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(54) **LEDGER WITH LOCKING DEVICE FOR MODULAR SCAFFOLDING OR SIMILAR**

GELÄNDER MIT VERRIEGELUNGSVORRICHTUNG FÜR EIN MODULARES GERÜST ODER ÄHNLICHES

MOISE AVEC DISPOSITIF DE VERROUILLAGE POUR ECHAFAUDAGE MODULAIRE

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a ledger with a locking device for modular scaffolding, such as building site scaffolding, mason's staging or similar, and especially to such ledger with a locking device between ledgers and standards, for preventing the components of the modular scaffolding to become disconnected from each other. The locking device is springing and self-locking.

BACKGROUND

[0002] A previously known method for fitting ledgers (horizontal members) to standards (vertical poles) in a modular scaffolding, for example a scaffold, is to utilise e.g. screws and wedges. Such fastening devices, however, do not allow any simple and advantageous way of mounting and disassembling of the modular scaffolds.

[0003] Another, more advantageous method of the prior art comprises the arrangement of loops or rings on the standards, wherein ledgers are fastened by attaching hooks, provided on the ledger ends, from above into the loops. The mounting is locked by means of a manual locking device. This manual locking device comprises a catch, turned manually towards the standard, the catch thereby becoming fixed in its locked position by means of gravity and the friction occurring between rivet and washer, which hold the catch comprised in the locking device, and thus locks the ledger to the standard.

[0004] Document US 5 988 317 A discloses a ledger with locking device for locking ledgers to standards in modular scaffolding. The locking device exhibits a spring catch to be arranged between the ledger and a standard. The spring catch comprises a bent wire and at least one separate spring for bias of the spring catch.

[0005] Drawbacks of locking devices according to this technique are due to their design, entailing a risk for corrosive sticking, as the catch is manufactured from an corrosion-sensitive material, causing it to become very sluggish or to stick to the rivet and the washer.

[0006] The present invention relates to an improvement of the known locking devices, wherein the locking of ledgers to standards is made by means of a springing and self-locking locking device.

SUMMARY OF THE INVENTION

[0007] The present invention thus relates to a ledger with a locking device between ledgers and standards for modular scaffolds or similar.

[0008] According to the invention, the locking device exhibits a spring catch between the ledger and the standard. Preferably, the catch is provided on the ledger and will, in its locked position, secure the ledger to the standard.

[0009] The catch may have the shape of a curved wire, both ends of which are arranged at the ledger, in two holes controlling the springing properties of the catch.

[0010] Preferably, said catch is manufactured from an corrosion-resistant material, such as zinc-coated or stainless spring steel, plastic or some other material suitable for the purpose.

[0011] The invention is defined in the appended claim 1, whereas preferred embodiments are stated in the dependent claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] A preferred embodiment of the invention will be described below with reference to the enclosed drawings, in which

- Fig. 1 is a side view of one side of a ledger without a catch;
- Fig. 2 is a side view of one side of the locking device according to the invention, including a ledger and a catch;
- Fig. 3 is a side view of the other side of the locking device according to the invention, as shown in Fig. 2;
- Fig. 4 is a side view of the catch according to the invention;
- Fig. 5 is an end view of the locking device according to the invention, including a ledger and a catch; and
- Fig. 6 is an end view of the catch according to the invention

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0013] The present invention, as mentioned above, relates to a springing and self-locking locking device, arranged between a ledger and a standard in e.g. scaffolding. The locking device comprises a spring catch, preferably arranged at the exterior end of the ledger. Alternatively, the catch may be modified to be arranged on the standard (not shown).

[0014] Fig. 1 shows a ledger 1 without a catch 2. On the vertical portion 5 of the ledger 1 two holes 3 and 3' and a slot 4 are provided for mounting of the catch as shown in Fig. 2. The holes 3 and 3' are spaced from each other both vertically and horizontally, for controlling the springing properties of the catch 2. In order to facilitate fitting of the catch 2, one of the holes 3 or 3' may be shaped like a slot (not shown).

