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(56) Documents Cited:
EP 1433715 A1 **US 4083448 A**

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(54) Abstract Title: **Handle packaging assembly**

(57) A handle packaging assembly comprises a door handle (1) including a back plate (2), a packaging sheet and a packaging retainer (4) having a base part (7) behind the packaging sheet. A first projection (8) projects from the base part and engages a spindle hole (6) in the handle and other projections (9) penetrate at least partway through the packaging sheet. The packaging sheet may be of card with holes to receive the projections. The projection (8) may be expandable by means of a screw (5) to lock it within the hole (6).

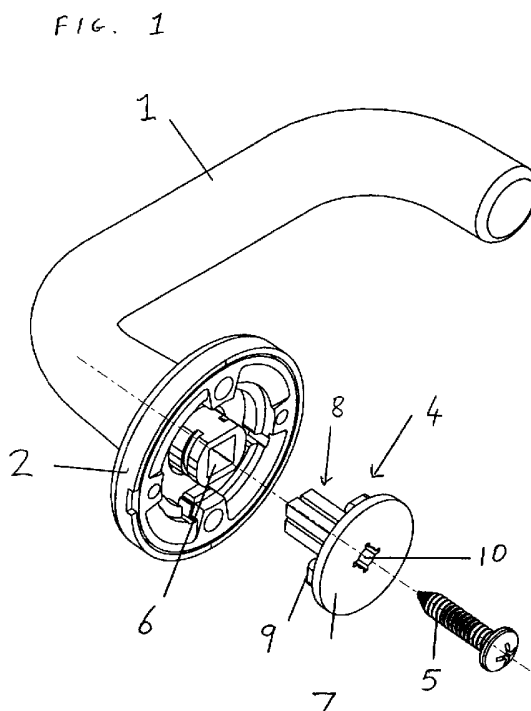
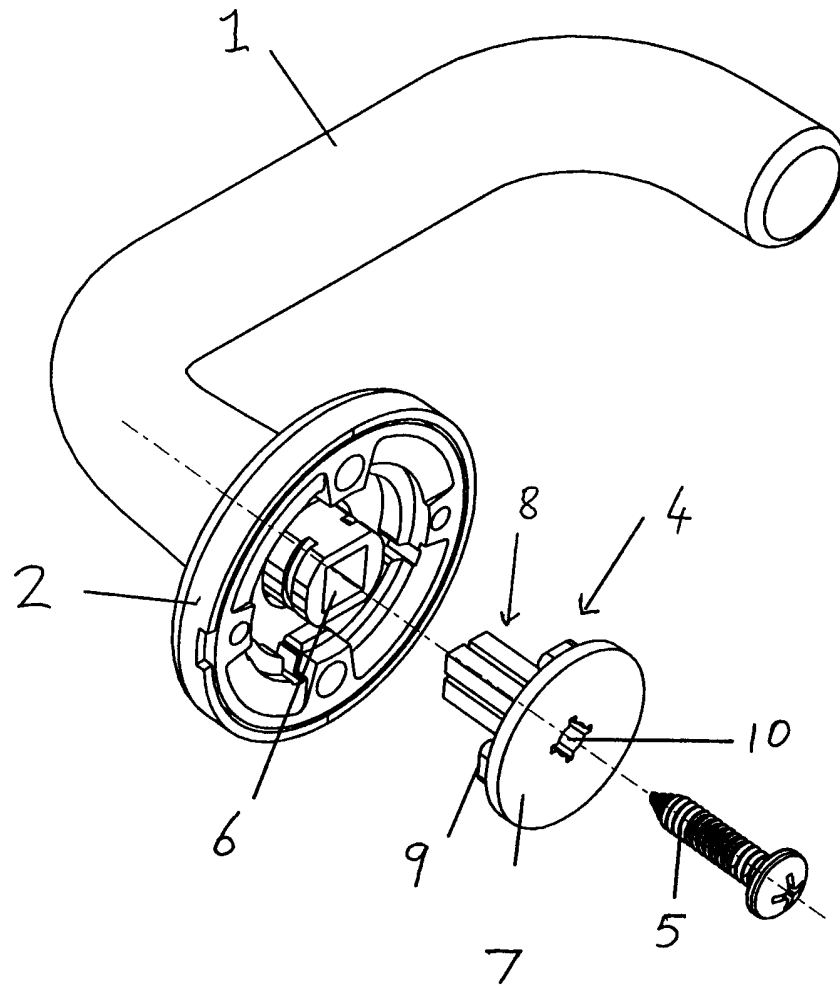


