US 20080142302A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2008/0142302 A1

(43) Pub. Date: Jun. 19, 2008

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(54) STEP FOR TEMPORARY INSTALLATION

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(21) Appl. No.: **11/638,415**

(22) Filed: **Dec. 14, 2006**

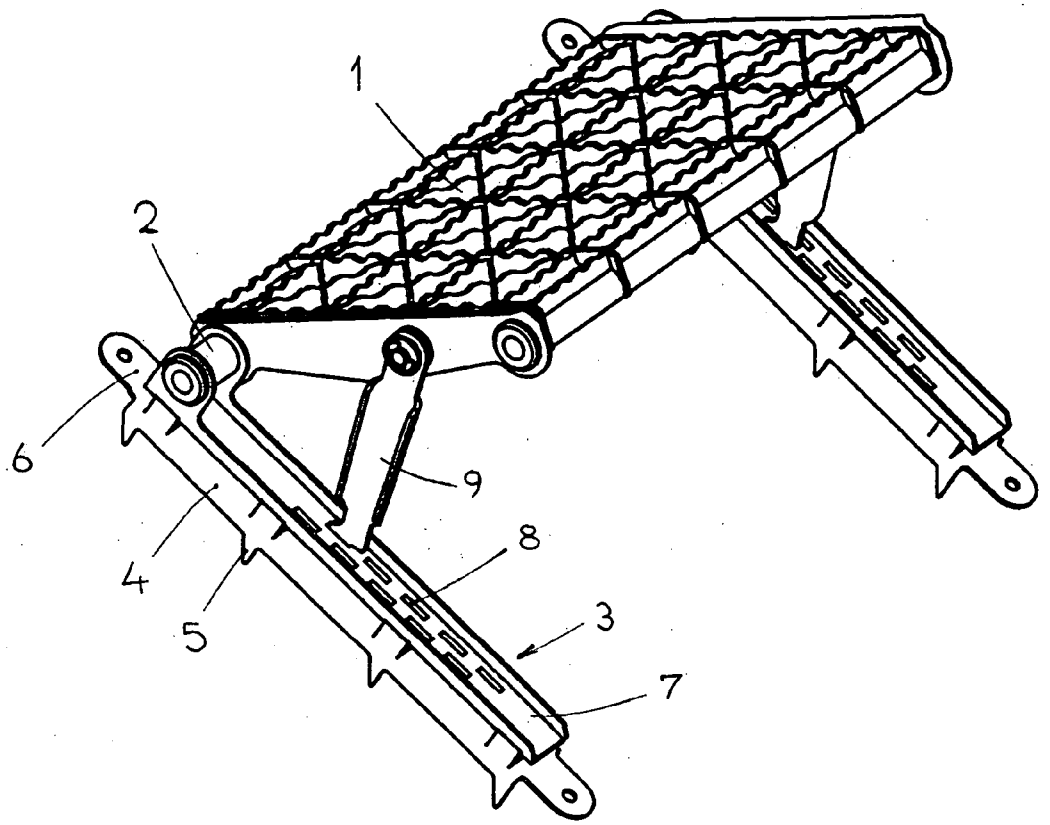
Publication Classification

(51) **Int. Cl.**
E04G 21/32 (2006.01)
E04G 1/15 (2006.01)

(52) **U.S. Cl.** **182/222**

(57) **ABSTRACT**

A step for temporary installation upon slopes, comprising a step board (**1**) pivoting around its horizontal axis and provided with tilting struts (**9**) for adjusting the angle between the plane of the board and the plane of the slope, bears at its rear side lateral pin joints (**2**) attaching rails (**3**) whose bottom side is provided with means for fixing to the slope.



