(54) Title: METHOD OF HANDLING PRODUCTS AND A DEVICE FOR CARRYING OUT THE METHOD

This invention relates to a method of handling and exposing products, for instance boat engines. According to the method the product is placed on a stand, whereafter the stand is connected with a barrow. Then transportation can be made from one place to another, whereafter the barrow is loosened from the stand. The invention also relates to a device for carrying out the method.
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METHOD OF HANDLING PRODUCTS AND A DEVICE FOR CARRYING OUT THE METHOD.

This invention relates to a method of handling and exposing products, for instance boat engines and similar things. The invention also relates to devices for carrying out the method.

There are great problems connected with handling of principally heavy objects like for instance boat engines of outboard type in sales rooms and store rooms. There is for instance a desire to expose the boat engines in the sales room during the light season, that is spring and summer, while there is perhaps a desire to move away the boat engines to the store room during autumn and winter and instead move in other products, for instance ski equipment, in the sales room.

It is not only the transportation itself between the store room and the sales room that is troublesome but also the setting up and the putting down of the boat engines when exposing the products in the sales room. In that connection the boat engines ought to be so arranged that the whole collection of boat engines can be put out for public exhibition in a simple way.

This invention intends to remove the problems with known technique and offer a solution which facilitates the handling of heavy objects, for instance boat engines, to a great extent. This has been made possible by methods and devices in accordance with the following claims.

By this invention the need of a manual effort is limited to a minimum when handling for instance boat engines.

The invention shall be described more closely with reference to the accompanying drawings, in which Fig. 1 shows a first embodiment of a stand according to the invention, Fig. 2 shows a plurality of stands according to Fig. 1, piled on each other, Fig. 3 shows a second embodiment of a stand according to the invention, Fig. 4 shows a third embodiment of a stand according to the invention. Fig. 5 shows a barrow for use together with the stands according to Figs. 1 and 4. Fig. 6 shows a wall stand especially designed for cooperation with the stand
according to Fig. 1, and Fig. 7 shows a perspective view of the invention in function.

Referring to Fig. 1 is shown there a first embodiment of the stand. This stand comprises two L-formed frame parts 1, 2 which are placed beside each other and are connected with each other. Each frame part 1, 2 comprises an essentially vertical portion 3, which at the bottom is permanently connected with an essentially horizontal portion 4. The vertical portions are at the top connected with each other by means of two crossbars 5, 6. It is, of course, possible to place for instance the one bar at the lower part of the vertical portions 3 and also to arrange a crossbar connecting the horizontal portions 4. The last-mentioned crossbar suitably ought not to be arranged if the stand is intended to be used together with such a wall stand shown in Fig. 6.

When using the stand the object, for instance a boat engine, is intended to be hanged up at the inside of one of the crossbars 5, 6, whereby the centre of gravity is within the area of the horizontal portions 4. This has the consequence that the stand stands steadily on the ground, even if it bears an object.

Stands according to Fig. 1 are easy to pile upon each other, which is shown in Fig. 2, whereby the storage of stands when not being used can be made in small spaces, relatively spoken.

In Fig. 3 is shown a second embodiment of the stand. This stand has the same principle construction as the stand according to Fig. 1 but differs from this one by being provided with wheels and with a handle. In that connection one wheel 7, 8 is arranged in each frame part 1, 2 and suitably at the point of intersection between the portions 3, 4. The handle 9 is arranged at the upper part of the vertical portions 3. Due to the fact that the stand is provided with wheels, it is very easy to move the stand between different places. A drawback with this stand compared with the stand according to Fig. 1 is that the stand, of course, becomes more expensive to manufacture.

In Fig. 4 is shown a third embodiment of the stand ac-
cording to the invention. This stand can also be built up by two L-formed frame parts positioned at a distance from each other. However, the frame parts are covered by a horizontal plate 10 and a vertical plate 11. Due to the fact that the area between the L-formed frame parts are covered by plates, this stand is suitable to be used when exposing small objects.

