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(54) Rolling scaffold with an access barrier

(57) Rolling scaffold with an access barrier, wherein the rolling scaffold comprises two vertical frames placed spaced apart from each other and straight opposite each other, wherein the frames have each been provided with two vertical uprights extending parallel to and spaced apart from each other, in between which uprights several horizontal climbing parts extending parallel to each other extend, wherein the access barrier comprises a first panel that extends substantially parallel to one of the vertical frames and a second panel that extends between the frames, wherein the first panel is provided with a substantially rectangular framework (2), a grid or sheet metal work arranged to the framework and first hooks protruding from the framework, wherein the second panel is provided with a substantially rectangular framework (10), a grid or sheet metal work arranged to the framework and second hooks protruding from the framework, wherein the first and second hooks are coupled to horizontal climbing parts of the frames.

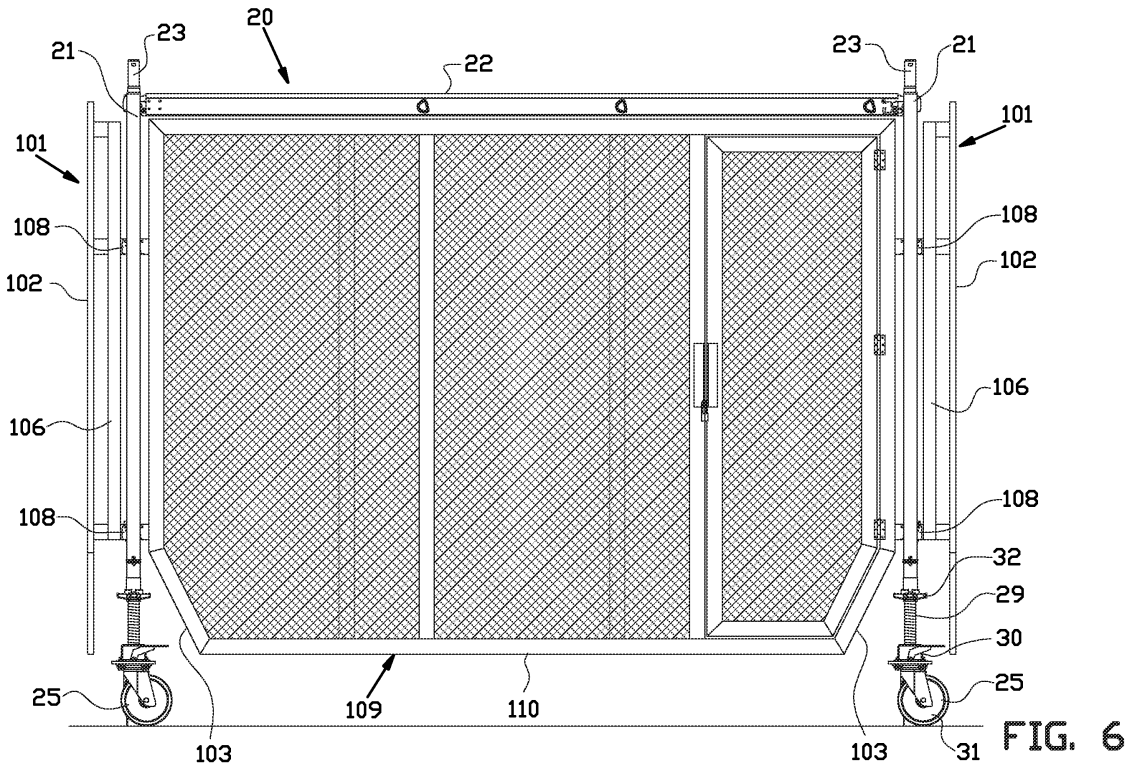

FIG. 6

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Description

BACKGROUND OF THE INVENTION

[0001] The invention relates to a rolling scaffold with an access barrier.

[0002] It is known to prevent people from climbing into or gaining unauthorised access to rolling scaffolds by enveloping the rolling scaffold with flexible materials, for instance cloths. Said cloths however, are easy to detach, so that unauthorised persons are still able to gain access to the rolling scaffold.

[0003] It is an object of the invention to provide a rolling scaffold that counteracts unauthorised access to the rolling scaffold.

[0004] It is an object of the invention to provide an access barrier that is easy to arrange on the rolling scaffold.

SUMMARY OF THE INVENTION

[0005] According to a first aspect the invention provides a rolling scaffold with an access barrier, wherein the rolling scaffold comprises two vertical frames placed spaced apart from each other and straight opposite each other, wherein the frames have each been provided with two vertical uprights extending parallel to and spaced apart from each other, in between which uprights several horizontal climbing parts extending parallel to each other extend, wherein the uprights and climbing parts extend per frame in the same main plane, wherein the access barrier comprises a first panel that extends substantially parallel to one of the vertical frames and a second panel that extends between the frames, wherein the first panel is provided with a substantially rectangular framework, a grid or sheet metal work arranged to the framework and first hooks protruding from the framework, wherein the second panel is provided with a substantially rectangular framework, a grid or sheet metal work arranged to the framework and second hooks protruding from the framework, wherein the first and second hooks are coupled to horizontal climbing parts of the frames. The panels counteract that an unauthorised person is able to access the inside of the rolling scaffold from the outside.

[0006] In an embodiment the first and second hooks have come to drop over the horizontal climbing parts by moving the first and second panel, respectively, vertically downwards with respect to the horizontal climbing parts. The panels can thus be coupled to the rolling scaffold while keeping an overview on it.

[0007] In an embodiment the first panel comprises two first hooks placed spaced apart from each other that engage onto the end areas of the same horizontal climbing part, wherein a second hook of the second panel engages onto the same horizontal climbing part and is confined in the area between the first hook and vertical upright that is closest to said first hook. The position of the second panel is thus determined and secured by the first hook.

[0008] In an embodiment the first hook of the first panel and the second hook of the second panel, which second hook is confined by the first hook, are directly coupled to one another outside of the horizontal climbing part. The panels thus form a unity that is difficult to remove from the scaffold.

[0009] In an embodiment at least some of the first and/or second hooks are locked around the horizontal climbing part in a retaining manner. The locking is capable of counteracting that one or several of the panels can be removed from the rolling scaffold.

[0010] In an embodiment the first hook of the first panel and the second hook of the second panel, which second hook is confined by the first hook, form a hook pair of which at least one is locked around the horizontal climbing part in a retaining manner. The locking is capable of counteracting that the assembly of panels coupled to each other can be removed from the rolling scaffold.

[0011] In an embodiment the retaining locking hook is provided with a first hook member that is permanently connected with the framework, which hook member drops over the horizontal climbing part and a second hook member that is coupled to the first hook member so as to swivel, wherein the second hook member at least partially engages under the horizontal climbing part by downward swivelling. By engaging under it can be counteracted that the panels can be removed from the rolling scaffold by an upward force in an attempt to lift the panels.

[0012] In an embodiment the grid or sheet metal work of the first panel extends at the side of the frame facing outwards with which frame the first panel is coupled, wherein the grid or sheet metal work of the first panel extends spaced apart from the horizontal climbing parts. Said distance offers sufficient space to a climber for at the inner side of the rolling scaffold placing his feet on the horizontal climbing parts, so without the front side of the foot contacting the grid.

