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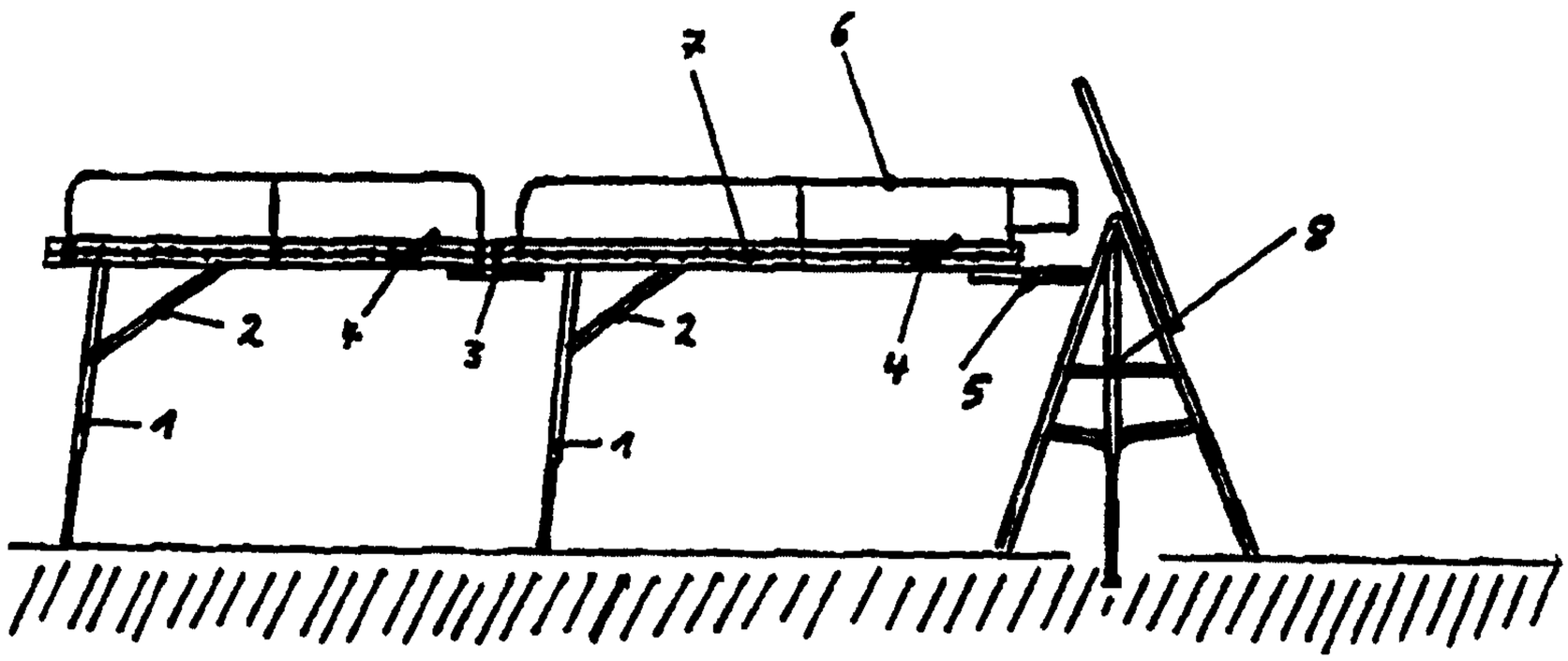
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(54) **SUPPORT DE TRAVAIL A USAGES MULTIPLES**
(54) **MULTIPURPOSE WORK SUPPORT**