FIG. 1



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FIG. 2

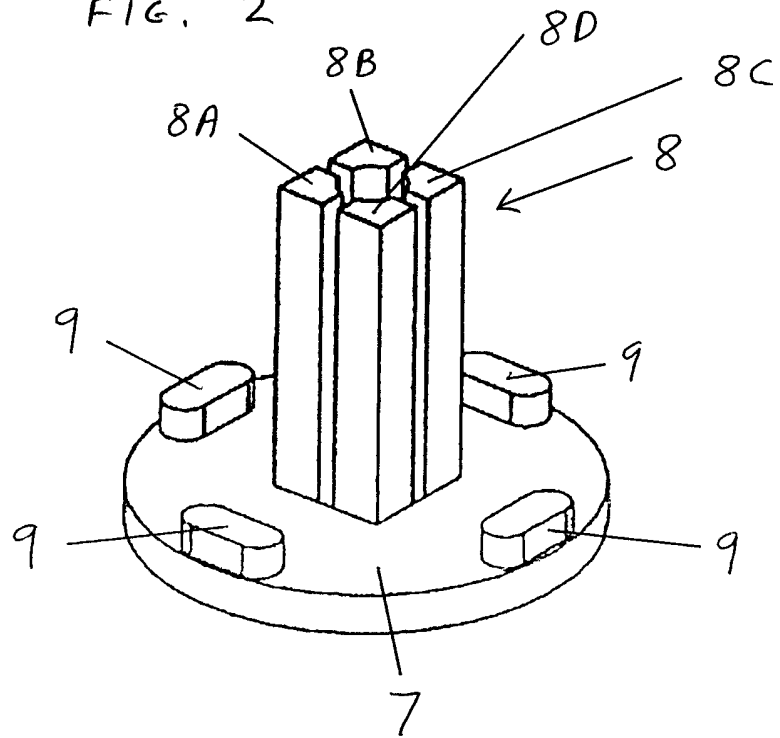
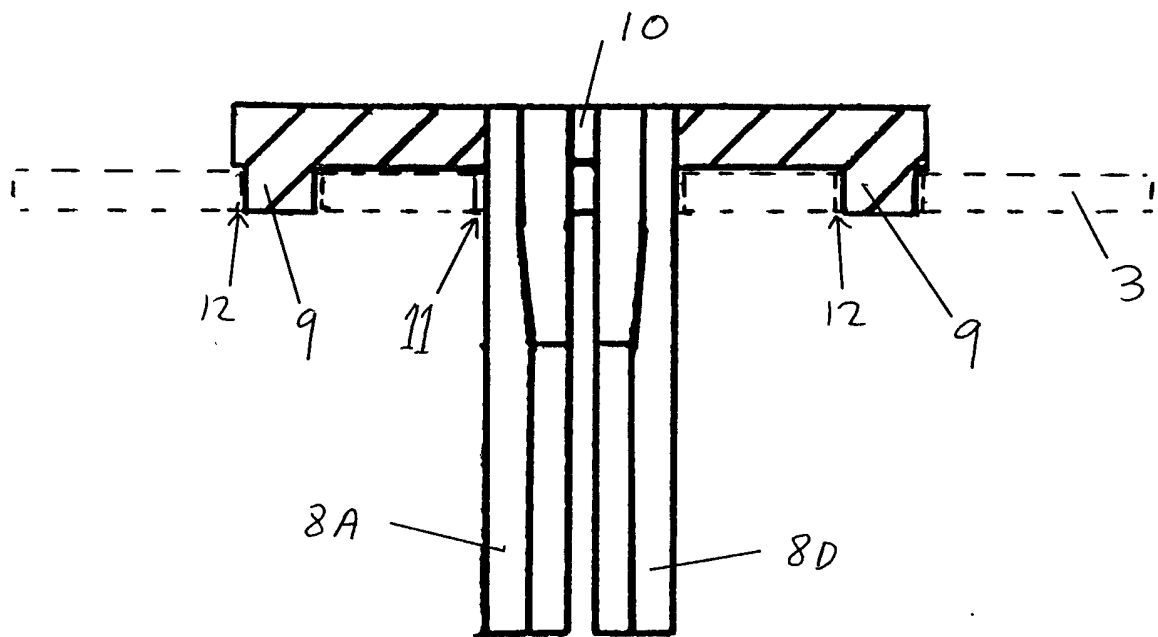


FIG. 3



Handle Packaging Assembly

This invention relates to the packaging of handles and more particularly, but not exclusively, to the packaging of
5 door handles.