[0013] In an embodiment the rolling scaffold is furthermore provided with a horizontal scaffold plank at the upper side of the frames and coupled to both frames, wherein the upper side of the framework of the first panel is situated higher than the lower side of the scaffold plank. The opening between the framework and the scaffold plank is thus optimally shielded.

[0014] In an embodiment the first panel is provided with a side shielding extending parallel to the upright and considered transverse to the main plane of the frame extending between the framework and the frame. The side shielding can reduce the opening between the panel placed spaced apart from the frame and the frame to a distance that is smaller than a foot width. The side shielding as a result counteracts that an unauthorised person is able to set foot on the horizontal climbing parts from the outside.

[0015] In an embodiment the access barrier comprises two first panels substantially parallel to the frames and two second panels between the frames that obstruct the access to the rolling scaffold all round.

[0016] In an embodiment the assembly of the two

frames and the panels form a basic supporting structure that is form stable in itself, wherein the rolling scaffold furthermore comprises comparable or identical frames that have been placed on top of the frames of the basic supporting structure and which are connected to one another by means of shores, wherein the inner space of the basic bearing structure bounded by the panels is free from shores. As a result the number of rolling scaffold parts required for obtaining a stable rolling scaffolding, can be reduced.

[0017] In an embodiment the rolling scaffold is provided with swivel castors under the frames, wherein the panels near the swivel castors have been provided with receding sections. This renders it possible to arrange the panels at a level so as to counteract crawling in from below.

[0018] In an embodiment the uprights and the horizontal climbing parts of the frames are made of hollow aluminium tubes. Aluminium is a lightweight material as a result of which the rolling scaffolding is easy to move.

[0019] According to a second aspect the invention provides means formed by panels, each consisting of a substantially rectangular framework having within it gauze or a plate that may or may not be provided with openings, which framework near the four corners is provided with hooks protruding to the outside, which when the panel is used, by moving it substantially vertically downwards, come to drop over parts of the scaffolding, that extend substantially in horizontal direction.

[0020] Such panels can easily and quickly be arranged on a scaffolding.

[0021] In addition the hooks can extend substantially parallel to the plane of the framework or at right angles thereto, depending on the design of the scaffolding on which the panels have to be arranged.

[0022] In order to achieve that the panel extends over an as large a part of the rolling scaffold as possible, the framework of the panel can be provided with receding sections at the bottom corners, in which sections the rollers of the rolling scaffold can be accommodated.

[0023] In this way the framework can still extend close to the ground so that no one can crawl under it.

[0024] Generally scaffoldings and particularly a rolling scaffold have standard dimensions, particularly when they are marketed by a certain manufacturer. The dimensions of the panels according to the invention can be adapted thereto.

[0025] In order to give authorised persons access to the scaffolding at least one of the panels in use can be provided with a door, having a lock in it that can be operated both from the inside and outside.

[0026] The authorised person may have a key at his disposal and after passing through the door, in order to enter into the scaffolding, he can lock the door behind him.

[0027] In order to disadvantageously affect the rigidity of the panel in which the door is situated as little as possible, the door will particularly be arranged in the panel which considered in horizontal direction has the largest dimensions.

[0028] Generally a part of a scaffolding, particularly its rolling scaffold, is provided with means for climbing upwards in the scaffolding. Said means are generally arranged in the part having the smallest width and they are formed by climbing parts that are situated between vertical uprights and are connected thereto.

[0029] In order to prevent that climbing the rolling scaffold is made more difficult due to the presence of a panel, said panel will be designed such that the gauze or the plate of the panel is situated at some distance from the climbing parts that are intended for climbing the rolling scaffold and are part thereof.

[0030] The person who climbs the scaffolding is then able to firmly place his feet on the climbing parts in question, without being hindered by the panel. This increases safety.

[0031] If necessary means can be provided, such as locks or the like, in order to prevent the removal of a panel by unauthorised persons to a great extent.

[0032] The aspects and measures described in this description and the claims of the application and/or shown in the drawings of this application may where possible also be used individually. Said individual aspects may be the subject of divisional patent applications relating thereto. This particularly applies to the measures and aspects that are described per se in the sub claims.

SHORT DESCRIPTION OF THE DRAWINGS

[0033] The invention will be further elucidated on the basis of the exemplary embodiments shown in the schematic drawings, in which:

Figure 1 shows a view of a panel according to the invention, used at the side of the rolling scaffold;

Figure 2 shows a side view of the panel of figure 1;

Figure 3 shows a view, on a smaller scale, of panel used at the longitudinal side of the rolling scaffold;

Figure 4 shows a view of a rolling scaffold with an alternative embodiment of panels according to the invention;

Figure 5 shows a top view of the rolling scaffold with the panels according to figure 4;

Figure 6 shows a side view of the rolling scaffold with the panels according to figure 4;

Figure 7 shows an isometric view of the panel that is used at the head end side of the rolling scaffold according to figure 4, considered from the inside of the rolling scaffolding;

Figure 8 shows an enlargement of a detail of the panel according to figure 7;

Figure 9 shows a view of the panel used at the longitudinal side of the rolling scaffold according to figure 4, considered from the outside of the rolling scaffold;

Figure 10 shows an enlarged top view in perspective of a detail of the rolling scaffold with panels according to figure 4.

DETAILED DESCRIPTION OF THE DRAWINGS

[0034] Figures 1-3 show panels to be used at the short side and the long side, respectively, of a rolling scaffold as for instance shown in figure 4. The panels serve as a safeguard against climbing in or an access barrier for counteracting gaining unauthorised access to the inside of the rolling scaffold.

[0035] The panel 1 shown in figures 1 and 2 for the short side of the rolling scaffold comprises a framework 2 that is constructed from box profiles or the like. The bottom corners of the framework have each been provided with a receding section 3 so that there is room available for the wheels of the rolling scaffold.

[0036] The framework 2 is provided with gauze 4 having such small meshes that it cannot be climbed into. Use can also be made of a plate provided with openings or such a product.

[0037] As becomes clear in particular from figure 2, two posts 6 are connected to the framework 2 by means of spacers 5. Near the ends said posts 6 are provided with hooks 7, as shown in particular in figure 2. The hooks 7 may come to drop over the horizontal rungs or horizontal climbing parts 8 of the rolling scaffold.

[0038] After suspending the panel 1 the framework 2 with the gauze 4 will be situated at a certain distance from the climbing parts 8 that are part of the rolling scaffold and are intended for climbing it.

[0039] Figure 3 shows a panel 9 for the long side of the rolling scaffold, consisting of a framework 10 that is reinforced by two extra profiles 11. The framework 10, just like panel 1 for the short side of the rolling scaffold, is provided with receding sections 3 and with gauze 4.

[0040] In a similar manner as with panel 1 for the short side of the rolling scaffold, panel 9 for the long side of the rolling scaffold is provided with hooks 7 that may come to drop over the climbing parts 8 of the rolling scaffold. The hooks 7 are now directly connected to the profiles forming the framework 10. In case it is more advantageous the hooks may also be arranged at right angles to the plane of the panel 1.

[0041] In order to give access to the rolling scaffold and the further scaffolding connected thereto, panel 9 is provided with a door 12 that is connected to the framework 10 by hinges 13.

[0042] The door 12 can be provided with a lock 14 that can be operated from both the inside and the outside.

[0043] It will be clear that the panel 9, that is situated at the opposite other side of the rolling scaffold will not be provided with a door 12 and therefore can be designed simpler.

