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(54) Bottle container

(57) Bottle container of the type intended to be turned around and moved on a fork lift truck or similar, incorporating robust stiffening bars (1) on the face destined to rest on the fork of the lift truck, which converge at an intermediate crossbar (12), to support this fork when it is short, avoiding deformation on this wall of the container. On this same wall, the container includes four runners (6-13), which allow the container to be moved along a conveyor belt without the need to place the container in any particular position. Furthermore, the lid (14) includes sliding bars (18) which act selectively on a series of slots in panels (9) that are fixed to the walls of the container, which allows to adjust the height of the aforementioned lid (14) to accommodate different sizes of bottles.

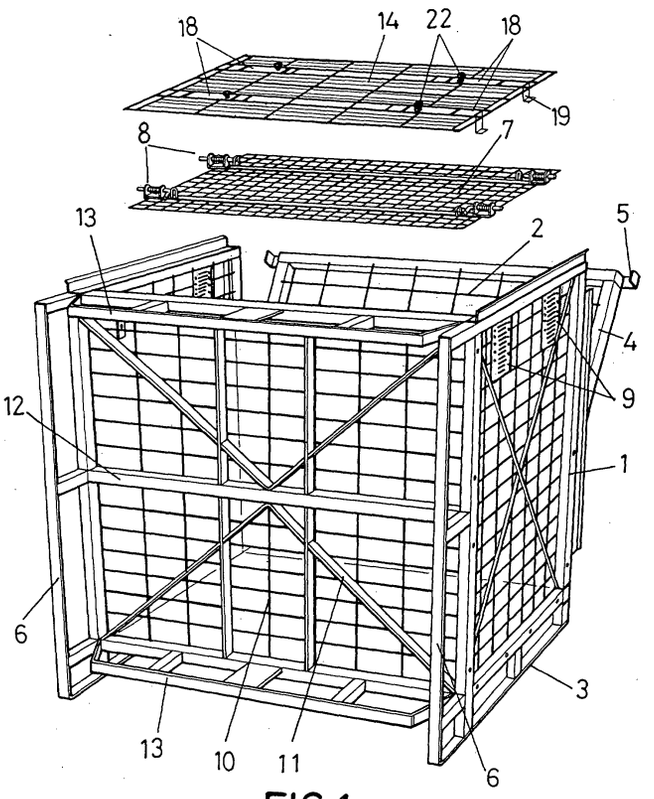

FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a bottle container, of the type formed by a prismatic-rectangular metal box, with a rigid angular frame, onto which metal grids are attached, thereby forming the faces of the container, so that the latter, when conveniently loaded with bottles, is liable to adopt two working positions in which the bottles are laid horizontally and vertically, whereas there are supports for both of these positions, allowing the containers to be placed on the floor or stacked together.

[0002] The object of the invention is to improve the structure of this type of containers, with a view to avoiding handling problems that occur when that handling is carried out by robots.

BACKGROUND TO THE INVENTION

[0003] This same applicant holds the Spanish utility model with application number U9700777, which describes a bottle container module, with the general characteristics described in the preceding paragraph, i.e. a robust metallic frame corresponding to the angles of the rectangular prism formed by the container, which is the support for a series of interlaced rods which in turn form the closed faces of the container, whereas a drop door is established on one of these faces, namely, one of the lateral faces, affecting the upper half of this face, equipped with fastening bolts, whereas there is an upper grid that functions as a lid to hold in the bottles when the container moves sideways, which is also fastened with bolts which, like the above-mentioned, tend to remain closed due to the effect of respective springs.

[0004] Furthermore, at the base of the container and also on one of its lateral faces, the one opposite the door, there are supporting runners which allow to slide and move the container on the floor or on conveyor platforms, so that no matter which position the container adopts, i.e. whether the bottles are horizontal or vertical, it is always supported by the aforementioned runners, which also create a convenient distance between the container and the floor, allowing to introduce the fork of a lift truck.

