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(54) **Hinge**

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Description

[0001] The present invention relates to a hinge for hingedly connecting a door to a wall or a piece of furniture, comprising at least one first hinge arm which is designed to be attached to said door and at least one second hinge arm which is designed to be attached to said wall or said piece of furniture, with the first and the second hinge arm being hingedly connected to one another for hingedly connecting the door to the wall or the piece of furniture, it being possible to adjust the intermediate distance between the hinge arms in a direction parallel to their common hinge pin by means of an adjusting screw, with the hinge arms being moved in a first direction with respect to one another in a first rotary movement of the adjusting screw and the hinge arms being moved in a second direction with respect to one another in a second rotary movement of the adjusting screw.

[0002] In practice, several hinges of this type are already known and have also been described in patent literature. By means of this adjustment function, it is possible to adjust the position of a door with respect to the wall or the piece of furniture in a direction parallel to the hinge pin after such a hinge has been fitted between this door and the wall or piece of furniture.

[0003] Thus, for example, it can clearly be seen in CH 671 066 A5 in Figs. 2 and 2A how, using the adjusting screw (8"), the intermediate distance between the hinge arms (2; 4) can be adjusted in a direction (Z) parallel to the common hinge pin of these hinge arms (2, 4).

[0004] In EP 1 063 376 A2 a similarly adjustable hinge is described. Fig. 7 thereof, for example, shows that, using the adjusting screw (16), the intermediate distance between the hinge arms (5', 5'') can be adjusted in a direction (Z) parallel to the common hinge pin of these hinge arms (5', 5'').

[0005] A problem with such prior-art hinges is that, when these hinges are fixed inversely between a door and a wall or a piece of furniture, said adjustability is lost. Figs. 1 to 5 diagrammatically show the action of such a hinge (1) from the prior art and clearly illustrate this problem. This hinge (1) is provided with mounting bodies (11, 12) for attaching respective hinge arms (4, 5) to the door and the wall or the piece of furniture. In Figs. 1 and 2, this hinge (1) is illustrated diagrammatically in front view in a normal position. The mounting body (11) is designed to be attached to a door, while the mounting body (12) is provided to be attached to a wall or piece of furniture. After fitting, the distance between the hinge arms (4, 5) can be adjusted by rotating the adjusting screw (6) in the hinge arm (4), resting on hinge arm (5), in a direction (Z) parallel to their common hinge pin (A) as illustrated. In Figs. 3 to 5, this hinge (1) is inverted, with the mounting body (11) which is designed to be attached to a door again being attached to a door and the mounting body (12) which is designed to be attached to a wall or piece of furniture again being attached to a wall or piece of furniture. In this situation, the distance between the hinge

arms (4, 5) as illustrated can no longer be adjusted. If the adjusting screw (6), from the starting position as illustrated in Fig. 3, is rotated in order to move the hinge arms (4, 5) towards one another, as is illustrated in Fig. 4, then, under the effect of the force of gravity which acts on the door, the mounting body (11) together with the door and thus also the hinge arm (4) will be lowered, so that the distance between the hinge arms (4, 5) automatically returns to its maximum, as is illustrated in Fig. 5.

[0006] An additional problem is that said adjustability of these hinges (1) can only be ensured if the respective mounting body (11) which is designed to be attached to the door is effectively attached to this door and that the respective mounting body (12) which is designed to be attached to the wall or the piece of furniture is effectively attached to this wall or this piece of furniture. For left-hand doors, hinges modified for such left-hand doors will therefore have to be provided, while for right-hand doors, hinges modified for these right-hand doors will have to be provided. If, in Figs. 1 and 2, the mounting body (11) which is designed to be attached to a door is now attached to a wall or piece of furniture, while the mounting body (12) which is designed to be attached to a wall or piece of furniture is now attached to a door, the door can never remain in the position as illustrated in Fig. 1, but the mounting body (12) and thus also the hinge arm (5) will be lowered together with the door under the effect of the force of gravity which acts on this door, so that the distance between the hinge arms (4, 5) automatically returns to its maximum, as is illustrated in Fig. 2.

[0007] WO 94/27008 A and DE 100 01 264 C1 describe hinges which already offer a solution to the abovementioned problems. These hinges are provided with a first and a second securing element, with the first securing element being designed to secure the adjusting screw in the direction of said first rotary movement of the adjusting screw and the second securing element is designed to secure the adjusting screw in the direction of said second rotary movement of the adjusting screw.

[0008] It is an object of the present invention to provide an alternative hinge which can be used for both left-hand and right-hand doors, which can also be fitted upside down without losing the hinge function of this hinge and without losing the adjustability of the height between the arms by means of said adjusting screw, with the adjustability of the mounting arms being simplified.

[0009] This object of the invention is achieved by providing a hinge for hingedly connecting a door to a wall or a piece of furniture, comprising at least one first hinge arm which is designed to be attached to said door and at least one second hinge arm which is designed to be attached to said wall or said piece of furniture, with the first and the second hinge arm being hingedly connected to one another at a common hinge pin for hingedly connecting the door to the wall or the piece of furniture, it being possible to adjust the intermediate distance between the hinge arms in a direction parallel to their common hinge pin by means of an adjusting screw defining

the common hinge pin, with the hinge arms being moved in a first direction with respect to one another in a first rotary movement of the adjusting screw and the hinge arms being moved in a second direction with respect to one another in a second rotary movement of the adjusting screw, with this hinge being provided with a first and a second securing element, with the first securing element being designed to secure axially the adjusting screw with respect to one of the hinge arms in the direction of said first rotary movement of the adjusting screw and the second securing element being designed to secure the adjusting screw in the direction of said second rotary movement of the adjusting screw and whereby the adjusting screw is screwed into the other hinge arm whereby, this hinge comprises mounting bodies for attaching this hinge to said door and said wall or said piece of furniture, with said hinge arms being hingedly attached to these mounting bodies at their one end, and being guided at their other end in guide slots in these mounting bodies and being hingedly connected to one another between these ends, defining said common hinge pin, said other end being displaceable with respect to the mounting body, in which it is guided, parallel to the common hinge pin in result of rotary movement of said adjustment screw. By providing a first and a second securing element for securing the adjusting screw in each direction, an invertible hinge is produced in a simple manner.