[0044] It is furthermore noted that under certain circumstances a panel can be left out. This may for instance be the case when the rolling scaffold is positioned close to a wall of a building.

[0045] Panel 1, just like panel 9, can be provided with means for preventing that the panel is lifted by unauthorised persons in order to gain access to the rolling scaffold.

[0046] The means may for instance be formed by a pin 15, provided with a head, see figure 3, which pin can be inserted through a bore in the framework 10, such that it is situated under a part of the rolling scaffold. At the inside the pin 15 can for instance be secured by means of a padlock or in a similar way. The lock is then hard to reach from the outside so that removing the pin will not be easy.

[0047] Figures 4, 5 and 6 show an alternative embodiment of the invention. Figure 4 shows an aluminium rolling scaffold 20, which at a first, short or head end side is provided with a first panel 101 and at a second, long side is provided with a second panel 109. The rolling scaffold 20 comprises two upright aluminium frames 21 positioned parallel to each other with their main planes, which frames 21 in a condition so as to be spaced apart from each other bear two elongated scaffold planks 22. One of the scaffold planks 22 is provided with a trapdoor 28 that can be turned up to climb through. The frames 21 have each been provided with two parallel vertical uprights 23 that are connected to one another by means of several horizontal climbing parts 24. The uprights 23 and the climbing parts 24 are made of hollow aluminium tubes that are welded together in order to form a lightweight and rigid unity.

[0048] At the lower side, the vertical uprights 23 are provided with swivel castor devices 25. As shown in figure 6 each of the swivel castor devices 25 comprises a thread 29 partially inserted in the upright 23, a swivel 32 around the thread 29 on which the upright 23 supports, a swivel castor 31 and a swivelling portion 30 which connects the swivel castor 31 to the thread 29 and which ensures the swivelling of the swivel castor 31 about the thread 29. By means of adjusting the swivel 32 the height of the swivel castors 31 can be reduced with respect to the vertical uprights 23, as a result of which the ground clearance of the panels 101, 109 can be reduced to a height that is smaller than the ground clearance required for gaining access to the inside of the rolling scaffold 20 via the bottom side, for instance to a height smaller than a crawling height of twenty centimetres.

[0049] Figure 7 shows the first panel 101, comprising a circumferential, substantially rectangular framework 102 having gauze stretched in between it or perforated lightweight aluminium sheet metal work 104 and having recesses 103 in the two bottom corners for the swivel castors of the rolling scaffold. The framework 102 is made

of hollow rectangular aluminium box profiles which at their outer ends are welded together in order to form a rigid unity. The first panel 101 is provided with four aluminium spacers 105 welded to the framework 102. First hooks 107 are attached to the spacers 105 which hooks in that way are spaced apart from the framework 102. The first hooks 107 are made of aluminium sheet metal work. The first hooks 107 extend transverse to the main plane of the first panel 101. The bottom first hooks 107 preferably are coupled to the bottom climbing part 8 of the frame 21.

[0050] As shown in figure 8 the first hooks 107 are provided with a permanent hook member 120 for accommodating the horizontal climbing part 24 and a closing part 121 coupled so as to hinge to the hook member 120, for confining or locking the horizontal climbing part 24 into the permanent hook member 120. The closing part 121 prevents that in case of an upward force the first hook 107 becomes detached from the horizontal climbing part 24.

[0051] As shown in figure 7 the first panel 101 is provided with two vertical girders 106 that have been arranged on the spacers 105. The vertical girders 106 extend parallel to the framework 102 and are situated between the framework 102 and the frame 21. As shown in figure 4, the vertical girders 106 reduce the opening between the framework 102 and the vertical uprights 23 of the rolling scaffold 20 to less than a shoe's width, for instance to less than ten centimetres.

[0052] The upper side of the first panel 101 extends substantially to a height equalling the upper side of the scaffold planks 22. The lower side of the first panel 101 extends to a height that is lower than the height required for gaining access to the inside of the rolling scaffold 20 via the lower side. The first panel 101 extends in the latitudinal direction between the centre lines of the two vertical uprights 23. The first panel 101 thus is intended to counteract that a person is able to gain access to the inside of the rolling scaffold 20 from its short side. The first panel 101 also counteracts that an authorised person would climb the rolling scaffold 20 from the outside via the climbing parts 8.

[0053] Figure 9 shows the second panel 109, comprising a circumferential framework 110 having gauze stretched in between it or perforated aluminium sheet metal work 104. The second panel 109 is provided with four second hooks 108 that are connected to the framework 110. The second hooks 108 are made from aluminium sheet metal work. The second hooks 108 extend parallel to the main plane of the second panel 109. The bottom second hooks 108 are coupled to the bottom climbing part 8 of the frames 21.

[0054] The upper side of the second panel 109, considered in vertical direction, extends to a height at a short distance from the bottom side of the scaffold planks 22. As shown in figure 4 the bottom side of the second panel 109 extends to a height that is lower than the height required for gaining access to the inside of the rolling scaffold 20 via the lower side. The framework 110 of the second panel 109 extends in the latitudinal direction between and within the two vertical uprights 23. The second panel 109 thus is intended for counteracting that a person is able to gain access to the inside of the rolling scaffold 20 from its long side.

[0055] Figure 10 shows an enlarged top view of one of the corners of the rolling scaffold 20, wherein it is visible how the first hook 107 of the first panel 101 and the second hook 108 of the second panel 109 at the same climbing part 24 and at the same side of the climbing part 24 in each other's vicinity and in the vicinity of the vertical upright 23 are coupled to the horizontal climbing part 24 of the frame 21. The second hook 108 is confined between the first hook 107 and the vertical upright 23, as a result of which the position of the second panel 109 with respect to the rolling scaffold 20 is defined and cannot shift to the inside. The first hook 107 and the second hook 108 are provided with a first recess 114 and a second recess 115, respectively. The recesses 114, 115 in the positioned condition are aligned with each other, as a result of which the hooks 107, 108 by means of a pin or part of a padlock 27 inserted through the recesses 114, 115 can be coupled directly to each other. The closing part 121 prevents a movement in the upward direction, as a result of which the coupled hooks 107, 108 of the panels 101, 109 both can no longer be lifted up.

[0056] The panels 101, 109, coupled to the rolling scaffold 20 as shown in figure 4, as an assembly of two first panels 101 at the short side of the rolling scaffold 20 and two second panels 109 at the long side of the rolling scaffold 20, provide sufficiently stable bonding between the frames 21, as a result of which extra shores and/or reinforcement rods 125, that are able to connect the frames 21 diagonally and horizontally to each other, will not be necessary. The rolling scaffold 20 can be further extended as regards height by means of extra frames. Generally such a construction part with frames will not be provided with panels 101, 109 as a result of which shores for these construction parts will be required indeed for providing sufficiently stable bonding between the frames 21.

[0057] The above description is included to illustrate the operation of preferred embodiments of the invention and not to limit the scope of the invention. Starting from the above explanation many variations that fall within the spirit and scope of the present invention will be evident to an expert.

