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(54) **Reinforced through-hole fixing system for clothes-hangers**

(57) Reinforced through-bore fixing system for the attachment of clothes-hangers that are in particular intended for application on to the doors of residential buildings, rooms, furniture cabinets or the like.

The main feature of the present invention lies in the use of a counter-plate, counter-plaque or the like (40) to be applied on to the surface (A2) of the related room or furniture door (A) lying opposite to the surface (A1) of the same door, which the base (11) of the clothes-hanger (10) has to be applied to, by the insertion of a screw (20), provided to screw into a related nail or lock nut (30), in a through-bore (17) provided in the same door (A), while a second screw or similar counter-piece (14) is provided on the same base (11) of the clothes-hanger (10) for the latter to be positively prevented from being urged into any possible rotational displacement.

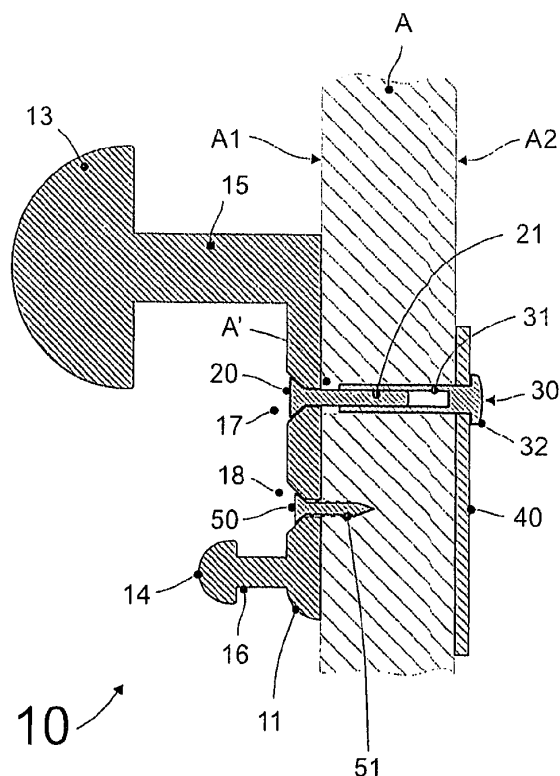


Fig.3

Description

[0001] The present invention relates to a reinforced fixing arrangement for clothes-hangers that are particularly intended for attachment on the doors of residential premises such as houses or rooms, or on the doors of furniture pieces.

[0002] The main innovatory feature of the present invention lies in the provision of a counter-plate or plaque to be applied on to the surface of the room, furniture or other door lying opposite to the surface of the same door, which the base of the clothes-hanger has to be applied to, by the insertion of a fastening screw, provided to screw into a related nail or lock nut, in a through-hole provided in the same door, while a second screw or similar counter-piece is provided on the same base of the clothes-hanger for the latter to be positively prevented from being urged into any possible rotational displacement, e.g. when submitted to torsional or shearing stresses.

[0003] Known and commonly used in the furniture-making industry and home or furniture fittings trade in general there are clothes-hangers, the structural and functional parts and elements of which are in the majority of cases provided with stress-resisting cross-sections that are quite thin and generally feature a high degree of rigidity so as to improve their ability in supporting the article, coat or garment being hanged thereon.

[0004] One of the most widespread types of clothes-hangers of this kind is certainly constituted by those clothes-hangers that are generally applied on to a door or similar surface by means of a special bi-adhesive, i.e. double-sided adhesive tape that is laid between the surface of the door and the surface of the base of the same clothes-hanger.

[0005] Anyway, this kind of attachment of a clothes-hanger is largely known to have a major drawback in that in the long run and due the bi-adhesive tape unavoidably undergoing a progressive deterioration in the performance ability thereof, owing also to the continuous torsional, shearing and tensile stresses clothes-hangers are generally subject to in normal use as brought about by the weight of the articles hanging thereon, the same clothes-hangers tend to come loose and off, as well as to become unserviceable in view of a possible new application thereof, due also to the deterioration of the surface of the door, which they were attached to.

[0006] In an attempt to at least partially do away with such drawback, use has begun to be made of particular attachment arrangements employing one or more self-tapping or self-threading screws to secure the clothes-hanger to the preferably wooden door, thereby ensuring adequate stability and resistance.