[0010] Preferably, said adjusting screw is at least partly provided with an external screw thread, and at least one of said hinge arms is provided with a corresponding internal screw thread with which said external screw thread of the adjusting screw engages, and with said adjusting screw being arranged freely rotatably in at least one other hinge arm.

[0011] In first specific embodiments of a hinge according to the present invention, the first securing element and/or the second securing element is attached to or forms an integral part of said hinge arm.

[0012] This first and/or this second securing element is in this case preferably attached to or forms an integral part of said hinge arm which is provided with internal screw thread.

[0013] With a particular embodiment of such a hinge, the first and the second securing element are each designed as an obstacle to prevent further movement of the adjusting screw which is situated at one end of said internal screw thread transversely to this screw thread in accordance with the first or the second rotary movement, respectively.

[0014] With second specific embodiments of a hinge according to the present invention, the first and/or the second securing element is attached to or forms an integral part of said adjusting screw.

[0015] The first and the second securing element of a particular embodiment of such a hinge are each designed as an obstacle to prevent further movement of the adjusting screw which is situated at one end of said external screw thread transversely to this screw thread in accord-

ance with the first or the second rotary movement, respectively.

[0016] With a third specific embodiment of a hinge according to the present invention, one or more hinge arms are designed as a securing element.

[0017] More specifically, a hinge according to the embodiments listed above is designed as a blind hinge.

[0018] Preferably, the position of the hinge arms with respect to said mounting body is adjustable in a first direction, perpendicular to the hinge pin of these hinge arms.

[0019] More preferably, the position of the hinge arms with respect to said mounting body is then adjustable in a second direction, perpendicular to the hinge pin of these hinge arms and perpendicular to said first direction.

[0020] The present invention will now be explained in more detail with reference to the following detailed description of some preferred embodiments of hinges according to the present invention. The sole aim of this description is to give illustrative examples and to indicate further advantages and details of these hinges and can therefore in no case be interpreted as a limitation of the area of application of the invention or of the patent rights claimed in the claims.

[0021] In this detailed description, reference numerals are used to refer to the attached drawings, in which

- **Figs. 1-5** diagrammatically illustrate the action of a prior-art hinge in front views, as described in the introduction;
- **Fig. 6** diagrammatically illustrates a first embodiment of a hinge according to the present invention with two hinge arms in front view;
- **Fig. 7** diagrammatically shows the hinge from Fig. 6 in front view, with the hinge arms being adjusted towards one another;
- **Fig. 8** diagrammatically shows the hinge from Fig. 6 inverted and in front view;
- **Fig. 9** diagrammatically shows the hinge from Fig. 8 in front view, with the hinge arms being adjusted towards one another;
- **Fig. 10** shows a second embodiment of a hinge according to the present invention with three hinge arms in front view;
- **Fig. 11** shows the hinge from Fig. 10 in front view, with the central hinge arm being adjusted towards the top hinge arm and away from the bottom hinge arm;
- **Fig. 12** shows the hinge from Fig. 10 inverted and in front view, with the central hinge arm in this position being adjusted towards the bottom hinge arm and away from the top hinge arm;
- **Fig. 13** illustrates a cross section of the hinge from Fig. 10 along the axis B-B'.

[0022] The hinges (1) illustrated in Figs. 1 to 13 are hinges (1) for hingedly connecting a door to a wall or piece of furniture, comprising at least one first hinge arm

(4) which is designed to be attached to said door and at least one second hinge arm (5) which is designed to be attached to said wall or said piece of furniture. This first and this second hinge arm (4, 5) are in each case hingedly connected to one another in order thus to hingedly attach the door to the wall or the piece of furniture by fixing this hinge (1) between the door and the wall or the piece of furniture. These hinges (1) are furthermore provided with mounting bodies (11, 12) for attaching the respective hinge arms (4, 5) to the respective door and wall or piece of furniture. All these hinges (1) are provided with an adjusting screw (6) in order to be able to adjust the intermediate distance between the hinge arms (4, 5) in a direction (Z) parallel to their common hinge pin (A), with the hinge arms (4, 5) being moved with respect to one another in a first direction with respect to one another in a first rotary movement of the adjusting screw (6) and the hinge arms (4, 5) being moved in a second direction with respect to one another in a second rotary movement of the adjusting screw (6).

[0023] With the prior-art hinge (1) as illustrated in Figs. 1 to 5, the intermediate distance between the hinge arms (4, 5) in a direction (Z) parallel to their common hinge pin (A) can, however, only be adjusted if this hinge (1) is mounted in the correct direction, as has been described in the introduction of this patent application.

[0024] With the embodiments of hinges (1) according to the present invention as illustrated in Figs. 6 to 13, the intermediate distance between the hinge arms (4, 5) can always be adjusted in a direction (Z) parallel to their common hinge pin (A), irrespective of the direction in which the hinge (1) is mounted.

[0025] The first embodiment of a hinge (1) according to the present invention, as illustrated in Figs. 6 to 9, is provided with two hinge arms (4, 5). In order to ensure the adjustability of the distance between these hinge arms (4, 5) in said direction (Z), irrespective of the direction in which this hinge (1) is mounted, the adjusting screw (6) of this first hinge (1) is provided with a narrowing (15) which is provided in a corresponding bore in the second hinge arm (5). The lateral surface of this narrowing (15) does not have any external screw thread, so that it is thus arranged freely rotatably in the bore of the second hinge arm (5). On the side of the first hinge arm (4), this adjusting screw (6) is provided with an external screw thread on its lateral surface. This first hinge arm (4) is provided with a corresponding internal screw thread with which said external screw thread of the adjusting screw (6) engages. On the side opposite the side of the first hinge arm (4), the adjusting screw (6) is provided with a cylindrical thickening with respect to said narrowing, with this cylindrical thickening in this case having an outer diameter which virtually corresponds to the diameter of the end of the adjusting screw (6) which is provided with external screw thread. The transition between the narrowing and said cylindrical thickening forms a first securing element (7) which is designed to secure the adjusting screw (6) in the direction of the first rotary movement.

