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Title: Fitting furniture

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Description

- 5 The invention relates to a fitting furniture of a glass door substantially consisting of two fitting-halves.

This type of fitting furniture is mainly used for doors of bath-rooms, showers, changing rooms or the like.

10 Moreover, such fitting furniture presents either a lever handle or a knob. Moreover, the fitting plate includes signalization means, which indicate to the person approaching such door, whether the door is open or has been already locked from the inside. Such signs

15 indicating "occupied" or "free" are designed in that another knob is provided adjacent to the lever handle, which, upon turning, pushes the dead bolt out of the lock and simultaneously rotates a disc, which then displays the information to the outside that this cubicle is

20 occupied. Besides the dead bolt, such locks also present a latch-bolt, which is actuated by the lever handles via the follower.

The object of the invention is to further improve the state

25 of the art in that an aesthetically appealing fitting furniture is provided, which includes several functions

within the narrowest space and which can be manufactured cost-advantageously.

This problem is solved with the characteristics of patent
5 claim 1. In this context the dependent claims present another embodiment of the inventive idea.

According to the invention, a fitting furniture is proposed, which substantially consists of two opposite fitting-
10 halves, incorporating between them a lock; and it is proposed that a stopper for the door is integral at least with one of the fitting-halves. The fitting-halves may for example consist of a knob, wherein the exterior shape may be aesthetically adapted to the existing situation.
15 The knob preferably consists of a round (cylindrical) construction unit, the periphery thereof, extending toward the outside, presenting an inclined surface. In this case, for example the knob placed on the outside is designed in that it presents a lower depressed grip, in
20 order to assist in pulling tight the connected door. Furthermore, an emergency opening device is provided within a central borehole, which, in the event of an emergency, allows for opening such door likewise from the outside.

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The knob, which is located on the inside of the closed cubicle, likewise is executed inclined on the peripheral

surface thereof. Unlike the exterior knob, the interior one is rotatably designed and, via a follower, allows for moving a lock dead bolt backward and forward. The lock dead bolt is located between both fitting-halves and, in the direction of the edge of the door, it is covered by plates that are provided on the fitting-halves. The lock dead bolt is executed as a double-turn dead bolt and co-operates with a follower, which presents likewise a stopper, besides two catches. The stopper is provided for the dead bolt when the dead bolt is moved backward. Due to the double-turn construction of the dead bolt tail, it is achieved that, when turning the knob, the dead bolt, through the first catch, is moved forward out of the housing of the fitting-furniture, the second catch being arranged in that it comes to sit close to the catch during the second turn of the dead bolt tail and thus leads to a self-blocking of the dead bolt, in order to prevent an intentional pushing back.

The knob arranged on the interior side is executed on the exterior area in that it consists of two different materials. In this case, one of these materials presents a considerable inferior Shore hardness compared to the one of the other material. The material presenting the inferior Shore hardness, which may be for example a rubber-like compound, can be used as a cover cap or also as a separate construction unit integral with the

knob. For aesthetical reasons, it has been found out that the protruding part of the oblique edge should extend almost to the centre of the knob. By means of the material having the inferior Shore hardness, this fitting-
5 half simultaneously realizes a stopper for the door at a wall located behind it.

In order to provide an improved ease of operation when turning the knob, the knob presents, on the exterior
10 circumference thereof, at least partial projections, which allow for trouble-free turning.

The fitting-halves, for the centring thereof, are connected with each other by means of insertable pins,
15 and subsequently they are positively and non-positively screwed tight by means of a clamping screw, such that, in the central area thereof, the lock dead bolt can move forward and backward without any problem.

20 While the exterior knob is tightly connected with the plate and thus with the fitting-half, the interior knob is designed in that it is for example positively placed upon a square neck and secured from the exterior side by means of an attachment screw.

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A display is provided within the fitting plates, which indicates to the user, both on the inside area and on the

outside area, whether the connected door is locked. As a signalization means, the lock dead bolt includes for example an area, which is green and another area for the occupied condition, which is red.

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The fitting furniture may be preferably manufactured from brass, light metal, stainless steel, or from plastic material.

- 10 A diagrammatic illustration of an inventive fitting furniture will be explained on the basis of the following description of the figures, in which:

15 Figure 1: shows a fitting furniture in a perspective illustration, the fitting-half, which is located on the inside area of the room to be closed pointing to the front,

20 Figure 2: shows a fitting furniture in a perspective illustration, whereby the fitting-half, which points to the outside can be seen in the foreground,

25 Figure 3: shows a fitting furniture according to Figure 1 and 2 in a lateral view,

Figure 4: shows a cut-out detailed illustration of the fitting furniture, the dead bolt being inserted, seen from the outside position,

5 Figure 5: shows a look dead bolt in the position where it is moved backward, with a follower,

Figure 6: shows a look dead bolt in the position where it is moved forward, with a follower.