(57) L'exécution de certains travaux requiert l'utilisation de passerelles ou plateformes de travail rapides à installer. Selon l'invention, il est prévu un support de travail à usages multiples, aux extrémités duquel sont montées des barres de soutien (1) pouvant être dépliées et repliées. Ces barres de soutien sont reliées à des barres de raccordement (2) pouvant également être dépliées et repliées, qui servent d'éléments de sécurité pour empêcher l'écartement des barres de soutien et assurer leur stabilité. Ces barres de soutien et de raccordement (1, 2) sont repliées parallèlement aux longerons du support de travail, lorsque ce dernier n'est pas utilisé. Les côtés extérieurs du support de travail sont constitués chacun de deux longerons superposés. La surface sur laquelle se déplace l'utilisateur est formée par des marches d'escalier adjacentes qui constituent une surface plane lorsqu'elles sont repliées (7). Les faces avant des marches d'escalier sont reliées de façon articulée au longeron supérieur et les faces arrière au longeron inférieur.

(57) Working ramps or platforms that can be easily assembled are required to carry out certain tasks. The invention relates to a multipurpose work support with folding support bars (1) on its ends. Said support bars are in turn connected to folding connecting bars (2) to prevent bars from opening too widely and to ensure stability. The support and connecting bars (1, 2) can be folded parallel to the multipurpose support beams when not in use. Both outer sides of the multipurpose support consist of overlapping beams. The walking surface is made from a line of steps which provide a flat surface (7) when folded. The front sides of the steps are hingedly connected to the top beam and the rear sides of the steps are hingedly connected to the bottom beam.

PCT

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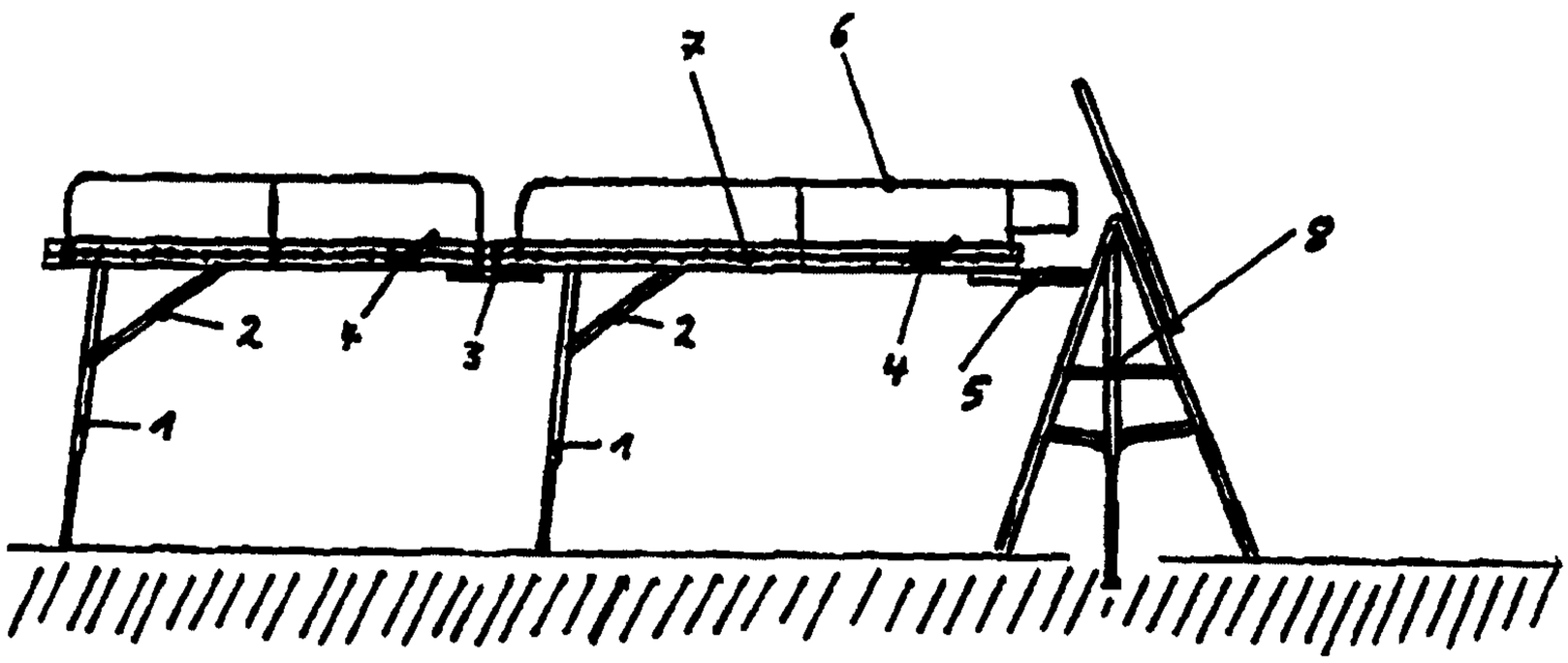
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Veröffentlicht

