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(54) **Anchor device for scaffolds and similar structures**

(57) Anchor device for scaffolds comprising a head portion (1) to be fixed to the end of a scaffold element and a stem (2) positioned at a predetermined distance from head (1) and intended to be introduced into a slit offered by a plate (5) or into a bushing (3) welded to a scaffold standard (6). The stem (2) of the anchor device is positioned between two parts (8, 91) parallel to each other, which are opposite to each other and both connected to the head (1) of the anchor device. The distance (DD) between said parts (8, 91) is greater than height (H) of bushing (3). The working length (L) of stem (2) is slightly inferior to distance (D) between an horizontal part (91) of a respective extension (9) and the lower edge (30) of bushing (3).

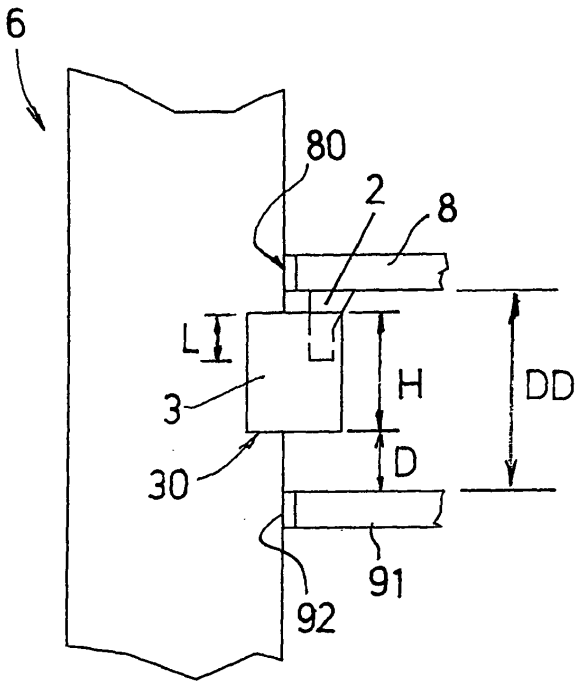

FIG.5

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Description

[0001] The present invention relates to an anchor device suitable for scaffolds and similar structures.

[0002] It is known that the so called "pipettes" are anchoring devices positioned on one or both ends of scaffold elements such as transverse elements, so as to allow their anchorage on tubular standards provided with bushings and/or multidirectional support plates. The head of the anchor device is welded to one end of the element to be anchored to the standard, while its stem, whose orientation is nearly orthogonal to the head portion, is the element by which the real anchorage takes place. In practice, the anchor device is an end extension of the element to be anchored to the standard.

[0003] The structure of the anchor devices currently used allow the above mentioned anchorage only on bushings or only on multidirectional plates provided by tubular standards. In other words, the same anchor device cannot be used for carrying out the anchorage both on the bushings and on the standard plates and this causes practical and economical inconveniences both to the producer, who is compelled to manufacture different types of anchor devices, and to the user, who is compelled to utilise them in a different way depending on the type of anchor device required.

[0004] The present invention aims at overcoming the above mentioned drawbacks.

[0005] These results have been achieved according to the present invention, by adopting the idea of manufacturing a device having the features described in claim 1. Further features of the present invention are the subject of the dependent claims.

[0006] Thanks to the present invention, the same anchor device can be both anchored to a bushing and to a multidirectional plate without any inconveniences and this guarantees evident practical and economical advantages, both to the producer and to the user. Moreover, an anchor device according to the present invention guarantees an extremely stable anchorage, it is simple to manufacture and economical and its characteristics remain unchanged even after long operating periods.

[0007] These and other advantages and characteristics of the invention will be best understood by anyone skilled in the art from a reading of the following description in conjunction with the attached drawings given as a practical exemplification of the invention, but not to be considered in a limitative sense, wherein:

- Figs. 1 and 2 show a first embodiment of a scaffold anchor device according to the present invention, seen in two different operating conditions;
- Figs. 3 and 4 show a further embodiment of a scaffold anchor device according to the present invention, in two different operating conditions;
- Fig. 5 shows a partial schematic lateral view of the present anchor device.

