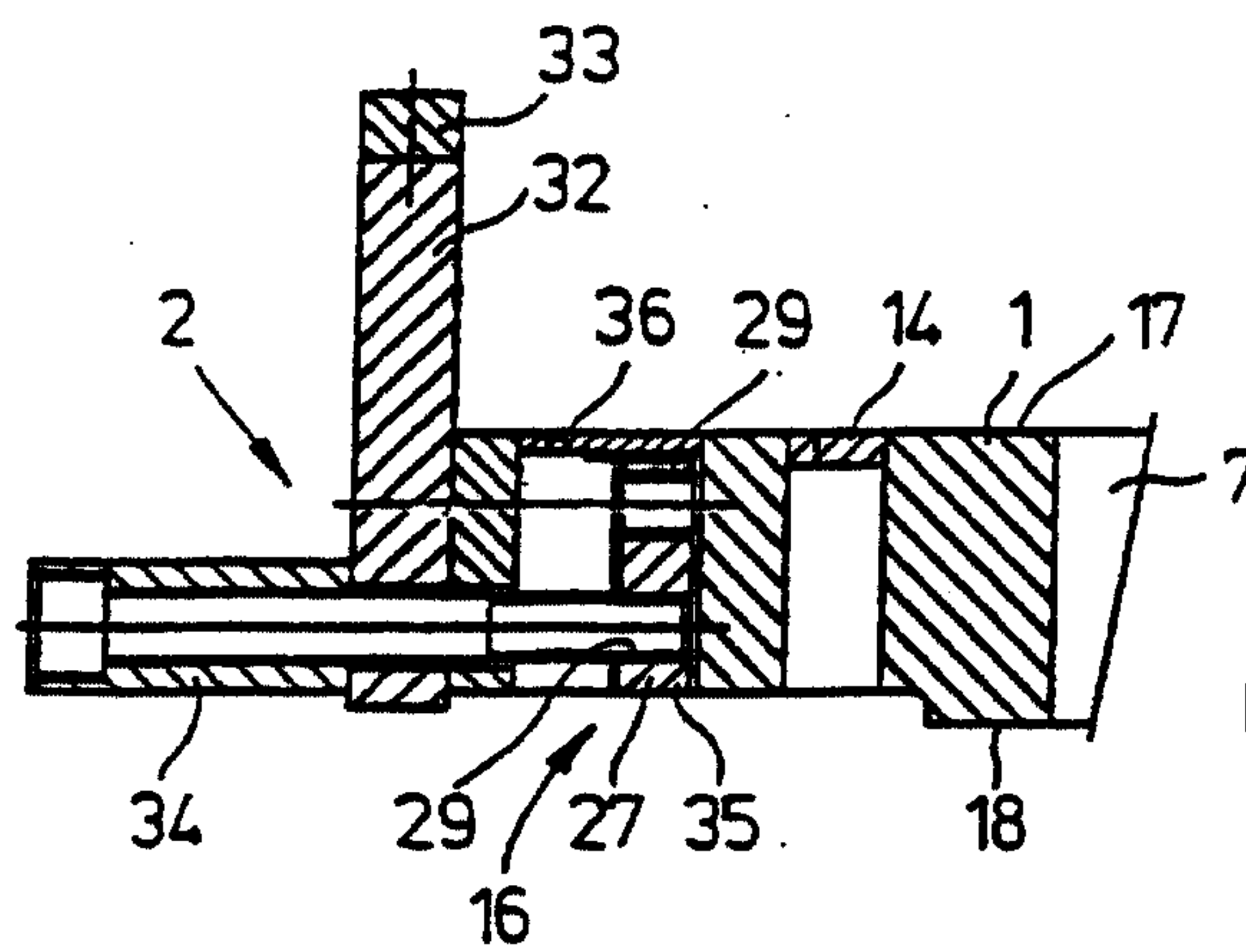


Fig. 1



3/11



