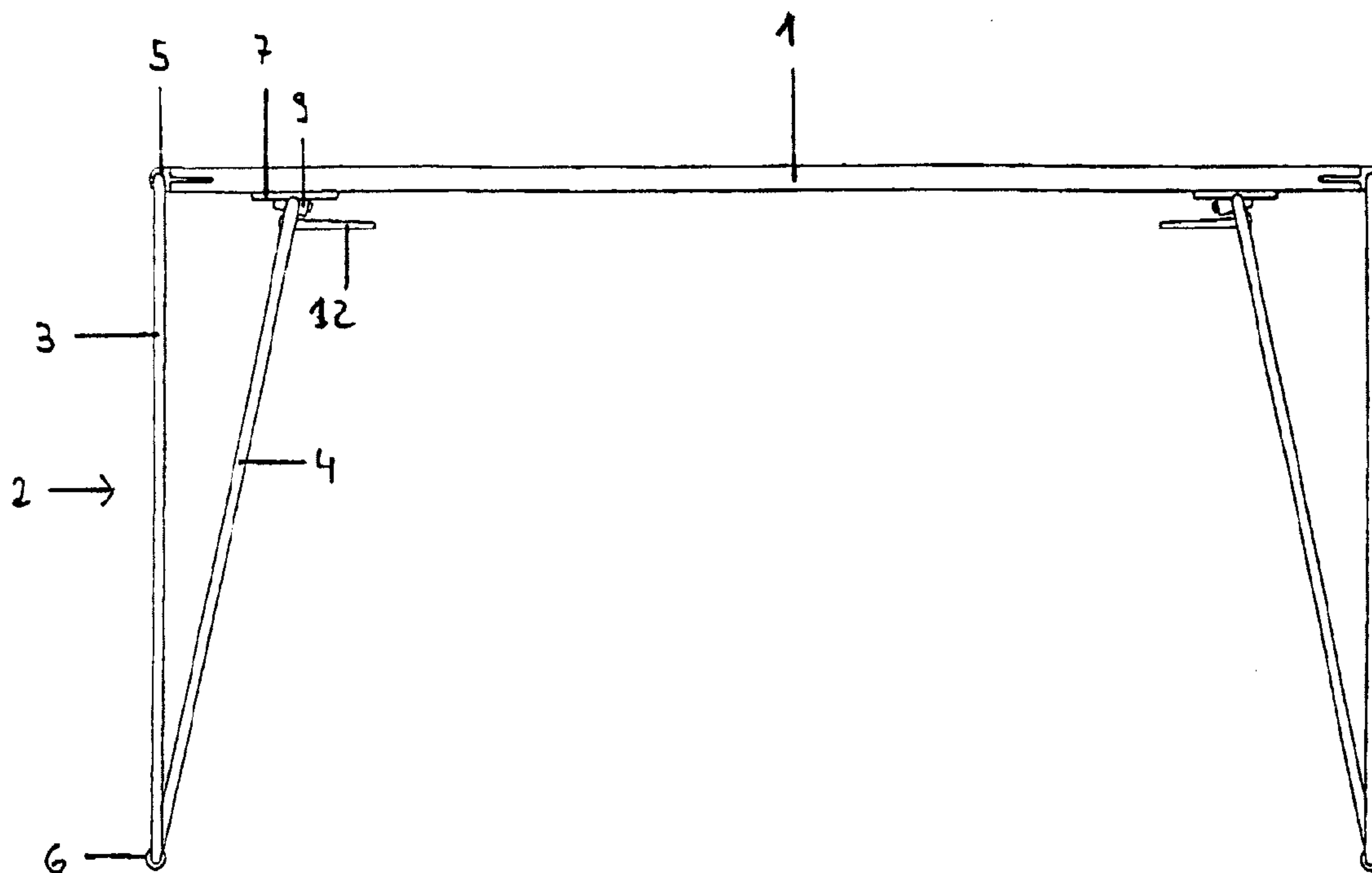




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(54) Titre : TABLE PLIANTE
(54) Title: FOLDING TABLE



(57) Abrégé/Abstract:

The invention relates to a folding table, consisting of a table top (1) and a folding steel wire frame (2) with four vertical struts (3) and four cross-struts (4). It is characterized by the fact that the vertical struts (3) on one hand are arranged on the top in a pivoting manner in a table front edge profile (5) that is firmly connected with the table top (1) and on the other hand are arranged on the bottom in rollers (6) in a horizontally non-pivoting manner, wherein the vertical struts (3) each are arranged only in half of the rollers (6) and in the other half of the rollers (6) the cross-struts (4) are arranged in a horizontally pivoting manner, and wherein the cross-struts (4) at their upper ends are fixed in an anchor plate (7), which is arranged on the bottom of the table top (1). The table with a filigree appearance exhibits good stability, can be transported easily and is well protected against damage due to scratching during assembly.