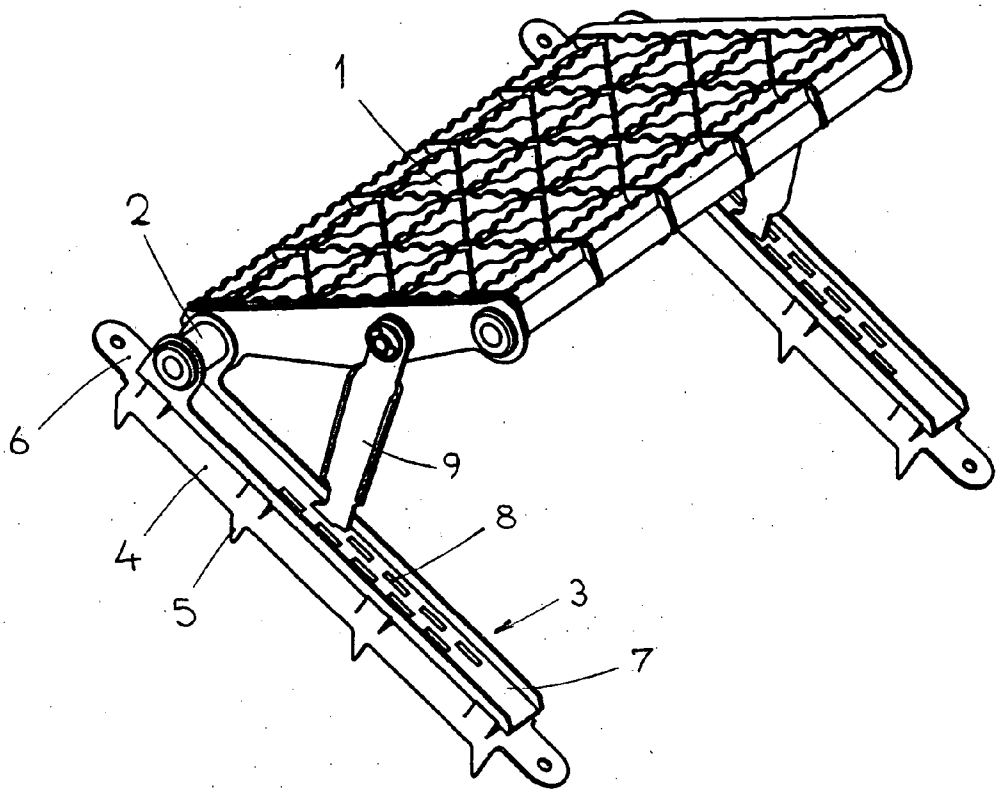


Fig. 1

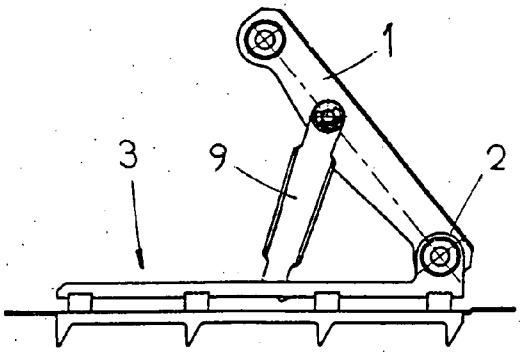


Fig. 2

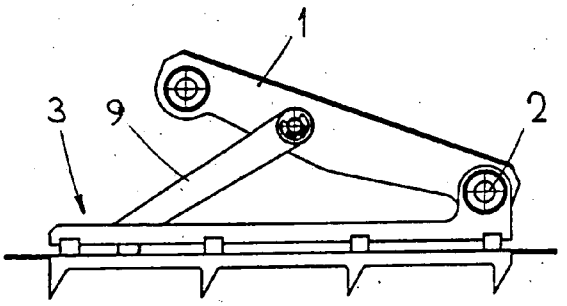


Fig. 3

STEP FOR TEMPORARY INSTALLATION

TECHNICAL FIELD

[0001] The invention relates to a step for temporary installation upon a slope, consisting of a step board pivoting around its horizontal axis and provided with tilting struts for adjusting the angle between the plane of the board and the plane of the slope.

PRIOR ART

[0002] When working on steep slopes, such as during rescue work in water channels, during construction and maintenance work on roofs etc., various devices are used for ensuring relatively comfortable and safe temporary stairs. The specification CH 636166 discloses a ladder intended for working upon slopes and provided with stair steps pivoting in lengthwise profiles. Each board accommodates a toothed wheel inside the profile, all wheels being interlinked by way of a rack bar serving to adjust the same position, i.e. horizontal position of all steps on any slope, by moving the rack bar. The abstract JP 9268868 describes a temporary step consisting of a H-shaped frame made of tubes supporting the pivoting step board provided with struts for setting the angle of the board with respect to the frame. This step is created as a part of a rigid staircase that can be dismantled and is intended for use upon slopes. The slopes whereon stable and safe stairs should be erected tend to be of varying steepness, and also of varying horizontal curvature. The disadvantage of both described stairs resides in that they are unable to match the changeable surface of the slope, which results in moving under the user longitudinally and transversally and making climbing on them dangerous. Yet another drawback resides in that they require at least one fixed support, at best under the bottom end of a stair or ladder, which can hardly be achieved, e.g. in the case of water channels.