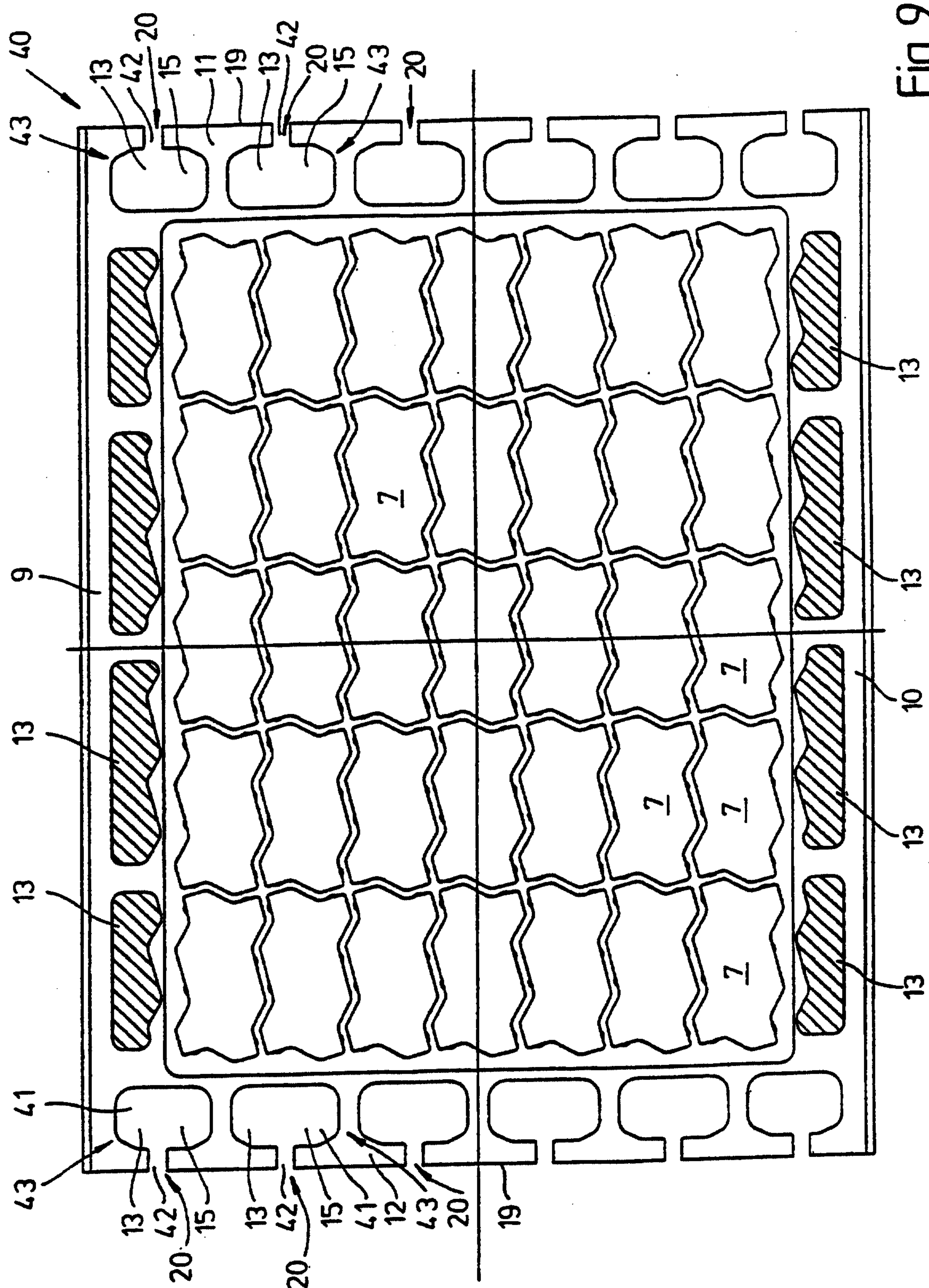
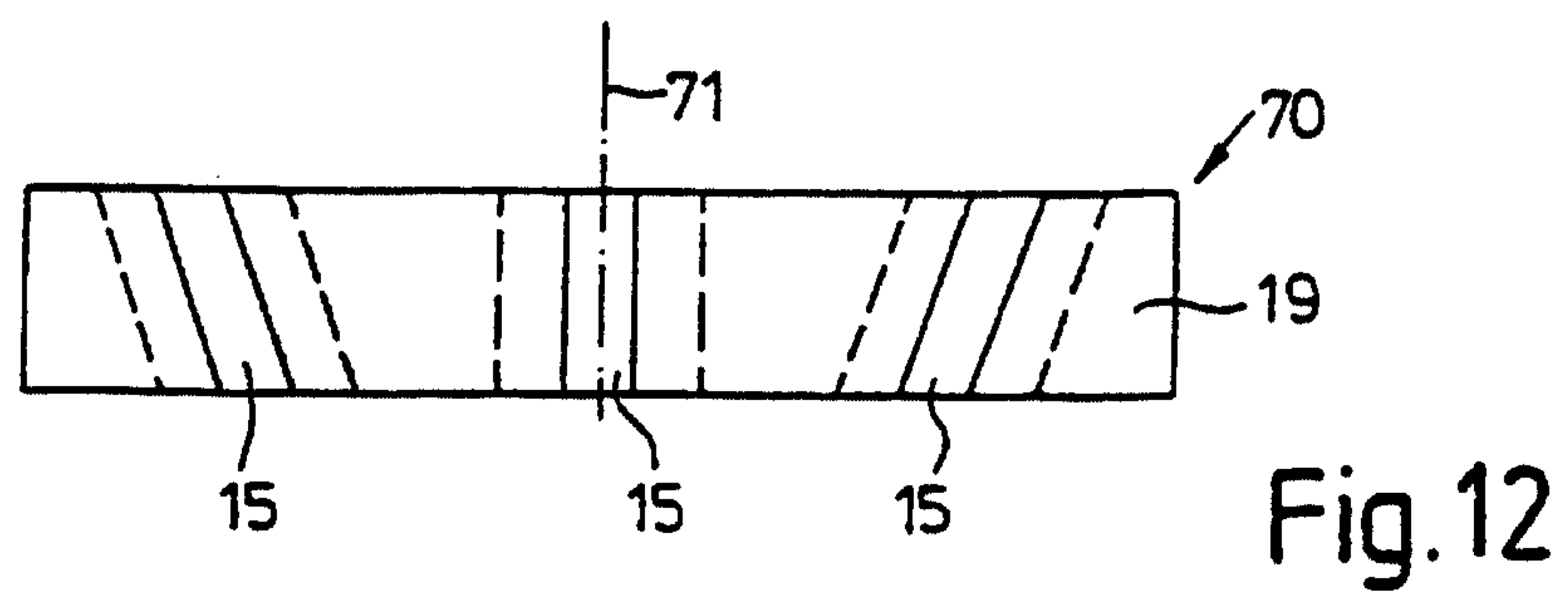
