Oct. 9, 1928. 1,686,823

J. LEYLAND

FLOAT SUPPORTED MEASURING POT

Filed Dec. 30, 1927 2 Sheets-Sheet 1

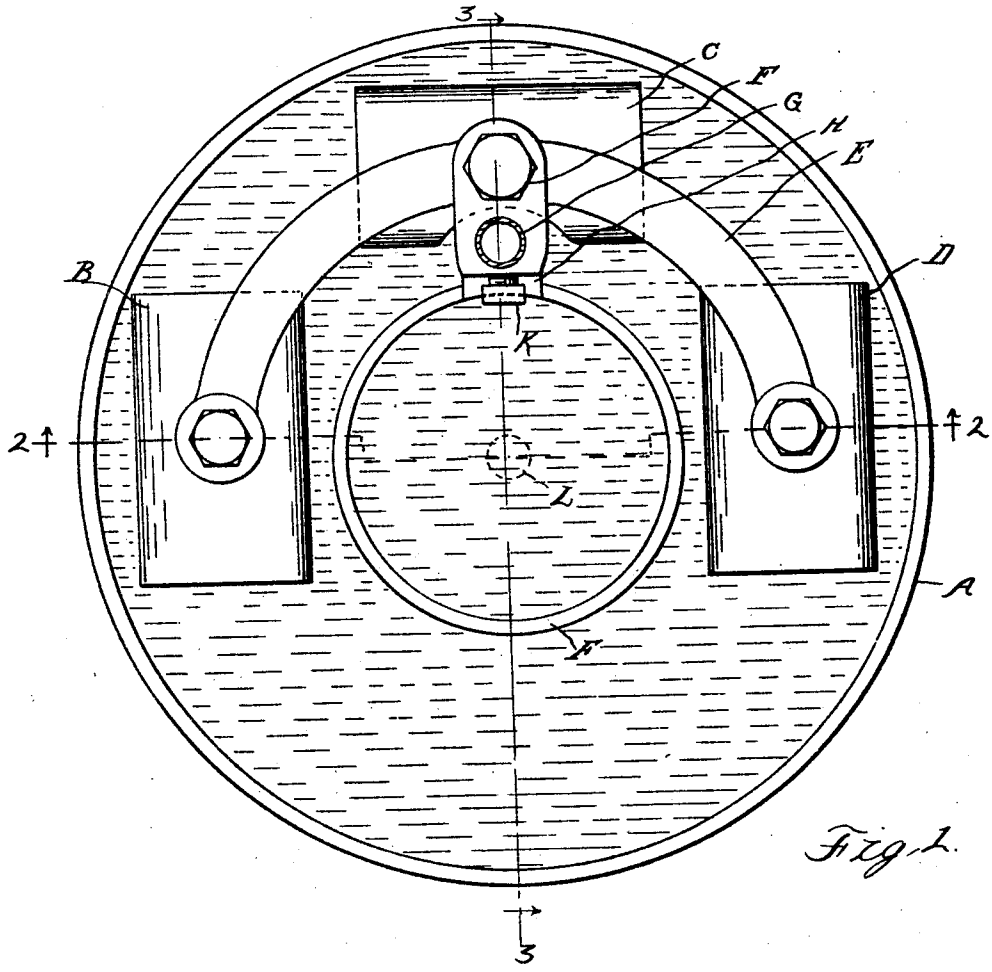


Fig. 1.

Inventor
John Leyland

By Lewan Frye and Murray
Attorneys

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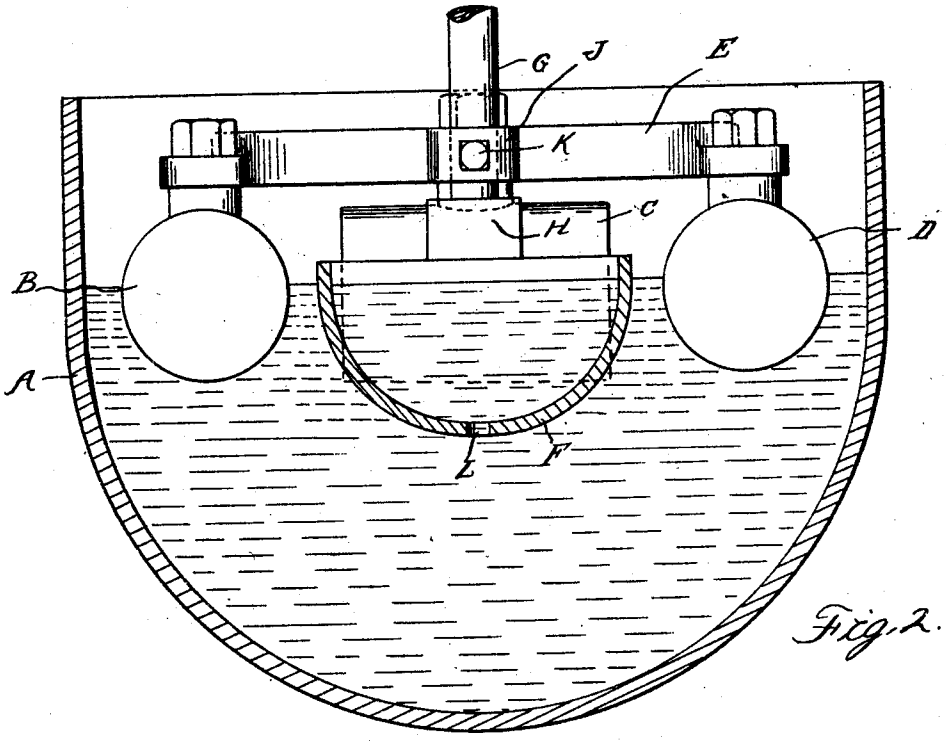


Fig. 2.