[0003] It is an aim of the present invention to design a step allowing to ensure stable and safe temporary stairs on any slope with simple means.

SUMMARY OF THE INVENTION

[0004] The above task can be solved by a step for temporary installation upon slopes, consisting of a step board pivoting around its horizontal axis and provided with tilting struts to adjust the angle between the plane of the board and the plane of the slope, characterised in that the rear side of the board bears laterally pin joints for attaching the rails whose bottom side carries means for fixing to the slope.

[0005] An embodiment with pin joints outside of the lateral sides of the board is preferable to improve the stability of the stairs.

[0006] It is preferable to have a rail consisting of a bottom side provided with pins for piercing into the soil and a higher upper batten carrying the pin joint and being provided with holes with which the bottom part of the strut can mesh. This arrangement reduces the soiling of joints and holes with earth.

[0007] The holes can be executed in two offset rows for enabling fine adjustment of the inclination.

[0008] Both ends of the rail can have projections with holes for interconnecting adjacent steps, e.g. by nails driven into the ground that help to stabilise the stairs.

[0009] A favourable embodiment of the step board has the form of a grid.

BRIEF DESCRIPTION OF THE DRAWING

[0010] The invention will be further clarified by way of a drawing, FIG. **1** being an axonometric representation of a step located upon a slope, whereas

[0011] FIGS. **2** and **3** represent a step according to FIG. **1** in lateral view adjusted with the largest and smallest inclination with regard to the slope.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0012] The step for temporary installation upon slopes consists of a step board **1** executed as a grid and provided laterally with pin joints **2** with horizontal axis at its rear side. Rails **3** consisting of two parts are pivoted to board **1** by way of pin joints **2** located outside of the step board **1**. The bottom part **4** in form of U profile is provided with pins **5** at the bottom side for being driven into the ground and bears projections **6** with holes that serve for linking of adjacent steps, e.g. by nails driven into the ground. The elevated upper batten **7** bears a pin joint **2** and has two rows of offset holes **8**. These holes serve for accepting the bottom end of strut **9** pivoted by its upper end at the side of step board **1**.

[0013] The step can be installed upon a slope by driving the pins **5** of rails **3** into the ground, whereupon the bottom ends of struts **9** are inserted into holes **8** so as to ensure the horizontal position of board **1**. It is obvious that this arrangement will enable, by suitable choice of holes **8**, to achieve uniform support of board **1** on both sides, even in cases of varying inclination of the slope under rails **3**. The adjacent upper or bottom step can be installed in analogy. It can be attached to the installed step so as to allow the holes of the corresponding projections **6** of rails **3** of the adjacent steps to overlap, whereupon a nail will be driven through these holes, fixing the stairs in the slope even more firmly. A staircase created in this way perfectly copies the varying inclination and the unevenness of the slope, offering a firm and safe support to the user.

1. A step for temporary installation upon slopes, comprising a step board pivoting around its horizontal axis and provided with tilting struts to adjust the angle between the plane of the board and the plane of the slope, wherein the step board bears laterally pin joints for attaching rails whose bottom side carries means for fixing to the slope.

2. The step according to claim **1**, wherein the pin joints are outside the lateral sides of the board.

3. The step according to claim **1**, wherein each rail comprises a bottom side provided with pins for being driven into the ground and a higher upper batten carrying said pin joint and being provided with holes accepting the bottom end of the tilting strut.

4. The step according to claim **3**, wherein the holes are arranged in two offset rows.

5. The step according to claim **1**, wherein both ends of each rail have projections with holes for interconnecting adjacent steps, e.g. by nails driven into the ground.

6. The step according to claim **1**, wherein the step board has the form of a grid.

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