[0015] The catch is arranged into said holes 3 and 3' in such a manner that a portion 2' of said catch 2 extends through the slot 4, as shown in Figs. 2, 3 and 5. The slot 4 will limit the forward and rearward movement of the catch 2. Said portion 2' of the catch 2 is configured in such a way that the catch can be operated manually between a locking position 4A, which is shown in Figs. 2 and 3, and an open, non-locking position at the end 4B

of the slot. The holes 3, 3' are so located that the catch 2 is resiliently pushed forward, towards the standard, in the locking position. When the catch 2 is moved rearwards, past a dead centre, it will instead spring rearwards to be maintained by itself in the open position. The catch is maintained in its mounted position through spring force or by overbending.

[0016] Figs. 4 and 6 show a side view and an end view, respectively, of said catch 2. When mounting the ledger 1 to the standard, the catch 2 will be in its open or its locked position. In its open position, the hooks 6 and 7 of the ledger 1 can be hooked, without resistance, into the loops on the standard. The catch is then switched over to its locking position. The protruding tip of the catch 2 will then be placed under the upper loop of the standard, preventing the ledger from being lifted up; thus making it securely locked. Disassembling is performed in reverse order.

[0017] Assembly can also be performed with the catch in the locking position 4A. The catch will then perform a self-locking function. The lower loop on the standard (not shown), will then push the catch 2 a small distance in the direction towards the vertical portion 5 of the ledger 1, as the ledger is pushed on from above. When the hooks 6 and 7 of the ledger 1 are pushed down into the loops of the standard, the catch 2 will spring back towards the standard, thereby wedging the catch 2 against the lower edge of the upper loop thus performing automatic locking.

[0018] The above-mentioned open, non-locking position 4B is especially advantageous when dismantling the modular scaffolding, as it enables easy unlocking of the locking device, whereby initially one end and then the other of the ledger 1 are manually unlocked, whereupon the ledger 1 is removed.

[0019] Preferably, the above catch 2 is made of an corrosion-resistant material, such as zinc-coated or stainless steel, plastic or some other material suitable for the purpose.

Claims

1. Ledger with locking device for locking ledgers to standards in modular scaffolding, the locking device exhibiting a spring catch (2) to be arranged between said ledger (1) and a standard, said catch (2) consisting of a bent wire and is arranged on the ledger (1), said catch (2), in its locked position (4A), securing the ledger (1) to the standard, **characterised in that** the catch is arranged so as to be retainable in an open, non-locking position (4B), said ledger (1) comprising a vertical portion (5) having two holes (3, 3'), said bent wire being affixed by its two ends in said two holes (3, 3'), and being maintained in its mounted position, on the vertical portion (5) of the ledger (1), through spring force or by overbending, wherein said holes (3, 3') being spaced in relation to each other, both vertically and horizontally, thus controlling the springing properties of the catch (2) so that the catch (2) is resiliently pushed forward, towards the standard, in the locking position (4A), and when it is moved rearwards, past a dead centre, it will instead spring rearwards to be maintained, by itself, in the open position (4B).

2. Ledger with locking device according to claim 1, **characterised by** the catch (2) having a self-locking position (4A), causing automatic locking of the ledger (1) to the standard to occur when the catch (2) is in said self-locking position.

3. Ledger with locking device according to claim 1 or 2, **characterised by** one of said holes (3, 3') being shaped like a slot.

4. Ledger with locking device according to any one of the preceding claims, **characterised by** said catch (2) extending through a slot (4) in the vertical portion (5) of the ledger (1).

5. Ledger with locking device according to any one of claims 1 to 4, **characterised by** said catch (2) being made of zinc-coated or stainless spring steel.

6. Ledger with locking device according to any one of claims 1 to 4, **characterised by** said catch (2) being made of plastic.