Mit internationalem Recherchenbericht.
Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist; Veröffentlichung wird wiederholt falls Änderungen eintreffen.

(54) Title: MULTIPURPOSE WORK SUPPORT

(54) Bezeichnung: MEHRZWECK–ARBEITSDIELE



(57) Abstract

Working ramps or platforms that can be easily assembled are required to carry out certain tasks. The invention relates to a multipurpose work support with folding support bars (1) on its ends. Said support bars are in turn connected to folding connecting bars (2) to prevent bars from opening too widely and to ensure stability. The support and connecting bars (1, 2) can be folded parallel to the multipurpose support beams when not in use. Both outer sides of the multipurpose support consist of overlapping beams. The walking surface is made from a line of steps which provide a flat surface (7) when folded. The front sides of the steps are hingedly connected to the top beam and the rear sides of the steps are hingedly connected to the bottom beam.

Amended text

Multi-purpose scaffold

The invention relates to a multi-purpose scaffold, having two rail parts, arranged adjacent to one another and displaceable relative to one another, between which steps or ladder rungs are arranged to be capable of folding out at an adjustable step angle, and having fold-out splayed supporting poles (1), which can be secured by means of connecting rods (2).

A scaffold of this type has been disclosed by US-A-4,004,652. In this known scaffold, a relatively large standing space is necessary for the two lateral ladder elements.

BE 829 490 A has disclosed a ladder with fold-out stair steps, the stair steps also being foldable to form a flat surface.

In both known apparatuses, a flat standing surface is necessary for the rail parts of the ladders, the steps automatically adjusting to be parallel to the standing surface.

The object of the invention is to improve a scaffold of this generic type so that the step angle can be predetermined irrespective of the available standing or lying surface.

This object is achieved, according to the invention, in that a locking device is provided for locking the two rail parts and the step angle.

Preferred embodiments of the invention are described in the subclaims.

The multi-purpose scaffold according to the invention provides a universal aid to assembly, enabling a plurality of different

climbing appliances and platforms to be combined in a single appliance.

Possible uses:

1. A freely resting catwalk with an absolutely flat movement surface, secured against tilting by means of rails which can be pushed out laterally transversely to the direction of movement and is equipped with fold-in railing.

2. A freestanding working platform, which can also be walked on at a gradient, reached by steps which can be adjusted and fixed at any inclination from the top only. Telescopic supports guarantee adaptation to any surface contour of the standing surface. Extensible and retractable climb-through apertures at the end permit safe access to the movement surface of the multi-purpose scaffold.

3. A supported staircase with any desired angle of support and step inclinations which can be set and locked only from the top or the movement side. The steps can also be folded in completely in any supported position of the staircase and locked so as to form a transport slide or ascending ramp for materials, etc.

4. A freestanding double stepladder with individually adjustable supports, so that the angle of support can be adjusted as desired. The steps can be adjusted and locked at any desired inclination irrespective of the angle of support and separately from the top or movement side only.

