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(54) Device for use in the storage or transportation of garments

(57) A garment rack for the suspended transport or storage of garments comprises a frame (3,3') which can be suspended on the beams (4,4') of a storage rack or of a transport rack. Attached to said frame, which also has points of application (2,2') for a transport means such as a forklift truck, are rods (1,1') over which garment hangers can be pushed. The garments hang beneath the frame both during the transportation and during the storage. The structure is simple and easy to handle.

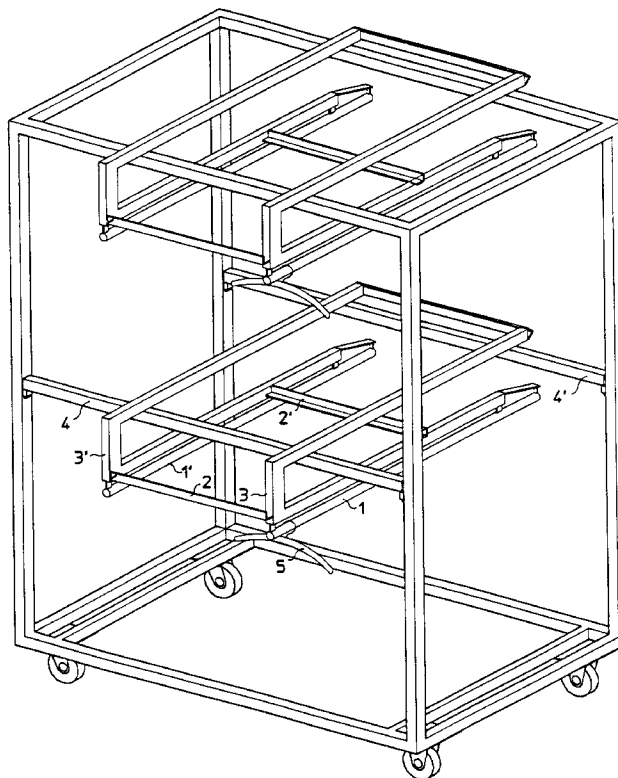


Fig. 3

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Description

A. Background of the invention

The invention relates to a device for use in the storage or transportation of garments, which device comprises for that purpose first means for coupling to garments suspended on garment hangers and also second means for coupling to a transport means.

Such a device is disclosed in FR 2616310.

In the device according to this known art, a (foldable) clothing stand in which the first means take the form of rods on which hangers with garments can be hung is mounted, when in use, on a pallet employed as second means and the clothing stand is transported together with said pallet (for example using a forklift truck) or stored in a warehouse. The combination of clothing stand and pallet requires a relatively large amount of care in handling. The joint between the two has to be well secured, while the combination is quite quickly top heavy and, as a consequence of the height of the stand, it has to be fitted in carefully between the beams of the storage rack when stored in a storage rack. The whole is also relatively expensive in view of the fairly complicated structure which requires a large amount of material.

In US 4 037 728 a device is disclosed for transportation of garments which is especially aimed at clamping the garment hangers to a hanger bar.

The transport means in this case is a trolley and the coupling of the device to the trolley is done by placing the roller assemblies, employed as second means, upon a rail. This will normally be done manually and the known device does not lend itself to being handled by the forklift trucks used in warehouses.

B. Summary of the invention

The object of a device according to the invention is to eliminate the above drawbacks, namely to provide a device which is easy to handle both during transport and during storage in a warehouse, and is cheap as a consequence of the simplicity of structure. A device according to the invention has, for this purpose, the characteristic that the device also comprises third means for suspending the device underneath the beams of a rack. Precisely for the purpose of manageability, the device furthermore has the characteristic that the third means are situated above the first means when the device is in use.

The invention is based on the insight that a device in which the centre of gravity in the loaded state is situated underneath the points of application for the transport means during the transport phase and underneath the suspension points in a rack during the storage phase is more stable and is consequently also simpler to handle than a device according to the known art. The solution found also offers the advantage that it yields a simple and cheap structure.

The device according to the invention may, for example, form part of a storage system in a warehouse.

