



HU000031027T2

(19) **HU****MAGYARORSZÁG****Szellemi Tulajdon Nemzeti Hivatala**(11) Lajstromszám: **E 031 027**(13) **T2**

EURÓPAI SZABADALOM SZÖVEGÉNEK FORDÍTÁSA

(21) Magyar ügyszám: **E 03 721159**(22) A bejelentés napja: **2003. 04. 23.**

(96) Az európai bejelentés bejelentési száma:

EP 20030721159

(97) Az európai bejelentés közzétételi adatai:

EP 1499782 A1 **2003. 11. 13.**

(97) Az európai szabadalom megadásának meghirdetési adatai:

EP 1499782 B1 **2016. 08. 17.**(51) Int. Cl.: **E04G 21/32** (2006.01)

(86) A nemzetközi (PCT) bejelentési szám:

PCT/NL 03/000300

(87) A nemzetközi közzétételi szám:

WO 03093609

(30) Elsőbbségi adatok:

1020502**2002. 04. 29.****NL**

(72) Feltaláló(k):

BAKKER, Johannes, Antonius, NL-5913 RT Venlo (NL)

(73) Jogosult(ak):

Roof Safety Systems B.V., 5928 RV Venlo (NL)

(74) Képviselő:

**Danubia Szabadalmi és Jogi Iroda Kft.,
Budapest**

(54)

Biztonsági berendezés tetőszegélyhez

Az európai szabadalom ellen, megadásának az Európai Szabadalmi Közlönyben való meghirdetésétől számított kilenc hónapon belül, felszólalást lehet benyújtani az Európai Szabadalmi Hivatalnál. (Európai Szabadalmi Egyezmény 99. cikk(1))

A fordítást a szabadalmas az 1995. évi XXXIII. törvény 84/H. §-a szerint nyújtotta be. A fordítás tartalmi helyességét a Szellemi Tulajdon Nemzeti Hivatala nem vizsgálta.

(19)



(11)

EP 1 499 782 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

17.08.2016 Bulletin 2016/33

(51) Int Cl.:

E04G 21/32 (2006.01)

(86) International application number:

PCT/NL2003/000300

(21) Application number: **03721159.6**

(22) Date of filing: **23.04.2003**

(87) International publication number:

WO 2003/093609 (13.11.2003 Gazette 2003/46)

(54) **SAFETY INSTALLATION FOR THE EDGE OF A ROOF**

SICHERHEITSVORRICHTUNG FÜR EINEN DACHRAND

INSTALLATION DE SECURITE PREVUE SUR LE BORD D'UN TOIT

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**

(30) Priority: **29.04.2002 NL 1020502**

(43) Date of publication of application:

26.01.2005 Bulletin 2005/04

(73) Proprietor: **Roof Safety Systems B.V.**

5928 RV Venlo (NL)

(72) Inventor: **BAKKER, Johannes, Antonius**
NL-5913 RT Venlo (NL)

(74) Representative: **Nederlandsch Octrooibureau**

P.O. Box 29720

2502 LS The Hague (NL)

(56) References cited:

CH-A- 262 727 DE-A- 10 034 066

FR-E- 91 855 NL-A- 8 800 985

US-A- 4 669 577

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 1 499 782 B1

Description

[0001] The present invention relates to a safety installation according to the preamble of claim 1.

[0002] Such a safety installation is known from DE 10034066 A1.

[0003] Such a safety installation for the edge of a roof is disclosed in NL-A 8800985.

[0004] Safety installations for the edge of a roof are used when carrying out work on the roof that takes a prolonged period. Requirements with regard to the safety of the construction on a roof or other construction a relatively great height from the ground are imposed by the authorities.

[0005] In the case of safety installations for the edge of a roof a distinction must be made between permanent safety installations and safety installations that are fitted temporarily. The present invention relates to safety installations that are fitted temporarily, which, for example, are used when replacing roof covering and in the case of other work on (horizontal) roofs.

[0006] Netherlands Laid Open Application 8800985 discloses a safety installation for the edge of a roof where a U-shaped construction extends on the upright, which U-shaped construction can be fitted around a gutter or the like. On the underside there is a manually adjustable securing device that can be moved into a position precisely underneath the first bearing surface in order thus to accommodate a gutter clamped between them.

[0007] Apart from the fact that the lower securing means acting on the gutter are not easily vertically adjustable, a construction of this type functions only in the case of roofs provided with gutters having a flat base. After all, if the base of the gutter is curved unequivocal securing will no longer be easily possible. Moreover, a construction of this type does not work at all in the case of flat roofs. After all, with flat roofs it is not possible to be able to position the securing means horizontally against the first bearing surface.

[0008] DE 10034066 A1 discloses a safety installation wherein a hingenable arm is provided. The hinge is connected above the gutter/roof level to a railing and engages with its lower portion to the edge of the roof. The railing is provided with a counter engaging surface and with a beam structure, clamping engagement of the upper edge of the roof can be affected.

[0009] The aim of the present invention is to provide a safety installation for the edge of a roof which can be used both with sloping and with flat roofs irrespective of the size of the overhang and irrespective of the shape of the gutter.

[0010] Moreover, a further aim of the present invention is to provide a safety installation for the edge of a roof that cannot unintentionally be rendered inoperative and can easily be fitted and removed. The aim is also to provide the safety installation for the edge of a roof that is simple to fit and has a low weight. Moreover, it must be possible to fit this installation both on flat roofs and on

sloping roofs that, for example, terminate in a gutter.

[0011] Upright safety installations for the edge of a roof have the advantage that these can sometimes be fitted easily, but they also have the associated disadvantage that they can be removed equally easily, including in unintentional cases. Other safe constructions are particularly difficult to fit and/or to remove.

[0012] A further aim of the present invention is to provide a safety installation for the edge of a roof that can be fitted and removed in a simple manner.