Claims

1. Rolling scaffold with an access barrier, wherein the rolling scaffold comprises two vertical frames placed spaced apart from each other and straight opposite each other, wherein the frames have each been provided with two vertical uprights extending parallel to and spaced apart from each other, in between which uprights several horizontal climbing parts extending

parallel to each other extend, wherein the uprights and the climbing parts extend per frame in the same main plane, wherein the access barrier comprises a first panel that extends substantially parallel to one of the vertical frames and a second panel that extends between the frames, wherein the first panel is provided with a substantially rectangular framework, a grid or sheet metal work arranged to the framework and first hooks protruding from the framework, wherein the second panel is provided with a substantially rectangular framework, a grid or sheet metal work arranged to the framework and second hooks protruding from the framework, wherein the first and second hooks are coupled to horizontal climbing parts of the frames.

2. Rolling scaffold according to claim 1, wherein the first and second hooks have come to drop over the horizontal climbing parts by moving the first and second panel, respectively, vertically downwards with respect to the horizontal climbing parts.

3. Rolling scaffold according to claim 1 or 2, wherein the first panel comprises two first hooks placed spaced apart from each other that engage onto the end areas of the same horizontal climbing part, wherein a second hook of the second panel engages onto the same horizontal climbing part and is confined in the area between the first hook and vertical upright that is closest to said first hook.

4. Rolling scaffold according to claim 3, wherein the first hook of the first panel and the second hook of the second panel, which second hook is confined by the first hook, are directly coupled to one another outside of the horizontal climbing part.

5. Rolling scaffold according to any one of the preceding claims, wherein at least some of the first and/or second hooks are locked around the horizontal climbing part in a retaining manner.

6. Rolling scaffold according to claims 4 and 5, wherein the first hook of the first panel and the second hook of the second panel, which second hook is confined by the first hook, form a hook pair of which at least one is locked around the horizontal climbing part in a retaining manner.

7. Rolling scaffold according to claim 5 or 6, wherein the retaining locking hook is provided with a first hook member that is permanently connected with the framework, which hook member drops over the horizontal climbing part and a second hook member that is coupled to the first hook member so as to swivel, wherein the second hook member at least partially engages under the horizontal climbing part by downward swivelling.

8. Rolling scaffold according to any one of the preceding claims, wherein the grid or sheet metal work of the first panel extends at the side of the frame facing outwards with which frame the first panel is coupled, wherein the grid or sheet metal work of the first panel extends spaced apart from the horizontal climbing parts.

9. Rolling scaffold according to claim 8, furthermore provided with a horizontal scaffold plank at the upper side of the frames and coupled to both frames, wherein the upper side of the framework of the first panel is situated higher than the lower side of the scaffold plank.

10. Rolling scaffold according to any one of the preceding claims, wherein the first panel is provided with a side shielding extending parallel to the upright and considered transverse to the main plane of the frame extending between the framework and the frame.

11. Rolling scaffold according to any one of the preceding claims, wherein the access barrier comprises two first panels substantially parallel to the frames and two second panels between the frames that obstruct the access to the rolling scaffold all round.

12. Rolling scaffold according to claim 1 1, wherein the assembly of the two frames and the panels form a basic supporting structure that is form stable in itself, wherein the rolling scaffold furthermore comprises comparable or identical frames that have been placed on top of the frames of the basic supporting structure and which are connected to one another by means of shores, wherein the inner space of the basic supporting structure bounded by the panels is free from shores.

13. Rolling scaffold according to any one of the preceding claims, provided with swivel castors under the frames, wherein the panels near the swivel castors have been provided with receding sections.

14. Rolling scaffold according to any one of the preceding claims, wherein the uprights and the horizontal climbing parts of the frames are made of hollow aluminium tubes.

