

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
13.04.2022 Bulletin 2022/15

(51) International Patent Classification (IPC):
E06B 1/34 ^(2006.01) **E06B 1/10** ^(2006.01)
E06B 1/68 ^(2006.01)

(21) Application number: **21199978.4**

(52) Cooperative Patent Classification (CPC):
E06B 1/34; E06B 1/10; E06B 1/68

(22) Date of filing: **29.09.2021**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
 GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
 PL PT RO RS SE SI SK SM TR**
 Designated Extension States:
BA ME
 Designated Validation States:
KH MA MD TN

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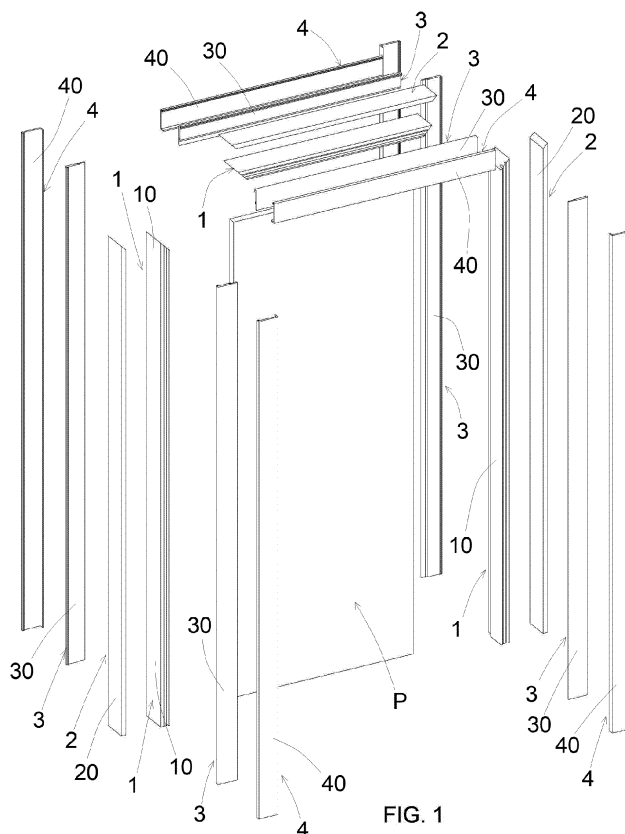
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(30) Priority: 08.10.2020 IT 202000005659 U

(54) **DOOR KIT COMPRISING A FRAME AND INTERCHANGEABLE JAMBS**

(57) A door kit comprising a frame (1) suitable for being fixed in a secondary frame (2) that is fixed to a wall (M) and comprises three pieces (20), namely two side pieces (20) and one head piece (20); said frame (1) comprising three pieces (10), namely two side pieces (10), one for each side piece (20), and one head piece (10)

for said head piece (20); said door kit comprising a molding (3) that can be applied to one side of the frame (1) and an alternative molding (4) that can be applied to the same side of the frame (1) as an alternative option to said molding (3).



Description

[0001] The present patent application for utility model relates to a door kit comprising a frame and interchangeable jambs.

[0002] In order to better understand the innovative features and the advantages of the door frame according to the invention, it is necessary to describe the main structural elements of an ordinary swing door.

[0003] An ordinary swing door comprises a frame, which is the supporting element of the door and is composed of three pieces, namely two side pieces and one head piece mounted astride the two side pieces.

[0004] Hinge means are provided on one of the two side pieces to hinge the door panel.

[0005] The frame is fixed to a secondary frame, which is usually made of raw wood and is fixed to the wall along the entire perimeter of the opening that accommodates the door.

[0006] Just like the frame, the secondary frame comprises two side pieces and one head piece.

[0007] Each one of said side pieces of the frame is fixed to each one of said side pieces of the secondary frame, whereas the head piece of the frame is fixed to the head piece of the secondary frame.

[0008] The pieces of the frame are fixed to the respective pieces of the secondary frame by means of screws or fixing means, such as glue or the like.

[0009] Each piece of the secondary frame comprises an outer face facing the wall, an inner face, and two side faces. Each piece of the frame comprises an outer face facing the piece of the secondary frame, an inner face, and two side faces.

[0010] A traditional door according to the prior art also comprises two moldings that are applied on the two sides of the door. Each molding comprises three jambs, namely two vertical jambs and one horizontal jamb. The function of the moldings is to finish the door on the push side and on the pull side of the door panel.

[0011] More precisely, each jamb is disposed next to the piece of the frame and to the piece of the secondary frame in order to cover the piece of the frame with a first end and the face of the wall with a second end.

[0012] In view of the above, the function of each jamb is to conceal the piece of the secondary frame and any anti-aesthetic gap that may be present between the piece of the secondary frame and the wall and between the piece of the secondary frame and the piece of the frame.

