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(54) Device for the protected adjustment of a compensator in a beer dispensing tap

(57) A device for the protected adjustment of compensating organs in taps for dispensing beer of the type comprising an element (7) for transmitting the adjustment, provided with an outer end (3), accessible by the user to command the adjustment and with an inner end, fitted with an internal appendage (31), for commanding the axial displacement of the compensating organ (4), the appendage (31) being engaged in a seat (41) obtained in the compensating organ (4), the device further comprising, preferably in combination:

- at least a contour (32), obtained in correspondence with said outer end (3), able to be coupled with rapid engagement, but removably, in a corresponding complementary contour (52) provided in a tool (preferably a unique and specific wrench (5)) for adjusting the compensating organ (4), separate from the tap (2);
- a cap (6) able to be coupled on said end (3) and movable thereon from at least a first extreme position, in which the cap (6), stably engaged on the end (3), hides and protects the contour (32) from free access from the exterior, to a second extreme position, in which said cap (6) instead allows free access to the contour (32) from the exterior.

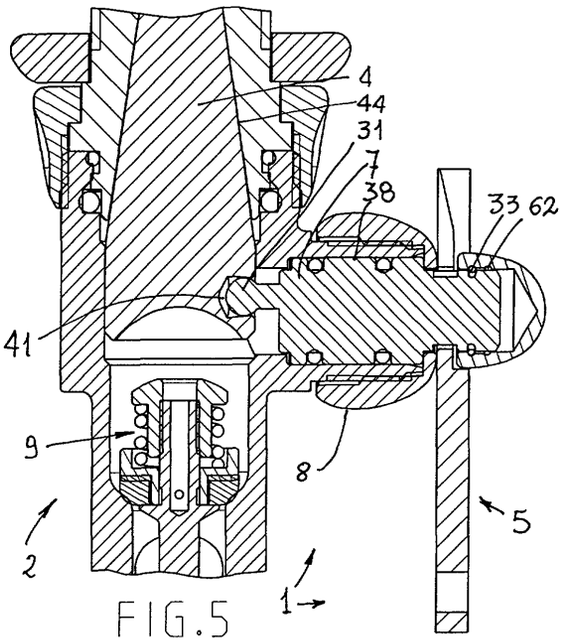

FIG.5

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Description

[0001] The present invention relates to a device for the protected adjustment of compensating organs in taps for dispensing beer, of the type comprising an element for transmitting the adjustment, provided with an outer end, accessible by the user to command the adjustment and with an inner end, fitted with an internal appendage, for commanding the axial displacement of the compensating organ, the appendage being engaged in a seat obtained in the compensating organ.

[0002] As is well known, compensating organs are substantially conical elements, positioned along a cone frustum shaped segment of the conduit for the outflow of the beer, upstream of the shutter for closing and opening the conduit, commanded by an external knob. In this way they allow to brake and adjust the flow of beer to make it more controllable, varying the outflow port by the simple axial displacement of the compensating organ, due to the action of said command appendage.

[0003] The command appendage has a parallel axis, eccentric relative to the axis of the end, so that the axial displacement of the compensating organ can take place simply by causing the element transmitting the adjustment (and the appendage therewith) to rotate about its axis, for a sufficient arc to allow the compensating organ to make a rotary-translatory displacement, where only the translation component is functionally essential.

[0004] Thus, since it is sufficient to cause a rotation of the end, in order to vary the axial position of the compensating organ, known adjusting devices simply provide a small lever, integral with the outer end, rotating which the adjustment is performed.

[0005] This solution, however, presents a drawback.

[0006] The lever, being external and quite visible, is too easily accessible to everyone, in particular to non specialised or unauthorised personnel, who could perform adjustments not suitable for a regular dispensing or cause accidental displacements of the lever, with the consequent need frequently to intervene on the adjustments to bring them back to correct parameters.

[0007] The aim of the present invention is to overcome the aforementioned drawback, making available a device that allows adjustments to be performed only by specialised or in any case authorised personnel, necessarily provided with special adjustment tools or wrenches.

