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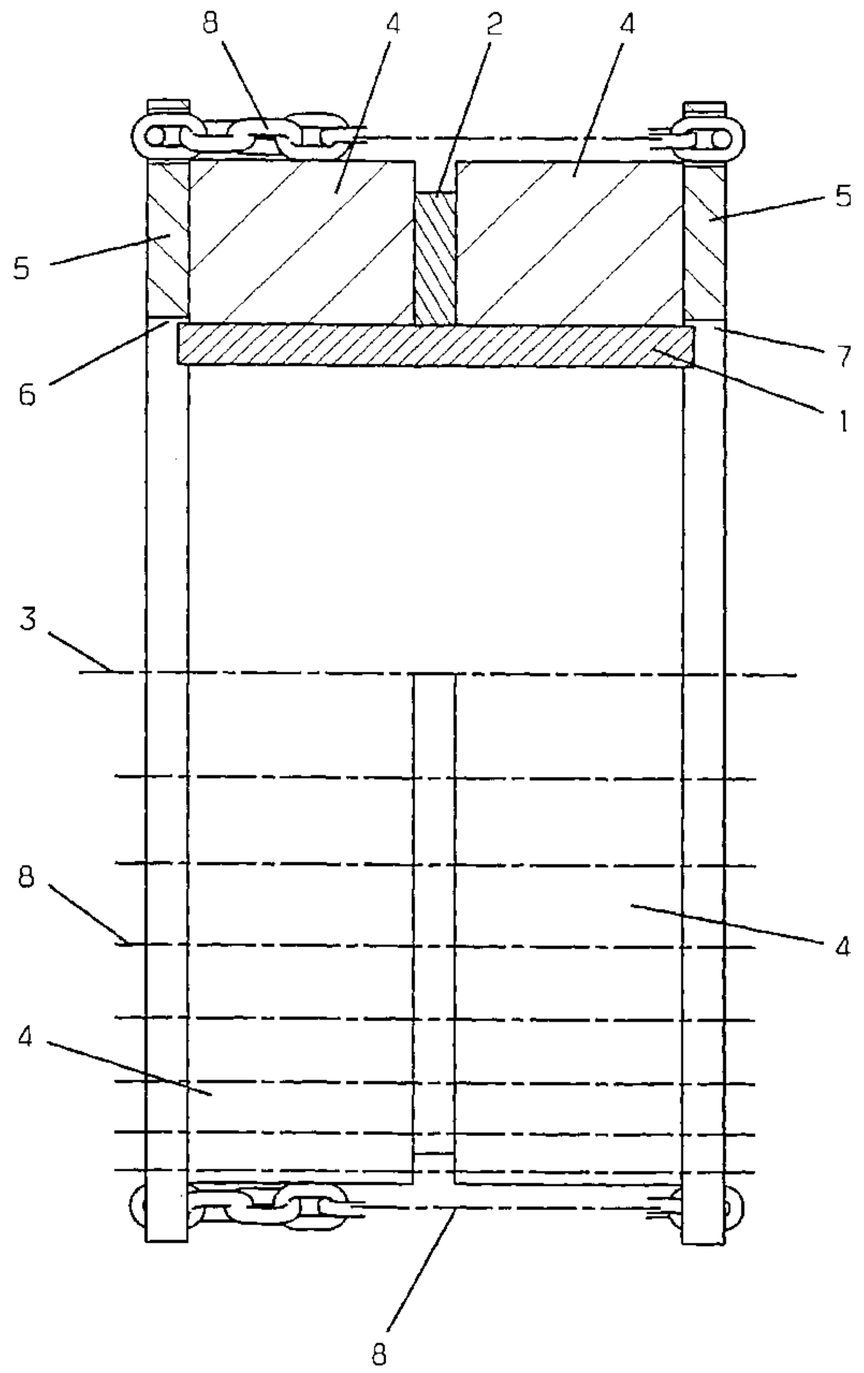
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(54) Titre : ROULEAU D'ENTRAINEMENT ET PROCEDE D'ASSEMBLAGE D'UN ROULEAU D'ENTRAINEMENT
(54) Title: FEED ROLLER AND A METHOD FOR ASSEMBLING A FEED ROLLER



(57) Abrégé/Abstract:
Feed roller in tree processing machinery for feeding tree trunks through the machinery distinguished in that the flange (2) is arranged essentially in the centre of the wheel rim (1) and that a track (4) of elastic material is arranged on either side of the flange (2). A ring (5) is arranged on the side of the respective track (4) that is opposite the flange, whereby the rings (5) that abut the outer sides of the elastic track on either side of the wheel are joined with one another by means of tensioning devices (8).