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An inventive fitting furniture 1 is illustrated in Figure 1, which substantially consists of a fitting-half 2 (mounted on the inside area of a door) and a fitting-half 3 (mounted on the outside area of the door). In the
15 embodiment example of Figure 1, the lever parts of the fitting-halves 2, 3 are illustrated as a knob. The interior knob consists of an upper knob part 10 and of a lower knob part 11. These two knob parts 10 and 11 present a different Shore hardness, the lower knob part 11 having
20 an inferior Shore hardness. The lower knob part 11 has a protruding part, which serves as a stopper 26 (cf. Figure 3) for a door stopper. The exterior knob 12 and the interior knob, including the knob parts 10 and 11, are respectively executed as cylindrical construction units. In
25 this case, the division into different materials is illustrated by means of a corresponding separating line 37, the separating line 37 presenting an offset 14 for

aesthetical reasons. The area having the inferior Shore hardness extends on the cylindrical circumference beyond the central line of the knob and is provided with projections 13. This allows for a better operation of the knob placed on the inside, namely during the turning movement in the rotational directions 16 for operating a lock dead bolt 4. In order to be able to design the knob rotatably, a recess is provided within the knob, which can be positively placed on a catch 25, which co-
10 operates with the follower 24. The fitting-half 2 is secured by means of an attachment screw 27, which is screwed down, tight against the catch 25.

From the illustration of Figure 3 it is evident that the fitting-halves 2, 3 abut against adjacent rosettes 7,
15 which present a chamfer 15 in the edge area thereof. It is likewise obvious from Figure 3, that the exterior surfaces 17 of the fitting-halves 2, 3 are inclined. This is particularly important for the integral stopper 26, as in
20 this way, when the fitting-half 2 strikes a wall, the stopper 26, due to the inferior Shore hardness thereof, provides a dampening effect upon impacting. The rosettes 7 of the fitting-halves 2, 3 have lateral plates 8, which are perforated by a borehole 9. The borehole 9
25 has the function of serving as a display, which indicates whether the cubicle located behind this door is occupied or free. For this purpose the lock dead bolt includes

markings, which are for example coloured. In case the lock dead bolt is moved forward, a "red" display area 29 is thus activated. However, if the lock dead bolt 4 is moved back, a "green" display area 28 is visible.

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Unlike the fitting-half 2, the fitting-half 3 is not rotatably connected to the other construction units, particularly not to the follower. In the same way the fitting-half 3 is executed as a cylindrical construction unit, which
10 likewise presents an oblique exterior surface 17. However, two different materials are not used in this case. For an easier manipulation of the fitting-half 3, a little depression 20 is provided, preferably on the underside thereof, in order to make for example pulling a
15 door tight easier.

Centrally in the middle of the fitting-half 3, there is a borehole 18, which is penetrated by a screw having the form of a connecting pin 22. While one end of the
20 connecting pin 22 presents a square neck engaging into the follower 24, the other end presents a device allowing to realize an emergency opening device 19. This may be for example an indentation, which is executed as a slot, allowing the use of a tool to perform an emergency
25 opening of the connected door. This side of the fitting-half 3 is likewise provided with a plate 8 including likewise the borehole 9 and thus may serve as a display

in connection with the display areas 28, 29 of the lock dead bolt 4.

Figure 4 illustrates the lock dead bolt 4 embedded within
5 the fitting furniture 1. This illustration shows furthermore
that the insertable pins 6 of the fitting-half 2 for example
engage in the fitting-half 3. In this case, the insertable
pins 6 are tightly driven into one of the fitting-halves 2 or
3 and, on the other side, they are loosely insertable.
10 Thus, a centring and an alignment of the fitting-halves 2,
3 within a glass opening 5 (of the not illustrated door)
are thus made possible. The fitting-halves 2, 3 are
connected by means of a clamping screw 23, which
preferably is not placed within the axis of the follower 24.

15 The diagrammatic illustrations of Figure 5 and 6
represent the lock dead bolt 4 with the follower 24.
Whereas in the illustration of Figure 5, the lock dead bolt
4 has been moved backward into the fitting furniture 1,
20 Figure 6 shows the lock dead bolt 4 has been moved
forward.

The lock dead bolt 4 includes a dead bolt tail 38 to which
is conformed a catch 33 and a catch 34. The dead bolt
25 tail 38 furthermore includes a stopper 35. In the "opened
position" of Figure 5, a stopper 32 existing on the
follower 24, abuts at the catch 33. Thus, no further

displacement of the lock dead bolt 4 into the inside position is possible. Now, if the follower 24 in Figure 5 is rotated to the left, the catch 30 of the follower 24 engages into the first turn, namely against the catch 33
5 of the dead bolt tail 38, and thus transports the lock dead bolt 4 to the outside of the fitting furniture 1 and therefore into the closing position thereof. Once the catch 30 is no longer engaged with the catch 33, the catch 31 of the follower 24 abuts against the catch 34 of
10 the dead bolt tail 38. As the catch 33 presents an exterior rounded contour and is larger than the catch 30, the catch 31 likewise abuts against a stopper 35 of the dead bolt tail 38. Thus, this prevents the lock dead bolt 4 from being moved further forward. Simultaneously, this
15 position of follower 24 guarantees however a self-blocking of the lock dead bolt 4 against unintentional pushing back.