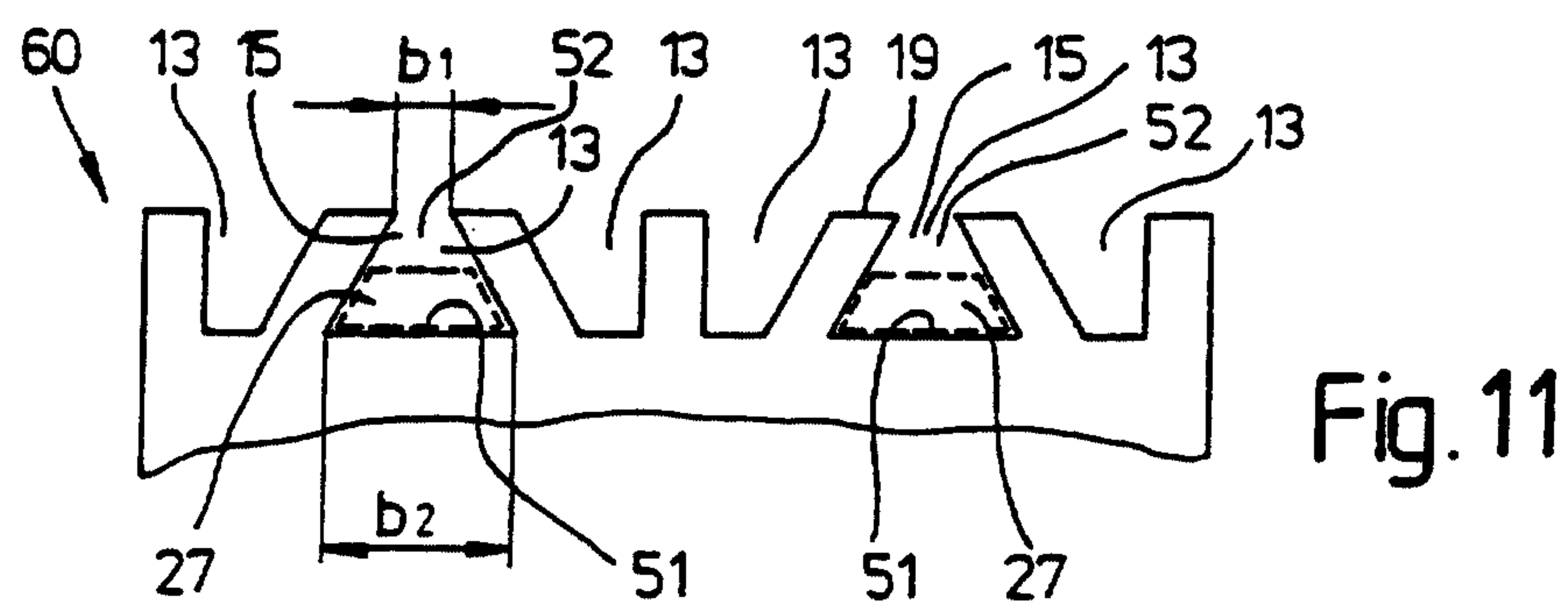
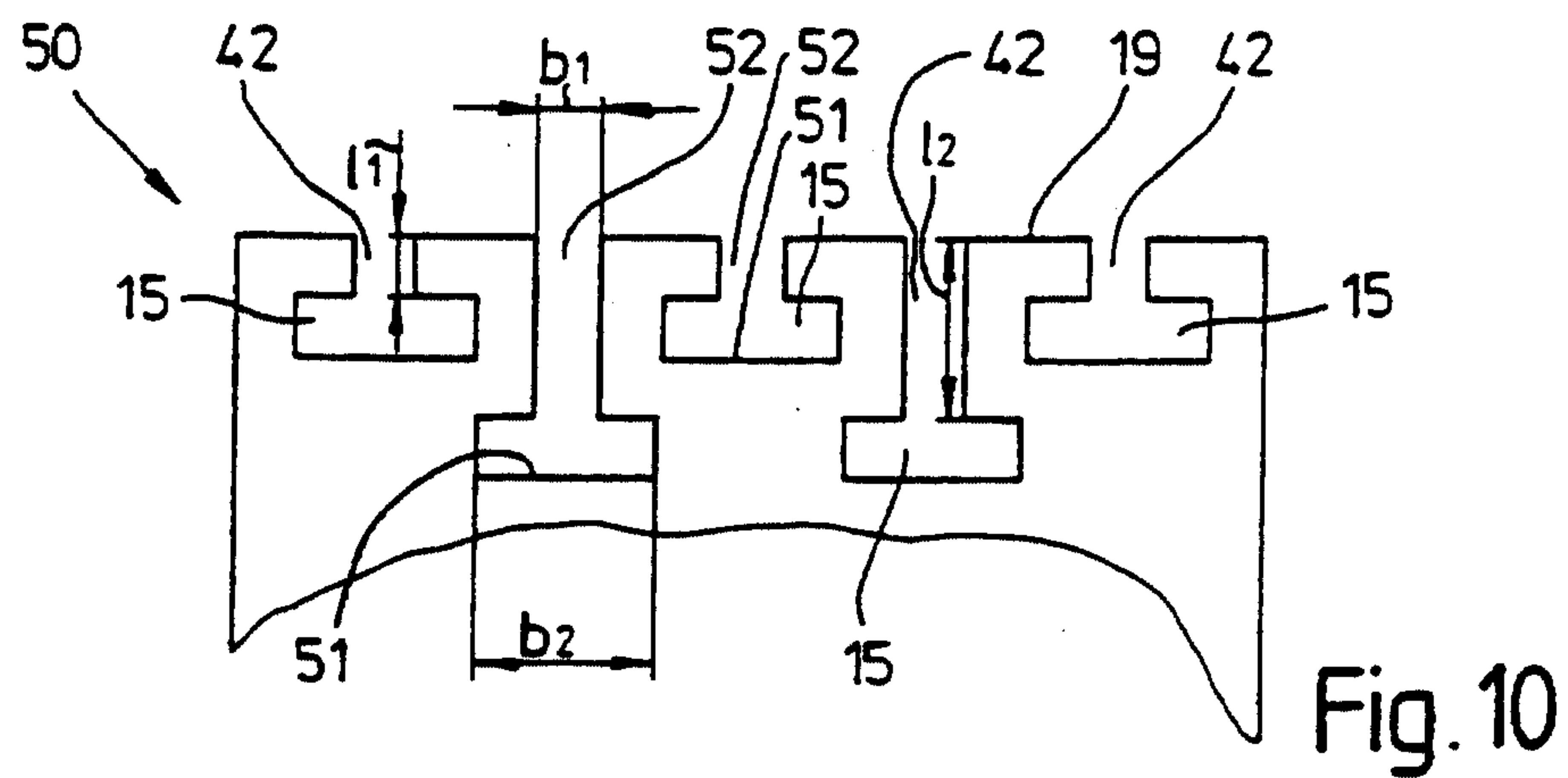