[0007] These arrangements, however, have been found to have a main drawback in that the screw or screws used for attachment are unavoidably subject to repeated shear and tensile stresses in the course of time, as brought about by the weight loaded onto the clothes-hanger, so that, by correspondingly straining the door

material, they eventually slip off the receptacle which they are threaded in, thereby causing the related clothes-hanger to get loose and come off and - quite frequently - also the material which the door is made of to partially wear out and away, whereby the whole door is damaged.

[0008] It therefore is a main object of the present invention to provide a fixing arrangement to secure clothes-hangers to house, room and furniture doors, which is effective in ensuring full endurance and stability of the attachment in the long run, even under the most severe load and use conditions, which a clothes-hanger may be subject to.

[0009] Within the general object as set forth above, it is a purpose of the present invention to provide a fixing arrangement for clothes-hangers of the above-noted kind, which is such as to enable each single room, space, cubicle or similar compartment, which the door with the clothes-hanger attached thereto is designed to close and open, to be identified and personalized.

[0010] A further purpose of the present invention is to provide a fixing arrangement for clothes-hangers of the above-noted kind that is structurally simple and, as a result, is relatively inexpensive, while allowing for easy application in an intuitive manner.

[0011] According to the present invention, these and further aims, which will become fully apparent further on in this description, are reached in a fixing arrangement for clothes-hangers, which is characterized in that it contemplates the use of a counter-plate or plaque to be applied on to the surface of the room, furniture or other door lying opposite to the surface of the same door, which the base of the clothes-hanger has to be applied to, by the insertion of a fastening screw, provided to screw into a related nail or lock nut, in a through-hole provided in the same door, while a second screw or similar counter-piece is provided on the same base of the clothes-hanger for the latter to be positively prevented from being urged into any possible rotational displacement, e.g. when submitted to torsional or shearing stresses.

[0012] Additional features and advantages of the present invention will become apparent from the detailed description which is given below of a particular, although not sole embodiment thereof, illustrated by way of a not-limiting example with reference to the accompanying drawings, in which:

- Figure 1 is a perspective, exploded view of the main parts of the clothes-hanger as used to embody the fixing arrangement according to the present invention for securing the clothes-hanger, e.g. to a door;
- Figure 2 is a front view of some of the parts entering the construction of the clothes-hanger shown in Figure 1;
- Figure 3 is a cross-sectional view along the sectional plane III-III of Figure 2 of the same parts of the clothes-hanger shown in Figures 1 and 2;

- Figure 4 is an outside cross-sectional view similar to the one in Figure 3, but according to a different sectional plane of the door to which the fixing arrangement according to the present invention is applied;
- Figure 5 is an overall view similar to the one in Figure 1, but referring to a first modified embodiment of the clothes-hanger, however assembled and secured in accordance with the arrangement according to the present invention.

[0013] In all above-listed Figures, similar items are indicated or shall be understood as being indicated by the same reference numerals.

[0014] Now, with reference to the above-listed Figures in the drawings accompanying this specification, it can be noticed that a clothes-hanger (10) of a conventional kind is substantially comprised of an attachment body (11), preferably including a planar, flat base surface (12), said attachment body (11) being provided with a pair of knobs or hooks (13-14) for garments or similar items to be hanged thereon, said knobs (13-14) being associated to the above-mentioned base body (11) by means of respective stems (15-16).

[0015] The same conventional clothes-hanger (10) is completed by the provision of a pair of flared through-bores (17-18) that are provided in an appropriate position along the attachment body (11).

[0016] In an innovatory manner, the inventive fixing arrangement is based on the concept according to which the clothes hanger (10) is secured to the inner surface (A1) of the door or similar space-shutting surface (A) by means of a screw (20), the threaded shank (21) of which is received into the bore (17) in the body (11) and screws into the threaded bore (31) in a nail or rivet (30), wherein such nail (30) has the head (32) thereof abutting against a plate or plaque (40) that is applied on to the outer surface (A2) of the same door or shutter (A).