Abstract

The invention relates to a folding table, consisting of a table top (1) and a folding steel wire frame (2) with four vertical struts (3) and four cross-struts (4). It is characterized by the fact that the vertical struts (3) on one hand are arranged on the top in a pivoting manner in a table front edge profile (5) that is firmly connected with the table top (1) and on the other hand are arranged on the bottom in rollers (6) in a horizontally non-pivoting manner, wherein the vertical struts (3) each are arranged only in half of the rollers (6) and in the other half of the rollers (6) the cross-struts (4) are arranged in a horizontally pivoting manner, and wherein the cross-struts (4) at their upper ends are fixed in an anchor plate (7), which is arranged on the bottom of the table top (1). The table with a filigree appearance exhibits good stability, can be transported easily and is well protected against damage due to scratching during assembly.

Folding Table

Technical Field

The invention relates to the field of the furniture industry. It concerns a table with a folding frame and a method for folding the table.

State of the Art

Folding tables, which can be folded for space saving reasons during times of non-use or during transport, are known, for example the "Agenda" model by Dauphin or model no. 4950 by Kusch & Co. Due to their design, these familiar folding tables have a high continuous groove, in which a T-shaped folded steel tube frame submerges. The continuous groove and the relatively thick steel tube that is used are the cause for the fact that the folding tables generally have the disadvantage of appearing very bulky.

Tables with a steel wire frame, which exhibit a particular filigree appearance, such as model no. 6530/6533 by Casala or the "Tension" model by Paustian, are also known. The frames of these tables consist of a relatively thin steel wire. Due to the statically beneficial arrangement of the wire struts to the table top, sufficient stability of the frame is achieved despite the small material cross-section.

However, none of the steel wire frame tables available on the market has a folding frame.

Presentation of the Invention

The invention is an attempt to avoid the above-mentioned disadvantage of the familiar state of the art. It is based on the task of developing a table with a folding steel wire frame, which has very much a filigree appearance and can be easily folded.

Based on the invention, this is accomplished on a folding table consisting of a table top and a steel wire frame with four vertical struts and four cross-struts in that the vertical struts on one hand are arranged in a pivoting manner on the top in a table front edge profile that is firmly connected with the table top and on the other hand on the bottom are seated in a horizontally non-pivoting manner in rollers, wherein the vertical struts each are arranged only in half of the rollers and in the other half of the rollers the cross-struts are seated in a horizontally pivoting manner, and wherein the cross-struts at their upper ends are fixed in an anchor plate that is arranged on the bottom of the table top.

The benefits of the invention consist of the fact that with the comparatively thin steel wire a statically beneficial triangle structure of forces is realized, which enables a stable table frame despite two loose joint areas.

It is useful when the anchor plate contains a pan, in which a slotted cylindrical tightening disk with a milled end face and a rubber buffer is arranged in an interlocking manner, wherein the tightening disk can be pressed into the anchor plate with a control lever, which is connected with the anchor plate in a pivoting manner around the horizontal axis via a pin, which is arranged centrally in the pan, and is guided in the penetration area of the anchor plate in a non-pivoting manner due to a square cross-section, wherein the

pin is screwed together with a nut on the side of the anchor plate that is allocated to the upper table side and a disk spring is arranged between the nut and the anchor plate. The disk spring beneficially compensates for possible tolerances when moving the control lever and thus ensures that the tightening disk is pressed into the pan of the anchor plate always with a constant force. The rubber buffer of the tightening disk prevents a scratching of the table top during stacking in the folded state.

Furthermore it is useful when the table front edge profile is connected firmly with the table top through a tongue that is arranged in a notch of the table top.