[0005] However, this type of bottle container, which offers excellent functional features from the theoretical point of view, presents structural and handling problems in practice, which are for the most part based on the following aspects:

- Although the use of arms for the fork on the lift truck is recommended, whose length should be at least the same as the width of the container, in practice and in many cases the arms or catches that are used are considerably shorter, which although the container is not at risk of falling while being handled, does mean that the metallic grid on which they are supported is deformed, meaning that the container loses its theoretical geometry and when the bottles are being handled by a robotised system, given that they are moved slightly more sideways than they should be, handling errors occur as the robot's catches close without supporting the necks of the bottles and are functionally inoperative.
- The container is loaded with the opening facing upwards, position in which it is supported by a pair of runners, and then it is turned 90°, so that it is now supported by the runners that are situated on one of its faces, the one opposite the side door, so that from this position, in which the bottles are lying down, the container is then handled on roller platforms that make it easier to move the container. The existence of just two runners on this face of the container allows it to be moved correctly on the roller platform when in position but this movement is impossible if, for any reason, the support position on the platform is turned 90°, as in this case the runners are parallel to the rollers and these elements are blocked.
- As the bolts stay in the closed position due to the effect of the springs, one of the springs could accidentally break or the bolt could retract due to a blow or any other cause, thereby accidentally disconnecting the grid lid or even the side door itself.

DESCRIPTION OF THE INVENTION

[0006] The bottle container proposed by this invention is based on the aforementioned utility model and includes a series of improvements that fully solve the aforementioned problems.

[0007] To this end, to be more specific and in accordance with one of the characteristics of the invention, diagonal stiffening bars are placed on the side wall of the container opposite the door, on which in any case the arms or catches of the fork lift are to rest, whether they are short or long, so that it is the stiffening bars that bear the weight of the container's load and undesirable deformation of the metal grid, which constitutes the closure of this face is avoided.

[0008] In accordance with another characteristic of the invention, on this same side face of the container and as well as the two classical runners situated on the parallel edges, there are two more runners on the other two edges of the same face, so that the container may be moved on a roller platform in any position, no matter how the container is placed on the roller platform.

[0009] Finally and in accordance with another characteristic of the invention, a substantial modification has been proposed for the mechanism that fastens the lid, including modifications to the lid itself and to the side walls of the container to which the latter is attached.

[0010] More specifically and maintaining the aforementioned bolt system, which may be adapted to cases

where the necks of the bottles come out through the lid, the proposal is that the bars that receive the shanks of the afore-mentioned bolts should include, as well as at least one vertical line of holes to selectively receive the bolts, a middle line of transversal slots intended to selectively receive the bars that slide over the lid itself, more specifically, where each of them will be guided between a pair of bars, at intervals equal to those of the bars, forming a guide that is closed at the bottom by the grid of the lid itself and on the top with the collaboration of a pair of transversal rounds, which also act as slide limit stops for the bars, which include in the intermediate area between both stops a blocking element which determines that the bar is in turn blocked in the open or closed position, depending on which side of the bars of the grid it is situated.

[0011] More specifically, the outer end of the sliding bar is doubly and orthogonally elbowed, first downwards and then outwards, so that the free end fits into one of the slots of the corresponding matching bar to the side wall of the container, thereby allowing to adjust the height of the lid to suit different sizes of bottles and turn the bottle container into a "universal" element.

DESCRIPTION OF DRAWINGS

[0012] In order to complete the description and with the aim of allowing for a better understanding of the characteristics of this invention, according to an example of the preferred embodiment of same, a set of drawings is attached as an integral part of this description, representing the following in an illustrative and non-restrictive manner:

Figure 1.- Shows a perspective view of a bottle container manufactured in accordance with the object of this invention, with the lid unattached.

Figure 2.- Shows an enlarged detail of the bars that reinforce the side face supporting the container.

Figure 3.- Shows a perspective detail of the lid of the bottle container with the two sliding bars and in an inoperative or open situation for same.

Figure 4.- Shows a detail that is similar to that of Figure 3, in which the sliding bars are shown in the locked position.

Figure 5.- Shows a partial detail of the bottle container as a whole, with the lid also in the closed position.

