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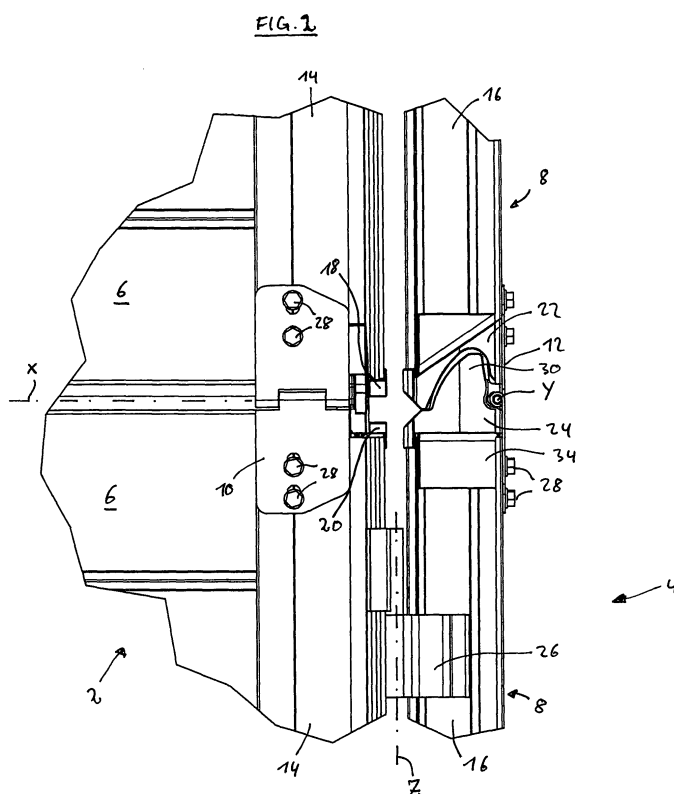
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(54) **Gate leaf for a sectional gate**

(57) Gate leaf, in particular sectional gate leaf, comprising at least two gate panel sections being hingedly coupled to each other to be displaceable between a first and a second position along a predetermined path featuring an arcuate portion, wherein said gate panel section having a gate frame segment arranged a rim portion thereof, wherein said gate panel sections are hingedly

coupled by means of at least one hinge, which is mounted to said gate frame segment, wherein a gate bridging segment is provided at a rim portion of each gate panel section for at least partially bridging the gap between said gate frame segments of two subsequent gate panel sections, and wherein at least one gate bridging segment of two subsequent gate panel sections is fixed to said gate panel section by mounting means of said hinge.



Description

[0001] The present invention relates to a gate leaf, in particular sectional gate leaf, in which preferably a wicket door is integrated.

[0002] Gate leaves having a wicket door integrated therein are known from the state of the art. For example, US-3,967,671 relates to an upwardly-acting sectional door composed of a plurality of sections for sliding from a vertical track which aligns the sections in a vertical plane around a curved track to a horizontal track which aligns the sections in a horizontal plane, wherein the sections are hinged together, and wherein a wicket or pass-through door is provided along three or four sections, which is hinged to the door panel sections.

[0003] It is an object of the present invention to provide a gate leaf as well as a gate leaf with a wicket door integrated therein, in particular sectional gate leaves, providing an improved stability.

[0004] Accordingly, this object is fulfilled by a gate leaf, in particular sectional gate leaf, having the features disclosed in claim 1 and by a gate leaf, in particular sectional gate leaf, with a wicket door integrated therein having the features disclosed in claim 9. Preferred embodiments are subject of the dependent subclaims.

[0005] According to the invention, a gate leaf, in particular sectional gate leaf, is provided, comprising at least two gate panel sections being hingedly coupled to each other to be displaceable between a first and a second position along a predetermined path featuring an arcuate portion, wherein said gate panel section having a gate frame segment arranged a rim portion thereof, wherein said gate panel sections are hingedly coupled by means of at least one hinge, which is mounted to said gate frame segment, wherein a gate bridging segment is provided at a rim portion of each gate panel section for at least partially bridging the gap between said gate frame segments of two subsequent gate panel sections, and wherein at least one gate bridging segment of two subsequent gate panel sections is fixed to said gate panel section by mounting means of said hinge. The at least two gate panel sections of the gate leaf are coupled to each other by means of a hinge and therefore pivotable or capable of swivelling around an articulation axis of the gate panel sections. Generally, the gate panel sections are guided in guiding means, such as rails, so as to be displaceable between a first position and a second position featuring an arcuate portion. That is, the first position can be a position of the gate panel sections, wherein the door opening is opened, i.e. an opened position, and the second position can be a position of the gate panel sections, wherein the door opening is closed, i.e. a closed position. During displacement, the gate panel sections follow a predetermined path containing a arcuate portion. Therefore, during displacement along the arcuate portion of the predetermined path, the gate panel sections swivel or swing or rotate or pivot with respect to each other. Advantageously, the gate panel sections comprising a

gate frame segment arranged at a rim portion thereof. The gate frame segment may be formed as a single part or multiple part, i.e. consisting of a plurality of sub-segments. In particular, the gate frame segment may have an U-like cross-sectional shape. The gate frame segment is advantageously adapted to at least partly cover the rim portion of the gate panel section. In order to advantageously cover a remaining rim portion of each gate panel section, a gate bridging segment is provided for at least partially bridging the gap between said gate frame segments of two subsequent gate panel sections. The gate bridging segments may be provided directly at a rim portion of each gate panel section or attached to the rim portion of each gate panel section by means of intermediate parts, such as a cover plate for covering e.g. the inner foam structure of each panel. Advantageously, at least one of the gate bridging segments of two subsequent gate panel sections is fixed or mounted or attached to the gate panel section by mounting means of the hinge. In other words, the hinge and the gate bridging segment of one panel are mounted by the same mounting means to the gate panel sections. Therefore, additional mounting means for the gate bridging segment are no longer necessary. As the hinge is preferably mounted to the gate frame segment, at which or adjacent to which the gate bridging segment is arranged, the mounting means mounting the gate bridging segment and the hinge to the gate panel section do advantageously engage the gate frame segment. Preferably, the hinges are mounted only to the gate frame segments, but not at portions of the gate panel sections, which are not covered by the gate frame segments. Thereby, an improved stability of both, the frame structure and the connection between two subsequent gate panel sections is achieved.

