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(54) A METHOD OF MOUNTING A SUSPENDED SCAFFOLD

VERFAHREN ZUR MONTAGE EINES HÄNGEREGALS

PROCÉDÉ DE MONTAGE D'UN ÉCHAFAUDAGE EN SUSPENSION

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Description**Area of the invention**

[0001] The invention relates to a method for mounting a suspended working scaffold along the eaves (12) of a roof.

Background of the invention

[0002] When repairing roofs, a scaffold is constructed today along the entire facade from the ground also for city buildings which are many stories high. The scaffold must remain during the entire roof repair for safety reasons.

Prior art

[0003] Several patent specifications disclose suspended scaffolds mounted on the roof:

AT 167 012 shows a scaffold which, from the roof, can be swung past the eaves and take support against the wall.

US 1,442,697 shows a scaffold that is mounted with hinges on a board which is secured in long cables and can be moved sideways.

DE 10 2009 013 463 shows a scaffold that does not take support against the wall.

US5,664,391 shows a scaffold mounted on a support which includes J-hooks which grip under the roof joists.

US 2002/0139614 A1 shows a scaffold that is suspended on the top edge of the wall under the roof.

Object of the invention

[0004] A goal of the invention is to rapidly and economically mount a scaffold along the eaves in order to simplify and render more economical repair work on the eaves and/or on the entire roof.

Short description of the invention

[0005] A suspended working scaffold is mounted along the eaves of a roof by mounting and fastening a number of separate scaffolds to the roof with hinge joints and to swing them past the eaves. Then, catwalks are coupled between the catwalks of the scaffolds so that a continuous catwalk is obtained alongside the eaves. Even if the building is long, it is possible to readily obtain a scaffold along the entire eaves. The invention is defined by the claims.

Short description of the drawings, which show an example of the invention

[0006]

Figure 1 shows a mounted, individual, suspended scaffold.

Figure 2 shows a roof fastener for the suspended scaffold according to figure 1.

Figure 3 shows the suspended scaffold according to figure 1 while being mounted.

Figure 4 is a side view of the mounted suspended scaffold according to figure 1.

Figure 5 shows a finished suspended scaffold mounted according to the invention.

Description of the example shown

[0007] **Figure 1** schematically shows a part of a building with wall 10 and roof 11 with eaves 12. A suspended building scaffold comprises two fasteners 14, 15 fastened to the roof and each one supports the same kind of support unit 16, 17 which comprises stands 18, 19 in which a catwalk 13 rests and is fixed by screws, that is, the catwalk is fastened to and coupled between the support units.

[0008] The support units 16, 17 are identical and the support unit 16 is shown in a side view in **figure 4**. A bar 20 is fastened by a hinge joint 21 in fastener 14 and it has a vertical part 22 which supports the stand 18. The stand 18 comprises a vertical square tube 25 into which the vertical part 22 of the bar is telescopically inserted and fixed with screws. The stand 18 comprises a horizontal part 26 which extends out from the eaves and carries a vertically upright part 27 which supports a protective railing carrier 28 with fasteners 29 for a protective rail which is not shown. The angle between the bar 20 and its vertical part 22 can be adjusted with a link 30 fastened in a movable sleeve 31 on the bar. The stand 18 therefore has a U-shaped form with an inner shank 25 and an outer shank 27. The inner shank 25 of the stand 18 has an extension 32 with a fastener 33 with which the stand can be screwed to the eaves, and the horizontal part 26 of the stand has a telescopically mounted and fixed support 24 which is supported against the house wall. The stand can of course be supported and fixed in a different manner than the one shown. The catwalk 13 advantageously consists of folded sheet metal with a U-shaped cross section and fits in the stands 18, 19 and it is stable in spite of being light. The stands 18, 19 comprise protective rail supports 28 with fasteners 29 for-rails, such as two-by-four, making up the protective rail.