When packaging a door handle including a backplate it is often desirable to provide a packaging sheet of card. The sheet may include instructions and/or other information and may also improve the overall appearance of the product.
10 In such an arrangement it becomes desirable to find some way of maintaining the handle and the sheet in a predetermined position.

According to the invention there is provided a handle packaging assembly comprising a handle including a
15 backplate, a packaging sheet and a packaging retainer having a base part behind the packaging sheet and parts projecting from the base part, the projecting parts including a first projection which passes through the packaging sheet and engages a spindle hole in the handle
20 and one or more other projections which penetrate at least partway through the packaging sheet.

By providing a packaging retainer that both engages the spindle hole in the handle and engages the packaging sheet in one or more other locations the relative positions
25 of the packaging sheet and the handle can be fixed in a simple and reliable way. The packaging sheet may fit snugly between the base of the packaging retainer and the backplate.

Preferably there are two or more other projections which penetrate at least partway through the packaging sheet; more preferably there are four of said other projections. Such arrangements enhance the fixing of the relative positions of the packaging sheet and the handle.

Preferably the first and one or more other projections from the base of the packaging retainer are within the perimeter of the backplate. They are then concealed from the front of the backplate even when, as is preferred, the packaging sheet is apertured to receive the projections.

Preferably the packaging sheet has a preformed hole through which the first projection passes. The preformed hole from the first projection may be rigid to provide a snug fit for the first projection but it may also be significantly larger than the first projection since it need not be relied upon for locating the relative positions of the sheet and the backplate. Indeed it is within the scope of the invention for the preformed hole to be provided by a recess in an edge of the packaging sheet rather than a hole through the sheet and enclosed on all sides.

Preferably the packaging sheet has preformed holes for receiving respective ones of said one or more other projections. Said one or more other projections preferably pass through substantially the whole of the thickness of the sheet.

Usually, the spindle hole in the handle is of generally square cross-section. The first projection is

also preferably of generally square cross-section. In a preferred embodiment of the invention the cross-section of the first projection is adjustable, preferably by a screw, while engaging the spindle hole in the handle. The first
5 projection preferably comprises a plurality of segments which can be caused to move away from one another to enlarge the cross-section of the first projection. With such an arrangement, the first projection of the packaging retainer can be inserted through the packaging sheet into
10 the spindle hole, the other projections inserted into the packaging sheet and the cross-section of the first projection then enlarged, causing the projection to grip the handle.

Whilst the invention can be applied to various
15 handles, it is of particular advantage in the case where the handle is a door handle. In an embodiment of the invention described below the handle is a lever handle. The backplate may be of any of a variety of shapes. In the embodiment of the invention described below it is round.
20 The packaging sheet may be of various materials including plastics materials. In an embodiment of the invention described below the packaging sheet is of card.

By way of example an embodiment of the invention will now be described with reference to the accompanying
25 drawings, of which:

Fig. 1 is an exploded perspective view of a handle packaging assembly with the packaging sheet not shown,

Fig. 2 is a perspective view of a packaging retainer forming part of the assembly of Fig. 1, and Fig. 3 is a sectional side view of the packaging retainer showing in dotted outline the packaging sheet that comprises part of the assembly.

Referring to the drawings, the handle packaging assembly generally comprises a door handle 1, including a backplate 2, a packaging sheet 3 (shown in dotted outline in Fig. 3), and a packaging retainer 4 with an associated screw 5.

The door handle 1 is a conventional lever handle and is rotatably mounted on the backplate 2. The combination of the handle 1 and backplate 2 is the item to be packaged and sold to a user. As is usual, the end of the handle 1 that terminates within the backplate 2 has a spindle hole 6 of square cross-section. When the handle 1 is mounted on a door a spindle that passes through the door is received in the spindle hole 6 and the handle thereby operatively connected to a lock or latch.

