



(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **93850015.4**

(51) Int. Cl.⁵ : **B65D 81/02, B65D 85/44**

(22) Date of filing : **25.01.93**

(30) Priority : **29.01.92 SE 9200248**

(43) Date of publication of application :
04.08.93 Bulletin 93/31

(84) Designated Contracting States :
DE FR GB IT SE

(71) Applicant : **Knutsson, Mikael**
Radmansgatan 9
S-702 13 Örebro (SE)

(72) Inventor : **Knutsson, Mikael**
Radmansgatan 9
S-702 13 Örebro (SE)

(74) Representative : **Bjellman, Lennart Olov Henrik**
et al
DR. LUDWIG BRANN PATENTBYRA AB
Drottninggatan 7 Box 1344
S-751 43 Uppsala (SE)

(54) **Container for the protection, transport and storage of porcelainware.**

(57) Protective device for transport and storage (1) of porcelainware adapted to be attached around piles of porcelainware, comprising an elongated, generally rectangular sheet (2) of a relatively rigid yet flexible material. At one short side (3) of the sheet (2) retaining means (6, 7) are provided for receiving and retaining a folded portion of the sheet (2), in which position the sheet (2) has an annular shape for surrounding a pile of porcelainware. Said retaining means (6, 7) preferably comprise opposing grooves facing one another, one at each longitudinal edge (4, 5) of said sheet (2) adjacent to one of said short sides (3), for receiving said longitudinal edges (4, 5) of said sheet (2) at said other short side (10) of said sheet (2).

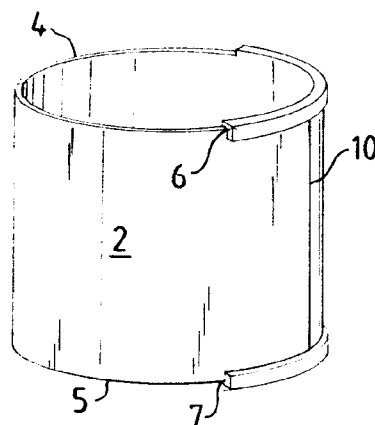
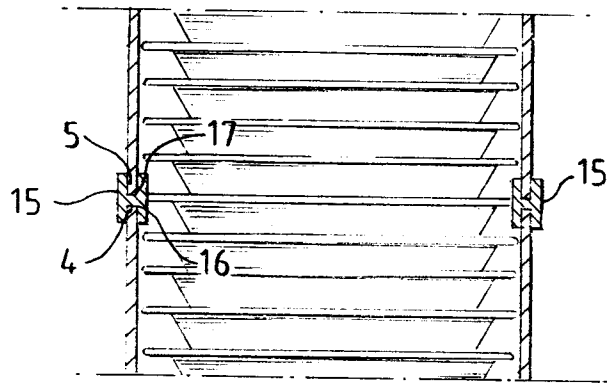


Fig. 2

Fig. 5



The present invention relates to a protective device for transport and storage of porcelainware, and particularly to a protective device, that is flexibly adjustable to porcelainware of various sizes and shapes.

In the restaurant trade, and particularly in businesses dealing with catering and party arrangements, there is always a large amount of porcelainware to be transported from the restaurant to the place, where the meals will served. Inbetween, the porcelainware should be stored and made ready for subsequent use.

Today, the porcelainware needed for the arrangement is packed in a more or less unprotected condition in cases or boxes, where piles of plates of various sizes are placed side by side, piles of coffee-cups possibly being placed between the piles of plates. When transported, these various items move laterally back and forth bumping against one another. It is during this particular movement, the items moving laterally, i.e. mutually bumping edge to edge into each other, that damage occurs. The problem is not only that the items get chipped, but also that all items get chips on their surface, making further cleaning necessary before the laying of the table(s). By using some protective device, that would prevent the porcelainware of the piles to laterally bump against each other in the cases or boxes, an economizing effect would be achieved concerning both the condition of the items of porcelainware themselves and the unnecessary splinter removal work.