The frame parts 3 and 4 comprise girders, which suitably are tubular. In that connection the cross-section of the two girders 3 and 4 is essentially the same.

Common for the stands according to the Figs. 1 and 4 is that they are intended to be used together with a barrow, which is shown in Figs. 4 and 5. This barrow has essentially the same construction as the mobile stand according to Fig. 3. However, the girder 12 corresponding to the girder 4 in Fig. 3 is considerably shorter and has a less cross-section. The cross-section of the girder 12 is so adapted that the girder 12 shall be able to be pushed into the tubular, horizontal girder 4 in the stands according to Figs. 1 and 4. In that connection it is possible to bring the girders 12 of the barrow into the horizontal girders 4 either on the front side or the rear side of the stands.

Of course, it is possible that the girders of the stands according to the Figs. 1, 3, 4 are massiv. In this case, however, the girders 4 of the stands according to the Figs. 1 and 4 have to be provided with suitable female means which can co-operate with the male means of the barrow in the form of the girders 12. It is also possible to modify the embodiment of the stand according to Fig. 4. Such a modification could be that the L-formed frame parts are eliminated and that a vertical plate and a horizontal plate are put together in a suitable way. In that connection the horizontal plate should be provided with shoulders so that it rises so much from the floor that the girders 12 of the barrow can come in under the same. As is shown in Figs. 4 and 5, each L-formed frame part of the barrow has been provided with two wheels, whereby the bearing resistance of the barrow increases.

By designing the barrow and the stand according to Figs.
1 and 4 in such way as has been mentioned above, it is only necessary to have one barrow for transportation of many stands. Of course, this is a cost reduction compared with that case when each stand is provided with wheels and a handle as is shown in Fig. 3.

In narrow sales rooms and store rooms it may be suitable to use the vertical space. In that connection such a wall stand shown in Fig. 6 for cooperation with the stand according to Fig. 1 should be suitable to use.

This wall stand comprises two vertical girders 13, 14 which are positioned at a distance from each other and which are intended to be fastened on a wall. Each girder 13, 14 is provided with horizontal bars 15, 16, 17 which project from the girders. In that connection corresponding bars of the girders 13, 14 are positioned at essentially the same level.

The distance between 15 and 16 respectively 16 and 17 shall be so large that a stand 18 with an object applied on the same shall have room therebetween.

In order to hold the stand 18 on the wall stand the horizontal girders of the stand are applied either on the outside of the bars 15, 16, 17 or inside the same. In the former case the bars 15, 16, 17 can be made of massiv material like the horizontal girders of the stand 18 in the later case. In the normal case, however, these girders and bars are made of a tubular material, whereby the weight can be kept at a low level.

The setting up of a stand with a boat engine on the wall stand can be essentially facilitated if a lifting device of a pallet loader type is used.

In Fig. 7 is shown the use of a barrow according to the invention when transporting a stand according to Fig. 1 provided with a boat engine. In that connection the barrow for space reasons is suitably applied at the fore end of the horizontal girders of the stand.

The invention is also suitable to be used for a work saving purpose when delivering boat engines for instance. In that connection each boat engine could be placed on a stand
according to Fig. 1 and entirely enclosed by a carton package. In right position in the carton package have been made openings for the horizontal, tubular girders of the stand. When the boat engine enclosed in the package comes to the salesman, this one brings forward a barrow according to the invention and connects this one with the stand of the boat engine, whereafter the boat engine and stand can be taken directly to the intended place in the room.

In the patent application has been mentioned that the barrow is provided with male means which when connecting a barrow and a stand together are intended to be brought into corresponding female means of the stand. Of course, it is possible instead to apply the male means on the stand and female means on the barrow.
CLAIMS

1. A method of handling and exposing products, for instance boat engines, characterized in that the product is placed on a stand, whereafter a barrow provided with male means or female means (12) is connected together with the stand in such a way that the male means or female means (12) are brought into corresponding female means or male means (4) of the stand, and that the barrow with the stand is transported from one place to another, whereafter the barrow is taken loose from the stand.

