

A TAP

The invention relates to a tap, and particularly to a tap for a body fluid container such as a urine collection or drainage bag.

According to one aspect of the invention there is provided a tap, comprising a body with a through aperture, a valve member manually rotatable about an axis being located in the aperture for movement between a position in which the tap is open for fluid flow therethrough and a position in which the tap is closed to fluid flow, the body being formed with ^{an external} surface substantially coaxial with the axis of rotation and the valve member extending axially beyond the body and being connected to an operating lever member which overlies and follows with an edge part said surface of the body on movement of the valve member between said positions.

The lever member may comprise a free end portion for receiving finger or thumb pressure for effecting said manual movement and an opposite end portion adjacent the body.

The opposite end portion may have a straight free edge portion which may comprise the edge part.

The external surface may have a protuberance which is adapted to act as a stop for the lever member in the closed position.

The protuberance may be a raised bar on the surface.

The external surface may have a protuberance which is adapted to act as a stop for the lever member in the open position.

The protuberance may comprise a wedge shape.

There may be a stop or stops on two diametrically opposed sides of

the body.

The valve member may be insertable from one end or the other of the through aperture.

The valve member, ^{its} extension and lever member may be integral.

- 5 The valve member and a complementary surface of the aperture may have complementary means adapted to retain the valve member in the aperture.

The complementary means may comprise a ridge on the valve member and a depression in the surface on which the ridge is snap
10 engaged.

The ridge and groove may be circumferential.

The lever member may engage at least over part of the length thereof on outer surface of a fluid flow pipe or tube of the tap, in the closed position.

- 15 According to another aspect the invention provides a body fluid container, including on or adjacent an outlet thereof a tap hereinbefore defined.

A tap embodying the invention is hereinafter described, by way of example, with reference to the accompanying drawings.

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BRIEF DESCRIPTION OF DRAWINGS

Fig. 1 is a perspective view of a tap, for a urine collection or drainage bag, according to the invention;

Fig. 2 is an exploded view of the tap of Fig. 1; and

Fig. 3 is a side view of the valve member of the tap.

Referring to the drawings, the tap 1 shown comprises a through aperture 2 in which a manually rotatable valve member 3 is situated for movement between a position in which the tap 1 is open for fluid flow therethrough and a position in which the tap 1 is closed (Fig. 1) to fluid flow.

The valve member 3 has an extension 4 externally of and extending transversely (in the embodiment shown, radially) to the aperture 3. The extension 4 is rigidly connected with a lever member 5 for reciprocating the valve member 3 manually between the two positions.

The tap 1 is made of plastics, the aperture being formed in a cylindrical body part 6 and having an inlet pipe or tube 7 for fluid leading to the aperture 3 and an outlet pipe or tube 8 for fluid leading therefrom. The valve member 3, extension 4 and lever member 5 are integral, being made in one piece, for example by moulding. The lever member 5 overlies only part of the tap 1 as shown, a lateral edge remote 9 from the extension 4 terminating just beyond the central axis of the tap 1.

In general the lever member 5 overlies the tube 7 in the closed position.

The lever member 5 is of approximately U-shape with a central flat portion 10, a free end portion 11 inclined to the flat portion 10 and to the longitudinal axis of the tap 1 for receiving finger or thumb pressure for effecting the manual movement. There is an opposite end portion 12 inclined to the central portion 10 in a direction away from the free end portion 11 and which has a straight edge portion 13 which follows the external surface contour of the body 6. The external surface comprises a protuberance in the form of a raised bar 14 which is adapted to act as a stop for the lever member 5 in the closed position. There

is also a further stop 15 on the external surface of the body 6, in the form of a wedge shaped protuberance which is adapted to act as a stop for the lever member 5 in the open position of the tap. There are identical stops 14 and 15 on the body 6 diametrically 5 opposed to those shown.

The valve member 3 and the complementary, inner surface of the aperture have complementary means adapted to retain the valve member in the aperture 2. The complementary means comprise a circumferential raised ridge 16 on the valve member 3 and a 10 circumferential groove (not shown) in the internal surface of the aperture, there being a groove at each end of the aperture 3 spaced from the end thereof a distance corresponding to the distance of the ridge 6 from the end of the valve member 3.