Further, there is a great deal of manual pile or stack operations, including counting the desired number of items needed for each purpose, carrying the items from shelves to boxes or cases, from these latter to the table for the laying of the table, back to boxes or cases after the meal, unpacking for washing-up, and returning the items to their storage places. Thus, a continuous carrying back and forth of porcelainware will take place, whereby some porcelainware is likely to be dropped and break, causing the inconvenience of picking up broken porcelain and the cost of replacement porcelainware.

Thus, not only the problems in transporting and storing porcelainware need to be solved, but problems will occur during the entire operation related to the use of porcelainware for serving meals.

The purpose of the present invention is to prevent the aforementioned problems. This purpose is achieved by a protective device for porcelainware of the type specified in the claims, where the characteristics of the invention are also specified.

The invention will now be described with reference to the appended drawings, in which

FIG. 1 is a perspective view of a protective device for porcelainware of the invention in its initial or storage condition.

FIG. 2 is a perspective view of the protective de-

vice for porcelainware of fig 1. in its assembled or operational condition.

FIG. 3 is a schematic top view of a set of porcelainware in a box or a case provided with the protective device for porcelainware of the invention arranged around the piles of porcelainware.

FIG: 4 is a perspective view of an insert provided for piling of protective devices for porcelainware in use.

FIG. 5 is a partly broken view of two piles arranged the one on the other, and

FIG. 6 is a schematic perspective view of a lifting device adapted to be used along with the protective device for porcelainware of the invention.

Fig. 1 shows in perspective an embodiment of a protective device for porcelainware 1 of the invention. It comprises an elongated, generally rectangular sheet 2 of a relatively rigid yet flexible material, preferably of a plastic, that is resistant to dishwasher washing. A pair of grooves 6 and 7 are provided extending from one short side 3 of the sheet 2 and adjacent to and on the same side as the longitudinal edges 4, 5 of the sheet, said grooves being principally formed by folding an outer portion of the longitudinal edges 4, 5 of the sheet. These grooves 6, 7, being formed by a portion 8, protruding in a substantially perpendicular relationship from the surface of the sheet 2, and by a portion 9, protruding in parallel relationship to the sheet from the outer edge of said portion 8, said portions 9 being extended towards one another so that said grooves 6, 7 will be disposed in a mutually facing relationship, extend along a portion of the sheet 2, as shown in fig 1. The portion of the sheet 2, that has no grooves 6, 7, has a width corresponding to the distance between the inner sides of the opposite portions 8. At the other shortside 10 of the sheet 2, the corners 11 are chamfered.

Fig 2. shows a protective device for porcelainware 1 in its operational condition. Thus, the sheet is disposed as a ring obtained by inserting the other end 10 of the sheet between the opposing grooves 6 and 7 respectively. This insertion is facilitated by the fact, that the corners 11 have been chamfered. Preferably, the walls of the grooves 6, 7 are formed to provide a self-locking engagement with the wall edges inserted therein. One embodiment discloses a self-locking function, wherein the protruding portions 9 provide embossments, such as sharp or rounded wave elements that protrude a distance towards the opposing wall and similarly formed engagement means that protrude from the edges 4, 5. In this case, the distance between the protrusions and the opposite wall is adapted to allow the edges 4, 5 with their engagement means to be displaced in this position, but due to the elasticity or rigidity of the material, the edges 4, 5 strive radially outwards, thus providing the locking engagement, so that the protective device for porcelainware is kept in its protecting position, out of

which it can only be moved by a moderate force releasing the engagement.