2. A method according to claim 1, characterized in that the stand with the product is placed on a wall stand, a plurality of stands being placed above each other on the same wall stand.

3. A device usable for carrying out the method according to claim 1, characterized in that it comprises a stand provided with female means or male means (4), which stand is intended to cooperate with a barrow provided with male means or female means (12).

4. A device according to claim 3, characterized in that both the barrow and the stand have two L-formed frame parts (1, 2), positioned beside each other and at a distance from each other and are at a suitable place connected by means of crossbars (5, 6), and that the barrow in contrast to the stand is provided with wheel (7, 8) and a handle (9).

5. A device according to claim 4, the barrow having male means (12) and the stand female means (4), characterized in that the male means comprise two projecting girders (12), which are intended to cooperate with the female means of the stand, which comprise two tubular girders (4).

6. A device according to claim 5, characterized in that each frame part (1, 2) comprises two tubular girders (3, 4; 3, 12), and that the tubular girder (12) of the barrow is considerably shorter and has a considerably less cross-section measure than the corresponding girder (4) of the stand.
7. A device according to claim 6, characterized in that the frame parts (1, 2) are covered by a horizontal plate (10) and a vertical plate (11).

8. A device usable for carrying out the method according to claim 2, characterized in that it comprises a wall stand having two vertical girders (13, 14) provided with projecting, essentially horizontal bars (15, 16, 17) at different levels.

9. A device according to claim 8, characterized in that the bars (15, 16, 17) of the one girder (13) are at essentially the same level as corresponding bars of the second girder (14), and that the bars (15, 16, 17) are intended to cooperate with the horizontal girders (4) of the stands.

10. A device for an exposure stand for products, characterized in that the stand comprises a frame (1, 2, 5, 6) and supporting legs (4), which give a support for the stand when being positioned on a ground, and that the stand is provided with wheels (7, 8) whereby it can be easily transported between different points.

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# INTERNATIONAL SEARCH REPORT

**International Application No:** PCT/SE88/00613

## I. CLASSIFICATION OF SUBJECT MATTER

If several classification symbols apply, indicate all.

- B 65 G 1/16
- B 62 B 1/26
- A 47 F 7/00
- B 65 D 19/02
- F 16 M 13/00

## II. FIELDS SEARCHED

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Minimum Documentation Searched:

- SE, NO, DK, FI classes as above

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched:

### III. DOCUMENTS CONSIDERED TO BE RELEVANT

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* Special categories of cited documents:
- **A** document defining the general state of the art which is not considered to be of particular relevance
- **E** earlier document but published on or after the international filing date
- **L** document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- **O** document referring to an oral disclosure, use, exhibition or other means
- **P** document published prior to the international filing date but later than the priority date claimed

**T** later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

**X** document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

**Y** document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

**A** document member of the same patent family

## IV. CERTIFICATION

- **Date of the Actual Completion of the International Search:** 1989-06-16
- **Date of Mailing of this International Search Report:** 1989-06-20

**International Searching Authority:** Swedish Patent Office

**Signature of Authorized Officer:** [Signature]

*Form PCT/ISA/210 (second sheet) (January 1985)*
FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

II  FIELDS SEARCHED (CONT).

US Cl  214:371, 384
       280:47.27, 47.28, 651
       284:4, 128, 129, 176, 177, 249
       254:2

V  OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE

This international search report has not been established in respect of certain claims under Article 17(1) (a) for the following reasons:

1. Claim numbers.............. because they relate to subject matter not required to be searched by this Authority, namely:

2. Claim numbers.............. because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claim numbers.............. because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4(a).

VI  OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This International Searching Authority found multiple inventions in this international application as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

4. As all searchable claims could be searched without effort justifying an additional fee, the international Searching Authority did not invite payment of any additional fee.

Remark on Protest

☐ The additional search fees were accompanied by applicant's protest.
☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (supplemental sheet (2)) (January 1985)
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