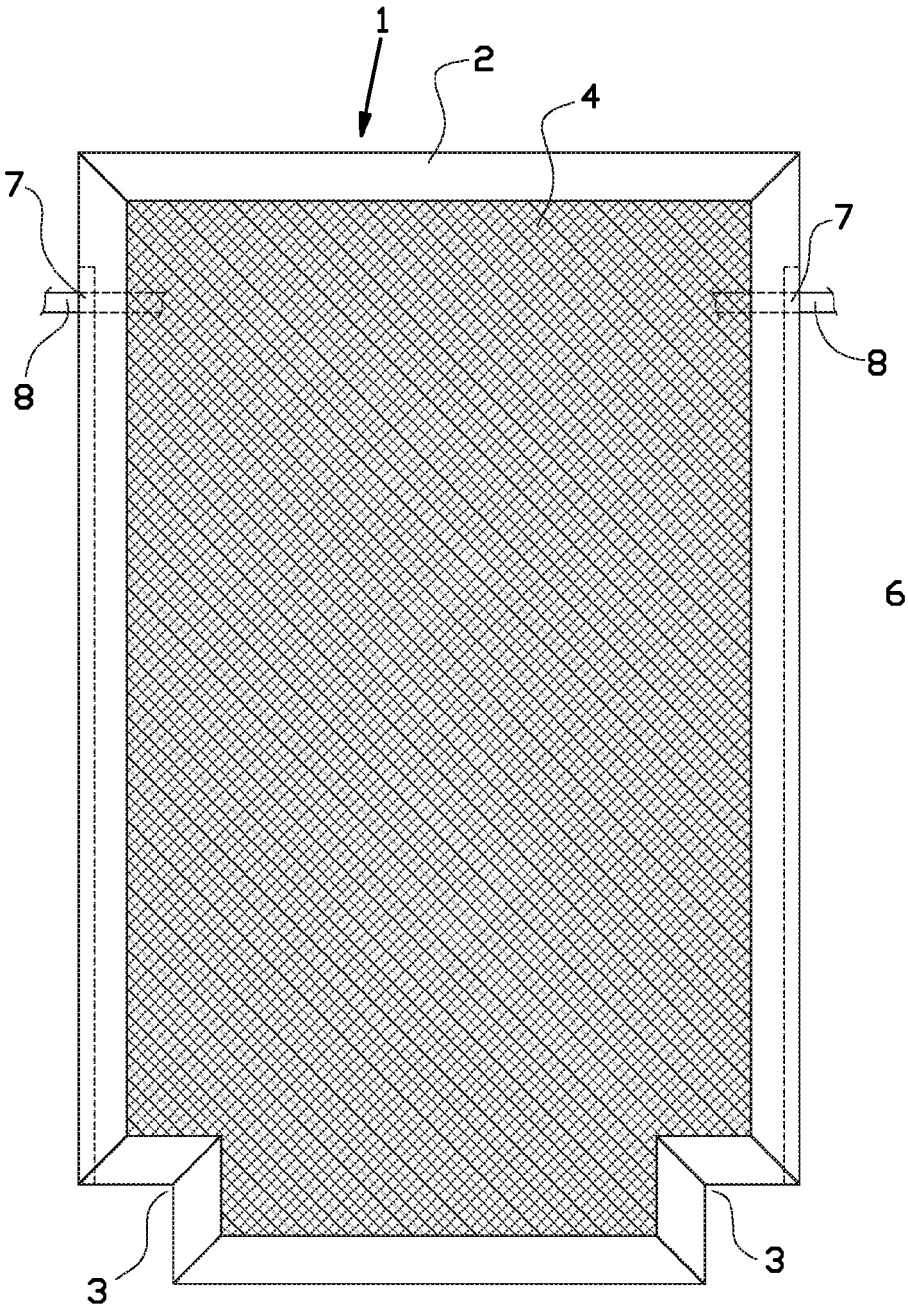

FIG. 1

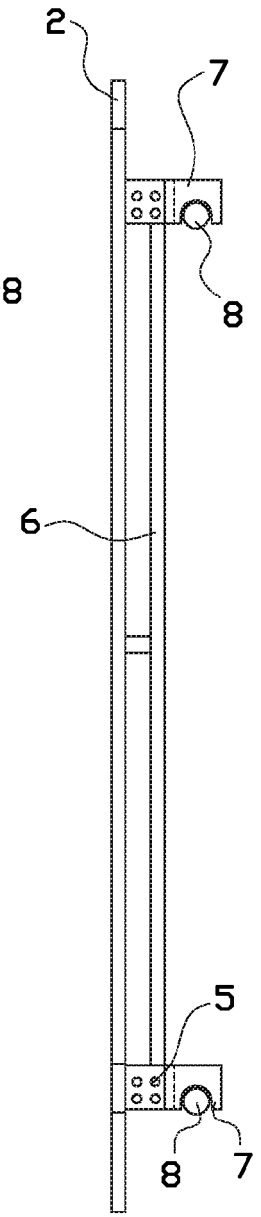

FIG. 2

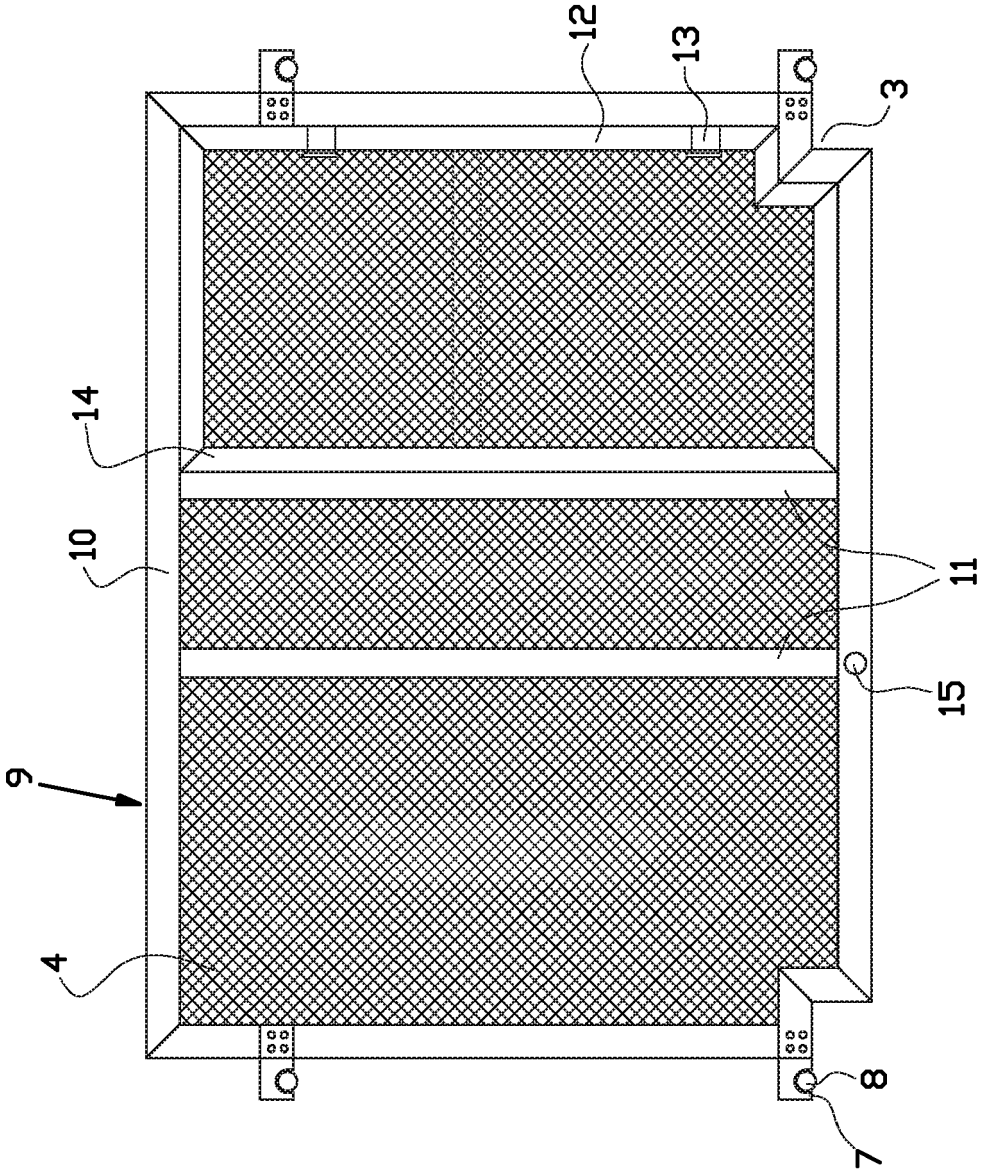

FIG. 3

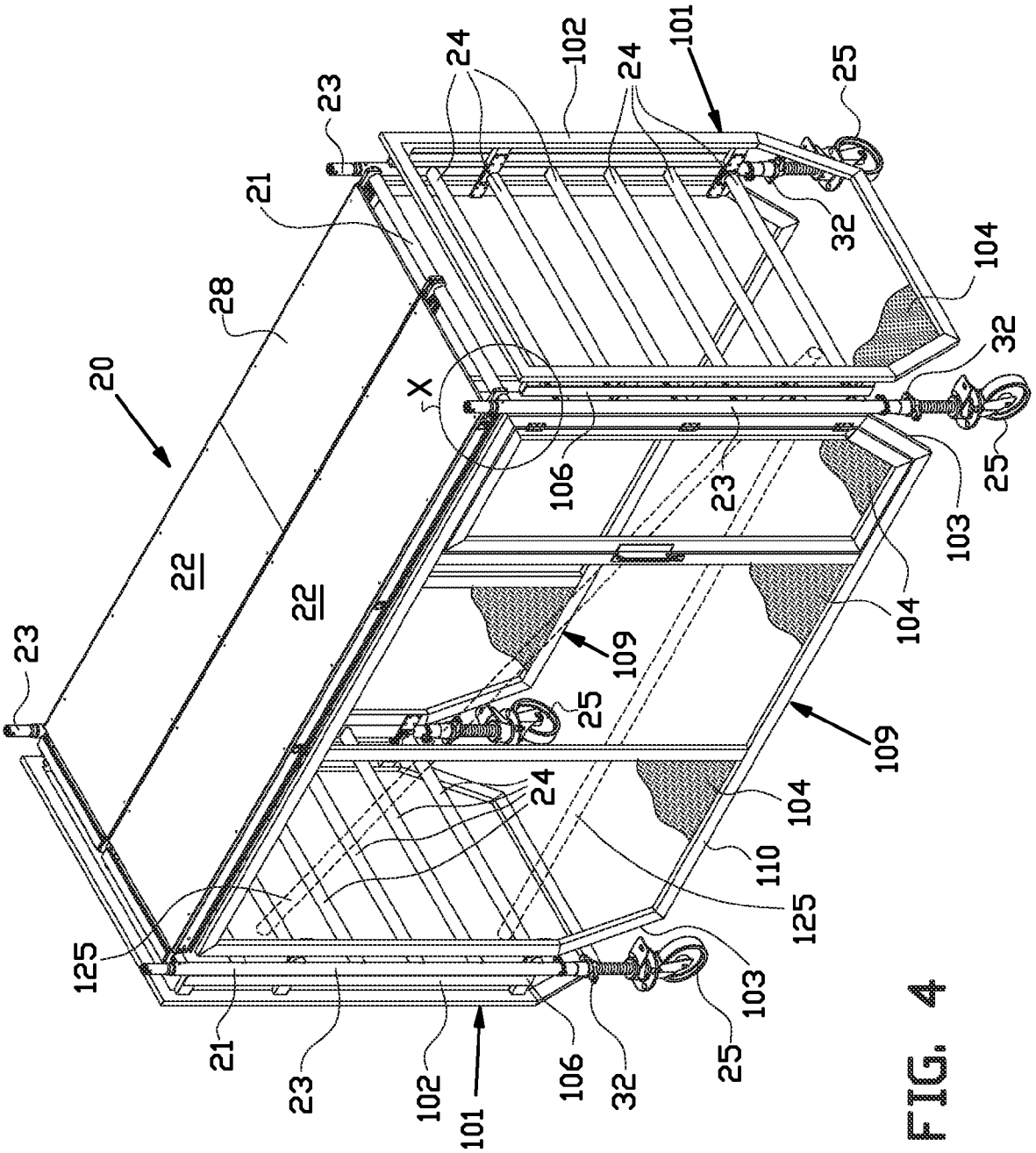
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FIG. 4

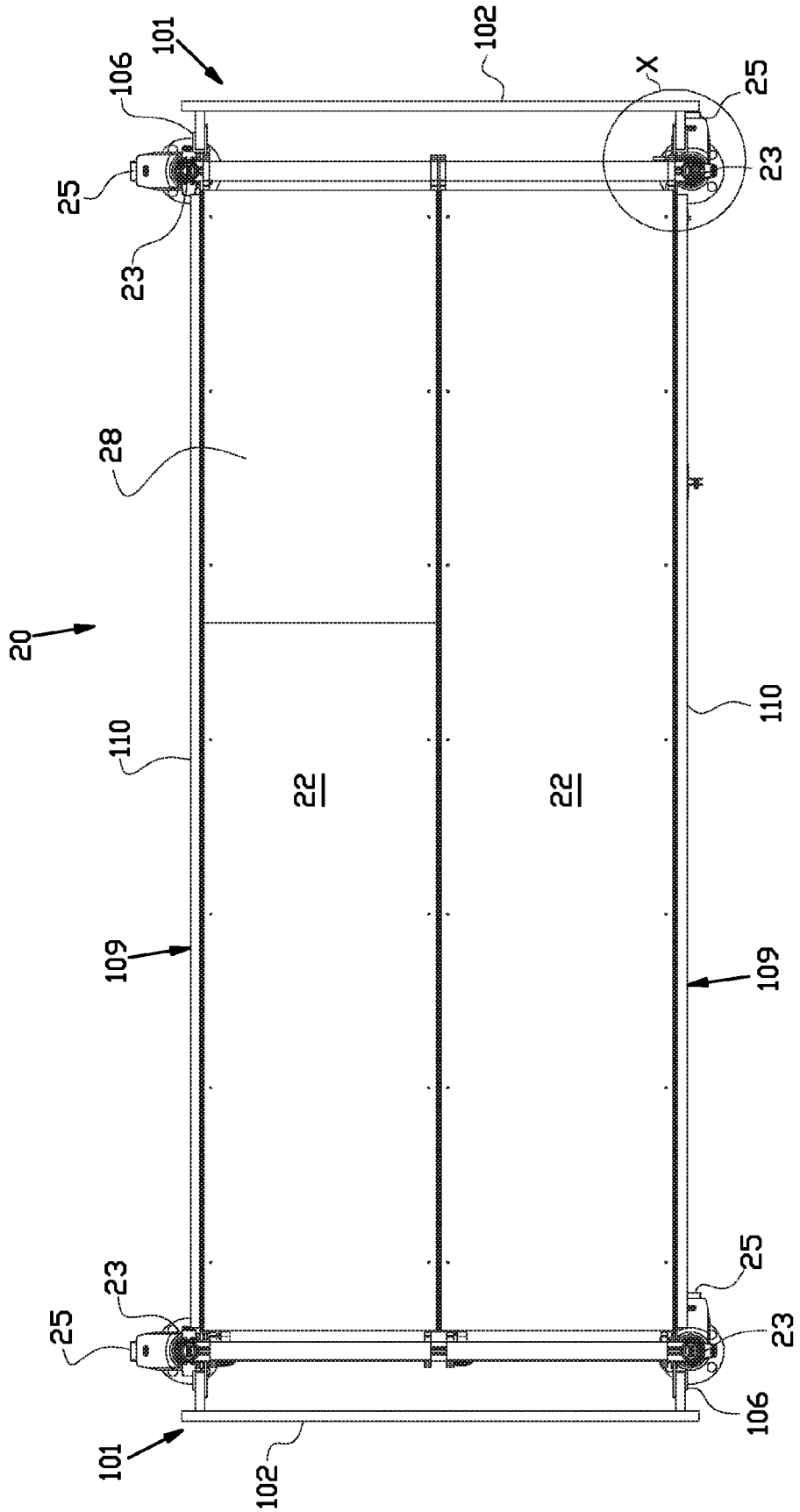
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FIG. 5

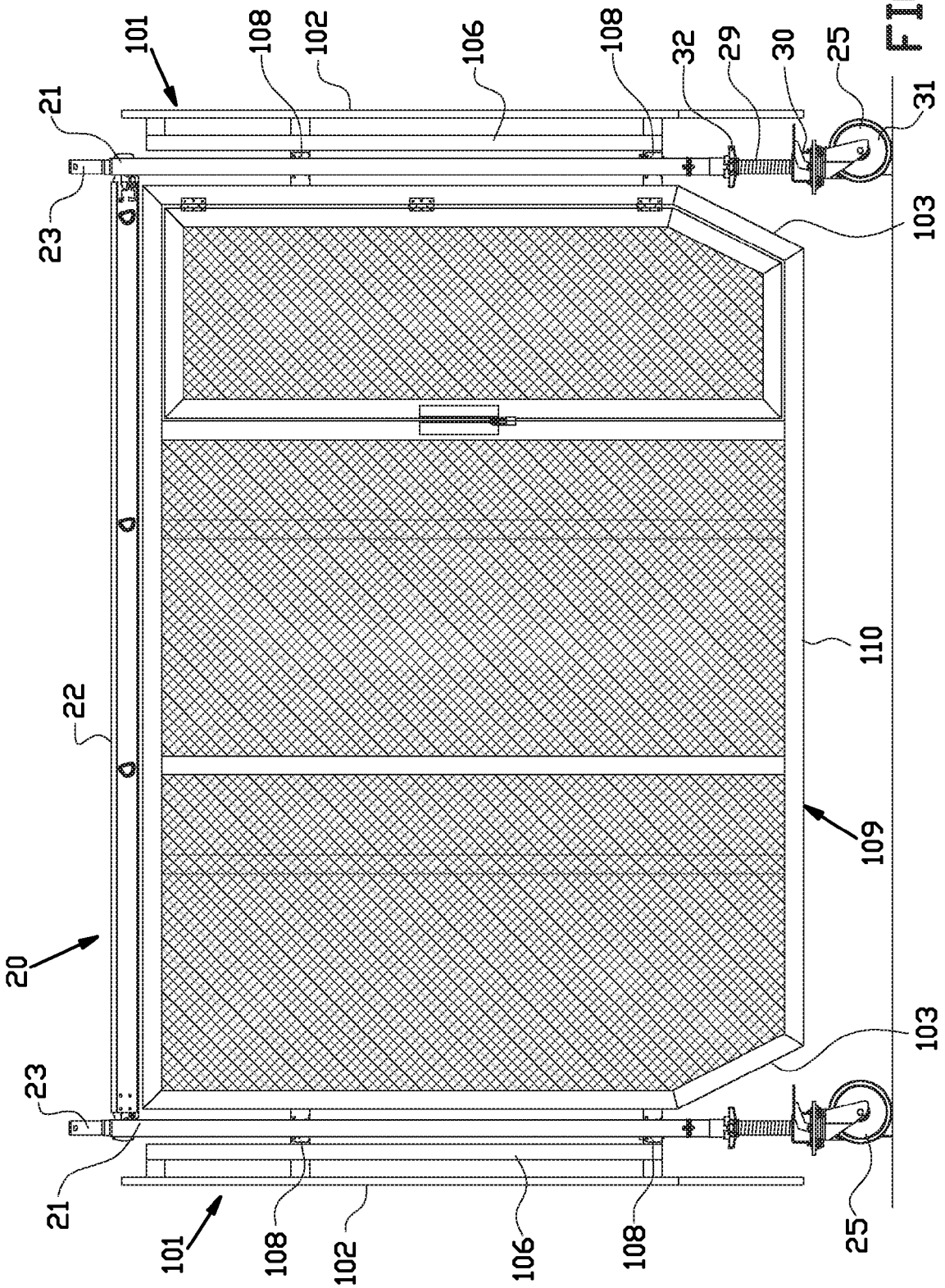
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FIG. 6

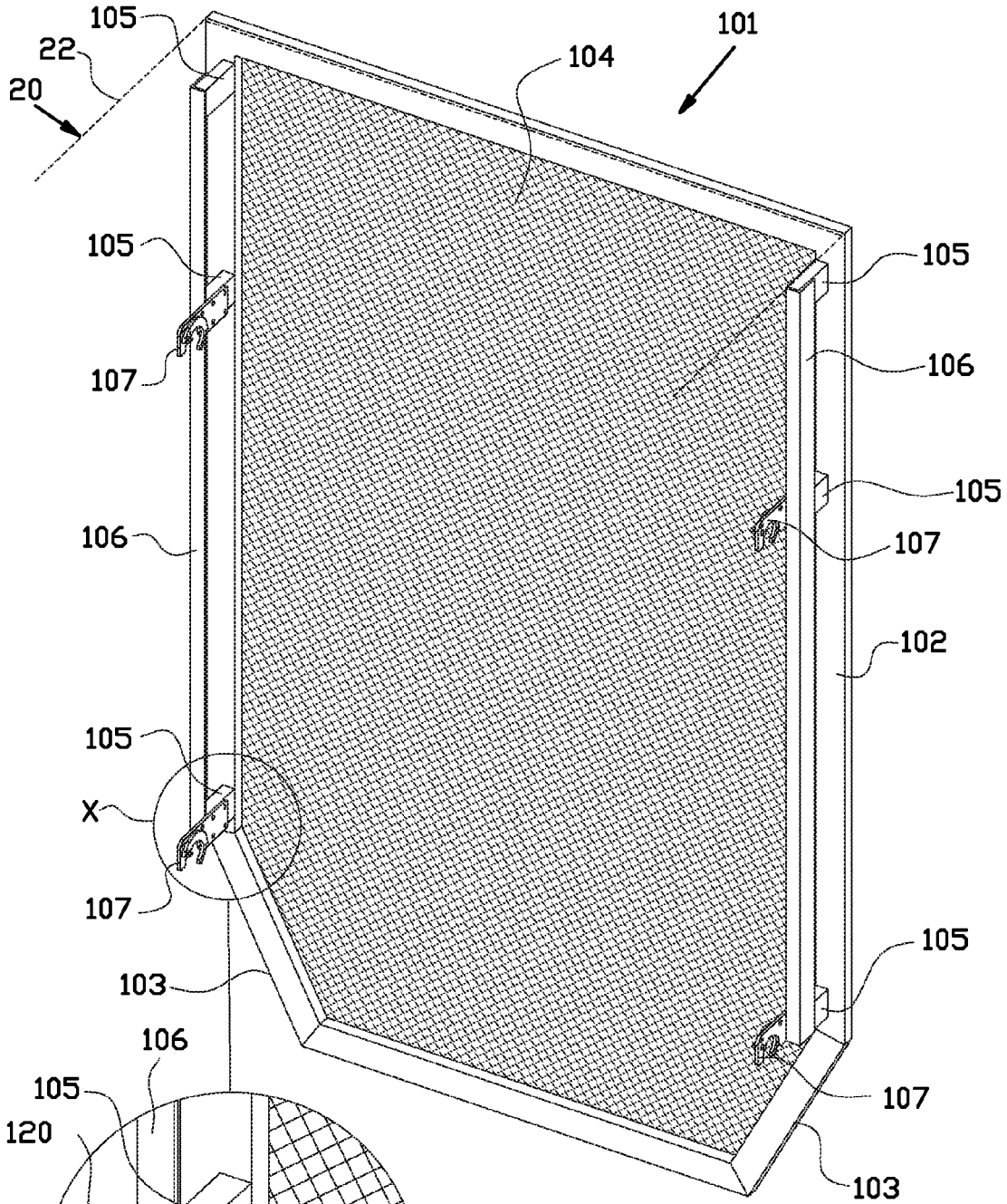
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FIG. 7

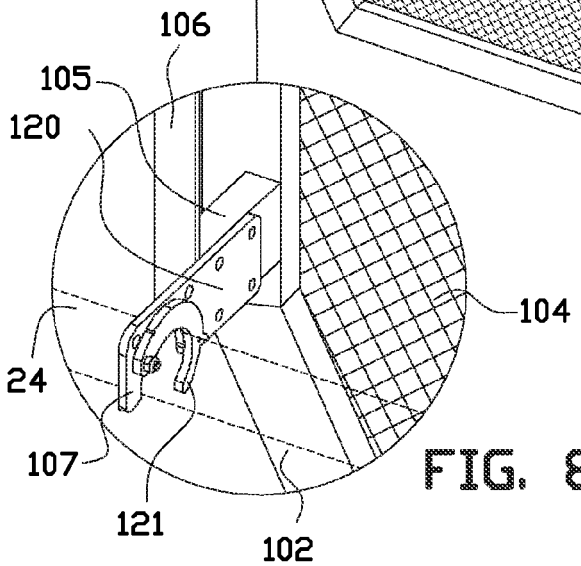
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FIG. 8