[0008] Reduced to its essential structure and with reference to the enclosed drawings, an anchor device according to the present invention comprises a head portion (1) intended to be welded to a corresponding end of a scaffold element (for example a transverse element) and a stem (2) which is to be introduced into a vertical bushing (3) or into a radial slit (4) of a multidirectional plate (5) which are welded on a standard (6). Head portion (1) of the present anchor device features a back extension (7) which is intended to be axially introduced into the cavity of the tubular element (for example the above mentioned transverse element) on which the anchor device is then welded. Stem (2) is attached to head (1) of the anchor device by means of a corresponding portion (8) which is coaxial to said back extension (7) and extends forward beyond stem (2), ending with a concave front part (80) which is intended to come into contact with the external lateral surface of standard (6). In practice, head portion (1) of anchor device features a back extension (7) which assures the correct positioning of the anchor device at the end of the tube element to which the anchor device is welded, as well as an opposite front extension (8) featuring a stem (2) at a predetermined distance from head (1) and offering a surface (80) which is intended to come into contact with the standard (6).

[0009] Moreover, the head (1) of the anchor device exhibits a lower extension (9) having the shape of a reversed "L", whose vertical portion (90) is basically parallel to stem (2) and whose horizontal portion (91) ends with a concave surface (92) which is vertically aligned with the analogous surface (80) presented by the above mentioned front extension (8) and which, similarly, defines a surface apt to come into contact with the external lateral surface of the standard (6).

[0010] The length of stem (2) is such to allow its introduction both into the bushing (3) or into slit (4) of plate (5) so that it can be removed without the risk that the horizontal part (91) of the extension (9) prevents its uncoupling. With reference to the scheme in Fig. 5, this result can be obtained by providing a working length (L) of stem (2) which is slightly inferior to distance (D) between the horizontal part (91) of the extension (9) and the lower edge (30) of bushing (3). The working length of stem (2) is the length of the portion of stem (2) which, given the geometrical characteristics or dimensions of the bushing (3) and the stem (2), results inside bushing (3).

[0011] Preferably, the value of "L" is about 2 mm inferior to the value of size "D".

[0012] As shown in the figures of the enclosed drawings, stem (2) of the present anchor device is positioned between two parts (8, 91) parallel to each other, which are opposite to each other and both connected to head (1) of the anchor device: the distance (DD) between said parts (8, 91) being greater than height (H) of bushing (3).

[0013] Two safety rings (10,11) are hinged on the vertical part (90) of extension (9). The upper ring (10) is raised and acts as an anti-removal ring when the anchor

device is anchored to plate (5) as shown in Fig.2 and in Fig. 4. The lower ring (11) is raised and acts as an anti-removal ring when the anchor device is anchored to bushing (3) as shown in Fig.1 and in Fig. 3.

[0014] In the examples of Fig. 3 and Fig. 4, front extension (8) features two skewed transversal holes (12,13) into which conventional pipette type anchor devices provided at the ends of diagonal elements of the scaffold can be introduced (Fig. 4 schematically shows a diagonal element represented by a dotted line indicated with numerical reference 14).

[0015] In practice, executional details can vary equally, regardless of the shape, dimensions, disposition of elements and materials used, without, moreover, exceeding the parameters of the idea for the adopted solution and thus remaining within the limits of the tutelage accorded by the present patent.

Claims

1. Anchor device for scaffolds comprising a head portion (1) to be fixed to the end of a scaffold element and a stem (2) positioned at a predetermined distance from head (1) and intended to be introduced into a slit offered by a plate (5) or into a bushing (3) welded to a scaffold standard (6), **characterised in that** the stem (2) of the anchor device is positioned between two parts (8, 91) parallel to each other, which are opposite to each other and both connected to the head (1) of the anchor device, **in that** the distance (DD) between said parts (8, 91) is greater than height (H) of bushing (3) and **in that** the working length (L) of stem (2) is slightly inferior to distance (D) between an horizontal part (91) of a respective extension (9) and the lower edge (30) of bushing (3).

2. Anchor device according to claim 1 **characterised in that** the value of length (L) is about 2 mm inferior to the value of distance (D).

3. Anchor device according to claim 1 **characterised in that** said stem (2) is connected to head (1) of the anchor device by means of a portion (8) which extends forward beyond stem (2) and ends with a concave frontal part (80) intended to come into contact with the external lateral surface of standard (6).

4. Anchor device according to claim 1 **characterised in that** said head (1) features a lower extension (9) having the shape of a reversed "L" whose vertical part (90) is substantially parallel to said stem (2) and whose horizontal part (91) ends with a concave surface (92) defining a surface intended to come into contact with the external lateral surface of standard (6).

5. Anchor device according to claims 3 and 4 **characterised in that** said surfaces (80, 92) which are intended to come into contact with the external surface of standard (6) are vertically aligned.

6. Anchor device according to claim 1 **characterised in that** two safety rings (10,11) are hinged on the vertical part (90) of said extension (9).

