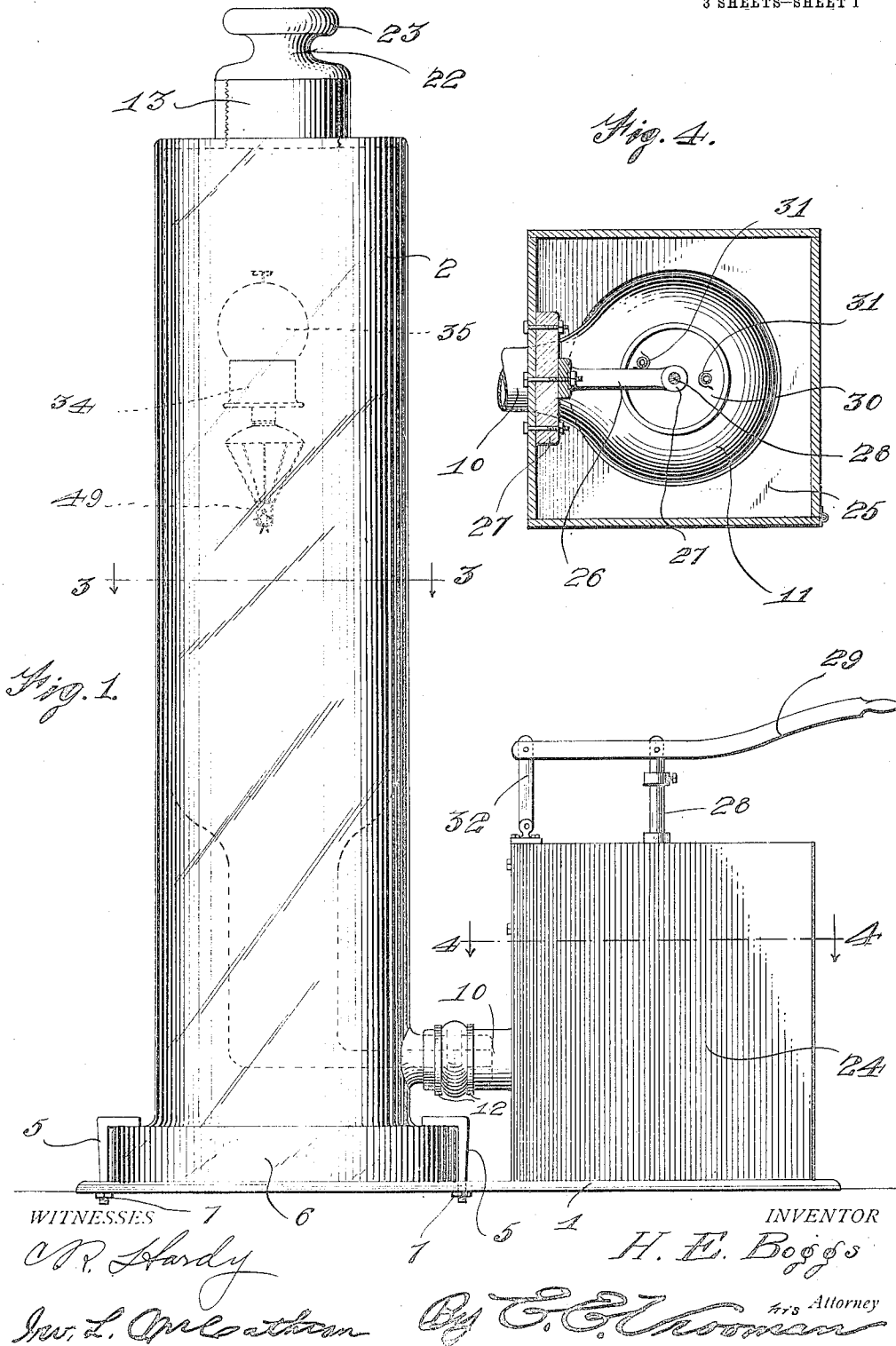


1,107,481.

Patented Aug. 18, 1914.

