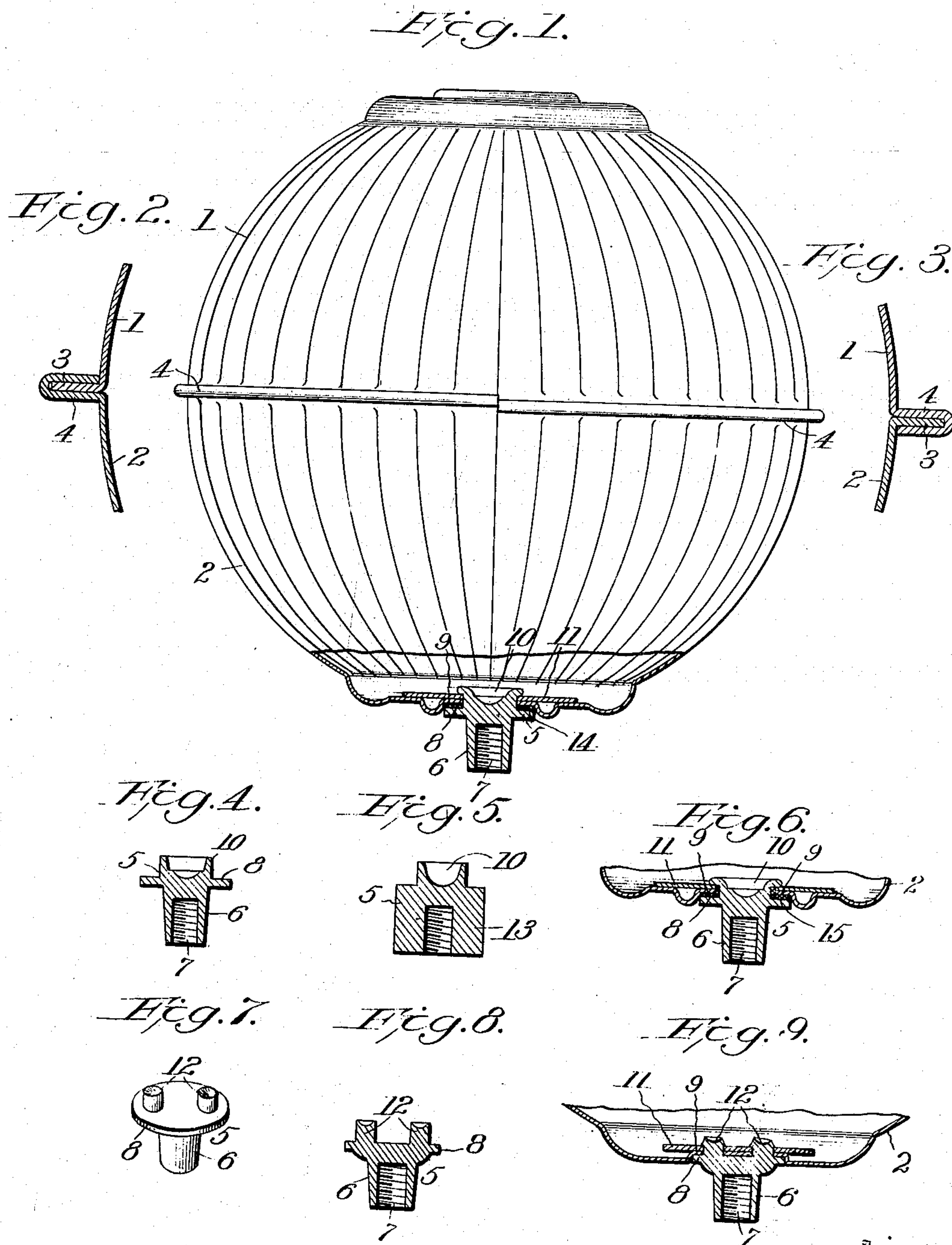


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TANK FLOAT.
APPLICATION FILED AUG. 30, 1905.

924,398.

Patented June 8, 1909.



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TANK-FLOAT.

No. 924,398.

Specification of Letters Patent.

Patented June 8, 1909.

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To all whom it may concern:

Be it known that I, FREDERICK M. STEVENS, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Tank-Floats, of which the following is a full, clear, and exact description.

The sheet copper balls used as floats in water-closet and other tanks for automatically closing the tank-filling valves, are commonly furnished to the trade in halves, ready to be closed and soldered together, and the spud to receive the operating lever or rod is then soldered on. Spuds have been applied also by a riveting or heading-up process.

The object of this invention is to provide a spud for such floats, which may be secured in place against turning, before the halves are united.

The invention stated specifically consists of a tank float, having a spud provided with one or more projections arranged inside the float and expanded, swaged down or riveted down upon an inside washer, as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawings illustrating the invention, in the several views of which like parts are similarly designated, Figure 1 is a side elevation with the lower part in transverse section. Fig. 2 is an enlarged vertical section of one side of the float. Fig. 3 is an enlarged vertical section of the other side of the float. Fig. 4 is a longitudinal section of one form of spud detached, and Fig. 5 is a longitudinal section of another form of spud detached. Fig. 6 is a cross-section of the lower part of one of the halves of the float showing a modification in the manner of attaching the spud. Fig. 7 is a perspective view of another form of spud. Fig. 8 is a longitudinal section of the spud of Fig. 7. Fig. 9 is a section similar to Fig. 6 showing the spud of Figs. 7 and 8 applied and also showing a modification in the construction of the lower portion of the float.