[0017] According to the construction solution illustrated in the various Figures attached hereto, said plate or plaque (40) is made so as to be comprised of a planar rigid body (41), which may for instance be in a rectangular shape and is provided with a through-hole (42) that is preferably provided in a centre-of-gravity position, and preferably located in the proximity of the upper side thereof, so as to allow for a regular arrangement of the same, wherein the sides of said rigid body will therefore extend parallel to the edges of the door (A).

[0018] According to a prior-art arrangement - and as already set forth hereinbefore - the clothes-hanger (10) is completed by the provision of the bore (18), into which there is inserted a screw, such as for instance a self-tapping screw (5), the shank (51) of which threads into the inner surface (A1) of the door (A) so as to positively prevent the same clothes-hanger from possibly swinging, oscillating or turning.

[0019] According to the inventive arrangement, the same door or shutter (A) is provided in an innovatory

manner with a preliminarily made through-hole (A'), which is adapted to receive and accommodate the shank (33) of the nail (30), while preventing the head (32) thereof from being able to pass therethrough.

[0020] The same shank (33) is provided with an axial through-bore (31) of its own, which is adapted to enable the threaded shank (21) of the screw (20) to screw thereinto.

[0021] The few and simple parts making up the clothes-hanger (10) and the related fittings having in this way been described, a closer look will now be taken on the role played by the same parts and items in the embodiment of the inventive arrangement, further to checking the same arrangement for the actual effectiveness thereof in the attainment of the afore-specified aims and purposes.

[0022] Upon drilling the through-hole (A') in the desired position in the door or shutter (A), the shank (33) of the nail (30) is inserted therein after that the same shank (33) has previously been inserted in the hole (42) in the plate or plaque (40) and upon the latter having obviously been applied in the due position against the outer surface (A2) of the same door or shutter (A).

[0023] The planar flat base (12) of the body (11) of a clothes-hanger (10) is then applied against the inner surface (A1) of the same door or shutter (A) in such a manner as to make sure that the axis of the flared through-bore (17) thereof is aligned with the axis of the hole (A') and, therefore, of the shank (33) of the nail (30) that has been already inserted therein.

[0024] The next step includes inserting the threaded shank (21) of the screw (20) in said through-bore (17) and screwing it on the inner or female threads (31) of said nail or rivet (30) until the clothes-hanger is eventually firmly secured to the door (a) and the plate or plaque (40), thereby forming a single, firmly joined assembly therewith, wherein the verticality of both the plate (40) on the outer door surface and the clothes-hanger (10) on the inner door surface will have progressively been adjusted prior to reaching the firmly joined state of the assembly.

[0025] The application of the screw (50) in the bore (18) provided in the clothes-hanger (10), by having the same screw cutting its own threads when driven through the surface (A1) of the door (A), ensures the ability of the clothes-hanger (10) and the counter-plate (40) on the opposite side of the door to fixedly stay in the desired position thereof in the course of time, even if submitted to jerks, bumps or similar stresses as they are typically exerted thereon during normal use.

[0026] The inventive arrangement, as it has been described above, is therefore fully able to provide a clothes-hanger that is such as to ensure a maximum extent of solidity and stability in the course of time, and is further able to reach the aforementioned aims and advantages.

[0027] In addition, the inventive fixing arrangement for clothes-hangers is such as to reach another of the afore-cited aims in that it makes it further possible for the plate

or plaque on the outer surface of the door or shutter to be used in view of indicating the use which the space being delimited by the same door or shutter is intended for or personalizing the same space. Examples of such possibility include the indication of the room number in a hotel, the indication of gentlemen and ladies toilets on the plaque affixed to the door of sanitary facilities in community-buildings, and the like.

[0028] The simplicity in the structure and composition of the few parts making up the clothes-hanger arrangement described by way of illustrative example hereinbefore, further to the intuitive, convenient manner in which such parts can be mounted and secured in place, make the inventive arrangement that has described above in a possible embodiment thereof quite a low-cost, effective and practical one, in full compliance with the purposes and aims pursued by the present invention as set forth above.

[0029] Referring now to Figure 5, this - as noted hereinbefore - can be noticed to illustrate a first modified embodiment of the inventive clothes-hanger arrangement. In the first place, it can be noticed that this modified embodiment implies a quite obvious adaptation in the application and attachment of the same arrangement, since it involves securing a pair of identical clothes-hangers (10) to a single and same plate (40a) having an enlarged body (41 a) and provided with respective through-bores (42a-42b).

