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(54) **A weight-lifting belt provided with self-locking buckle**

Lasthebegurt ausgerüstet mit einer selbsthemmenden Schnalle

Sangle pour hisser une charge équipée d'une boucle autobloquante

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- **PATENT ABSTRACTS OF JAPAN vol. 015, no. 146 (M-1102), 12 April 1991 (1991-04-12) -& JP 03 023190 A (SANWA TEKKI CORP;OTHERS: 01), 31 January 1991 (1991-01-31)**

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Description

[0001] This patent application relates to a weight-lifting belt provided with a self-locking buckle. Such a weight-lifting belt is known from US-A-3,362,744.

[0002] The belt according to the present invention has been designed in order to provide a specific, functional tool for those who work in shops or yards, where it is often necessary to lift and move heavy objects - such as beams, pipes, trunks, stacks of arc welded metal meshes - using lifting devices, like cranes, bridge cranes, mechanical arms, etc.

[0003] If the object to be lifted has no suitable hooking points, now it is necessary to sling the object manually with unsuitable, improvised means, such as belts, ropes, chains, and wires. These means are wrapped around the object or inserted into through holes in order to be tied and tightened over the object.

[0004] Therefore, the manual intervention of the operator is required to tie and tighten the binding means, on which the hook of the machine used to lift the object is hooked.

[0005] Obviously, after moving the object, the operator must loosen and untie or cut the binders in order to release the object.

[0006] The purpose of the present invention is to realise a specific tool used to hold heavy objects moved with lifting devices, characterised by safe, easy operation both during application and removal, with the possibility of repeated use.

[0007] Another purpose of the present invention is to realise a tool as illustrated above, provided with a self-locking buckle in order to save the operator's time and effort required to tie the object to be lifted.

[0008] Finally, another purpose of the present invention is to realise a tool as illustrated above, provided with a self-locking buckle that can be opened quickly and easily, in order to save the operator's time and effort required today to untie and loosen the binding means, thus eliminating the risk of injury involved in manual interventions.

[0009] The tool according to the present invention consists in a resistant belt ending with two eyelets and inserted into a special buckle, provided with a hook and a clamp to hold the belt in place.

[0010] More precisely, the buckle comprises a box-like frame in which the belt is inserted and slides. The belt is tightened by a clamp pivoted on a transversal pin supported by the frame of the buckle and subjected to the constant thrust of a spring that pushes it against the belt.

[0011] The shape of the buckle allows the oscillating clamp to oppose to the free sliding of the belt in one direction only, meaning the direction that allows for loosening the belt. This means that by applying traction on the free end of the belt, the tightening pressure automatically increases gradually.

[0012] Conversely, in order to loosen it, the belt must

be freed from the grip of the oscillating clamp. To do it, it is necessary to push the clamp strong enough to win the opposite force of the return spring, so as to determine the detachment of the clamp from the belt.

[0013] For major clarity the description of the tool according to the present invention continues with reference to the enclosed drawings, which are intended for purposes of illustration and not in a limiting sense, whereby:

- fig. 1 is a perspective view of the belt according to the invention inserted into the buckle;
- fig. 2 is a view of the buckle.

[0014] With reference to fig. 1, the tool according to the invention comprises a resistant belt (1) whose ends are folded and sewn to form two eyelets (2 and 3).

[0015] The belt (1) is inserted into a buckle (4) made up of a box-like frame (5), that externally features a hook (6) and internally a transversal pivoting pin (7) for an oscillating clamp subjected to the constant thrust of a return spring (not shown in the enclosed drawings).

[0016] The spiral spring is inserted into the pin (7) and exerts a pressure on the internal side of the clamp (8) that maintains the front edge (8a) of the clamp pressed against the bottom wall (5a) of the frame (5).

[0017] In order to move the front edge (8a) away from the wall (5a) it is necessary to press the clamp (8) on its rear edge (8b) to win the resistance of the return spring.

[0018] To use the tool according to the present invention, the operator simply introduces the hook (6) in the eyelet (3) of the belt (1) after wrapping the belt (1) around the object to be lifted in a safe grip.

[0019] It must be stressed that the operator does not need to tighten the belt (1) since the belt itself will automatically tighten against the object when lifting it.

[0020] As a matter of fact, when the hook of the lifting device inserted in the eyelet (2) of the belt (1) starts exerting a traction force upwards on the eyelet, the belt (1) starts sliding under the front edge of the clamp (8), thus progressively tightening the object wrapped with the section of belt between the hook (6) and the buckle (4).

[0021] In order to loosen the belt (1) after moving the object, the operator simply presses the rear edge (8b) of the clamp (8) to allow the belt (1) to slide backwards inside the buckle (4) freely.

Claims

1. A weight-lifting belt provided with a self-locking buckle, wherein it comprises a resistant belt (1) ending with two eyelets (2 and 3) and inserted in a buckle (4) made up of a box-like frame (5), **characterized in that** the frame externally features a hook (6) and internally features a transversal pivoting pin (7) and an oscillating clamp (8), swiveling around said pin (7), the clamp (8) subjected to the constant

thrust of a return spring exerting a pressure on the internal side of the clamp (8) that maintains the front edge (8a) of the clamp (8) pressed against the bottom wall (5a) of the frame (5).