The transition between the narrowing and the end of the adjusting screw (6) which is provided with external screw thread forms a second securing element (8) which is designed to secure the adjusting screw (6) in the direction of the second rotary movement.

[0026] Fig. 6 illustrates this embodiment of a hinge (1) according to the present invention, with the hinge arms (4, 5) being situated at their maximum, physically limited intermediate distance with respect to one another. This maximum intermediate distance is here limited physically by the mounting bodies (11, 12). If, in this position, an attempt is made to turn the adjusting screw (6) further upwards, this will no longer be possible, because the adjusting screw (6) is secured by means of the second securing element (8). By turning the adjusting screw (6) in the opposite direction of rotation, the hinge arms (4, 5) are moved towards one another up to their minimum, physically limited intermediate distance, as can be seen in Fig. 7. This minimum intermediate distance is reached when these hinge arms (4, 5) touch one another, with parts of the hinge possibly being present between these hinge arms (4, 5). When these hinge arms (4, 5) have been moved together up to their minimum, physically limited intermediate distance in this manner, the corresponding rotary movement of the adjusting screw (6) is limited further, due to the fact that this adjusting screw (6) is now secured by the first securing element (7).

[0027] In Figs. 8 and 9, this hinge (1) is now inverted. In Fig. 8, this embodiment of a hinge (1) according to the present invention is illustrated again, in a position in which the hinge arms (4, 5) are at their maximum, physically limited intermediate distance with respect to one another. If, in this position, an attempt is made to turn the adjusting screw (6) further upwards, this will no longer be possible, because the adjusting screw (6) is secured by means of the second securing element (8). By turning the adjusting screw (6) in the opposite direction of rotation, the hinge arms (4, 5) are moved towards one another again, as can be seen in Fig. 9. When these hinge arms (4, 5) have been moved together up to their minimum, physically limited intermediate distance in this manner, the corresponding rotary movement of the adjusting screw (6) is limited further, due to the fact that the adjusting screw (6) is again secured by means of the first securing element (7) abutting the second hinge arm (5).

[0028] It should be noted that attaching the respective mounting bodies to a door and wall or piece of furniture does not limit the hinge action or the adjustability of the distance between the hinge arms (4, 5) in said direction (Z). Even if, in both positions, the mounting bodies which were attached to a door and a wall or piece of furniture, respectively, are now attached to the wall or the piece of furniture and the door, respectively, the hinge action and the adjustability of the distance between the hinge arms (4, 5) in said direction (Z) parallel to their corresponding hinge pin (A) is ensured.

[0029] The second embodiment of a hinge (1) according to the present invention, as illustrated in Figs. 10 to

13, is provided with three hinge arms (4, 5). In order to ensure the adjustability of the distance between these hinge arms (4, 5) in said direction (Z), irrespective of the direction in which this hinge (1) is fitted, the adjusting screw (6) of this first hinge (1) is provided with two narrowings (15) at both ends of this adjusting screw (6) which are provided in corresponding bores in the second hinge arms (5). The lateral surface of these narrowings (15) does not have any external screw thread, and so these are thus provided freely rotatably in the bore of the respective second hinge arm (5). The part of the adjusting screw (6) which extends through the first hinge arm (4) is provided with an external screw thread on its lateral surface. This first hinge arm (4) is provided with a corresponding internal screw thread with which said external screw thread of the adjusting screw (6) engages. The transition between a respective narrowing and that part of the adjusting screw (6) which is provided with an external screw thread has an additional widening which forms a first (7) and a second (8) securing element, respectively, for securing the adjusting screw (6). Due to these securing elements (7, 8), further rotary movement of the adjusting screw (6) is again limited with this hinge (1) when the hinge arms (4, 5) reach their physically limited end positions. In this way, this hinge (1) can again be fitted for both left-hand and right-hand doors and both in the intended position and in the inverse position, with the hinge action and the adjustability of the distance between the hinge arms (4, 5) in said direction (Z) parallel to their corresponding hinge pin (A) being ensured.

Claims

1. Hinge (1) for hingedly connecting a door to a wall or a piece of furniture, comprising at least one first hinge arm (4) which is designed to be attached to said door and at least one second hinge arm (5) which is designed to be attached to said wall or said piece of furniture, with the first and the second hinge arm (4, 5) being hingedly connected to one another at a common hinge pin (A) for hingedly connecting the door to the wall or the piece of furniture, it being possible to adjust the intermediate distance between the hinge arms (4, 5) in a direction (Z) parallel to their common hinge pin (A) by means of an adjusting screw (6) defining the common hinge pin (A), with the hinge arms (4, 5) being moved in a first direction with respect to one another in a first rotary movement of the adjusting screw (6) and the hinge arms (4, 5) being moved in a second direction with respect to one another in a second rotary movement of the adjusting screw (6), with this hinge (1) being provided with a first (7) and a second securing element (8), and with the first securing element (7) being designed to secure axially the adjusting screw (6) with respect to one of the hinge arms (4,5) in the direction of said first rotary movement of the adjusting screw

(6) and the second securing element (8) being designed to secure axially the adjusting screw (6) with respect to said one of the hinge arms (4,5) in the direction of said second rotary movement of the adjusting screw (6) and whereby the adjusting screw (6) is screwed into the other hinge arm (4,5) whereby this hinge (1) comprises mounting bodies (11, 12) for attaching this hinge (1) to said door and said wall or said piece of furniture, **characterized in that** said hinge arms (4, 5) being hingedly attached to these mounting bodies (11, 12) at their one end, and being guided at their other end in guide slots in these mounting bodies (11, 12) and being hingedly connected to one another between these ends defining said common hinge pin (A), said other end being displaceable with respect to the mounting body (11, 12) in which it is guided, parallel to the common hinge pin (A) in result of rotary movement of said adjustment screw (6).

