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(12) # EUROPEAN PATENT APPLICATION

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(54) **A protective cap for container discharge valves, in particular beer taps for draught beer kegs.**

(57) A protective cap serving as a pilferproof seal for e.g. beer taps (6) for draught beer kegs comprises, on one hand, a skirt (2) with circumferentially spaced catches (5) adapted for engagement beneath a collar (7) of the valve and, on the other hand, a top plate (1) which in axial alignment with each of the catches (5) includes an edge cut or incision (8) which on the mounting of the cap is sealed water-tight and dustproof by a sealing flap (9) that is integral with the top plate (1) in a flexible hinge (10) and, when unloaded, points downwards towards the corresponding catch (5).

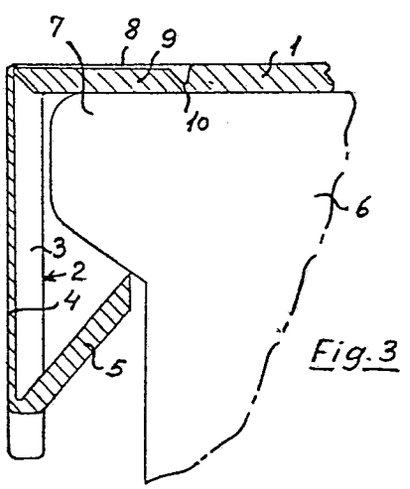

Fig.3

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Description

A Protective Cap for Container Discharge Valves, in Particular Beer Taps for Draught Beer Kegs.

The invention relates to a protective cap for container discharge valves, in particular beer taps for draught beer kegs, comprising a top plate and a skirt formed integrally therewith and provided with inwardly resilient, obliquely upwards directed catches which are preferably arranged pairwise or groupwise in the circumferential direction and are adapted to abut on the underside of a collar on the discharge valve to thereby prevent removal of the cap without visual damage thereto.

In a protective cap of the above type disclosed in DE-A-34 17 812 and primarily functioning as a so-called pilferproof seal, the skirt includes a plurality of circumferentially equidistant apertures or "windows" that may extend quite up to the upper edge of the skirt and accommodate a respective catch which via a breaking point is integral with the skirt at the lower edge of the aperture or window.

When it is desired to provide such a cap by die-casting from an appropriate plastics material a rather complicated casting mould is required, if the catches are to be cast in their final, inwardly inclined position. A simpler casting mould may be used, provided the cap be cast with the catches disposed in the apertures of the skirt, but in that case the catches must in a subsequent operation be urged to occupy their inwards and upwards directed position in which they should remain as long as they are unloaded.

At least in certain applications it is a further drawback of the prior protective cap that, when mounted, it does not effectively prevent water and dust from penetrating the valve carrying the cap.

An object of the invention is to provide a protective cap of the above category and which may be pro duced in its final shape by die-casting in a simple mould and which in its position of use may be regarded as water-tight and dust-proof which is particularly important with respect to beer kegs intended for shipment over longer distances, e.g. for the export markets.

According to the invention this is ensured in the way that the top plate of the cap in axial alignment with each of the catches has a cut extending to the edge of the top plate which at the inner edge of the cut is hingedly connected with a sealing flap that prior to the mounting of the cap is directed obliquely downwards towards the associated catch and on abutment against the upperside of the valve collar by mounting of the cap is urged upwards to a position in which it fills up the cut.

As regards production it is an advantage that such a cap may be cast with the catches in their correct, final position in a mould comprising only two mould parts and without any draft or stripping problems. This is due to the provision of the edge cuts in the top plate, and the associated sealing flaps are responsible for an effective sealing of said cuts against water and dust when the cap is mounted for instance on a beer tap.

The sealing may further be intensified in that the skirt opposite each catch includes a thin wall section adapted to be ruptured and having an internal surface against which the end edge of the sealing flap abuts tightly in the mounted position of the cap.

An embodiment of the protective cap according to the invention is illustrated on a large scale in the accompanying drawing, in which

Fig. 1 is part of an axial section of the cap prior to its being mounted,

Fig. 2 a corresponding plan view, and

Fig. 3 is a view similar to Fig. 1 with the cap disposed on the top of a beer tap.