[0013] The jambs that are currently available on the market can be divided into full overlay jambs and telescopic jambs.

[0014] Telescopic jambs have a basically L-shaped cross-section that comprises a first wing, which is suitable for covering the thickness of the piece of the secondary frame, for partially covering the piece and for partially covering the wall, and a second wing, which is suitable for being inserted more or less deeply into a longitudinal groove that is obtained on the side face of the piece of

the frame and extends along the entire length of the piece. By inserting or removing the wing into/from the longitudinal groove, the first wing of the piece is brought closer or is moved away with respect to the face of the wall. Therefore, such a solution allows for adjusting the gap between the first wing and the wall.

[0015] The second type of jambs, which are defined as full overlay jambs, comprises a plurality of plugs or hooks suitable for being inserted into corresponding seats obtained on the side face of the piece of the frame. These jambs provide a better aesthetic result than telescopic jambs, but the piece of the frame must have specific dimensions, taking into account the thickness of the wall where the piece is to be applied.

[0016] The choice of using either type of jambs is a merely aesthetic choice and is at the discretion of the customer.

[0017] However, such a choice affects the type of pieces of the frame to be mounted.

[0018] In particular, if one decides to opt for a full overlay jamb, the pieces of the frame must necessarily incorporate the aforementioned seat and must also have a suitable thickness according to the thickness of the wall.

[0019] If, on the other hand, one decides to opt for a telescopic jamb, the piece of the frame does not need to have a suitable thickness according to the thickness of the wall, but it must nevertheless incorporate the aforementioned longitudinal groove.

[0020] Therefore, in order to meet customer needs quickly, door manufacturers must keep large quantities of frames in stock, each one with its respective jambs, in order to promptly deliver the order made by the customer.

[0021] Evidently, such a solution is extremely expensive and risky for the door manufacturer because some types of frames with their corresponding jambs may remain unsold in the warehouse.

[0022] The purpose of the present invention is to devise a door kit wherein the jamb to be applied to the frame can be chosen after installing the frame.

[0023] Otherwise said, the purpose of the present invention is to devise a door kit provided with a frame that is versatile and suitable for coupling with different types of jambs.

[0024] These purposes are achieved according to the invention with the characteristics of the appended independent claim 1.

[0025] Advantageous embodiments appear from the dependent claims.

[0026] The door kit according to the invention is defined by claim 1.

[0027] For the sake of clarity, the description of the door kit according to the invention continues with reference to the appended drawings, which have a merely illustrative, not limiting value, wherein:

Fig. 1 is an exploded view that illustrates a door panel and the door kit according to the invention;

Fig. 2 is an exploded sectional view of a wall, of a

side piece of the secondary frame, of a side piece of the frame and of the interchangeable jambs of the door kit according to the invention;

Figs. 2A and 2B, 2C and 2D are sectional views of four different installation options of the jambs of moldings on the sides of a piece of a frame;

Fig. 3 is a sectional view of an alternative embodiment of the door kit according to the invention.

[0028] Referring to the appended figures, the door kit according to the invention is described.

[0029] Referring to Figs. 1 and 2, the new door kit according to the invention comprises a frame (1) suitable for being fixed in a traditional secondary frame (2) that is fixed to a wall (M). The secondary frame (2) comprises a pair of side pieces (20) and a head piece (20) mounted astride the side pieces (20).

[0030] Each piece (20) of the secondary frame (2) has a substantially rectangular cross-section and comprises an outer face (21) abutting and fixed to the edge of the wall (M), an inner face (22) opposite to said outer face (21), and two side faces (23).

[0031] Referring to Fig. 1, the frame (1) comprises three pieces (10), namely two side pieces (10), each one of them being fixed to a side piece (20) of the secondary frame (1), and one head piece (10) fixed to the head piece (20) of the secondary frame (2).

[0032] A door panel (P) is hinged to one of the two side pieces (10) by means of hinges or similar means.

[0033] Referring to Fig. 2, each piece (10) comprises an outer face (11) facing the respective piece (20) of the secondary frame (2), an inner face (12) and two side faces (13).

[0034] Referring to Fig. 1 and to Fig. 2, the door kit of the invention further comprises two moldings (3) that can be applied to both sides of the frame (1), each molding (3) comprising three jambs (30), each one of them being coupled with a side face (13) of the piece (10) of the frame (1).

[0035] Each jamb (30) of the two moldings (3) comprises:

- a first section (30a) suitable for completely covering the piece (20) of the secondary frame (2), for partially covering the wall (M), and for partially covering the portion of the side face (13) of the piece (10); and
- a second section (30b) aligned with the first section (30a) and abutting the side face (13) of the piece (10) and suitable for covering the portion of side face (13) that is left uncovered by the first section (30a).