A preferred embodiment of the invention is described below with reference to a drawing, in which

Fig. 1 shows two multi-purpose scaffolds connected together as a platform laid on a multi-purpose ladder which is secured by stabilizers,

Fig. 2 shows a multi-purpose scaffold with folded-in steps, folded-in supports, plug-in railings and extended rails as an anti-tilting safety device,

Fig. 3 shows a multi-purpose scaffold in use as a working platform with a sharp gradient and adjusted step inclination, and with folded-out supports and connecting rods, and

Fig. 4 shows a multi-purpose scaffold in use as a freestanding double stepladder.

According to the invention, it is possible to use freestanding or supported working platforms with a flat movement surface (7), which can also be used as a supported staircase or freestanding double stepladder (Figs. 3 and 4) at any desired angle of support, or the supported staircase or double stepladder can be converted into an ascending ramp by folding in the steps, without changing the angle of support or the position of the "staircase" or "double stepladder".

The step inclination is adjusted and locked from the movement side or top by raising and sliding the front sides of the steps with the aid of a lifting and sliding apparatus (4). The steps can also be completely folded in or adjusted and locked at any desired angle of inclination from the movement side or top only, independently of supports, struts, end fixing members, end lower bearing surfaces or changes of position of the lower rail at any designed angle of support of the multi-purpose scaffold used as a staircase. A further advantage is that, for example, the multi-purpose scaffold can initially be

laid on bearing points at different heights in order for a decision then to be made as to whether the steps have to be folded out or whether the multi-purpose scaffold is to be used as an ascending ramp or slide. The step inclination can be adjusted as desired and locked without changing the position or lifting the multi-purpose scaffold. Retractable and extensible access apertures (5) at the ends allow convenient access to the movement side when the multi-purpose scaffold is raised.

The use of the multi-purpose scaffold as a catwalk (Fig. 2) or as a supported staircase requires anti-tilting protective devices (9) which are formed by telescopic or extensible rails (9) and attached transversely to the longitudinal or movement direction of the multi-purpose scaffold. Supporting bars (1) articulated on the long sides are telescopic and provided at the foot ends with fold-in rollers or fold-in footboards. The standing or splayed position of the support bars (1) is secured with telescopic connecting rods (2). The support bars (1), connecting rods (2) and extensible rails (9) do not affect the adjustment of the steps in the folded-out or folded-in state, as they are fixed to or articulated on the lower rails (Fig. 2, Fig. 3, Fig. 4). The lower rail of the multi-purpose scaffold also does not need to be moved or raised in order to permit a change in the step inclination. The adjustment and locking of the step inclination, up to the complete folding of the steps in a plane (7) takes place exclusively by means of lifting and sliding apparatuses (4), which are equipped with lockable lever bars. Since the lower rail can remain in the absolute position of rest during the adjustment of the step inclination and no influence is exerted on the steps or rails even at the end of the multi-purpose scaffold, an extensible or fold-in climb-through aperture (5) can be provided at the lower rails.

The outsides of the multi-purpose scaffold each consist of two superposed rails (Fig. 1 - Fig. 4). Between the rails are stair steps arranged in sequence which, in the folded-in state, form a flat movement surface (7).

The fronts of the steps are connected in an articulated manner to the lower outside of the upper rail, and the backs of the steps are likewise attached in an articulated manner to the upper outside of the lower rail (Fig. 1), (Fig. 2), (Fig. 3), (Fig. 4).

Lifting and sliding apparatuses are fixed to the two outer long sides of the lower rails and are connected in a moveable or articulated manner to the upper rails (4). Lever bars with locks for operation are fixed to the lifting and sliding apparatuses (4) (Fig. 4).

By raising or lowering the lever bars, different angles of inclination of the steps can be set without movement of the lower rail. In order to allow unobstructed setting of the steps from the top of the multi-purpose scaffold, the telescopic or extensible rails are attached to the lower side transversely to the direction of movement as an anti-tilting safety device (9). Fold-in and fold-out rollers (Fig. 2) are located at the free ends of the telescopic rails of the anti-tilting safety device (9).