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Patentansprüche

1. Riemen zum Heben von Lasten, der mit einer selbstverschließenden Schnalle ausgerüstet ist und einen widerstandsfähigen Riemen (1) umfasst, der an den beiden Enden zwei Ösen (2 und 3) trägt und in eine Schnalle (4) eingeführt ist, die aus einem gehäuseartigen Rahmen (5) besteht, **dadurch gekennzeichnet, dass** der Rahmen (5) außen mit einem Haken (6) und innen mit einem drehbaren Querstift (7) sowie einer Schwingzange (8) versehen ist, die sich um den genannten Stift (7) dreht, wobei vorgesehen ist, dass die Zange (8) dem ständigen Druck einer Rückholfeder ausgesetzt ist, die auf die Innenseite der Zange (8) einen Druck ausübt, der die vordere Kante (8a) der Zange gegen die Bodenwand (5a) des Rahmens (5) presst.

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Revendications

1. Courroie pour soulever les poids, dotée d'une boucle de fermeture à serrage automatique et comprenant une courroie résistante (1), présentant aux deux extrémités deux fentes (2 et 3) et enfilée dans une boucle (4), constituée d'un châssis à boîtier (5); courroie **caractérisée en ce que** le châssis (5) est doté à l'extérieur d'un crochet (6) et à l'intérieur d'un pivot transversal (7) de pivotement, ainsi que d'une pince basculante (8) qui tourne autour du dit pivot (7), étant prévu que la pince (8) est constamment sujette à la poussée d'un ressort de rappel qui exerce sur la face interne de la pince (8) une pression qui maintient le bord frontal (8a) de dite pince en position écrasée contre la paroi du fond (5a) du dit châssis (5).

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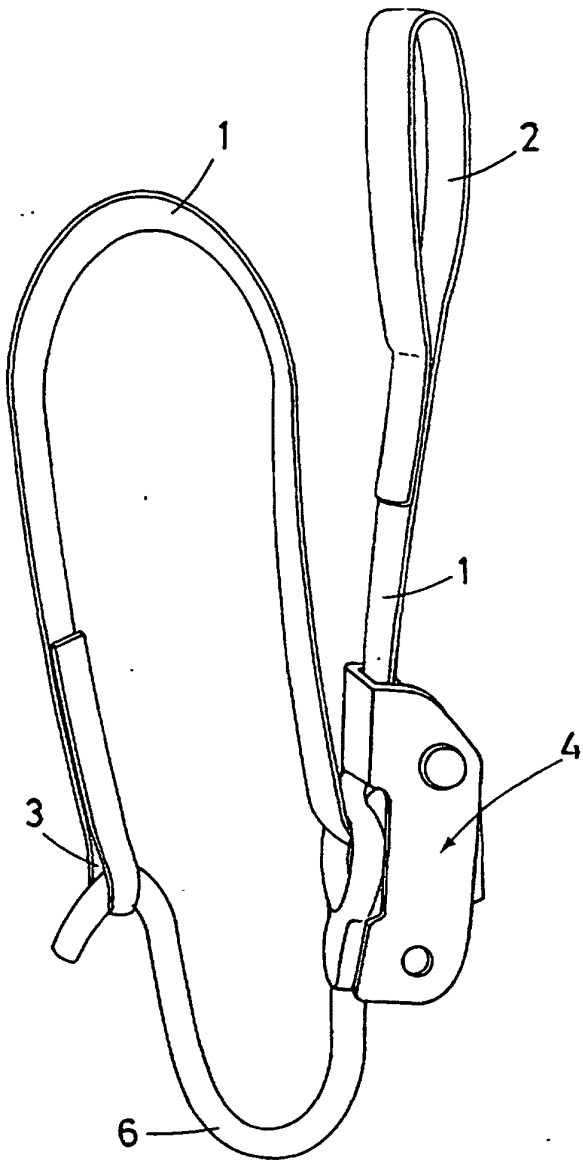


FIG. 1

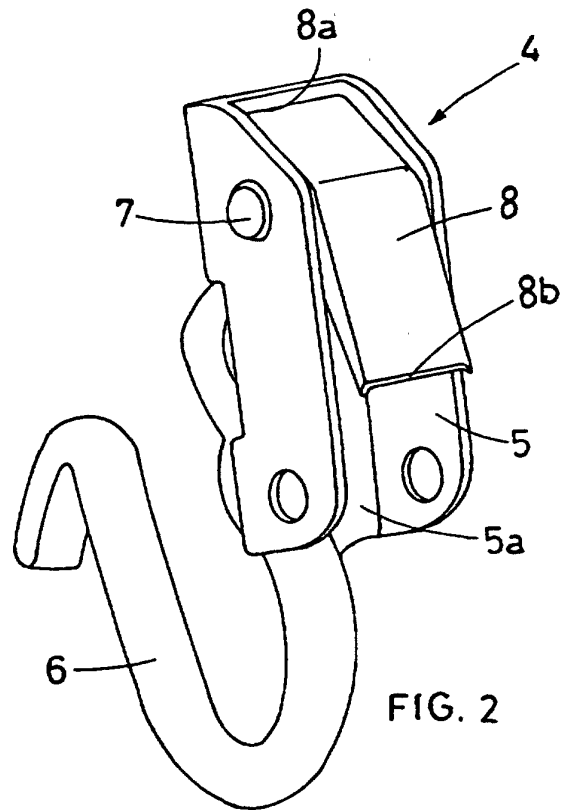


FIG. 2