A manageable pile of plates usually consists of 20 plates with a total weight of about 10 kilos. Thus, the width of a protective device for porcelainware 1 of the invention is basically adapted to the height of such a pile, even though it is appreciated that the width of the protective device for porcelainware 1 is not a critical one. In the initial phase, one or more piles 12 of the abovementioned type are placed, as shown in fig. 3, at the bottom of a transport case 13 or the like. Subsequently, the protective device for porcelainware 1, assembled as shown in fig. 2, is threaded on the pile 12 while pressing the device together in order to make it adapt to the size of the plates of the pile. The protective device 1 will preserve the adjusted size thanks to the self-locking function.

Once the case 13 has been filled to the possible extent, the protective devices 1 are somewhat loosened, so that they, as far as possible, rest against one another, yet preserve their rounded shape. As far as space admits, coffee-cups 14 or the like can be placed between the piles 12. In this situation, although the porcelainware can move a little, it will not have the possibility of moving out of the protective devices 1 to bump against adjacent piles of porcelainware. The protective devices 1, being fixed by the mentioned arrangement, further prevent the piles of porcelainware from substantially sliding around in the case 13.

In order to protect the porcelainware from dust or other dirt while being stored out of use, it is suitable to put protective devices for porcelainware 1 around the piles of porcelainware. However, in the storing areas, it is preferable to place more than twenty plates in a pile, so that the space available is used as well as possible. Fig. 4 shows in perspective an insert 15 of an H-shaped cross section, that is formed in a rigid yet flexible material. One or more inserts 15 are placed between vertically piled protective devices for porcelainware, the lower edge 5 of said upper protective device 1 being received in the groove 17 facing upwards in the H-shaped insert 15, the upper edge 4 of said lower protective device 1 being received in the groove 16 facing downwards in the H-shaped insert 15. Thanks to these inserts 15, it is possible to obtain a protective arrangement for the vertically piled porcelainware by placing a plurality of protective devices for porcelainware 1 on top of one another.

However, the insertion and removal of porcelainware into and out of the assembled protective device for porcelainware 1 respectively, are somewhat difficult operations, since it may be impossible for a user to put his/her hands between the outer edge of the porcelainware and the inner wall of the protective device 1. Consequently, the protective device 1 can not be installed until the porcelainware pile has been prepared, and has to be removed before giving access to

the porcelainware. It would be desirable to have some kind of bottom element in the protective device 1, so that the protective device 1 as well as the porcelainware could be managed at the same time, and so that the porcelainware could be lifted by lifting the protective device. Considering the fact that the protective device 1 is adjustable to receive various kinds of porcelainware, i. e. the same protective device is to be compressible in order to fit around various kinds of porcelainware, such as everything from large plates to small side plates or saucers, it will not be possible to construct a reliable supporting or bottom element for the the protective devices. In order to make the piles manageable however, the invention proposes a carrying handle 18 according to fig. 6.

Such a carrying handle 18 comprises two substantially identical holders 19, that are pivotable towards and away from one another by means of a joint 20. The two holders 19 are L-shaped providing one element 21 extending in either direction from the joint 20, and a deflected arm 22, that ends with an arched fork-shaped element, said deflected arm 22 being deflected in a preferably perpendicular relationship to said element 21. As seen in fig. 6, the two arched fork-shaped elements 23 face each other being pivotable towards and away from each other by means of the joint 20. The fork-shaped elements 23 are preferably coated with a rubber or plastic coating, that will increase their friction against the porcelainware. In the illustrated embodiment, the elements 21 have a fixed length, but they may just as well be mutually and laterally displaceable at the joint 20, so that the carrying handle 18 is adjustable to piles of porcelainware of various diametres.

The carrying handle 18 is operated by turning it outwards, so that the fork-shaped elements 23 can be moved downwards over a pile of porcelainware, whether a protective device for porcelainware 1 is provided or not. When the fork-shaped elements 23 have reached the supporting surface, where the porcelainware pile is placed, they are pivoted as far as possible inwards under the lowermost piece of porcelainware, e. g. under the peripheral edge extending obliquely upwards/outwards usually provided on plates. Should a protective device interfere in this situation, it will be sufficient to lift the protective device slightly, so that the forkshaped elements 23 will reach in under. In this situation, the device will merely be lifted by the joint 20, which may be designed in a handle-like manner, whereby the torque provided will force the fork-shaped elements 23 together during the lifting operation. A protective device 1 placed around the thus lifted pile of porcelainware adds stability thereto, since the porcelainware is prevented from moving around, providing an excellent operative device by means of the carrying handle 18 together with the protective device 1 of the invention.

