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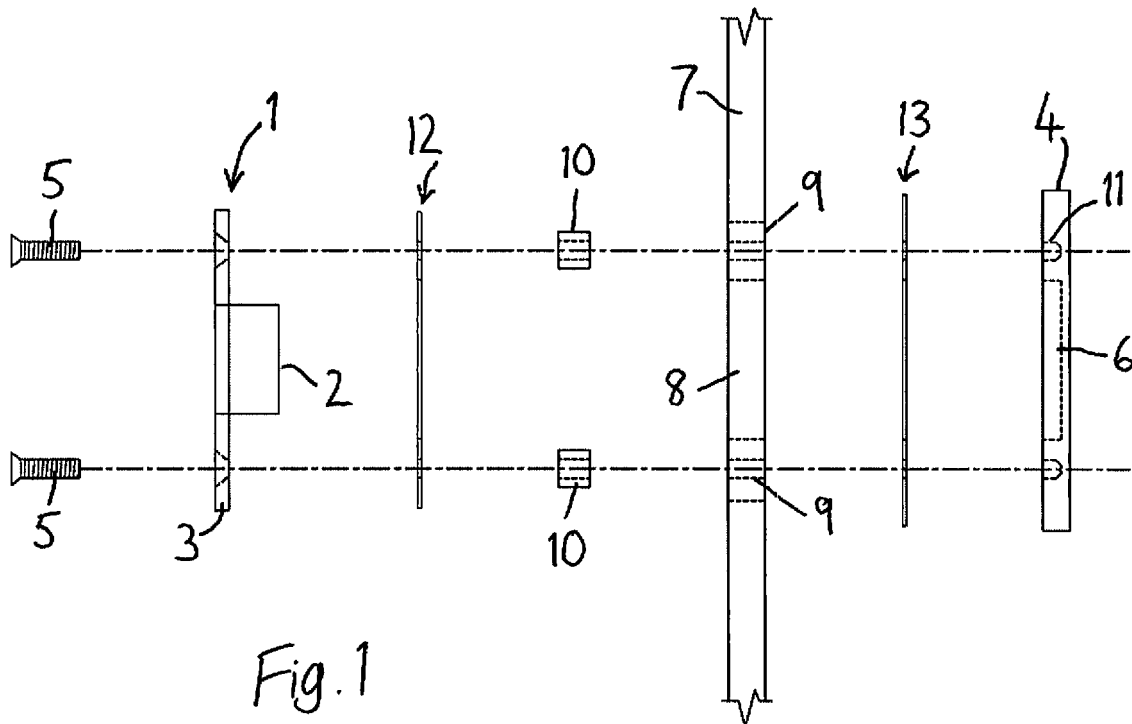
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(54) **HINGE ARRANGEMENT**

(57) A hinge arrangement is provided for a glass door. A hinge part (1) includes a cup-shaped part (2). A plate (4) has a recess (6), for receiving an outermost portion of the cup-shaped part (2) when the hinge part

(1) and the plate (4) are located on opposite sides of a glass door (7) and screwed together. The invention also provides a door (7) with the hinge arrangement fitted through an opening (8) in the door.



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Description

[0001] This invention relates to a hinge arrangement comprising a kit of parts for a cabinet door.

[0002] Known hinges for glass cabinet doors, similar to "European" cabinet hinges for wooden doors, are sold by Häfele GmbH & Co KG and by Arturo Salice SpA. A hinge part typically includes a shallow, hollow cylinder, suitable for lodging in a round through-hole in the door. The hinge part is screwed to an external plate located on the outside of the door, clamping the door between the hinge part and the external plate.

[0003] These known hinges are suitable for lightweight glass doors, e.g. those less than about 8 mm in thickness. However, they cannot support heavier glass doors.

[0004] With the aim of providing a hinge for a thick or heavy door, and/or reducing the number of hinges required, the present invention provides a hinge arrangement for a glass door, the hinge arrangement comprising a hinge part including a cup-shaped part, and a plate having a recess in a face thereof, for receiving an outermost portion of the cup-shaped part when the hinge part and the plate are located on opposite sides of a glass door having an opening for the cup-shaped part.

[0005] The hinge part can advantageously be that of a known cabinet hinge. In known wooden cabinets, the door is thicker than the external depth of the cup-shaped part of the hinge, which is inserted into a recess in the door. The invention surprisingly uses such hinge parts in doors that are thinner than this depth, the additional depth being accommodated in the recess in the external plate.