The main components of the illustrated cap are an upper plate 1 and a skirt 2 having circumferentially alternating thicker walls sections 3 and thinner wall sections 4. At their lower edges said thinner wall sections are integral with obliquely upwards and inwards directed catches 5 which on mounting the protective cap on a beer tap 6, Fig. 3, slidably engage the collar 7 of said tap and in the final position flex inwards and with their free end edge abut on the underside of the collar, thereby preventing the cap from being removed without damaging it visually, viz. by one or more of the thinner wall sections 4 being ruptured.

In order to allow for the casting of the catches in the illustrated inclined position by use of a simple two-piece mould, the top plate 1 of the cap includes edge cuts 8 which after the mounting of the cap, Fig. 3, are obstructed by sealing flaps 9 that are integral with plate 1 through flexible hinges 10 and which prior to the mounting point obliquely downwards towards the catches 5. By abutment on the upperside of tap 6 the flaps are automatically tilted up on level with plate 1, thereby filling up cuts 8 throughout to the innerside of the thinner wall sections 4 of the skirt.

Fig. 2 illustrates a pair of rather narrowly spaced catches 5 with associated sealing flaps 9. Such groups may in a number of three or more be uniformly spaced in the circumferential direction of the cap. The pairwise or groupwise arrangement of the catches improves the pilferproof function because it becomes more difficult to "work" the catches loose, e.g. by using a screw driver or a similar type of tool, than would be the case with for instance three or four single catches spaced along the circumference.

Claims

1. A protective cap for container discharge valves, in particular beer taps (6) for draught beer kegs, comprising a top plate (1) and a skirt (2) formed integrally therewith and provided with inwardly resilient, obliquely upwards directed catches (5) which are preferably arranged pairwise or groupwise in the circumferential direction and are adapted to abut on the underside of a collar (7) on the discharge

valve to thereby prevent removal of the cap without visual damage thereto, characterized in that the top plate (1) in axial alignment with each of the catches (5) has a cut (8) extending to the edge of the top plate which at the inner edge of the cut is hingedly connected (10) with a sealing flap (9) that prior to the mounting of the cap is directed obliquely downwards towards the associated catch (5) and on abutment against the upper-side of the valve collar (7) by the mounting of the cap is urged upwards to a position in which it fills up the cut (8).

2. A protective cap as claimed in claim 1, characterized in that the skirt (2) opposite each catch (5) includes a thin wall section (4) adapted to be ruptured and having an internal surface against which the end edge of the sealing flap (9) abuts tightly in the mounted position of the cap.