Warehouses for storing goods on behalf of third parties are encountered at an increasingly large number of sites. Said third parties then allow the delivery to the warehouse, the storage and the distribution to clients to be provided by the operator of the warehouse. The operator concerned acts as provider of logistic services. It is of importance to him that the warehouse and the working methods used therein do not have to be adapted to the type of goods, while, on the other hand, the ability to process diverse types of goods offers great advantages. These advantages are, inter alia, the fact that expansion of the range of processable goods results in an increase in the potential group of clients (less dependence on a limited number of large clients) and the fact that seasonal effects can be absorbed better (since diverse seasonal effects generally apply to different types of goods). Hitherto it has been difficult to fit products from the clothing industry into the methods and appliances of nonspecialized suppliers of logistic services. The device according to the invention also makes it possible for the nonspecialized warehouse operator to include the storage and distribution of garments in his range of services.

The device is intended, on the one hand, for use in existing storage racks, which do not need to be adapted for this purpose, and, on the other hand, for suspension in mobile racks. Said mobile racks can be transported in lorries, together with the devices suspended therein and provided with garments.

According to a preferred embodiment of the invention, the third means take the form of U-shaped frames which are pushed over beams in a rack when the device is in use. Said frames can then be joined to each other by the second means.

In a second preferred embodiment of the invention, the third means take the form of rods bent to form a hook. Said rods are then attached to the second means.

C. Reference

FR 2616310 Dispositif pour supporter des vêtements en cours de stockage ou de transport (Device for supporting garments during storage or transport)

US 4 037 728 Clamp for garment racks

D. Short description of the drawing

The invention will be explained in greater detail by means of a description of an embodiment, reference being made to a drawing, in which:

- Fig. 1 is a perspective view of a first preferred embodiment of the device;
- Fig. 2 is a perspective view of a second preferred embodiment of the device;
- Fig. 3 is a perspective view of a mobile rack in which two devices according to the first preferred embodiment are suspended.

E. Description of an exemplary embodiment

In Fig. 1, which shows a first exemplary embodiment of a device according to the invention, (1) and (1') are rods or tubes to which garments (not shown), suspended on garment hangers (5) can be coupled. In this figure, (2) and (2') are profiled sections for coupling to a transport means such as is much used in warehouses, for example a forklift truck. The profiled sections (2) and (2') form points of application for the fork of such a transport means. The U-shaped frames (3) and (3') can be used to suspend the device, together with the garments suspended thereon, to the beams (4) and (4') of a rack. The latter may be a fixed storage rack or a mobile rack. Such a mobile rack preferably has dimensions which are such that one or more such racks can be transported in a lorry.

In Fig. 2, which shows a second preferred embodiment of a device according to the invention, (1) and (1') are again rods or tubes on which garment hangers (5) with garments (not shown) can be hung. The frameworks (2) and (2') here form the means for coupling to a transport means, such as a forklift truck. The hook-shaped bent rods (3), (3'), (3'') and (3''') serve to suspend the device, together with the garments suspended thereon, on the beams (4) and (4') of an optionally mobile rack.

Fig. 3 shows a mobile rack in which two devices according to the first exemplary embodiment are suspended.

using a store transport means, which is otherwise known, on beams of a storage rack, together with the garments suspended thereon.

7. Method for transporting garments, in which the garments hang on garment hangers, using devices according to one of the preceding claims, characterized in that, during the transportation, at least one device, together with the garments suspended thereon, is suspended on beams of a mobile rack.

Claims

1. Device for use in the storage or transportation of garments, which device comprises for that purpose first (1, 1') means for coupling to garments suspended on garment hangers (5) and also second means (2, 2') for coupling to a transport means, characterized in that the device also comprises third means (3, 3') for suspending the device underneath the beams (4, 4') of a rack.
2. Device according to Claim 1, characterized in that the third means are situated above the first means when the device is in use.
3. Device according to Claim 2, characterized in that the third means comprise at least two U-shaped frames.
4. Device according to Claim 3, characterized in that the frames are joined together by the second means.
5. Device according to Claim 2, characterized in that the third means comprise at least two rods, each bent to form a hook, attached to the second means.
6. Method for storing garments, in which the garments hang on garment hangers, using devices according to one of the preceding claims, characterized in that, during storage, at least one device is suspended,