[0036] With reference to Fig. 2A, the second section (30b) of each jamb (30) of the molding (3) comprises an ending edge (300b) suitable for being disposed flush with the inner face (12) of the respective piece (10) when the jamb (30) of the molding (3) is coupled with said side face (13) of the piece (10).

[0037] The peculiarity of the door kit according to the

invention is that it comprises two second moldings, that is to say two alternative moldings (4) that can be applied on the sides of the frame (1) as an alternative to said molding (3).

[0038] Each alternative molding (4) comprises three jambs (40), each one of them being coupled to the side face (13) of the respective piece (10).

[0039] In view of the above, the customer or the installer can choose the type of jambs (30, 40) to be installed on the sides of the pieces (10) of the frame (1). Otherwise said, one can decide whether to install the jambs (30) of the molding (3) or the jambs (40) of the alternative molding (4) on one side of the frame (1).

[0040] Returning to Fig. 2, each jamb (40) of the alternative molding (4) comprises an "L" shaped cross-section comprising:

- a first section (40a) suitable for completely covering the piece (20) of the secondary frame (2), for partially covering the wall (M), and for partially covering the portion of the side face (13) of the piece (10); and
- a second section (40b) orthogonal to said first section (40a) and slidably inserted inside a notch (S1) of the side face (13) of the piece (10) which extends for the entire length of the piece (10).

[0041] Still referring to Fig. 2, in addition to the notch (S1), the side faces (13) of each piece (10) also comprise a seat (S2) and accordingly each jamb (30) of the moldings (3) comprises a seat (Q) obtained on a face (31) of the jamb (30) suitable for facing the jamb (30).

[0042] Referring to Fig. 2, the distance (d1) between the notch (S1) and the inner face (12) of the piece (10) is lower than the distance (d2) between the seat (S2) and the inner face (12) of the piece (10).

[0043] The door kit also comprises coupling means (5) disposed in the seat (S2) of the side face (13) of the piece (10) and in the seat (Q) of the jamb (30) in order to couple the jamb (30) to the side face (13) of the piece (10).

[0044] Still referring to Fig. 2, said seat (S2) of the side face (13) of the piece (10) has an axis (x) orthogonal to the side face (13).

[0045] Instead, the seat (Q) of the jamb has an axis (y) that is oblique to the axis (y) of the seat (S2) of the side face (13).

[0046] The coupling means (5) consists of a hook with two oblique wings, namely a first wing (51) inserted in said seat (S2) of the side face (13) of the piece (10), and a second wing (52) inserted in said seat (Q) of the jamb (30).

[0047] Specifically, according to the preferred embodiment of the invention, the axis (x) of the seat (S2) of the side face (13) of the piece (10) and said axis (y) of the seat (Q) of the jamb (30) of the molding (3) are orthogonal.

[0048] Each wing (51, 52) of the coupling means (5) comprises deformable means (6) cooperating with the walls that define the seat (S2, Q) wherein the wing (51, 52) of the coupling means (5) is inserted. Said deformable

means (6) are suitable for generating an interlocking fit by interference with the seat (S2, Q).

[0049] The deformable means (6) comprise herringbone-shaped teeth that interfere against the walls that define the seat (S2, Q).

[0050] As shown in Fig. 2, the first section (30a, 40a) of the jamb (30) of the molding (3) and of the jamb (40) of the alternative molding (4) comprises a folded ending portion (37, 47) comprising an ending face (37a, 47a) suitable for being in contact with or proximal to a face of the wall (M). The ending face (37a, 47a) comprises a seat (H) wherein a gasket (g) is suitable for being housed.

[0051] Figs. 2A, 2B, 2C and 2D illustrate four different solutions that can be adopted when using the door kit of the invention.

[0052] In Fig. 2A two jambs (30) of two moldings (3) are coupled on the two side faces (13) of the piece (10) of the frame (1).

[0053] In Fig. 2B two jambs (40) of two alternative moldings (4) are coupled on the two side faces (13) of the piece (10) of the frame (1).

[0054] In Fig. 2C a jamb (30) of the molding (3) is coupled on a side face (13) of the piece (10), whereas the jamb (40) of the alternative molding (4) is coupled on the other side face (13) of the piece (10).

[0055] Fig. 2D illustrates the opposite solution to the one shown in Fig. 2C.

[0056] For the sake of brevity, the present invention has been described with reference to Figs. 2, 2A, 2B, 2C and 2D, wherein one of the three pieces (10), and particularly a side piece (10), is shown. However, it is understood that, with reference to Figs. 2, 2A, 2B, 2C and 2D, the present description can be advantageously applied also to the other side piece (10) and to the head piece (10).

[0057] Furthermore, it must be noted that although Figs. 1 to 2D show a door kit comprising two moldings (3) and two alternative moldings (4), each one of them comprising three jambs (30, 40), according to the alternative embodiment of the invention shown in Fig. 3, the door kit (100) may comprise a molding (3) and an alternative molding (4) for one side and a preset molding (3) for the other side.