3 SHEETS—SHEET 1



WITNESSES

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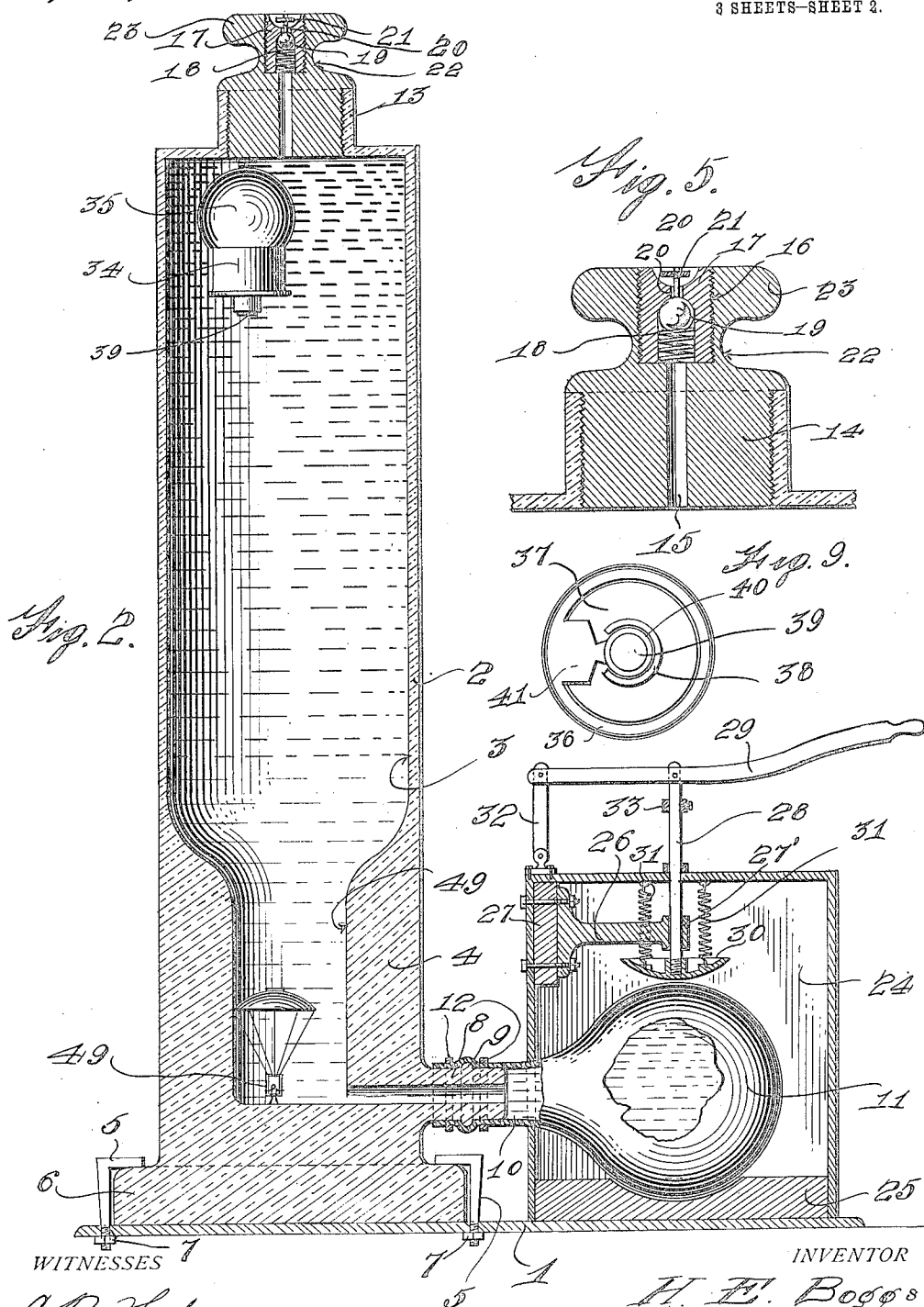
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Patented Aug. 18, 1914.

3 SHEETS—SHEET 2.

1,107,481.