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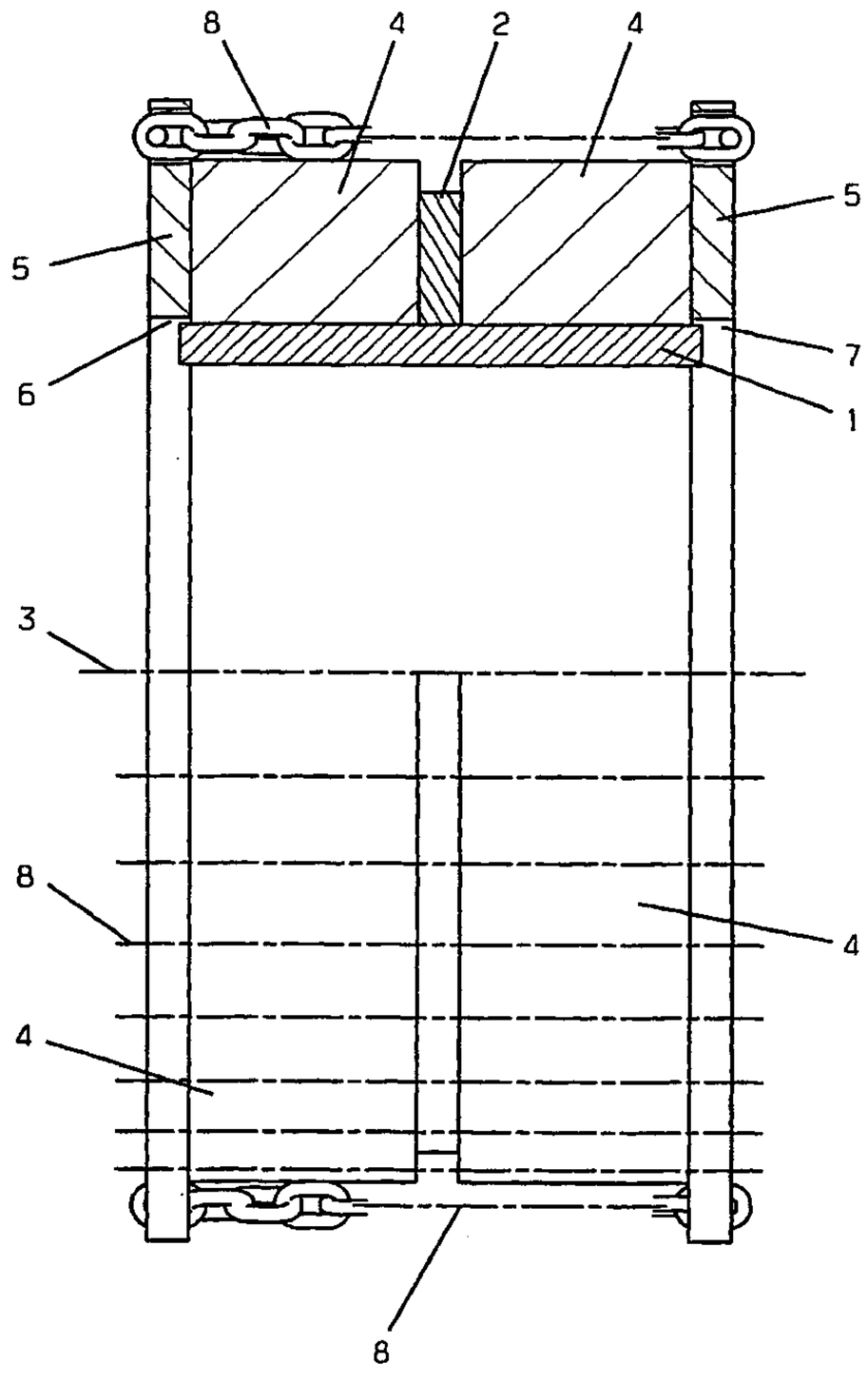
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(54) Title: FEED ROLLER AND A METHOD FOR ASSEMBLING A FEED ROLLER



(57) Abstract: Feed roller in tree processing machinery for feeding tree trunks through the machinery distinguished in that the flange (2) is arranged essentially in the centre of the wheel rim (1) and that a track (4) of elastic material is arranged on either side of the flange (2). A ring (5) is arranged on the side of the respective track (4) that is opposite the flange, whereby the rings (5) that abut the outer sides of the elastic track on either side of the wheel are joined with one another by means of tensioning devices (8).

