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FAUCET

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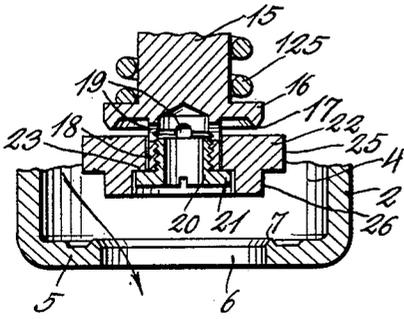


Fig. 2.

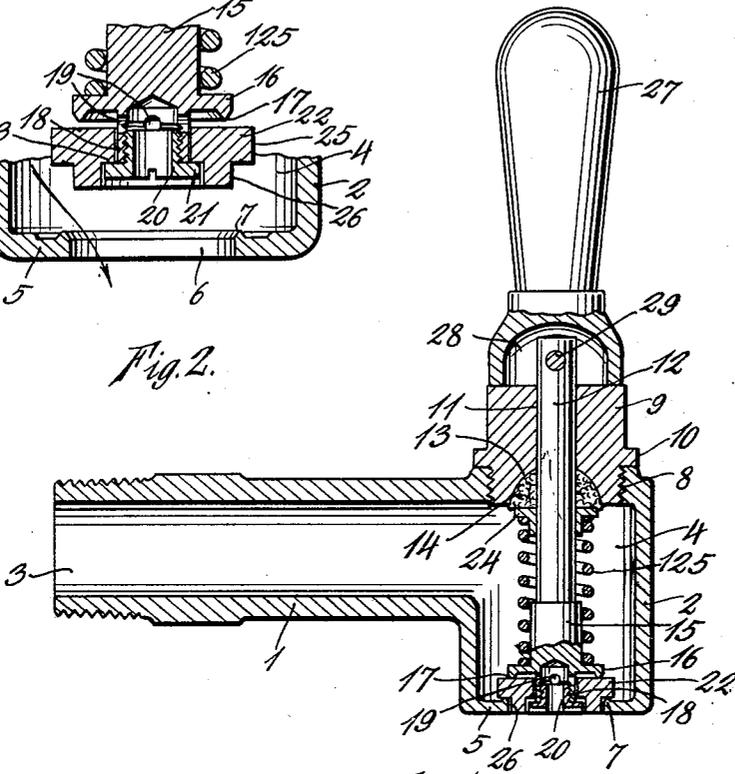


Fig. 1.

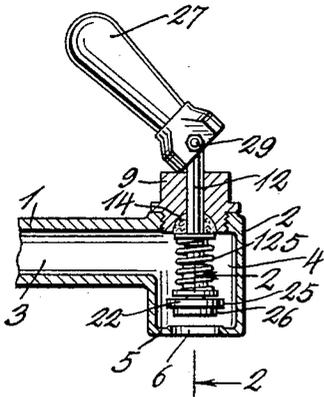


Fig. 3.

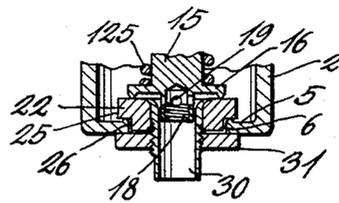


Fig. 4.

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## FAUCET

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This invention relates to improvements in faucets and has reference more particularly to faucets of the type used for dispensing oil.

In dispensing oil in filling stations and other places where lubricating oils are sold, it is customary to store the oil in tanks from which the oil is withdrawn through pipes provided with faucets. The oil in the tanks is frequently subjected to a pressure so as to facilitate the flow and the tanks may therefore be located some distance from the faucets.

It is the object of this invention to produce a faucet that shall be especially well adapted for use with oil dispensing devices but which can also be used for any other purpose, and which shall be so constructed that it will be practically dripless.

It is another object of this invention to produce a valve that shall be so constructed that when it is moved from closed to open position a small central discharge orifice will first be opened so as to relieve the pressure after which the discharge opening will be opened wide and which in closing will close the central discharge opening last.

The above and other objects which may appear as the description proceeds are attained by means of a construction and an arrangement of parts that will now be described in detail and for this purpose reference will now be had to the accompanying drawings in which the preferred embodiment of the invention has been illustrated, and in which:

Fig. 1 is a longitudinal section through an improved faucet showing the valve in closed position.

Fig. 2 is a section on line 2—2 of Fig. 3, through a fragmentary portion of the faucet showing the valve in open position.

Fig. 3 is a section similar to that shown in Fig. 1 and shows the relationship of the several parts when the valve is in open position, and

Fig. 4 is a section showing a slightly modified form of valve construction.

In the drawings numeral 1 represents the elongated tubular portion of the body of the faucet, and 2 the transverse head portion. The elongated portion 1 is hollow and has an opening 3 which communicates with the in-

