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(54) **FENCE POST WITH ATTACHING MEANS AND A MODULAR FENCING SYSTEM**

(57) The present invention proposes a fence post (1) mainly comprising a vertically elongated center portion (13), a vertically elongated outer portion (11) connected to said center portion and at least one attaching means (3) for securing at least one fence panel (2) on said fence

post. Here, the outer portion of the fence post has an outer face, a rear face, and at least one longitudinal channel (15) forming an inner aperture constituted between the outer face and the rear face as to extend along the entire length the outer portion.

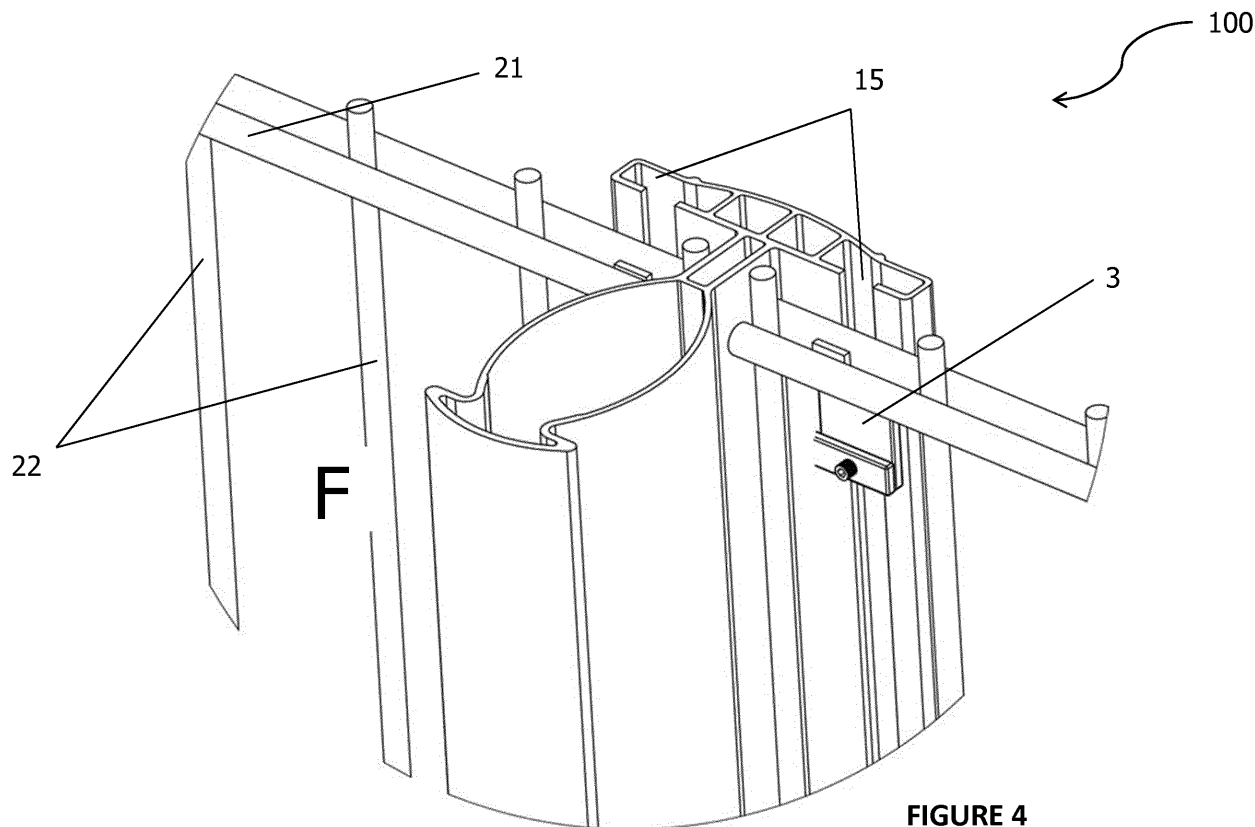


FIGURE 4

Description

Technical Field of the Invention

[0001] The present invention relates to security partition assemblies, and more particularly it concerns a novel post with attaching means for securing fences thereon and related modular fencing system.

Background of the Invention

[0002] Fencing systems are widely used techniques for restricting entry to a piece of land, for providing privacy and/or decorative landscape. Said fencing systems typically include a series of posts set in ground, cement, a concrete slab, or the like, with essentially planar/flat fence panel spanning between the posts where the fence panels are often joined to fence posts by welding. Although using welding process for joining a fence panel to a post is an economical option, it requires considerable operator skill and it is impossible to disassemble the welded joints without destroying detail parts. For eliminating said and further disadvantages of welding and also for obtaining a modular fencing system, WO 2014/040091 (A1) discloses a fencing system that includes a first profile comprising a web and a flange that extends transversely from one end of the web in a first direction. A second connecting means secures the first profile to an adjacent profile in back-to-back arrangement. A bracket is securable to the web via a first connecting means. The bracket is shaped to extend towards the flange and defines an edge extending substantially along the flange, which edge defines at least two teeth for capturing at least one elongate segment of a fence panel between the teeth and the flange and/or web to secure the fence panel in place relative to the first profile. As disclosed, a plurality of different type connecting means are needed for joining a fence panel to a profile and hence said fencing system is complex to install and requires the operation of more than one person for its installation.

[0003] On the other hand, WO 2010/121789 (A2) discloses a fence comprising a fence post having two front flanges extending from a core, a fence panel, a clamp fixed to a flank of the core and holding at least one vertical edge wire of the fence panel, and as the clamp is fixed to the flank by attachment means such that it is movable from a holding position wherein it is exercising a clamping force, to a non-holding position, and vice versa, only in a direction towards the flank or away from it. However, said post flanks comprise holes for receiving clamps and fixing the fences thereon. Accordingly, using of said fencing system has disadvantage of need for using special dimensioned posts and fences for each type of land, i.e. sloping lands having different inclination angles since holes for mounting the clips provide a limited installation opportunity the user.

[0004] Also, it is important to provide a fence post that has minimized weak points in terms of mechanical

strength against impacts from the hostile side (H). The fence posts and the fence panels employing such fencing systems are expected to maintain their original form and function even after severe impacts and stresses are applied thereon.

[0005] From the aspect of economic feasibility in terms of labor costs and production costs, it is also desired that a fence post is easy to produce and enables easy, flexible and rapid installation.

[0006] The present invention provides a novel fence post comprising at least one longitudinal channel for securing at least one fence panel onto said fence post by mounting suitable attaching means together with a horizontal/vertical wire of said fence. Thanks to said longitudinal channels, fencing system of the present invention is obtained which is modular, extremely simple to manufacture and easy to install even in sloping lands that have different inclination angles.

Objects of the Invention

[0007] Primary object of the present invention is to eliminate the above-mentioned shortcomings in the present state of the art.