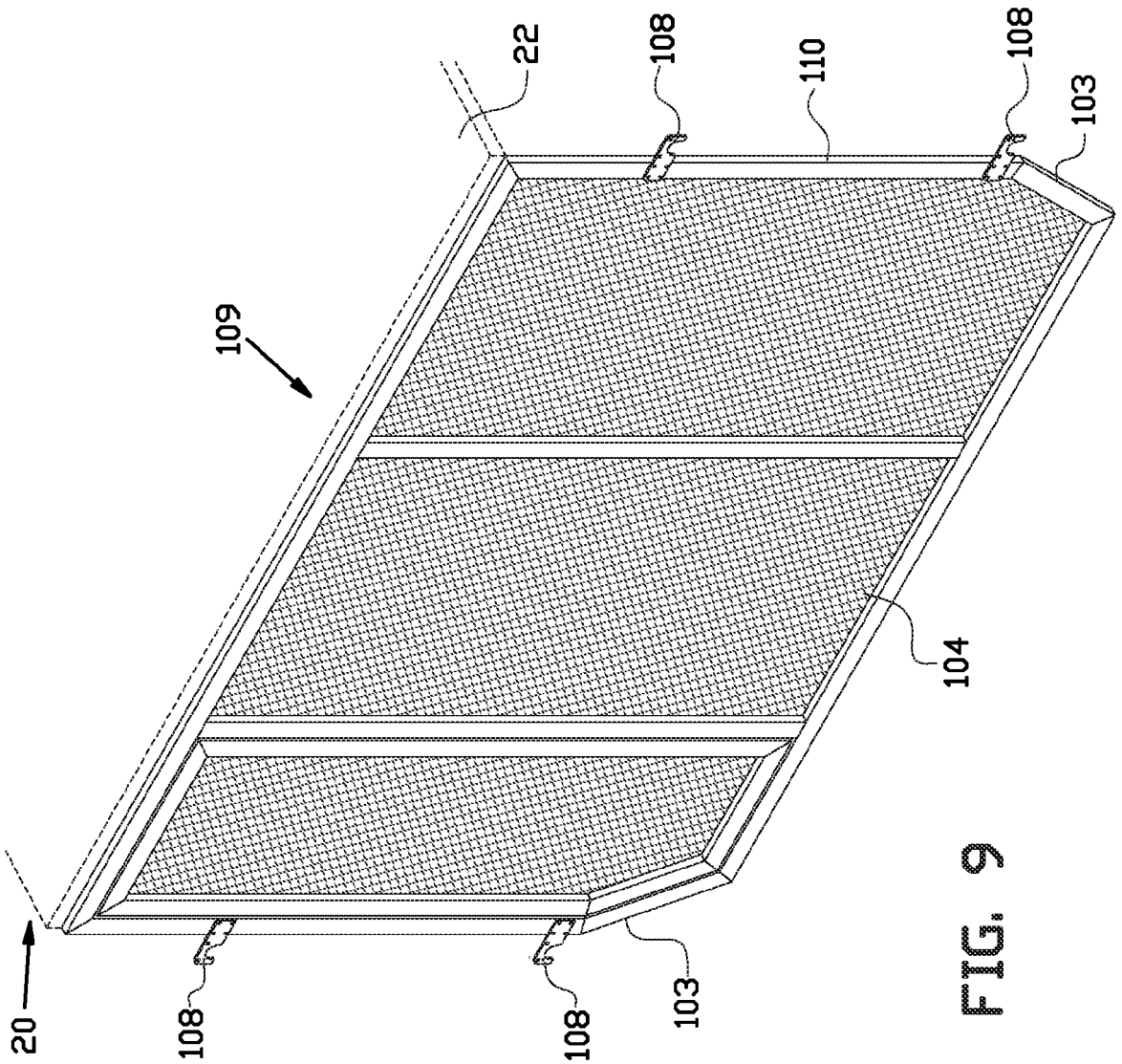

FIG. 9

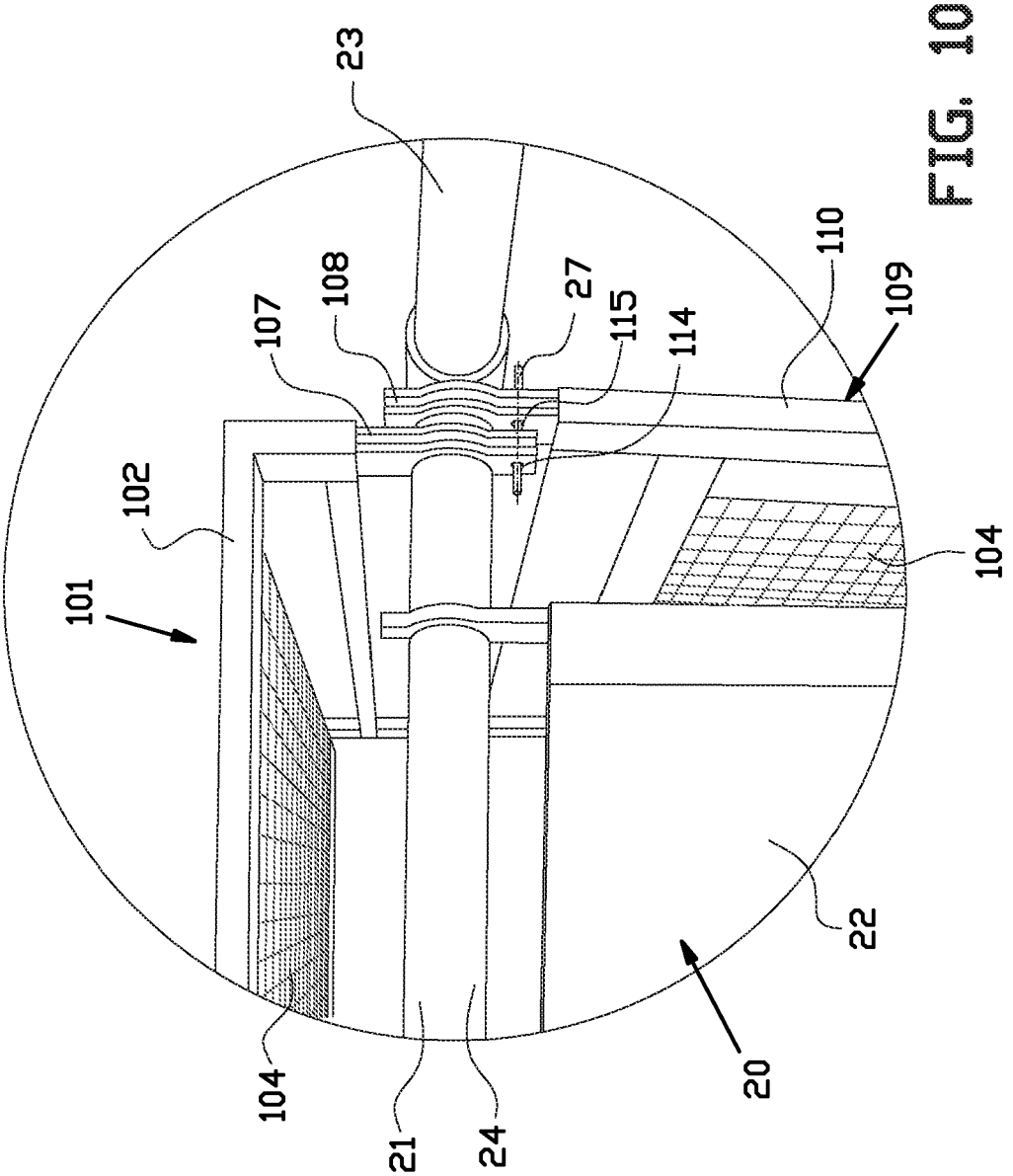

FIG. 10