[0006] The cup-shaped part may be generally cylindrical. The recess may also be cylindrical, with a diameter essentially matching the external diameter of the cup-shaped part.

[0007] In embodiments of the invention, the hinge part includes at least one hole and the plate includes at least one screw recess arranged to register with the respective hole(s), for screwing the hinge part to the plate, to clamp the door therebetween. The hole(s) may be located near the cup-shaped part, for example in a peripheral flange of the hinge part. In particular, two holes may be provided. The arrangement may include screw sleeves locatable in the door, between the holes and the screw recesses.

[0008] An inner gasket may be provided, locatable between the hinge part and the door. An outer gasket may be locatable between the door and the plate. The inner and/or outer gasket may include one or more openings through which the cup-shaped part and/or the screws can pass.

[0009] From another aspect, the invention provides a door fitted with the hinge arrangement described above, the door having an opening through which the cup-shaped part extends. The opening may have a shape that is generally circular but has one or more extensions for the screw(s). Alternatively, the screw(s) may extend through one or more separate apertures.

[0010] The invention will now be described in more de-

tail, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is an exploded sectional view of a hinge arrangement according to an embodiment of the invention;

Figure 2 shows an external plate of the hinge arrangement of Figure 1; and

Figure 3 shows a glass door for use with the hinge arrangement.

[0011] The drawings show components of a hinge arm for the external (door) side of a hinge. A hinge part 1 is generally of conventional shape, comprising a hollow, generally cylindrical cup 2 and a peripheral flange 3. However the depth of the cup 2 is significantly greater than that of a known glass door hinge. The hinge part 1 can be formed of metallic or plastics material.

[0012] In use, the hinge part 1 is screwed to an external plate 4, e.g. of aluminium, by means of screws 5. The external plate has a milled circular recess 6 sized to receive that part of the cup 2 that protrudes through a glass door 7. Thus, the internal diameter of the recess 6 matches the external diameter of the cup 2, whilst the depth of the recess 6 is at least as great as the difference between the external depth of the cup 2 and the thickness of the door 7, and preferably approximately equal to that difference.

[0013] The cup 2 extends through an opening 8 in the door 7, shown in Figure 3. This opening is generally circular, with two extensions 9 extending generally in the line of a chord of the circle. In this example, for ease of manufacture, the opening 8 communicates with an inner edge of the door 7.

[0014] The screws 5 are screwed through cylindrical plastics spacers 10, housed in the extensions 9, and into threaded screw recesses 11 provided in the external plate 4 above and below the recess 6.