PREFERRED EMBODIMENT OF THE INVENTION

[0013] In the aforementioned figures and especially in Figure 1, we can see that the bottle container in question is structured, in the conventional manner, based on a metallic frame (1) that forms the angles of an imaginary rectangular prism, open at the top, whose floor and side walls are closed by means of the respective metallic grids (2), whose lower base rests on two lateral and parallel runners (3) that make it easier to move the container along the floor and at the same time raise the base conveniently so as to allow the catches or arms of a lift truck to pass underneath and that there is a drop door (4) on one of the side walls, which affects approximately the upper half of same and is kept in a stable closed position by means of bolts (5), incorporating on the lateral wall that is opposite the aforementioned door (5) another two lateral and parallel runners (6), on the same plane as the aforementioned runners (3), which in turn allow to slide the container when it has rotated to the horizontal bottle position and that there is a lid (7) similarly manufactured of a metallic grid with bolts (8) which are identical or similar to the aforementioned bolts (5) and that in this case cross through perforated bars (9), conveniently welded to the lateral walls of the container beside the door (4), whereas both types of bolts are retractable against the tension of respective springs that tend to keep them in the closed position.

[0014] In accordance with the invention, the side wall (10) of the container opposite the door (5) includes strong diagonal bars (11), placed between its angles, which with the collaboration of an intermediate crossbar (12) ensure maximum structural rigidity on this face, thereby avoiding that when the catches or arms on a lift truck function, even when they are short, the metal grid that closes the bottles for this lateral wall (10) should be deformed.

[0015] Furthermore, on this same lateral wall (10), as well as the two traditional parallel runners (6), there are two other similar runners (13), corresponding to the other two edges, so that no matter which position the container is placed on a roller platform, there will always be runners (6-13) on this side transversal to the rollers of the platform, that will ensure it is easy to move the container.

[0016] Instead of the lid (7) with the traditional bolts (8), specifically when the necks of the bottles should not cross through this lid and with a view to allowing to position this lid according to the different sizes of bottles, a second gridded lid (14) may be attached to the container, with rods (14) that are considerably closer to each other, with the particularity in this case that the lid includes, in correspondence with each of its closing edges, a girder (15), considerably dephased outwardly and upwardly, to which the ends of a series of crossbars (16) are fixed, which are superimposed on the lid itself and fixed to same, preferably forming two pairs in which the crossbars are substantially close together and, with the collaboration of the girders (17-17'), form a guide or rail for a sliding bar (18), whose outer end is orthogonally and downwardly angled, determining a wide vertical descending section (19), and a second outward angle, determining a terminal section (20) which functions like a

blocking element on the corresponding bar (9), which in this case and as well as the holes (21) for selective reception of the traditional bolts (8) if the lid (7) is being used, includes a vertical line of slots (21) that are able to selectively receive the operative end (20) of the sliding bar (18), as may be specially seen in Figure 5, allowing in turn to adjust the height of the lid (14).

[0017] Consequently, the operative end (20) of the sliding bar (18) is able to adopt two limit positions, one in which it is retracted with respect to the girder (15), as may be seen in Figure 3, and another in which it juts out over same, as may be seen in Figure 4, whereas these two limit positions are stabilised by the existence of a blocking element (22) mounted on the bar itself (18) and able to accommodate both sides of the girders (17'), stopping the latter, as may also be seen in the aforementioned figures 3 and 4.

[0018] Each pair of crossbars (16) is also stiffened by a pair of upper rounds (23), which could act as limit stops for the blocking element (22), although in the example represented in the figures, the displacement of the sliding bar (18) is limited by the incidence of its first elbow either on the nearest girder (17) or on the outer girder (15).

[0019] In the example of practical embodiment represented in the figures, the lid (14) includes four sliding bars (18), corresponding to four blocking points for this lid with respect to the body of the container, but evidently this number may vary and be higher or lower without affecting the essence of the invention.

