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⑤④ **Fall guard for a roof.**

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⑧④ Designated Contracting States :  
**AT BE CH DE FR GB LI LU NL SE**

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⑤⑥ References cited :  
**EP-A- 0 338 142**  
**BE-A- 855 504**  
**DE-C- 392 391**  
**US-A- 3 910 380**  
**US-A- 4 143 743**

**EP 0 417 355 B1**

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## Description

The invention related to a fall guard for a roof, provided with a number of clamping constructions which are to be clamped on the roof gutter and consists of an upper clamping member and a lower clamping member, at least one of which clamping members is adjusted in the vertical direction, and an upright connected to each clamping construction for attaching restraining means, both clamping members of each clamping construction being fitted to a bracket which is intended to engage around the roof gutter in such a way that the clamping members grip on the bottom of the gutter.

A fall guard of this type is disclosed in EP-A-0338142 (figure 4) designated for DE, FR, GB, IT and NL and published after the filing date of the present EP-A-0417355.

In every day practice of laying and repairing roofs there is a need for a fall guard which is easy and quick to fit and dismantle and which restrains the people working on the roof should they be in danger of falling from the roof.

From BE-A-885504 a fall guard for a roof is known provided with a number of clamping constructions which are to be clamped on the roof gutter and consist of an upper clamping member and a lower clamping member, at least one of which clamping members is adjustable in the vertical direction, and an upright connected to each clamping construction for attaching restraining means. It is true that this known construction can be fitted and dismantled rapidly, but it leaves something to be desired with regard to the required ruggedness. The upper clamping member of each clamping construction consists of a hook which engages over a raised edge of the roof gutter and the lower clamping member is constructed in the form of a clamping arm which is adjustable along the upright and can be clamped by means of a bolt with a butterfly nut. Under heavy load, for example because a person falls against the restraining means at fairly high speed, there is a risk that the raised gutter edge will tear away. Moreover, this construction is suitable only for a specific shape of roof gutter (with a vertical raised edge).

By the construction disclosed in EP-A-0338142 these disadvantages are avoided.

The object of the present invention is to improve the stability of the fall guard and therefore a supporting leg is connected at its top end to the bracket in a hinged manner and its lower end can be made to grip on the wall beneath the roof gutter, while an intermediate leg is connected in a hinged manner both to the supporting leg and to a spacer attached to the bracket.

The invention will now be explained with the aid of the figures, in which an illustrative embodiment is drawn.

Figure 1 shows a perspective view of a roof balustrade according to the invention.

Figure 2 shows a side view of the balustrade shown in Figure 1, partially in cross section.

The balustrade shown comprises girders 1 which are attached or coupled to two uprights 2. Each upright is attached at 3 to a bracket 4. This bracket 4 connects two clamping members 5 and 6 and extends around a roof gutter 7 of a sloping roof 8. This roof rests via a wall plate 9 on a wall 10. The upper clamping member 5 is not adjustable but, on the other hand, the lower clamping member is provided with a screwed spindle 6a which is screwed into a screwed bush 6b firmly connected to the bracket 4.

At 11, the bracket 4 has a hinged connection to a supporting leg 12, the lower end of which is supported against the wall 10 via a hinged foot 13. The screwed bush 6a is also connected to a horizontal spacer 14, which is supported against the wall 10. This spacer 14 is connected via two hinged couplings 15, 16 and an intermediate leg 17 to the supporting leg 12. In certain cases the spacer 14 can be omitted.

It will be clear that the clamping constructions described can be brought into the desired position quickly and easily by moving the clamping construction over the outer edge of the roof gutter 7, starting from the position of the screwed spindle 6b, there being sufficient gap between this spindle and the clamping member 5. The screwed spindle can then be screwed into its bush in such a way that the clamping position shown is produced. After positioning of the clamping constructions, uprights 2 and girders 1 are fitted. Various modifications are possible within the framework of the invention.

## Claims

**Claims for the following Contracting States :**  
**AT, BE, CH, LI, LU, SE.**

1. Fall guard for a roof, provided with a number of clamping constructions which are to be clamped on the roof gutter and consist of an upper clamping member (5) and a lower clamping member (6), at least one of which clamping members is adjustable in the vertical direction, and an upright (2) connected to each clamping construction for attaching restraining means (1), characterized in that both clamping members (5, 6) of each clamping construction are fitted to a bracket (4) which is intended to engage around the roof gutter in such a way that the clamping members grip on the bottom of the gutter.
2. Fall guard according to claim 1, characterized in that each upright (2) is fixed to the upper part of a bracket (4).

3. Fall guard according to claim 1 or 2, characterized in that the adjustable clamping member comprises a screwed bush (6a) attached to the bracket (4) and a screwed spindle (6b) screwed into said bush.
4. Fall guard according to one of the preceding claims, with a supporting leg which is fitted under the clamping construction and can be made to grip on the wall beneath the roof gutter, characterized in that the supporting leg (12) is connected at its top end to the bracket (4) in a hinged manner, while an intermediate leg (17) is connected in a hinged manner both to the supporting leg (12) and to a spacer (14) attached to the bracket.

