I. F. KEPLER.

TANK BULB OR VALVE.

APPLICATION FILED OCT. 23, 1912.

1,112,294. Patented Sept. 29, 1914.

Fig. 1.

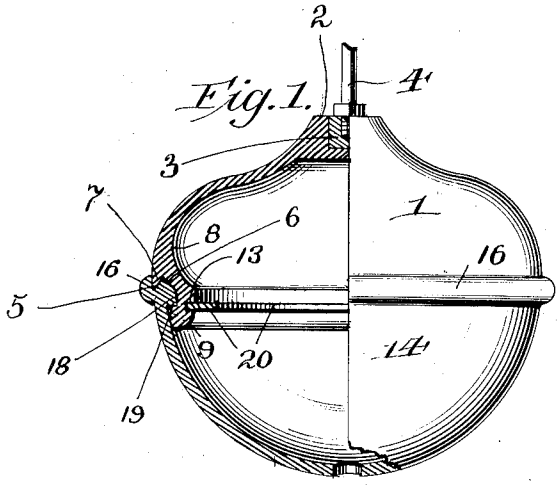


Fig. 2.

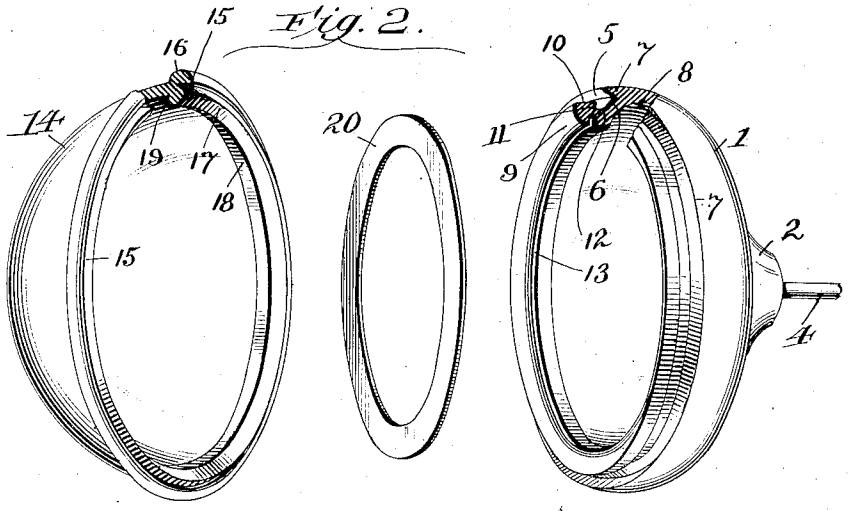


Fig. 4.

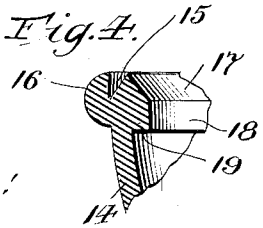
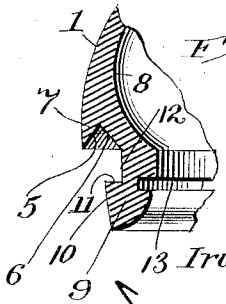


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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TANK BULB OR VALVE.

1,112,294. Specification of Letters Patent. Patented Sept. 29, 1914.

Application filed October 23, 1912. Serial No. 727,398.

To all whom it may concern:

Be it known that I, IRWIN F. KEPLER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Tank Bulbs or Valves, of which the following is a specification.

My present invention pertains to improvements in tank bulbs or valves, the construction being designed to produce a simple, cheap and yet efficient and durable structure.

The invention is illustrated in the annexed drawings, wherein:

Figure 1 is a sectional elevation of the bulb; Fig. 2 a perspective view of the segregated portions or members of the structure, parts being broken away to more clearly illustrate their form; and Figs. 3 and 4 detail sectional views, on an enlarged scale, of the marginal portions of the bulb sections.

The bulb may be said to be composed of two half or substantially semispherical sections, provided with interlocking members, and a rigid interior supporting member adapted to coact with the parts to prevent the bulb from collapse and also to assist in bringing about a tight union between the interconnected marginal portions of the sections.

In the drawings, 1 denotes the upper or outer half of the bulb, formed of relatively hard or stiff rubber, and preferably having vulcanized in the outer or head portion 2 thereof a threaded socket 3, for the reception of a stem 4. Said section is formed with an external annular V-groove, defined by the walls or surfaces 5 and 6, the former producing with the outer face of the section an annular flange or rim designated by 7. The body of the section is curved inwardly, as at 8, below or adjacent the face 6, and extending outwardly therefrom is a neck portion 9, having an external flat face 10 and a shoulder 11 formed at right angles to said face and spaced away from the V-shaped groove aforesaid, by an annular face 12. An annular and comparatively narrow groove 13 is formed upon the inner face of the neck portion 9, the purpose of which will presently appear.

The second semispherical section of the bulb, designated by 14, is preferably produced from a good quality of rubber, and is more or less yielding and elastic. It is formed at its marginal portion with an enlarged head having a substantially V-shaped groove 15 formed in the outer face thereof adjacent the external portion of the head, thereby producing a bead or lip 16. The head is also provided with a beveled face 17, which with the innermost face of the groove 15, produces a V-shaped projection, adapted when the parts are assembled to fit in the V-groove of section 1. Extending inwardly from the inner edge of face 17 is an annular face 18, and extending outwardly therefrom at right angles and forming the inner rear face of the head is a shouldered face 19, said faces 18 and 19 contacting with the complemental faces 12 and 11 of section 1 when the parts are brought together. In other words, section 1 may be said to have two grooves or channels formed in the margin thereof, the groove formed by the walls 5 and 6 and a second groove formed by faces 6, 11 and 12 (the two grooves merging and standing at right angles to each other), adapted to receive and embrace the main portion of the head on section 14, which is so shaped as to fill said grooves and to make an interlocking fit therewith, the bead or lip 16 at the same time overlying the outer portion of flange 7. Face 10, moreover, makes a close fit against the inner wall of section 14.

To hold the parts against collapse and to assist in the formation of a tight joint or union between the sections, I employ a rigid flat ring 20, preferably formed from sheet metal, the exterior edge of which will be seated in the annular groove 13 of section 1, being preferably sprung into place after said section is cured. Said ring, as will be seen, fits within groove 13, but it is not threaded or otherwise connected to the parts.

When the parts are assembled, the contacting faces of the sections 1 and 14 will preferably be treated with shellac or other suitable cement, which, coupled with the fact that the line of juncture between the parts is a sinuous one, prevents the passage of water through the joint. Furthermore, the flexibility and elasticity of section 14 causes the marginal portions thereof to closely hug the like portions of section 1,

the metallic ring sustaining such latter portions and preventing collapse.

The construction as above set forth is such that each section may be produced independently of the other, a point of manifest advantage, in that one portion when completed is of relatively hard rubber while the other is flexible.

Having thus described my invention, what I claim is:

1. A tank valve or bulb, comprising an upper substantially rigid section; a lower relatively flexible and elastic section formed of rubber; integrally-formed interlocking members carried by said sections, the members of said lower section tending, by reason of the elasticity thereof, to hug the members of the upper section; and a rigid internal support carried by said upper section adjacent to the joint between the two sections to prevent collapse of the bulb at the joint.

2. A tank valve or bulb, comprising an upper substantially rigid section; a lower relatively flexible and elastic section formed of rubber; integrally-formed interlocking members carried by said sections; and a flat ring located interiorly of the upper section adjacent to the lower marginal portion thereof and serving to prevent the parts from collapse.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

IRWIN F. KEPLER.

Witnesses:

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