Patentansprüche

1. Horizontalriegel mit Verriegelungsvorrichtung zum Verriegeln von Horizontalriegeln an Ständern von Modulgerüsten, wobei die Verriegelungsvorrichtung eine zwischen dem Horizontalriegel (1) und einem Ständer anzuordnende Federsperre (2) aufweist, wobei die Sperre (2) aus einem gebogenen Draht besteht und am Horizontalriegel (1) angeordnet ist, wobei die Sperre (2), in ihrer Verriegelungsstellung (4A) den Horizontalriegel (1) am Ständer fixiert, **dadurch gekennzeichnet, dass** die Sperre derart angeordnet ist, dass in einer offenen, nicht verriegelnden Stellung (4B) gehalten werden kann, wobei der Horizontalriegel (1) einen vertikalen Abschnitt (5) mit zwei Löchern (3, 3') aufweist, wobei der gebogene Draht an seinen beiden Enden in den beiden Löchern (3, 3') angebracht ist und in seiner montierten Stellung am vertikalen Abschnitt (5) des Horizontalriegels (1) durch Federkraft oder durch Überbiegen gehalten ist, wobei die beiden Löcher (3, 3') in Bezug aufeinander sowohl vertikal als auch horizontal beabstandet sind und dadurch die Federeigenschaften der Sperre (2) steuern, sodass die Sperre (2) in der Verriegelungsstellung (4A) federnd nach vorn zum Ständer gedrückt wird, und sie hingegen dann, wenn sie an einem Totpunkt vorbei nach hinten bewegt

wird, nach hinten springt und von sich selbst in der offenen Stellung (4B) gehalten wird.

2. Horizontalriegel mit Verriegelungsvorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Sperre (2) eine selbsthemmende Stellung (4A) aufweist, wodurch ein automatisches Verriegeln des Horizontalriegels (1) am Ständer eintritt, wenn die Sperre (2) in der selbsthemmenden Stellung ist.

3. Horizontalriegel mit Verriegelungsvorrichtung nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** eines der Löcher (3, 3') wie ein Schlitz geformt ist.

4. Horizontalriegel mit Verriegelungsvorrichtung nach einem der vorangegangenen Ansprüche, **dadurch gekennzeichnet, dass** sich die Sperre (2) durch einen Schlitz (4) in dem vertikalen Abschnitt (5) des Horizontalriegels (1) erstreckt.

5. Horizontalriegel mit Verriegelungsvorrichtung nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** die Sperre (2) aus verzinktem oder rostfreien Federstahl hergestellt ist.

6. Horizontalriegel mit Verriegelungsvorrichtung nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** die Sperre (2) aus Kunststoff hergestellt ist.

Revendications

1. Moise avec dispositif de verrouillage pour verrouiller des moises à des écoperches dans un échafaudage modulaire, le dispositif de verrouillage comportant un mousqueton (2) qui doit être placé entre ladite moise (1) et une écoperche, ledit mousqueton (2) composé d'un fil plié est placé sur la moise (1), ledit mousqueton (2), dans sa position verrouillée (4A), fixant la moise (1) à l'écoperche, **caractérisée en ce que** le mousqueton est agencé pour qu'il puisse être retenu dans une position ouverte, non-verrouillée (4B), ladite moise (1) comprenant une partie verticale (5) comportant deux trous (3, 3'), ledit fil plié étant fixé par ses deux extrémités dans lesdits deux trous (3, 3') et étant maintenu dans sa position montée, sur la partie verticale (5) de la moise (1), par une force de rappel ou par sur-pliage, lesdits trous (3, 3') étant espacés l'un par rapport à l'autre, à la fois verticalement et horizontalement, contrôlant ainsi les propriétés de rappel du mousqueton (2) de sorte que le mousqueton (2) soit poussé vers l'avant avec résilience, vers l'écoperche, dans la position verrouillée (4A) et lorsqu'il est ramené vers l'arrière, passant par un point mort, il va plutôt sauter vers l'arrière pour être maintenu, par lui-même, dans la position ouverte (4B).

2. Moise avec dispositif de verrouillage selon la revendication 1, **caractérisée par le fait que** le mousqueton (2) a une position d'auto-verrouillage (4A), entraînant un verrouillage automatique de la moise (1) à l'écoperche lorsque le mousqueton (2) se trouve dans ladite position d'auto-verrouillage.

3. Moise avec dispositif de verrouillage selon la revendication 1 ou la revendication 2, **caractérisée par le fait que** l'un des trous (3, 3') a la forme d'une fente.