Additionally it is beneficial when the table front edge profile contains a hollow space, in which a bumper strip is arranged. This way damage due to scratching can be avoided, such as that created when the front edges of several tables bump against each other.

Finally it is beneficial when the rollers are covered by rubber hoses because this way damage on the floor due to scratching and during stacking of the tables in the folded state is avoided.

It is also beneficial to use a honeycomb table top because this way the overall weight of the table is especially low.

For the purpose of folding the frame, the control lever must be swiveled by 180° and the tightening disk be swiveled out of the pan, specifically about the axis of rotation of the roller, wherein subsequently the vertical struts and the cross-struts are placed onto the table bottom – flat and unfolded about the axis of rotation of the rollers – so that two of the four rollers rest against the bottom of the table top.

Brief Description of the Drawing

The drawing depicts an embodiment of the invention.

It shows:

Fig. 1 a side view of the longitudinal side of an invented folding table;

Fig. 2 a side view of the front of an invented folding table;

Fig. 3 a section through the anchor plate and tightening disk along the line III-III in Fig. 2;

Fig. 4 a section through the tightening disk along the line IV-IV in Fig. 3;

Fig. 5 a section through the anchor plate along the line V-V in Fig. 3;

Fig. 6 a side view of three stacked folded tables in accordance with the invention, and

Fig. 7 a side view of the table edge profile.

Only elements that are important for gaining an understanding of the invention are shown.

Ways for Executing the Invention

The following describes the invention more in detail based on an example and the figures 1 through 7.

Fig. 1 depicts a side view of the longitudinal side and Fig. 2 a side view of the front of the invented folding table. Both figures should be viewed together for a better understanding. The table consists of a table top 1 and a folding steel wire frame 2 of filigree appearance. The steel wire frame 2 in turn consists of four vertical struts 3 and four cross-struts 4. The vertical struts 3 are seated in a pivoting manner at their upper

ends in a table front edge profile 5, which is described more in detail below in Fig. 6. On the bottom, the vertical struts 3 are seated in rollers 6 in a non-pivoting manner. The vertical struts 3, however, are arranged only in half of the rollers 6, i.e. to the middle of the rollers 6. In the other half of the rollers 6, the cross-struts 4 are seated in a pivoting manner, i.e. the cross-struts 4 are seated in a pivoting manner on their bottom ends. On their upper ends, by contrast, they are fixed firmly in the anchor plate 7 on the bottom of the table top 1. This way a triangle structure of forces is created, which makes a very stable table frame possible despite the two loose joint areas. The invented folding table is thus stable, yet has a filigree appearance.

Fig. 3 depicts a section through the anchor plate and tightening disk along the line III-III in Fig. 2, while Fig. 4 shows a section through the tightening disk 9 along the line IV-IV in Fig. 3. These figures explain the anchoring of the cross-strut 4 in the anchor plate 7. For this purpose the anchor plate 7 contains a pan 8, in which a slotted cylindrical tightening disk 9 with a milled end face 10 and a rubber buffer 11 are arranged in an interlocking manner. The tightening disk 9 is pressed into the anchor plate 7 through a control lever 12. The control lever 12 is connected with the anchor plate 7 via a pin 13, which is arranged centrally in the pan 8, in such a way that it can pivot about the horizontal axis.

Fig. 5 shows a section through the anchor plate 7 along the line V-V in Fig. 3. It shows that in the penetration area of the anchor plate 7 the pin 13 takes on a square cross-section so that it is guided in a non-pivoting manner in this area. The pin 13 is additionally screwed together with a nut 14 on the side of the anchor plate 7 that is allocated to the table top 1. Between the nut 14 and the anchor plate 7, a disk spring 15 is arranged. The disk spring 15 compensates for possible tolerances when moving the control lever 12 and thus ensures that the tightening disk 9 is pressed into the pan 8 of the anchor plate always with the same force.

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For the purpose of folding the steel wire frame 2, the control lever 12 is swiveled by 180° and the tightening disk 9 is swiveled out of the pan 8 of the anchor plate 7, specifically about the axis of rotation 16 of the rollers 6. Then the vertical struts 3 and the cross-struts 4 are placed on the bottom of the table top 1 – flat and unfolded about the axis of rotation 16 of the rollers 6.