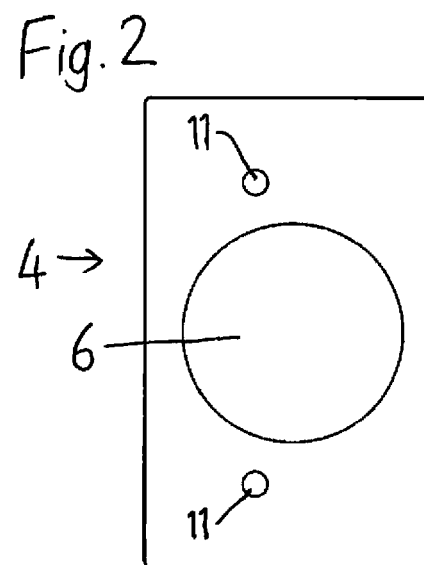
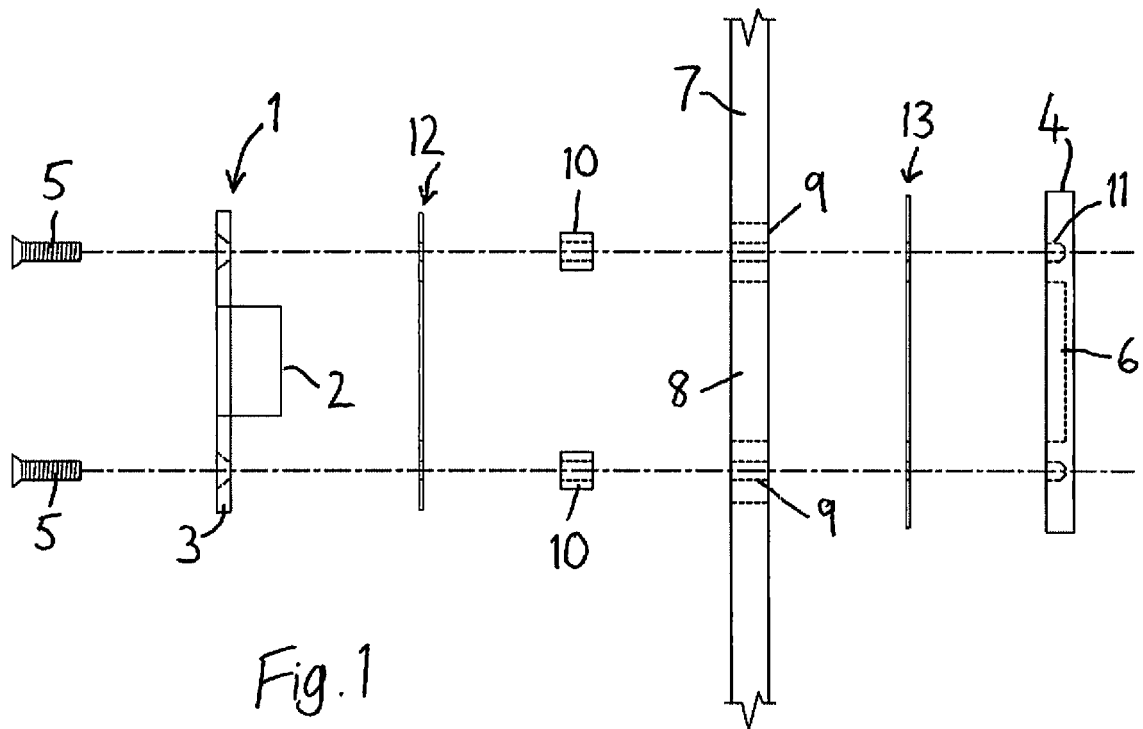
[0015] An inner gasket 12 is located between the flange 3 and the door 7. This may have holes for the screws 5 and may extend around the cup 2 on one side thereof.

[0016] An outer gasket 13 is located between the door 7 and the external plate 4. This has a central circular hole for the cup 2. It may also be provided with holes for the screws 5. The pre-made holes for screws in both gaskets 12, 13 are optional, particularly if the machine screws shown are replaced by self-tapping screws.

[0017] In the known glass door hinge, the bottom of the cup is flush with the external surface of the door. By contrast, in the present hinge, the cup 2 extends into the recess 6, supporting the external plate 4 more securely and clamping the door more efficiently. This means that thicker, heavier doors can be used with a simple hinge.

Claims

1. A hinge arrangement for a glass door, the hinge arrangement comprising a hinge part (1) including a cup-shaped part (2), and a plate (4) having a recess (6) in a face thereof, for receiving an outermost portion of the cup-shaped part (2) when the hinge part (1) and the plate (4) are located on opposite sides of a glass door having an opening for the cup-shaped part. 5
2. A hinge arrangement according to claim 1, wherein the cup-shaped part (2) is generally cylindrical. 10
3. A hinge arrangement according to claim 2, wherein the recess (6) is cylindrical, with a diameter essentially matching the external diameter of the cup-shaped part (2). 15
4. A hinge arrangement according to claim 1, 2 or 3, wherein the hinge part (1) includes at least one hole and the plate (4) includes at least one screw recess (11) arranged to register with the respective hole(s), for screwing the hinge part (1) to the plate, to clamp the door therebetween. 20 25
5. A hinge arrangement according to claim 4, wherein the hole(s) is/are located in a peripheral flange (3) of the hinge part. 30
6. A hinge arrangement according to claim 4 or 5, wherein the number of holes is two.
7. A hinge arrangement according to claim 4, 5 or 6, including screw sleeves (10) locatable in the door, between the holes and the screw recesses (11). 35
8. A hinge arrangement according to any preceding claim, including an inner gasket (12), locatable between the hinge part and the door. 40
9. A hinge arrangement according to claim 8, wherein the inner gasket (12) includes one or more openings through which the cup-shaped part (2) and/or one or more screws can pass. 45
10. A hinge arrangement according to any preceding claim, including an outer gasket (13), locatable between the door and the plate. 50
11. A hinge arrangement according to claim 10, wherein the outer gasket (13) includes one or more openings through which the cup-shaped part (2) and/or one or more screws can pass. 55
12. A door (7) fitted with a hinge arrangement according to any one of the preceding claims, the door having the opening (8) through which the cup-shaped part (2) extends.
13. A door (7) according to claim 12, wherein the opening (8) has a shape that is generally circular but has one or more extensions (9), each for allowing a screw to pass through the door.
14. A door according to claim 12, including one or more apertures, each for allowing a screw to pass through the door, the apertures being separate from said opening.