[0013] The aims described above are achieved with a safety installation for the edge of a roof, according to claim 1.

[0014] According to the present invention the securing means can be moved in the horizontal direction with respect to the first bearing surface. When used in a gutter, such as in the case of a sloping roof, it is, in principle, possible to position the engagement surface of the securing means opposite the bearing surface. If the edge of the roof is relatively broad with a small overhang the securing means can be positioned further to the outside with respect to the building concerned than the first bearing surface. Incidentally, it is not always necessary that the securing means exert a clamping hold. After all, these securing means are mainly present to prevent the upright moving out of the seating therefor, such as a gutter or the edge of a roof. This is, in particular, a risk in the case of storms and the like. Slight movement is, however, permitted as long as this does not lead to detachment of the construction. Using the invention the safety installation for the edge of a roof can easily be adapted to a wide variety of types of roofs with differing overhangs.

[0015] According to the invention this safety device to prevent upward movement of the safety installation for the edge of a roof is constructed as an auxiliary arm. According to a particular embodiment of the invention this auxiliary arm is joined to the arm described above, which bears on the outside wall, such that it can hinge. This auxiliary arm is provided with one or more engagement surfaces for engaging underneath a gutter or the like. Moreover, locking means can be present to lock the auxiliary arm either in the locking position or in the non-locking position. According to a particular embodiment driving means such as a spring are present which drive the auxiliary arm into the locking position. In such a case it is necessary that the locking means in any event lock in the non-securing position to enable intentional removal of the safety installation for the edge of a roof.

[0016] According to a further advantageous embodiment of the invention the distance between the first and second bearing surface is adjustable in both the horizontal direction and the vertical direction. As a result provision can be made for adaptation to the local conditions, such as the presence of a window, a recessed or projecting part or the like on the outside wall.

[0017] According to an advantageous embodiment of the present invention the tilting moment generated on the vertical upright is transferred to a bearing surface that

is located a relatively great distance away and preferably bears on the outside wall or the like of a building. This bearing surface can consist of a dish-like part that is fitted such that it can pivot in various directions with respect to the arm so as always to guarantee full-surface contact with an outside wall or the like. From above the safety installation for the edge of a roof bears on a gutter, behind an edge of the roof or the like. According to an advantageous embodiment of the invention the distance between the support point on the roof/roof gutter - outside wall support point is many times, that is to say 5 - 20 times, greater than the distance between these support points in the horizontal direction. A value of 1 - 3 m may be mentioned as an example of the distance between the bearing surfaces in the vertical direction. Preferably, the arm is of telescopic construction so that obstacles or non-load-bearing parts such as window/door areas can be avoided and the support point described above can be chosen as desired.

[0018] According to a further advantageous embodiment of the invention the first bearing surface comprises a wheel. Thus, it is possible to install the safety installation for the edge of a roof only at the location where the work is being carried out and simply to move it along the outside wall as work progresses by rolling of the wheel.

[0019] The invention also relates to a system consisting of a number of safety installations for the edge of a roof described above, between which a railing has been fitted. According to the invention, this railing comprises a barrier-like construction that can be hooked into the safety installations for the edge of a roof in a simple manner. According to the invention, the fencing-like construction is of V-shaped or kinked symmetrical construction, so that this kinks inwards or outwards with respect to the edge of the roof in the upward direction. Optimum positioning of the V-shaped barrier can thus be provided, irrespective of the conditions.

[0020] The invention will be explained in more detail below with reference to an illustrative embodiment shown in the drawings. In the drawings:

Fig. 1 shows, diagrammatically, a perspective view of a safety installation for the edge of a roof according to the present invention;

Fig. 2 shows a side view of the safety installation for the edge of a roof according to Fig. 1;

Fig. 3 shows a detail of the locking construction for the safety installation for the edge of a roof in the securing position;

Fig. 4 shows the detail according to Fig. 3 (in a different view) in the locking position; and

Fig. 5 shows a side view of the storage position of various parts described above,

Fig. 6 shows, diagrammatically, a safety installation for the edge of a roof which does not form part of the invention.

[0021] In Figures 1 and 2 the safety installation for the

edge of a roof according to the present invention is indicated in its entirety by 1. This installation is intended to provide safety for persons working on an edge of the roof of a building 2. The outside wall of the building is indicated by 3 and the roof gutter extending along the edge of the roof by 4. The safety installation for the edge of a roof consists of an upright 7 that is essentially vertical (in the use position) and to which an arm 8 has been rigidly fixed. Arm 8 is of telescopic construction and is provided with the bearing surface 12 close to the free end. As a result of the telescopic construction the position of bearing surface 12 can be changed to some extent to take account of any obstacles on the outside wall or non-load-bearing parts thereof. There are clamping means, which are not shown, to lock the telescopic parts of arm 8 with respect to one another. The bearing surface of the upright 7 is indicated by 14. The distance between the bearing surfaces 12 and 14 is indicated by b (Fig. 2) and this distance is preferably 1.5 - 2.5 m.

[0022] An auxiliary arm 9 is connected to arm 8 via hinge 10. There is a spring 11 that drives said auxiliary arm 9 to the left in Figures 1 and 2. There is an engagement block 13, provided with engagement surfaces 18 and 19, on auxiliary arm 9. The engagement block 13 can be either adjustable or replaceable for optimum matching to the construction concerned. A fixed position is also possible.

[0023] The auxiliary arm 9 is provided with a lock at the top. As can be seen from Figures 3 and 4 this lock consists of a locking lip 15 that is fixed to auxiliary arm 9 by a joint 16, such that it can pivot. Optionally there is a spring that causes the locking lip to pivot to the left so that it slides over beam 20. This beam 20 is provided with pins 17.