2. Hinge (1) according to Claim 1, **characterized in that** said adjusting screw (6) is at least partly provided with an external screw thread, **in that** at least one of said hinge arms (4, 5) is provided with a corresponding internal screw thread with which said external screw thread of the adjusting screw (6) engages, and **in that** said adjusting screw (6) is arranged freely rotatably in at least one other hinge arm (5 and 4, respectively).
3. Hinge (1) according to one of the preceding claims, **characterized in that** the first securing element (7) and/or the second securing element (8) is attached to or forms an integral part of said hinge arm (4, 5).
4. Hinge (1) according to Claims 2 and 3, **characterized in that** the first and/or second securing element (7, 8) is attached to or forms an integral part of said hinge arm (4, 5) which is provided with an internal screw thread.
5. Hinge (1) according to Claim 4, **characterized in that** the first and the second securing element (7, 8) are each designed as an obstacle to prevent further movement of the adjusting screw (6) which is situated at one end of said internal screw thread transversely to this screw thread (6) in accordance with the first or second rotary movement, respectively.
6. Hinge (1) according to one of Claims 1 to 4, **characterized in that** the first and/or the second securing element (7, 8) is attached to or forms an integral part of said adjusting screw (6).
7. Hinge (1) according to one of Claims 1 or 2 and 6, **characterized in that** the first and the second securing element (7, 8) are each designed as an obstacle to prevent further movement of the adjusting

screw (6) which is situated at one end of said external screw thread transversely to this screw thread (6) in accordance with the first or the second rotary movement, respectively.

8. Hinge (1) according to one of Claims 1 to 4 or 6, **characterized in that** one or more hinge arms (4, 5) are designed as a securing element (7, 8).
9. Hinge (1) according to one of the preceding claims, **characterized in that** said hinge (1) is a blind hinge.
10. Hinge (1) according to one of the preceding claims, **characterized in that** the position of the hinge arms (4, 5) with respect to said mounting body (11, 12) is adjustable in a first direction, perpendicular to the hinge pin (A) of these hinge arms (4, 5).
11. Hinge (1) according to Claim 10, **characterized in that** the position of the hinge arms (4, 5) with respect to said mounting body (11, 12) is adjustable in a second direction, perpendicular to the hinge pin (A) of these hinge arms (4, 5) and perpendicular to said first direction.

Patentansprüche

1. Scharnier (1) zum scharnierartigen Verbinden einer Tür mit einer Wand oder einem Möbelstück, umfassend wenigstens einen ersten Scharnierarm (4), der dazu konstruiert ist, an der Tür und wenigstens einem zweiten Scharnierarm (5) angebracht zu sein, welcher dazu konstruiert ist, an der Wand oder dem Möbelstück angebracht zu sein, wobei der erste und der zweite Scharnierarm (4, 5) scharnierartig miteinander an einem gemeinsamen Scharnierstift (A) verbunden sind, um die Tür scharnierartig mit der Wand oder dem Möbelstück zu verbinden, wobei es möglich ist, den Zwischenabstand zwischen den Scharnierarmen (4, 5) in einer Richtung (Z) parallel zu ihrem gemeinsamen Scharnierstift (A) mittels einer Stellschraube (6), die den gemeinsamen Scharnierstift (A) definiert, anzupassen, wobei die Scharnierarme (4, 5) in eine erste Richtung in Bezug zueinander bei einer ersten Drehbewegung der Stellschraube (6) bewegt werden und die Scharnierarme (4, 5) in eine zweite Richtung in Bezug zueinander bei einer zweiten Drehbewegung der Stellschraube (6) bewegt werden, wobei dieses Scharnier (1) mit einem ersten (7) und einem zweiten Sicherungselement (8) ausgestattet ist, und wobei das erste Sicherungselement (7) dazu konstruiert ist, die Stellschraube (6) axial in Bezug auf einen der Scharnierarme (4, 5) in der Richtung der ersten Drehbewegung der Stellschraube (6) zu sichern und das zweite Sicherungselement (8) dazu konstruiert ist, die Stellschraube (6) axial in Bezug auf den einen der Schar-

nierarme (4, 5) in der Richtung der zweiten Drehbewegung der Stellschraube (6) zu sichern und wobei die Stellschraube (6) in den anderen Scharnierarm (4, 5) geschraubt ist, wobei dieses Scharnier (1) Montagekörper (11, 12) zum Anbringen dieses Scharniers (1) an der Tür und der Wand oder dem Möbelstück umfasst, **dadurch gekennzeichnet, dass** die Scharnierarme (4, 5) an ihrem einen Ende scharnierartig an diesen Montagekörpern (11, 12) angebracht sind und an ihrem anderen Ende in Führungsschlitzen in diesen Montagekörpern (11, 12) geführt sind und zwischen diesen Enden scharnierartig miteinander verbunden sind, wodurch der gemeinsame Scharnierstift (A) definiert ist, wobei das andere Ende in Bezug auf den Montagekörper (11, 12), in dem es geführt ist, parallel zu dem gemeinsamen Scharnierstift (A) als Ergebnis einer Drehbewegung der Stellschraube (6) verlagerbar ist.