[0030] Identical nails or rivets (30) are inserted in the bores (42a-42b) of the plate (40) so as to be able to drive the shanks (33) thereof into the respective bores (A') that are already provided in the door or shutter (A), after a similar plate or plaque (40) will have been applied on to the surface (A2) thereof. With the application of the two clothes-hangers (10) on to the surface (A1) of the same door or shutter (A) under due alignment of the bores (17) thereof with the threaded bores (31) of the corresponding nails or rivets (30) to screw them thereinto via the respective through-bores (A'), a firm and stable attachment of the same clothes-hangers (10) is obtained, while the self-tapping screws (50) being screwed into the respective bores (18) are effective in ensuring a firm, stable and solid joint of the whole arrangement also with the outer plate (40), in accordance with and using substantially the same concept as the afore-described one, and reaching the same aims and advantages as noted hereinbefore.

[0031] Fully apparent from the above description is the ability of the inventive arrangement to reach the object and aims of the present invention as specified above by providing a fixing arrangement for the attachment of clothes-hangers (10), which is very stable and resistant, capable of firmly withstanding high weight loads along with shearing and tensile stresses, thanks to the use of a plate or plaque (40) that can additionally perform as an orientating sign to assist people in finding a particular room.

[0032] It will of course be readily appreciated that the arrangement as it has been described hitherto can be

varied in the construction and assembly sequence thereof, so as to adapt it to particular situations and application requirements. For example, the possibility is given for clothes-hangers (10) to be used, which have a different conformation and a different number of knobs or hooks (13-14), or any other kind of support used to hang garments or other items thereon. Similarly, the number of actual clothes-hangers (10) to be applied with the aid of a single plate (40) may vary.

[0033] The possibility is also given for the inventive arrangement to be applied to movable walls or the screws (20) and the threaded nails (30) to be replaced with, for instance, rivets of a traditional kind or even traditional screw-and-nut fasteners. In the same way, the single parts forming the clothes-hanger (10) and the securing plate or plaque (40) may be made of any material, as long as it suits the application, and in as wide as possible variety of forms and shapes.

[0034] It is also possible for the second screw (50) and the related receiving bore (18) to be done away with, if provision is made of at least a small conical projection or a rough lower portion on the flat surface (12) of the body (11) of the clothes-hanger (10).

[0035] The possibility is also given for the reinforced clothes-hanger attachment arrangement, so as it has been described hereinbefore, to be used for applications differing from the one described above in connection with the actual attachment of clothes-hangers. The same arrangement can in fact be used as such to also attach such items as object carriers or holders, pockets, or the like, which have to be applied, and properly identified as such, on even stationary panels or surfaces arranged near or at workplaces, work-stations and the like, to such purposes as to support objects of either a decorative or instrumental kind, fittings of all kinds, objects to be displayed in exhibitions or fairs, or even special or specific objects needed for use in particular living or working environments, wherein the plate or plaque applied on to the opposite wall or surface (A2) would then allow for a logical association with what is applied on the other side (A1), e.g. of a panel or wall (A). Depending on the actual kind of use thereof, the reinforced attachment arrangement of the invention may be used with varying forms and shapes of the plates, nails and other parts thereof, wherein such parts making up the same arrangement may be used in various colours and may be made of various materials, so as to best suit any particular application.

[0036] Finally, the possibility is given for the outside plate or plaque (40) to be replaced with an identical or similar outer clothes-hanger (10), wherein the nail (30) would then be replaced with another screw that is anyway provided with a shank having a threaded bore (31) for connection to the screw (20).

[0037] It shall of course be appreciated that these and further possible modifications and variants may be introduced in the inventive attachment arrangement without departing from the scope of the present invention.