7. Anchor device according to claim 1 **characterised in that** it features two skewed transversal holes (12, 13).

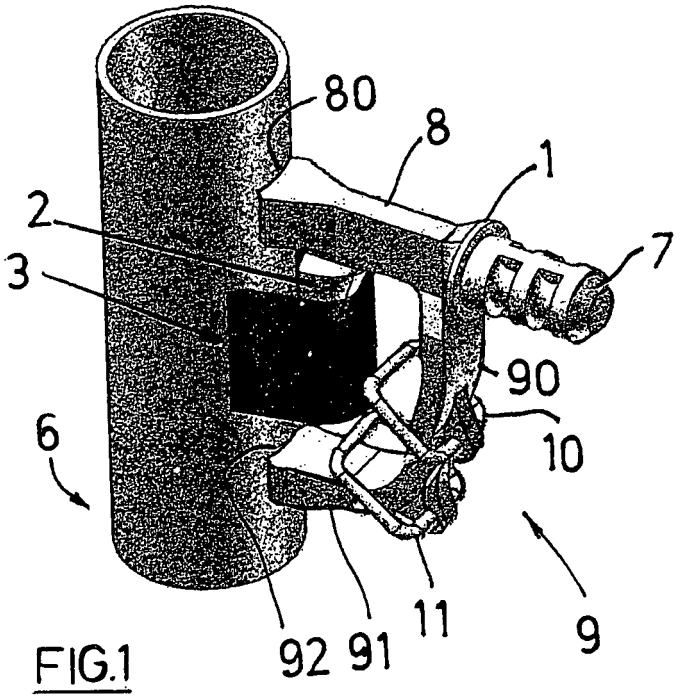

FIG.1