2. Scharnier (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stellschraube (6) wenigstens teilweise mit einem Außenschraubgewinde ausgestattet ist, dass wenigstens einer der Scharnierarme (4, 5) mit einem entsprechenden Innenschraubgewinde ausgestattet ist, mit dem das Außenschraubgewinde der Stellschraube (6) in Eingriff steht, und dass die Stellschraube (6) frei drehbar in wenigstens einem anderen Scharnierarm (5 bzw. 4) angeordnet ist.
3. Scharnier (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das erste Sicherungselement (7) oder/ und das zweite Sicherungselement (8) an dem Scharnierarm (4, 5) angebracht ist oder mit diesem einstückig ausgebildet ist.
4. Scharnier (1) nach Ansprüchen 2 und 3, **dadurch gekennzeichnet, dass** das erste oder/ und das zweite Sicherungselement (7, 8) an dem Scharnierarm (4, 5) angebracht ist bzw. sind oder mit diesem einstückig ausgebildet ist bzw. sind, wobei der Scharnierarm mit einem Innenschraubgewinde ausgestattet ist.
5. Scharnier (1) nach Anspruch 4, **dadurch gekennzeichnet, dass** das erste und das zweite Sicherungselement (7, 8) jeweils als ein Hindernis konstruiert ist, um weitere Bewegung der Stellschraube (6) zu verhindern, die sich an einem Ende des Innenschraubgewindes befindet, zu diesem Schraubgewinde (6) querverlaufend gemäß der ersten bzw. zweiten Drehbewegung.
6. Scharnier (1) nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** das erste oder/ und das zweite Sicherungselement (7, 8) an der Stellschraube (6) angebracht ist oder mit dieser ein-

stückig ausgebildet ist.

7. Scharnier (1) nach einem der Ansprüche 1 oder 2 und 6, **dadurch gekennzeichnet, dass** das erste und das zweite Sicherungselement (7, 8) jeweils als ein Hindernis konstruiert ist, um weitere Bewegung der Stellschraube (6) zu verhindern, die sich an einem Ende des Außenschraubgewindes befindet, zu diesem Schraubgewinde (6) querverlaufend gemäß der ersten bzw. zweiten Drehbewegung. 5
8. Scharnier (1) nach einem der Ansprüche 1 bis 4 oder 6, **dadurch gekennzeichnet, dass** einer oder mehr Scharnierarme (4, 5) als ein Sicherungselement (7, 8) konstruiert ist bzw. sind. 10
9. Scharnier (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Scharnier (1) ein verdecktes Scharnier (blind hinge) ist. 15
10. Scharnier nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Position der Scharnierarme (4, 5) in Bezug auf den Montagekörper (11, 12) in einer ersten Richtung anpassbar ist, die senkrecht zu dem Scharnierstift (A) dieser Scharnierarme (4, 5) verläuft. 20
11. Scharnier (1) nach Anspruch 10, **dadurch gekennzeichnet, dass** die Position der Scharnierarme (4, 5) in Bezug auf den Montagekörper (11, 12) in einer zweiten Richtung anpassbar ist, die senkrecht zu dem Scharnierstift (A) dieser Scharnierarme (4, 5) und senkrecht zu der ersten Richtung verläuft. 25

Revendications

1. Charnière (1) pour connecter de façon articulée une porte à un mur ou à un corps de meuble, comprenant au moins un premier bras de charnière (4) qui est conçu de manière à être attaché à ladite porte, et au moins un deuxième bras de charnière (5) qui est conçu de manière à être attaché audit mur ou audit corps de meuble, dans laquelle les premier et deuxième bras de charnière (4, 5) sont connectés de façon articulée l'un à l'autre à un axe de charnière commun (A) afin de connecter de façon articulée la porte au mur ou au corps de meuble, dans laquelle il est possible de régler la distance intermédiaire entre les bras de charnière (4, 5) dans une direction (Z) qui est parallèle à leur axe de charnière commun (A) au moyen d'une vis de réglage (6) qui définit l'axe de charnière commun (A), dans laquelle les bras de charnière (4, 5) sont déplacés dans une première direction l'un par rapport à l'autre dans un premier mouvement de rotation de la vis de réglage (6), et dans laquelle les bras de charnière (4, 5) sont dé- 40

placés dans une deuxième direction l'un par rapport à l'autre dans un deuxième mouvement de rotation de la vis de réglage (6), dans laquelle cette charnière (1) comprend un premier (7) et un deuxième (8) éléments de fixation, et dans laquelle le premier élément de fixation (7) est conçu de manière à fixer axialement la vis de réglage (6) par rapport à un premier des bras de charnière (4, 5) dans la direction dudit premier mouvement de rotation de la vis de réglage (6), et le deuxième élément de fixation (8) est conçu de manière à fixer axialement la vis de réglage (6) par rapport audit un des bras de charnière (4, 5) dans la direction dudit deuxième mouvement de rotation de la vis de réglage (6), et dans laquelle la vis de réglage (6) est vissée dans l'autre bras de charnière (4, 5), dans laquelle cette charnière (1) comprend des corps de montage (11, 12) pour attacher cette charnière (1) à ladite porte et à ladite paroi ou audit corps de meuble, **caractérisée en ce que** lesdits bras de charnière (4, 5) sont attachés de façon articulée à ces corps de montage (11, 12) à leur première extrémité, et sont guidés à leur autre extrémité dans des fentes de guidage dans ces corps de montage (11, 12), et sont connectés de façon articulée les uns aux autres entre ces extrémités, définissant ledit axe de charnière commun (A), ladite autre extrémité pouvant être déplacée par rapport au corps de montage (11, 12) dans lequel elle est guidée, parallèlement à l'axe de charnière commun (A) à la suite d'un mouvement de rotation de ladite vis de réglage (6).

