FLOAT CONTROL MEANS

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3 Claims. (Cl. 137—426)

This invention relates to float control means, and included in the objects of this invention are:

First, to provide a float control means which is particularly adapted, but not limited, for use in conjunction with ice-making equipment employed in the automatic production of ice cubes or flaked ice.

Second, to provide a float control means which utilizes a novelty arranged float housing adapted to be mounted outside the freezing zone of an ice-making machine, and operatively connected therewith to maintain a predetermined level therein.

Third, to provide a float control means which incorporates a novel arrangement permitting ready adjustment of the float so as to maintain the supply water at precisely the correct level.

Fourth, to provide a float control means wherein the housing and cover are molded of plastic material and contoured to facilitate maintenance in a sanitary condition, the cover fitting the housing in such a manner that contamination is minimized yet permitting movement of air into and out of the housing as the water level is lowered or raised.

With the above and other objects in view, as may appear hereinafter, reference is directed to the accompanying drawings, in which:

FIG. 1 is a longitudinal, sectional view of the float control means;

FIG. 2 is an end elevational view taken from 2—2 of FIG. 1;

FIG. 3 is a transverse sectional view taken substantially through 3—3 of FIG. 1;

FIG. 4 is a transverse sectional view taken through 4—4 of FIG. 1.

The float control means includes a rectangular housing 1 having side walls 2, end walls 3, and a bottom wall 4, the upper side being open. One corner of the housing 1 is externally recessed as indicated by 5. The recessed corner terminates short of the upper side of the housing 1 to form a shelf 6 from which depends an overflow tube 7.

Near the opposite end of the housing 1 the bottom wall 4 is provided with an outlet tube 8. In the use of the float control means for supplying water to ice-making equipment, the outlet tube 8 is connected by a supply line A to the container B, as indicated by broken lines in FIG. 1, in which the ice is formed. In this case the level of water to be maintained in the float control means corresponds to the level of the water or ice in the container B. In order that the water will not normally drain fully from the housing 1, the outlet tube 8 is provided with a removable tubular plug 9.

The upper portion of the housing 1 is provided with a peripheral bead 10 which reinforces the upper side of the housing 1.

The end of the housing 1 opposite from the overflow tube 7 is provided with a bracket 11 which includes a vertically extending portion 12 terminating in a horizontal shelf 13 overlying the housing 1. Except for the side of the shelf 13 joined to the vertical extension 12, the margins of the shelf are provided with an upstanding rim 14. For reinforcing purposes the underside of the shelf 13 is attached to the vertical extension 12 by ribs 15, and portions of the vertical extension 12 as well as the adjac-
charge from the vent channels 37 rather than raising to a level which would permit backflow through the valve body 16.

By reason of the fact that the float-supporting rod 28 may be readily adjusted with respect to the control lever 24, the water level within the housing 1 may be maintained precisely at the desired level so that the corresponding level of water or ice in the ice-making apparatus may be held within close limits.

The tubular plug creates a sump which collects solid particles that may be carried by the water, yet is removable to flush or clean the sump.

While a particular embodiment of this invention has been shown and described, it is not intended to limit the same to the exact details of the construction set forth, and it embraces such changes, modifications and equivalents of the parts and their formation and arrangement as come within the purview of the appended claims.

What is claimed is:

1. A float control means, comprising:
   (a) a float housing having a raised bracket at one end;
   (b) a cover for said housing having a raised portion at one end partially covering said bracket;
   (c) a float valve body having an inlet at its upper end and an outlet at its lower end, and a valve element controlling flow from said inlet;
   (d) a valve-acting lever pivotally attached to said valve body and engageable with said valve element, the extended end of said lever being folded to form an integral U-shaped spring clip, having a pair of essentially aligned slots;
   (e) a float arm having a portion frictionally slidable in said slots thereby to effect vertical adjustment of said float arm;
   (f) and a float carried by said arm.

2. A float control means, comprising:
   (a) an essentially rectangular float housing open at its upper side and having a re-entrant corner forming an upwardly exposed shelf near said upper side, an overflow tube piercing said shelf depending from said shelf, said overflow tube being accessible for cleaning from the upper surface of said shelf, an outlet tube extending from the bottom of said housing, and a bracket overhanging one end of said housing and disposed above its open side;
   (b) a cover for said housing having a raised portion at one end partially covering said bracket;
   (c) a float valve mounted on said bracket and having an inlet at its upper end and a downwardly directed discharge end to discharge water into said float housing;
   (d) a float disposed in said housing;
   (e) and operating means connecting said float and float valve.

3. A float control means, comprising:
   (a) an essentially rectangular float housing, open at its upper side;
   (b) a bracket at one end of said housing, including an upstanding portion continuing from an end of said housing, and a shelf overlying and spaced above the upper side of the housing;
   (c) integral upstanding walls bordering said shelf except in the region of the upstanding portion of the said bracket whereby moisture collected on said shelf drains over said bracket and outside said float housing;
   (d) a cover for said housing, including a raised portion covering the walls of said shelf and defining a clearance aperture above said shelf;
   (e) a float valve mounted on and projecting through said shelf;
   (f) and a float disposed in said housing and connected to said float valve.

References Cited by the Examiner

UNITED STATES PATENTS

2,557,042 6/1951 Woolley 126—113
2,703,099 3/1955 Smiligan 119—74
2,716,331 8/1955 Ostrom 62—348 X
2,911,000 11/1959 Doyle 137—442
2,988,048 6/1961 Zimmerman 119—81

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