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End connector for caterpillar tracks

10 The invention concerns end connectors for caterpillar tracks as set forth in the classifying portion of claim 1.

DE 34 05 699 C2 discloses end connectors for caterpillar tracks, in which track link bodies are provided with rubber-mounted pins. The pins of adjacent track link bodies are connected together by the end connectors. The end connectors are in the form of closed elastic clips having two eyes
15 for the pins and a slot which connects the eyes. The pins are to be screwed fast in the eyes of the end connectors by way of a clamping means such as a screw. The rubber mountings for the pins are pre-stressed. The pre-stressing of that rubber mounting arrangement is established by means of transverse pin members which are fixed in the pins and which engage into
20 the slot. The transverse pin members are displaced laterally with respect to the screw, more specifically being arranged at the outside.

It has been found in practice that the screw prestressing force is reduced when handling errors occur. The risk of a track coming apart due to end connectors slipping off is great, particularly in the case of caterpillar
25 tracks with only two end connectors on the track width. In order to prevent the end connectors from slipping off, the transverse pin members engage behind the screw in the region of the outside surface of the connectors.

In the case of end connectors of small width, the transverse pin members cannot serve as a means for preventing the connectors from
30 slipping off as, for reasons of space, they cannot be arranged beside the screw.

The object of the invention is to secure very narrow end connectors to prevent them from slipping off the pins when there are handling errors at the screw. The width of the connectors approximately corresponds to the
35 diameter of the pins.

The invention attains that object in accordance with the characterising features of claim 1 and alternatively by the characterising features of claim 2. Advantageous developments of the invention are set forth in the appendant claims.

5 Embodiments of the invention are illustrated in the drawing in which:

Figure 1 is a partial view in section of a connector and a two-pivot pin track shown in simplified form, and

Figure 2 shows an end connector with inclinedly inserted transverse pin members in the pins .

10 Referring to Figure 1, arranged in track link members 1 and 2 of a two-pivot pin track are pins 3 and 4 with known rubber bearings 5 and 6. The pins 3 and 4 of circular cross-sections are provided at their ends with transverse pin members 7. The pin members 7 are fitted in force-locking engagement in bores 8 in the pins 3 and 4.

15 A connector 13 is of a symmetrical configuration with respect to the axis 20. It has two eyes 21 which are connected by a slot 24 of a width 25. Provided on the axis 20 is a screwthread connection in the form of a screw 30, a bore 32 and a screwthreaded bore 33.

20 The transverse pin members 7 project into the slot 24, with a slight amount of lateral clearance. As shown in Figure 2 those transverse pin members 7 are fixed inclinedly in the pins 3, 4 and are disposed between the screw 30 and the outside surface 34 of the connector 13.

25 Upon assembly of the connector 13, the pins 3 and 4, which are provided with the transverse pin members 7, of the track link bodies 1 and 2 are self-adjustingly oriented in relation to the bearing eyes 21 and the slot 24.

30 The rubber bearings 5 and 6 fix the pins 3 and 4 with the transverse pin members 7 in the track link bodies 1 and 2 in the illustrated position, corresponding to an assembly angle 14. That assembly angle 14 is a measurement in respect of the prestressing of the rubber bearing arrangements (not shown) in the track link bodies 1 and 2.

As shown in Figure 2, the transverse pin members 7 are inserted

inclinedly, from the ends of the pins 3, 4, more specifically at an angle 38 of 75°.

5 The connector 13 is pushed on to the pins 3, 4 in the direction indicated by the arrow 39. The screw 30 which is thereafter fitted in place fixes the pins 3, 4 in the connector 13 in force-locking or frictional engagement. The force-locking engagement is so designed that no relative movement of the pins 3, 4 takes place in the connector 13. The function of the transverse pin members 7 is to ensure the correct assembly position of the pins 3, 4 in the connector in accordance with the angle 14 and, in the event of handling errors in relation to the screw 30 or in the event of the screw 30 not being sufficiently tightened, to prevent the connector 13 from slipping off the pins 3, 4, in the opposite direction to the arrow 39. The transverse pin members 7 bear tangentially against the outside 9 of the screw 30.

15 The connector 13 is of an only slightly greater width 12 than the diameter 11 of the screw shank 10 of the screw 30. The arrangement therefore has only a small amount of usable space for the means according to the invention for preventing it from slipping off.

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CLAIM

1. An end connector (13) for caterpillar tracks in which track link bodies (1,2) are provided with rubber – mounted pins (3, 4), and end connectors (13) connect the pins (3, 4) of adjacent track link bodies (1, 2),

the width of the end connectors (13) approximately corresponds to the diameter of the pins(3, 4),

wherein each end connector (13) is in the form of a closed elastic clip with two eyes (21) and a slot (24) connecting the eyes (21), and has a clamping means such as a screw (30) which is disposed at a right angle with respect to the slot (24), and

wherein the slot (24) fixes transverse pin member (7) of the pins (3,4) by positively locking engagement, characterised in that

the transverse pin members (7) secure the connector (13) by positively locking engagement from slipping off the pins (3, 4) directly by virtue of the arrangement of the transverse pin members, wherein both the transverse pin members (7) lie within the contour of the connector (13), and in that the transverse pin members (7) are arranged inclinedly in the pins (3, 4) insofar as they bear tangentially against the outside (9) of the screw (30).