[0024] The safety installation for the edge of a roof described above functions as follows. The safety installation for the edge of a roof is picked up by arm 8 or upright 7 and hung with bearing surface 14 in gutter 4 or a roof trim or the like. During this operation the auxiliary arm is in the locked position. Following installation, the auxiliary arm 9 is turned a little to the right and as soon as support surface 14 has reached the lowest point thereof, auxiliary arm 9 is able to move to the left and one of the engagement surfaces 18 or 19 can engage underneath the roof gutter 4. The securing part of the auxiliary arm 9 will be positioned relative to the bearing surface depending on the overhang of the gutter or edge of the roof. In Figures 1 and 2 the bearing surface 14 and engagement block 13 are a relatively short distance apart. If, however, the roof is a flat roof bearing surface 14 will often be shifted further to the left (as seen in Fig. 2). With the construction according to the present invention it is possible to provide for adaptation in a simple manner because the position of the engagement block 13 with respect to the first bearing surface 14 is adjustable in the horizontal direction. On tilting further, support surface 12 will then bear on outside wall 3. After installing a number of such safety installations, a railing 6 can be fitted and the safety in-

stallation for the edge of a roof is complete. Because of the engagement surfaces 18 and 19, respectively, it is not possible for the safety installation for the edge of a roof to move upwards, as a result of which support surface 14 could be moved out of gutter 4.

[0025] If it is desired to remove the safety installation for the edge of a roof, railing 6 must first be removed. Using the foot, auxiliary arm 9 can then be turned to the right, locking lip 15 moving over pins 17 and being locked behind them, as is shown in Fig. 4. At this point in time there is no longer a safety feature preventing lifting of upright 7 out of gutter 4 and the safety installation for the edge of a roof can be removed.

[0026] Of course, it is also possible to keep auxiliary arm 9 in the furthest right position as shown in Fig. 4 when installing and only after installation to cancel the engagement behind the pins 17 by pushing on the top 21 of the locking lip 15.

[0027] It can be seen from Fig. 5 that after use the safety installations 1 for the edge of a roof described above can be nested in one another for efficient transport and storage.

[0028] In Fig. 6 a safety installation for the edge of a roof which does not form part of the invention is indicated in its entirety by 31. Bearing surface 42 is joined to arm 38, which is joined to upright 37 via cross-link 39. Cross-link 39 can be made adjustable but it is also possible to provide a rigid fixing between parts 37 and 38. A fencing-like construction 36, the functioning of which is comparable to that of railing 6, is fitted on upright 37. Broken lines indicate that this construction can be mounted in two positions, depending on the angle of the installation. Thus, the positioning of the railing can be determined depending on the overhang. As in the previous variant, upright 37 bears on a gutter or other elevation on the edge of the roof of the building 2.

[0029] Although this cannot be seen in Figure 6, the upright 37 is of dual construction, and consists of two parts some distance apart between which arm 38 extends. 48 indicates an adjustable engagement surface that can engage underneath a roof edge or the like and prevents upward movement of the safety installation for the edge of a roof. Instead of being adjustable, such a safety feature can consist of a number of successive engagement surfaces in the vertical direction.

[0030] Although the invention has been described above with reference to a preferred embodiment of the safety installation for the edge of a roof, it will be immediately apparent to those skilled in the art that many variants are possible without going beyond the scope of the present application. Such variants will be immediately obvious to those skilled in the art after reading the above description and fall within the scope of the appended claims.

Claims

1. Safety installation (1) for the edge of a roof comprising an upright (7) that extends essentially vertically in the use position and is equipped for joining a railing (6) thereto and is provided at the free bottom end with a first bearing surface **designed to engage on an edge of a roof or gutter from above**, an arm (8) that is jointed to said upright (7) and extends downwards therefrom, which arm (8) is provided at the free end with a second bearing surface (12), and securing means (9,13) designed to engage, together with said first bearing surface of said upright, on an edge of a roof or gutter **from below and from above respectively**, said securing means (9; 13) being adjustable in horizontal direction with respect to said first bearing surface, wherein said securing means comprise an auxiliary arm (9) designed to engage from below on an edge of said roof or gutter, **characterized in that** said auxiliary arm (9), provided with one or more engagement surfaces for engaging underneath a gutter or the like, is hingedly joined to said arm (8) and said engagement surface of said auxiliary arm is above the point (10) at which the auxiliary arm hinges.
2. Safety installation for the edge of a roof according to claim 1, wherein said securing means can be moved between a securing and non-securing position.
3. Safety installation for the edge of a roof according to one of the preceding claims, wherein said securing means comprise locking means that can be operated for fixing in the non-securing position.
4. Safety installation for the edge of a roof according to one of the preceding claims, wherein there are driving means (11) that drive the securing means into a securing position.
5. Safety installation (7) for the edge of a roof according to one of the preceding claims, wherein the distance (a) in the horizontal direction between the first and second bearing surface is adjustable.
6. Safety installation for the edge of a roof according to one of the preceding claims, wherein the distance (b) in the vertical direction between the first and second bearing surface is adjustable.
7. Safety installation for the edge of a roof according to one of the preceding claims, wherein said first bearing surface comprises a wheel.
8. Safety installation for the edge of a roof according to one of the preceding claims, which is constructed such that it can be nested with other correspondingly

constructed safety installations for the edge of a roof.

9. System comprising a number of safety installations for the edge of a roof according to one of the preceding claims with railing (6) fitted between them.
10. System according to claim 9, wherein said railing comprises a fencing-like V-shaped kinked barrier.