[0058] In such a case, as shown in Fig. 3, one of the two side faces (13) of the piece (10) comprises both the seat (S2) and the notch (S1) in such a way as to be selectively coupled to the jamb (30) of the molding (3) and to the jamb (40) of the alternative molding (4), whereas the other side face (13) only comprises the seat (S2) without the aforesaid notch, thus making the side face exclusively suitable for coupling with the jamb (30) of the molding (3).

[0059] As a result of the description above, it is evident that, since the door kit is equipped with two different types of moldings (3, 4), a customer can choose the type of jamb even after installing the pieces of the frame, and not necessarily before assembling the frame.

[0060] Moreover, because of the versatility of said

pieces (10) of the frame (1), which can be alternatively coupled with the jambs of the molding (3) and with the jambs (40) of the alternative molding (4), the types of pieces (10) of the frame (1) that a manufacturer must produce and stock in its warehouse are considerably reduced.

[0061] Numerous variations and modifications may be made to the present embodiment of the invention, which are within the scope of a person skilled in the art, and in any case within the scope of the invention as expressed by the appended claims.

[0062] It is understood that the door kit according to the invention can be advantageously used to finish an opening that is obtained in a partition wall in order to provide communication between two adjacent rooms, even without a door panel (P) anchored to the frame.

Claims

1. Door kit comprising:

- a frame (1) suitable for being fixed in a secondary frame (2) which is fixed to a wall (M) and comprises three pieces (20), namely two side pieces (20) and one head piece (20); said frame (1) comprising three pieces (10), namely two side pieces (10), one for each side piece (20), and one head piece (10) for said head piece (20); each piece (10) comprises an outer face (11) facing the respective piece (20) of the secondary frame (2), an inner face (12) and two side faces (13); and
- at least one molding (3) that can be applied to one side of the frame (1) and comprises three jambs (30), each one being suitable for being coupled with one of said side faces (13) of the pieces (10) of the frame (1); each jamb (30) comprising:
 - a first section (30a) suitable for completely covering the piece (20) of the secondary frame (2), for partially covering the wall (M), and for partially covering the portion of the side face (13) of the piece (10); and
 - a second section (30b) aligned with the first section (30a) and abutting the side face (13) of the piece (10);

characterized in that it comprises at least one alternative molding (4) that can be applied to the same side of the frame (1) as an alternative to said molding (3); said alternative molding (4) comprising three jambs (40), each one of them being suitable for being coupled to the side face (13) of the respective piece (10); wherein said side face (13) of each piece (10) comprises a notch (S1) that extends

longitudinally along the entire length of said piece (10); each jamb (40) of the alternative molding (4) comprises an L-shaped cross-section comprising:

- a first section (40a) suitable for completely covering the piece (20) of the secondary frame (2), for partially covering the wall (M), and for partially covering the portion of the side face (13) of the piece (10); and
- a second section (40b) orthogonal to said first section (40a) and slidably inserted inside the notch (S1).

2. The kit of claim 1, wherein said second section (30b) of each jamb (30) of the molding (3) comprises an ending edge (300b) suitable for being disposed flush with the inner face (12) of the respective piece (10) when the jamb (30) of the molding (3) is coupled with said side face (13) of said piece (10).

3. The kit of claim 1 or 2, wherein said side face (13) comprises a seat (S2) and said jamb (30) of the molding (3) comprises a seat (Q) obtained on a face (31) of the jamb (30) suitable for facing the piece (10); said kit comprising coupling means (5) arranged in said seat (S2) of said side face (13) of the piece (10) and in said seat (Q) of the jamb (30) for coupling the jamb (30) to said side face (13) of the piece (10)

4. The kit of claim 3, wherein the distance (d1) between the notch (S1) and the inner face (12) of the piece (10) is lower than the distance (d2) between the seat (S2) and the inner face (12) of the piece (10).

5. The kit of any one of the preceding claims, comprising:

- two moldings (3), namely a molding suitable for being coupled to one side of the frame (1) and a molding suitable for being coupled to the other side of the frame (1); and
- two alternative moldings (4), namely an alternative molding suitable for being coupled to one side of the frame (1) and an alternative molding suitable for being coupled to the other side of the frame (1);

wherein said moldings (3) and said alternative moldings (4) are suitable for being alternately coupled to the sides of the frame (1).

7. The kit according to any one of the preceding claims, wherein the jambs (30, 40) of the molding (3) and of the alternative molding (4) comprise a folded ending portion (37, 47) comprising an ending face (37a, 47a) suitable for being in contact with or proximal to a face of the wall (M).