2. Charnière (1) selon la revendication 1, **caractérisée en ce que** ladite vis de réglage (6) est au moins partiellement pourvue d'un filet de vis externe, **en ce qu'**au moins un desdits bras de charnière (4, 5) comporte un filet de vis interne correspondant sur lequel ledit filet de vis externe de la vis de réglage (6) s'engage, et **en ce que** ladite vis de réglage (6) est agencée de façon librement rotative dans au moins un autre bras de charnière (5 et 4, respectivement). 35
3. Charnière (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** le premier élément de fixation (7) et/ou le deuxième élément de fixation (8) est/sont attaché(s) à ou forme(nt) une partie intégrante dudit bras de charnière (4, 5). 40
4. Charnière (1) selon la revendications 2 et 3, **caractérisée en ce que** le premier élément de fixation et/ou le deuxième élément de fixation (7, 8) est/sont attaché(s) à ou forme(nt) une partie intégrante dudit bras de charnière (4, 5) qui comporte un filet de vis interne. 45
5. Charnière (1) selon la revendication 4, **caractérisée** 50

en ce que les premier et deuxième éléments de fixation (7, 8) sont chacun conçus sous la forme d'un obstacle destiné à empêcher tout déplacement supplémentaire de la vis de réglage (6) qui est située à une extrémité dudit filet de vis interne transversalement à ce filet de vis (6) selon le premier ou le deuxième mouvement de rotation, respectivement.

6. Charnière (1) selon l'une quelconque des revendications 1 à 4, **caractérisée en ce que** le premier et/ou le deuxième élément de fixation (7, 8) est/sont attaché(s) à ou forme(nt) une partie intégrante de ladite vis de réglage (6). 5 10
7. Charnière (1) selon l'une quelconque des revendications 1 ou 2 et 6, **caractérisée en ce que** le premier et le deuxième éléments de fixation (7, 8) sont chacun conçus sous la forme d'un obstacle destiné à empêcher tout déplacement supplémentaire de la vis de réglage (6), qui est situé à une extrémité dudit filet de vis externe transversalement à ce filet de vis (6) selon le premier ou le deuxième mouvement de rotation, respectivement. 15 20
8. Charnière (1) selon l'une quelconque des revendications 1 à 4 ou 6, **caractérisée en ce qu'un** ou plusieurs bras de charnière (4, 5) est/sont conçu(s) sous la forme d'un élément de fixation (7, 8). 25
9. Charnière (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** ladite charnière (1) est une charnière invisible. 30
10. Charnière (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** la position des bras de charnière (4, 5) par rapport audit corps de montage (11, 12) peut être réglée dans une première direction, perpendiculairement à l'axe de charnière (A) de ces bras de charnière (4, 5). 35 40
11. Charnière (1) selon la revendication 10, **caractérisée en ce que** la position des bras de charnière (4, 5) par rapport audit corps de montage (11, 12) peut être réglée dans une deuxième direction, perpendiculairement à l'axe de charnière (A) de ces bras de charnière (4, 5), et perpendiculairement à ladite première direction. 45

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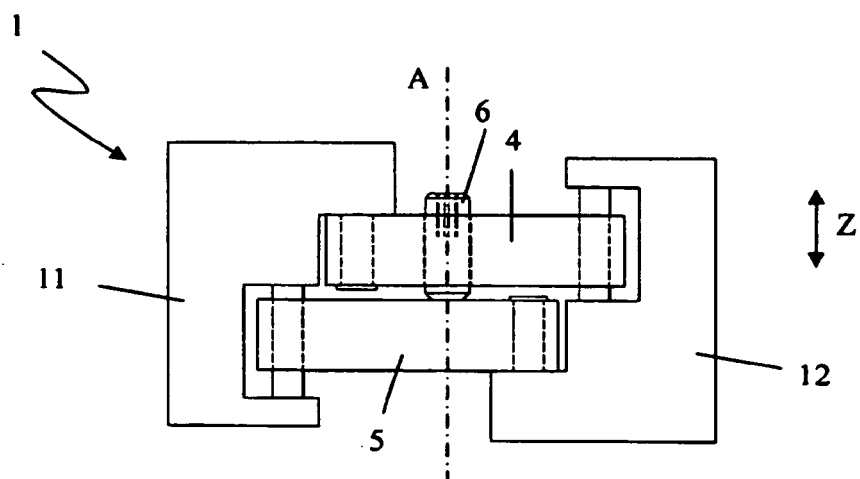