**Claim for the following Contracting States :  
DE, FR, GB, NL**

1. Fall guard for a roof, provided with a number of clamping constructions which are to be clamped on the roof gutter and consist of an upper clamping member (5) and a lower clamping member (6), at least one of which clamping members is adjustable in the vertical direction, and an upright (2) connected to each clamping construction for attaching restraining means (1), both clamping members (5, 6) of each clamping construction being fitted to a bracket (4) which is intended to engage around the roof gutter in such a way that the clamping members grip on the bottom of the gutter, characterized in that a supporting leg (12) is connected at its top end to the bracket (4) in a hinged manner and its lower end can be made to grip on the wall beneath the roof gutter, while an intermediate leg (17) is connected in a hinged manner both to the supporting leg (12) and to a spacer (14) attached to the bracket (4).

**Patentansprüche**

**Patentansprüche für folgende**

**Vertragsstaaten : AT, BE, CH, LI, LU, SE**

1. Absturzsicherungsrichtung für ein Dach, ausgestattet mit mehreren Klemmkonstruktionen, die an der Dachrinne zu befestigen sind und ein oberes Klemmelement (5) und ein unteres Klemmelement (6) aufweisen, von denen mindestens eines in vertikaler Richtung verstellbar ist, sowie einem mit jeder Klemmkonstruktion verbundenen Ständer (2) zum Anbringen von Rückhalteeinrichtungen (1), dadurch gekennzeichnet, daß beide Klemmelemente (5, 6) jeder Klemmkonstruktion an einer Halterung (4) befestigt sind, die so um die Dachrinne herumgreifen soll,

daß die Klemmelemente am Boden der Dachrinne angreifen.

- 5 2. Absturzsicherungsrichtung nach Anspruch 1, dadurch gekennzeichnet, daß jeder Ständer (2) am oberen Teil einer Halterung (4) befestigt ist.
- 10 3. Absturzsicherungsrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß das verstellbare Klemmelement eine an der Halterung (4) befestigte Gewindebuchse (6a) und eine in die Gewindebuchse eingeschraubte Schraubspindel (6b) aufweist.
- 15 4. Absturzsicherungsrichtung nach einem der vorstehenden Ansprüche, mit einem Stützschenkel, der unter der Klemmkonstruktion befestigt ist und so ausgeführt werden kann, daß er an der Mauer unterhalb der Dachrinne angreift, dadurch gekennzeichnet, daß der Stützschenkel (12) an seinem oberen Ende mit der Halterung (4) gelenkig verbunden ist, während ein Zwischenschenkel (17) sowohl mit dem Stützschenkel (12) als auch mit einem an der Halterung befestigten Abstandsstück (14) gelenkig verbunden ist.
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**Patentanspruch für folgende**

**Vertragsstaaten : DE, FR, GB, NL**

- 30 1. Absturzsicherungsrichtung für ein Dach, ausgestattet mit mehreren Klemmkonstruktionen, die an der Dachrinne zu befestigen sind und ein oberes Klemmelement (5) und ein unteres Klemmelement (6) aufweisen, von denen mindestens eines in vertikaler Richtung verstellbar ist, sowie einem mit jeder Klemmkonstruktion verbundenen Ständer (2) zum Anbringen von Rückhalteeinrichtungen (1), wobei beide Klemmelemente (5, 6) jeder Klemmkonstruktion an einer Halterung (4) befestigt sind, die so um die Dachrinne herumgreifen soll, daß die Klemmelemente am Boden der Dachrinne angreifen, dadurch gekennzeichnet, daß ein Stützschenkel (12) an seinem oberen Ende gelenkig mit der Halterung (4) verbunden ist und sein unteres Ende so ausgeführt werden kann, daß es an der Mauer unterhalb der Dachrinne angreift, während ein Zwischenschenkel (17) sowohl mit dem Stützschenkel (12) als auch mit einem an der Halterung (4) befestigten Abstandsstück (14) gelenkig verbunden ist.
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## Revendications