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Feed roller and a method for assembling a feed roller

The present invention relates to a feed roller used in tree-processing machinery to feed the trunk of the tree through the machinery.

Such feed rollers used in tree-processing machines or tree harvesters are normally equipped with a vulcanised tread of, for example, rubber, attached to a wheel rim and surrounded by cross-running chain links or a net of chain links to attain a better grip when feeding the tree trunks forward. When the desired function of the feed roller no longer exists, the roller must be dismounted and equipped with a new tread. The costs for dismounting and fitting, as well as for a new feed roller, are substantial.

The present invention seeks to eliminate the said disadvantages of known feed rollers and provide these with a longer life length and thus lower operating costs. This is possible through the feed roller according to the invention having the characteristics stated in claim 1.

An example of the invention will be described in greater detail with reference to the drawing where Figs. 1 and 2 show schematically as two different embodiments an upper half of the roller as a cross-section through it and a lower half of the roller seen across the direction of its axis.

1 designates a cylindrical roller or hub in the form of a wheel rim 1, made of steel, for example, that radially along its periphery and in the centre of the rim has an outwardly projecting flange 2 that is, for example, permanently attached by welding to the wheel rim, see Fig. 1. The roller 1 is supported in the traditional manner so that it can be driven to rotate around an axle 3. A circular-shaped track 4 of elastic material, for example rubber, that runs around the wheel rim is arranged on each side of the flange 2. Each track 4 is pushed onto the cylindrical wheel rim 1 so that it abuts the flange 2. A rigid ring 5, made of steel, for example, whose inner periphery 6 has a radius that is greater than the outer diameter of the wheel rim 1 is brought onto the outside of the respective track 4. This is evident at 7. The rings 5 are joined with one another by means of a tensioning device 8, here shown in the form of chains, that increases the friction between the roller and the tree truck and thus reduces the risk for slippage.

The intention with the tensioning device 8 is also to draw the rings towards one another and thereby press the elastic tracks 4 between themselves and the flange 2. This means that this change in shape due to the tension between the rings 5 will press the tracks 4 against the periphery if the wheel rim 1, against the flange 2 as well as against the rings 5, which means that the tracks 4 will be prevented from slipping or sliding in relation to the rim

1. To further ensure that sliding or slipping cannot occur, the flange 2 can be provided with a number of recesses or holes that pass all the way through in which the material of the tracks 4 will expand and lock the tracks 4 to the flange 2.

In the example shown, it is suggested that the tensioning device is chains 8 that can be tensioned between the rings 5 (the chains in the example shown are indicated only by dotted and dashed lines). The actual clamping of the respective chain at the rings can naturally take place in a number of ways that are obvious for a person skilled in the art. In the figure, it is suggested that the respective chain 8 is provided with an end piece that has a part that projects out from the respective ring 5 and that is provided with an elongated hole for accommodating, for example, a cotter, so that it can be locked at the ring to secure its function.

When, for example, the tracks 4 have been worn down to such a degree that the function of the feed roller is no longer satisfactory, the chains 8 are loosened and the rings 5 removed. The tracks 4 can now be easily drawn off from the hub of the roller and replaced by new tracks that are locked into place by means of the rings 5 and chains 8 as described previously. On many occasions, the tracks are worn down to a greater extent at one of their edges, in which case they can exchange places or be turned around before they are pushed back onto the hub of the roller.

One advantage that is obtained automatically with the invention is that stretching of the tensioning device 8 is achieved when the tracks 4 are fitted.

It should be realised that the invention can be designed in a number of different ways within the scope of the characteristics of claim 1. It can be considered, for example, to position the flange on one of the sides of the wheel rim and use only one elastic track 4 and ring 5, whereby the tensioning device 8 will extend between the ring 5 abutting the one side of the track and the flange 2, see Fig. 2.

Claims

1. Feed roller for tree-processing machinery for feeding tree trunks through the machinery c h a r a c t e r i s e d in that it comprises an essentially cylindrically-shaped wheel rim (1) with a radially outwardly facing flange (2), a track (4) of elastic material arranged on the wheel rim to run around it and abut the flange (2), plus a ring (5) that abuts the track (4) on the opposite side of the flange (2), and in that the ring (5) abutting the outside of the elastic track is joined with another part of the wheel (1) on the opposite side of the track by means of a tensioning device (8) such as chains, for example.