References

- 1 fitting furniture
- 2 fitting-half (interior)
- 5 3 fitting-half (exterior)
- 4 lock dead bolt
- 5 glass opening
- 6 insertable pin
- 7 rosette
- 10 8 plate
- 9 borehole
- 10 upper knob part (interior)
- 11 lower knob part (interior)
- 12 exterior knob
- 15 13 projections
- 14 offset
- 15 chamfer
- 16 rotational directions
- 17 exterior surface
- 20 18 borehole
- 19 emergency opening device
- 20 depression
- 21 rounding
- 22 connecting pin
- 25 23 clamping screw
- 24 follower
- 25 catch

- 26 stopper
- 27 attachment screw
- 28 display area (green)
- 29 display area (red)
- 5 30 catch
- 31 catch
- 32 limit stopper
- 33 first catch
- 34 second catch
- 10 35 stopper
- 36 square neck
- 37 separating line
- 38 dead bolt tail

Patent claims

1. A fitting furniture, particularly for an all-glass door, substantially consisting of two fitting-halves, characterized in that the fitting furniture
5 (1) substantially consists of the two opposite fitting-halves (2, 3), a lock being incorporated between them with a dead bolt (4), which can be moved forward and backward by means of
10 a follower (24), and in that a door stopper (26) is integral with at least one of the fitting-halves (2) or (3).
2. A fitting furniture according to claim 1,
15 characterized in that the fitting-halves (2, 3) are designed as a knob (10, 11, 12), the frontal surfaces thereof (exterior surfaces (17)) being executed inclined, and in that the stopper (26) is integral with at least one of the fitting-halves
20 (2, 3), which in the exterior area thereof consists of two different materials, one of these materials presenting a Shore hardness that is substantially inferior with regard to the other material.
- 25 3. A fitting furniture according to the previous claims, characterized in that the fitting-halves

(2, 3) present a plate (8) in form of at least a one-sided shoulder.

4. A fitting furniture according to the previous
5 claims, characterized in that the fitting furniture (1) is used for doors of bath-rooms, showers, changing rooms, or the like.
5. A fitting furniture according to the previous
10 claims, characterized in that a display, indicating the accessibility to a room located behind the door, is provided within the plates (8).
- 15 6. A fitting furniture according to claim 5, characterized in that the display indicating "free" or "occupied", is provided on the lock dead bolt (4) in form of coloured display areas (28, 29).
- 20 7. A fitting furniture according to the previous claims, characterized in that one of the fitting-halves (2, 3) is blocked and one of the fitting-halves (2, 3) is rotatable, the rotatable fitting-
25 half executing the actuation of the lock dead bolt (4).

8. A fitting furniture according to the previous claims, characterized in that the fitting-half (3) presents at least one depression (20) in the exterior contour thereof.
- 5 9. A fitting furniture according to the previous claims, characterized in that the fitting-half (3) presents, in the direction towards the follower (24), a central borehole (18), which is
- 10 penetrated by a connecting pin (22) acting upon the follower (24).
10. A fitting furniture according to claim 9, characterized in that, via the connecting pin
- 15 (22) an emergency opening device (19) (backward movement of the lock dead bolt (4)) can be operated to unlock the door.
11. A fitting furniture according to the previous
- 20 claims, characterized in that the fitting-half (2) is positively placed on a catch (25) and blocked from the outside by means of a connecting screw (27).
- 25 12. A fitting furniture according to one of the previous claims, characterized in that the fitting-half (2) consists of an upper knob part

5 (10) and of a lower knob part (11), the knob part (11) presenting the inferior Shore hardness, or in that the knob part (11) is covered with a material having an inferior Shore hardness.

10 13. A fitting furniture according to one of the previous claims, characterized in that the material of the knob part (11) consists of rubber respectively of a rubber-like compound.

15 14. A fitting furniture according to one of the previous claims, characterized in that the knob part (11) extends almost to the centre of the exterior surface (17).

20 15. A fitting furniture according to one or several of the previous claims, characterized in that the fitting-halves (2, 3) are designed round.

16. A fitting furniture according to one or several of the previous claims, characterized in that the knob part (11) presents projections (13).

25 17. A fitting furniture according to the previous claims, characterized in that the fitting-halves (2, 3) are centred with regard to each other by

means of insertable pins (6) and connected to each other by means of a clamping screw (23).

18. A fitting furniture according to one or several of the previous claims, characterized in that the lock dead bolt (4) is executed as double-turn and the follower (24) presents two catches (30, 31) and a limit stopper (32).

19. A fitting furniture according to claim 17, characterized in that the lock dead bolt (4) is self-blocking, when it is moved into the forward position.

20. A fitting furniture according to one of the previous claims, characterized in that display areas (28, 29) are provided on the lock dead bolt (4).

21. A fitting furniture according to the previous claims, characterized in that the fitting furniture (1) is made from brass, light metal, stainless steel, or plastic material.