[0009] The building scaffold shown in figure 1 is made ready on the roof with fasteners 14, 15 mounted in the roof and the bars extending upward along the roof as shown in **figure 3**. The scaffold is then swung down to its working position shown in figure 1. It can be advanta-

geous to use lines or possibly a winch in order to control the swinging. This is repeated so that individual scaffolds are obtained at an interval from one another all along the eaves. Then, the catwalks 13 of the separate scaffolds are coupled together with intermediate catwalks 37 which advantageously consist of folded sheet metal and have a U-shaped section that fits with an overlap into the catwalks 13, and the protective rail is mounted along the entire scaffold by placing two-by fours in the fasteners 29 of the protective rail supports. In this way a continuous building scaffold can be obtained in a simple manner all along the entire eaves, as is shown in **figure 5**. The protective rails are not shown in the figures. When the eaves is being repaired, a protective rail can be mounted on the eaves, e.g. on a newly mounted on-roof gutter 40 if the remainder of the roof is to be repaired. Then, the entire scaffold can be dismantled in reverse order before the work begins on the rest of the roof.

[0010] The suspended individual scaffold shown in figures 1-4 with its catwalk is only an example which can be modified within the scope of the patent claims.

[0011] The bars 20 and their vertical parts 22 can be removed, as is apparent from **figure 5**, in order to facilitate the work on the roof and the eaves, e.g. when the on-roof gutter 40 is to be replaced. The fasteners 14, 15 are to be mounted above the sheet metal with the old on-roof gutter and the sheet metal with the old stand groove is first removed and angle-irons 41 are fastened in the roof in which angle-irons the fasteners 33 can be anchored against the eaves before the bars 20, 22 are removed. These angle-irons 41 can then remain under the new sheet metal as is shown in figure 4. **Figure 2** shows the fastener 14, which is bent and has a hole in the shape of a keyhole 42 in order to be able to be fastened on a screw 43. This screw 43 can possibly permanently remain. In case a new sheet metal roof is mounted, a hood 44 can be made over the screw 43 and this hood then functions as a ventilation for the roof. In the case of a tile roof, the screw can remain under the tile. Once the screws 43 and the angle-irons 41 are permanently mounted, one can simply remount a building scaffold whenever required by introducing the keyhole 42 of the fasteners 14 in under the hood 44. In the case of a new production, screws 43 and angle-irons 41 can be mounted in order to obtain permanent fasteners for mounting a building scaffold.

[0012] In order to be able to remove the building scaffold, the bars 20, 22 are remounted, the intermediate catwalks 37 taken away and the fasteners 33 are loosened, and thereafter the individual scaffolds can be swung up on the roof and demounted.

Claims

1. Method for mounting a suspended working scaffold along the eaves (12) of a roof, **characterized in that** a number of separate working scaffolds, which have

catwalks (13), are mounted and fastened at intervals on the roof by means of hinge joints (21), and the scaffolds are swung past the eaves, and then intermediate catwalks (37) are coupled between the catwalks (13) of the scaffolds so that a continuous catwalk is obtained along the eaves.

2. Method according to Claim 1, **characterized in that** the separate scaffolds are made ready on the roof in such a manner that they comprise two support units (16, 17), each of which comprises a bar (20, 22) which supports a stand (18, 19) for the catwalk (13) coupled between the stands and extends up along the roof and is fastened with one of said hinge joints (21) to the roof.
3. Method according to Claim 2, **characterized in that** the stands (18, 19) have a U-shape and couple the bars (20, 22) to inner shanks (25) of the stands and protective rails to the outer shanks (27) of the stands.
4. Method according to claim 2 or 3, **characterized in that** the catwalks (13) of the separate scaffolds are made of folded sheet metal and have a U-shaped cross section.
5. Method according to anyone of the preceding claims, **characterized in that** the intermediate catwalks (37) are coupled to the catwalks (13) of the separate scaffolds by using intermediate catwalks which fit into the catwalks of the separate scaffolds and are placed into them with overlap.
6. Method according to Claim 2, **characterized in that** the stands (18, 19) are anchored in the eaves and the bars (20, 22) are demounted, and then the bars are remounted and the anchorings loosened when the scaffolds are to be swung back up on the roof.
7. Method according to Claim 6, **characterized in that** permanent fasteners (41) are mounted in the eaves in which the stands (18, 19) can be anchored.
8. Method according to Claim 7, **characterized in that** the permanent fasteners (41) in the eaves are anchored in the roof.
9. Method according to one of the previous claims for renovating an entire roof, **characterized in that** the eaves are repaired and a protective rail is mounted on it, and thereafter the entire working scaffold is demounted before the roof is renovated.