[0008] Further aims and advantages, which will become more readily apparent from the description that follows, are achieved, in accordance with the present invention, by a protected adjustment device according to the content of the claims.

[0009] The invention is described in greater detail hereafter with the aid of the drawings, which show an embodiment provided purely by way of non limiting example:

- Figure 1 shows a lateral view of essential parts of the subject device;
- Figures 2 and 3 show a particular wrench, comprised in the subject device, respectively in a front view and in a section according to the section line III-III;
- Figures 4 and 5 show a top view of a longitudinal section of the tap provided with the subject device, illustrated in two characteristic views in which it is respectively in a first extreme position of maximum protection (with the wrench positioned ready for an intervention) and in its second position of free access to the adjustment (with the wrench executing its intervention).

[0010] With reference to Figures 1, 4 and 5, the number 1 indicates a particular device (1) for the protected adjustment of compensating organs (4) in taps (2) for dispensing beer. The compensating organs are substantially conical elements, positioned along a cone frustum shaped segment (44) of the conduit for the outflow of beer, upstream of the shutter (9) for closing and opening the conduit, commanded by an external knob. In this way they allow to brake and adjust the flow of beer to make it more controllable, varying the outflow port with the simple axial displacement of the compensating organ (4). This displacement is due, in known devices, to the action of a command appendage (31), obtained at an extreme inner side of an element (7) for transmitting the adjustment and engaged in a seat (41) obtained in the compensating organ (4). Normally the element (7) is inserted, in sealing fashion, in its own seat (38) which extends laterally to the body of the tap (2) and is locked here by an external ring nut (8).

[0011] The command appendage has an axis that is parallel, but eccentric relative to the axis of the end (3), so that the axial displacement of the compensating organ (4) can take place simply by causing the element (7) (and the appendage therewith) about its axis, for a sufficient arc to allow the compensating organ to make a rotary-translatory displacement, where only the translation component is functionally essential.

[0012] This stated, the outer end (3) of the element (7), which in this case coincides with the outer end (1) of the subject device, has a special contour (32), able to couple, rapidly but removably, in a corresponding complementary contour (52) obtained in a tool (preferably constructed specifically for the purpose), which serves as unique and specific wrench (5) for adjusting the compensating organ (4), separate from the tap (2).

[0013] In this way, the necessary adjustments on the compensating organ of each tap can be performed solely and exclusively by specialised, or in any case authorised personnel, who has said wrench (5), without which it is not easy, without risks of damaging the whole tap, to access the adjustment.

[0014] In order fully to achieve the aforesaid aim, the presence is in any case preferable, if not essential, of a protecting and armour-plating cap (6), able to be cou-

pled on said end (3) and movable thereon from at least a first extreme position, in which the cap (6), thrust fully on the end (3) and stably engaged thereon, hides and protects the contour (32) from free excess from the exterior, to a second extreme position, in which the cap (6), which is at least partially extracted from the end (3) instead allows free access from the exterior to the contour (32).

[0015] If the cap (6) is present, it would no longer be strictly necessary to provide a specific wrench (5). Therefore the regulating device could comprise, in combination with said cap (6), a contour (32) simply provided to be coupled with a corresponding complementary contour (52) of a common tool for the normal adjustment of the compensating organ (4).

[0016] In any case, although the use of multiple wrenches or tools is not excluded in principle, the subject device advantageously provides for the use of a same unique and specific wrench so shaped as to be also used to allow at least the partial uncoupling of the cap (6) from the end (3) in order rapidly to move it from the first to the second extreme position.

[0017] More specifically, the outer end (3) and the cap (6) comprise, the former, an elastic annular element (33) (in this case open, to provide it with greater flexing ability) and the latter at least a corresponding seat (61) for the forced housing of the annular element (33) (or vice versa), for the stable and removable coupling of the cap (6) on the outer end (3), at least in its first extreme position.

[0018] It is in any case advantageous to provide for two seats (61, 62), respectively able to allow a stable, but removable positioning, of the cap (6), both in the first and in the second extreme position which it can assume on the outer end (3), in such a way as to move the cap (6) only to the extent necessary, still maintaining it comfortably secured to the end (3).