The protective devices 1 as well as the inserts 15

and the carrying handles 18 are made of a material allowing them to be washed in a dishwasher without being damaged. For reasons of cleanliness, these parts must be kept in the same condition as the porcelainware, that is to be managed by these parts. Further, the protective devices have a shape, that allows them to be piled in a flattened condition when not in use, occupying a minimal storing space only. The inserts 15 consist of simple profiles, that do not need any substantial storing space. Finally, since the number of carrying handles 18 needed is fairly limited, a maximum of one carrying handle 18 for each carrier being necessary, the storage of these parts will in no way take up a lot of room.

By means of the present invention, the preliminary purpose has been achieved. Of course, various modifications of the invention can be made by a specialist in the field. However, such variations are within the scope of the claims appended.

Claims

1. Protective device for transport and storage (1) of porcelainware, said protective device for transport and storage provided to be attached around a pile (12) of porcelainware, **characterized** in that said device comprises an elongated, generally rectangular sheet (2) of a relatively rigid yet flexible material, said sheet (2) being provided with retaining means (6, 7) at one short side (3) of said sheet (2) for receiving and retaining a folded portion of said sheet (2), in which position said sheet (2) has an annular shape for surrounding a pile (12) of porcelainware in order to provide a protective device for transport and storage (1) therefor.
2. Protective device (1) according to claim 1, **characterized** in that said retaining means comprise two grooves (6, 7) facing one another, one at each longitudinal edge (4, 5) of said sheet (2) adjacent to one of said short sides (3), for receiving said longitudinal edges (4, 5) of said sheet (2) at the other short side (10) of said sheet (2).
3. Protective device according to claim 1 or 2, **characterized** in that the other said short side (10) of said sheet (2) provides chamfered corners (11) for its guiding in and between said facing grooves (6, 7).
4. Carrying handle (18) for piles (12) of porcelainware, **characterized** in that said carrying handles (18) comprise two holders (19), each comprising an L-shaped element (21, 22), the shanks (21) of said element (21, 22) being pivotably connected by means of a joint (20), the waist (22) of said element (21, 22) comprising at its free ends a fork-

shaped element (23) for insertion under a pile of porcelainware, the lifting by said carrying handle (18) at said joint (20) resulting in a pivoting movement of said two fork-shaped elements (23) towards one another.