Patentansprüche

1. Verfahren zur Montage eines Arbeitshängegerüsts entlang der Traufe (12) eines Dachs, **dadurch ge-**

kennzeichnet, dass mehrere separate Arbeitsgerüste, die Laufstege (13) aufweisen, in Abständen mit Gelenkverbindungen (21) am Dach montiert und befestigt werden, und die Gerüste an der Traufe vorbei geschwenkt und anschließend Zwischenlaufstege (37) zwischen den Laufstegen (13) der Gerüste angefügt werden, sodass ein durchgängiger Laufsteg entlang der Traufe erhalten wird.

2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** die separaten Gerüste an dem Dach derart vorbereitet werden, dass sie zwei Trageinheiten (16, 17) umfassen, von denen jede eine Stange (20, 22) umfasst, die eine Stütze (18, 19) für den Laufsteg (13) trägt, der zwischen den Stützen befestigt ist, und das Dach entlang nach oben verläuft und mit einer der Gelenkverbindungen (21) am Dach befestigt ist.
3. Verfahren nach Anspruch 2, **dadurch gekennzeichnet, dass** die Stützen (18, 19) eine U-Form aufweisen und die Stangen (20, 22) mit inneren Schenkeln (25) der Stützen und ein Schutzgeländer mit den äußeren Schenkeln (27) der Stützen verbinden.
4. Verfahren nach Anspruch 2 oder 3, **dadurch gekennzeichnet, dass** die Laufstege (13) der separaten Gerüste aus gebogenem Blech gefertigt sind und einen U-förmigen Querschnitt aufweisen.
5. Verfahren nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Zwischenlaufstege (37) mit den Laufstegen (13) der separaten Gerüste unter Verwendung von Zwischenlaufstegen verbunden werden, die in die Laufstege der separaten Gerüste passen und mit Überdeckung in ihnen angeordnet werden.
6. Verfahren nach Anspruch 2, **dadurch gekennzeichnet, dass** die Stützen (18, 19) in der Traufe verankert werden und die Stangen (20, 22) abmontiert werden und dann die Stangen erneut montiert werden und die Verankerungen gelockert werden, wenn die Gerüste wieder auf das Dach geschwenkt werden sollen.
7. Verfahren nach Anspruch 6, **dadurch gekennzeichnet, dass** dauerhafte Verbindungselemente (41) in der Traufe montiert werden, in denen die Stützen (18, 19) verankert werden können.
8. Verfahren nach Anspruch 7, **dadurch gekennzeichnet, dass** die dauerhaften Verbindungselemente (41) in der Traufe im Dach verankert werden.
9. Verfahren nach einem der vorhergehenden Ansprüche zum Sanieren eines kompletten Dachs, **da-**

durch gekennzeichnet, dass die Traufe repariert wird und ein Schutzgeländer daran angebracht wird und danach das gesamte Arbeitsgerüst abmontiert wird, bevor das Dach saniert wird.

Revendications

1. Procédé de montage d'un échafaudage de travail en suspension le long de l'avant-toit (12) d'un toit, **caractérisé en ce que** plusieurs échafaudages de travail séparés, qui possèdent des passerelles (13), sont montés et fixés à des intervalles sur le toit au moyen de joints articulés (21), et les échafaudages sont basculés par-dessus l'avant-toit, puis des passerelles (37) intermédiaires sont couplées entre les passerelles (13) des échafaudages de sorte qu'une passerelle continue est obtenue le long de l'avant-toit.
2. Procédé selon la revendication 1, **caractérisé en ce que** les échafaudages séparés sont préparés sur le toit de telle manière qu'ils comprennent deux unités de support (16, 17), dont chacune comprend une barre (20, 22) qui supporte un élément de soutien (18, 19) pour la passerelle (13) couplée entre les éléments de soutien, et s'étend vers le haut le long du toit et est fixée au toit au moyen de l'un desdits joints articulés (21).
3. Procédé selon la revendication 2, **caractérisé en ce que** les éléments de soutien (18, 19) présentent une forme de U et couplent les barres (20, 22) à des montants intérieurs (25) des éléments de soutien et des garde-corps aux montants extérieurs (27) des éléments de soutien.
4. Procédé selon la revendication 2 ou 3, **caractérisé en ce que** les passerelles (13) des échafaudages séparés sont constituées de tôle pliée et présentent une section transversale en forme de U.
5. Procédé selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les passerelles intermédiaires (37) sont couplées aux passerelles (13) des échafaudages séparés en utilisant des passerelles intermédiaires qui rentrent dans les passerelles des échafaudages séparés et sont placées dans celles-ci avec un chevauchement.
6. Procédé selon la revendication 2, **caractérisé en ce que** les éléments de soutien (18, 19) sont ancrés dans l'avant-toit et les barres (20, 22) sont démontées, puis les barres sont remontées et les ancrages desserrés quand les échafaudages doivent être basculés de nouveau sur le toit.
7. Procédé selon la revendication 6, **caractérisé en ce**