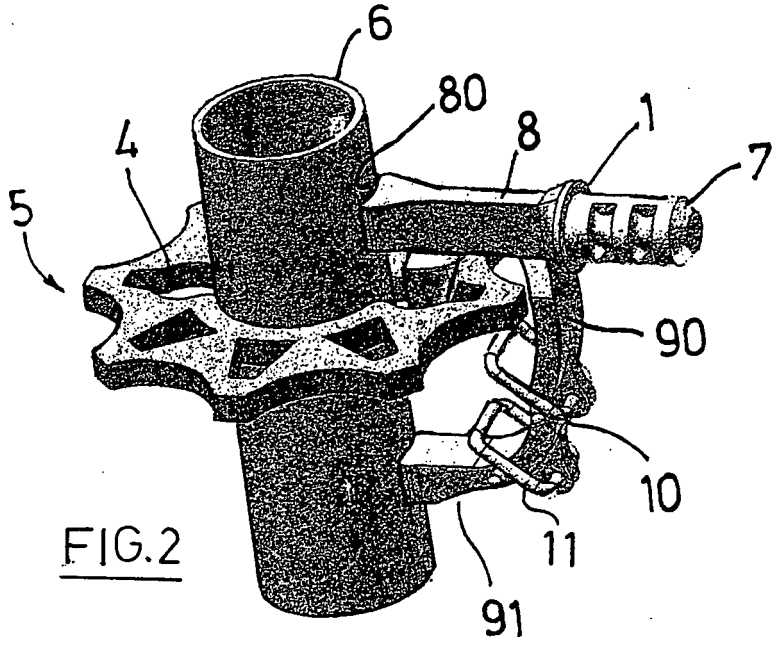

FIG.2

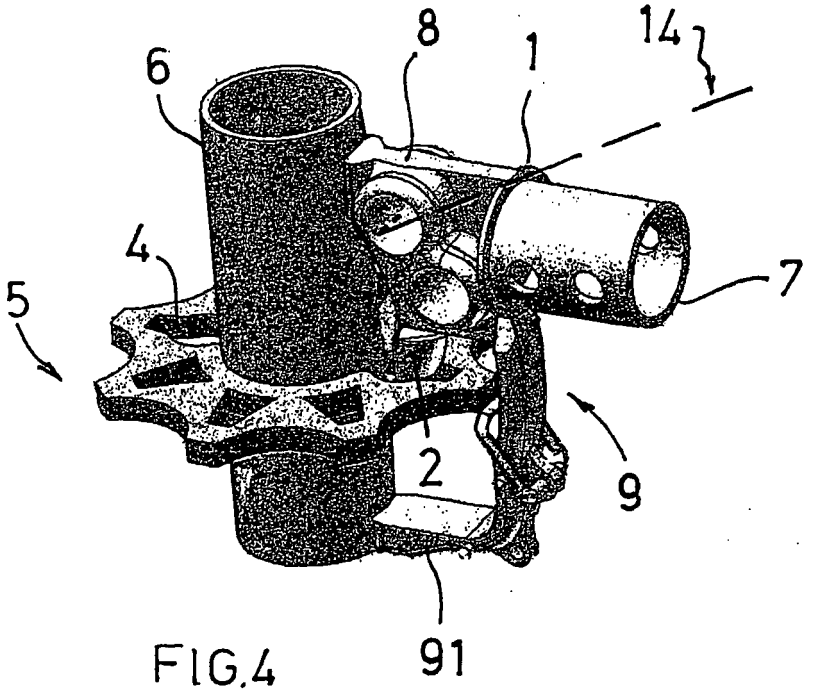

FIG.4

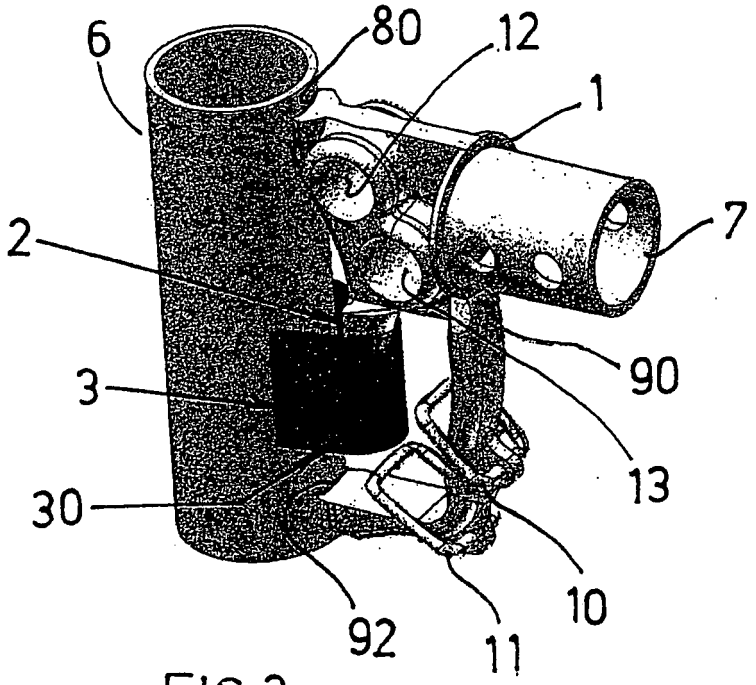

FIG.3

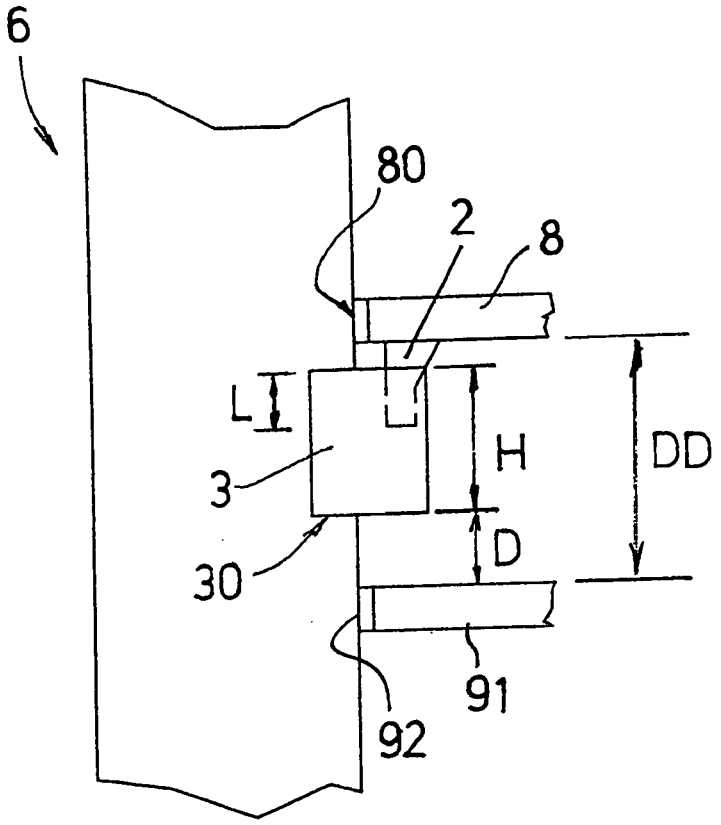

FIG.5