[0008] Another object of the present invention is to provide a strengthened fence post and a fencing system including said fence post.

[0009] Another object of the present invention is to provide a fence post comprising at least one vertical longitudinal channel for submitting a modular fencing system.

[0010] Another object of the present invention is to provide a fence post and fencing system with enhanced security against unauthorized manipulation thereof.

[0011] A further object of the present invention is to provide to fence post and fencing system required a low labor and production cost.

[0012] Another object of the present invention is to provide a fence post and fencing system that is extremely simple to manufacture and easy to takedown or install even on sloping lands.

Summary of the Invention

[0013] The present invention provides a fence post mainly comprising a vertically elongated center portion, a vertically elongated outer portion connected to said center portion and at least one attaching means for securing at least one fence panel on said fence post. Here, the outer portion of the fence post has an outer face, a rear face, and at least one longitudinal channel forming an inner aperture constituted between the outer face and the rear face as to extend along the entire length (L) the outer portion.

[0014] According to an embodiment of the present invention, said fence post further comprises a bridging portion for forming an area to receive at least one fence panel and/or a support portion for enhancing mechanical strength of the fence post.

[0015] According to the present invention, said attaching means may have at least one grasping element for securing a wire of the fence panel. Said grasping element optionally may have an "L" shaped cross-section. On the other hand, the grasping element is optionally a sloping rod extending from a surface of the attaching means for holding at least a wire of the fence panel. Also, said grasping element may be a clamp. According to a preferred embodiment of the present invention, said grasping element is constituted as an integral part of the attaching means.

Brief Description of the Figures

[0016] The figures whose brief explanations are herewith provided are solely intended for providing a better understanding of the present invention and are as such not intended to define the scope of protection or the context in which said scope is interpreted in the absence of the present description.

Fig. 1 demonstrates a general perspective view of the fence post according to the present invention.

Fig. 2 demonstrates a cross-sectional view of the fence post according to the present invention.

Fig. 3 demonstrates a cross-sectional view of the fencing system according to the present invention.

Fig. 4 demonstrates a back (friendly) side perspective view of the fencing system according to the present invention.

Fig. 5 demonstrates a front (hostile) side perspective view of the fencing system according to the present invention.

Fig. 6 demonstrates (a) front (hostile) view, (b) upper view and (c) side view of the fencing system according to the present invention, wherein the system is installed onto an inclined basis.

Fig. 7 demonstrates perspective view of the fence post with a fence panel and attaching means according to the present invention.

Figs. 7a and 7b demonstrate perspective views of the attaching means with grasping elements according to the present invention.

Fig. 8 demonstrates (a) a fence panel with tilted wires relative to the axis of width (W) of the fence post, (b) alternative relative position between the fence panel and the fence post.

Fig. 9 demonstrates back (friendly side) view of the fencing system according to the present invention,

wherein the system is installed onto an inclined basis.

Fig. 10 demonstrates a perspective view of the fence post with attaching means according to the present invention.

Detailed Description of the Invention

[0017] The present invention provides a fence post (1) comprising a vertically elongated center portion (13), a vertically elongated outer portion (11) connected to said center portion (13) and at least one attaching means (3) for securing at least a fence panel (2) on said fence post (1). Additionally, the outer portion (11) comprises an outer face (111), a rear face (112) and at least one longitudinal channel (15) forming an inner aperture constituted between the outer face (111) and the rear face (112) as to extend along the entire length (L) the outer portion (11). Said longitudinal channel is adapted to receive at least one attaching means (3) and also said attaching means (3) can be moved along the entire length (L) of said longitudinal channel (15) or can be fixed to any required location on said longitudinal channel (15).

[0018] Said center portion (13) serves the purpose of supporting and keeping the fence post integral in erected form. According to an embodiment of the present invention (Fig. 1), said center portion (13) of the fence post (1) is formed up in the shape of a hollow tubular body and preferably an ellipse in cross section. However, it is not an essential feature to use an ellipse, and any other various shapes (e.g., triangle, square, pentagonal, hexagonal or other polygonal shapes) may be utilized for providing support.

[0019] The vertically elongated outer portion (11) of the fence post (1) is designed to be positioned as encountered part of said fence post (1) from the hostile side (H) of the fencing system (100). Thus, it has an outer face (111) which is preferably reinforced for providing strength and also has an aesthetic exterior view. Said outer portion (11) also has a rear face (112) that can only be seen from the friendly side (F) of the fencing system (100) and also faces the center portion (13) of the fence post (1). According to an embodiment of the present invention, the rear face (112) of said outer portion (11) is either directly mounted to the center portion (13) of the fence post (1) or manufactured integrally with the center portion (13). The outer portion also comprises at least one longitudinal channel (15) forming an inner aperture constituted between the outer face (111) and the rear face (112). Said longitudinal channel (15) extends along the entire length (L) the outer portion (11). According to a preferred embodiment of the invention, said outer portion (11) has a longitudinal opening (16) on said rear face (112), extending along the entire length (L) thereof. Thanks to this opening, a structure suitable for use in accessing the inner aperture of said longitudinal channel (15) is provided as shown in Figure 7.

[0020] By using said longitudinal channel (15) during the securing of the fence panels (2), there is no need to drill hole(s) on the fence post (1) during installation. Accordingly, the need for workload required to drill a hole on the post (1) is advantageously eliminated, and the mounting process is carried out easily, even just by one worker, during the installation.

[0021] The fence post (1) of the present invention also has at least one attaching means (3) for securing one or more fence panels (2) on said fence post (1). Said attaching means (3) are designed to have a structure suitable for being moved inside the longitudinal channel (15) and also for being detachably fixed onto the longitudinal channel (15) of the rear face (112) through the opening (16). Said attaching means (3) are fixed onto the longitudinal channel (15) through at least one fixing means (32), preferably with a screw.

[0022] According to an embodiment of the present invention said attaching means (3) also comprises at least one grasping element (31) for securing a wire of the fence panel (2). According to an embodiment of the present invention, said grasping element (31) has an "L" shaped cross-section for holding at least a wire (21, 22) of the fence panel (2). Also said grasping element (31) may be constituted as an integral part of the attaching means (3). According to another embodiment, as shown in Figures 7a and 7b, said grasping element (31) is mainly formed as ear portions, i.e., a sloping rod, extending from a surface of the attaching means (3) as to hold at least a part of the vertical wire (22) or the horizontal wire (21) of the fence panel (2). Thus, disclosed grasping element (31) is shaped and dimensioned as to engage and fit snugly on the corresponding wire of the fence panel (2). According to an embodiment of the present invention, said grasping element (31) is a clamp. Figure 4 shows the fence post (1) and a fence panel (2) where the grasping element (31) of the attaching means (3) secures a horizontal wire (21) of a fence panel (2).