The two halves 1 and 2 of the float are alike, and each comprises a hemispherical shell of copper or other non-corrodible metal or substance, having half of its edge provided with a plain, straight flange 3 projecting therefrom at right angles to its axis, and a pocket-flange 4 similarly projecting from the other half, so that when these halves are in-

vertedly arranged and their flanged edges brought into parallel planes and the halves then moved toward each other, the plain flanges will slide into the pocket-flanges of the respective halves, after which these pocket-flanges are closed down upon the plain flanges and solder is applied to the joint thus formed to secure it and make the joint fluid-tight.

Before the halves are united, the spud 5 is applied to one of them. Various forms of spuds and means of attaching them are shown. All of these spuds, however, are alike in having a shank 6 screw threaded internally at 7 a sufficient depth to receive a rod or lever by which the float is applied for use.

Referring to Figs. 1, 4, 6, 7, 8 and 9, the shank terminates in a solid head having a spreading flange 8 adapted to fit in a seat 9 made as a depression in one of the shells or halves of the float, and from this flange and on the opposite side of the shank is a projection 10 preferably cup-shaped or hollowed out a sufficient depth to facilitate the expanding, swaging down or riveting down of the spud in the shell or half of the float. Inasmuch as the metal of the float is thin, it is desirable to employ a washer or reinforce upon the inside upon which the spud-projection is riveted down, and such washer or reinforce is shown at 11 in Figs. 1, 6 and 9. The shell and the washer are perforated for the passage of the projection.

Instead of using one projection, a number of projections may be used, as two, in Figs. 7, 8 and 9, and designated 12, and the advantage of using two or more projections is that the tendency of the spud to turn when the rod is screwed home is obviated. The projections 12, also, may be cupped or hollowed out at their ends to facilitate the expanding, swaging down or riveting of the projections when applying the spud.

Instead of making the spud with three diameters, as shown in Figs. 1, 4 and 6, it may be made of two diameters as shown in Fig. 5, and in this instance, the shank and the flange 13 are of a single diameter and integral.

For further securing an air-tight and a fluid-tight joint, a washer 14, Fig. 1, of some soft material, may be interposed between the flange and the seat; or as shown in Fig. 6, the spud may be painted with some suitable substance 15, for the same purpose.

The halves may be nested together for economy in packing and transporting, and the shells constituting these halves may be made plain or corrugated, and their ends 5 formed as in Fig. 1 or Fig. 9; but the present invention is not limited to the construction of the shells of the float, and the invention is applicable to floats generally.

The particular construction of shells here- 10 in shown, with the provision of a spud of some sort, constitutes the subject of my patent for tank floats, dated August 28, 1906 No. 829,554.

What I claim is:—

15 1. A tank float, having a number of perforations at one end, and a spud having a shank provided with a screw-threaded socket and terminating in a solid head, a spreading flange projecting from said head and ar- 20 ranged outside said float, and a number of solid projections upon said flange extending through the perforations in said float and clenched against the inside of said float, whereby the spud is prevented from turning 25 with relation to the float in applying and removing the float rod.

2. A tank float, having a number of per- 30 forations at one end, a correspondingly perforated washer arranged inside the float and next to its perforated end, and a spud having a shank provided with a screw threaded socket and terminating in a solid head, a spreading flange projecting from said head and arranged outside said float, and a num- 35 ber of solid projections upon said flange passing through the corresponding perforations in the float and its contained washer and clenched inside of the float against said washer and adapted to prevent the turning

of the spud with relation to the float in ap- 40 plying and removing the float rod.

3. A tank float, having a number of per- forations at one end, a correspondingly per- 45 forated washer arranged inside the float and next to its perforated end, and a spud hav- ing a shank provided with a screw threaded socket and terminating in a solid head, a spreading flange projecting from said head and arranged outside the float, and a number of solid projections on said flange having 50 cupped ends passing through the correspond- ing perforations in the float and its contained washer and clenched inside of the float against said washer and adapted to prevent the turning of the spud with relation to the 55 float in applying and removing the float rod.

4. A tank float, having a shell provided with a depressed seat, a washer arranged in- 60 side the shell next to said seat, said seat and washer being provided with registering per- forations, and a spud having a shank pro- vided with a screw threaded socket and ter- minating in a solid head, and a spreading flange projecting from said head to fit in said depressed seat, a packing interposed between 65 said flange and seat, and a projection on said head extending through the shell into the in- side of the float and corresponding with and engaging the perforations in the seat and washer and clenched on the inside of the 70 shell against the washer.

In testimony whereof I have hereunto set my hand this 28th day of August A. D. 1905.

FREDERICK M. STEVENS.

Witnesses:

J. H. PILLING,
G. F. HODGES.