[0006] Advantageously, both gate bridging segments of two subsequent gate panel sections are fixed to said respective gate panel sections by said mounting means of said hinge. In other words, the hinge of two subsequent panels is mounted to the respective gate frame segments of the gate panel sections, wherein the gate bridging segments of the two subsequent gate panel sections are fixed by the same mounting means of the hinge.

[0007] Preferably, said mounting means extend substantially in a direction perpendicular to the articulation axis of said gate panel sections. In other words, the mounting means may extend basically at least partially through the gate panel sections, i.e. substantially perpendicular to the panel broadside.

[0008] Further preferably, said mounting means are formed as screws, bolts, rivets or the like, which engage said hinges as well as said gate bridging segments. Nevertheless, said mounting means may also be formed any other kind of mechanical fixing element, in particular as long as the fixing element engages both, the hinges as well as the gate bridging segment.

[0009] Further preferably, at least one gate bridging segment of two subsequent gate panel sections comprises a fixing portion, such as a strip or rail, for fixing said

gate bridging segment to said gate panel section, wherein said fixing portion preferably extends substantially parallel to the articulation axis of said gate panel section. The gate bridging segment may be formed integrally, in one piece or as a multipart-piece, wherein it is preferred, that the bridging segment is molded as one piece. The bridging segment may comprise an additional fixing or mounting portion, which is arranged substantially perpendicular to the articulation axis of the gate panel section as well as perpendicular to the broad-side of the gate panel section. In other words, the additional mounting portion may be arranged substantially parallel to the rim portion of the gate panel section. In particular, the additional mounting portion may be also arranged at a rim-side of the gate panel section. Thus, the fixing portion and the additional mounting portion of the gate bridging segment are oriented substantially perpendicular to each other. The fixing portion may be formed as strip or rail or the like, which is adapted to be engageable by mounting means of the hinge.

[0010] Still further preferably, said gate frame segment extends along a rim of said gate panel section, which rim is oriented substantially perpendicular to the articulation axis of said gate panel sections. In other words, the gate frame segment at least partially overlaps the gate panel section at a rim portion thereof.

[0011] Advantageously, one of said gate bridging segments has a substantially concave recess and a gate segment of a subsequent or adjacent panel section has a substantially convex protrusion, wherein said gate bridging segments are preferably adapted to substantially engage in a condition or state of said panel sections being substantially aligned. That is, the gate bridging segments of two subsequent panel sections may be tongued and grooved or fashioned for fitting together and these tongues and grooves may be formed of some reinforcing nature. The concave recess and the convex protrusion are preferably adapted to substantially engage in a condition of the panel section being substantially aligned. The panel sections are in particular substantially aligned in the closed and opened position of the gate, i.e. a position in which the panel sections are oriented substantially in the same direction. However, in the arcuate portion of the displacement path of the panel sections, the panel sections are swivelled with respect to each other. The engagement between the concave recess and the convex protrusion of two subsequent gate bridging segments does not necessitate a contact of these two segments. However, it is advantageously, that the distance between the concave recess and the convex protrusion is less than the size of a finger in particular in a position of two subsequent panels of a maximum swivelment.

[0012] Yet further preferably, the shape of said gate bridging segments in a sectional plane oriented substantially perpendicular to the articulation axis corresponds substantially to the rim profile of the corresponding panel section in said sectional plane. In other words, the gate bridging segment basically elongates the longi-

tudinal extension of the panel section and forms an edge- or border-element thereof.

[0013] The rim portion of the gate panel section may be at the distal end portion thereof. However, the rim portion of the gate panel section may be also provided within the gate leaf, i.e. in case the gate leaf having an opening for accommodating or receiving a pass-through door. Consequently, the rim portion of the gate panel section may be also formed at the gate opening, in which a pass-through door is integrated.

[0014] Further, according to the invention, a gate leaf, in particular sectional gate leaf, with a wicket door or hatch door or pass-through door integrated therein is provided, said wicket door comprising a wicket door leaf having at least two wicket door panel sections, a wicket door frame for framing said wicket door leaf comprising a least two wicket door frame segments, wherein said wicket door panel sections are hingedly coupled by means of at least one hinge, which is mounted to said at least two door frame segments, wherein a wicket door bridging segment is provided at a rim portion of each wicket door panel section for at least partially bridging the gap between said wicket door frame segments of two subsequent wicket door panel sections, and wherein at least one wicket door bridging segment of two subsequent wicket door panel sections is fixed to said wicket door panel section by mounting means of said hinge. In general, wicket doors are integrated in gate leaves, so that when persons want to enter the building, the complete gate leaf must not open in its totality. Contrary to this, a wicket door is integrated in the gate leaf, which can be opened, when the gate leaf is in a predetermined position, such as a closed position, in which the gate panel sections are substantially aligned or oriented in the same direction. These wicket doors may be opened, as the wicket door panel sections can be swivelled around an articulation axis, which is oriented substantially parallel to the broadside of the gate panel sections, in particular vertically in the closed position of the gate leaf. The at least two wicket door panel sections of the wicket door leaf are coupled to each other by means of at least one hinge and therefore pivotable or capable of swivelling around an articulation axis of the wicket door panel sections. During displacement, the wicket door panel sections follow a predetermined path containing a arcuate portion. Therefore, during displacement along the arcuate portion of the predetermined path, the wicket door panel sections swivel or swing or rotate or pivot with respect to each other. Advantageously, the wicket door panel sections comprising a wicket door frame segment arranged at a rim portion thereof. The wicket door frame segment may be formed as a single part or multiple part, i.e. consisting of a plurality of sub-segments. In particular, the wicket door frame segment may have an U-like cross-sectional shape. The wicket door frame segment is advantageously adapted to at least partly cover the rim portion of the wicket door panel section. In order to advantageously cover a remaining rim portion of each wicket