Patentansprüche

1. Sicherheitseinrichtung für die Kante eines Daches, umfassend ein Standelement (7), das sich in der Verwendungsposition im Wesentlichen vertikal erstreckt und zum Anbringen eines Gitterstabelements (6) daran eingerichtet ist und an dem freien Fußende mit einer ersten Lagerfläche versehen ist, die dazu ausgelegt ist, von oben an einer Kante eines Daches oder einer Dachrinne anzugreifen, einem Arm (8), der mit dem Standelement (7) verbunden ist und sich davon abwärts erstreckt, wobei der Arm (8) an dem freien Ende mit einer zweiten Lagerfläche (12) ausgerüstet ist, und Sicherheitsmittel (9, 13), die dazu ausgelegt sind, zusammen mit der ersten Lagerfläche des Standelements jeweils von unten und von oben an einer Kante eines Daches oder einer Dachrinne anzugreifen, wobei die Sicherheitsmittel (9, 13) in einer Horizontalrichtung bezüglich der ersten Lagerfläche einstellbar sind, wobei die Sicherheitsmittel einen Hilfsarm (9) umfassen, der dazu ausgelegt ist, von unten an einer Kante des Daches oder der Dachrinne anzugreifen, **dadurch gekennzeichnet, dass** der Hilfsarm (9) mit einer oder mehreren Angriffsflächen zum Angreifen unterhalb einer Dachrinne oder dergleichen ausgerüstet ist und gelenkig mit dem Arm (8) verbunden ist und die Angriffsfläche des Hilfsarms oberhalb des Punktes (10), an dem der Hilfsarm schwenkt, angeordnet ist.
2. Sicherheitseinrichtung für die Kante eines Daches nach Anspruch 1, wobei die Sicherheitsmittel zwischen einer sichernden Stellung und nicht sichernden Stellung bewegbar sind.
3. Sicherheitseinrichtung für die Kante eines Daches nach einem der vorstehenden Ansprüche, wobei die Sicherheitsmittel Verriegelungsmittel umfassen, die zum Feststellen in der nicht sichernden Stellung betätigbar sind.
4. Sicherheitseinrichtung für die Kante eines Daches nach einem der vorstehenden Ansprüche, die Antriebsmittel (11) aufweist, die die Sicherheitsmittel in eine Sicherungsstellung antreiben.
5. Sicherheitseinrichtung (7) für die Kante eines Daches nach einem der vorstehenden Ansprüche, wo-

bei der Abstand (a) in der Horizontalrichtung zwischen der ersten und zweiten Lagerfläche einstellbar ist.

6. Sicherheitseinrichtung für die Kante eines Daches nach einem der vorstehenden Ansprüche, wobei der Abstand (b) in der Vertikalrichtung zwischen der ersten und der zweiten Lagerfläche einstellbar ist.
7. Sicherheitseinrichtung für die Kante eines Daches nach einem der vorstehenden Ansprüche, wobei die erste Lagerfläche ein Rad umfasst.
8. Sicherheitseinrichtung für die Kante eines Daches nach einem der vorstehenden Ansprüche, die so aufgebaut ist, dass sie mit anderen korrespondierend aufgebauten Sicherheitseinrichtungen für die Kante eines Daches ineinander verschachtelbar ist.
9. System umfassend eine Anzahl von Sicherheitseinrichtungen für die Kante eines Daches nach einem der vorstehenden Ansprüche mit dazwischen befestigtem Gitterstabelement (6).
10. System nach Anspruch 9, wobei das Gitterstabelement eine zaunähnliche V-förmige geknickte Absperrung umfasst.

Revendications

1. Installation de sécurité (1) destinée au bord d'un toit comprenant un montant vertical (7) qui s'étend essentiellement verticalement en position d'utilisation et est équipé de manière à être réuni à une rampe (6) et est pourvu, à son extrémité libre inférieure, d'une première surface support conçue pour reposer sur le bord d'un toit ou une gouttière par le dessus, un bras (8) qui est réuni au dit montant vertical (7) et s'étend vers le bas à partir de celui-ci, lequel bras (8) est muni, à son extrémité libre, d'une seconde surface support (12), et de moyens de sécurisation (9, 13) conçus pour reposer, avec ladite première surface support dudit montant vertical, sur le bord d'un toit ou une gouttière, par en-dessous et par au-dessus respectivement, lesdits moyens de sécurisation (9, 13) pouvant être ajustés dans la direction horizontale par rapport à ladite première surface support, dans laquelle lesdits moyens de sécurisation comprennent un bras auxiliaire (9) conçu pour se bloquer, par en-dessous, sur un bord dudit toit ou de ladite gouttière, **caractérisée en ce que** ledit bras auxiliaire (9) est muni d'une ou de plusieurs surface(s) de blocage afin de se bloquer sous une gouttière ou similaire, et est réuni par une charnière au dit bras (8) et ladite surface de blocage dudit bras auxiliaire se trouve au-dessus du point (19) auquel le bras auxiliaire pivote.

2. Installation de sécurité pour le bord d'un toit selon la revendication 1, dans laquelle lesdits moyens de sécurisation peuvent être déplacés entre une position de sécurisation et une position de non sécurisation. 5
3. Installation de sécurité pour le bord d'un toit selon l'une des revendications précédentes, dans laquelle les moyens de sécurisation comprennent des moyens de blocage qui peuvent être mis en oeuvre pour une fixation dans une position de non sécurisation. 10
4. Installation de sécurité pour le bord d'un toit selon l'une des revendications précédentes, dans laquelle des moyens d'entraînement (11) entraînent les moyens de sécurisation dans une position de sécurisation. 15
5. Installation de sécurité pour le bord d'un toit selon l'une des revendications précédentes, dans laquelle la distance (a) dans la direction horizontale entre la première et la seconde surface support peut être ajustée. 20
6. Installation de sécurité pour le bord d'un toit selon l'une des revendications précédentes, dans laquelle la distance (b) dans la direction verticale entre la première et la seconde surface support peut être ajustée. 25
30
7. Installation de sécurité pour le bord d'un toit selon l'une des revendications précédentes, dans laquelle ladite première surface support comprend une roue.
8. Installation de sécurité pour le bord d'un toit selon l'une des revendications précédentes, qui est construite de telle manière qu'elle peut être logée avec d'autres installations de sécurité pour le bord d'un toit construites de manière correspondante. 35
40
9. Système comprenant un certain nombre d'installations de sécurité pour le bord d'un toit selon l'une des revendications précédentes, une rampe (6) étant installée entre elles. 45
10. Système selon la revendication 9, dans lequel ladite rampe comprend une barrière pliée en forme de V semblable à une rambarde. 50
55