Claims

1. Reinforced through-bore fixing system for the attachment of clothes-hangers that are in particular intended for application on to the doors of residential buildings, rooms, furniture cabinets or the like, **characterized in that** it includes the use of a counter-plate, counter-plaque, or the like, to be applied on to the surface of the related room, furniture or other door lying opposite to the surface of the same door, which the base of the clothes-hanger has to be applied to, by the insertion of a fastening screw, provided to screw into a related nail or lock nut, in a through-bore provided in the same door, while a second screw or similar counter-piece is provided on the same base of the clothes-hanger for the latter to be positively prevented from being urged into any possible rotational displacement. 5 10
2. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claim 1, **characterized in that** it includes providing at least a through-bore (A') in the position on the room or furniture door, in which a clothes-hanger of the kind being considered has to be attached. 15 20 25
3. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claims 1 and 2, **characterized in that** it includes providing a clothes-hanger (10) having an attachment body (11), preferably with a planar and flat base surface (12), said attachment body (11) being provided with one or more knobs or hooks (13-14) for garments or similar items to be hanged thereon, said knobs (13-14) being associated to the above-mentioned base body (11) by means of respective stems (15-16), through-bores (17-18) being provided to extend along the same attachment body (11). 30 35
4. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claims 1 and 2, **characterized in that** it includes securing the clothes-hanger (10) to the inner surface (A1) of the room or furniture door (A) by means of a screw (20), the threaded shank (21) of which is received in the bore (17) provided in the body (11) and screws into the threaded bore (31) in the shank of a nail or rivet (30). 40 45
5. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claim 4, **characterized in that** said nail or rivet (30) has the head (32) thereof abutting against a plate or plaque (40), which is applied on to the outer surface (A2) of the same door (A). 50 55
6. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claims 1 and 2, **characterized in that** said plate or plaque (40) is comprised of a rigid planar body (41), e.g. in a rectangular shape, which is provided with a through-hole (42) that is preferably situated in a centre-of-gravity position, and preferably located in the proximity of the upper side thereof, so as to allow for a regular arrangement of the same, wherein the sides of said rigid body will therefore extend parallel to the edges of the door (A).
7. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claims 1 to 6, **characterized in that** said the outer surface of said plate (40) is available for printing or anyway applying at least a symbol, word, number, or the like, thereon, which are then adapted to identify and personalize the space or room being delimited by the related door (A).
8. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claims 1 to 7, **characterized in that** a single plate or plaque (40) can be used to secure and attach one or more clothes-hangers (10), which are arranged on the opposite surface of the same room or furniture door (A).
9. Reinforced through-bore fixing system for the attachment of clothes-hangers according to claims 1 to 8, **characterized in that** it can be used in connection with any other kind of applications providing support for objects, items and fittings, e.g. as needed in workplaces or to decorative purposes in rooms of any kind.