Fig. 1

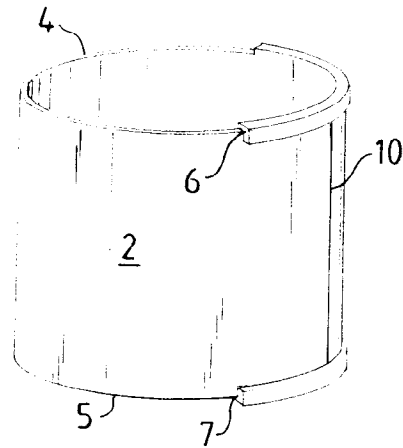
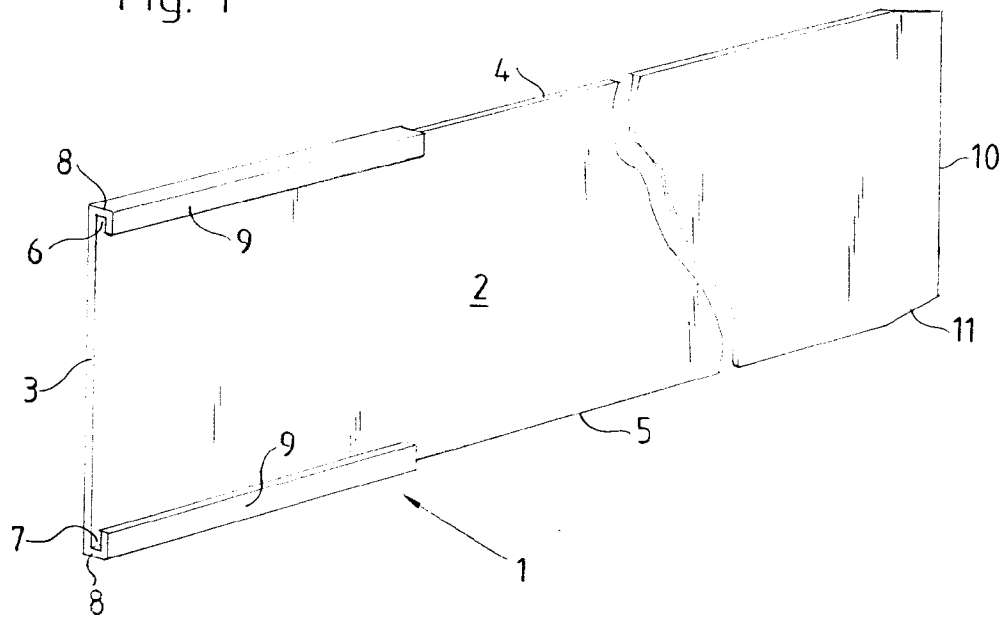


Fig. 2

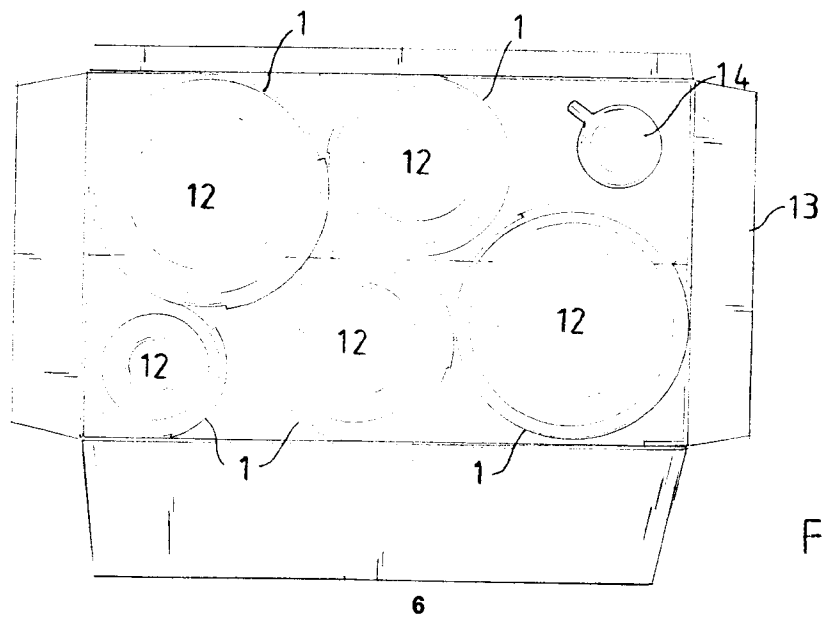


Fig. 3

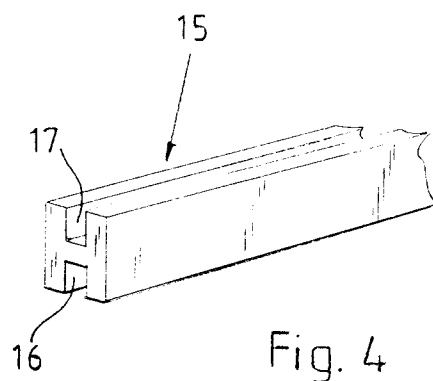


Fig. 5