door panel section, a wicket door bridging segment is provided for at least partially bridging the gap between said wicket door frame segments of two subsequent wicket door panel sections. The wicket door bridging segments may be provided directly at a rim portion of each wicket door panel section or attached to the rim portion of each wicket door panel section by means of intermediate parts, such as a cover plate for covering e.g. the inner foam structure of each wicket door panel section. Advantageously, at least one of the wicket door bridging segments of two subsequent wicket door panel sections is fixed or mounted or attached to the wicket door panel section by mounting means of the hinge. In other words, the hinge and the wicket door bridging segment of one panel are mounted by the same mounting means to the wicket door panel sections. Therefore, additional mounting means for the wicket door bridging segment are no longer necessary. As the hinge is preferably mounted to the wicket door frame segment, at which or adjacent to which the wicket door bridging segment is arranged, the mounting means mounting the wicket door bridging segment and the hinge to the wicket door panel section do advantageously engage the gate frame segment. Thereby, an improved stability of both, the frame structure and the connection between two subsequent wicket door panel sections is achieved.

[0015] Preferably, both wicket door bridging segments of two subsequent wicket panel sections are fixed to said respective wicket panel sections by said mounting means of said hinge. In other words, the hinge of two subsequent wicket door panels is mounted to the respective wicket door frame segments of the wicket door panel sections, wherein the wicket door bridging segments of the two subsequent wicket door panel sections are fixed by the same mounting means of the hinge.

[0016] Further preferably, said mounting means extend substantially in a direction perpendicular to the articulation axis of said wicket door panel sections. In other words, the mounting means may extend basically at least partially through the wicket door panel sections, i.e. substantially perpendicular to the wicket door panel broad-side.

[0017] Advantageously, said mounting means are formed as screws, bolts, rivets or the like, which engage said hinges as well as said wicket door bridging segment. Nevertheless, said mounting means may also be formed any other kind of mechanical fixing element, in particular as long as the fixing element engages both, the hinges as well as the wicket door bridging segment.

[0018] Further preferably, at least one wicket door bridging segment of two subsequent wicket door panel sections comprises a fixing portion, such as a strip or rail, for fixing said wicket door bridging segment to said wicket door panel section, wherein said fixing portion preferably extends substantially parallel to the articulation axis of said wicket door panel sections. The wicket door bridging segment may be formed integrally, in one piece or as a multipart-piece, wherein it is preferred, that the wicket

door bridging segment is molded as one piece. The wicket door bridging segment may comprise an additional fixing or mounting portion, which is arranged substantially perpendicular to the articulation axis of the wicket door panel section as well as perpendicular to the broad-side of the wicket door panel section. In other words, the additional mounting portion may be arranged substantially parallel to the rim portion of the wicket door panel section. In particular, the additional mounting portion may be also arranged at a rim-side of the wicket door panel section. Thus, the fixing portion and the additional mounting portion of the wicket door bridging segment are oriented substantially perpendicular to each other. The fixing portion may be formed as strip or rail or the like, which is adapted to be engageable by mounting means of the hinge.

[0019] Still further preferably, said wicket door frame segment extends along a rim of said wicket door panel section, which rim is oriented substantially perpendicular to the articulation axis of said wicket door panel sections. In other words, the wicket door frame segment preferably at least partially overlaps the wicket door panel section at a rim portion thereof

[0020] Yet preferably, one of said wicket door bridging segments has a substantially concave recess and a wicket door bridging segment of a subsequent wicket door panel section has a substantially convex protrusion, wherein said wicket door bridging segments are preferably adapted to substantially engage in a condition of said wicket door panel sections being substantially aligned.

[0021] Most preferably, the shape of said wicket door bridging segments in a sectional plane running substantially perpendicular to the articulation axis correspond substantially to the rim profile of the corresponding wicket door panel section in said sectional plane. In other words, the wicket door bridging segment basically elongates the longitudinal extension of the wicket door panel section and forms an edge- or border-element thereof.

[0022] Obviously, the further features and advantages of the inventive gate leaf can be also applied at the inventive gate leaf with a wicket door integrated therein.

[0023] Still further according to the invention, a gate bridging element is provided, which is used with the inventive gate leaf.

These are other objects, features and advantages of the present invention will become more apparent upon reading of the following detailed description of preferred embodiments and accompanying drawings. It should be understood that even though embodiments are separately described, single features thereof may be combined to additional embodiments.

Figs. 1a - 1c are plan views of an embodiment of the inventive gate leaf with a wicket door integrated therein.

Fig. 2 is an enlarged plan view of an embodi-

ment of the inventive gate leaf with a wicket door integrated therein.

Fig. 3 is a cross-sectional view of an embodiment of the inventive gate leaf.

Fig. 4 is a perspective view of a bridging element of an embodiment of the inventive gate leaf.

Fig. 5 is a perspective view of a hinge of an embodiment of the inventive gate leaf.

[0024] Figs. 1a - 1c show an embodiment of the inventive gate leaf 2 with a wicket door 4 integrated therein. Fig. 1a shows the gate leaf 2 from the inner side of the building structure, Fig. 1b from the outer side of the building structure and Fig. 1c is a side view of the gate leaf 2. For opening and closing the door, driving means are provided (not shown).