Fig 1

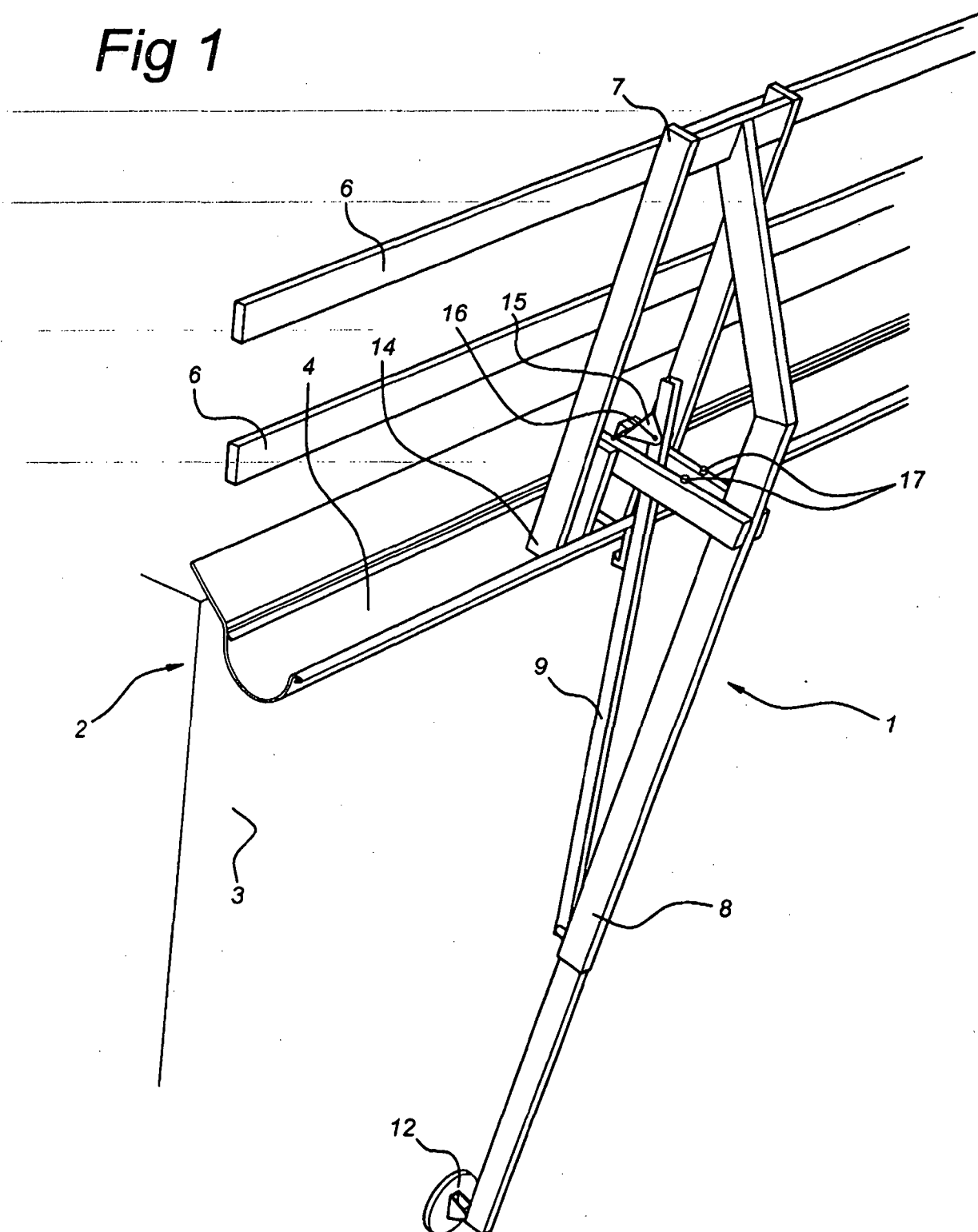


Fig 2

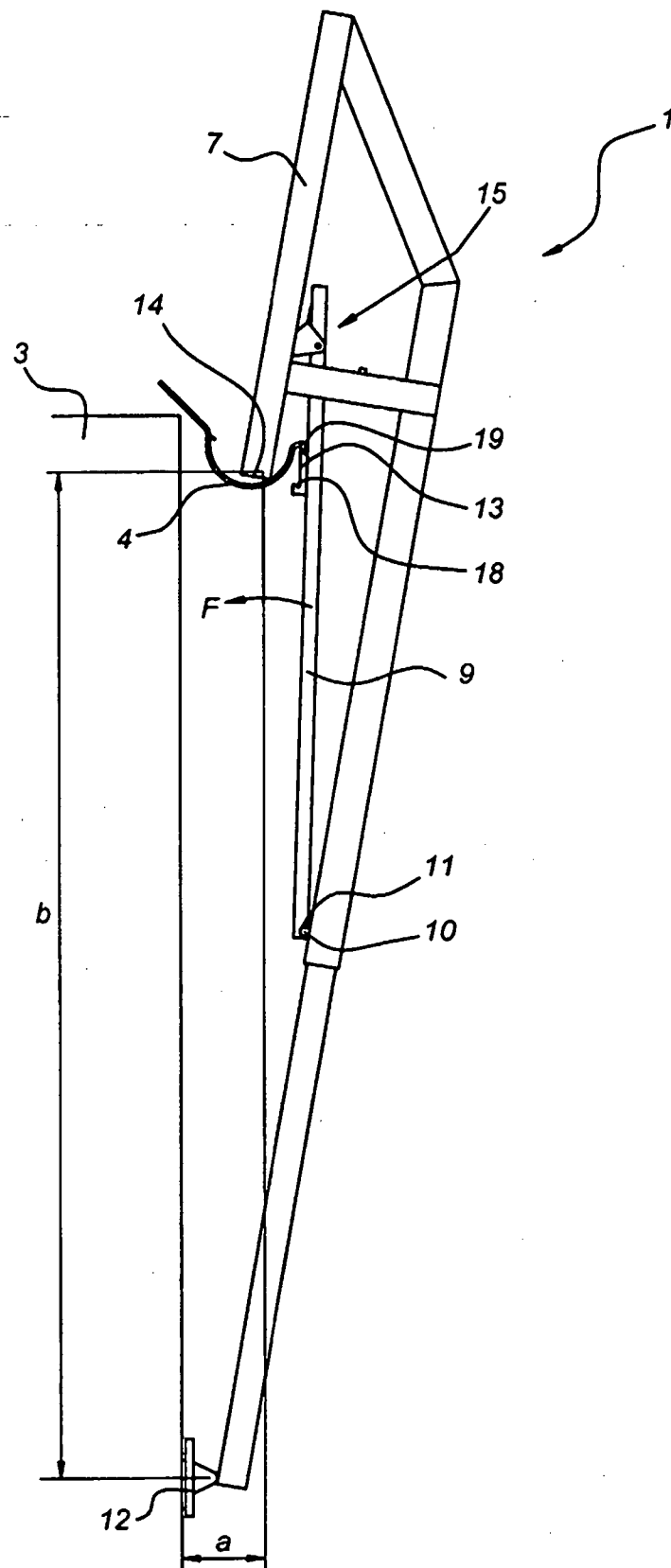


