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(54) **Fastening construction**

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Description

[0001] The present invention relates to a fastening construction according to the preamble of Claim 1.

[0002] A fastening construction of this kind can be used to hang paintings. However, it can also be used to fasten a wide variety of objects to a fixed part. As an example a computer to a table can be quoted. In US Patent Specification 2263901, a construction is described which is to be fitted horizontally and has to be fastened to a painting's stretcher pieces or the like. The painting can thereby be displaced in the horizontal direction relative to a fastening screw or the like and so the middle can be precisely located to allow the painting to hang correctly. The screw or the like is brought via a keyhole-shaped opening into the fastening part. Once the screw has been fitted in the opening in question, a nail can ensure that the screw is blocked, i.e. it is no longer possible to remove a painting directly from the wall.

[0003] A problem with a construction of this kind is that it is especially difficult, even for authorized persons, to remove the painting. For the authorized person will need to get the aforementioned nail out of the opening and because all this is situated between painting and wall, this will be no simple task. Moreover, the introduction of the nail proves difficult because the nail has to be introduced precisely through two opposite openings which are likewise located in the space which is difficult to access between painting and wall. Moreover, the construction is solely achievable if it is fitted horizontally, to be more precise positioned horizontally in the right direction. In all other positions, there is the risk of the nail falling out of the openings concerned.

[0004] The object of the present invention is to eliminate this drawback.

[0005] This object is realized in the above-described fastening construction by way of the characterizing measures of Claim 1. Through the use of a screw construction, there is no risk of the screw concerned going astray. Moreover, this screw can be operated at a distance in a secured manner and the fastening construction can be used in any position. Although it is possible in principle for the screw to extend to an opposite opening and can also easily be brought into some such opposite opening, this is not necessary per se, so that it may extend only over the largest part of the keyhole-shaped opening.

[0006] It is noted that from German Patent Specification 103533 a fastening construction is known which has to be fastened to the back of a painting or the like. This comprises an opening and screws which act upon this opening from three sides and are able to retain a fastening means. There is no mention here of any two-part constitution of the opening, as according to the present invention. The use of three screws is especially complicated, both as regards the construction and as regards the fitting of the fastening construction concerned.

[0007] The invention also relates to a bearing element for a painting comprising an above-described fastening construction, wherein the fastening part is designed to be fitted to the stretcher pieces of that painting. Depending on the application, the design will be adapted accordingly. It is important to understand however that the invention is not limited to the hanging of paintings, but is for all other objects known in the prior art which have to be hung on a wall or the like.

[0008] A known bearing element comprises a fastening to the painting and is provided with a keyhole-shaped receiving fixture, in which the "inlet" for the fastening screw or the like in the wall is located on the underside. For the fastening of a painting, bearing elements can always be fitted close to the top ends on opposite sides of the painting, and following correct positioning of the fastening screws or hooks in the wall, the painting can be slid over them such that it moves into the second part of the receiving fixture, whereby the painting is fastened in stable manner to the wall. Such a fastening is primarily used in more professional applications, such as in museums and the like. There is no risk herein of hanging crooked.

[0009] In such museums, in addition to break-in safeguards, it is usual to provide safeguards against removal. That is to say, paintings and other hung objects being removed unnoticed from the wall must be prevented. Smaller paintings, in particular, can easily be concealed under the jackets of visitors and transported out of the museum.

[0010] In the prior art, in order to limit this risk a wide variety of electronic constructions are proposed which, whenever the painting is moved relative to the wall, emit a signal. For the first part, such electronic safeguards are very expensive. For the second part, a false alarm has often proved to be given, so that the motivation of the attendant still to take action when the umpteenth alarm goes off is rapidly diminished after a number of false alarms.

[0011] The object of the present invention is to eliminate this drawback and provide a cheap, effective safeguard.

[0012] This object is realized in an above-described bearing element in that the support is provided with blocking means which inhibit displacement of that fastening means from that second part to that first part.

[0013] The invention is based upon the idea of fastening the painting or the like more or less fixedly to the wall. That is to say, after positioning, the blocking means are made effective and it is no longer possible to move the painting or the like back upwards in order thereby to reach the introduction opening for the fastening means such as a screw. It is not possible to remove the painting from the wall without considerable conspicuous force.

[0014] It will be understood that such a construction is particularly easy to realize and hence cheap, whilst the risk of false alarm is eliminated.