[0025] The gate leaf 2 comprises of at least one gate panel section 6 for at least partially closing a door opening of e.g. a building structure. Consequently, also the wicket door 4 comprises of at least one wicket door panel section 8 for at least partially closing a wicket door opening provided in the gate leaf 2. By use of the door as a sectional door, a plurality of gate panel sections 6 and respective wicket door panel sections 8 are provided, which are arranged in an edge-to-edge relationship. Consequently, the gate panel sections 6 are hingedly connected by means of hinges 10 and the wicket door panel sections 8 are hingedly connected by means of hinges 12, wherein the articulation axes of the hinges 12, 14 are substantially aligned. The sectional door may be used as a folding door, in which the door opening is opened and closed by a substantially horizontal movement of the door, i.e. of the panel sections 6, 8. However, preferably, the sectional door may be employed in door system of the overhead-type. In these doors, the panel sections 6, 8 are displaced from a substantially vertical position (i.e. arranged in the gate or door opening of the building structure) to a substantially horizontal position (i.e. a plane substantially perpendicular to the gate or door opening of the building structure). However, the invention may be also employed in roll-up doors, in which a plurality of panels is - in the opened stage of the door - wound up on e.g. a shaft, which may be used also for driving the door. That is, this shaft could also function as the driving means, i.e. the door drive shaft. These door systems are typically employed in garages, industrial building structures or the like.

[0026] The panel sections 6, 8, may be formed of wood or the like. Preferably, the panel sections 6, 8 may be formed of at least two sheet metal or plastic shells. Between these two sheets metals or plastic shells, an insulation material may be provided (e.g. PU-foam). Thereby, the panels 6, 8 have a reduced weight while having an improved strength. Moreover, the panels 6, 8 could be

also reinforced, so that a high stability thereof can be ensured. The sheet metal or plastic shells may be of identical design or shape, thereby simplifying their manufacture. Thus, a symmetrical panel section 6, 8 is preferably provided. The connection between the sheet metal or plastic shells may be achieved by means of a snap connection or other kinds of mechanical connection.

[0027] The door comprises guided elements 50 for guiding the panel sections 6, 8 between a first position (such as an opened-position) and a second position (such as a closed-position) of the door. The guided elements 50 can be formed as a sliding element or as a rotatable element, such as a roller. Consequently, the guided element 50 is adapted to translate or move in guide means (not shown), which might be formed as a rail element. The guide means are preferably adapted to at least partially encapsulate the guided element 50 in order to prevent displacement of the panel sections 6, 8 in a plane substantially normal or perpendicular to the displacement path of the panels. Most preferably, the inner configuration of the guide means is substantially adapted to the outer configuration of the guided elements 50. By use of the door as an overhead-type door, the guide means extend from a vertical orientation blending into a curved or bent orientation terminating in a horizontal orientation.

[0028] In Fig. 2, the hinged connection between gate panel sections 6 and wicket door panel sections 8 is shown in an enlarged view. The gate leaf 2 consists of at least two gate panel sections 6 which are hingedly connected to each other by means of a hinge 10. At rim portions of the gate panel sections 6, there are provided respective gate frame segments 14. These gate frame segments 14 are preferably adapted to extend along the rim of the gate panel section 6, which rim is oriented substantially perpendicular to the articulation axis X of the gate panel sections 6. The gate frame segment 14 may be mounted to the gate panel section 6 by means of mechanical mounting means, such as screws, bolts, rivets of the like. However, the gate frame segment 14 may be also fixed to the gate panel section 6 irreversibly, e.g. engaged with a foam structure within the gate panel section 6.

[0029] Corresponding to the configuration of the gate panel sections 6, also the wicket door panel sections 8 comprises wicket door frame segments 16, which are arranged at rim portions of the wicket door panel sections 8, which rim portions are preferably oriented substantially perpendicular to the articulation axis Y of the wicket door panel sections 8. The wicket door frame segments 16 may be attached to the wicket door panel section 8 by the same means as the gate frame segments 14 to the gate panel sections 6.

[0030] The gate frame segment 14 as well as the wicket door frame segments 16 do not substantially extend over the entire length of the panel sections 6, 8, as shown in Fig. 3. Consequently, a gap between the gate frame segments 14 of two subsequent gate panels sections 6

is provided. Correspondingly, also a gap between the wicket door frame segments 16 of two subsequent wicket door panel sections 6 is provided. The gap is bridged by means of a gate bridging segment 18, 20, wherein a gate bridging segment 18 is provided at a first distal end of rim portion of the gate panel section 6 and the second gate bridging segment 20 is provided at the opposing distal end of the same rim portion of the gate panel section 6. Correspondingly, the gap between the wicket door frame segments 16 of two subsequent wicket panel sections 8 is bridged by means of wicket door bridging segments 22, 24. A wicket door bridging segment 22 is provided at a first distal end of the rim portion of the wicket door panel section 8 and the second wicket door bridging segment 24 is provided at the opposing distal end of the same rim portion of the wicket door panel section 8.

[0031] The gate bridging segments 18, 20 as well as the wicket door bridging segments 22, 24 are formed such as to substantially engage each other. That is, the gate bridging segment 18 and the wicket door bridging segment 22 have a substantially concave recess, which is adapted to accommodate a substantially convex protrusion of the gate bridging segment 20 and wicket door bridging 24, respectively, of the subsequent or adjacent panel sections 6, 8. The engagement between the gate bridging segments 18, 20 and the wicket door bridging segments 22, 24 does not necessitate a contact. However, it is advantageously, that the distance between the gate bridging segments 18 and 20 as well as the distance between the wicket bridging segments 22 and 24 (preferably in a state of two subsequent panel sections 6, 8 of maximum articulation) is less than the size of a finger, so that pinching of a finger is avoided during articulation of the panels sections 6, 8.