This can be viewed well in Fig. 6, which depicts a side view of three stacked folded tables in accordance with the invention. In the folded state, two of the four rollers 6 rests against the bottom of the table top 1. The other two rollers 6 serve as stacking buffers during the space-saving stacking of the invented folding tables. So as not to scratch the next table top 1 on top, the rollers 6 are covered by a rubber hose. Furthermore, the next table top 1 also rests on top of the rubber buffers 11 of the tightening disks 9. The folding table can thus do without an aesthetically disadvantageous continuous groove into which the folding frame is swiveled.

The vertical struts 3 beneficially serve as carrying handles in the folded state of the tables. The table can thus be transported easily. The use of e.g. honeycomb table tops, which contribute to a lighter weight of the table and therefore make it easier to handle, is also beneficial.

Fig. 7 shows a table front edge profile 5 more in detail. In this table front edge profile 5, the vertical struts 3 are seated in a pivoting manner. The table front edge profile 5 is firmly connected with the table top 1 through a tongue 17 in a slot of the table top 1. It is beneficial if, as shown in Fig. 7, the table front edge profile 5 contains a hollow space, into which a bumper strip 18 is placed. This way damage due to scratching can be prevented, which can be caused when the front edges of the table tops 1 bump against each other.

Of course, the invention is not limited to the described example.

Reference List

- 1 Table Top
- 2 Steel Wire Frame
- 3 Vertical Struts
- 4 Cross-Struts
- 5 Table Front Edge Profile
- 6 Roller
- 7 Anchor Plate
- 8 Pan
- 9 Slotted Tightening Disk
- 10 End Face of Pos. 8
- 11 Rubber Buffer of Pos. 8
- 12 Control Lever
- 13 Pin
- 14 Nut
- 15 Disk Spring
- 16 Axis of Rotation of Pos. 6
- 17 Tongue of Pos. 5
- 18 Bumper Strip

Patent Claims

1. Folding table, consisting of a table top (1) and a folding steel wire frame (2) with four vertical struts (3) and four cross-struts (4), characterized by the fact that the vertical struts (3) on one hand are arranged on the top in a pivoting manner in a table front edge profile (5) that is firmly connected with the table top (1) and on the other hand are arranged on the bottom in rollers (6) in a horizontally non-pivoting manner, wherein the vertical struts (3) each are arranged only in half of the rollers (6) and in the other half of the rollers (6) the cross-struts (4) are arranged in a horizontally pivoting manner, and wherein the cross-struts (4) at their upper ends are fixed in an anchor plate (7), which is arranged on the bottom of the table top (1).

2. Folding table pursuant to claim 1, characterized by the fact that the anchor plate (7) contains a pan (8), in which a slotted cylindrical tightening disk (9) with a milled end face (10) and a rubber buffer (11) are arranged in an interlocking manner, wherein the tightening disk (9) can be pressed into the anchor plate (7) with a control lever (12), which is connected so as to be able to pivot about the horizontal axis with the anchor plate (7) via a pin (14) that is centrally arranged in the pan (8) and which in the penetration area of the anchor plate (7) has a square cross-section and can therefore not pivot, wherein the pin (13) is screwed together with a nut (14) on the side of the anchor plate (7) that is allocated to the table top (1) and a disk spring (15) is arranged between the nut (14) and the anchor plate (7).

3. Folding table pursuant to claim 1, characterized by the fact that the table front edge profile (5) is firmly connected with the table top (1) through a tongue (17) that is arranged in a slot of the table top (1).
4. Folding table pursuant to claim 1, characterized by the fact that the table front edge profile (5) contains a hollow space, in which a bumper strip (18) is arranged.
5. Folding table pursuant to one of the claims 1 through 4, characterized by the fact that the rollers (6) are covered by a rubber hose.
6. Folding table pursuant to one of the claims 1 through 5, characterized by the fact that the table top (1) takes on a honeycomb design.
7. Method for folding the steel wire frame (2) of a folding table pursuant to the claims 1 through 6, characterized by the fact that the control lever (12) is swiveled by 180° and the tightening disk (9) is swiveled out of the pan (8), specifically about the axis of rotation (16) of the roller (6), wherein subsequently the vertical struts (3) and the cross-struts (4) are placed against the bottom of the table top (1) – flat and unfolded about the axis of rotation (16) of the rollers (6) – so that two of the four rollers (6) rest against the bottom of the table top (1).