TAV. 1

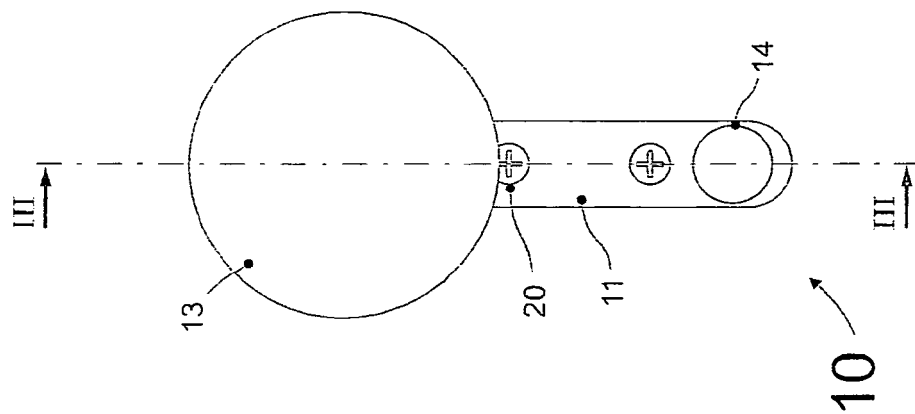


Fig. 1

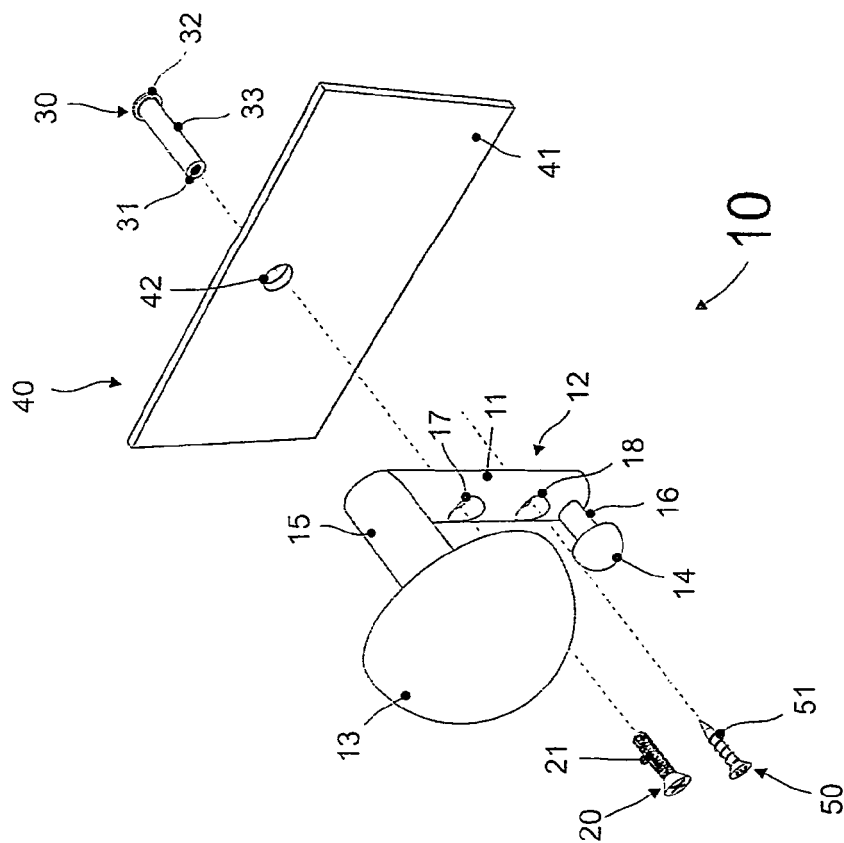