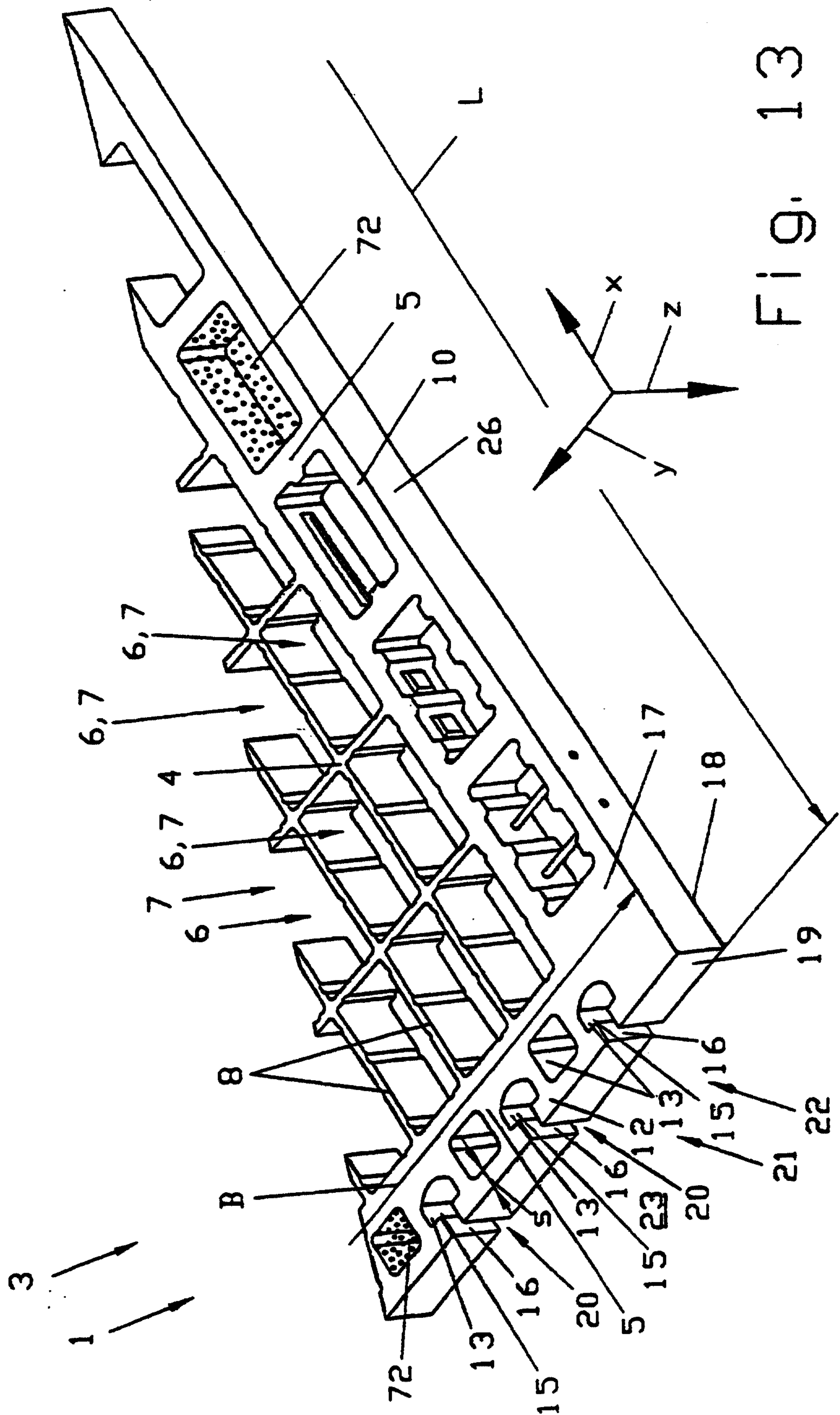
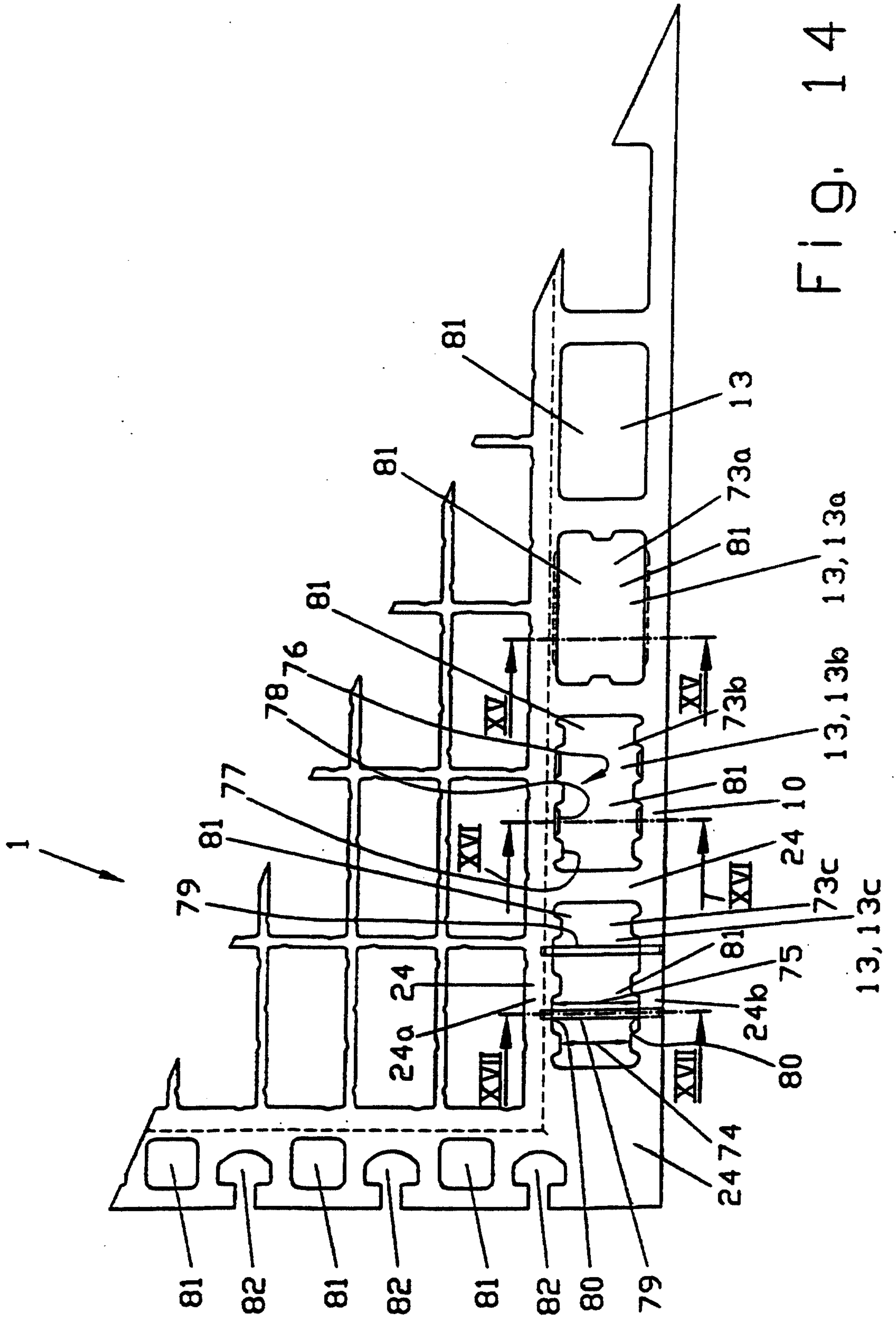