4. Moise avec dispositif de verrouillage selon l'une quelconque des revendications précédentes, **caractérisée par le fait que** ledit mousqueton (2) se prolonge à travers une fente (4) dans la partie verticale (5) de la moise (1).

5. Moise avec dispositif de verrouillage selon l'une quelconque des revendications 1 à 4, **caractérisée par le fait que** ledit mousqueton (2) est fabriqué d'un acier de ressort inoxydable ou revêtu de zinc.

6. Moise avec dispositif de verrouillage selon l'une quelconque des revendications 1 à 4, **caractérisée par le fait que** ledit mousqueton (2) est fabriqué en plastique.

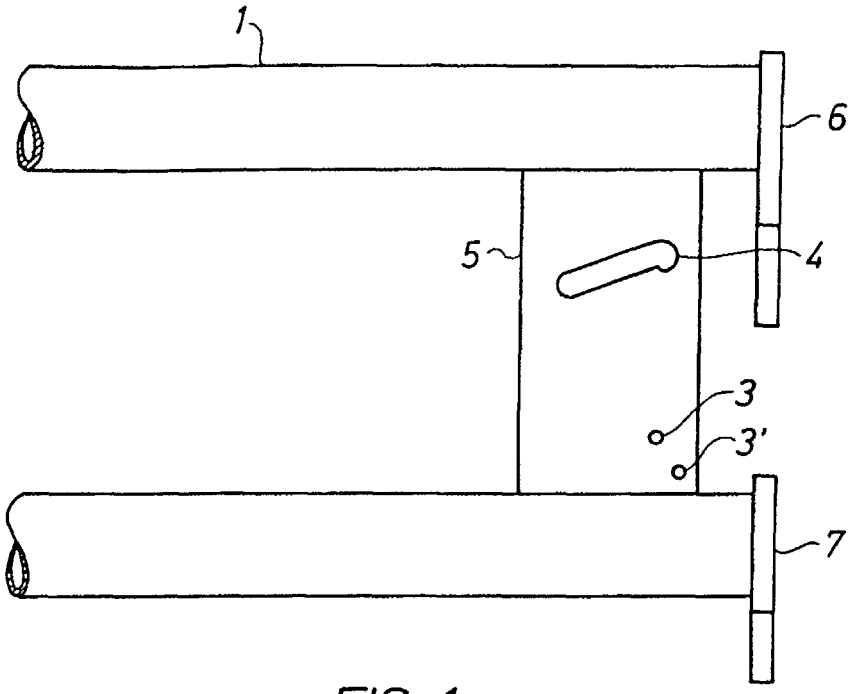

FIG. 1

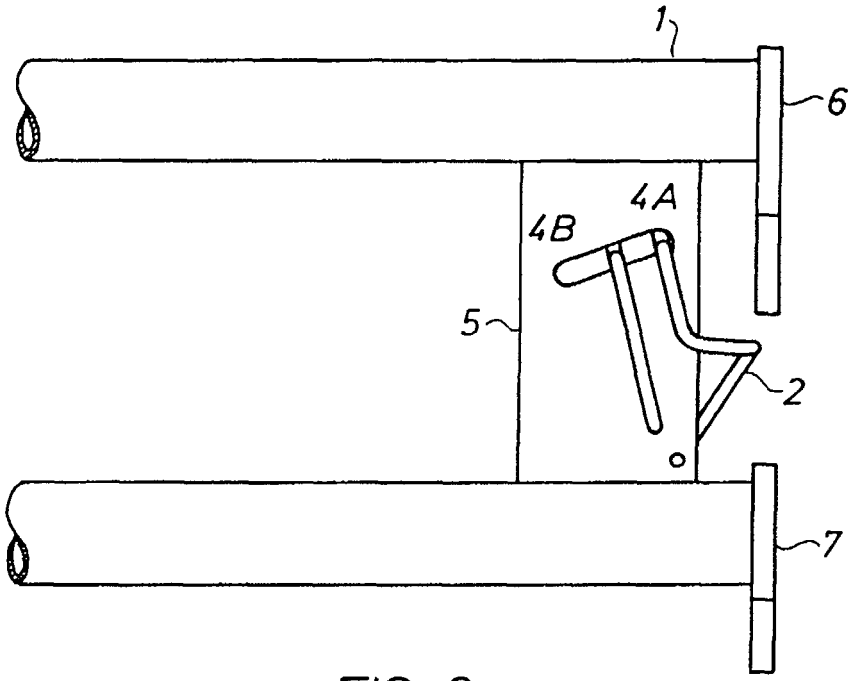

FIG. 2

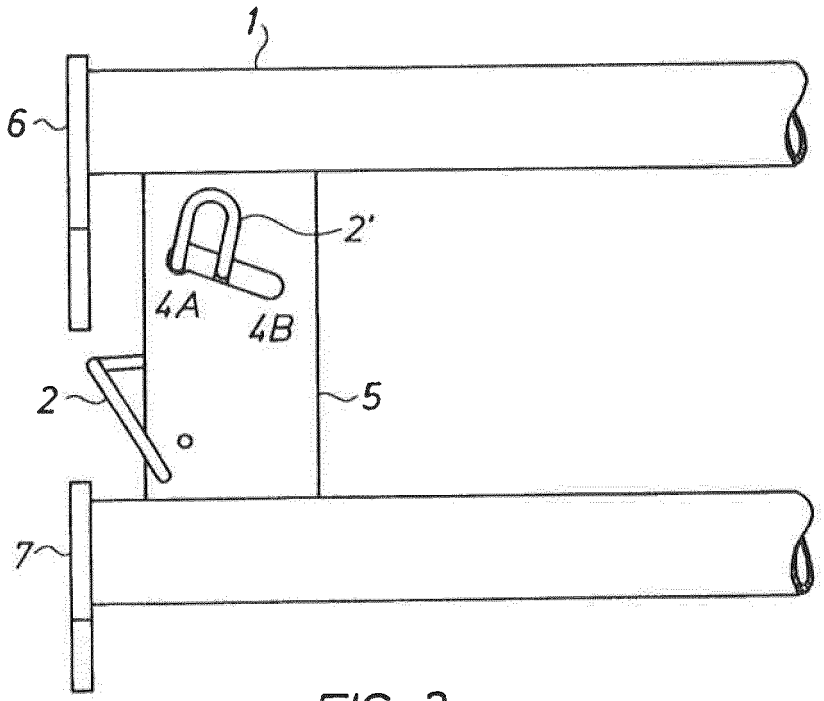

FIG. 3

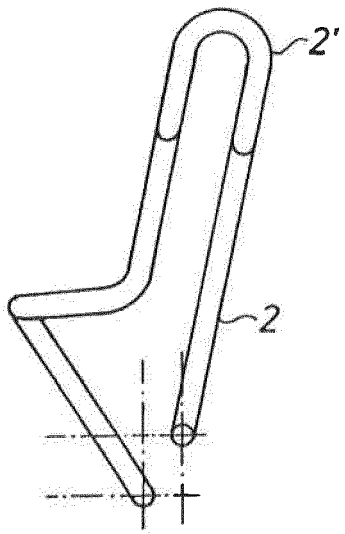

FIG. 4

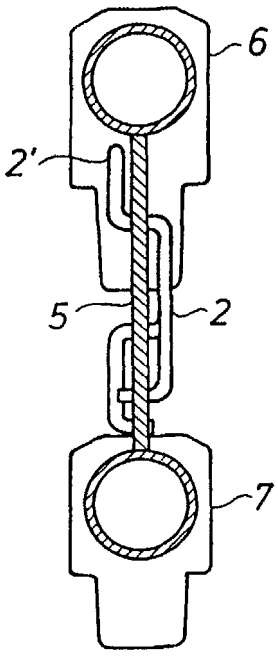

FIG. 5

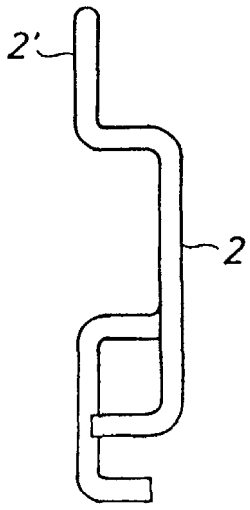

FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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