[0023] According to a preferred embodiment of the present invention, said fence post further comprises a bridging portion (12) positioned between the center portion (13) and the outer portion (11), which also forms an area between said portions (11, 13) for receiving at least one fence panel (2) (Figure 3). Due to the obtained area between the center portion (13) and the outer portion (11), the mounting process can be carried out easily, even just by one worker, during the installation. Additionally, said bridging portion (12) ensures the fence post (1) to have a more robust structure.

[0024] According to a preferred embodiment of the present invention, said fence post (1) further comprises at least a support portion (14) which is mounted onto the center portion (13) of said fence post (1). According to another preferred embodiment, said support portion (14) is constituted as an integral part of the center portion (13) as to extend outwardly from the center portion (13) as shown in figure 2. Said support portion (14) is preferably positioned on the center portion (13) to a location

that is opposite to the outer portion. Said support portion (14) improves the mechanical strength of the fence post (1) against impacts from the hostile side (H). The fence post (1) together with a support portion (14) as disclosed, maintains its original form and function even after severe impacts and stresses are applied thereon.

[0025] Figures 6a, 6b and 6c demonstrate perspective views of a fencing system (100) of the present invention, from different directions, where said fencing system (100) comprises a fence post (1) and at least one attaching means (3) according to the present invention, together with fence panels (2) having horizontal and vertical wires (21, 22). Said fencing system (100) can be installed onto an inclined basis as shown in figure 6, 8a, 8b or 9, since said fencing system (100) has a modular structure. Here the attaching means (3) are designed to have a structure suitable for being moved within the longitudinal channel (15) of the fence post (1) and also for being detachably fixed thereon (15) through its opening (16). By means of this modular system, one or more attaching means (3) are moved within the longitudinal channel (15) to a height appropriate for said attaching means (3) to hold the wires, and after the wire(s) are being held by attaching means (3), they (3) are fixed on the post with the help of the fixing means (32). Thus, said fencing system (100) can be installed on any area without being affected by the inclination of the ground.

[0026] As shown in figures 4 and 5, said fence system (100) of the present invention is preferably suitable for securing two pieces of fence panels (2) on a fence post (1). In this way, the fixing means (32) of the attaching means (3) are arranged on a location which is not visible from the hostile side (H) of the fencing system (100). Thus, the risk of disassembling of the fencing system's (100) elements, particularly the fixing means (32), from the hostile side (H) is eliminated.

Claims

1. A fence post (1) comprising;
 - a vertically elongated center portion (13),
 - a vertically elongated outer portion (11) connected to said center portion (13) wherein the outer portion (11) comprises
 - an outer face (111),
 - a rear face (112), and
 - at least one longitudinal channel (15) forming an inner aperture constituted between the outer face (111) and the rear face (112) as to extend along the entire length the outer portion (11), and
- at least one attaching means (3) for securing at least fence panel (2) on said fence post (1).
2. A fence post (1) according to claim 1 wherein the cross sectional view of said center portion (13) of the

fence post (1) is one of the following; ellipse, triangle, square, pentagonal or hexagonal.

3. A fence post (1) according to claim 2 wherein said center portion (13) of the fence post (1) is formed up in the shape of a hollow tubular body and preferably an ellipse in cross section. 5
4. A fence post (1) according to any one of the preceding claims wherein said fence post (1) further comprises a bridging portion (12) positioned between the center portion (13) and the outer portion (11), which also forms an area for receiving at least one fence panel (2). 10
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5. A fence post (1) according to any one of the preceding claims wherein said fence post (1) further comprises a support portion (14) positioned on the center portion (13) for enhancing mechanical strength. 20
6. A fence post (1) according to any one of the claim 1 to 4 wherein said fence post (1) further comprises a support portion (14) extending from the center portion (13) and constituted as an integral part of the center portion (13) for enhancing mechanical strength thereof. 25
7. A fence post (1) according to any one of the preceding claims wherein said attaching means (3) comprises at least one grasping element (31) for securing a wire of the fence panel (2). 30
8. A fence post (1) according to claim 7 wherein said grasping element (31) has an "L" shaped cross-section for holding at least a wire of the fence panel (2). 35
9. A fence post (1) according to claim 7 wherein said grasping element (31) is a sloping rod extending from a surface of the attaching means (3) for holding at least a wire of the fence panel (2). 40
10. A fence post (1) according to claim 7 wherein said grasping element (31) is a clamp.
11. A fence post (1) according to any one of the claims 7-10 wherein said grasping element (31) is constituted as an integral part of the attaching means (3). 45
12. A modular fencing system (100) comprising a fence panel (2) and a fence post (1) according to any one of the preceding claims. 50

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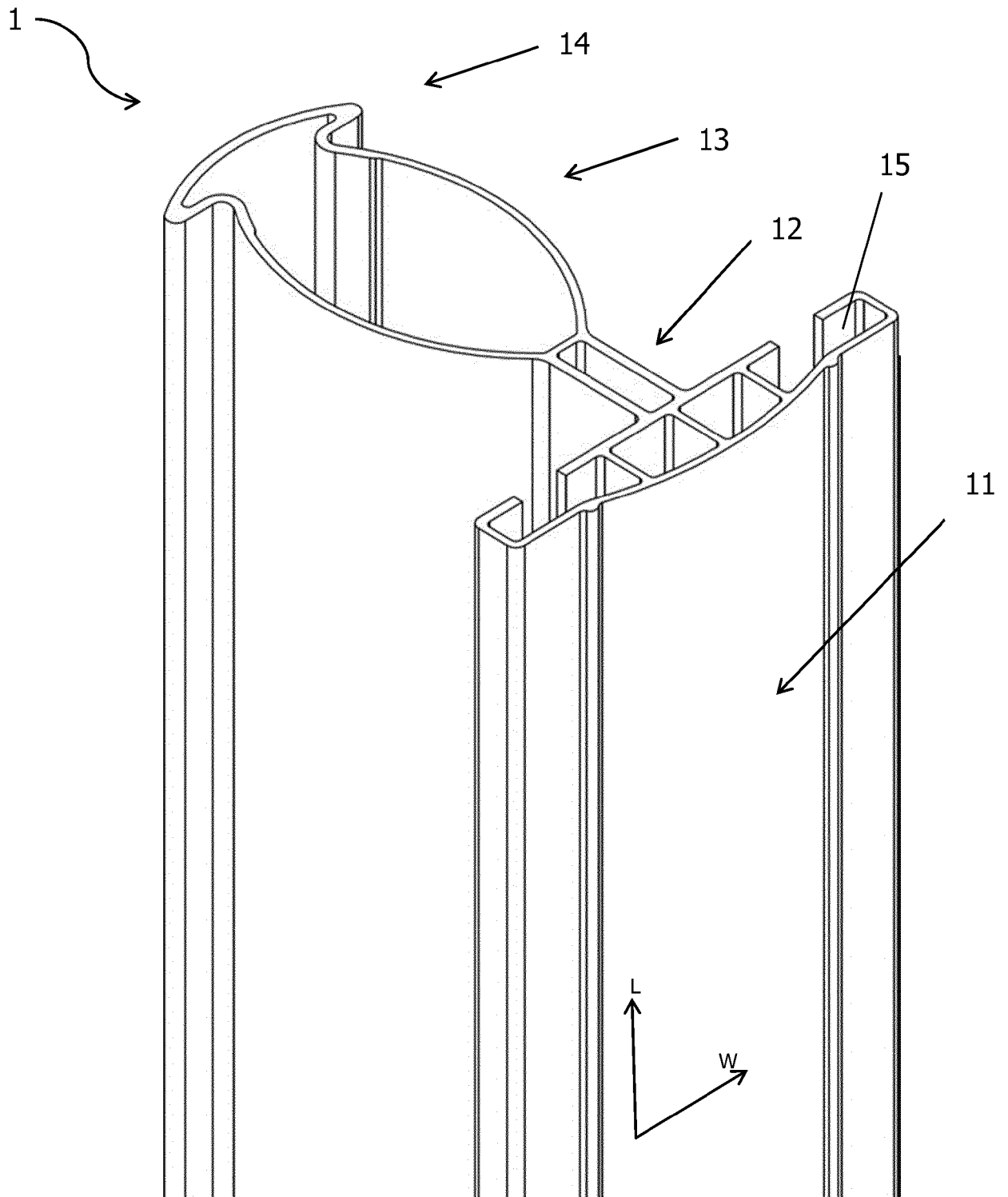