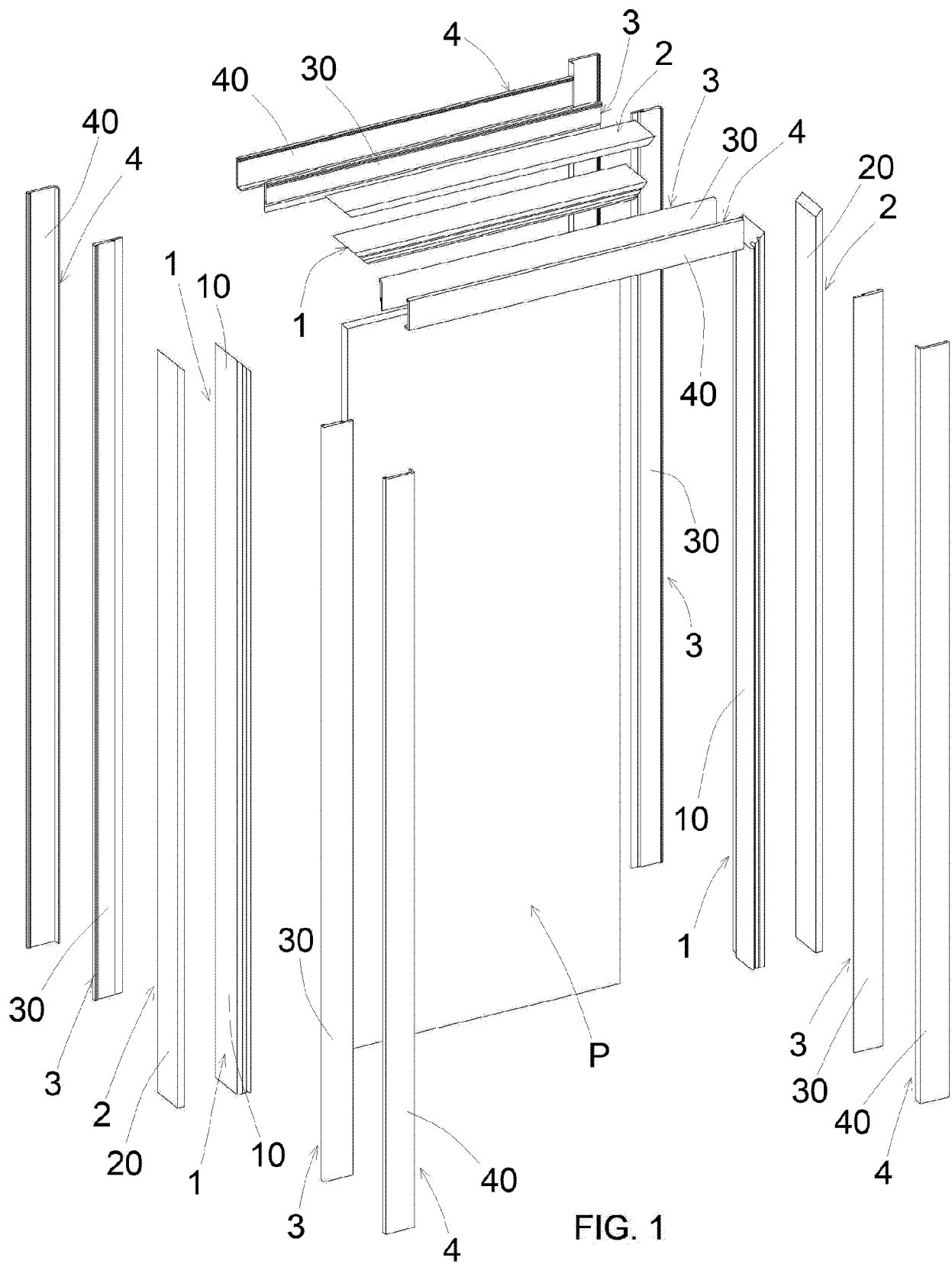
8. The kit of claim 7, wherein said ending face (37a, 47a) comprises a seat (H) wherein a gasket (g) is suitable for being housed.