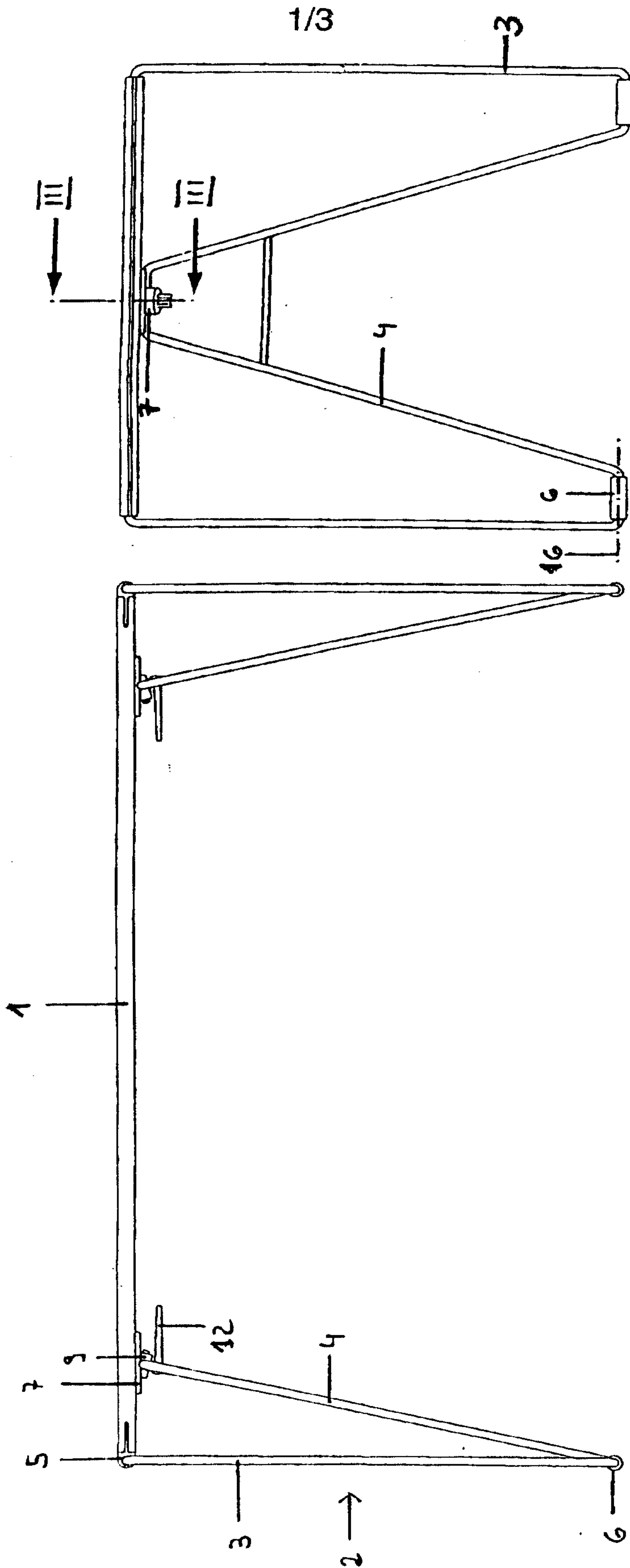


Fig. 1

Fig. 2

2/3