FIGURE 1

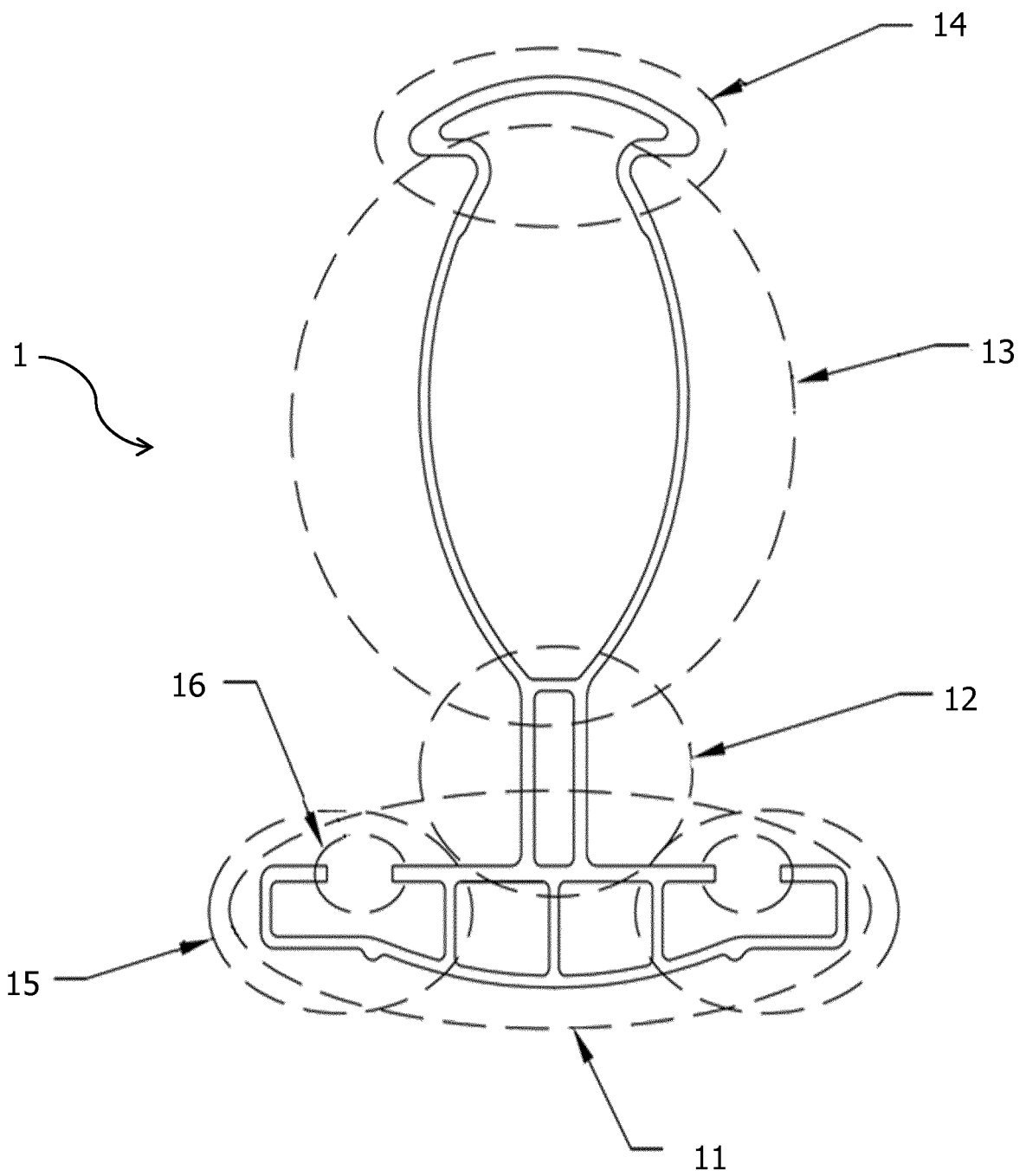