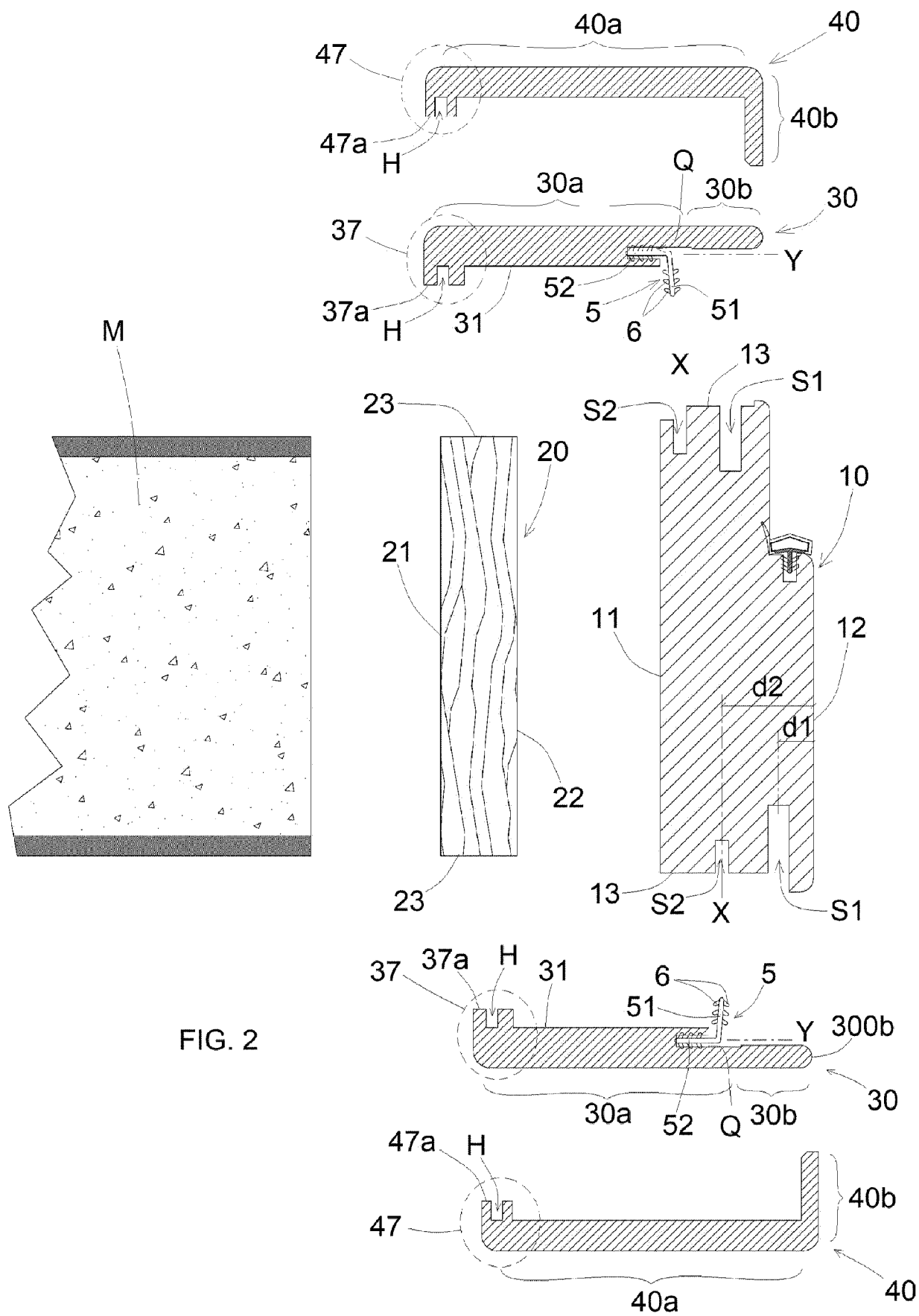
9. The kit according to any one of claims 3 to 8, wherein said seat (S2) of the side face (13) of the piece has an axis (x); wherein said seat (Q) has an axis (y); said axis (x) of said seat (S2) and said axis (y) of said seat (Q) are oblique; wherein said coupling means (5) comprises a first wing (51) inserted in said seat (S2) of the side face (13) of the piece (10), and a second wing (52) inserted in said seat (Q) of the jamb (30).

10. The kit of claim 9, wherein said axis (x) of the seat (S2) of the side face (13) of the piece (10) and said axis (y) of the seat (Q) of the jamb (30) of the molding (3) are orthogonal.

11. The kit of claim 9 or 10, wherein each wing (51, 52) of the coupling means (5) comprises deformable means (6) cooperating with walls that define the seats (S2, Q); said deformable means (6) being configured in such a way as to generate an interlocking fit by interference.