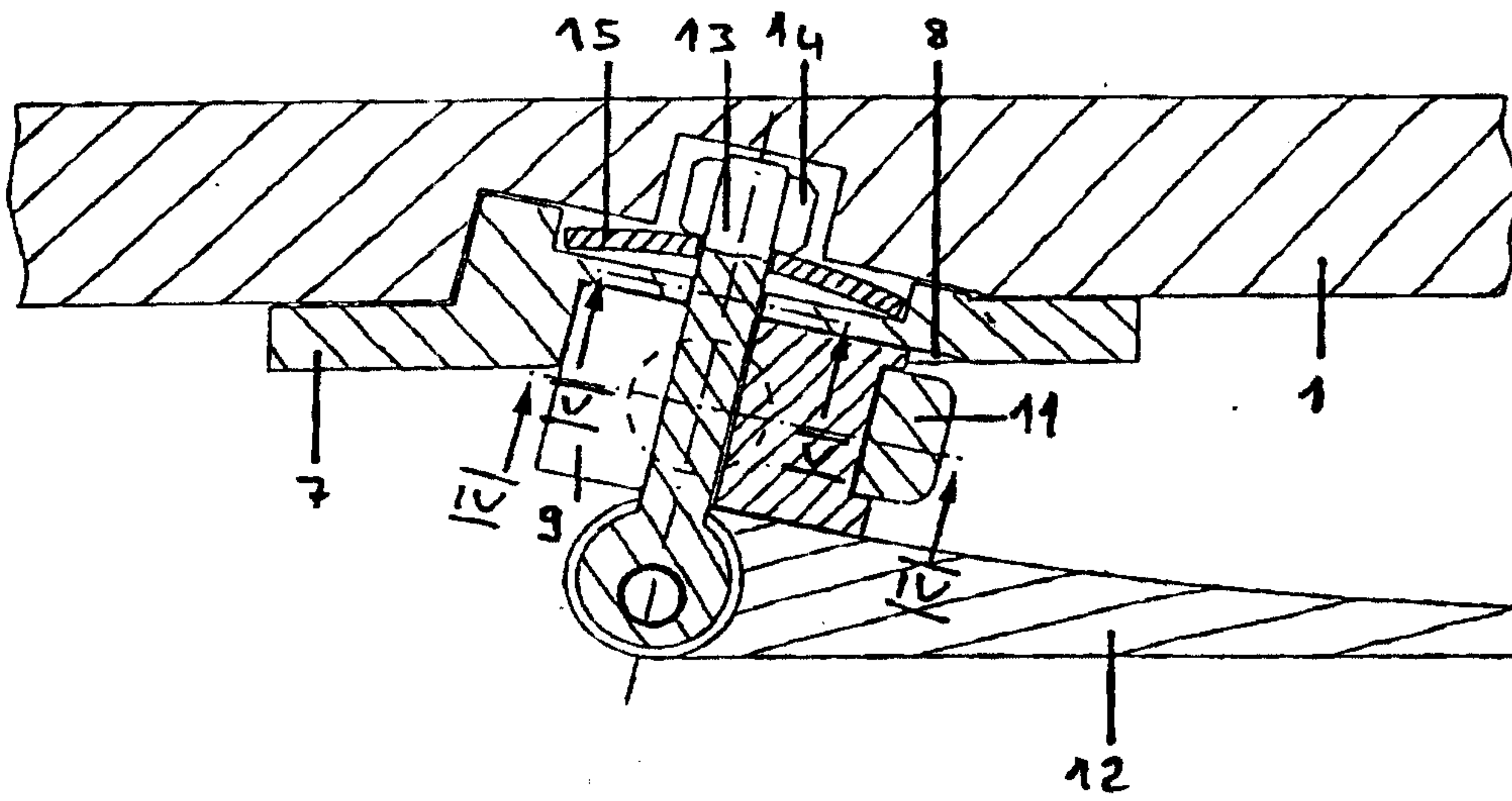


Fig. 3

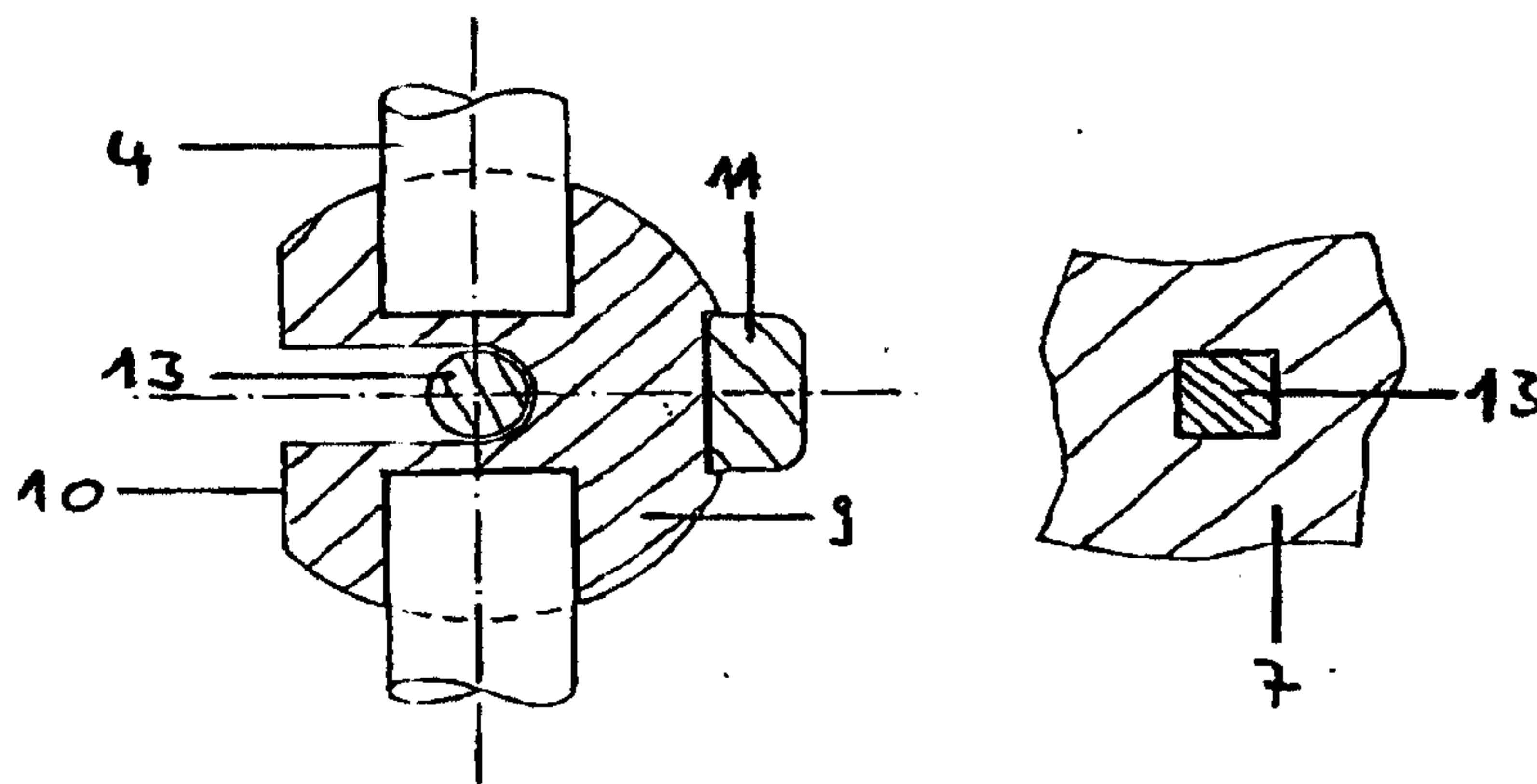