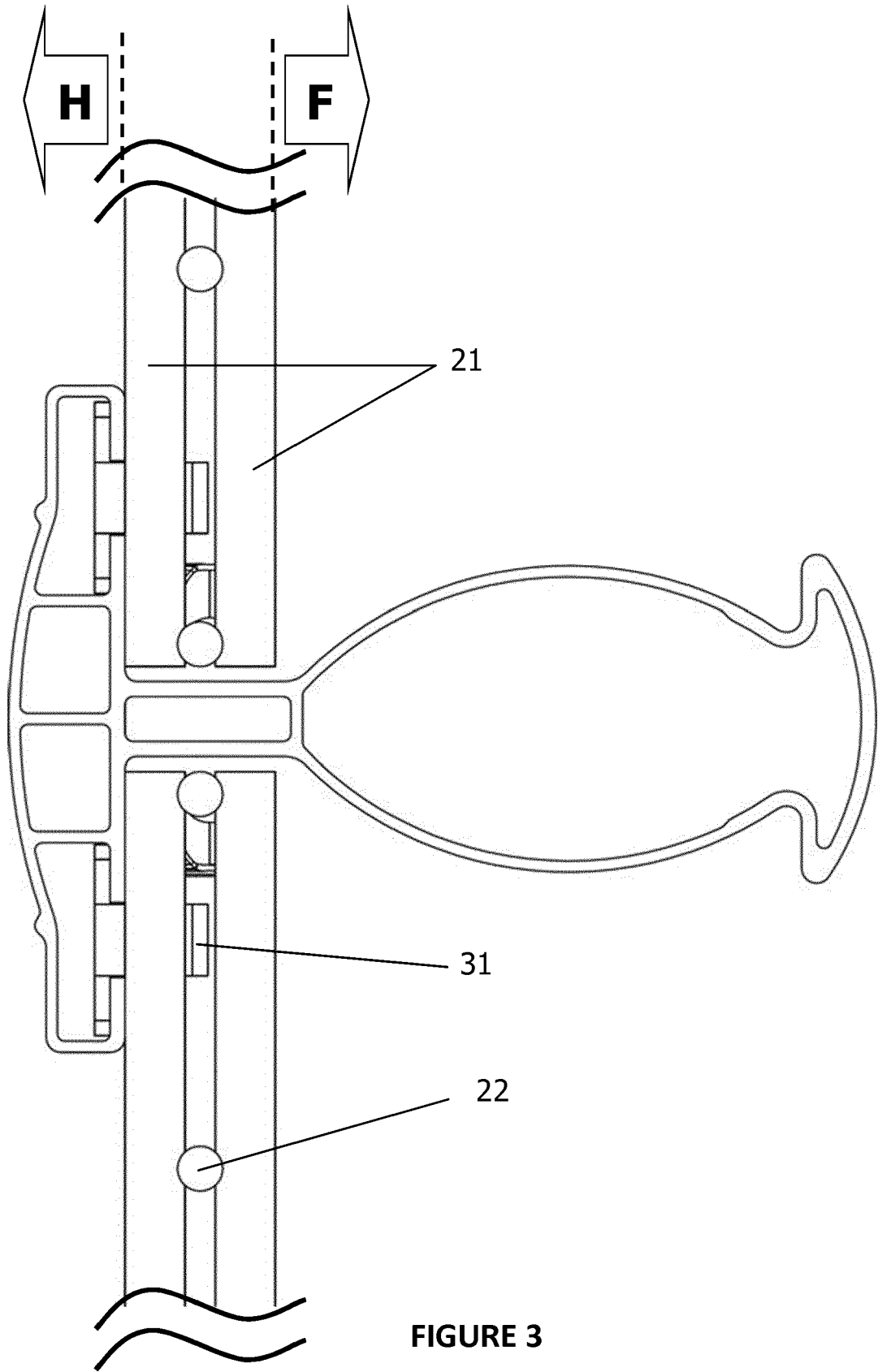
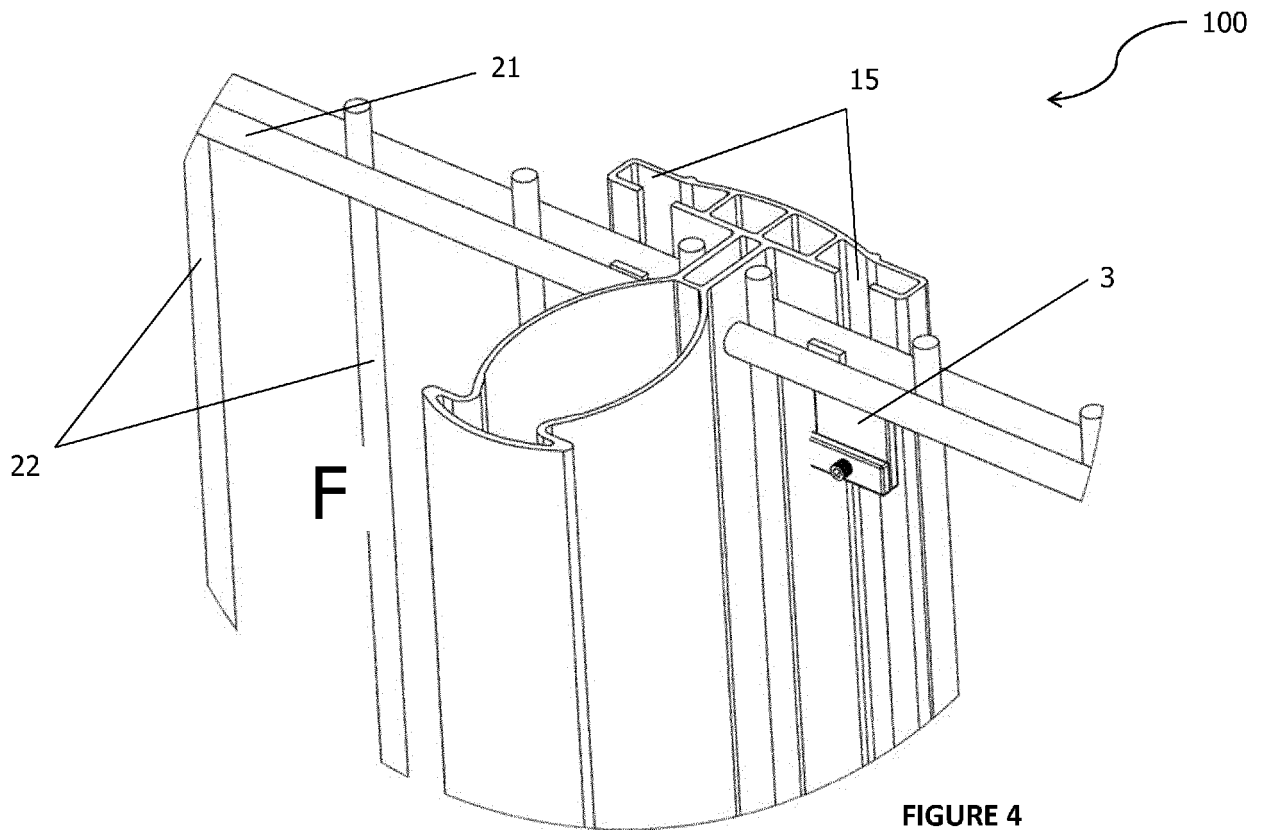