[0032] In a state, in which the panels sections 6 of the gate leaf 2 are aligned, i.e. oriented in a single plane, the opening of the wicket door 4 is possible. For opening of the wicket door 4, at least one hinge 26 is provided between each gate panel section 6 and wicket door panel section 8. The hinge 26 has an articulation axis Z, which is substantially oriented perpendicular to the articulation axes X and Y of the panel section 6, 8. In other words, the articulation axis Z is substantially parallel to the rim portion of the panel sections 6, 8, at which the frame segments 14, 16 are provided.

[0033] In Fig. 3, a cross-sectional view of an enlarged portion of an embodiment of the inventive gate leaf 2 is shown. At least one of the gate bridging segments 18, 20 of the two subsequent gate panel sections 6 is fixed to the gate panel section 6 by the same mounting means 28 as are used for mounting the hinge 10 to the gate panel sections 6. In the shown embodiment, the upper bridging segment 18 having a fixing portion 31 is mounted by means of screws to the gate panel section 6, which also engage the hinge 10. In other words, the fixing portion 31 of the gate bridging segment 18 and the hinge 10 are engaged by the same mounting means 28. Thus, gate bridging segment 18 and hinge 10 are fixed to the

gate panel section 6 by the same mounting means 28. Advantageously, the fixing portions 31, 32 of both gate bridging segments 18, 20 of the two subsequent gate panel sections 6 are engaged or fixed or mounted to the respective gate panel sections 6 by the mounting means 28 of the hinge 10. Since the hinge 10 is preferably mounted only to the gate frame segment 14, no hinges are provided at portions of the gate panel sections 6, which are not covered by the gate frame segments 14, as can be seen in Fig. 1 b. Thereby, an improved stability of the hinged connection between subsequent gate panel sections 6 is provided.

[0034] In Fig. 4, a perspective view of a gate bridging segment 20 is shown. However, the same bridging segment may be also applied as wicket door bridging segment 24. The gate bridging segment 20 comprises a substantially convex protrusion 30 for engaging into a corresponding substantially concave recess of a subsequent panel section 6. Further, the gate bridging segment 20 comprises a fixing portion 32, which might be formed as a strip or rail. The fixing portion 32 preferably extends substantially parallel to the articulation axis X of the gate panel sections 6. Moreover, the fixing portion 32 is provided at a portion of the bridging segment 20 being arranged at a face of the gate panel section 6 facing towards the inner side of the building structure. Additionally, the gate bridging segment 20 may comprise an additional mounting or fixing portion 34. The additional mounting portion 34 preferably consists of two plate-shaped elements, which are adapted to be arranged at a rim portion of the gate panel section 6. The plate shaped elements are preferably connected via a bridging element, so that the mounting portion 34 has a H-like cross-sectional shape. In the mounted state, one plate-shaped element of the additional mounting portion 34 preferably forms part of the surface of the gate leaf, whereas the other plate-shaped part of the additional mounting portion 34 may be arranged in the interior of the panel section 6, i.e. engaged with the foam structure thereof.

[0035] In Fig. 5, a perspective view of the hinges 10, 12 is shown. The hinges 10, 12 can be swivelled around the articulation axes X, Y. For mounting the hinges 10, 12 to the respective frame segment 14, 16, elongated holes 36 are provided for being engaged by the mounting means 28.

List of Reference Numerals

[0036]

- 2 gate leaf
- 4 wicket door
- 6 gate panel section
- 8 wicket door panel section
- 10 hinge
- 12 hinge
- 14 gate frame segment
- 16 wicket door frame segment

18 gate bridging segment
 20 gate bridging segment
 22 wicket door bridging segment
 24 wicket door bridging segment
 26 hinge
 28 mounting means
 30 protrusion
 31 fixing portion
 32 fixing portion
 34 additional mounting portion
 36 elongated hole
 50 guided element
 x articulation axis
 y articulation axis
 z articulation axis

Claims

1. Gate leaf (2), in particular sectional gate leaf, comprising
 at least two gate panel sections (6) being hingedly
 coupled to each other to be displaceable between a
 first and a second position along a predetermined
 path featuring an arcuate portion,
 wherein said gate panel sections (6) having a gate
 frame segment (14) arranged at a rim portion thereof,
 wherein said gate panel sections (6) are hingedly
 coupled by means of at least one hinge (10), which
 is mounted to said gate frame segment (14),
 wherein a gate bridging segment (18, 20) is provided
 at a rim portion of each gate panel section (6) for at
 least partially bridging the gap between said gate
 frame segments (14) of two subsequent gate panel
 sections (6), and
 wherein at least one gate bridging segment (18) of
 two subsequent gate panel sections (6) is fixed to
 said gate panel section (6) by mounting means (28)
 of said hinge (10).
2. Gate leaf according to claim 1, wherein both gate
 bridging segments (18, 20) of two subsequent gate
 panel sections (6) are fixed to said respective gate
 panel sections (6) by said mounting means (28) of
 said hinge (10).
3. Gate leaf according to one of the preceding claims,
 wherein said mounting means (28) extend substan-
 tially in a direction perpendicular to the articulation
 axis (X) of said gate panel sections (6).
4. Gate leaf according to one of the preceding claims,
 wherein said mounting means (28) are formed as
 screws, bolts, rivets or the like, which engage said
 hinges (10) as well as said gate bridging segments
 (18, 20).
5. Gate leaf according to one of the preceding claims,

wherein at least one gate bridging segment (18, 20)
 of two subsequent gate panel sections (6) comprises
 a fixing portion (32), such as a strip or rail, for fixing
 said gate bridging segment (18, 20) to said gate pan-
 el section (6), wherein said fixing portion (32) pref-
 erably extends substantially parallel to the articula-
 tion axis (X) of said gate panel sections (6).