[0019] The preferred contour (32), in the example shown, is the one determined simply by two opposite millings (34, 35) obtained in the cylindrical body (7) of the end (3), whilst the cap (6), in its first extreme position, covers almost totally the outer end (3), frontally facing, with its free end (63), the external ring nut (8) for locking the end (3) itself.

[0020] Correspondingly, the wrench (5) has two tines (51) provided with their own wedge shaped ends (53), to be easily introduced between the cap (6) and the external ring nut (8), when the cap (6) needs to be detached from its first extreme position, uncovering the contour (32). The tines, furthermore, are internally distanced in accordance with the distance that separates said millings (34, 35), so that they become engaged between said tines (51), when it is necessary to adjust the compensating organ (4).

[0021] Advantageously, the tines (51) also present corresponding upper extensions (54), distanced according to the diameter of the cylindrical body (7) of the end, so that the wrench (5) can rapidly detach the cap (6), once the extensions (54) are even partially introduced between cap (6) and external ring nut (8), simply by rotating the wrench (5). A further advantage also stems from the fact that the thickness of the wrench (5) corresponds to the distance between the first and the second extreme position that the cap (6) can assume. If, lastly, the wrench is made of plastic material (as in the case at hand) it may comprise peripheral stiffening ribs (10).

[0022] The invention thus conceived can be subject to numerous modifications and variations, without thereby departing from the scope of the inventive concept. Moreover, all components can be replaced by technically equivalent elements.

[0023] In practice all the materials employed, as well as the dimensions, can be any, depending on requirements.

Claims

1. A device for the protected adjustment of compensating organs in taps for dispensing beer, of the type comprising an element (7) for transmitting the adjustment, provided with an outer end (3), accessible by the user for commanding the adjustment and with an inner end, provided with an internal appendage (31), for commanding the axial displacement of the compensating organ (4), the appendage (31) being engaged in a seat (41) obtained in the compensating organ (4), **characterised in that** said outer end (3) presents at least a contour (32) able to couple rapidly but removably in a corresponding complementary contour (52) obtained in a tool that serves as unique and specific wrench (5) for adjusting the compensating organ (4), separate from the tap (2).

2. A protected adjustment device as claimed in claim 1, **characterised in that** it further comprises a cap (6) able to be coupled on said end (3) and movable thereon from at least a first extreme position, in which the cap (6), stably engaged on the end (3), hides and protects the contour (32) from free access from the exterior, to a second extreme position, in which said cap (6) instead allows free access to the contour (32) from the exterior.

3. A device for the protected adjustment of compensating organs in taps for dispensing beer, of the type comprising an outer end (3), accessible by the user for the actuation of a an appendage (31) for commanding the axial displacement of the compensating organ (4), the appendage (31) being engaged in a seat (41) obtained in the compensating organ (4), **characterised in that** it comprises, in combination:

- at least a contour (32), obtained in correspondence with said outer end (3), able to be coupled with rapid engagement, but removably, in a corresponding complementary contour (52) provided in a tool for adjusting the compensating organ (4), separate from the tap (2);
- a cap (6) able to be coupled on said end (3) and movable thereon from at least a first extreme position, in which the cap (6), stably engaged on the end (3), hides and protects the contour (32) from free access from the exterior, to a second extreme position, in which said cap (6) instead allows free access to the contour (32) from the exterior.

4. A protected adjustment device as claimed in claim 2, **characterised in that** the unique and specific wrench (5) for adjusting the compensating organ (4) is so shaped as to be used also to allow the cap (6) to pass easily and rapidly from the first to the second extreme position.

5. A protected adjustment device as claimed in claim 3, **characterised in that** the tool for adjusting the compensating organ (4) is a unique and specific wrench (5), so shaped as to be usable also to allow the cap (6) to pass easily and rapidly from the first to the second extreme position.

6. A protected adjustment device as claimed in any of the claims from 2 to 5, **characterised in that** the outer end (3) and the cap (6) comprise, the former, an elastic annular element (33) and the latter at least a corresponding seat (61) for the forced housing of the annular element (33), for the stable and removable coupling of the cap (6) on the outer end (3), at least in its first extreme position.