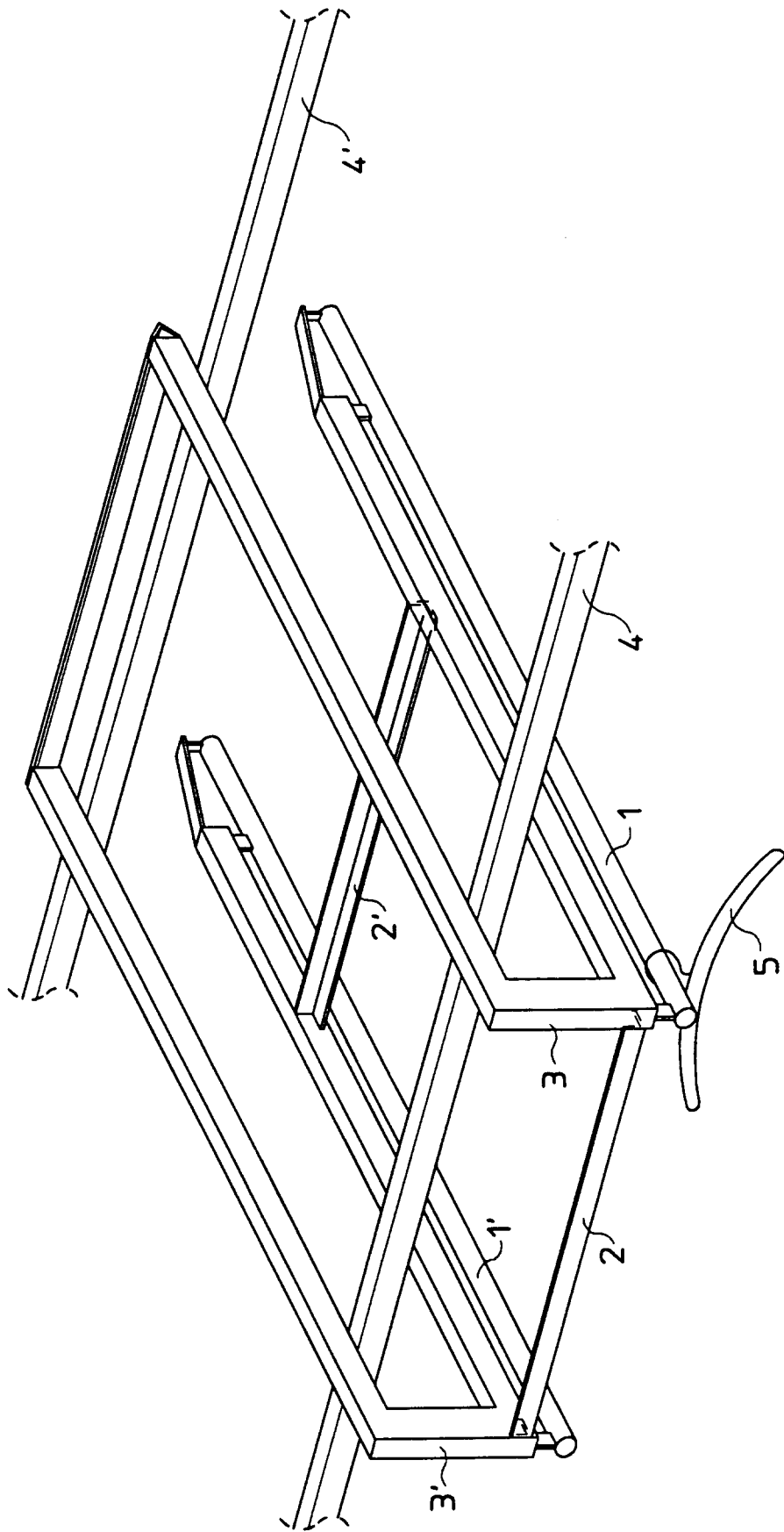


Fig. 1

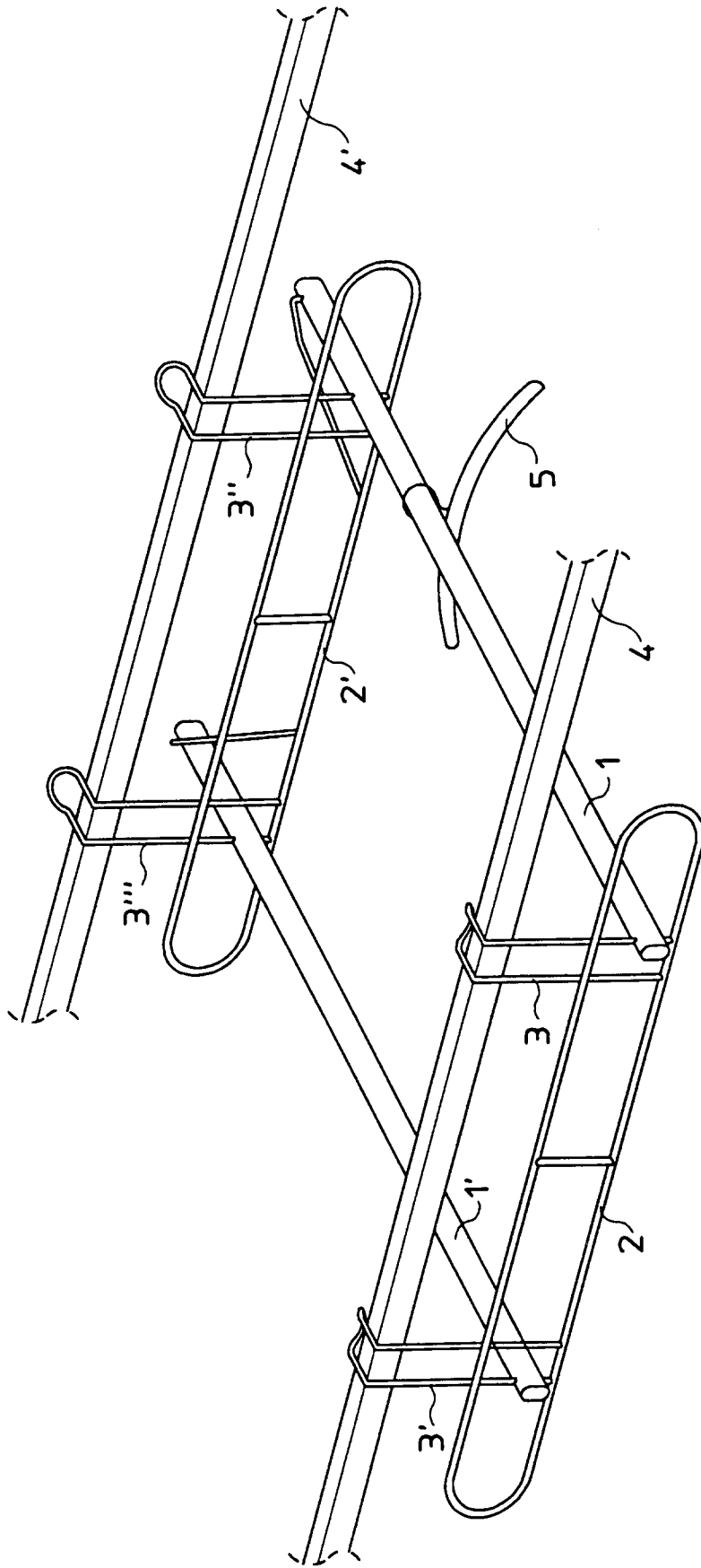


Fig. 2

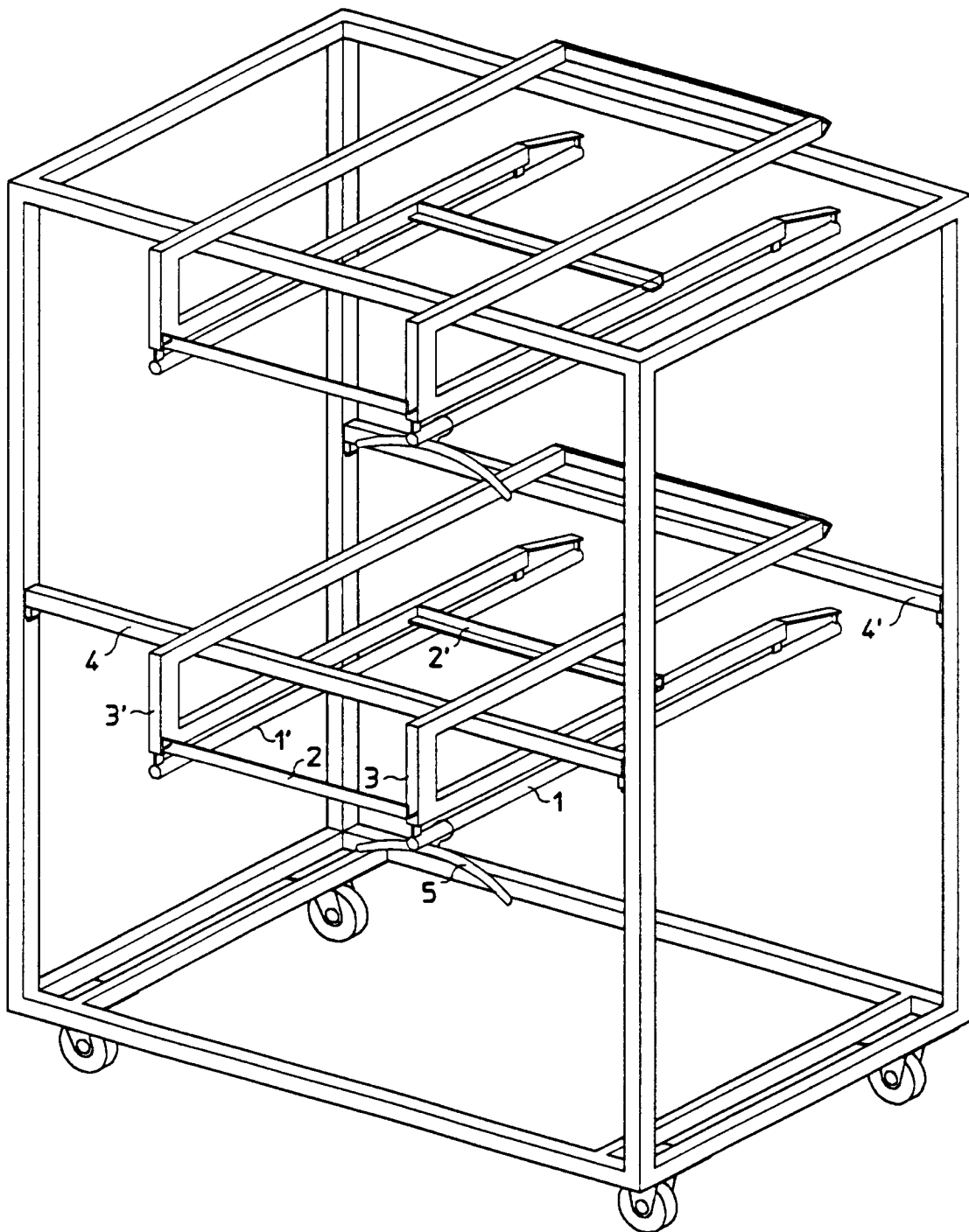


Fig. 3



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EUROPEAN SEARCH REPORT

Application Number
EP 95 20 1757

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|--|--|----------------------------------|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| X | US-A-4 037 728 (CAMERON) * column 2, line 4 - column 5, line 41; figure 1 * | 1,2,5 | A47F7/24 A47F5/13 |
| A | FR-A-535 102 (DEHAYS) * the whole document * | 3 | |
| A | US-A-5 121 844 (BALL) * column 2, paragraph 65 - column 4, paragraph 65; figures 1,2 * | 1,6,7 | |
| A | GB-A-1 585 677 (PATMAR LTD) * page 1, line 14 - line 22; figure 1 * | 1 | |
| A | FR-A-2 080 378 (LINDE AG) * page 2, line 18 - page 3, line 10; figure 1 * | 1 | |
| | | | TECHNICAL FIELDS SEARCHED (Int.Cl.6) |
| | | | A47F A47B B65G |
| The present search report has been drawn up for all claims | | | |
| Place of search | | Date of completion of the search | Examiner |
| THE HAGUE | | 3 October 1995 | De Groot, R |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p> | | | |

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