Fig. 9





REPLACEMENT SHEET (RULE 26)



8/11

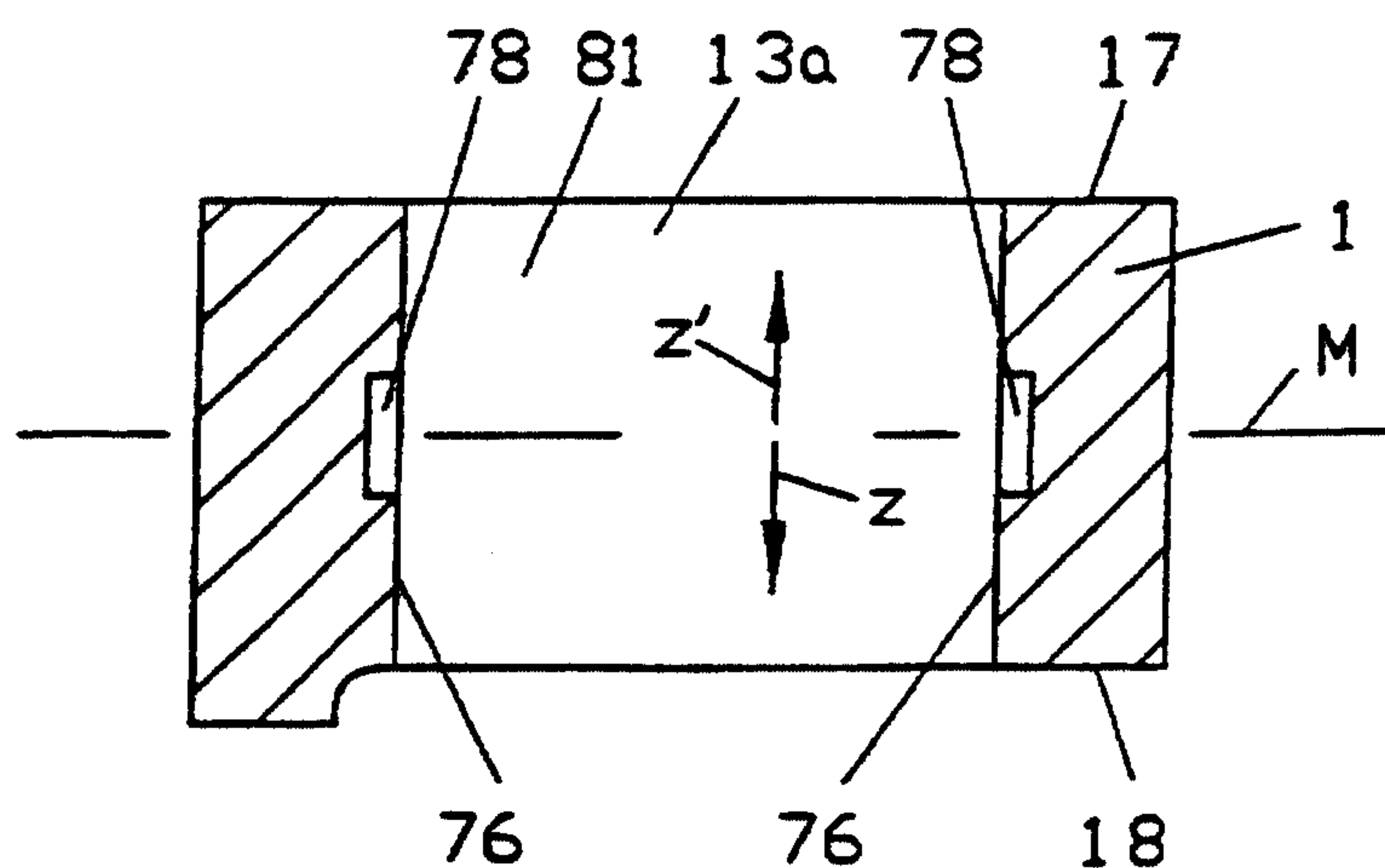


Fig. 15

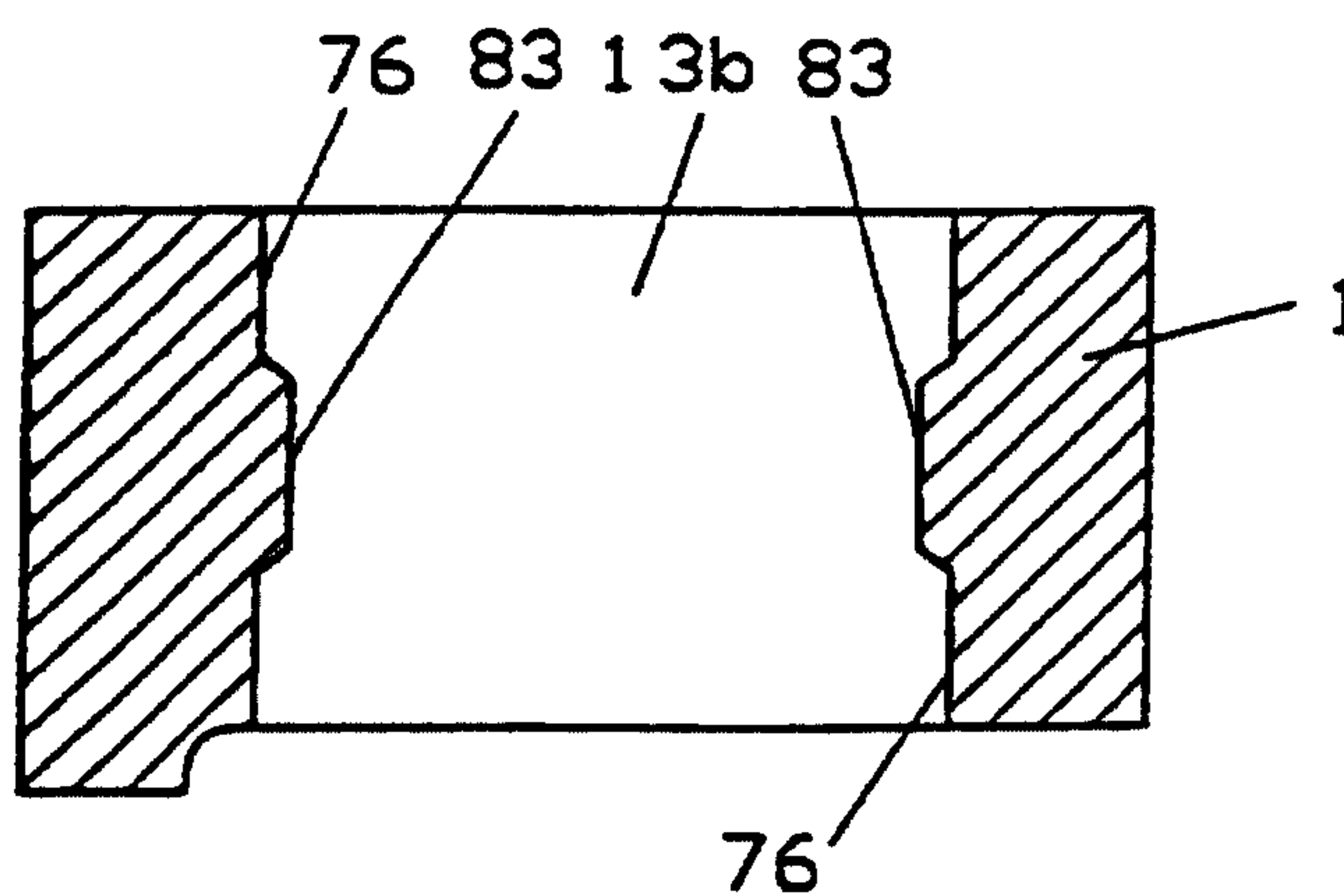