12. The kit of claim 11, wherein said deformable means (6) comprise herringbone-shaped teeth.





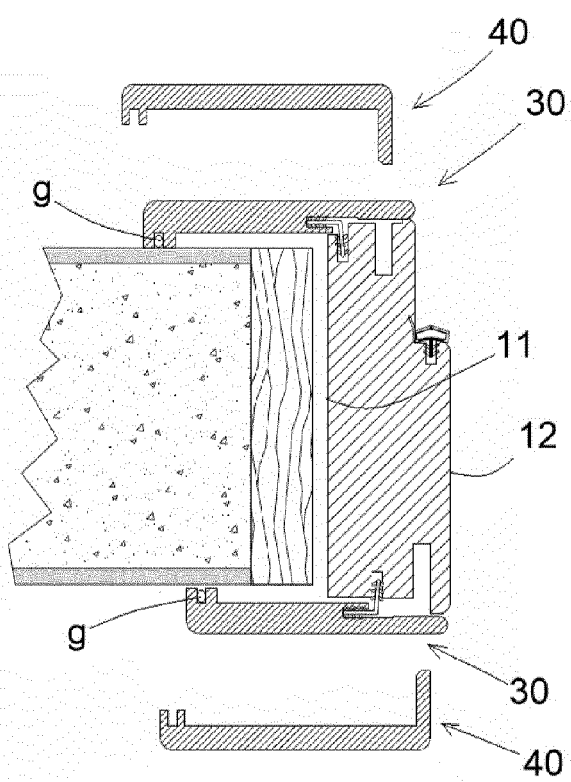


FIG. 2A

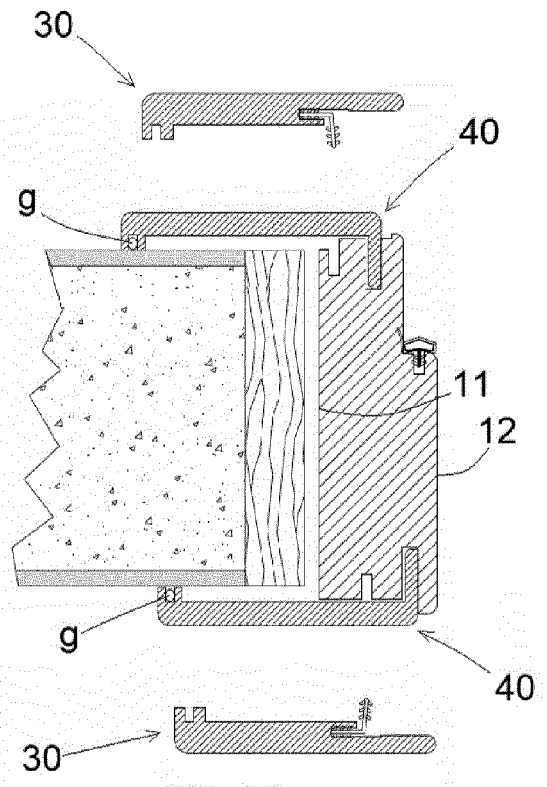


FIG. 2B

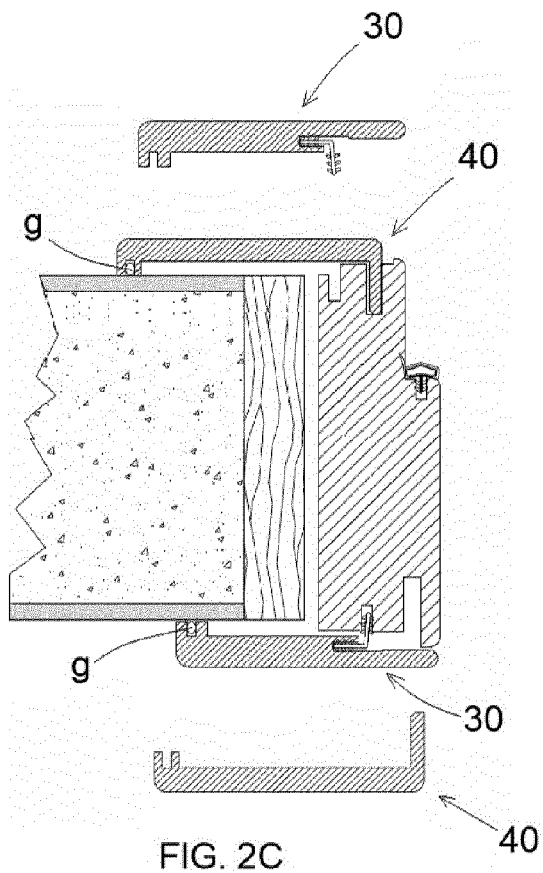


FIG. 2C