[0015] The receiving fixture for the reception of the

fastening means will be matched to the shape of that fastening means. If that fastening means is a headed screw or a hexagon socket head screw, the receiving fixture can be keyhole-like in design. That is to say, in the usage position there is on the underside a relatively large opening (first part) in the vertical direction, followed by a comparatively narrower opening in which the fastening means can only slide to and fro and cannot be removed from the bearing element.

[0016] The screw means can be provided with any head which is known in the prior art for the driving thereof and this head will preferably be designed such that manual twisting is not easily possible, whilst for displacement thereof a special key, such as a hexagon socket screw key, is used.

[0017] With the above-described construction, it is especially easily feasible also to provide height-adjustment means. The fitting of further screw means, which in the fitted position of the bearing element are vertically displaceable, allows in the second part of the receiving fixture, the position of the fastening means relative to the bearing element to be adjusted.

[0018] According to an especially advantageous embodiment of the invention, the fastening construction is used as a bearing element for a painting or the like.

[0019] The invention will be illustrated in greater detail below with reference to an illustrative embodiment represented in the drawing, in which

Fig. 1 shows in perspective view the bearing element according to the invention from the rear side, i.e. the side facing the painting; and

Fig. 2 shows two bearing elements fastened to a painting in rear view.

In Fig. 1, the bearing element according to the invention is denoted by 1. As can be seen from Fig. 2, this is intended to be fastened to stretcher pieces 2 of a painting 3. From Fig. 2 it is apparent that two of such bearing elements 1 are present. It is self-evident that the left bearing element 1 is a mirror image of the right bearing element 1.

[0020] Fastening between the bearing element 1 and the stretcher pieces of the painting 2 is effected via a lowered edge part 4 of the bearing element 1, which is provided with openings 5 for receiving screws, nails and the like which are denoted by 6 in Fig. 2. The bearing element is provided with a raised part or support 12 provided with a keyhole-shaped receiving opening 7 comprising a first lower part 8, which is round, and a second part 9 connected thereto, which is of key-shaped design. In the represented example, the connection between the first and second part is a vertical line in the usage position, but it must be understood that this can also be a horizontal line or any other line between horizontal and vertical. Support 12 is provided with a flanged part (not represented in detail), in which a screw thread is fitted for the reception of a adjusting bolt 10. This is fitted in such a way that the end thereof can extend to a greater or lesser extent into slot 9. A locking bolt 11 is fitted in screw thread cut in the transition part between support 12 and edge part 4. All this is positioned such that this locking screw 11, when screwed in, emerges in the transition between the parts 8 and 9 (self-evidently lying behind and in front thereof respectively). The raised part 12 or support is additionally provided with an opening 13. This opening 13 can be provided with a screw thread for the reception of a hook or eye, thereby allowing for simple storage in warehouses and the like. The thickness of the different plate parts from which the bearing element 1 is constructed will self-evidently be chosen in accordance with the function thereof.

[0021] In Fig. 2, a screw 14 is shown in diagrammatic representation, which screw has a comparatively narrow shank and thicker head. All this is designed such that the head can move just through the opening 8 but not through slot 9, whilst the shank is displaceable in the slot 9 of the raised part. After the painting has been hung, height-adjustment can be realized through positional adjustment of the bolt 10. For this bolt 10 presses with its free end upon the shank of screw 14. In order to prevent the shank of screw 14 from drifting, the end of the adjusting bolt 10 can be designed in a crater shape, i.e. such that the core of the bolt is hollow at its free end. The bolt 11 is consequently able to be fully screwed in, whereby displacement of screw 14 from slot 9 is inhibited. Screws 10 and 11 can be provided with special means, such as a hexagon socket head, to hinder operation by unauthorized persons. In addition, securing means can be present and other further locking devices.

[0022] With the above construction, it is possible in an especially simple manner to acquire a safeguard against the unauthorized removal of paintings. For an important factor in theft is to slow down the act and the fitting of locking bolt 11 means that it will take an unauthorized person considerable time to remove the painting, so that this construction offers particularly effective break-in protection.

[0023] Although the invention is described above with reference to a preferred embodiment, it will be understood by those skilled in the art that many variants are possible which are within the scope of the appended claims.