7. A protected adjustment device as claimed in claim 6, **characterised in that** the seats (61,62) are two in number, respectively able to allow a stable, but removable, positioning of the cap (6), both in the first, and in the second extreme position which the cap (6) can assume on the outer end (3).

8. A protected adjustment device as claimed in claim 4 or 5 or 7, **characterised in that** the contour (32) is constituted by two opposite millings (34, 35) obtained in the cylindrical body (7) of the end (3), whilst the cap (6), in its first extreme position, covers almost completely the outer end (3), frontally facing, with its free end (63), the external ring nut (8) for locking the extremity (3), said unique and specific wrench (5) having two tines (51) with their ends (53) wedge shaped, in order to be easily introduced between the cap (6) and the external ring nut (8), when it is necessary to force the detachment of the cap (6) from its first extreme position, uncovering the contour (32), said tines also being internally distanced in accordance with the distance between said millings (34, 35), in such a way that they engage between said tines (51), when it is necessary to adjust the compensating organ (4).

9. A protected adjustment device as claimed in claim 8, **characterised in that** said tines (51) have corresponding upper extensions (54), distanced according to the diameter of the cylindrical body (7) of the end, in such a way that the unique wrench (5) can rapidly detach the cap (6), once the extensions (54) are even partially introduced between cap (6) and external ring nut (8), simply by rotating the wrench (5).

10. A protected adjustment device as claimed in claim 8 or 9, **characterised in that** the thickness of the wrench (5) corresponds to the distance between the first and second extreme position that the cap (6) can assume.