### Revendications pour les Etats Contractants suivants : AT, BE, CH, LI, LU, SU

1. Pare-chute pour toiture, pourvu d'un certain nombre de constructions de serrage destinées à être serrées sur la gouttière de toit et composées d'un élément de serrage supérieur (5) et d'un élément de serrage inférieur (5), au moins l'un des éléments de serrage étant réglable dans le sens vertical, et un montant (2) relié à chaque construction de serrage, destiné à la fixation de moyens de rétention (1), caractérisé en ce que les deux éléments de serrage (5, 6) de chaque construction de serrage sont montés sur un support (4) destiné à venir en prise autour de la gouttière de toit, de telle manière que les éléments de serrage viennent en prise avec le fond de la gouttière. 5  
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2. Pare-chute suivant la revendication 1, caractérisé en ce que chaque montant (2) est fixé à la partie supérieure d'un support (4). 25
3. Pare-chute suivant la revendication 1 ou 2, caractérisé en ce que l'élément de serrage réglable comprend un manchon taraudé (6a) fixé au support (4) et une tige filetée (6b) vissée dans ledit manchon. 30
4. Pare-chute suivant l'une des revendications précédentes, avec un bras-support qui est fixé sous la construction de serrage et peut être réalisé de manière à venir en prise avec le mur sous la gouttière de toit, caractérisé en ce que le bras-support (12) est, à sa partie supérieure, relié, de manière articulée, au support (4) tandis qu'un bras intermédiaire (17) est relié, de manière articulée, tant au bras-support (12) qu'à une entretoise (14) fixée au support. 35  
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### Revendication pour les Etats Contractants suivants : DE, FR, GB, NL

1. Pare-chute pour toiture, pourvu d'un certain nombre de constructions de serrage destinées à être serrées sur la gouttière de toit et composées d'un élément de serrage supérieur (5) et d'un élément de serrage inférieur (5), au moins l'un des éléments de serrage étant réglable dans le sens vertical, et un montant (2) relié à chaque construction de serrage, destiné à la fixation de moyens de rétention (1), les deux éléments de serrage (5, 6) de chaque construction de serrage étant montés sur un support (4) destiné à venir en prise autour de la gouttière de toit, de telle manière que les éléments de serrage viennent en prise 45  
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avec le fond de la gouttière, caractérisé en ce que le bras-support (12) est, à sa partie supérieure, relié, de manière articulée, au support (4) et que son extrémité inférieure peut être réalisée de manière à venir en prise avec le mur sous la gouttière de toit, tandis qu'un bras intermédiaire (17) est relié, de manière articulée, tant au bras-support (12) qu'à une entretoise (14) fixée au support (4).

fig-1

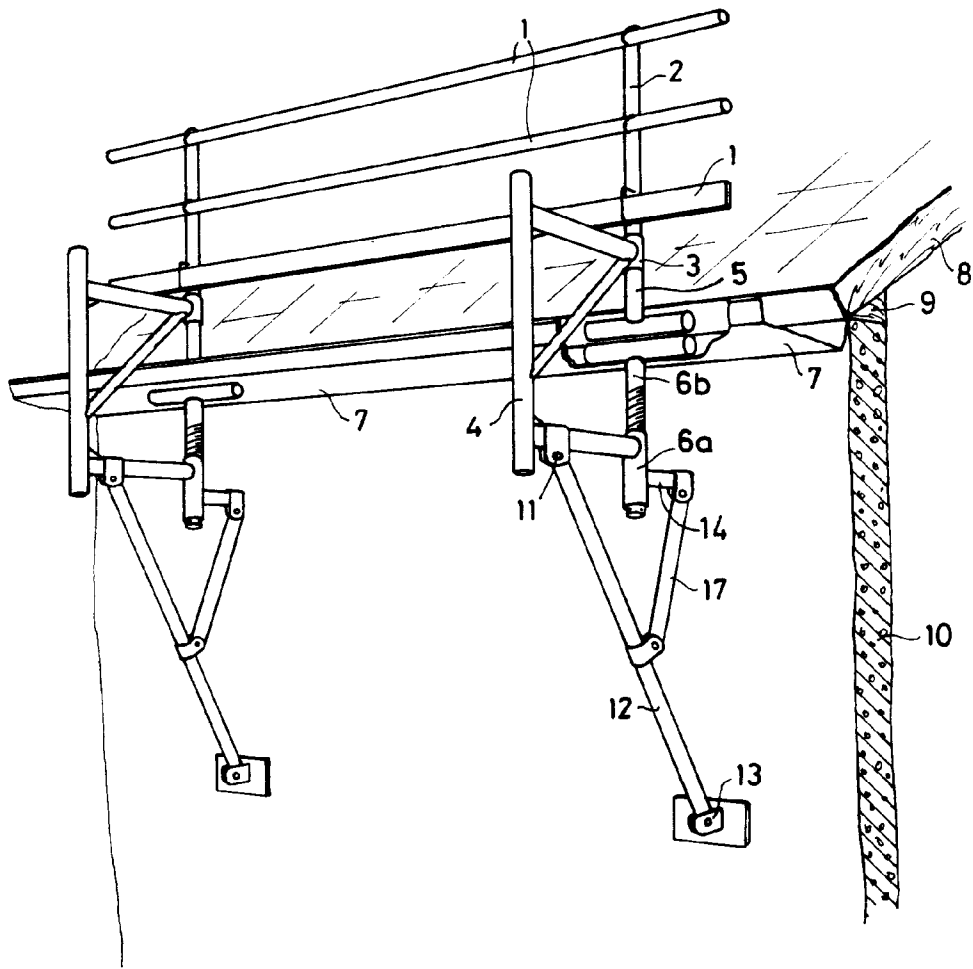


fig - 2