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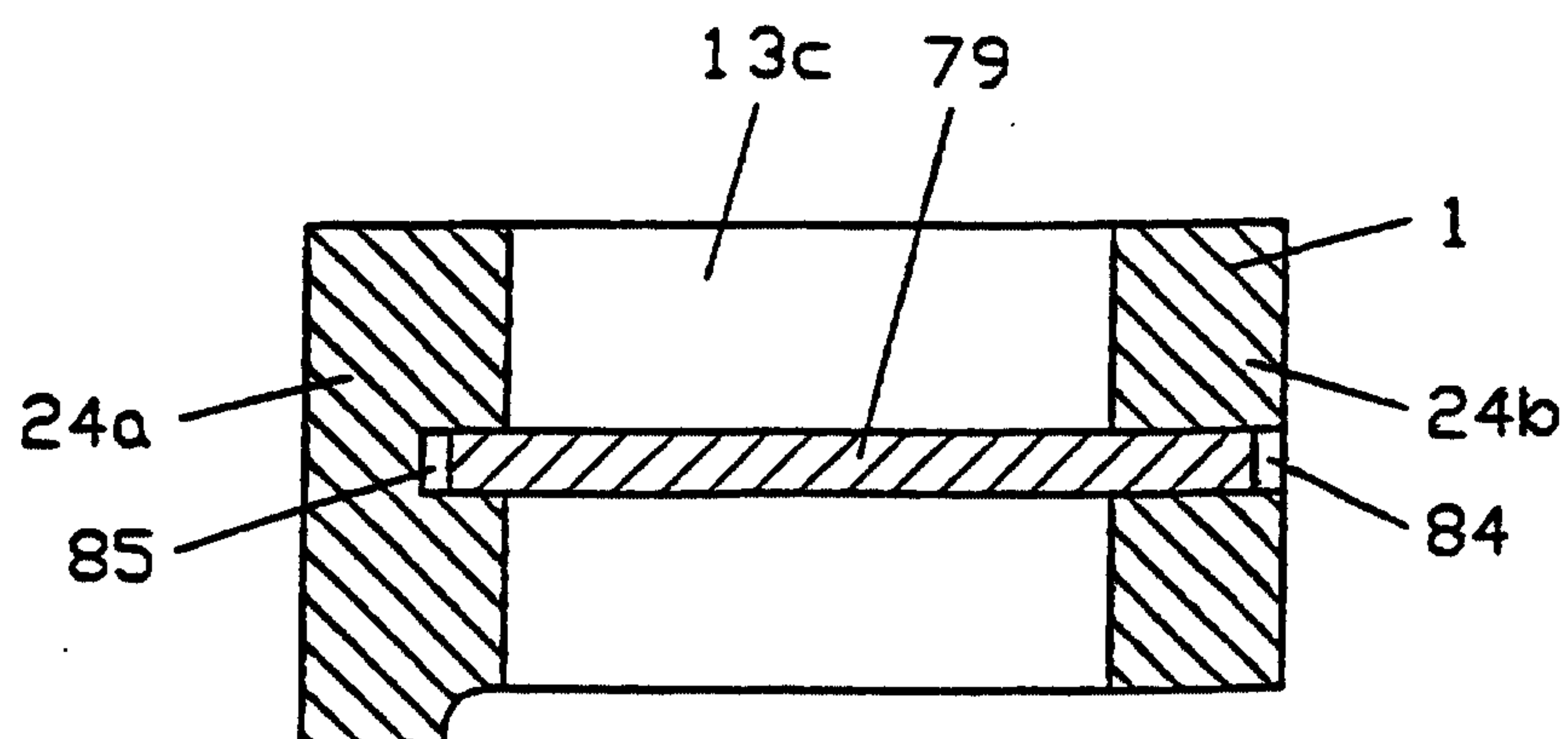
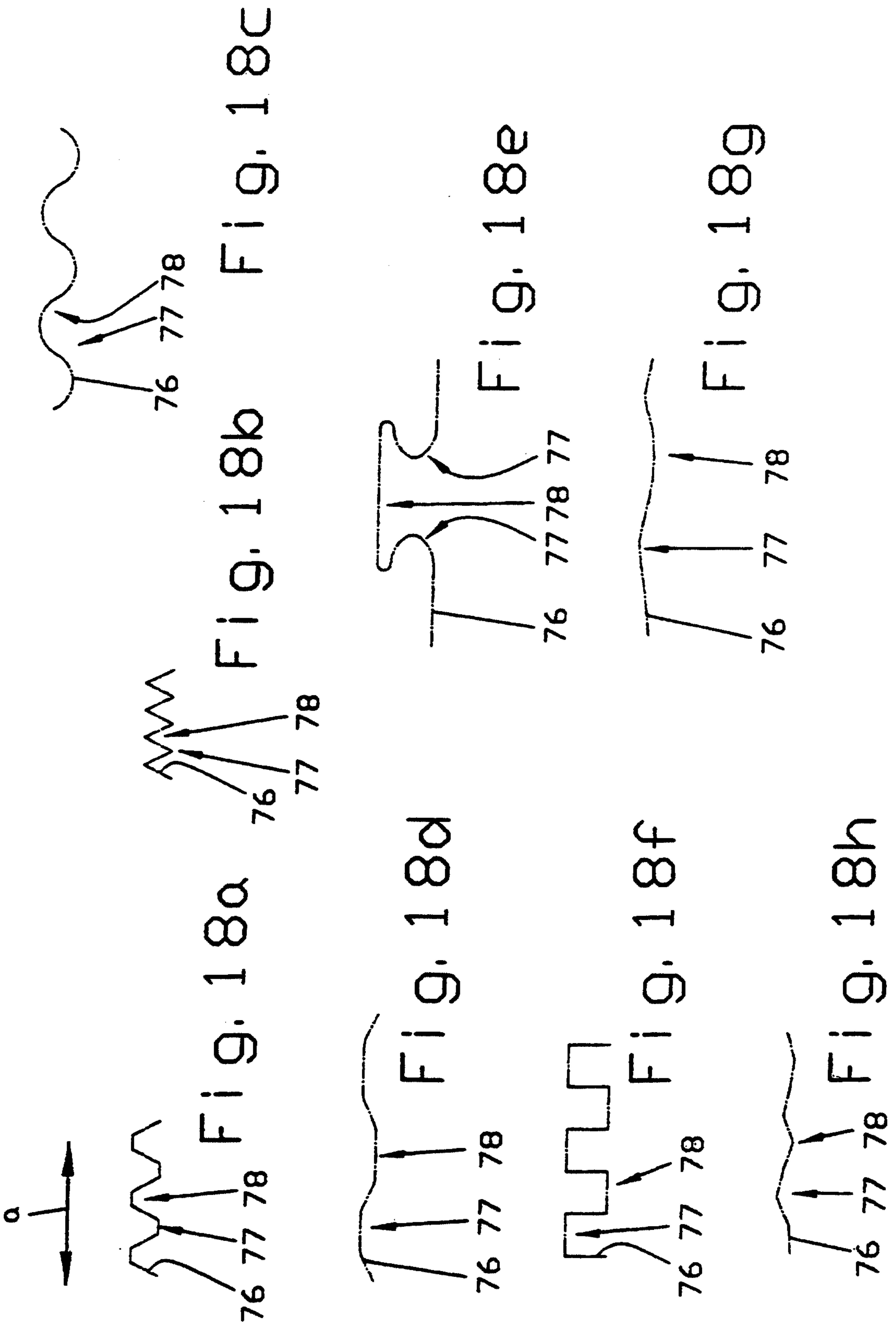


