Claims

1. A securing device for the placement of a tapping armature ~~(10)~~ on a tapping neck ~~(11)~~ formed integrally on a container wall ~~(13)~~ of a plastic container ~~(12),~~ the tapping armature ~~(10)~~ having an armature housing ~~(20)~~ comprising a screw flange ~~(18)~~ formed concentrically with a plastic inlet neck ~~(19)~~ on said inlet neck ~~(19),~~ the screw flange ~~(18)~~ having an internal thread ~~(17)~~ for being screwed to an external thread ~~(16)~~ formed on a threaded extension ~~(15)~~ of the tapping neck ~~(11)~~ in such a manner that the tapping neck ~~(11)~~ engages into an annular neck receiving space ~~(33)~~ formed between the inlet neck ~~(19)~~ and the screw flange ~~(18),~~ a securing ring ~~(28)~~ being disposed between the container wall ~~(13)~~ and the screw flange ~~(18),~~ the securing ring ~~(28)~~ having a fixing means for fixing it to the screw flange ~~(18)~~ and a locking means ~~(36)~~ for connecting it to the container ~~(12),~~ the securing ring ~~(28)~~ having locking protrusions ~~(37)~~ for forming the locking means ~~(36)~~ which are disposed on an inner circumference and directed radially inward and whose locking ends ~~(52)~~ for locking with a stop means ~~(48)~~ formed on the container ~~(12)~~ are disposed on a locking circumference ~~(53),~~ whose diameter D is greater than the diameter d of the external thread ~~(16)~~ of the tapping neck ~~(11)~~ or equal to said diameter d~~.~~

~~2. The securing device according to claim 1, characterized in that~~

, wherein

in order to set a defined mounting torque an axial stop ~~(34)~~ for coming into contact with a front end ~~(35)~~ of the tapping neck ~~(11)~~ is formed in the neck receiving space ~~(33).~~.

~~3.~~2. The securing device according to claim 1 ~~or 2, characterized in that,~~

wherein

the stop means ~~(48)~~ is formed on a neck base ~~(14)~~ of the tapping neck ~~(11)~~ formed adjacent to the container wall ~~(13).~~.

~~4.~~3. The securing device according to claim ~~3,~~ ~~characterized in that~~ 2, wherein the neck base ~~(14)~~ is realized as a collar formed in the area of transition from the container wall ~~(13)~~ to the threaded extension ~~(15)~~ of the tapping neck ~~(11),~~, said collar having latching protrusions distributed across its circumference, each latching protrusion having a latching surface ~~(51)~~ which extends substantially parallel to a longitudinal axis of the tapping armature ~~(10).~~.

~~5.~~4. The securing device according to claim ~~4,~~ ~~characterized in that~~ 3, wherein the latching protrusions are realized as latching ramps ~~(49)~~ having a ramp surface ~~(50)~~ which rises from the circumference of the neck base ~~(14)~~ and which forms a latching shoulder with the latching surface ~~(51).~~.

~~6.~~5. The securing device according to any one of ~~the preceding~~ claims~~,~~ ~~characterized in that~~ 1 to 4, wherein the length of the tapping neck ~~(11),~~, the design of the external thread ~~(16)~~ on the tapping neck ~~(11),~~ and the distribution of the latching protrusions ~~(43)~~ at the circumference of the neck base ~~(14)~~ are selected such that when the axial stop ~~(34)~~ of the armature housing comes into contact with the front end ~~(35)~~ of the tapping neck ~~(11)~~ with a defined preload force, at least one locking protrusion ~~(37)~~ of the locking means ~~(36)~~ of the securing ring ~~(28)~~ elastically latches behind the latching surface ~~(51)~~ of a latching protrusion ~~(43).~~.

~~7.~~6. The securing device according to any one of ~~the preceding~~ claims~~,~~ ~~characterized~~ 1 to 5, wherein in ~~that~~ ~~in~~ order to form a radially acting sealing means ~~(55),~~, a sealing space

~~(59)~~ is formed which has an inner sealing surface ~~(56),~~ which is formed by an outer wall ~~(32)~~ of the inlet neck ~~(19),~~ and an outer sealing surface ~~(58),~~ which is formed by an inner wall ~~(57)~~ of the tapping neck ~~(11),~~ and which is provided with an O-ring seal ~~(30)~~ accommodated in the sealing space ~~(59)~~ so as to come into contact with the inner sealing surface ~~(56)~~ and with the outer sealing surface ~~(58).~~.