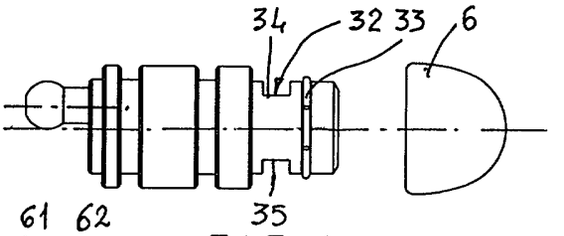

FIG.1

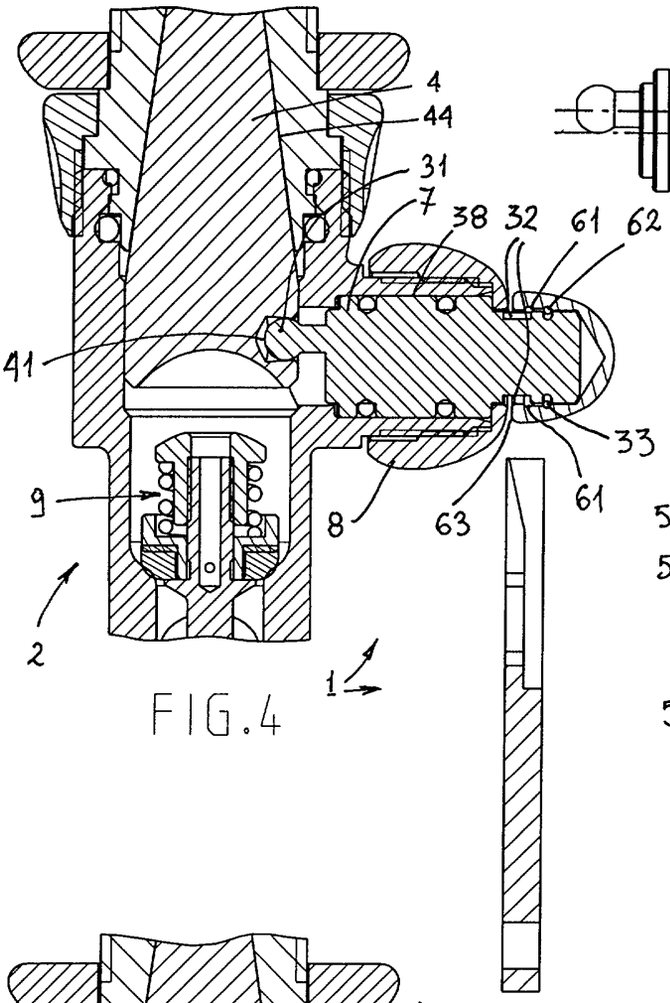

FIG.4

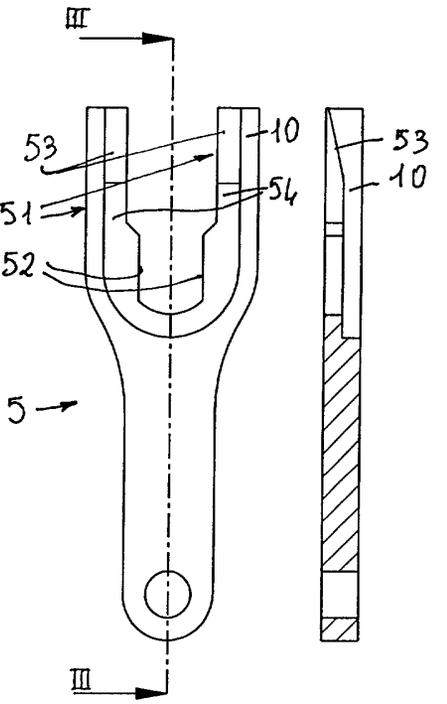

FIG.2

FIG.3

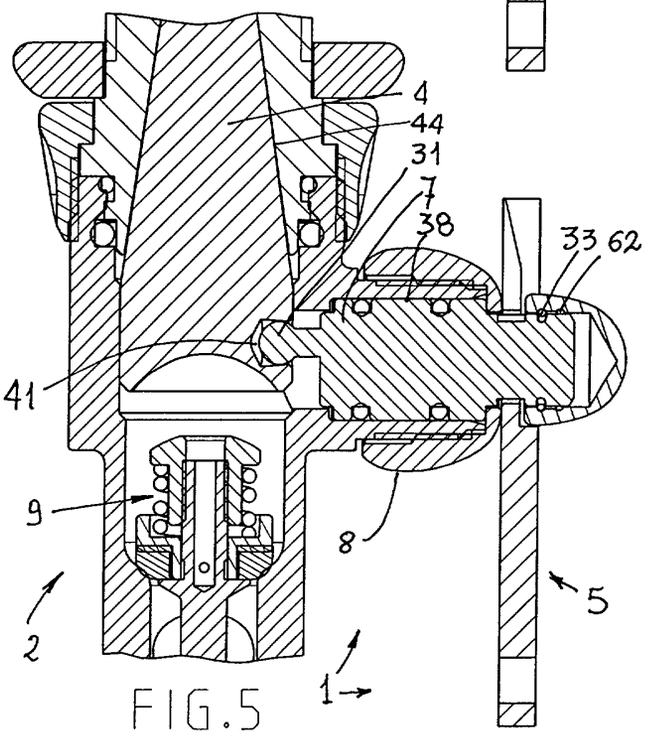

FIG.5

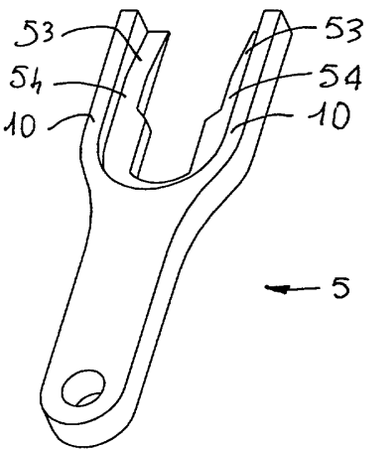

FIG.6

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EUROPEAN SEARCH REPORT

Application Number
EP 01 83 0138

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.7)
A	DE 34 26 026 A (KROME ET AL.) 16 January 1986 (1986-01-16) * page 9, paragraph 4 - page 10, paragraph 3; figure 2 *	1,3	B67D1/14
A	DE 38 33 907 A (FELLER) 10 August 1989 (1989-08-10)		
A	GB 790 140 A (GASKELL & CHAMBERS) 5 February 1958 (1958-02-05)		

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B67D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	15 June 2001	Deutsch, J.-P.

CATEGORY OF CITED DOCUMENTS

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