Fig 3

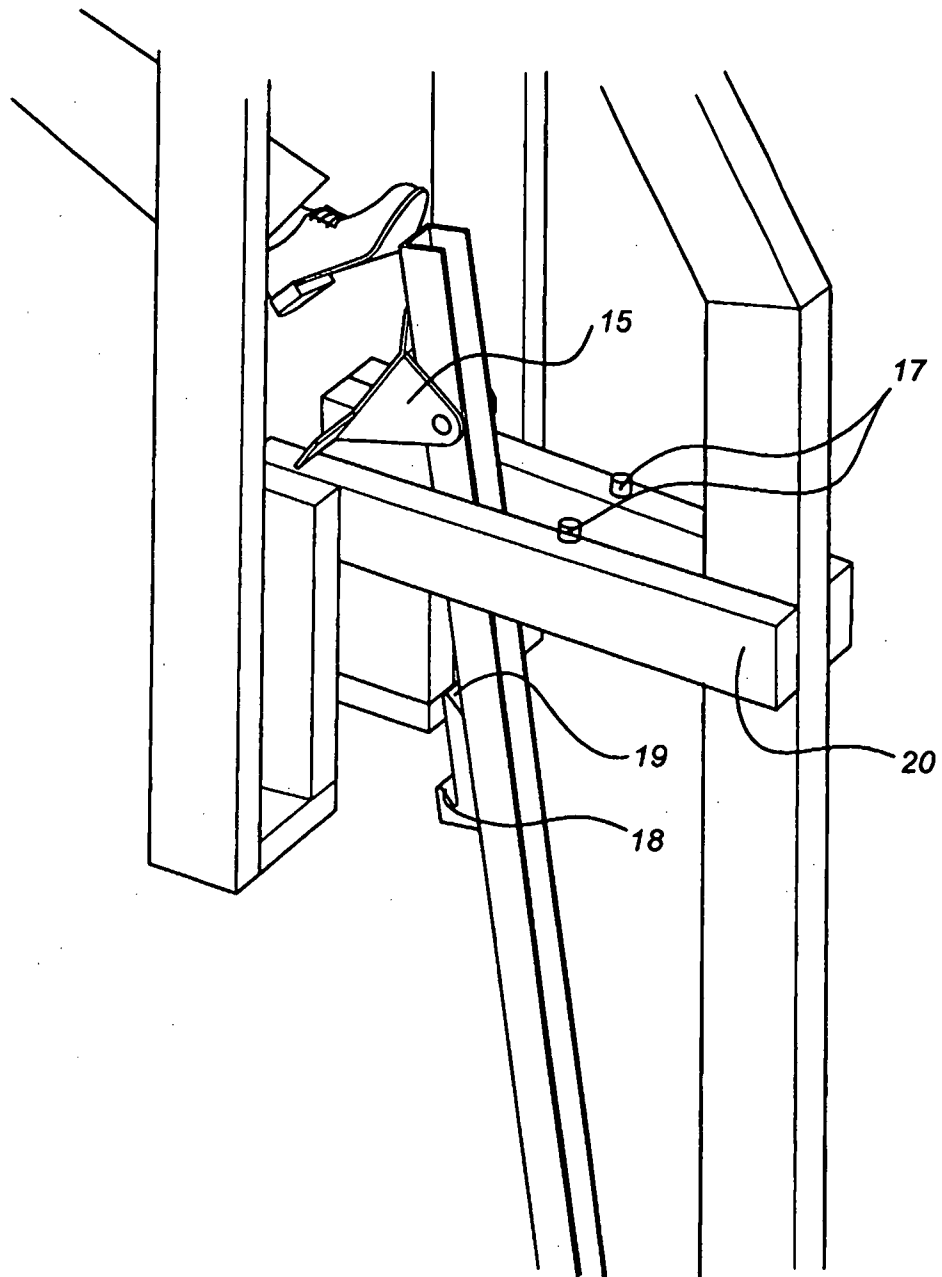


Fig 4

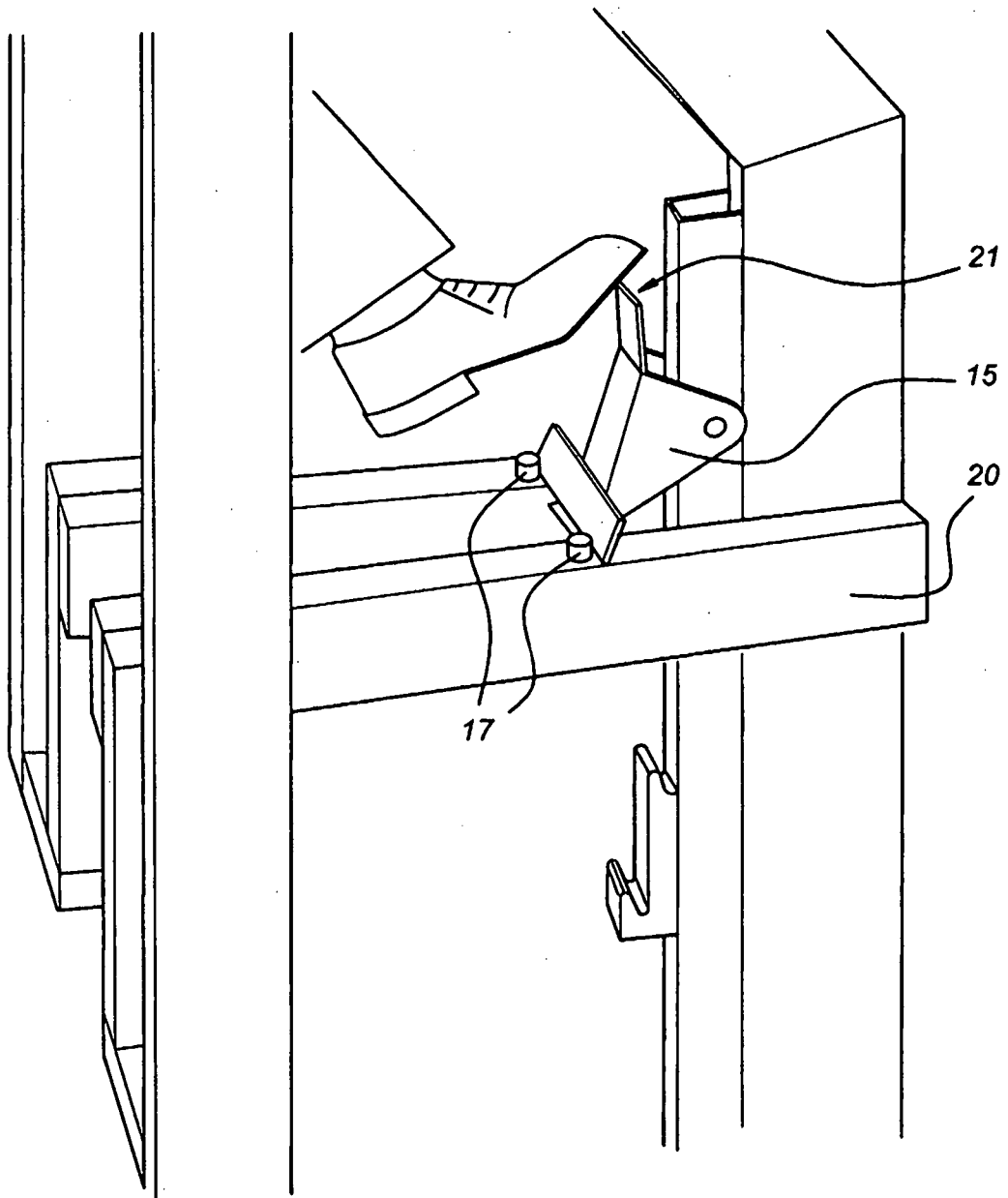