In the embodiment of the invention described herein, the spindle hole 6 is engaged by the packaging retainer 4 and the packaging sheet 3 is retained between them and held in a fixed relationship to the handle 1. For this purpose the packaging retainer 4, which is made of a plastics material, comprises a circular base part 7 which has a central projection 8 and four other projections 9 equiangularly spaced around a peripheral region of the base

part. The projections 8 and 9 project from the same side of the base part 7 but the projection 8 projects much further than the four projections 9.

As best seen in Fig. 2 the central projection 8 has,
5 overall, a generally square cross-section, but actually comprises four separate segments 8A, 8B, 8C and 8D which are slightly spaced from one another and define a central passageway between the segments, that central passageway extending through the base part 7 of the retainer as a hole
10 10. The generally square cross-section of the central projection 8 matches the generally square cross-section of the spindle hole 6 so that it can be received as a snug fit therein. The packaging sheet is made of card and is formed with a central hole 11 to allow free passage of the central
15 projection 8 through it and with four further holes 12, two of which can be seen in Fig. 3, to receive the four projections 9 which project a distance approximately the same as the thickness of the packaging sheet 3.

When packaging the handle 1, the packaging sheet 3 is
20 placed over the base part 7 of the packaging retainer 4 with the central projection 8 of the retainer passing through the central hole 11 of the packaging sheet and the four other projections 9 passing through respective holes 12 of the packaging sheet. The central projection 8
25 of the retainer is then inserted into the spindle hole 6 until the packaging sheet is interposed as a snug fit between the backplate 2 and the base part 7 of the packaging retainer 4. The screw 5, which is self-tapping,

is then screwed into the hole 10 in the base part 7 and
through into the passageway defined between the parts 8A,
8B, 8C and 8D of the central projection 8. That causes the
parts 8A to 8D to be pressed outwardly against the walls of
5 the spindle hole 6 and the retainer 4 to thereby become
firmly fixed to the handle 1. The engagement of the
projections 9 in the holes 12 of the packaging sheet
ensures that the relative position of the packaging sheet
to the retainer 4 and also therefore to the handle 1 is
10 fixed.

Claims:

1. A handle packaging assembly comprising a handle including a backplate, a packaging sheet and a packaging retainer having a base part behind the packaging sheet and
5 parts projecting from the base part, the projecting parts including a first projection which passes through the packaging sheet and engages a spindle hole in the handle and one or more other projections which penetrate at least partway through the packaging sheet.
- 10 2. An assembly according to claim 1, in which there are two or more other projections which penetrate at least partway through the packaging sheet.
3. An assembly according to claim 2, in which there are four other projections which penetrate at least partway
15 through the packaging sheet.
4. An assembly according to any preceding claim, in which the first and one or more other projections are within the perimeter of the backplate.
5. An assembly according to any preceding claim, in which
20 the packaging sheet has a preformed hole through which the first projection passes.
6. An assembly according to any preceding claim, in which the packaging sheet has preformed holes for receiving respective ones of said one or more other projections.
- 25 7. An assembly to any preceding claim, in which the spindle hole in the handle is of generally square cross-section.

8. An assembly according to any preceding claim, in which the first projection is of generally square cross-section.

9. An assembly according to any preceding claim, in which the cross-section of the first projection is adjustable

5 while engaging the spindle hole in the handle.

10. An assembly according to claim 9, in which the first projection comprises a plurality of segments which can be caused to move away from one another to enlarge the cross-section of the first projection.

10 11. An assembly according to claim 9 or 10, in which the first projection is adjustable by a screw.

12. An assembly according to any preceding claim, in which the handle is a door handle.

13. An assembly according to any preceding claim, in which
15 the handle is a lever handle.

14. An assembly according to any preceding claim, in which the backplate is round.

15. An assembly according to any preceding claim, in which the packaging sheet is made of card.

20 16. A handle packaging assembly substantially as herein described with reference to and as shown in the accompanying drawings.

Application No: GB0507692.2

Examiner: Stephen Smith

Claims searched: 1-16

Date of search: 24 July 2006

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
A	-	EP 1433715 A1 (BEZAULT)
A	-	US 4083448 A (ZAMPINI)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

B65D

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI