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(54) **Components for stocking and transport of standardized containers**

(57) There are proposed improvements in guides for scaffoldings bearing containers of various heights,

formed by guide crosspieces with end stops for containers in the ends of crosspieces and notches or protrusions in various positions along the crosspieces.

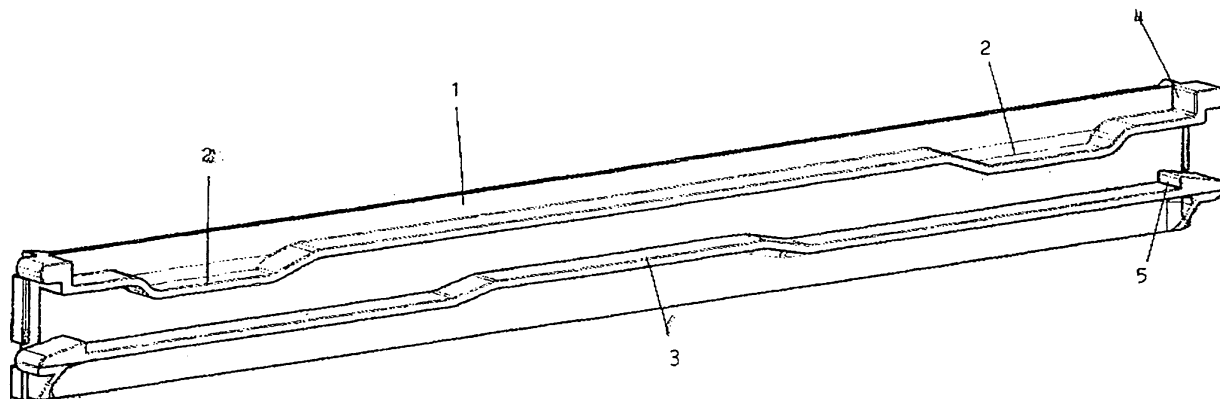


Figure 3

Description

[0001] This invention refers to a component system with uprights and crosspieces assembled with one another, for the use in transport shelvings, that forms a support structure suitable for receiving various types of containers, whose dimensions correspond to the values foreseen by existing standards.

[0002] This system has characteristics that are claimed in detail in the following paragraphs, that allow to solve correctly some problems that are particularly important in the field of various use sectors.

[0003] A first aim regards the shaping of guides, in which the horizontal edge of containers, that forms an integral part of crosspiece, slides.

[0004] This crosspiece was projected for obtaining various important results:

- Stop system of container before its total extraction;
- Stop system, in partially extracted position, of a shelf or bearing container;
- Holding in fixed position of a container supplied with cover, that bears on the superior surface of guides.

[0005] This invention allows to stop various types of modular containers before its complete extraction, but it also allows the total extraction after having lifted the same container.

[0006] The same shaping allows, further, to stop, after the extraction, a first bearing shelf, supplied with suitable stops.

[0007] Finally, a modular container, supplied with cover, is laid onto the superior surface housed in fixed positions.

[0008] The following text shows the main details of the invention. The figures show:

Figure 1 shows a series of general assembly views of shelving according to the invention, with details in section of crosspieces with ends in dovetail form;
Figure 2 shows details of crosspieces and of its assembly on uprights;
Figure 3 shows, in perspective view, in more enlarged scale the crosspieces with related notches and protrusions located on its length.

[0009] Figure 1 shows a front view and a lateral view of a shelving completed with highlighted crosspieces made of two elements that form, by means of two half-crosspieces, a complete crosspiece and with ends having a dovetail form that are fixed in uprights.

[0010] Figure 2 is a more detailed view of shelving with crosspieces, in which it is shown that the end crosspieces are half-crosspieces, while the intermediate crosspieces are made with two crosspieces equal and opposite.

[0011] Figure 3 shows the detail of notches 2, formed in a crosspiece element 1, and of protrusion 3 that is used as support for the container. Further there are well shown

the steps in the superior part 4 and the end stops in the superior part 5.

[0012] Another detail of the fastening system applies the solution for connecting upright and crosspiece, that is based on the particular dovetail form that is claimed in detail, applied in crosspiece ends and on C- shape of upright suitable for receiving itself (see Figure 1, detail D). The crosspieces 1 are inserted into the upright and can slide along its whole length, and they are fixed in the wished position thanks to the insertion of suitable spacers that are fixed in the same upright and that form the bearing of crosspiece 1. (See Figure 2, details G and F).

[0013] This system allows to adjust at will the portion of crosspiece in vertical direction according to container height to be inserted, for satisfying the requirements of all of dimensions foreseen by existing standards.

[0014] The particular structure of crosspiece, holding the head in dovetail form that is fixed into upright, was studied for allowing that the same crosspiece can be used as right or left support having symmetrical form; in this manner it is possible to join with one another two crosspieces flanked at the same height and fixed in the same upright, for obtaining a central support of a shelving having many modules (see Figure 1, detail C and Figure 2, detail G).

[0015] The above mentioned structure can be used both as it is for forming a self-bearing shelving, and assembled in the inside of a container or opened laid onto a basis supplied with wheels and then forming a part of a more complete transport system of materials (see Figure 2). The drawing of crosspiece allows its washing and disinfection by automatic systems.

[0016] The materials used for making the structures are galvanized aluminium alloy for the uprights, self-lubricating plastic material and resisting to high temperatures for traverses.

Claims

1. A system for fastening crosspieces to uprights that allows an adjustment at any height for receiving all possible dimensions of standardized containers, **characterized in that** the dovetail joint for connecting upright and crosspiece is made up so that the same crosspiece is symmetrical and can be assembled as right or left support and, once there are assembled the right and left crosspieces, it is possible to create a central support coplanar without increasing the upright overall dimensions, **characterized in that**, when the crosspiece is assembled in the inside of a mobile or fixed cubicle, it does not show occlusions or blind hollow spaces, that limit the cleaning possibilities, that allows to get a system perfectly suitable for the use in the situation in which the hygiene is a primary necessity.
2. Crosspiece made up substantially of a profile in "C"

form provided with vertical web, forming a sole body with a vertical plate, supplied with notches in the superior part and/or in the lower guide part and having a protrusion in the lower part and/or in the superior part of the guide and supplied with end stops that allow to stop containers just before the extraction. 5

3. Crosspiece according to preceding claims, **characterized in that** it is made up for being symmetrical and supplied in the ends with expansions or protrusions forming a half dovetail, therefore two crosspieces joined together form in the ends a dovetail that is fixed in upright guides, also these ones having internal hollow space shaped in a dovetail form. 10 15

4. A fastening system for crosspieces **characterized in that** the connection between upright and crosspiece, that uses the particular dovetail form used in crosspiece ends and the shaping in C form for the upright suitable to receive it, in which the crosspieces are inserted into the upright and can slide on all of its length, and are fixed in the wished position owing to the insertion of suitable spacers that are encased in the same upright and form the bearing of crosspieces. 20 25

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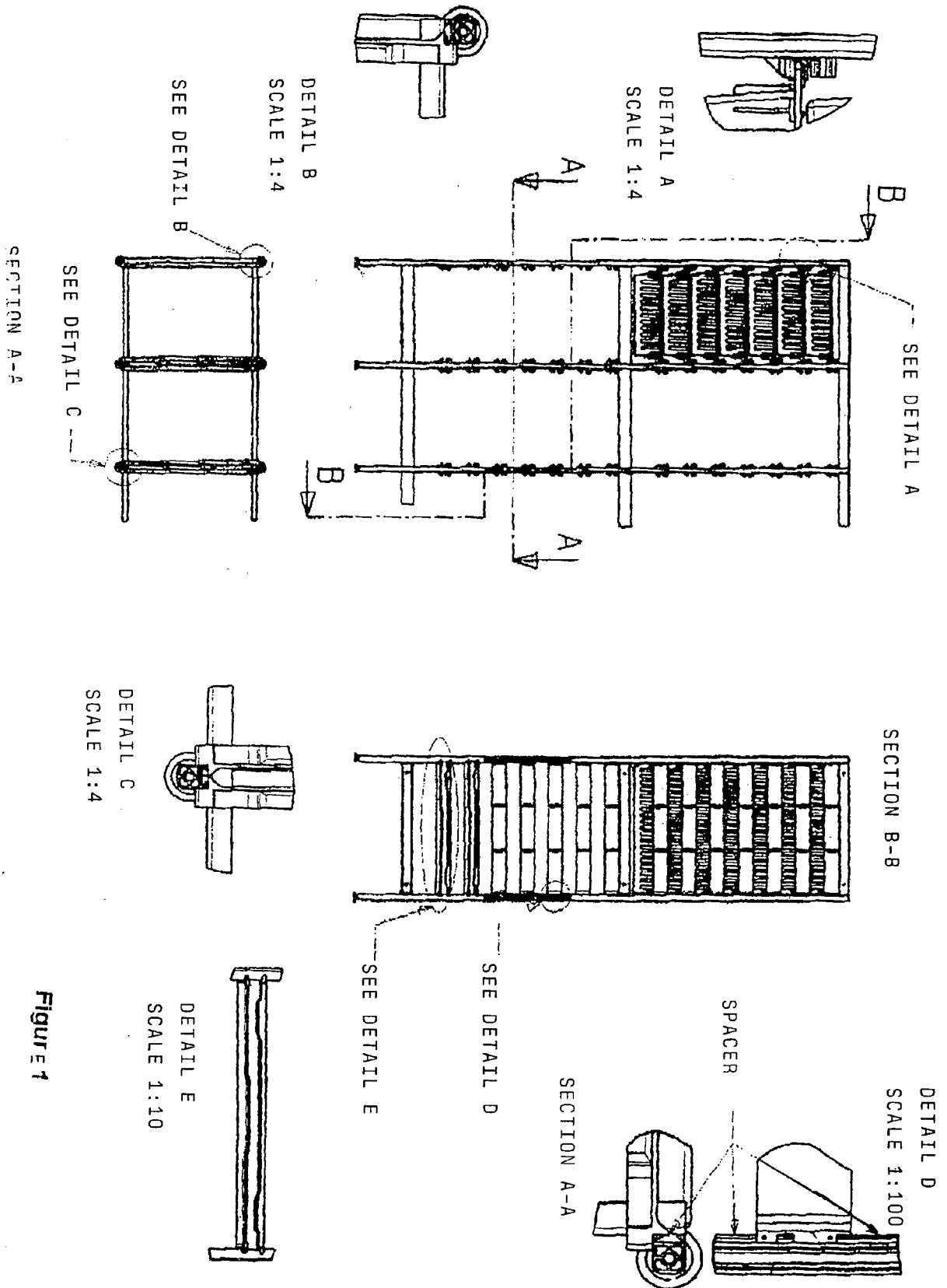