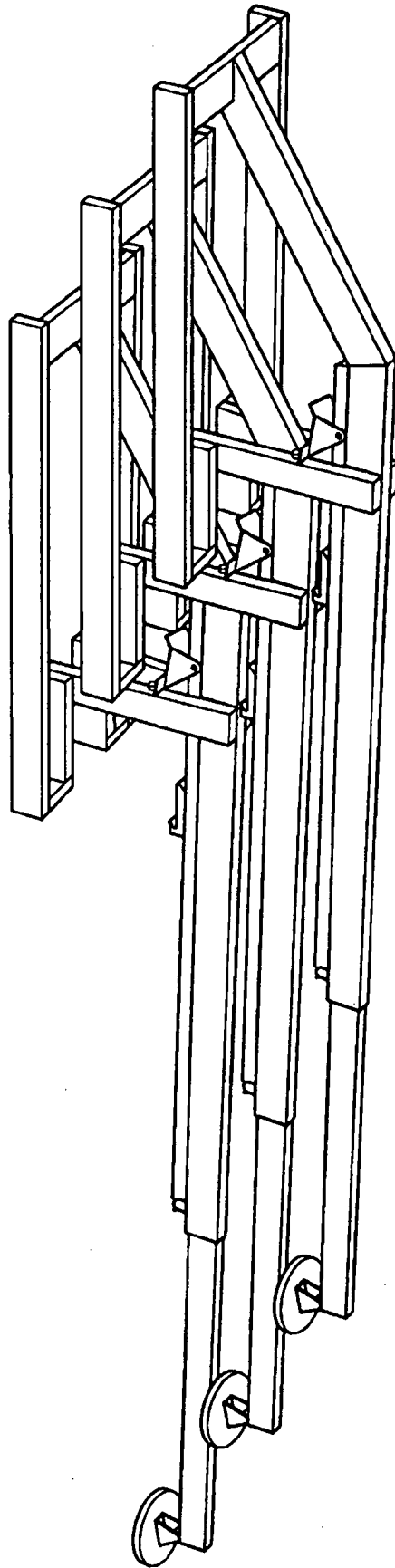
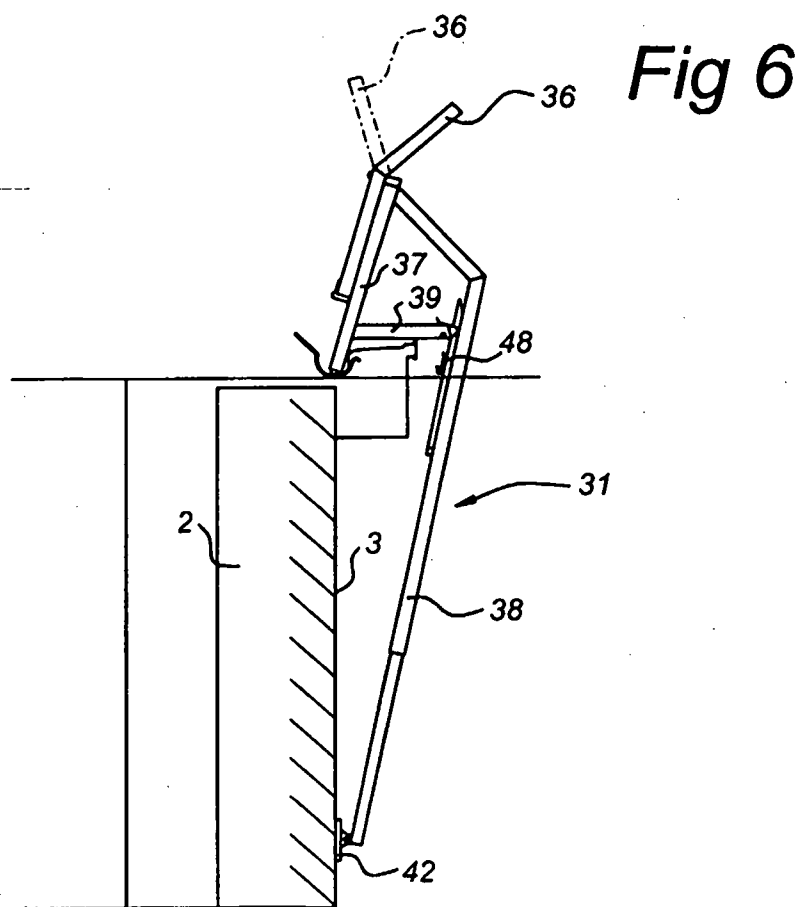