que des éléments de fixation (41) permanents sont montés dans l'avant-toit, dans lesquels les éléments de soutien (18, 19) peuvent être ancrés.

8. Procédé selon la revendication 7, **caractérisé en ce que** les éléments de fixation (41) permanents dans l'avant-toit sont ancrés dans le toit. 5
9. Procédé selon l'une des revendications précédentes destiné à rénover un toit entier, **caractérisé en ce que** l'avant-toit est réparé et un garde-corps est monté sur celui-ci, et ensuite tout l'échafaudage de travail est démonté avant que le toit ne soit rénové. 10

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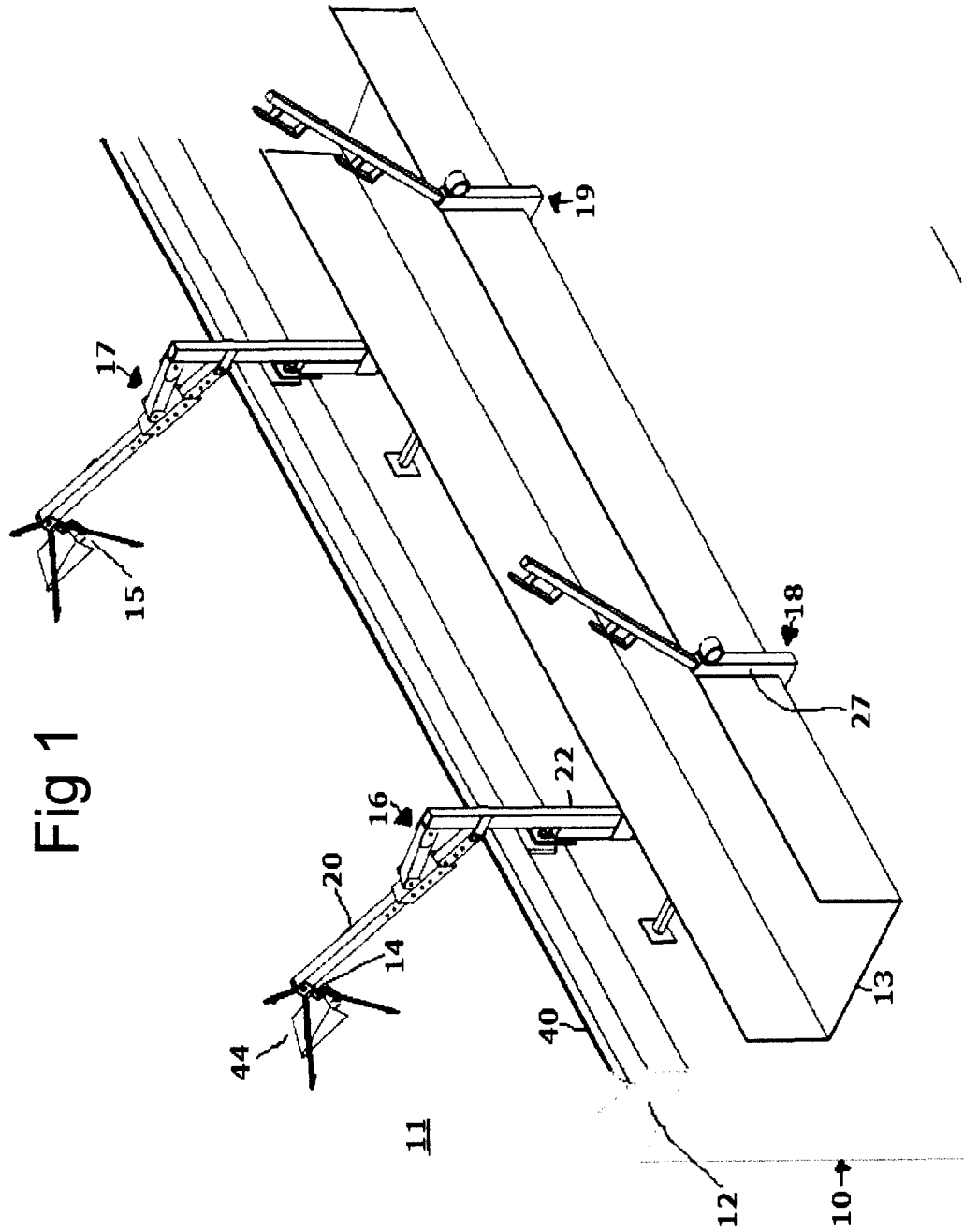
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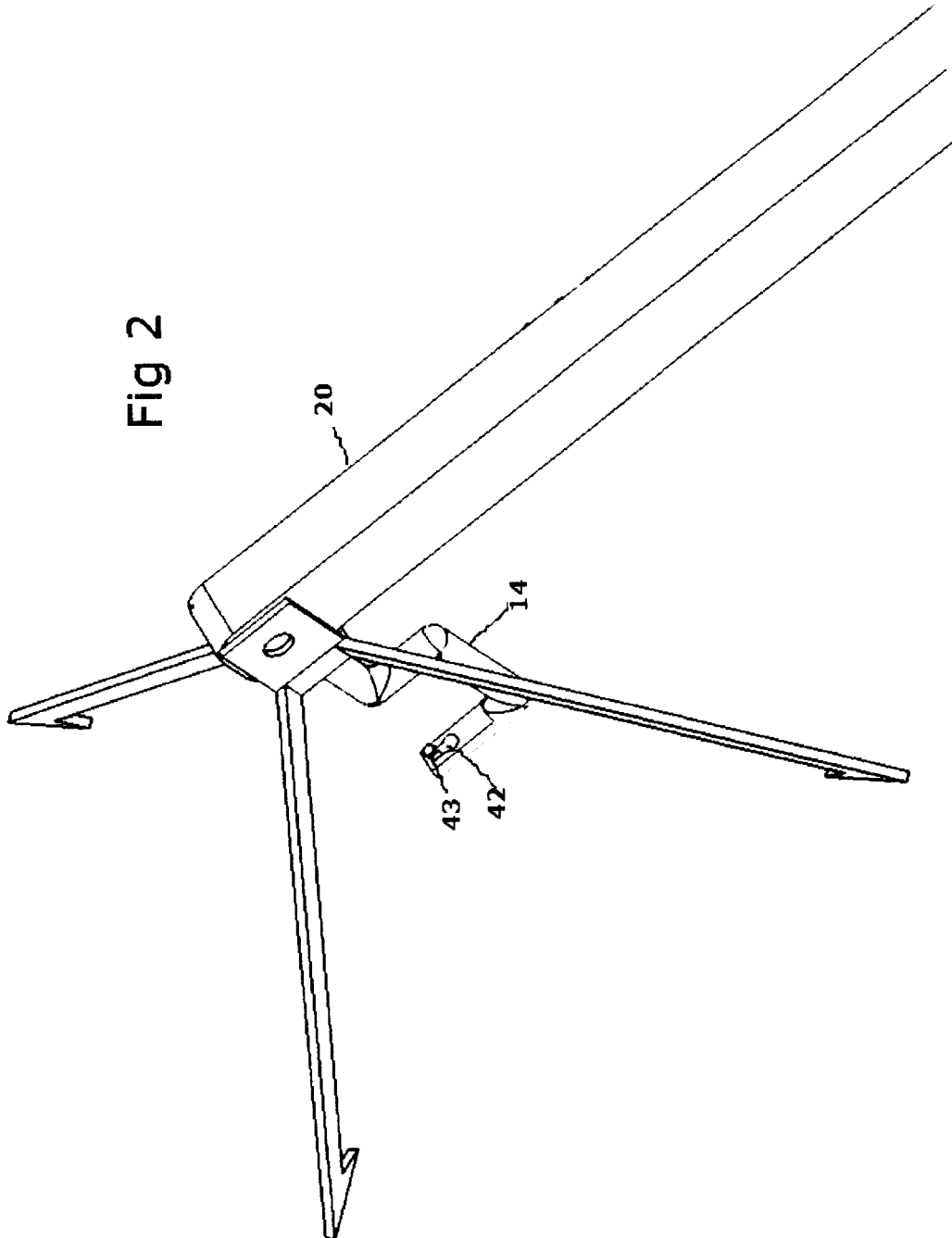
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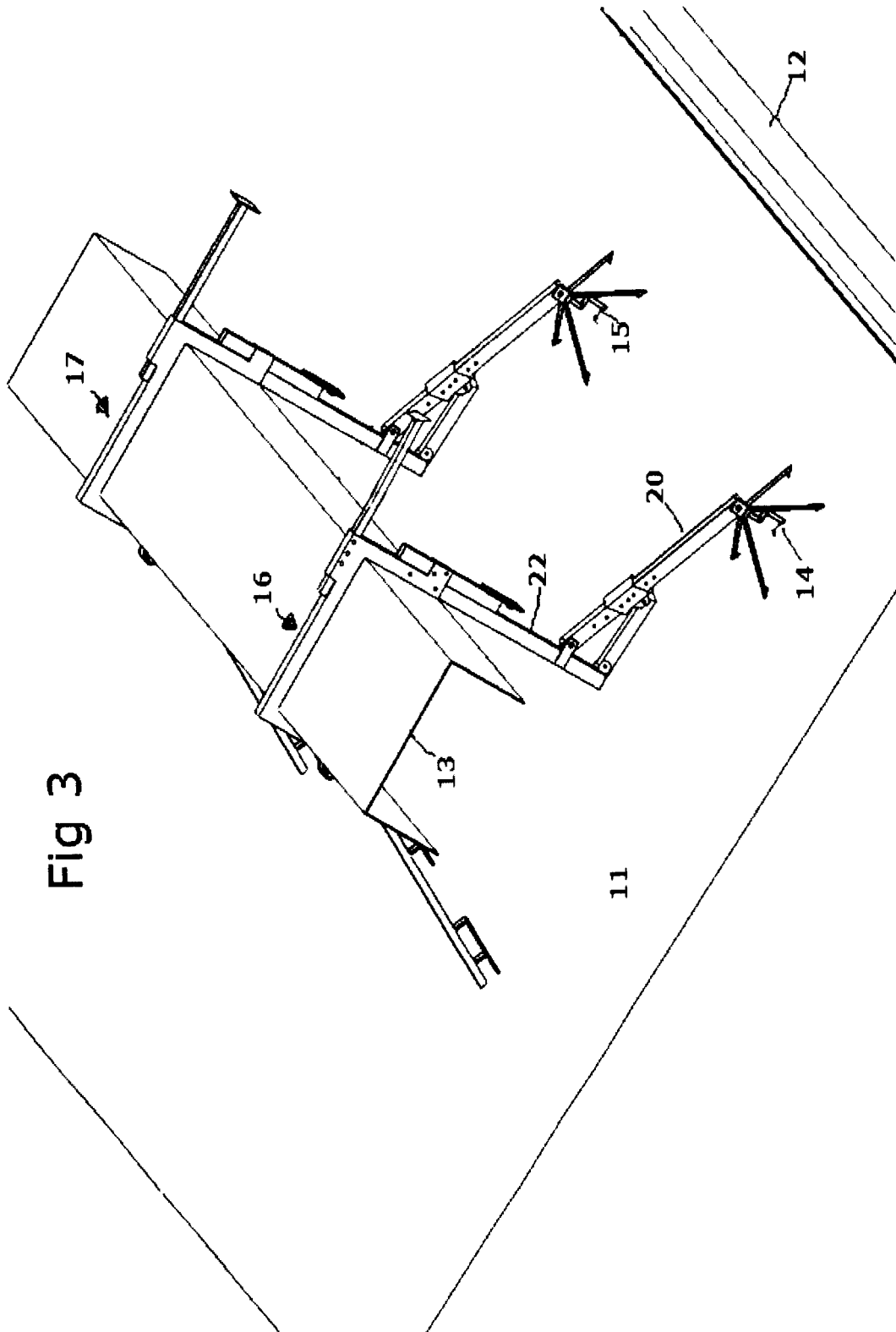