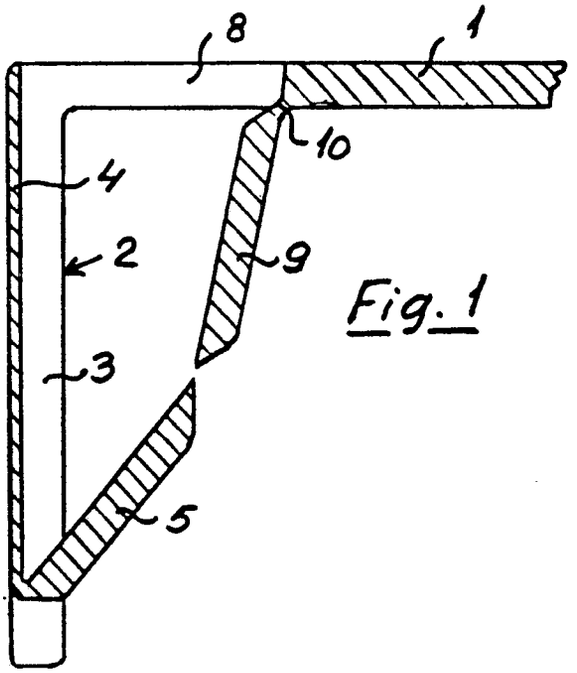

Fig. 1

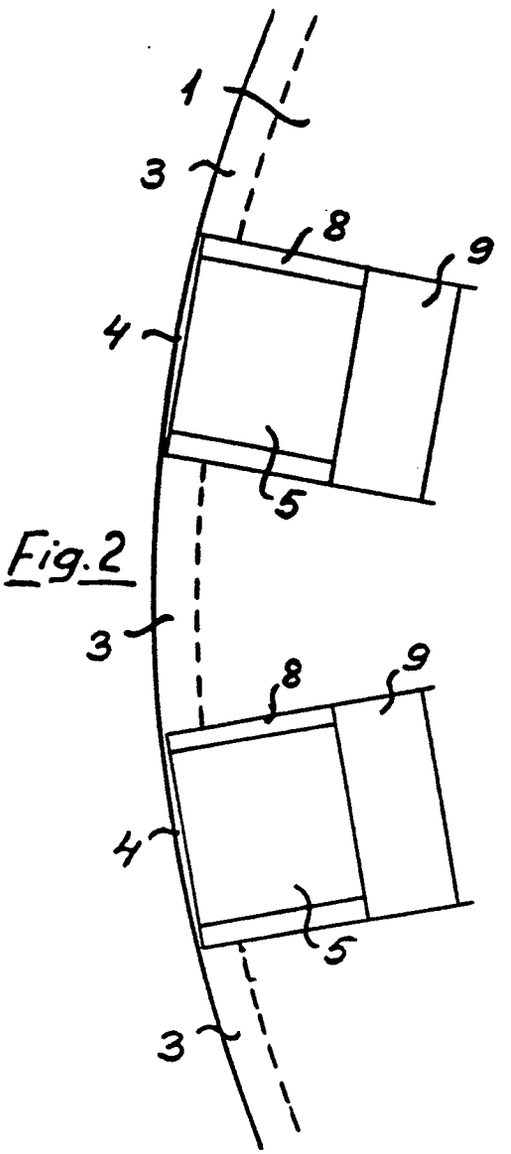

Fig. 2

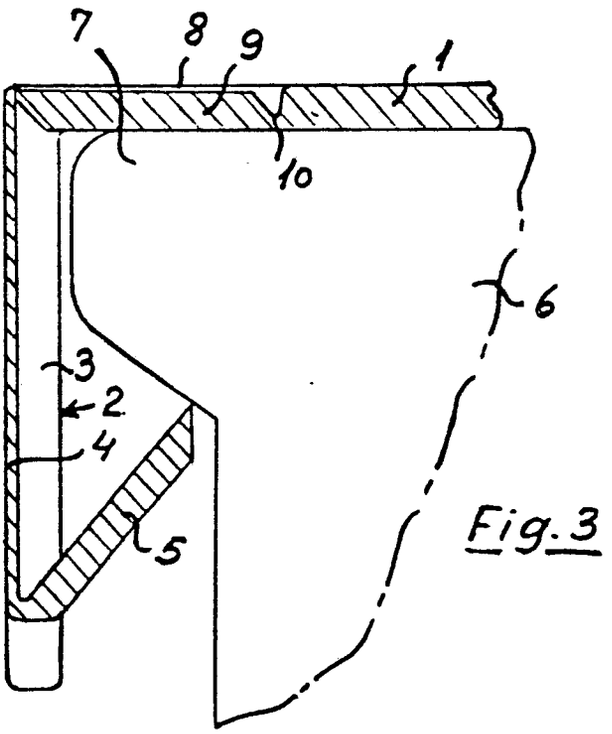

Fig. 3

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EUROPEAN SEARCH REPORT

Application number
EP 89300173.5

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 4)
A	EP-A2-0 161 565 (BOETZKES KLAUS) Whole document	1	B 65 D 41/16, 55/02
A	FR-A1-2 431 439 (SAFET-EMBAMET LETHIAS) Whole document	1	
A	US-A- 1 378 295(T.L. TALIAFERRO) Whole document	1	
A	US-A- 3 814 278 (BEIERLE) Whole document	1	
A	US-A- 4 431 113 (SIMS, JR.) Whole document	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

B 65 D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
STOCKHOLM	06-04-1989	NILSSON J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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