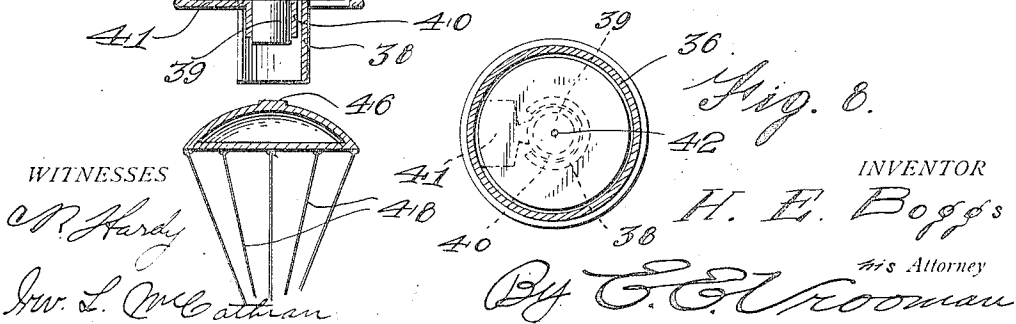
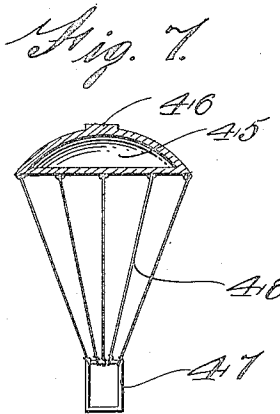
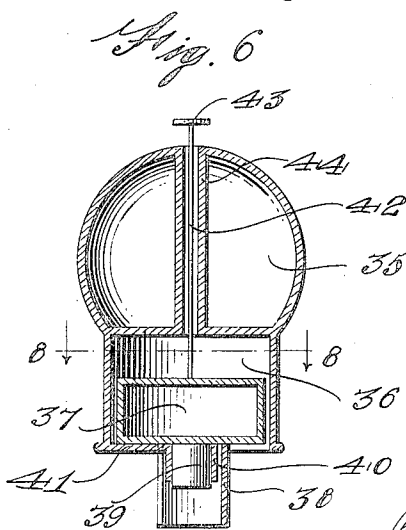
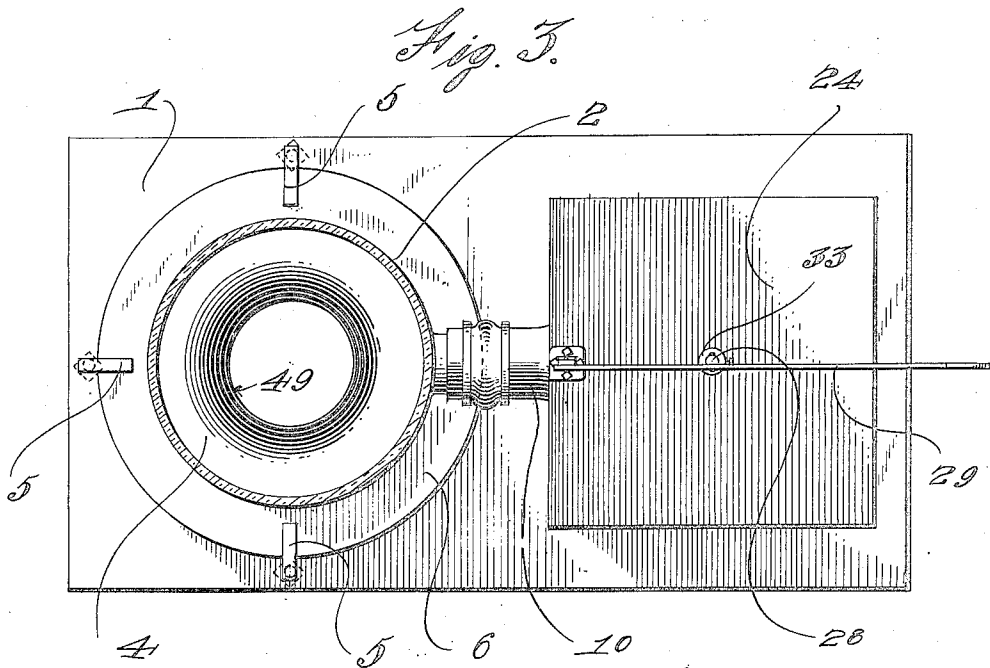


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1,107,481.