6. Gate leaf according to one of the preceding claims,
 wherein said gate frame segment (14) extends along
 a rim of said gate panel section (6), which rim is ori-
 ented substantially perpendicular to the articulation
 axis (X) of said gate panel sections (6).
7. Gate leaf according to one of the preceding claims,
 wherein one of said gate bridging segments (18) has
 a substantially concave recess and a gate bridging
 segment (20) of a subsequent panel section (6) has
 a substantially convex protrusion, wherein said gate
 bridging segments (18, 20) are preferably adapted
 to substantially engage in a condition of said panel
 sections (6) being substantially aligned.
8. Gate leaf according to one of the preceding claims,
 wherein the shape of said gate bridging segments
 (18, 20) in a sectional plane oriented substantially
 perpendicular to the articulation axis (X) corre-
 sponds substantially to the rim profile of the corre-
 sponding panel section (6) in said sectional plane.
9. Gate leaf (2), in particular sectional gate leaf, with a
 wicket door (4) integrated therein, said wicket door
 (4) comprising
 a wicket door leaf having at least two wicket door
 panel sections (8), and
 a wicket door frame for framing said wicket door leaf
 comprising at least two wicket door frame segments
 (16),
 wherein said wicket door panel sections (8) are
 hingedly coupled by means of at least one hinge (14),
 which is mounted to said at least two wicket door
 frame segments (16)
 wherein a wicket door bridging segment (22, 24) is
 provided at a rim portion of each wicket door panel
 section (8) for at least partially bridging the gap be-
 tween said wicket door frame segments (16) of two
 subsequent wicket door panel sections (8), and
 wherein at least one wicket door bridging segment
 (22, 24) of two subsequent wicket door panel sec-
 tions (8) is fixed to said wicket door panel section (8)
 by mounting means of said hinge (14).
10. Gate leaf according to claim 9, wherein both wicket
 door bridging segments (22, 24) of two subsequent
 wicket door panel sections (8) are fixed to said re-
 spective wicket door panel sections (8) by said
 mounting means of said hinge (14).

11. Gate leaf according to one of claims 9-10, wherein said mounting means extend substantially in a direction perpendicular to the articulation axis (Y) of said wicket door panel sections (8).
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12. Gate leaf according to one of claims 9 - 11, wherein said mounting means are formed as screws, bolts, rivets or the like, which engage said hinges (14) as well as said wicket door bridging segments (22, 24).
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13. Gate leaf according to one of claims 9-12, wherein at least one wicket door bridging segment (22, 24) of two subsequent wicket door panel sections (8) comprises a fixing portion, such as a strip or rail, for fixing said wicket door bridging segment to said wicket door panel section (8), wherein said fixing portion preferably extends substantially parallel to the articulation axis (y) of said wicket door panel sections (8).
15
14. Gate leaf according to one of claims 9 - 13, wherein said wicket door frame segment (16) extends along a rim of said wicket door panel section (8), which rim is oriented substantially perpendicular to the articulation axis (Y) of said wicket door panel sections (8).
20
25
15. Gate leaf according to one of claims 9 - 14, wherein one of said wicket door bridging segments (22) has a substantially concave recess and a wicket door bridging segment (24) of a subsequent wicket door panel section (8) has a substantially convex protrusion, wherein said wicket door bridging segments (22, 24) are preferably adapted to substantially engage in a condition of said wicket door panel sections (8) being substantially aligned.
30
35
16. Gate leaf according to one of claims 9-15, wherein the shape of said wicket door bridging segments (22, 24) in a sectional plane oriented substantially perpendicular to the articulation axis (Y) corresponds substantially to the rim profile of the corresponding wicket door panel section (8) in said sectional plane.
40
17. Gate bridging segment (18, 20) to be used with a gate leaf (2) according to one of the preceding claims.
45
18. Wicket door bridging segment (22, 24) to be used with a gate leaf (2) according to one of the claims 9 - 16.
50