Similarly, support bars (1) are fixed in an articulated manner to the long sides of the lower rails (Fig. 2), (Fig. 3), (Fig. 4), these being of telescopic design and additionally possessing fold-in and fold-out rollers (Fig. 4) or fold-in and fold-out footboards (Fig. 3). Fixed and telescopic

connecting bars (2) serve to secure the standing or splayed position of the support bars (1).

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Multi-purpose scaffold

Claims

1. A multi-purpose scaffold, having two rail parts, arranged adjacent to one another and displaceable relative to one another, between which steps or ladder rungs are arranged to be capable of folding out at an adjustable step angle, and having fold-out splayed supporting poles (1), which can be secured by means of connecting rods (2), characterized by a locking device (4) for locking the two rail parts and the step angle.

2. The multi-purpose scaffold as claimed in claim 1, characterized in that fold-in and fold-out rollers (10) and fold-in and fold-out footboards are mounted at the lower ends of the supporting poles (1).

3. The multi-purpose scaffold as claimed in claim 1 or 2, characterized in that the supporting poles (1) and connecting rods (2) are of telescopic and fixable design.

4. The multi-purpose scaffold as claimed in one of claims 1 to 3, characterized in that the supporting poles (1) and connecting rods (2) are of fold-in and fold-out design and can be locked both in the folded-out and in the folded-in states.

5. The multi-purpose scaffold as claimed in one of claims 1 to 4, characterized in that the multi-purpose scaffold is provided with an extensible, folding or retrofittable climb-through aperture (5).

6. The multi-purpose scaffold as claimed in one of claims 1 to 5, characterized in that removable fold-in or extensible railings are mounted on both long sides of the scaffold as an anti-falling safety device (6).

7. The multi-purpose scaffold as claimed in one of claims 1 to 6, characterized in that adjustable suspension apparatuses, anti-slip devices, running rollers or castors and jacket tubes (3) for the insertion of sections for extension with a second multi-purpose scaffold are fitted at both ends of the underside of the scaffold.

8. The multi-purpose scaffold as claimed in one of claims 1 to 7, characterized in that telescopic rails are fixed on both sides as an anti-tilting safety device (9) at both ends, transversely to the movement direction of the scaffold, for use without folded-out supports as a freely resting plank.