Claims

1. A bottle container, of the type formed by a metallic rectangular prismatic body, open at the top and with a pair of runners at its base, a drop door on one of its side walls and on the opposite side wall, a second pair of runners, which like the lower runners, separate the corresponding face from the floor or supporting plane; a body which is complemented by a lid in the form of a metallic grid that may be attached to the opening of the body with the collaboration of retractable bolts, **characterised by** the fact that on the lateral face opposite the side door, the one with the second pair of runners, there are robust diagonal stiffening bars (11), which preferably come together over an intermediate crossbar (12), forming a rigid supportive structure for the catches or arms on the fork lift truck, when the latter are short, measuring less than the width of the container.

2. A bottle container, according to the 1st claim, **characterised by** the fact that on the same side wall of the frame, the one holding the second pair of runners (6), there are another two runners (13), corresponding to the other two edges, which ensure optimum movement of the container on a roller platform, no matter which position the container adopts on the platform.

3. A bottle container, according to the 1st claim, **characterised by** the fact that the lid (14) includes, in correspondence with each pair of perforated side bars (9) which receive the bolts (8) that close the lid, two pairs of crossbars (16) which function as sliding rails for sliding bars (18), with a double orthogonal elbow (19-20) on their outer ends, the former pointing downwards and the second pointing outwards, so that the free end of each of the sliding bars is liable to fit selectively into a transversal slot (21) on the corresponding lateral bar (9) on the body of the container, along which a line of slots (21) is also established, with a view to adjusting the height of the closed lid in the locked position.

4. A bottle container, according to the 3rd claim, **characterised by** the fact that the aforementioned crossbars (16) that function as rails for the sliding bars (18) have two girders (15) on their outer ends, which constitute limit stops for these bars, while under these crossbars there is another girder (17), significantly behind the latter, which in turn constitutes the limit stop for retraction of the sliding bars (18).

5. A bottle container, according to the 3rd claim, **characterised by** the fact that each sliding bar (18) includes a blocking element (22) established on same, able to act on both sides of a third girder (17') established on the lid, blocking this bar (18) in the open or closed position for the operative end of same.