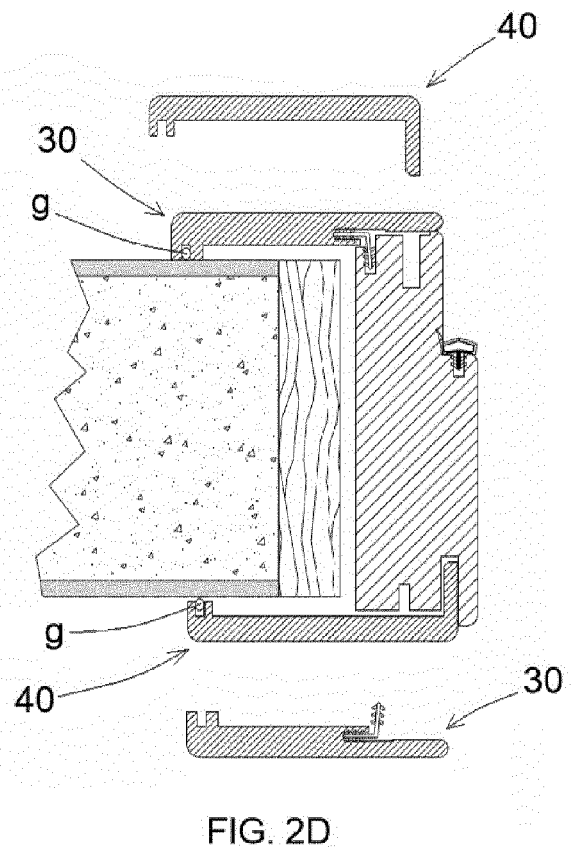
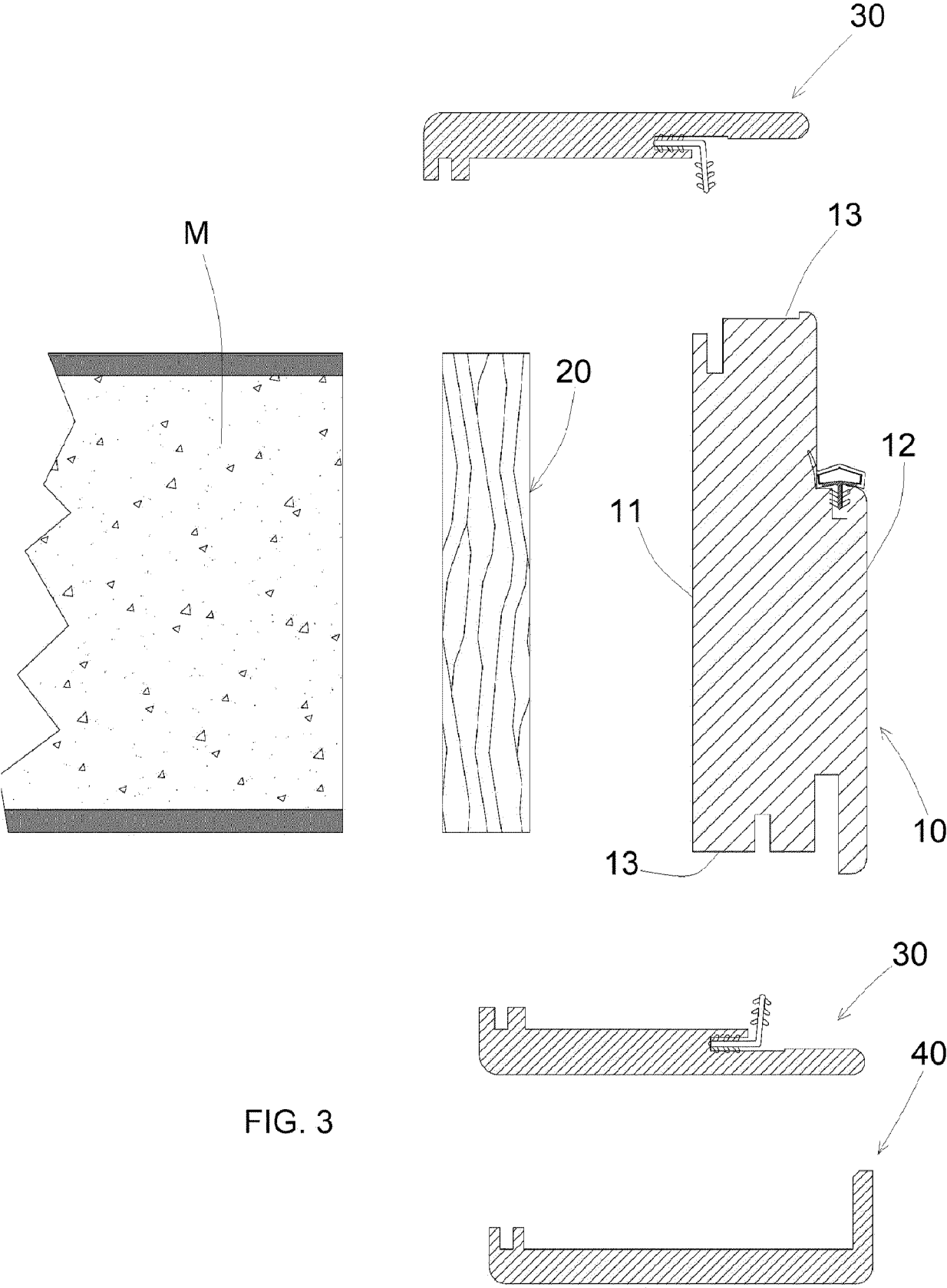


FIG. 2D





EUROPEAN SEARCH REPORT

Application Number

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 17 February 2022	Examiner Crespo Vallejo, D
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