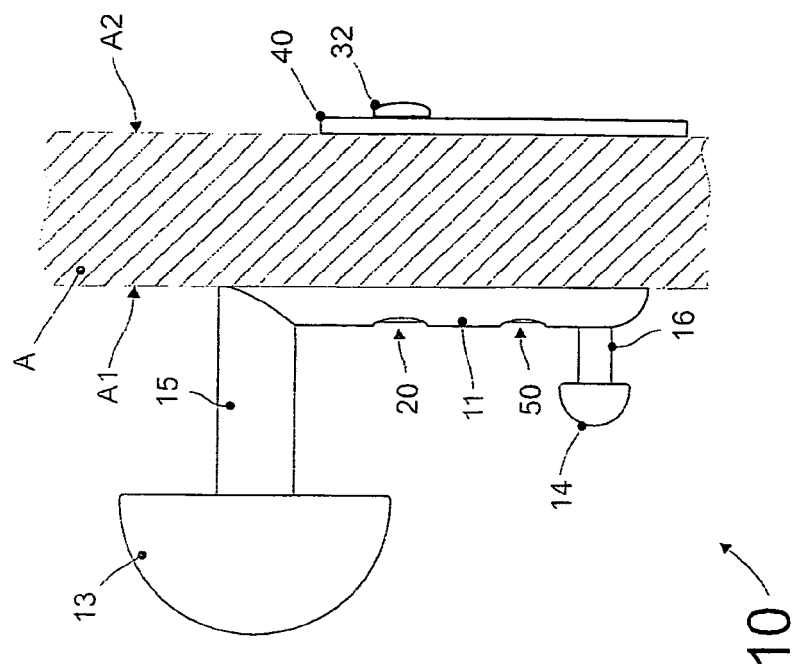
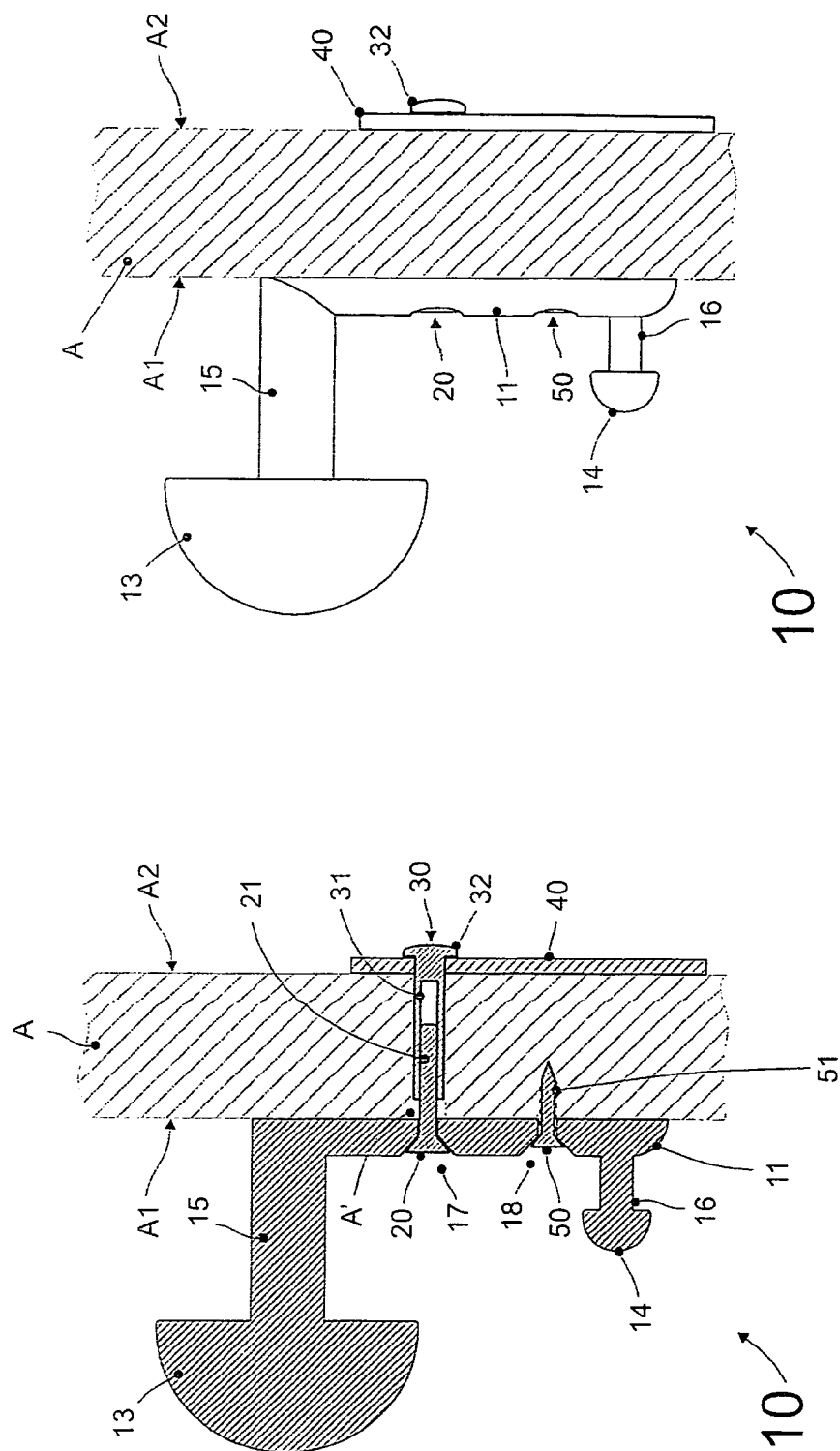