FIGURE 2





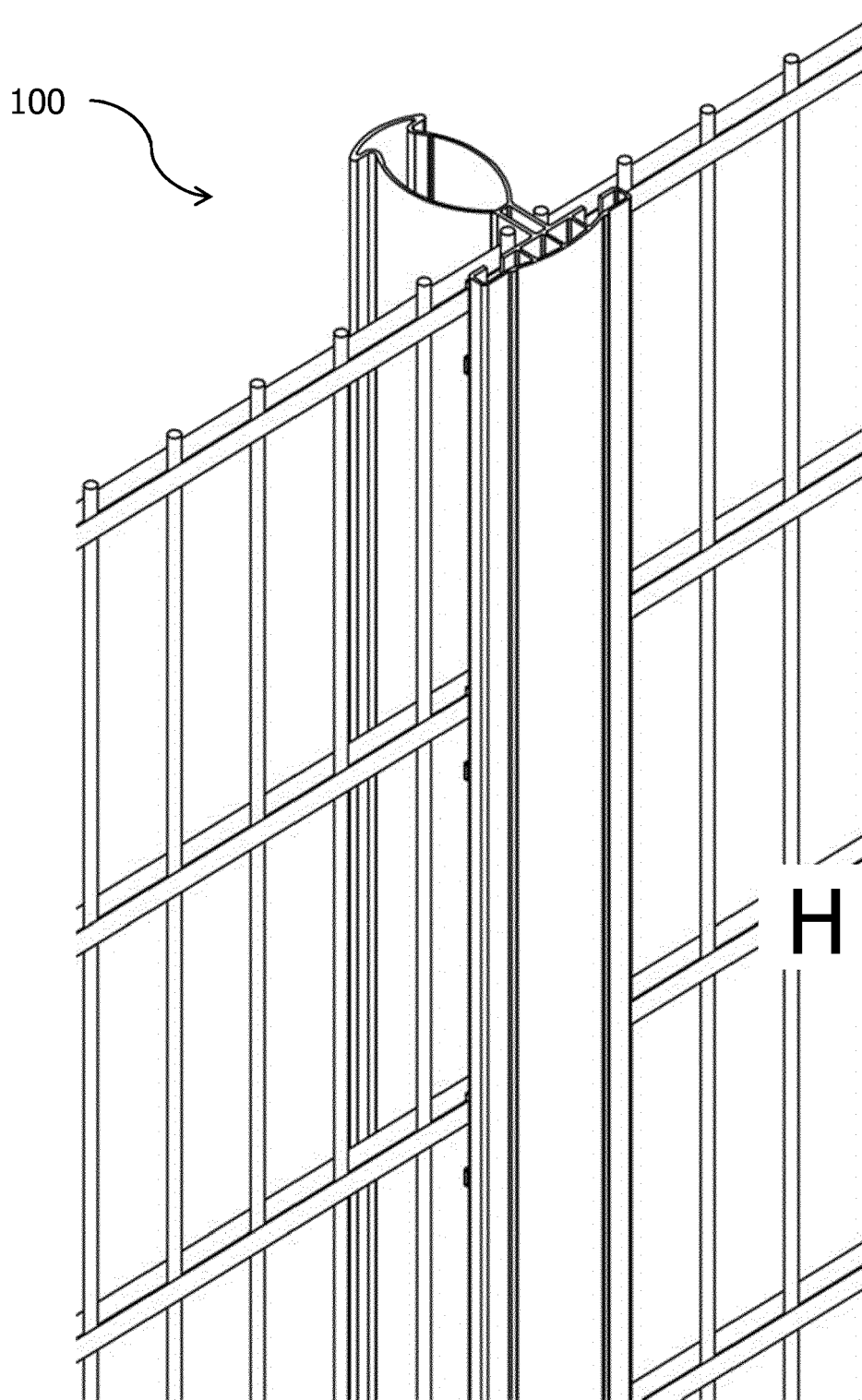


FIGURE 5

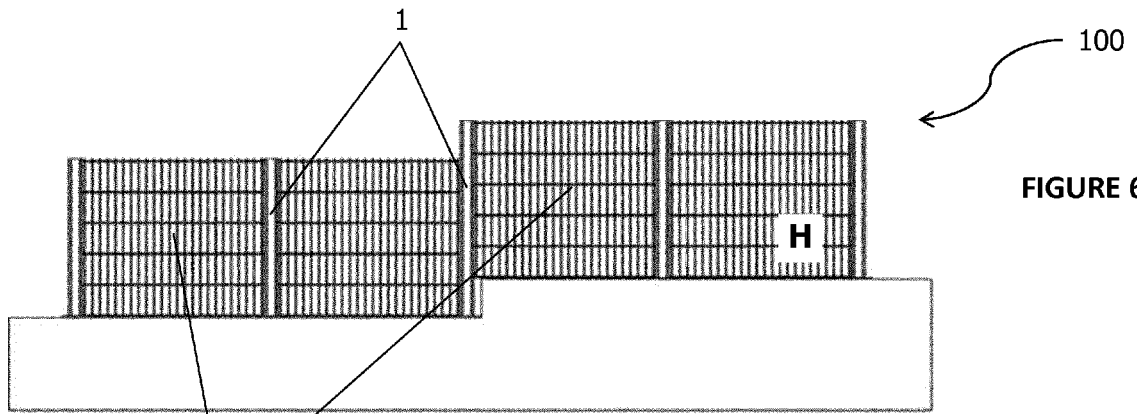