The valve member 3 can be inserted from either end of the aperture 15 2. The tap 1 functions equally well from whichever end the valve member 3 is inserted. From whichever end the valve member 3 is inserted, the ridge 16 snap-engages in the adjacent groove, in the fully inserted position. Further, if the valve member is inserted from one side, say from the right as shown, the stops 14 and 15 20 are operative to hold the valve member 3 in the two positions. If the valve member 3 is inserted from the left hand side, the opposite stops (not shown), fulfil the same function.

The tap 1 is thus very simple, and can be readily and simply assembled by snap engagement of the valve member 3 in the aperture 25 2, there being no need to ensure that the valve member 3 is inserted in one direction only. The assembly is thus very simple and is not direction of assembly dependent.

In the closed position (Fig. 1) the central part 10 of the lever member 5 lies in contact with tube 7, in parallel therewith, with 30 the edge 13 behind the bar 14. A bore 17 in the valve member is then at 90° to the axis of the tubes 7 and 8. Simple finger

pressure on the free end portion 11 is sufficient to push the edge 13 passed the bar 14 and to rotate the valve member 3 through substantially 90° so that the edge 13 abuts the stop 15, with the bore 17 aligned with the axis of the tubes 7 and 8, so that the tap 1 is opened for fluid flow. A reverse movement (to the Fig. 1 position) effects closing.

In the open position, the lever member 5 projects substantially at 90° from the axis of the tap, and it is thus readily apparent to a user that the tap is open, as the member 5 can snag on clothing etc.

It will be understood that the tolerances of the aperture 2 and valve member 3 are such that in the closed position there is no leakage past the valve member 3, which has its cylindrical surface closing off the tubes 7 and 8.

15 It will also be understood that the tap 1 described may be modified. For example the aperture may have a raised shoulder at each end, rather than a groove, for snap engagement with the ridge 16.

CLAIMS

1. A tap, comprising a body with a through aperture, a valve member manually rotatable about an axis being located in the aperture for movement between a position in which the tap is open for fluid flow therethrough and a position in which the tap is closed to fluid flow, the body being formed with ^{an external} surface substantially coaxial with the axis of rotation and the valve member extending axially beyond the body and being connected to an operating lever member which overlies and follows with an edge part said surface of the body on movement of the valve member between said positions.
2. A tap according to Claim 1, the lever member comprising a free end portion for receiving finger or thumb pressure for effecting said manual movement and an opposite end portion adjacent the body.
3. A tap according to Claim 2, the opposite end portion having a straight free edge portion comprising said edge part.
4. A tap according to Claim 3, the external surface having a protuberance which is adapted to act as a stop for the lever member in the closed position.
5. A tap according to Claim 4, the protuberance being a raised bar on the surface.
6. A tap according to any preceding claim, the external surface having a protuberance which is adapted to act as a stop for the lever member in the open position.



7. A tap according to Claim 6, the protuberance comprising a wedge shape.

8. A tap according to any of Claims 4 to 7, there being a stop or stops on two diametrically opposed sides of the body.

5 9. A tap according to any preceding claim, the valve member being insertable from one end or the other of the through aperture.

10. A tap according to any preceding claim, the valve member, its extension and lever member being integral.

10 11. A tap according to any preceding claim, the valve member and a complementary surface of the aperture having complementary means adapted to retain the valve member in the aperture.

12. A tap according to Claim 11. the complementary means comprising a ridge on the valve member and a depression in the
15 surface in which the ridge is snap engaged.

13. A tap according to Claim 12, the ridge and groove being circumferential.

14. A tap according to any preceding claim, the lever member engaging at least over part of the length thereof on outer surface
20 of a fluid flow pipe or tube of the tap, in the closed position.

15. A tap, substantially as hereinbefore described with reference to the accompanying drawings.

16. A body fluid container, including on or adjacent an outlet thereof a tap according to any preceding claim.