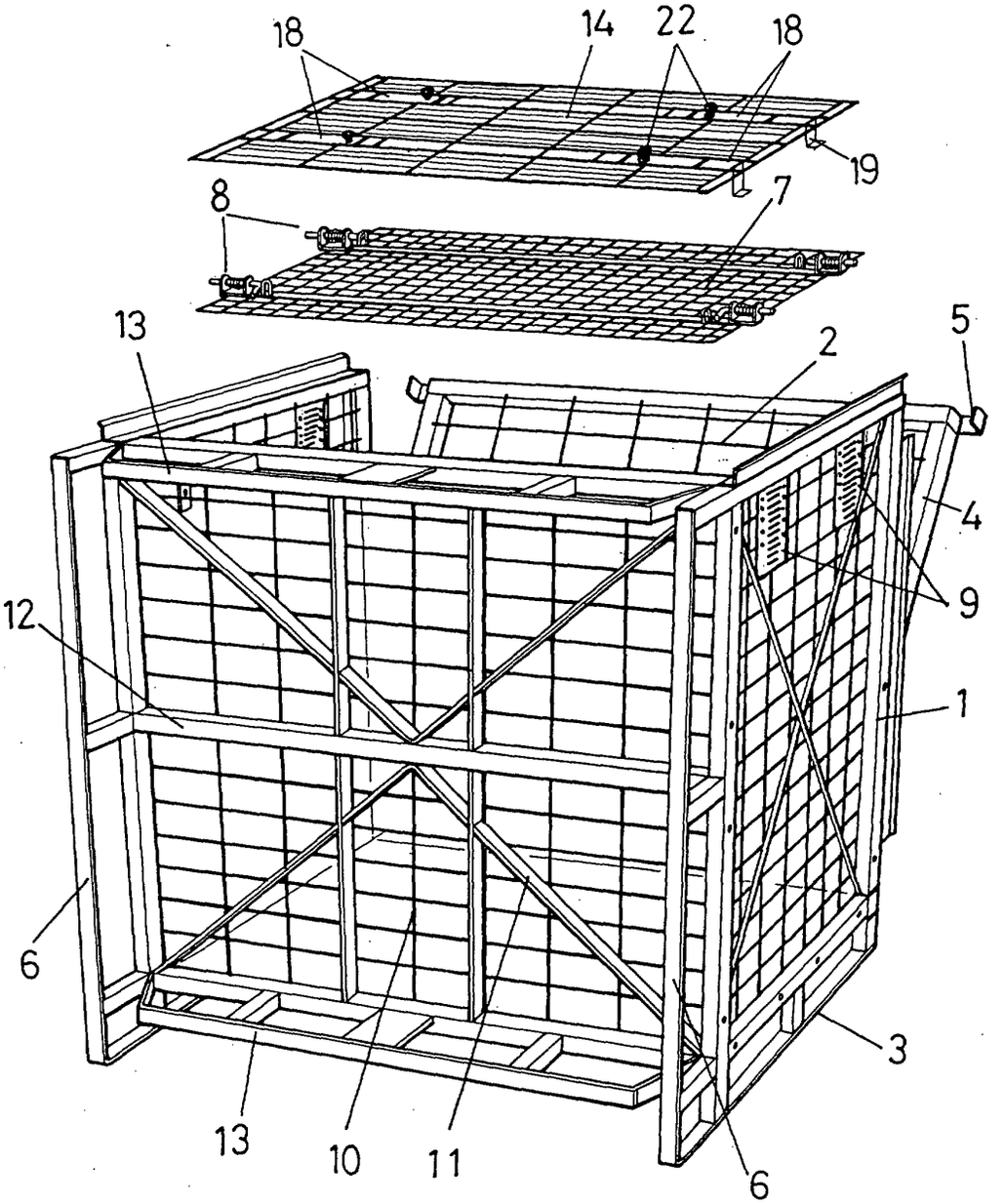

FIG.1

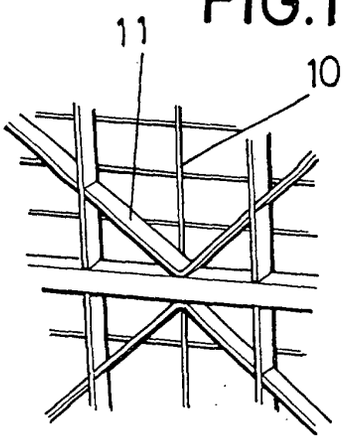

FIG.2

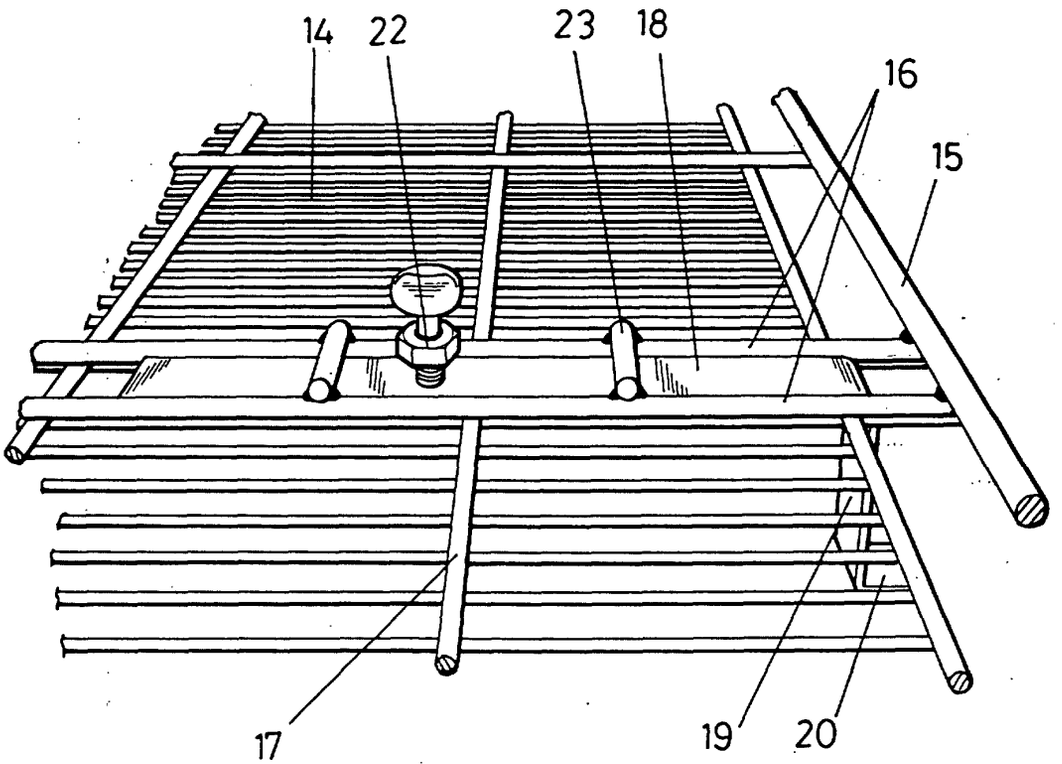

FIG.3

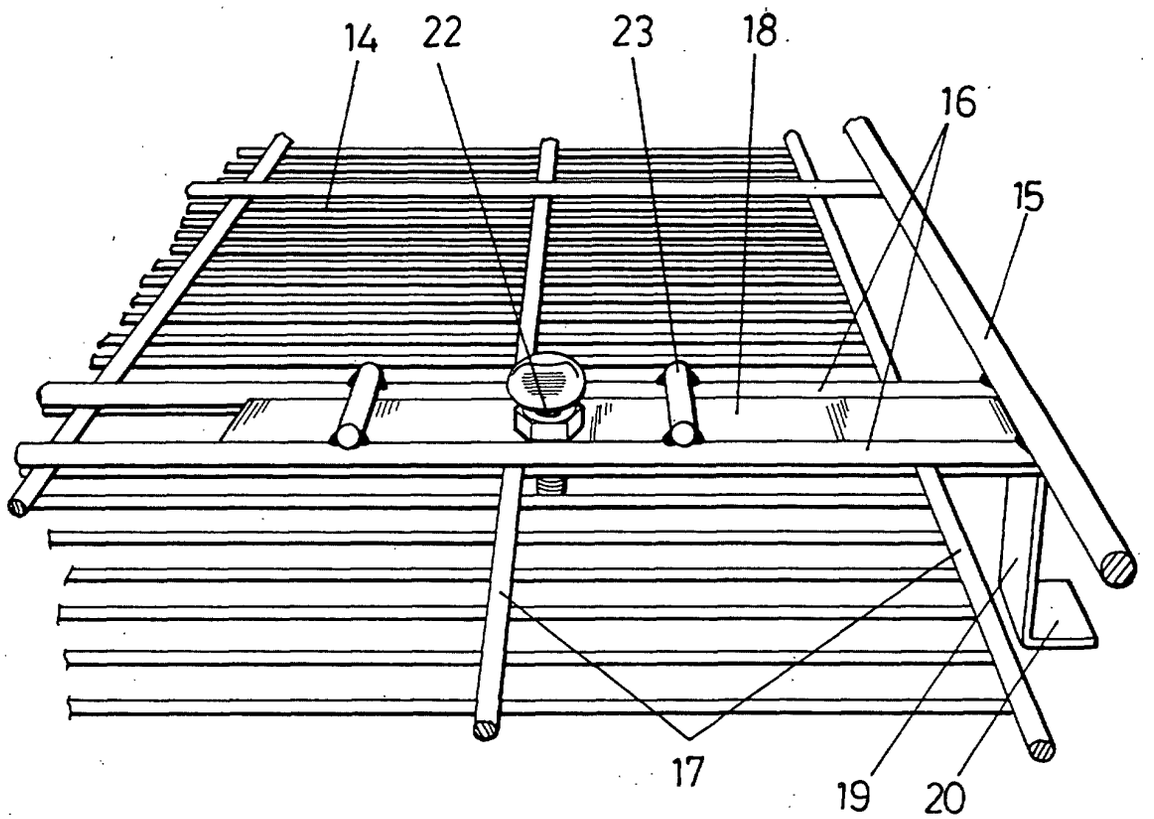