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3 SHEETS—SHEET 3.



UNITED STATES PATENT OFFICE.

HUGH EDWARD BOGGS, OF CENTERVILLE, IOWA.

HYDROBALLOON.

1,107,481.

Specification of Letters Patent.

Patented Aug. 18, 1914.

Application filed December 17, 1912. Serial No. 737,329.

To all whom it may concern:

Be it known that I, HUGH E. BOGGS, a citizen of the United States, residing at Centerville, in the county of Appanoose and State of Iowa, have invented certain new and useful Improvements in Hydroballoons, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to hydro-balloons especially adapted for display purposes wherein the device is to be placed in a show window as an attractive novelty.

The principal object of this invention is the production of a simple and efficient apparatus whereby the balloon carried within the water-filled receptacle will be caused to ascend and descend according to the pressure which is brought to bear upon the water contained within the receptacle.

Another object of this invention is the production of a simple and efficient means for creating a pressure upon the water contained within the water-filled receptacle.

With these and other objects in view, this invention consists of certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a side elevation of the apparatus. Fig. 2 is a central vertical section thereof. Fig. 3 is a section taken on line 3—3 of Fig. 1. Fig. 4 is a section taken on line 4—4 of Fig. 1. Fig. 5 is an enlarged sectional view through the relief valve carried by the water-filled receptacle. Fig. 6 is a vertical section through the balloon employed in connection with the present apparatus. Fig. 7 is a sectional view through the parachute. Fig. 8 is a section taken on line 8—8 of Fig. 6. Fig. 9 is a bottom plan view of the balloon.

By referring to the drawings by numerals it will be seen that 1 designates the base upon which is carried the water-filled receptacle 2. This water-filled receptacle is preferably made of glass or other transparent material having a compartment 3 for containing water. The lower portion of the receptacle 2 is thickened as indicated at 4 to constitute a firm anchoring base, and clamping bars 5 overhang the lower flange 6 of the receptacle 2 for firmly clamping the receptacle 2 to the base 1. Nuts 7 are threaded upon the lower ends of the clamping bars 5 for holding the bars 5 in engage-

ment with the base 1. The receptacle 2 is provided with a laterally extending spout 8 which is provided with a bead portion 9 over which is adapted to fit the neck 10 of the compression bulb 11. This neck 10 is held in engagement with the spout 8 by means of bands 12.

The upper end of the receptacle 2 is provided with a projecting neck 13 which is internally threaded for receiving the threaded plug 14. This plug 14 is provided with a centrally located aperture 15 and this aperture terminates at its upper end in a socket 16 in which is threaded a valve containing plug 17. The plug 17 is provided with a socket 18 in which is mounted the spring pressed ball valve 19 which normally closes the discharge aperture 20 formed in the plug 17. This ball 19 carries a stem 21 and it will be seen that by pressing upon the stem 21, the ball 19 may be relieved from the socket 18 to relieve the pressure of the water within the receptacle 2. The cap 14 is provided with a reduced neck portion 22 thereby constituting an overhanging head 23 to facilitate the removal of the cap 14 from the neck 13.

A compressing compartment 24 is carried to one side of the receptacle 2 and within this compressing compartment 24 is placed the bulb 11 and this bulb rests upon a supporting plug 25 as is illustrated clearly in Fig. 2. A bracket arm 26 is supported within the receptacle 24 upon a plug 27 and this bracket 26 is provided with a journal 27' at its outer end through which works the plunger 28 of the compressing lever 29. This plunger 28 carries a compressing head 30 at its lower end which compressing head is formed of a concavo-convex disk structure. Coil springs 31 are secured to the top of the receptacle 24 and to this disk 30 so as to normally hold the disk out of engagement with the bulb 11. A supporting link 32 is carried by the receptacle 24 and to this link 32 is secured the compressing lever 29. A stop collar 33 is carried by the plunger 28 to limit the downward movement thereof relative to the casing 24.