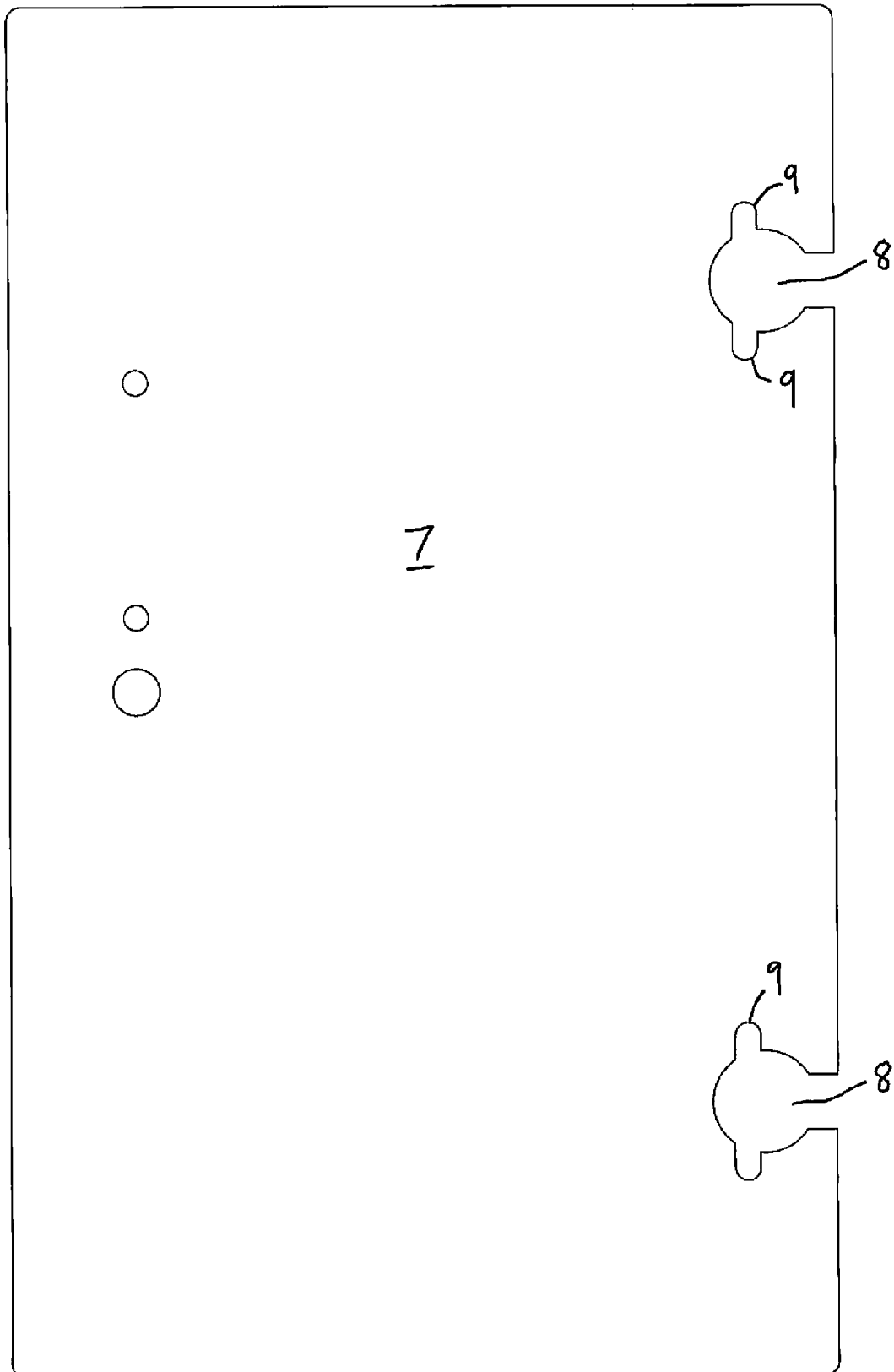


Fig. 3