Fig. 17



10/11

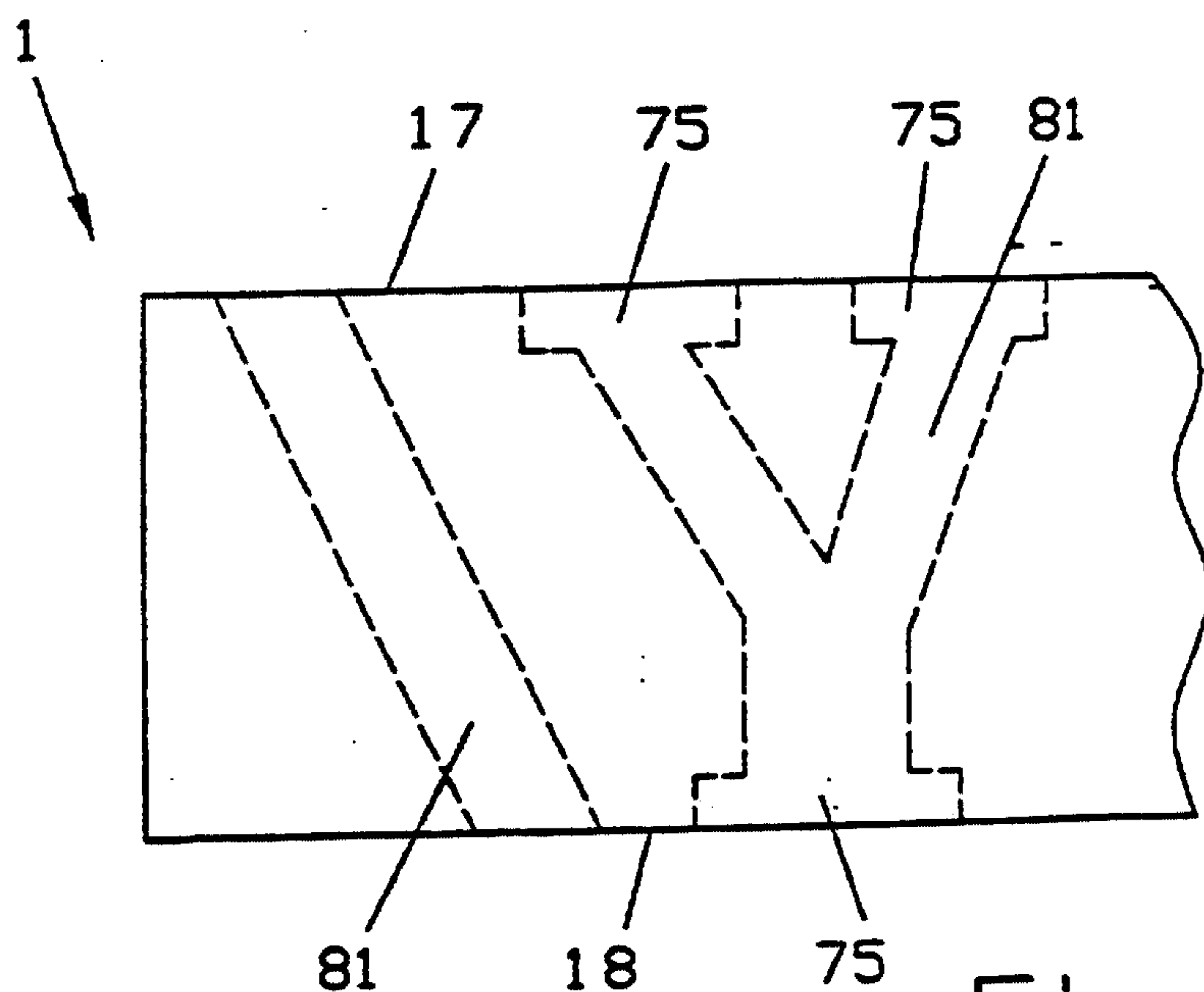


Fig. 19