terior 4 of the head. One end of the transverse opening 4 has an inwardly extending annular flange 5 the opening 6 in which forms the discharge opening of the faucet. The inner surface of flange 5 immediately surrounding the opening 6 is provided with an annular ridge 7 whose edge is quite sharp and which forms a valve seat. The opposite end of the wall surrounding opening 4 is threaded as indicated by numeral 8 and is closed by a plug 9 whose inner end is provided with a threaded section that cooperates with the threads 8. Plug 9 is also provided with an outwardly extending flange 10 and an axial opening 11 through which the valve stem 12 extends. The inner end of plug 9 has a central depression 13 for the reception of packing material 14. The valve stem has its inner end provided with a head 15 which may be an integral portion of the stem or a separate part attached to the stem. Head 15 has a circular flange 16 whose outer surface is provided with an annular ridge 17. A central hollow projection 18 extends outwardly, or downwardly from the under side of the flange 16. Openings 19 extend through the wall of projection 18 and the inside is threaded so as to cooperate with the threads on the tubular plug 20 whose lower end has an outwardly extending flange 21. An annular valve member 22 has a central opening through which the projection 18 extends; the lower end of the central opening is enlarged so as to receive the head 21. An annular shoulder 23 cooperates with the upper surface of flange 21. The distance from shoulder 23 to the upper surface of member 22 is somewhat less than the distance from the plane of the lower edge of the annular valve seat 17 so that member 22 can move relative to the flange 16 between the positions shown in Figs. 1 and 2. When member 22 is in the position shown in Fig. 1 the sharp edge of the valve seat 17 engages the upper surface of member 22 and forms a seal. When the parts are in the position shown in Fig. 2 holes 19 are uncovered and the seal between the valve seat 17 and the surface of valve member 22 is broken so that oil may flow through

openings 19 and out through the opening in plug 20.

A washer 24 surrounds the valve stem and has its upper surface in contact with the underside of the packing material 14. A helical compression spring 125 encircles that portion of the valve stem between the flange 16 and washer 24 and exerts a force on the parts tending to move them downwardly against valve seat 7. It will be observed that the annular valve member 22 has its outer surface formed from two cylindrical surfaces 25 and 26. The diameter of surface 25 is greater than the diameter of the opening 6 and the diameter of the cylindrical surface 26 is slightly less than that of opening 6. The shoulder between the surfaces 25 and 26 rests on the valve seat 7 when the valve is closed and when in closed position the lower surface of the valve member 22 lies substantially in the plane of the under or outer surface of flange 5. A handle 27 has its lower end provided with a recess 28 into which the upper end of the valve stem 12 extends. A pin 29 extends through the upper end of the valve stem and the lower end of handle 27 and when the latter is rotated about the axis of pin 29 the valve stem is moved upwardly against the force exerted by spring 125.

In the modification illustrated in Fig. 4 a ferrule 30 extends through the opening in member 22 and projects downwardly below the lower surface of flange 5. The outer surface of this ferrule is threaded and a nut 31 serves to clamp the member 22 in place. When the construction shown in Fig. 4 is employed the plug 20 is not used and the liquid will be discharged through the interior of ferrule 30 which adapts this construction for use in filling bottles and for other purposes where it is desirable to dispense the liquid in a stream of small diameter.

Let us now assume that the faucet shown in Fig. 1 is connected to the end of a pipe in which there is liquid under pressure. With the parts in the position shown in Fig. 1 the liquid cannot escape as the valve is in closed position. Let us now assume that handle 27 is moved towards the position shown in Fig. 3, for obvious reasons valve stem 12 will be moved upwardly whenever handle 27 is rotated about pin 29. When the valve stem begins to move upwardly valve seat 17 will be moved away from the upper surface of the valve member 22 and the latter will remain seated on valve seat 17 until it is engaged by the upper surface of flange 21. As soon as valve seat 17 is separated from the upper surface of member 22 liquid will flow out through openings 19 and out through the tubular plug 20. This preliminary opening reduces the pressure in the interior of the faucet and makes it easier to move the valve member 22 from its seat. When the valve

parts have been moved to the position shown in Figs. 2 and 3 the liquid can escape freely along the path indicated by the arrow. In closing, the valve member 22 is first moved into contact with seat 17 and then the valve seat 17 on the flange is moved against the upper surface of member 22. Since the surface 26 fits quite closely against the inside of opening 6 there is no drip after this part of the valve closes and owing to the construction of the other part of the valve there is no drip from the center after the seat 17 has moved against the surface of member 22.

Attention is directed to Fig. 2 which illustrates the position of the valve parts when the valve is in fully open position and from which it will be seen that the capacity is controlled entirely by the area of opening 6 as the movable valve parts are raised so high that they offer no obstruction. Another advantage of this construction is that the inward flow of the liquid before it is discharged through the opening 6 tends to consolidate the stream and the liquid therefore flows in a solid stream whose diameter is no greater than the diameter of opening 6.

This valve is especially well adapted for use in connection with oil dispensing devices but it is also suitable for many other purposes where a quick acting faucet of large capacity is desired.

The construction shown in Fig. 4 has not the capacity of the other construction but it is very convenient for filling bottles and for other purposes where a solid stream of small diameter is desired.

Having described the invention what is claimed as new is:

A faucet of the class described, comprising, in combination, an elongated tubular body member (1) having an opening (3) extending longitudinally therethrough, and intersecting a transverse opening at the other end, one end of the transverse opening being partially closed by an inwardly extending flange whose inner edge determines the size of the outlet opening, said flange having a circular, raised valve seat on its inner surface, a plug threadedly connected with the other end of the transverse opening, said plug having a central axial opening, a valve stem in the opening in the plug, means for sealing the opening about the valve stem, the inner end of the valve stem having a circular flange, one side of which has a circular ridge that forms a valve seat, that portion of the stem beyond the flange having a cylindrical projection provided with a threaded opening, a plurality of holes in the wall of the opening, a spring surrounding the valve stem between the flange and the plug, a circular valve member surrounding the cylindrical projection, said valve member having its outer surface formed from two cylindrical surfaces of different diameters, the

portion of the smaller diameter being adapted to extend into the outlet opening, the portion of larger diameter being larger than the first mentioned valve seat and adapted to engage the latter to form a seal, the valve member being movable towards and away from the valve seat on the flange of the valve stem.

In testimony whereof I affix my signature.

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