~~8.~~7. The securing device according to claim ~~7,~~ ~~characterized in that~~ 6, wherein for forming the sealing space ~~(59),~~ a circumferential recess ~~(60)~~ is formed at an inner opening edge at the front end ~~(35)~~ of the tapping neck ~~(11)~~ in such a manner that a limiting surface ~~(62)~~ which axially limits the sealing space ~~(59)~~ and which is axially recessed relative to a stop surface ~~(61)~~ which serves to come into contact with the axial stop ~~(34)~~ of the neck receiving space ~~(33)~~ is formed by the recess ~~(60).~~.

~~9.~~8. The securing device according to claim ~~7~~6 or ~~8,~~ ~~characterized in that~~ 7, wherein the inner sealing surface ~~(56)~~ and/or the outer sealing surface ~~(58)~~ conically taper in the axial direction in such a manner that the height of the of the sealing space ~~(59)~~ decreases in the direction of the tapping neck ~~(11).~~.

~~10.~~9. The securing device according to any one of ~~the preceding~~ claims~~,~~ ~~characterized in that~~ 1 to 8, wherein the fixing means has a driver pocket ~~(29)~~ formed at a front side ~~(40)~~ of the securing ring ~~(28),~~ said front side ~~(40)~~ facing the screw flange ~~(18),~~ said driver pocket ~~(29)~~ serving to be engaged by a driver tab ~~(27),~~ which is formed on the screw flange ~~(18),~~ in such a manner that the tapping armature ~~(10)~~ and the securing ring ~~(28)~~ are disposed coaxially when

driver tab ~~(27)~~ is engaged in the driver pocket ~~(29)~~ in a form-fitting manner.

~~11.~~10. The securing device according to claim ~~10, characterized in that~~ 9, wherein in addition to the driver pocket ~~(29),~~ the securing ring ~~(28)~~ has at least one other driver element ~~(41)~~ which allows a torque to be transmitted from the screw flange ~~(18)~~ to the securing ring ~~(28)~~ in the mounting direction ~~(39)~~ only.

~~12.~~11. The securing device according to claim ~~11, characterized in that~~ 10, wherein the driver element ~~(41)~~ has a radial stop surface ~~(45)~~ serving to come into contact with a web flank ~~(46)~~ of a driver web ~~(47)~~ which is formed on the screw flange ~~(18)~~ and which extends in the axial direction.

~~13.~~12. The securing device according to claim ~~12, characterized in that~~ 11, wherein the driver element ~~(41)~~ has a latching protrusion ~~(43)~~ for axially latching on a mating latching element ~~(44)~~ formed on the screw flange ~~(18)~~ so as to fix the securing ring ~~(28)~~ to the screw flange ~~(18)~~ in a coaxial mounting position.

~~14.~~13. The securing device according to any one of ~~the preceding~~ claims~~,~~ ~~characterized in that~~ 1 to 12, wherein the driver pocket ~~(29)~~ is configured as a tamper-evident element in such a manner that a visible wall ~~(64)~~ connected to a base wall ~~(64)~~ formed on the securing ring ~~(28)~~ via a predetermined breaking means ~~(66, 67)~~ is provided, a receiving space ~~(65)~~ for the driver tab ~~(27)~~ of the screw

flange ~~(18)~~ being formed between the base wall ~~(63)~~ and the visible wall ~~(64)~~ so as to form the driver pocket ~~(29).~~

~~15.~~14. The securing device according to claim ~~14,~~ ~~characterized in that~~13, wherein the visible wall ~~(64)~~ has at least two visible-wall portions ~~(69, 70)~~ connected to the base wall ~~(63)~~ via the predetermined breaking means ~~(66, 67),~~, the front visible-wall portion ~~(69)~~ in the dismounting direction ~~(38)~~ of the screw flange ~~(18)~~ having a stop edge ~~(71)~~ for the driver tab ~~(27)~~ and the rear visible-wall portion ~~(70)~~ in the dismounting direction ~~(38)~~ having a stop edge ~~(78)~~ for a following driver web ~~(47)~~ of the screw flange ~~(18)~~ in the dismounting direction ~~(38).~~.