Claims

1. Fastening construction for fixing an object such as a painting (2) to a wall or other fixed part, comprising a fastening part (4) to be fastened to that object and connected to a support (12) provided with a receiving fixture (7) for receiving a fastening means, such as a screw (14), fitted in this wall or other fixed part, which receiving fixture (7) comprises two parts, a first part (8) for the free introduction of the fastening means and an adjoining second part (9) for receiv-

ing that fastening means displaceably in the vertical direction but in a locking manner in the direction perpendicular to the wall, the support (12) being provided with blocking means (11) which inhibit displacement of said fastening means from that second part (9) to said first part (8), **characterized in that** the blocking means comprise a screw means which is fitted in this support such that it is displaceable in a direction perpendicular to the connecting line between said first and second part.

2. Fastening construction according to claim 1, wherein the receiving fixture comprises a key hole shaped opening made in a plate of the support which, spaced from the fastening part (4) is fitted to stretcher pieces or the like.

3. Fastening construction according to one of the preceding claims, in which that fastening part (4), in addition to the support (12), is fitted extending in the direction of the path of motion first part-second part.

4. Bearing element for a painting (2), comprising a fastening construction according to one of the preceding claims, in which the fastening part (4) is designed to be fitted to the stretcher pieces of the painting.

5. Bearing element according to Claim 4, provided with height-adjustment means (10).

6. Bearing element according to Claim 5, comprising a screw means which is displaceably fitted in that bearing element and, in fitted position of the fastening means, is fitted above that second part (9) of said receiving fixture.

7. Bearing element according to one of Claims 4-6, provided with a further opening (13).

Patentansprüche

1. Befestigungskonstruktion zum Befestigen eines Objektes, wie ein Bild (2), an einer Wand oder einem anderen befestigten Teil, die ein Befestigungsteil (4) umfasst, das an dem Objekt angebracht werden soll und mit einer Halterung (12) verbunden ist, die mit einer Aufnahmebefestigung (7) zum Aufnehmen eines Befestigungsmittels, wie eine Schraube (14), das in diese Wand oder das andere befestigte Teil eingepasst ist, versehen ist, wobei die Aufnahmebefestigung (7) zwei Teile umfasst, einen ersten Teil (8) für die freie Einführung des Befestigungsmittels und einen angrenzenden zweiten Teil (9) zum Aufnehmen dieses Befestigungsmittels versetzbar in der vertikalen Richtung, aber in einer in der Richtung senkrecht zu der Wand verriegelnden Weise, wobei die Halterung (12) mit einem Blockiermittel (11) versehen ist, das eine Verschiebung des Befestigungsmittels von dem zweiten Teil (9) zu dem ersten Teil (8) verhindert, **dadurch gekennzeichnet, dass** das Blockiermittel ein Schraubenmittel umfasst, das in diese Halterung derart eingepasst ist, dass es in einer Richtung senkrecht zu der Verbindungslinie zwischen dem ersten und dem zweiten Teil versetzbar ist.

2. Befestigungskonstruktion nach Anspruch 1, bei der die Aufnahmebefestigung eine schlüssellochförmige Öffnung aufweist, die in einer Platte der Halterung vorgesehen ist, die von dem Befestigungsteil (4) beabstandet an Spannrahmenteile oder dergleichen eingepasst ist.

3. Befestigungskonstruktion nach einem der vorangehenden Ansprüche, bei dem das Befestigungsteil (4) zusätzlich zu der Halterung (12) in die Richtung des Bewegungsverlaufs erster Teil - zweiter Teil eingepasst ist.

4. Trägerelement für ein Bild (2), das eine Befestigungskonstruktion nach einem der vorangehenden Ansprüche umfasst, bei der das Befestigungsteil (4) bemessen ist, um in die Spannrahmenteile des Bildes eingepasst zu sein.

5. Trägerelement nach Anspruch 4, das mit einem Mittel (10) zur Höhenverstellung versehen ist.

6. Trägerelement nach Anspruch 5, das ein Schraubenmittel umfasst, das versetzbar in das Trägerelement eingepasst ist und, in eingefügter Position des Befestigungsmittels, oberhalb des zweiten Teils (9) der Aufnahmebefestigung eingefügt ist.