Fig. 2

TAV. 2



IAV. 3

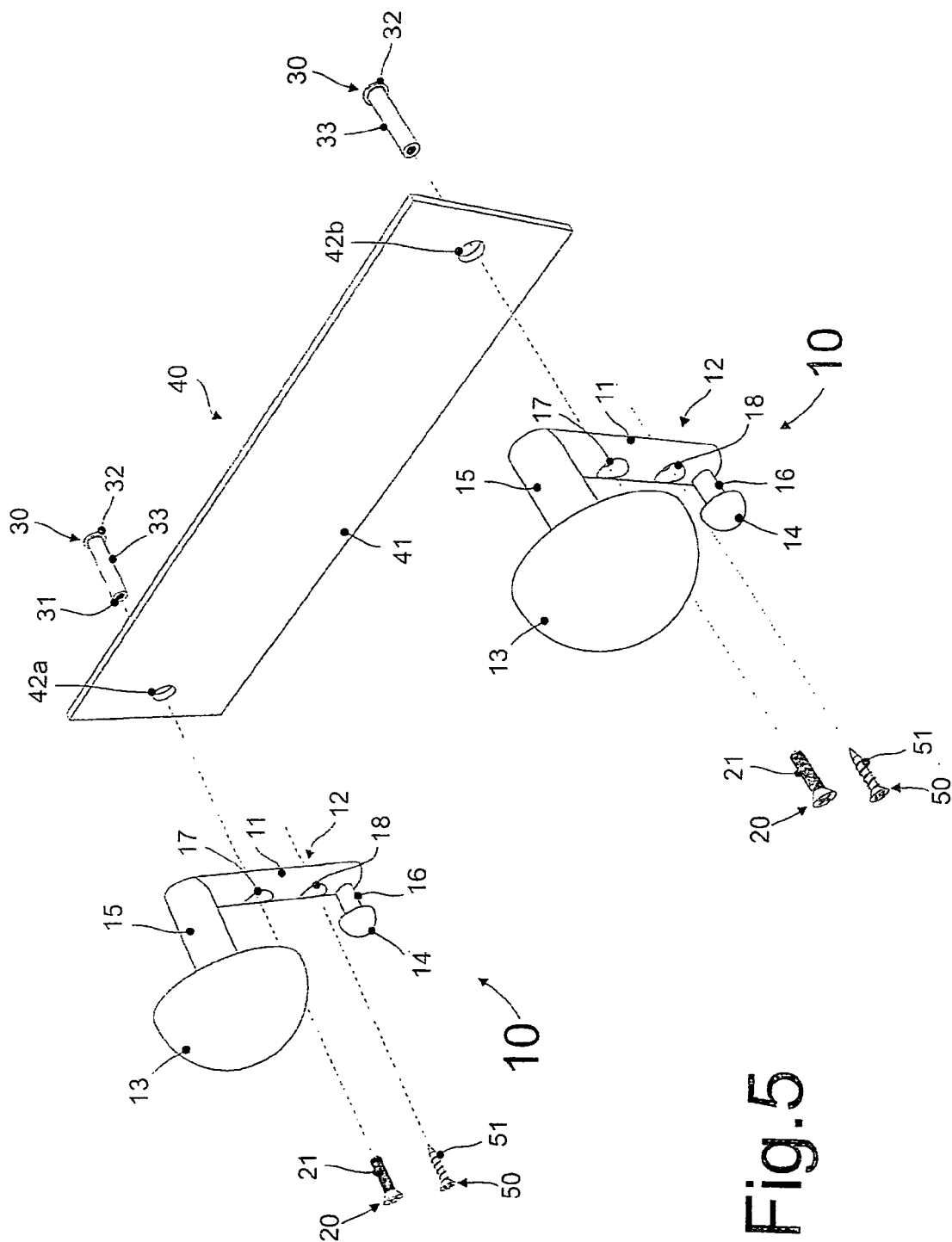


Fig. 5



EUROPEAN SEARCH REPORT

Application Number
EP 10 00 6221

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP 60 077680 U (?) 30 May 1985 (1985-05-30) * figure 1 *	1-9	INV. A47G25/06 F16B5/02
X	DE 298 03 559 U1 (INNOVATIVE IDEEN AUS BLECH GMB [DE]; VEITS PETER DIPL ING [DE]) 3 September 1998 (1998-09-03) * page 1 - page 3 * * page 4; figures 1-2 *	1-4,6,9	
A	US 4 082 243 A (WATT JR WILLIAM DOYLE ET AL) 4 April 1978 (1978-04-04) * abstract * * column 1, lines 5-8 *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A47G F16B
Place of search		Date of completion of the search	Examiner
The Hague		23 November 2010	Longo dit Operti, T
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 00 6221

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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23-11-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 60077680	U	30-05-1985	NONE	
DE 29803559	U1	03-09-1998	NONE	
US 4082243	A	04-04-1978	NONE	