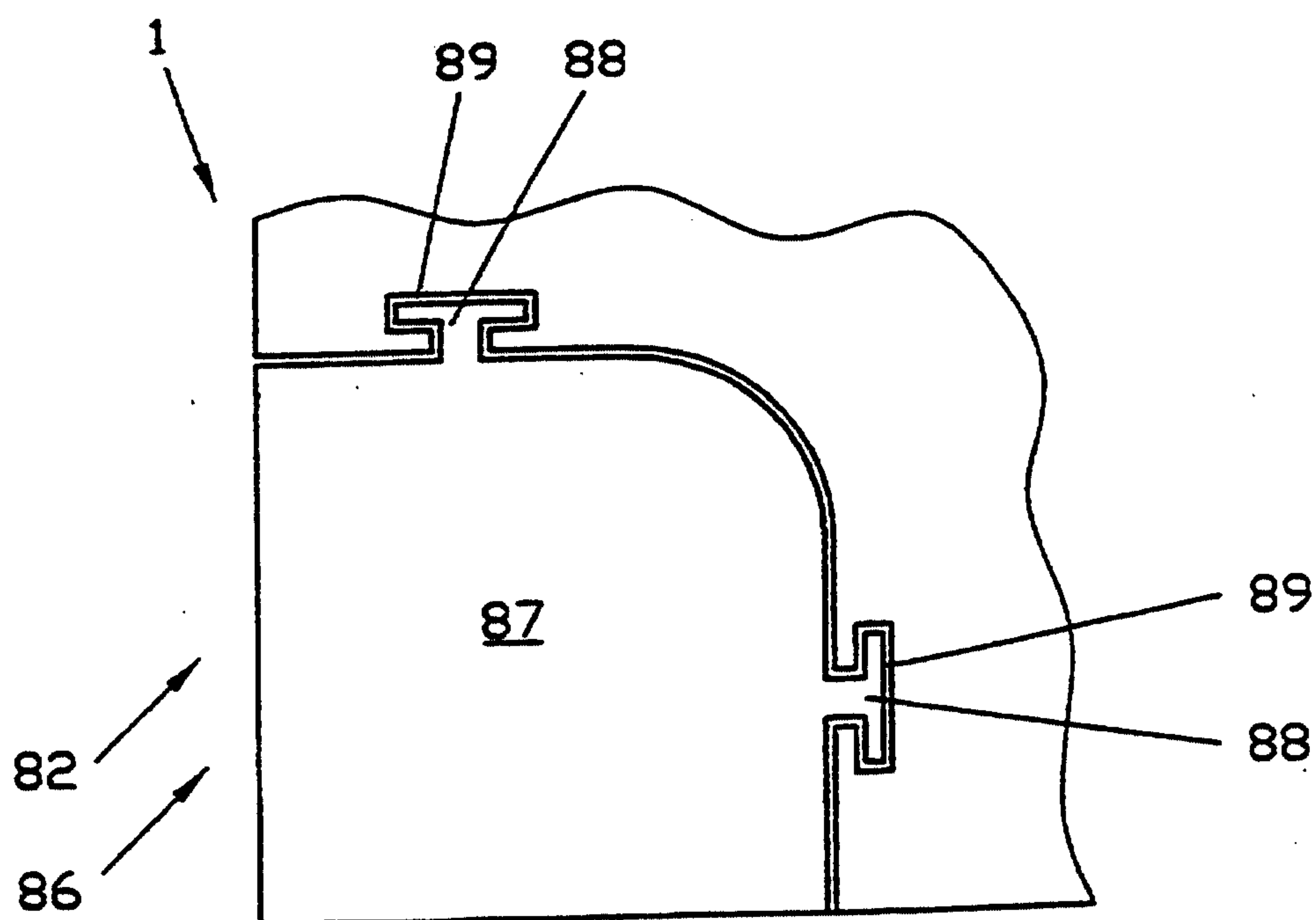


Fig. 20

11/11

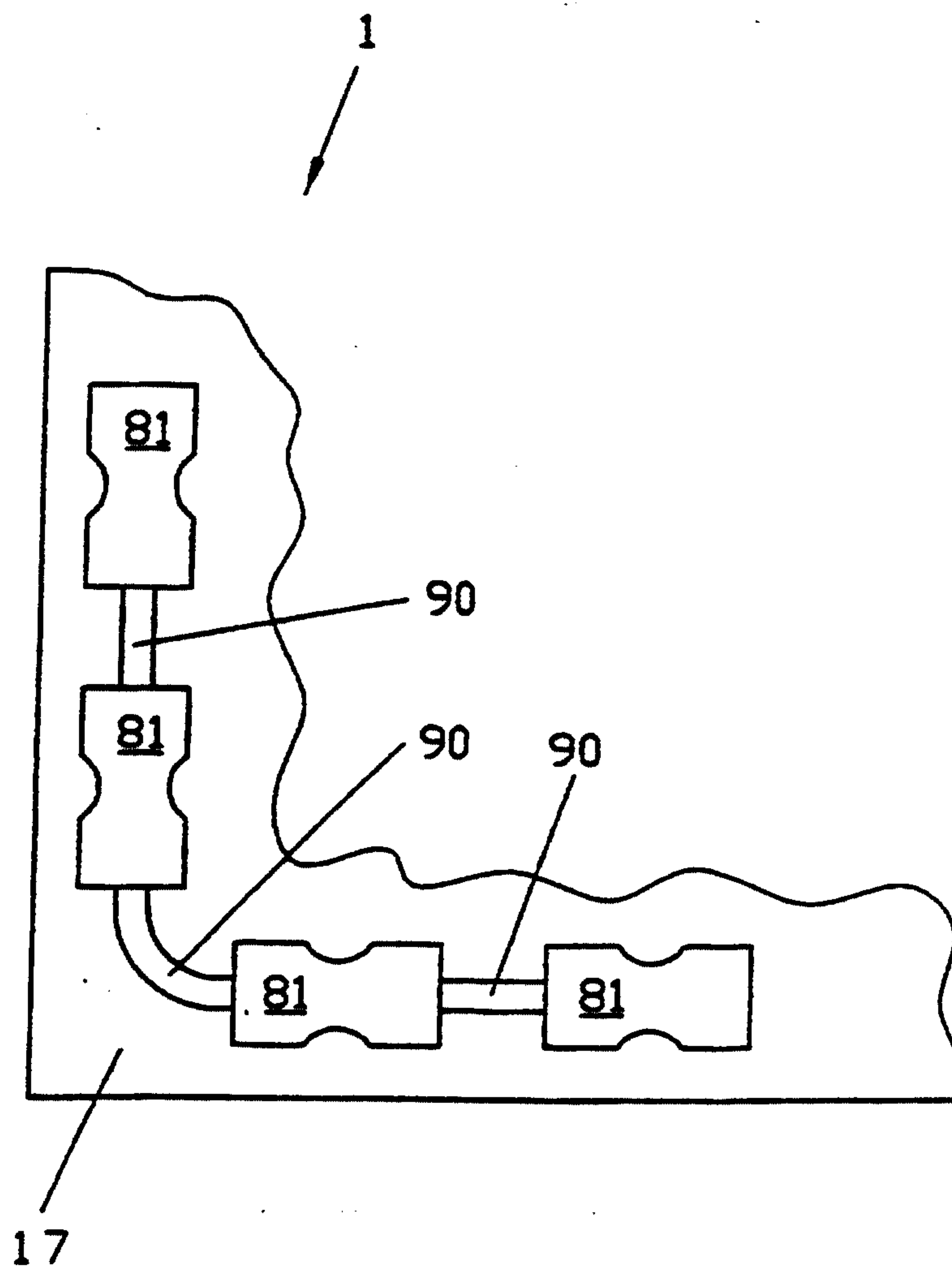


Fig. 21