2. Feed roller according to claim 1 c h a r a c t e r i s e d in that the flange (2) is arranged essentially at the centre of the wheel rim (1), that a track (4) of elastic material is arranged on either side of the flange (2) plus that a ring (5) is arranged on the side of the respective track (4) opposite to the flange, and that the rings (5) that abut the outer sides of the elastic track on either side of the wheel are joined with one another by means of the tensioning device (8).

3. Procedure for fitting a feed roller to tree-processing machinery for feeding tree trunks through the machinery c h a r a c t e r i s e d in that a ring-shaped track (4) of elastic material is pushed onto a wheel rim (1) provided with an outwardly facing flange (2) so that it abuts the flange (2), that a ring (5) is applied to the outwardly facing side of the track (4) and that a tensioning device (8), for example chains, is brought between the ring (5) and another part of the feed roller on the opposite side of the ring.

4. Procedure according to claim 3 c h a r a c t e r i s e d in that the outwardly facing flange (2) is located in the centre of the wheel rim (1) and that a track (4) is pushed on from either side of the wheel rim to abut the flange (2), that a ring (5) is applied on either side on the outside of the tracks (4), and that the tensioning device (8) is brought between the two rings (5).

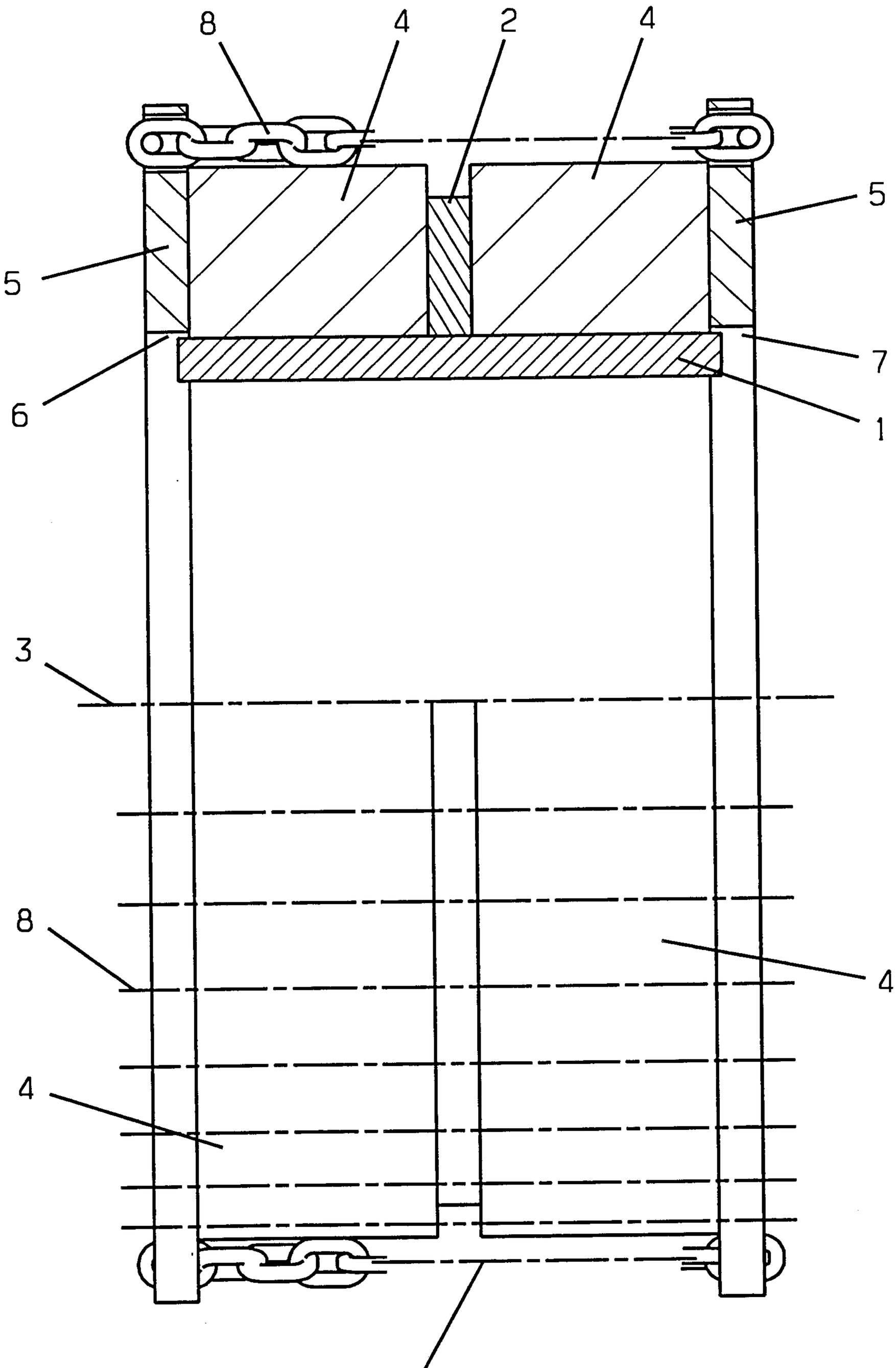


FIG 1

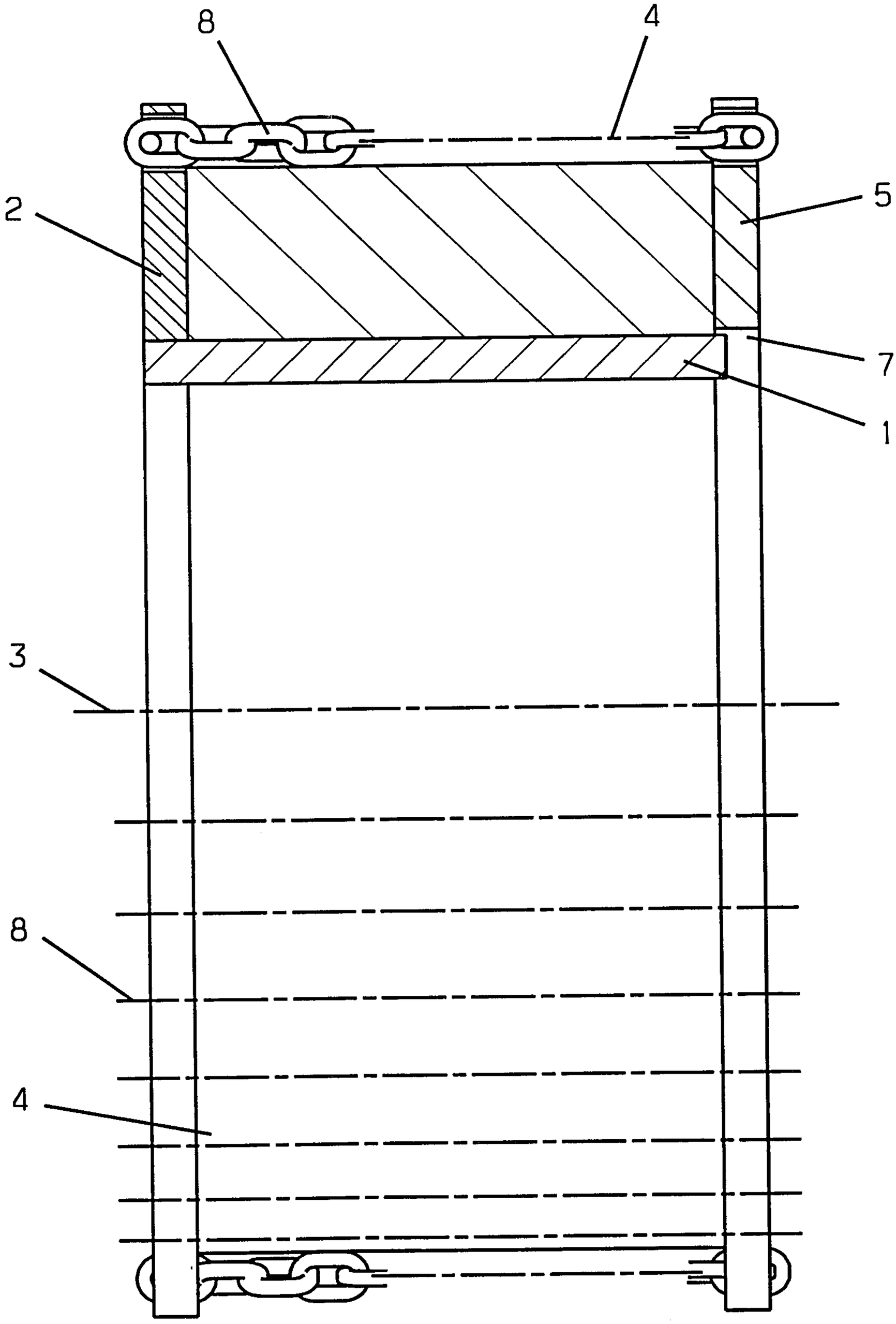
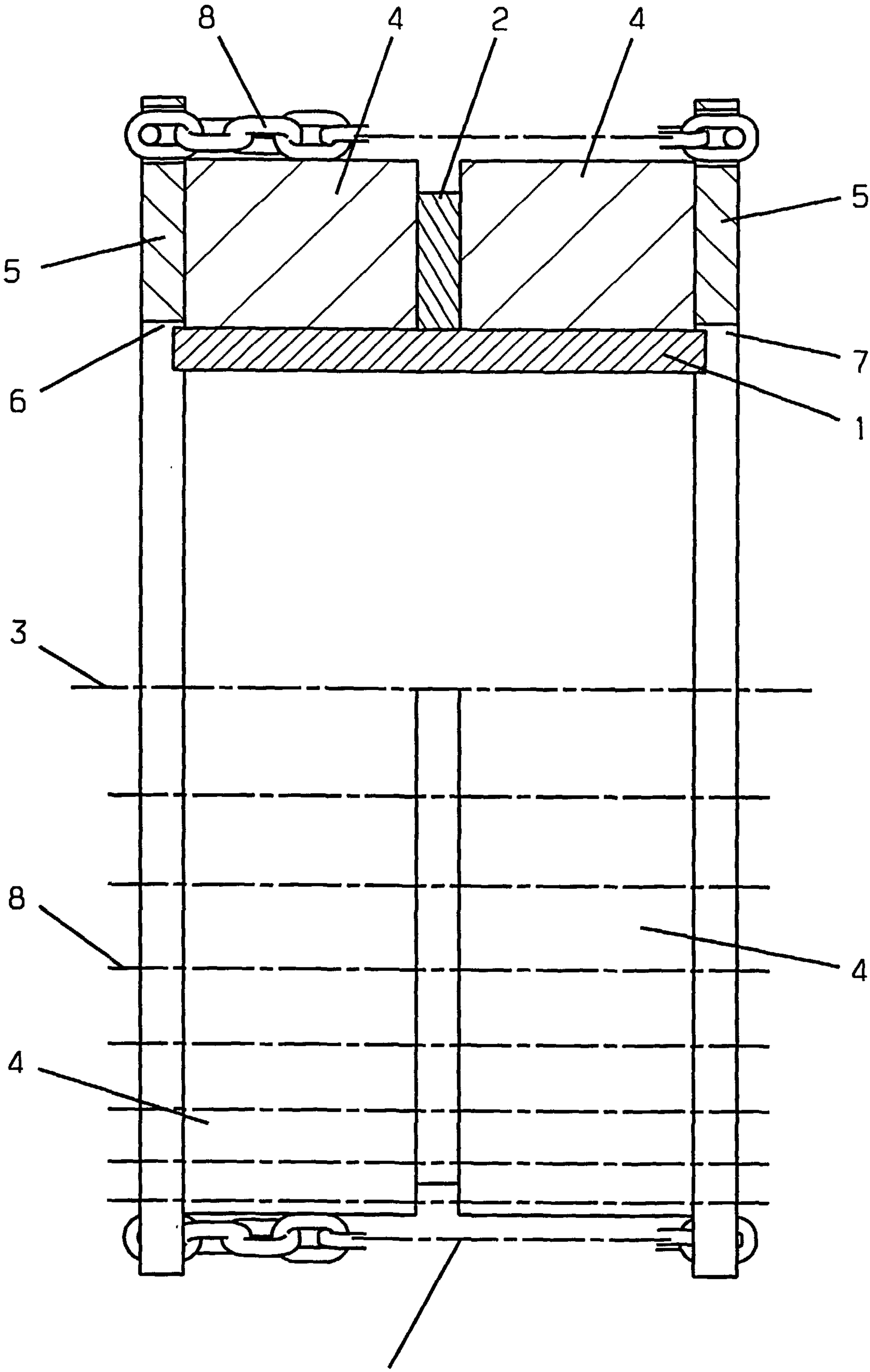


FIG 2


8
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4
8