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Fig. 1

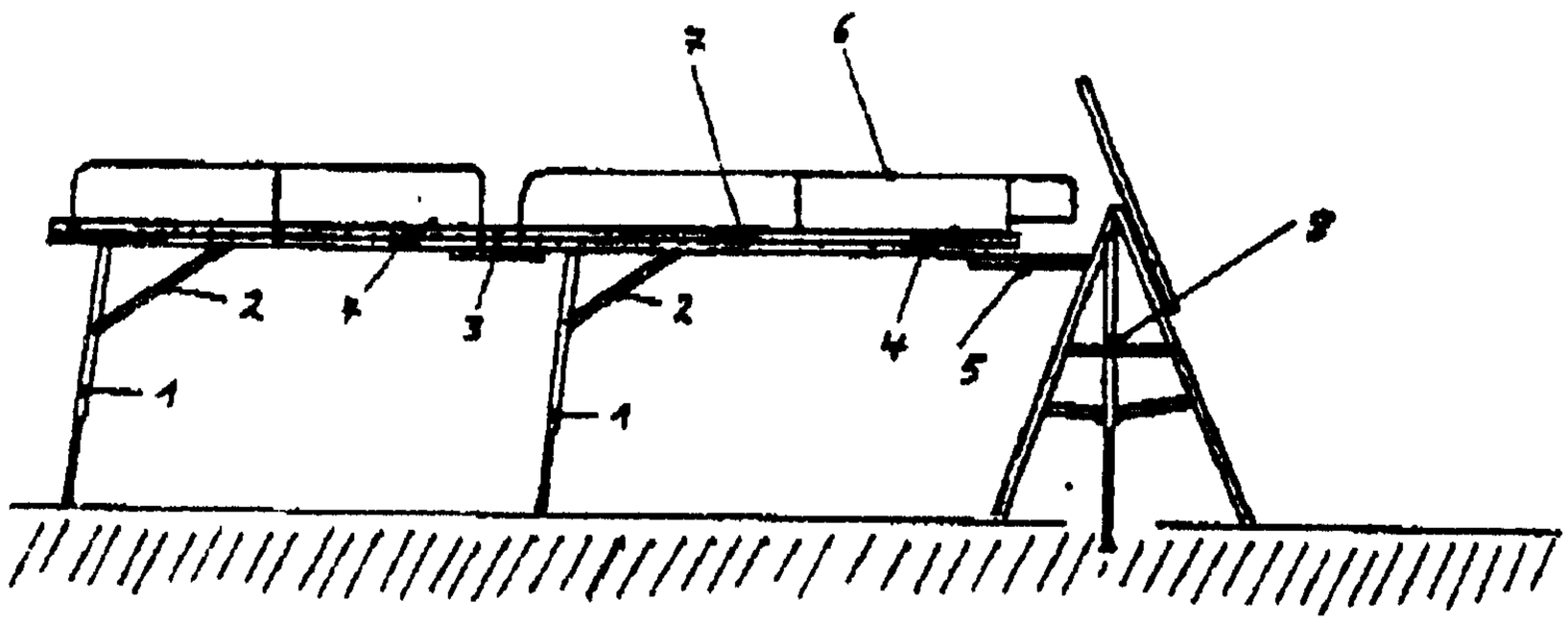
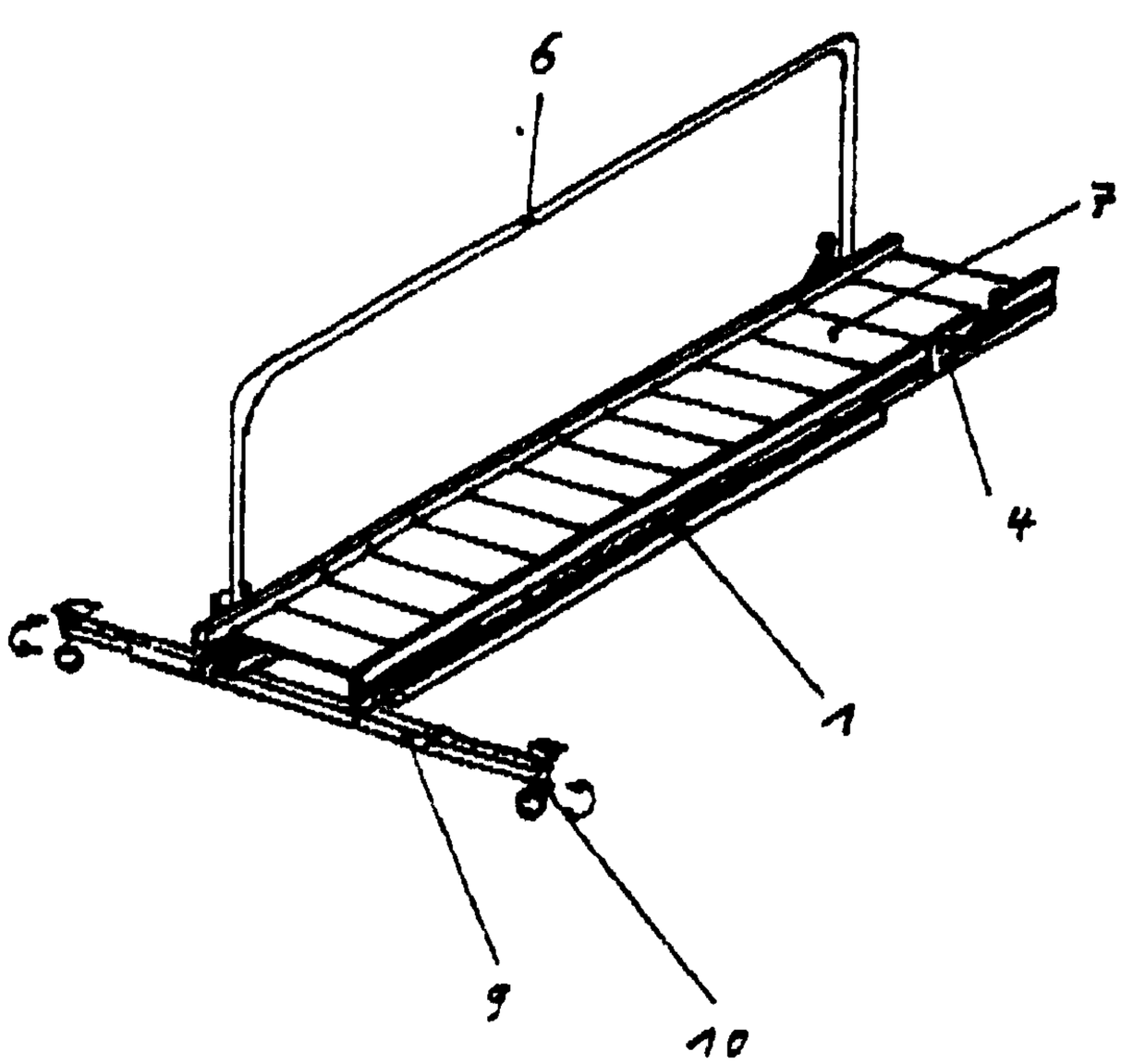