FIGURE 6a

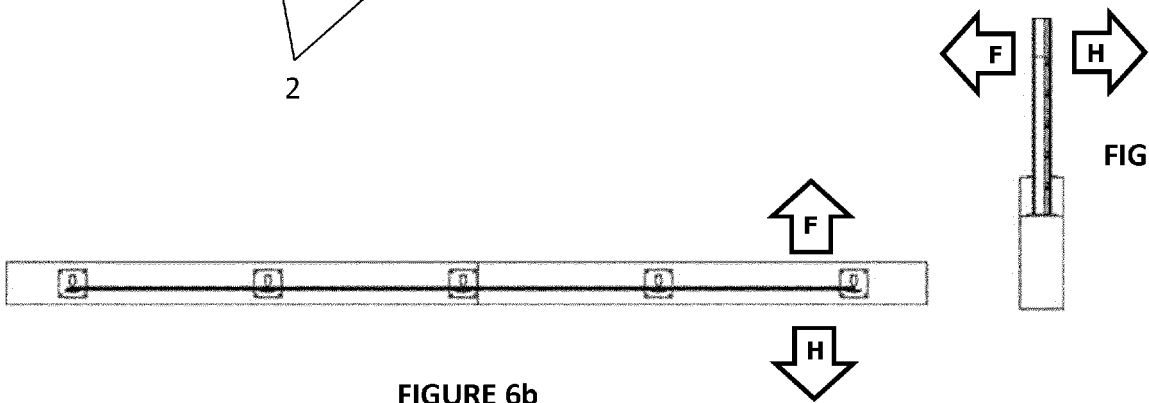
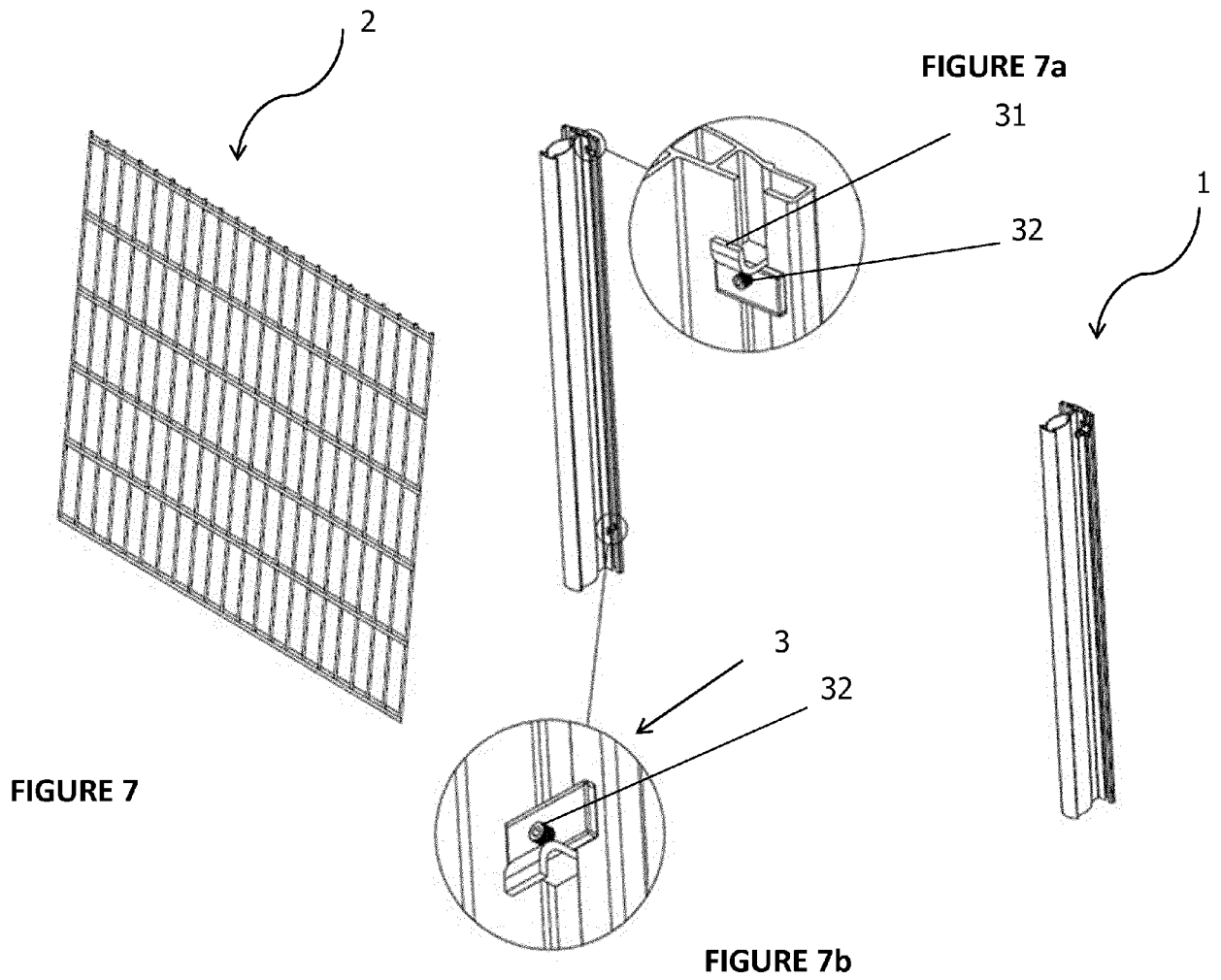