Fig. 4

Fig. 5

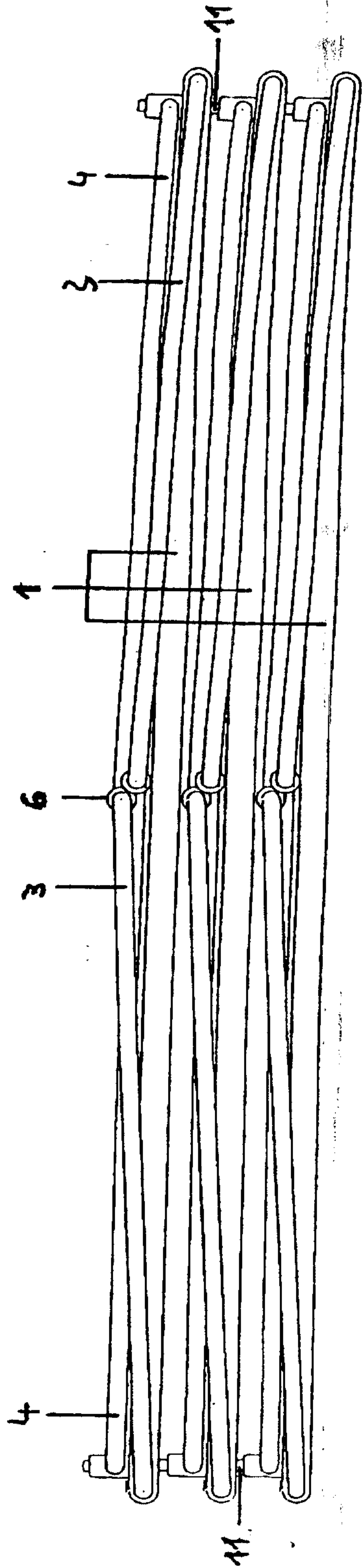