55

FIG. 1a

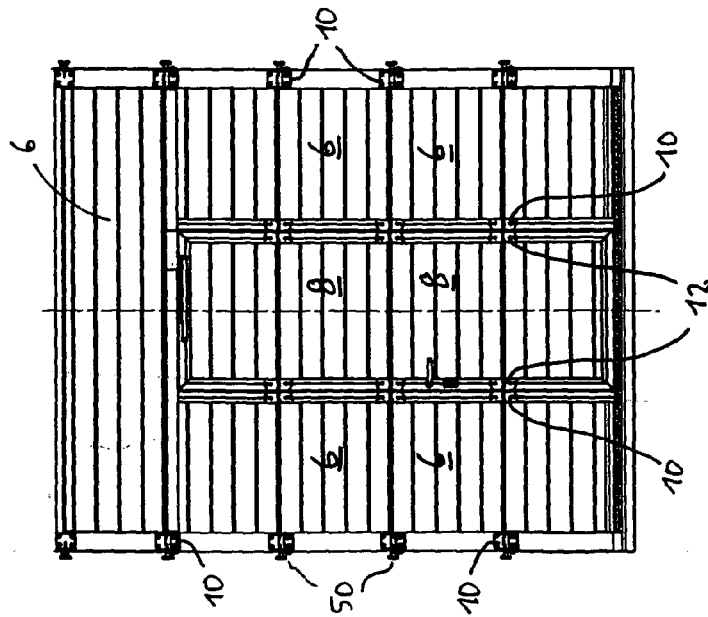


FIG. 1c



FIG. 1b

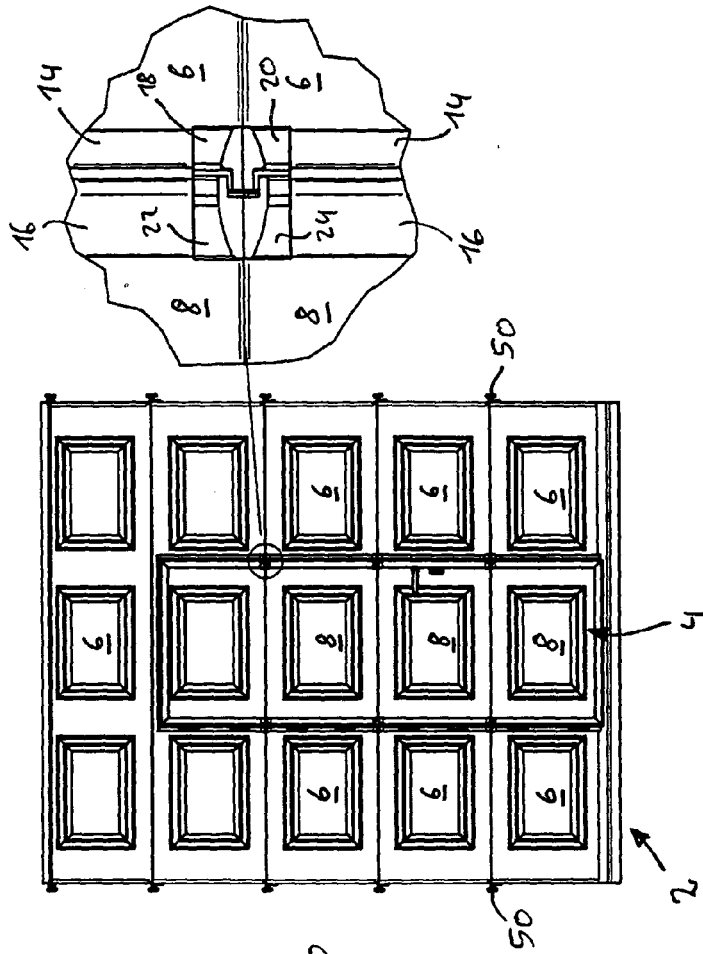


FIG. 2

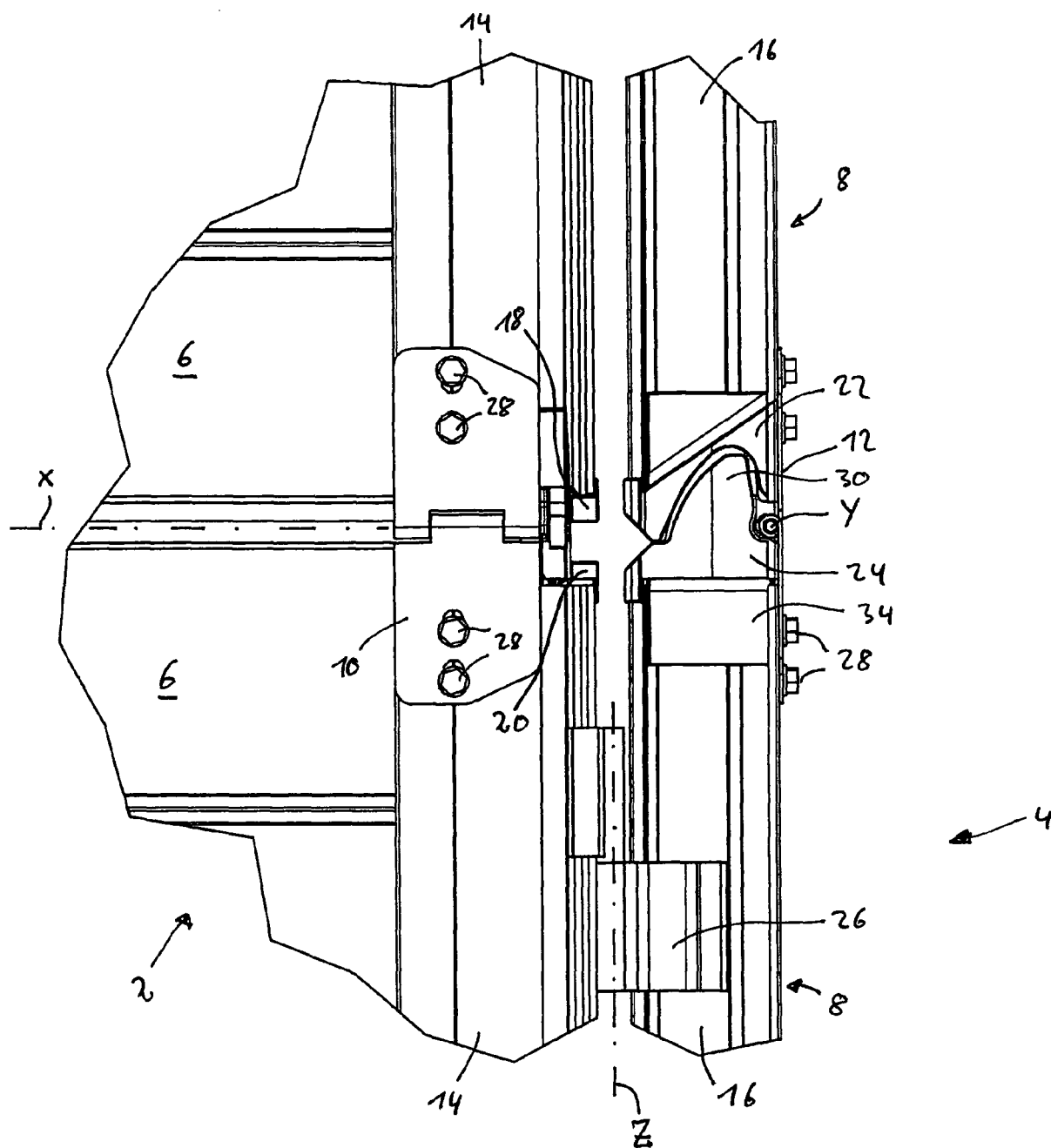


FIG. 3

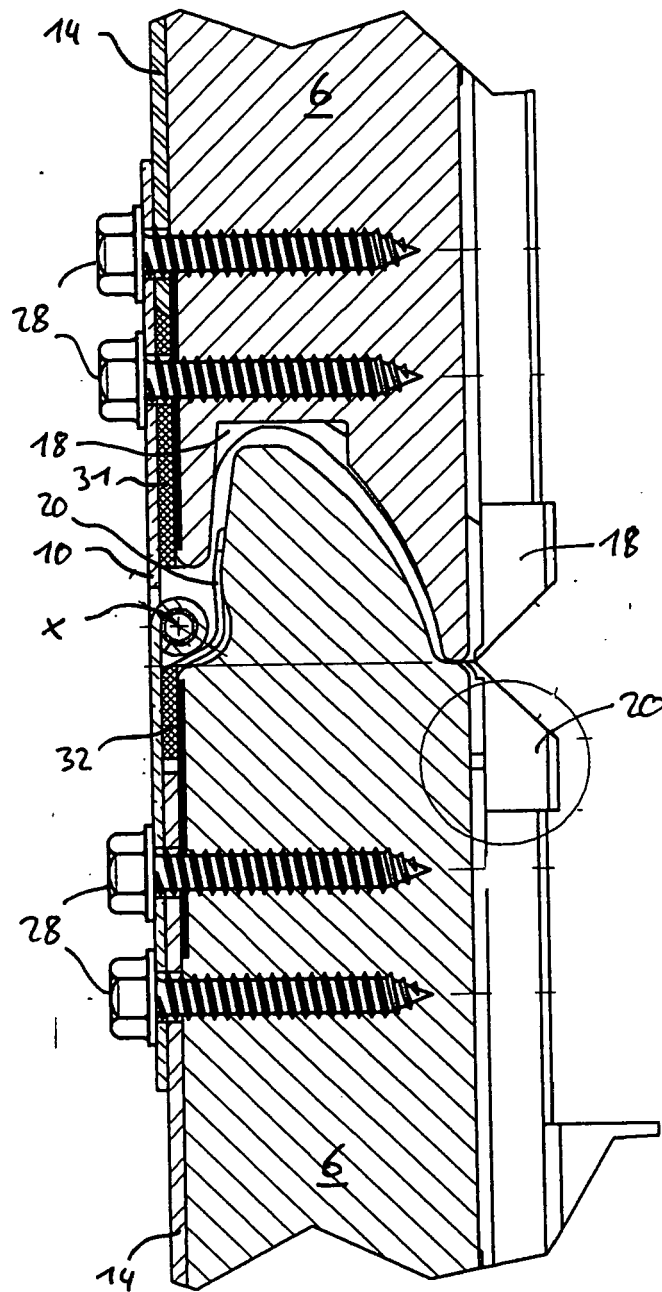


FIG. 4

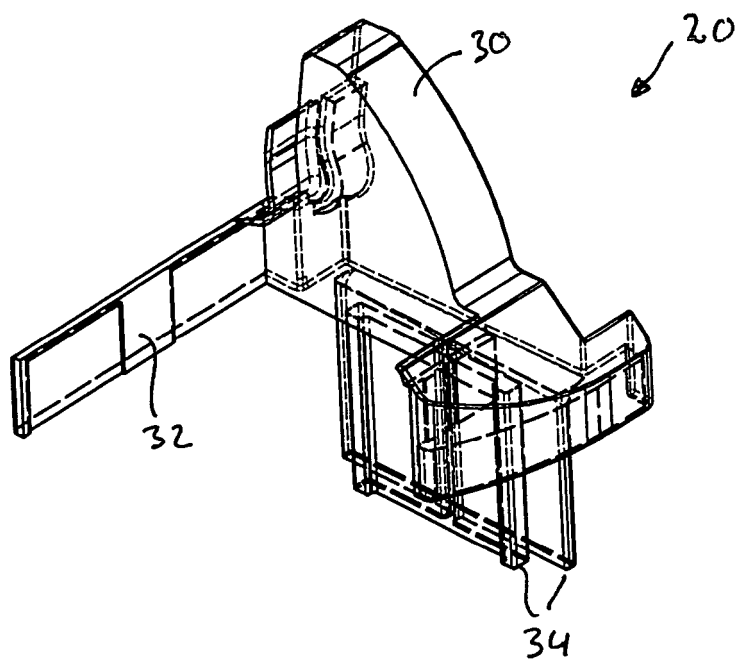
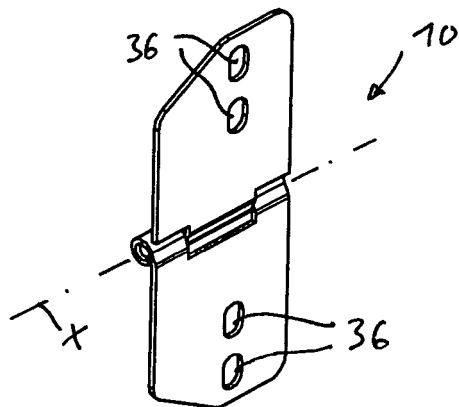


FIG. 5





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Place of search Munich		Date of completion of the search 2 April 2007	Examiner Knerr, Gerhard
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