Fig 3

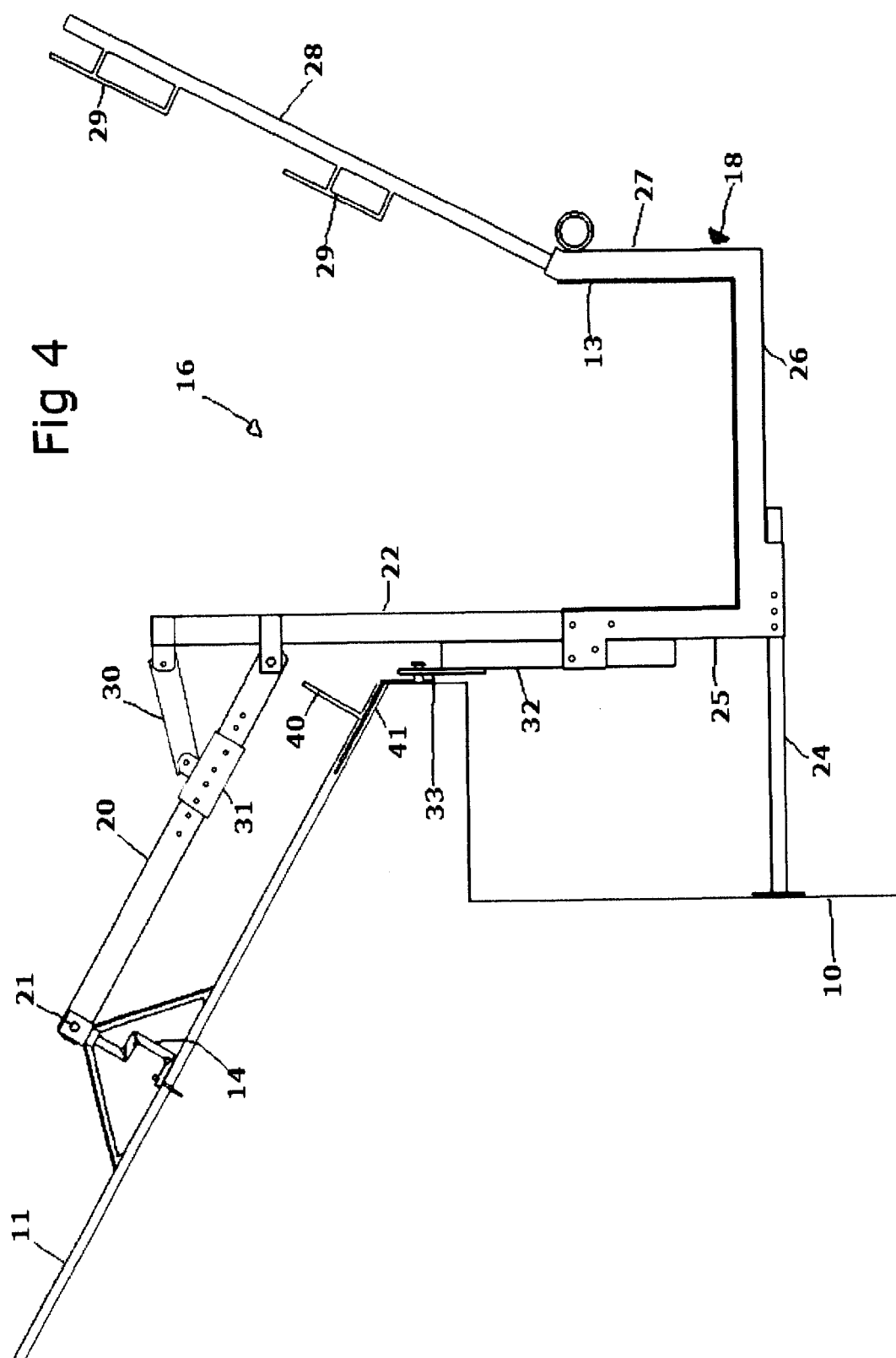


Fig 4

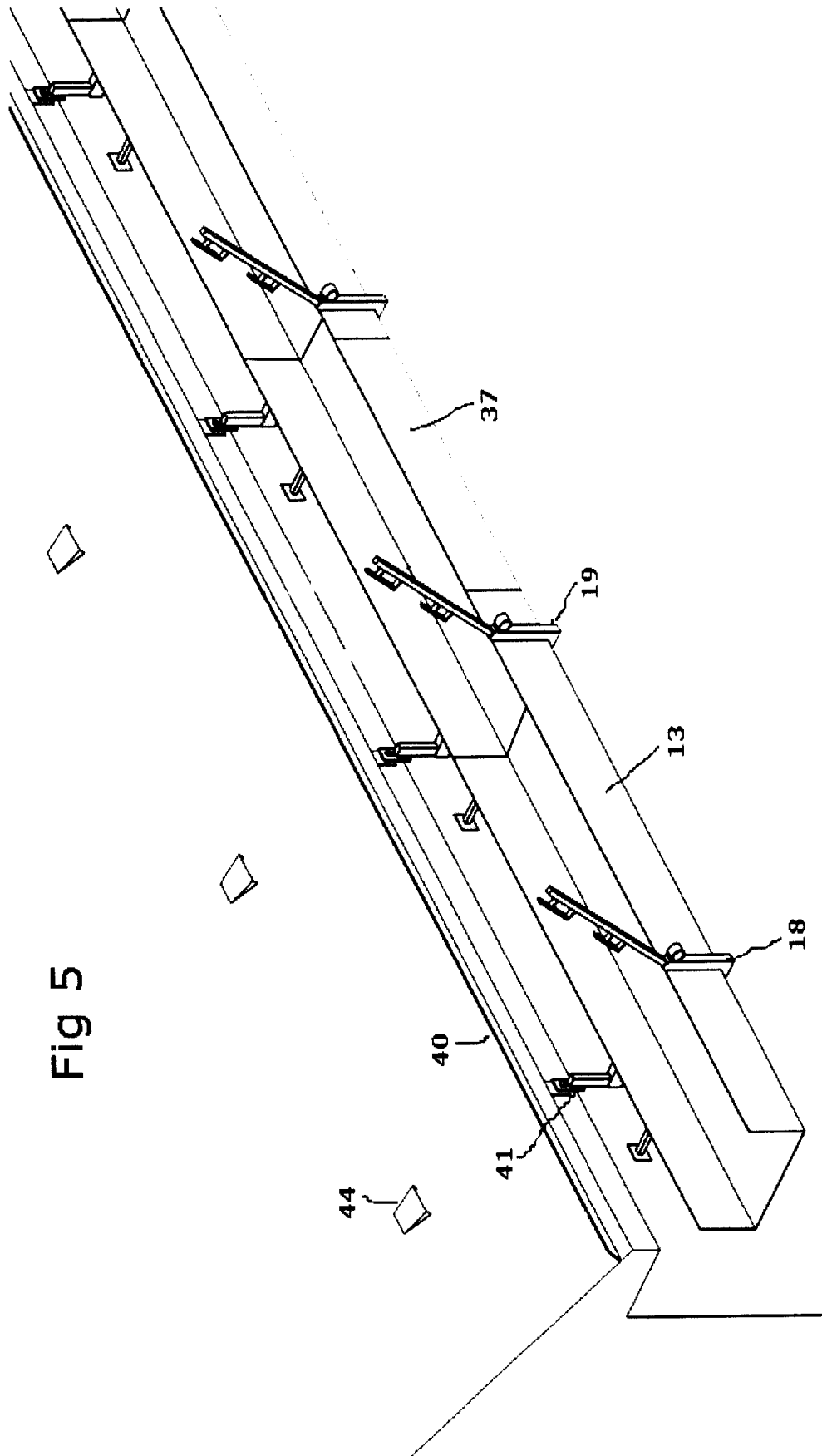


Fig 5

REFERENCES CITED IN THE DESCRIPTION

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