FIGURE 6b

FIGURE 6c



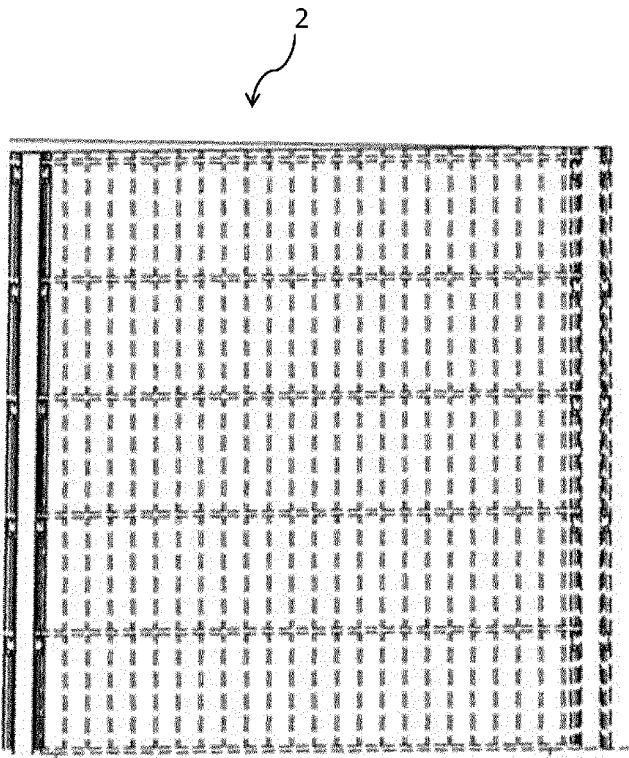


FIGURE 8a

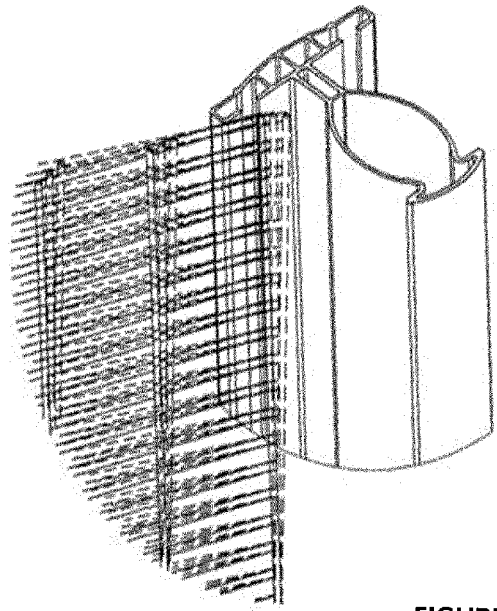


FIGURE 8b

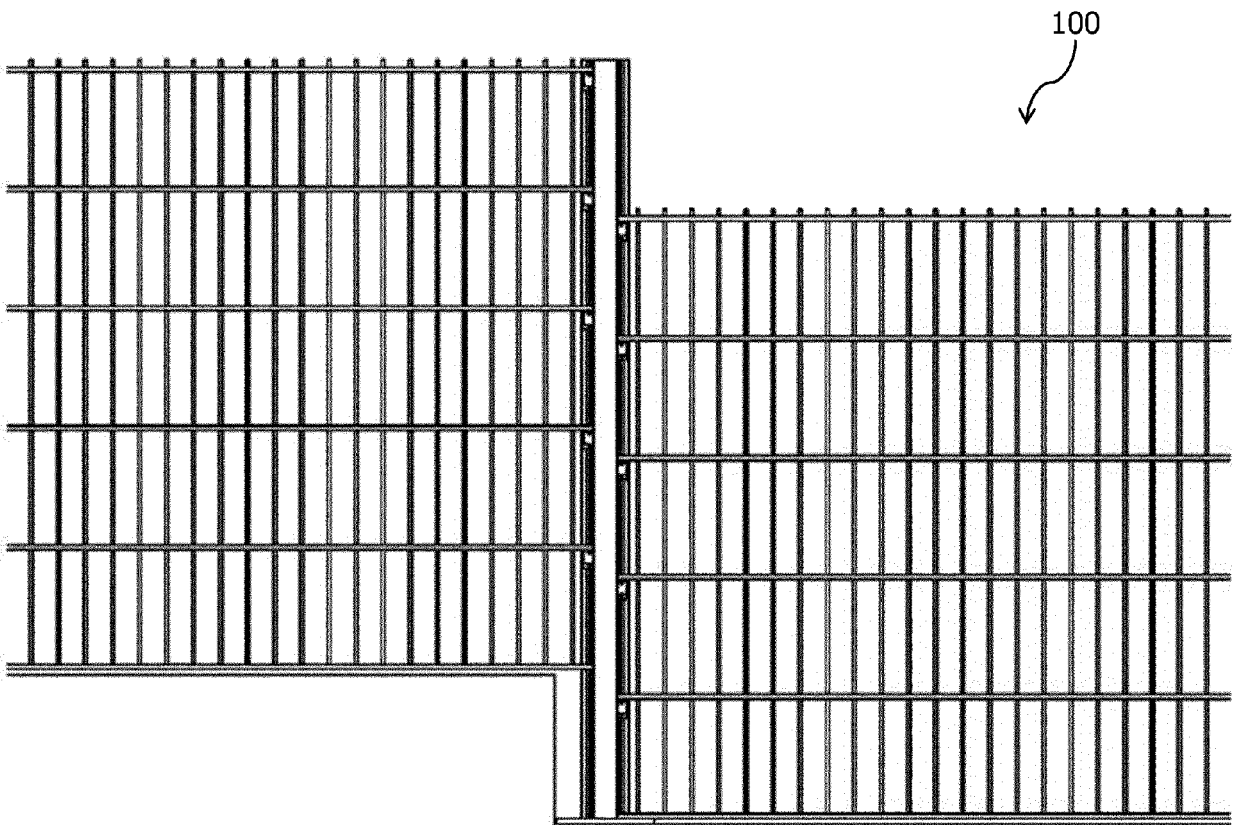


FIGURE 9

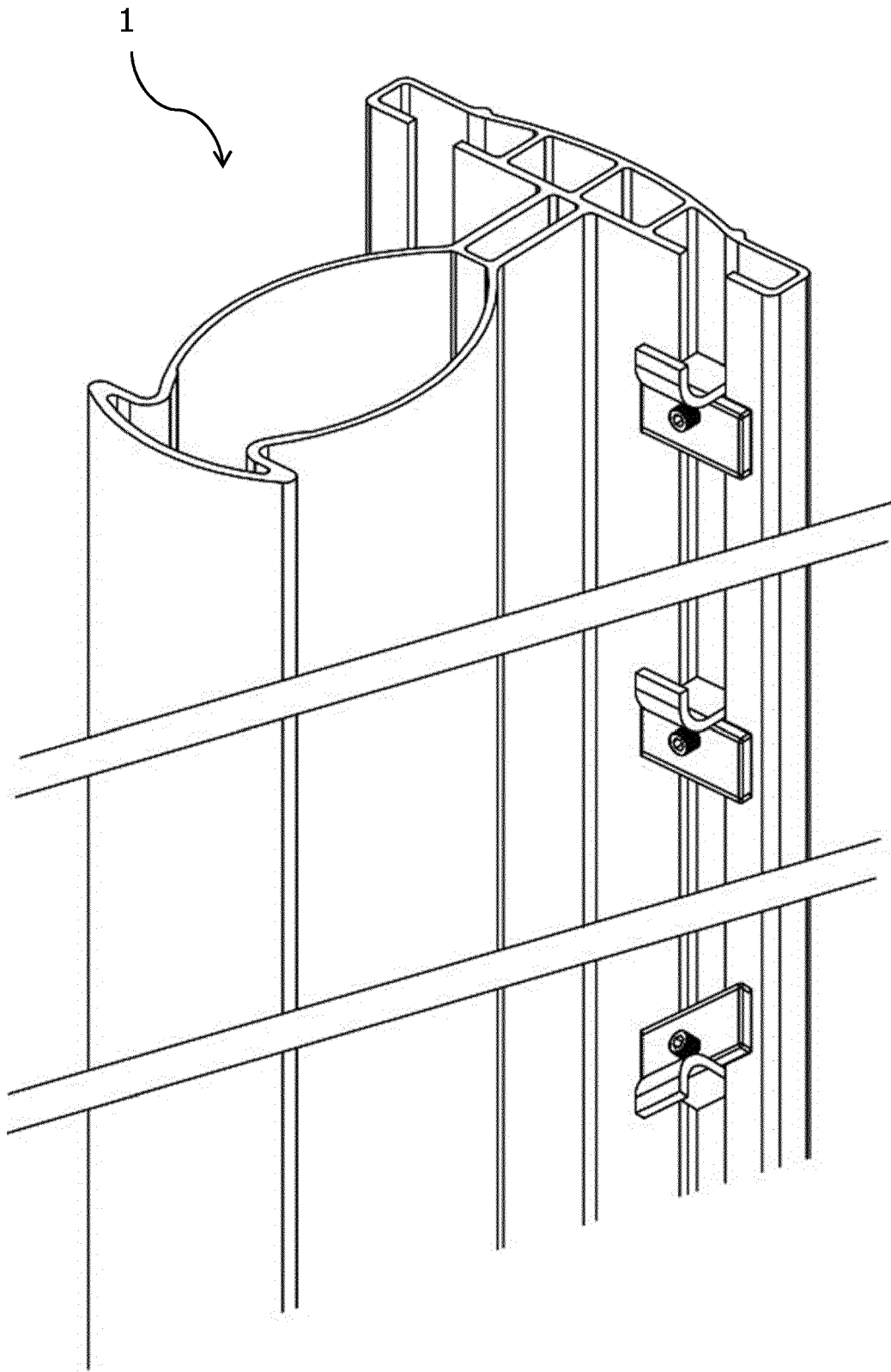


FIGURE 10



EUROPEAN SEARCH REPORT

Application Number
EP 18 16 5347

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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			TECHNICAL FIELDS SEARCHED (IPC)
			E04H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 September 2018	Examiner Rosborough, John
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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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 18 16 5347

5 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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25-09-2018

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REFERENCES CITED IN THE DESCRIPTION

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