By carefully considering Fig. 2 it will be seen that as the compressing lever 29 is forced downwardly, the disk 30 will engage the bulb thereby compressing the same and forcing the water contained within the bulb into the receptacle 2 thereby increasing the volume of water within the receptacle

2, and by increasing the pressure the balloon 34 will be caused to descend in the receptacle 2.

As is illustrated in Fig. 6, the balloon 34 comprises a hollow spherical body 35 to allow the balloon to ascend under normal conditions and this hollow spherical body 35 is provided with a compartment 36 at its lower end in which operates a float casing 37. This float casing 37 is provided with a collar 38 which is securely attached thereto and this collar partly surrounds the magnet 39 which magnet is secured to the balloon by means of a collar 40 carried by the arm 41 which arm 41 is secured to the bottom of the receptacle 36 of the balloon 34. A plunger rod 42 is connected to the float casing 37 and is provided with an enlarged cap 43 at its upper end to engage the upper end of the receptacle 2. This rod 42 passes through a channel 44 formed in the spherical body 35 of the balloon.

A parachute as illustrated in Figs. 2 and 7 is also used to cooperate with the balloon 34 and comprises a hollow semi-spherical body 45 having a magnet contact portion 46 formed upon the top thereof. A weight 47 is secured to the lower end of the body 45 by means of suspension wires 48, and a figure as indicated at 49 may be placed within the weight 47 to represent a man descending in a parachute.

The operation of the device is as follows:—The balloon 35 is normally held afloat at the top of the receptacle 2 and when pressure is brought to bear upon the bulb 11, the pressure of the water within the receptacle 2 is increased and compresses the air in the balloon so that the specific gravity of the balloon and its contents is changed which will cause the balloon 34 to descend, and as the balloon 34 descends the same will be directed into the narrow neck portion 49 whereupon the semi-spherical float 45 will be attracted by the magnet 39 of the balloon. As soon as the pressure is relieved from the bulb 11 the pressure of the water within the receptacle 2 will be relieved thereby allowing the balloon 34 to ascend to the top of the casing or receptacle 2. When the balloon 34 reaches the top of the receptacle 2 the cap 43 will come in contact with the lower face of the plug 14 or the top of the receptacle 2 whereby the collar 38 will be forced downwardly relieving the float 45 from the magnet. The parachute will then descend to the bottom of the receptacle as indicated in Fig. 2 in view of the fact that the float 45 will be forced out of the influence of the flux of the magnet 39.

From the foregoing description, it will be seen that a very efficient, entertaining novelty has been produced whereby the balloon contained within the receptacle 2 may be caused to ascend and descend within the re-

ceptacle and allow the parachute to automatically be detached from the balloon.

Having thus described the invention, what is claimed as new, is:—

1. A novelty of the class described comprising a water-filled receptacle, a bulb cooperating therewith and adapted to be compressed for increasing the pressure of the water within said water-filled receptacle, a balloon positioned within said receptacle and being caused to rise and fall therein as the pressure is increased and decreased upon the water within said receptacle, a submerged body in the receptacle, and cooperating means carried by the float and body for causing the float to engage and lift the body.

2. A novelty of the class described comprising a water-filled receptacle, a balloon positioned therein, a bulb cooperating therewith, means for compressing said bulb whereby the pressure will be increased upon the water within said receptacle whereby said balloon will be caused to descend within said receptacle and will be caused to rise within said receptacle when the pressure is relieved therefrom, a submerged body in the receptacle, and cooperating means carried by the balloon, and body for causing the balloon to engage and lift the body.

3. A novelty of the class described comprising a water-filled receptacle, a balloon positioned therein, means for increasing the pressure upon the water within said receptacle, a detachable parachute carried within said receptacle, and said balloon adapted to descend within said receptacle and engage said parachute when the pressure is increased within said receptacle and ascend within said receptacle with said parachute when the pressure has been relieved from said receptacle.