Fig. 6

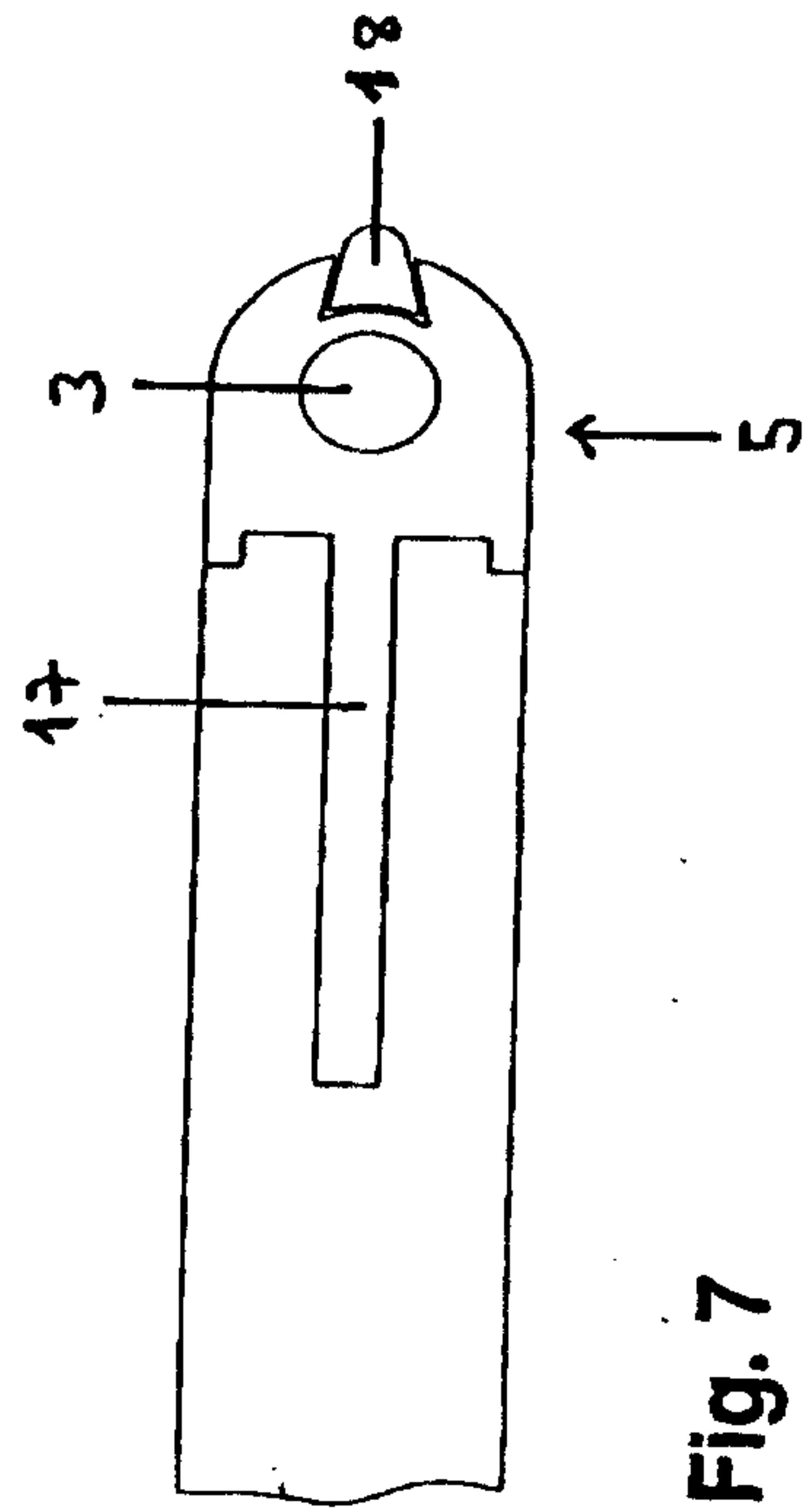


Fig. 7