FIG. 1

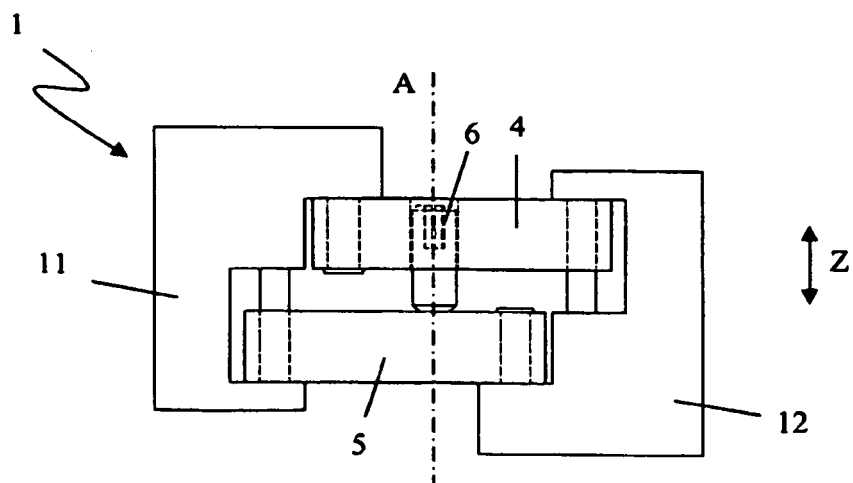


FIG. 2

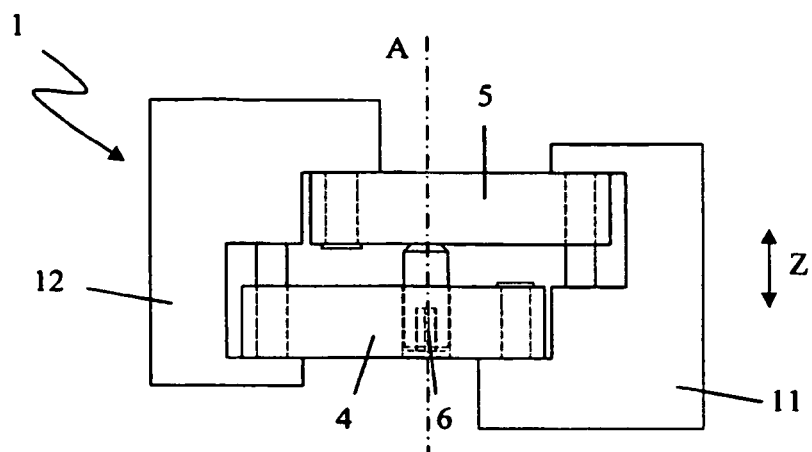


FIG. 3

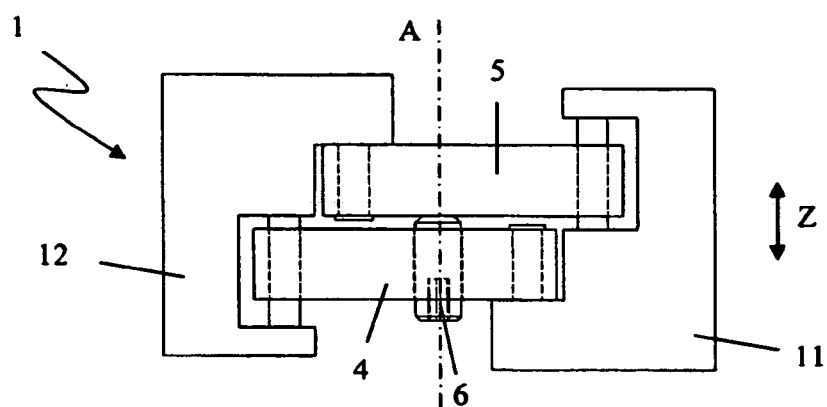


FIG. 4

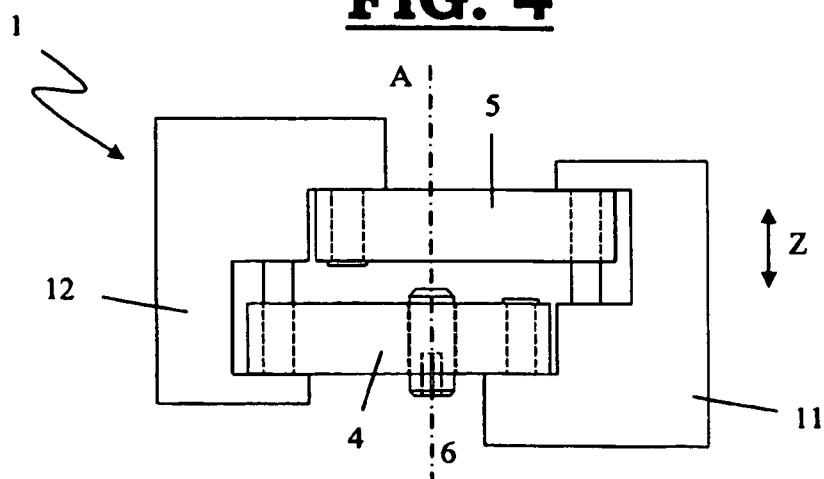


FIG. 5

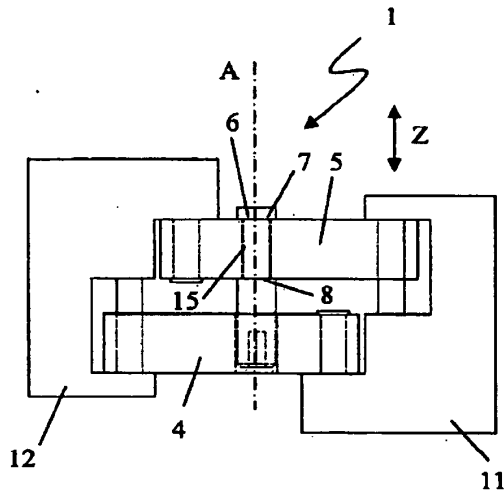


FIG. 6

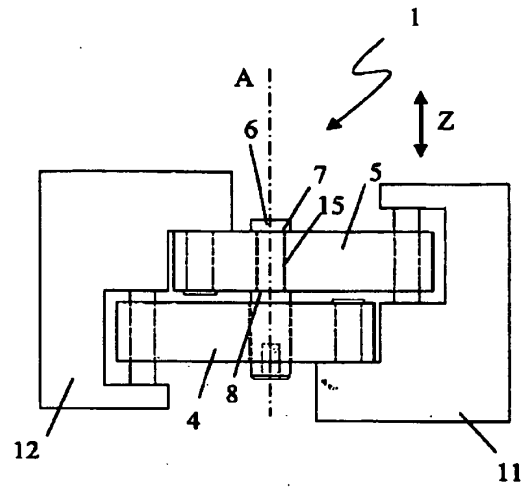


FIG. 7