Fig 5





REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- DE 10034066 A1 [0002] [0008]
- NL 8800985 A [0003]
- NL 8800985 [0006]

BIZTONSÁGI BERENDEZÉS TETŐSZEGÉLYHEZ

SZABADALMI IGÉNYPONTOK



1. Biztonsági berendezés (1) tetőszegélyhez, amely olyan állótagot (7) tartalmaz, amely felhasználási helyzeiben lényegében függőlegesen áll, egy korlát (6) csatlakozására alkalmas eszközzel van ellátva és a szabad alsó végrészénél egy ereszesatornára vagy tetőszegélyre felülről csatlakoztatható első hordozófelülettel rendelkezik, amely berendezés tartalmaz továbbá egy az állótaghoz (7) csatlakoztatott és onnan lefelé haladó kart (8), amely a szabad végén egy második hordozófelülettel (12) van ellátva, valamint olyan rögzítőeszközt (9, 13), amely az állótag első hordozófelületével együtt alulról, illetve felülről csatlakoztatható az ereszesatornához vagy tetőszegélyhez, ahol rögzítőeszköz (9, 13) az első hordozófelülethez képest vízszintes irányban pozicionálható, és ahol a rögzítőeszköz olyan segédkart (9) tartalmaz, amely az ereszesatornához vagy a tetőszegélyhez alulról csatlakoztatható, **azzal jellemezve, hogy az ereszesatorna vagy hasonló aljához történő csatlakoztatás céljából egy vagy több csatlakozófelülettel rendelkező segédkar (9) csuklósan csatlakozik a karhoz (8), és a segédkar említett csatlakozófelülete azon pont (10) felett helyezkedik el, amely körül a segédkar el tud fordulni.**
2. Az 1. igénypont szerinti biztonsági berendezés tetőszegélyhez, ahol a rögzítőeszköz egy rögzítési és egy kioldási pozíció között mozgatható.
3. Az előző igénypontok bármelyike szerinti biztonsági berendezés tetőszegélyhez, ahol a rögzítőeszköz olyan reteszelőeszközt tartalmaz, amely a kioldási pozícióban rögzíthető.
4. Az előző igénypontok bármelyike szerinti biztonsági berendezés tetőszegélyhez, amely berendezés olyan hajtóeszközt (11) tartalmaz, amely a rögzítőeszközt rögzítési pozícióba mozgatják.
5. Az előző igénypontok bármelyike szerinti biztonsági berendezés (7) tetőszegélyhez, ahol az első és a második hordozófelület közötti, vízszintes irányú távolság (a) beállítható.
6. Az előző igénypontok bármelyike szerinti biztonsági berendezés tetőszegélyhez, ahol az első és a második hordozófelület közötti, függőleges irányú távolság (b) beállítható.
7. Az előző igénypontok bármelyike szerinti biztonsági berendezés tetőszegélyhez, ahol az első hordozófelület kerékként van kialakítva.
8. Az előző igénypontok bármelyike szerinti biztonsági berendezés tetőszegélyhez, amely úgy van kialakítva, hogy egymásba csúsztatható egy másik, hasonlóan kialakított, tetőszegélyhez való biztonsági berendezéssel.

9. Rendszer, amely az előző igénypontok bármelyike szerinti, tetőszegélyhez való biztonsági berendezéseket tartalmaz, amelyek korlátal (6) vannak egymáshoz csatlakoztatva.
10. A 9. igénypont szerinti rendszer, ahol a korlát kerítészerű, V-alakban meghajlított korlátként van kialakítva.