Figure 1

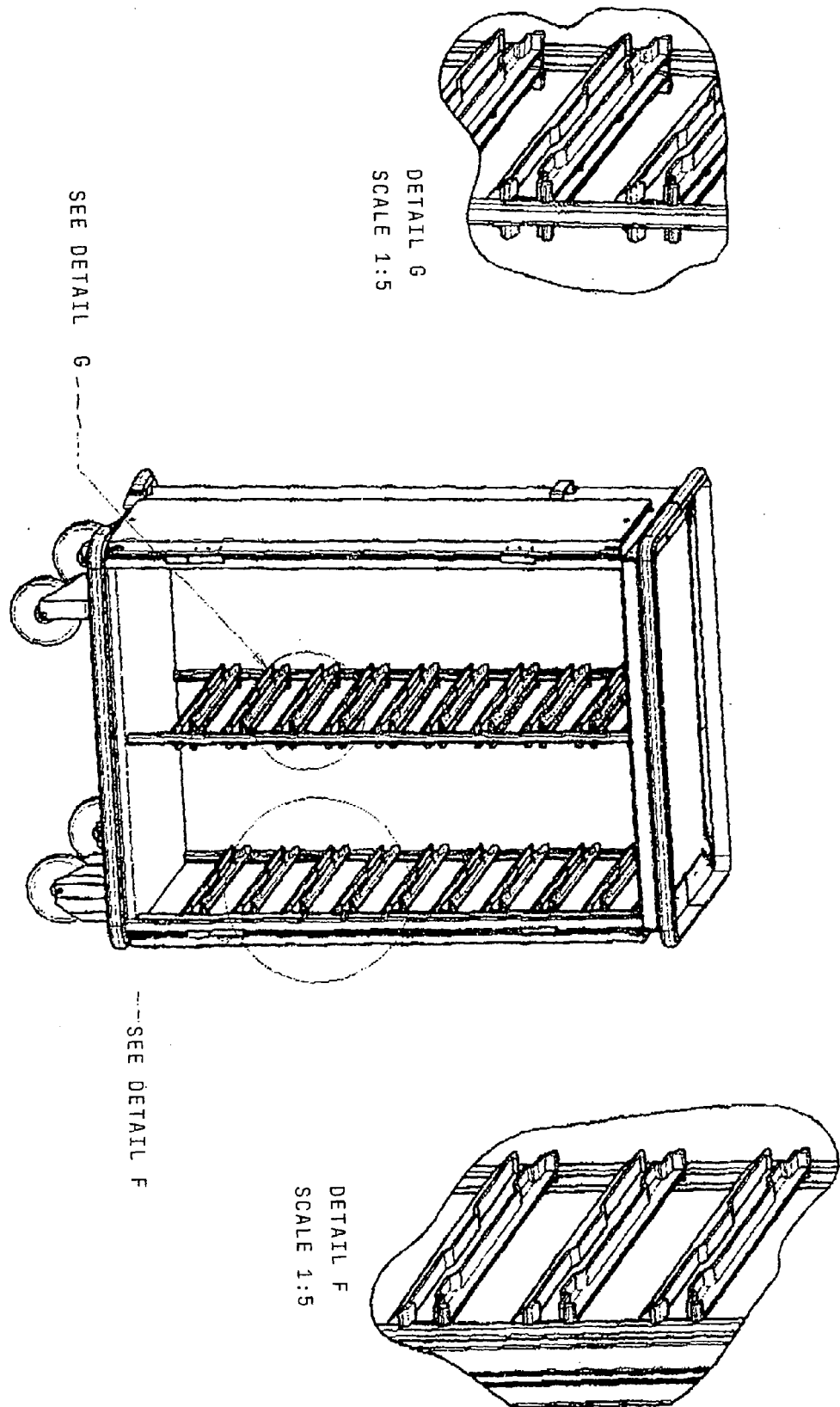


Figure 2

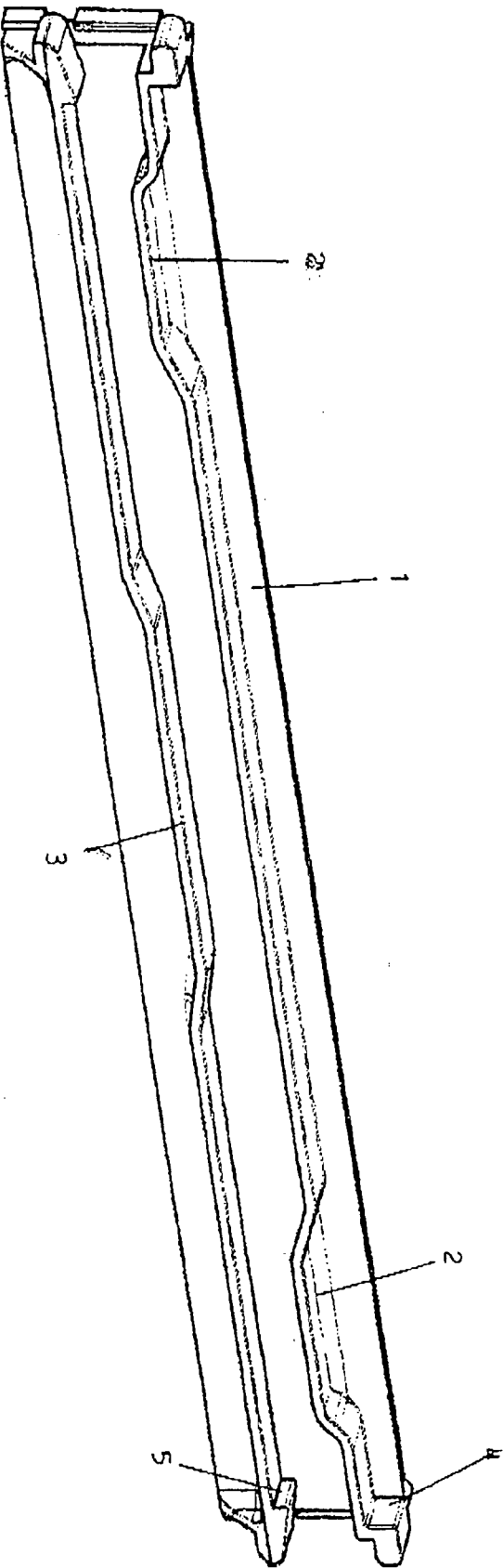


Figure 3