FIG.4

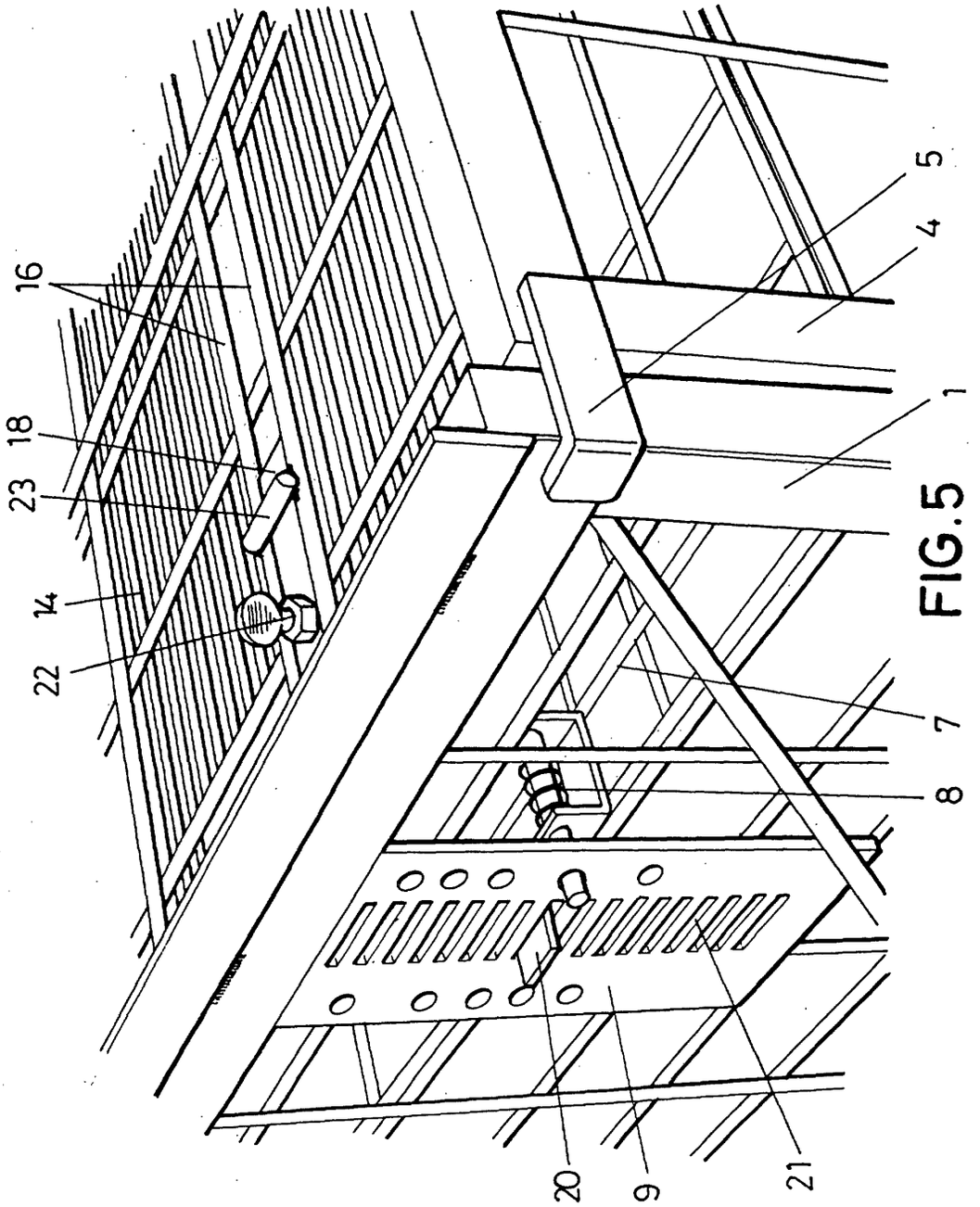

FIG.5

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EUROPEAN SEARCH REPORT

Application Number
EP 02 38 0237

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	23 January 2004	Mans-Kamerbeek, M

CATEGORY OF CITED DOCUMENTS

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