4. A device of the class described comprising a water-filled receptacle, a balloon positioned therein, a parachute carried thereby, means for increasing and decreasing the pressure within said receptacle whereby said balloon will be caused to rise and fall therein, a magnet carried by said balloon and adapted to attract said parachute as said balloon falls to the bottom of said receptacle, and means carried by said balloon for automatically releasing said parachute from said balloon when the same reaches the top of said receptacle.

5. A device of the class described comprising a water-filled receptacle, a balloon positioned therein, a parachute, means for increasing and decreasing the pressure of the water contained within said receptacle whereby said balloon will be caused to rise and fall therein, a magnet carried by said balloon and adapted to attract said parachute as the same comes in engagement therewith whereby said parachute will be raised with said balloon, a collar carried by

said balloon, and a plunger adapted to engage the top of said receptacle and carried by said collar for automatically releasing said parachute from said balloon.

5 6. A device of the class described comprising a liquid-filled receptacle, a balloon carried therein, means for increasing and decreasing the pressure within said receptacle whereby said balloon will be caused to
10 rise and fall, a parachute carried by said receptacle, means carried by said balloon and adapted to engage said parachute for causing the same to rise with said balloon, and means carried by said balloon for auto-
15 matically releasing said parachute from said balloon as the same reaches the top of said receptacle.

7. A device of the class described comprising a liquid-filled receptacle, a balloon
20 carried thereby, a parachute, means for regulating the pressure within said receptacle for causing said balloon to rise and fall, a plunger carried by said balloon, a collar carried by said balloon, and said collar adapted to kick said parachute from said
25 balloon as said balloon comes in contact with the top of said receptacle.

8. A device of the class described comprising a water-filled receptacle, a balloon
30 carried therein, a parachute, means for increasing and decreasing the pressure within said receptacle, a float carried by said balloon, a plunger carried by said float, a collar carried by said float and depending from
35 said balloon, a magnet carried by said balloon and being surrounded by said collar, said magnet adapted to engage said parachute for causing the same to rise with said balloon, and said plunger adapted to slide
40 said collar upon said magnet for kicking said parachute from said magnet whereby said parachute will be caused to descend within said receptacle when said plunger engages the top of said receptacle.

45 9. A device of the class described comprising a liquid-filled receptacle provided with a projecting collar, a plug positioned therein, said plug provided with a central aperture, a spring pressed pressure relieving valve carried by said plug and adapted
50 to normally close said aperture, a balloon carried within said receptacle, and means

for creating a pressure to control the rise and fall of said balloon within said receptacle.

10. A device of the character described comprising a liquid-filled receptacle having a base spout, a compression bulb connected to the spout, a balloon in the receptacle, a casing inclosing the bulb, and means carried
60 by the casing for operating the bulb to create a pressure in the receptacle.

11. A device of the character described comprising a liquid-filled receptacle provided with a base spout, a balloon in the receptacle, a casing disposed adjacent the receptacle, a compression bulb in the casing and engaging the spout, and means for operating the bulb to create a pressure in the
70 receptacle.

12. A device of the class described comprising a water-filled receptacle, a balloon carried therein, a parachute, means for increasing and decreasing the pressure within said receptacle for causing said balloon to
75 rise and fall, and means carried by said balloon and engaging said parachute for raising said parachute as said balloon is allowed to rise.

13. A device of the character described comprising a liquid-filled receptacle, a balloon therein, means for controlling the pressure within the receptacle to cause the float to rise and fall, a submerged body in the receptacle, a magnet carried by the float for
85 engaging the body when the float falls, and means for discharging the magnet from the body when the float reaches the limit of its rise.

14. A device of the character described comprising a liquid-filled receptacle, a balloon therein, means for controlling the pressure within the receptacle, to cause the float to rise and fall, a submerged body, means carried by the float for engaging and lifting
90 the body, and mechanism for disengaging the body from the float when the float reaches the limit of its rise.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

HUGH EDWARD BOGGS.

Witnesses:

A. E. WOODEN,
J. C. HENAMAN.