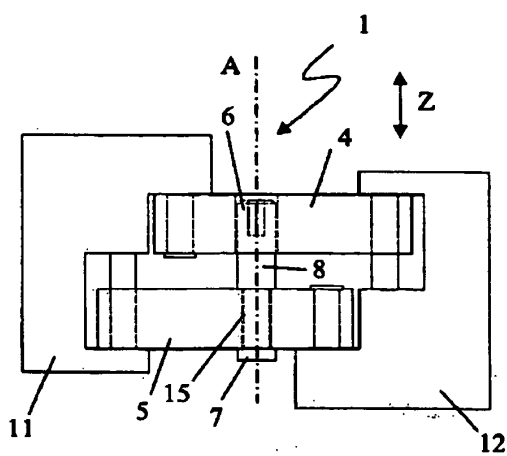


FIG. 8

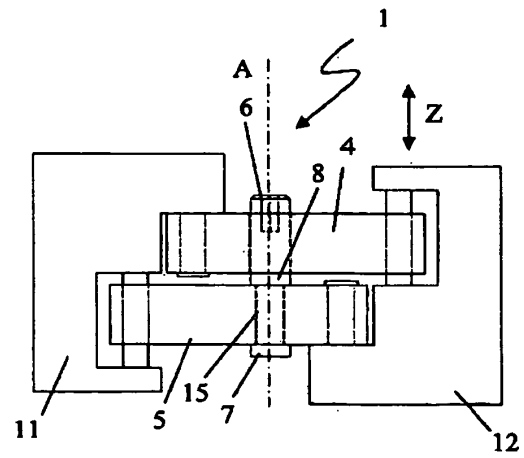


FIG. 9

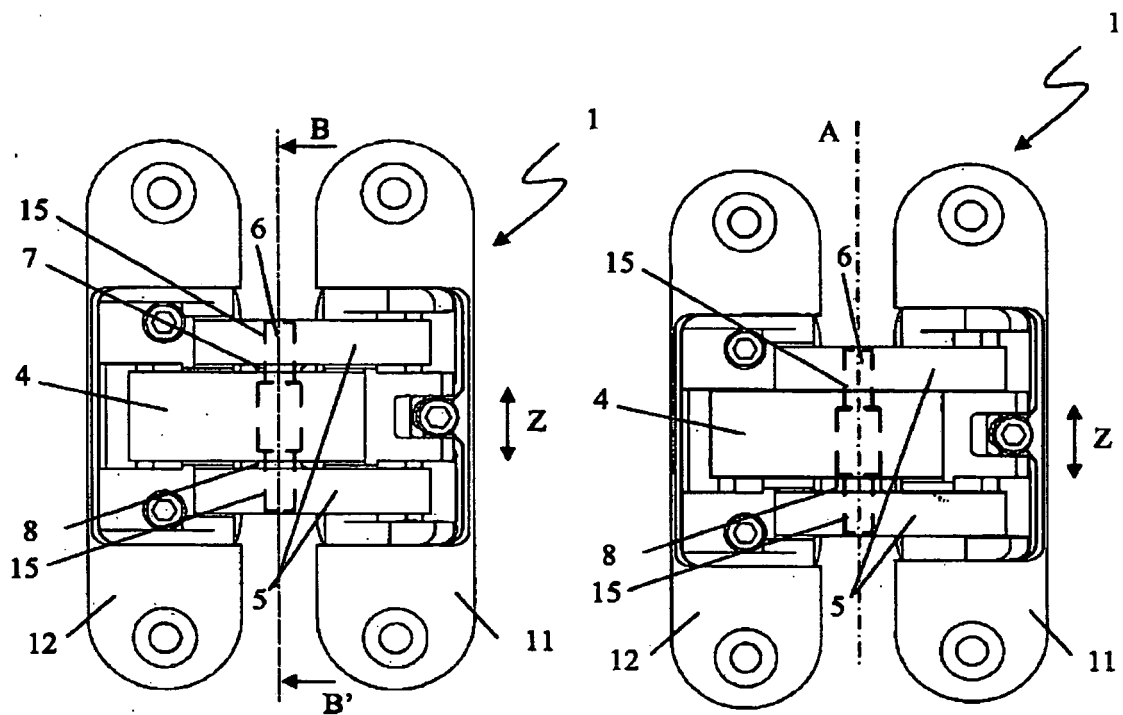


FIG. 10

FIG. 11

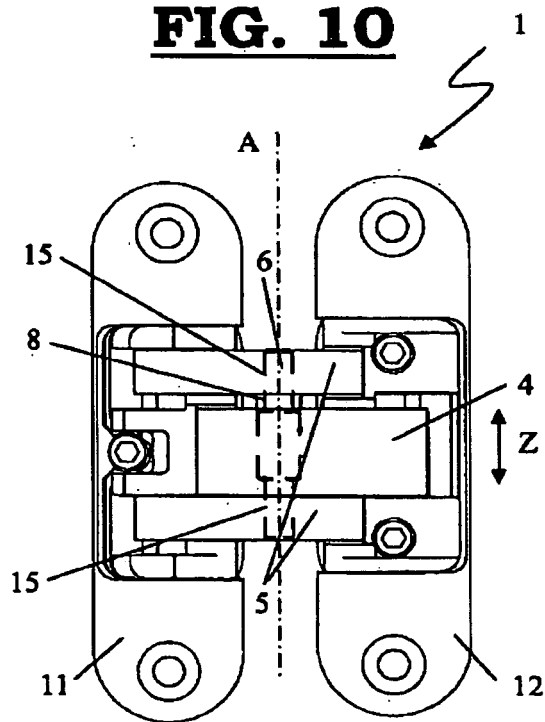


FIG. 12

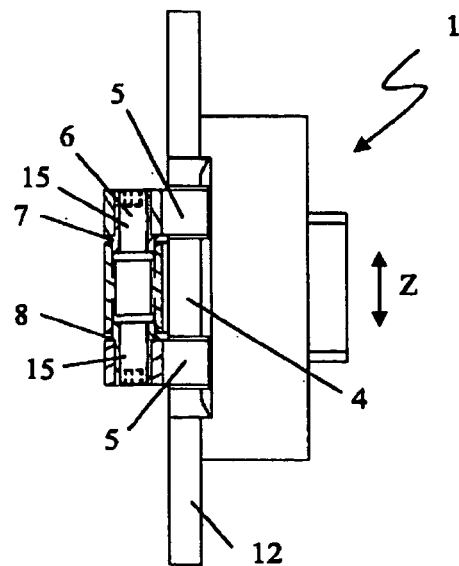


FIG. 13

REFERENCES CITED IN THE DESCRIPTION

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