Fig. 2



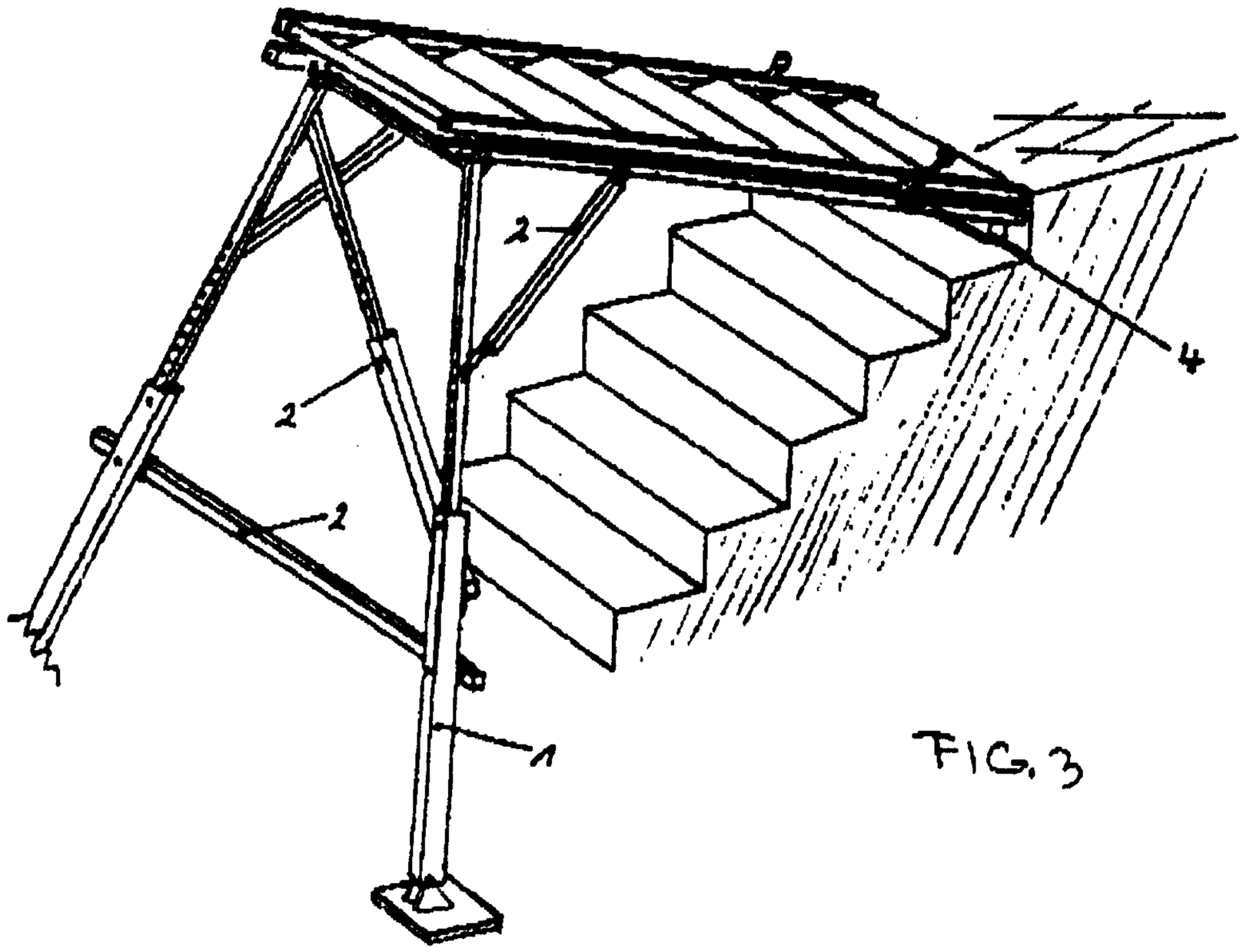
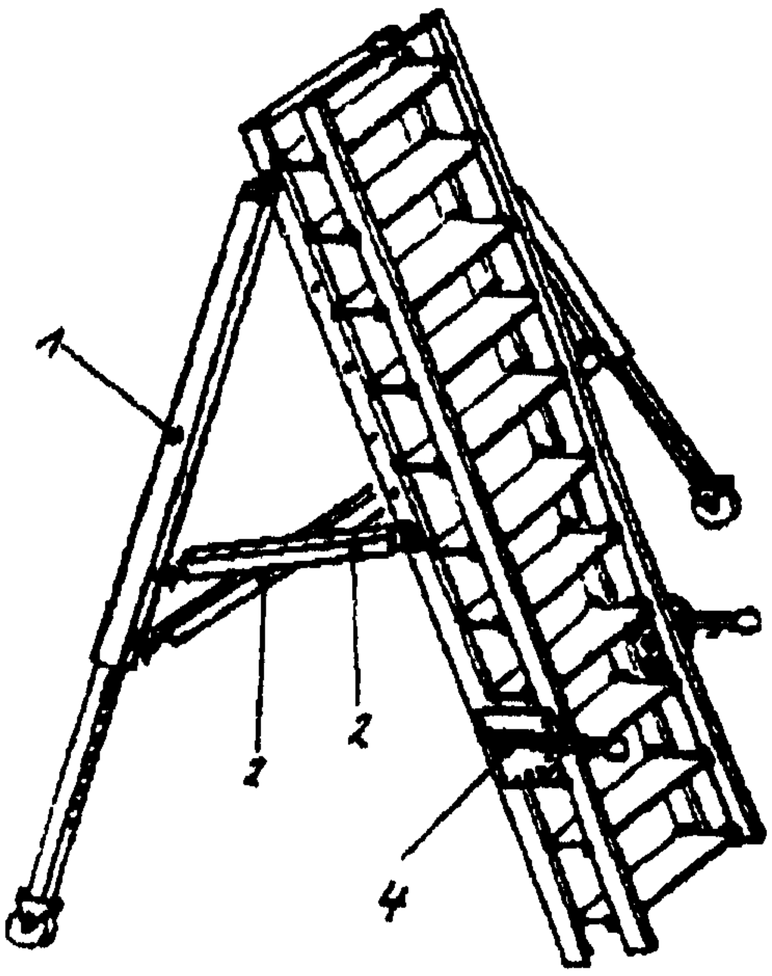


FIG. 3



FIG, 4