7. Trägerelement nach einem der Ansprüche 4 bis 6, das mit einer weiteren Öffnung (13) versehen ist.

Revendications

1. Dispositif de fixation pour fixer un objet tel qu'un tableau (2) sur une paroi ou une autre pièce fixée, comprenant une pièce de fixation (4) devant être fixée à cet objet et liée à un support (12) équipé d'une installation de réception (7) pour recevoir des moyens de fixation, tels qu'une vis (14), ajustée dans cette paroi ou une autre pièce fixée, laquelle installation de réception (7) comprend deux parties, une première partie (8) pour l'introduction libre des moyens de fixation et une seconde partie adjacente (9) pour recevoir ce support de fixation de manière déplaçable dans le sens vertical mais d'une manière de verrouillage dans le sens perpendiculaire à la paroi, le support (12) étant équipé de moyens de

blocage (11) qui entravent le déplacement desdits moyens de fixation depuis cette seconde partie (9) jusqu'à ladite première partie (8), **caractérisés en ce que** les moyens de blocage comprennent des moyens formant vis qui sont ajustés dans ce support de telle sorte qu'ils puissent être déplacés dans un sens perpendiculaire à la ligne de liaison entre lesdites première et seconde parties.

2. Dispositif de fixation selon la revendication 1, dans lequel l'installation de réception comprend un orifice en forme de serrure fabriqué dans une plaque du support qui, espacé de la partie de fixation (4), est ajusté à des pièces de cadre ou similaires.

3. Dispositif de fixation selon l'une des revendications précédentes, dans lequel cette pièce de fixation (4), en plus du support (12), est ajustée en s'étendant dans la direction du trajet de déplacement de la première partie à la seconde partie.

4. Elément de support pour un tableau (2), comprenant un dispositif de fixation selon l'une des revendications précédentes, dans lequel la pièce de fixation (4) est conçue pour être ajustée aux pièces de cadre du tableau.

5. Elément de support selon la revendication 4, équipé de moyens de réglage de la hauteur (10).

6. Elément de support selon la revendication 5, comprenant des moyens formant vis qui sont ajustés de manière déplaçable dans cet élément de support et, en position ajustée du support de fixation, sont ajustés au-dessus de cette seconde partie (9) de ladite installation de réception.

7. Elément de support selon l'une des revendications 4 à 6, équipé d'un autre orifice (13).

Fig-1

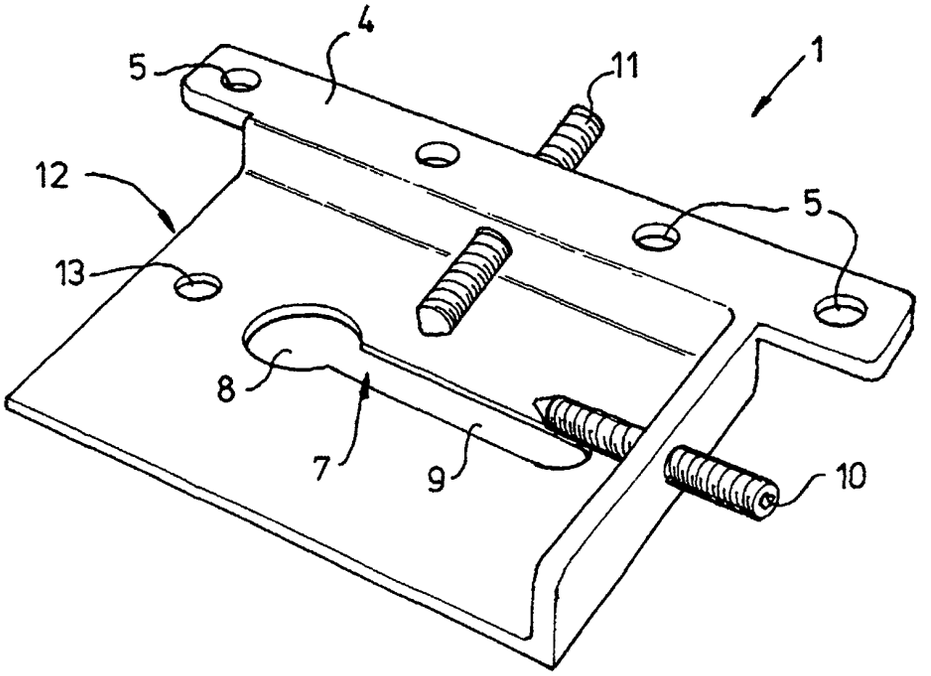

Fig-2