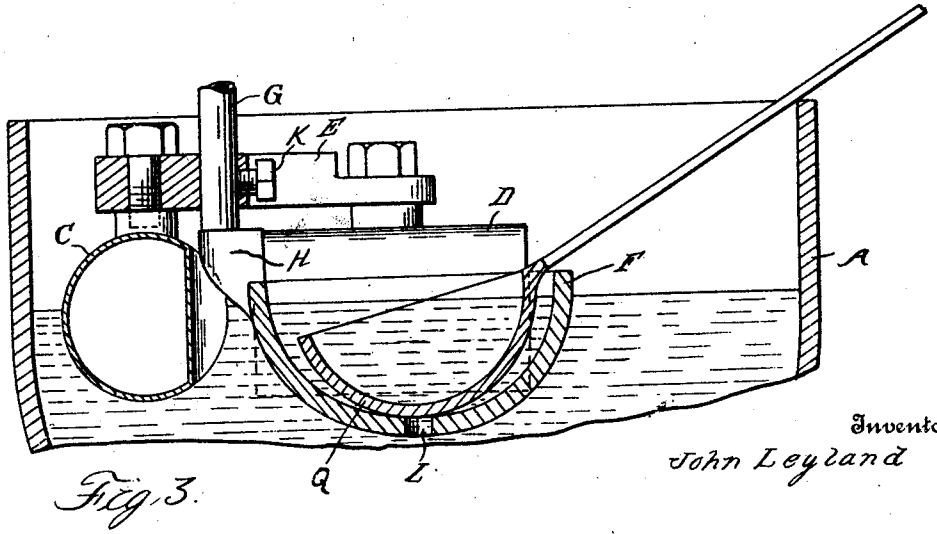


Fig. 3.

Inventor
John Leyland

By Swan Fryer and Murray.

Attorneys

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UNITED STATES PATENT OFFICE.

JOHN LEYLAND, OF DETROIT, MICHIGAN, ASSIGNOR TO FEDERAL MOGUL CORPORATION, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

FLOAT-SUPPORTED MEASURING POT.

Application filed December 30, 1927. Serial No. 243,518.

This invention relates to apparatus for insuring substantial uniformity in the quantity of molten babbitt or similar metal which is lifted out of the pot or container in successive ladling operations, and has for its object an improved organization of parts by means of which the tendency of a careless workman to lift out less than a ladle full at each operation is more or less counteracted in that the quantity made available at each time is automatically rendered uniform Provision is, however, made for preleminary adjustment of the relative position of the parts so that the same apparatus may be adapted for a variety of operations in some of which a greater or lesser quantity of the babbitt per ladling operation is required.

In the drawings:

Figure 1 is a plan view of my improved apparatus shown in position relatively to a vat or melting pot.

Figure 2 is an elevational view largely in section, taken along the line 2—2 of Figure 1, and looking in the direction of the arrows there shown.

Figure 3 is a fragmentary elevational view, taken along the line 3—3 of Figure 1, and looking in the direction of the arrows there shown.

A represents a vat or melting pot, upon the surface of the molten metal contained in which are designed to be rested a plurality of floats, as B, C, and D, preferably arranged on three sides of a common center and held in such position by the bridge or yoke E so that the fourth side, which is represented at the bottom of Figure 1. is relatively open for convenient access of the ladle Q to the measuring member F, which is positioned as desired in the vat though generally centrally of the floats. This measuring member F is in the form of a bowl of very slightly greater internal size and curvature than the exterior of the ladle Q which is to be used. This measuring member is adjustably held at the desired height relatively to the floats and their uniting yoke by means of the upwardly projecting stem or stud G, which is carried on the bracket H at one edge of the measuring member, and slidably passes through the guide sleeve J in the bridge E. Adjustment of this as to height may be regulated by some such convenient means as the jam screw K. This measuring member or bowl F is provided at its bottom with a hole L of suitable size to admit the upward flow into the bowl of molten metal contained in the melting pot A, the degree or extent of its rise thereinto being determined by the raised or lowered position of the measuring member F relatively to the floats and consequently to the level of the molten metal contained within the melting vat A.

It will be obvious that if the workman is at all careful and proficient in so scooping out with his ladle the contents of the measuring member F, the latter will be substantially emptied at each ladling operation, and the upward, gravity-induced flow of a refilling quantity of molten metal will at once begin through the hole L in the bottom of the measuring member, and that this refilling upflow will continue until the molten metal attains the same level therein as prevails in the melting vat A, ceasing only when the quantity of molten metal left in the pot A is no longer of sufficient depth to permit the float members B, C, and D to function. The removal of this quantity at the next ladling operation will thus insure substantial uniformity in the quantity of molten metal thus removed.

While it has been my experience that the arrangement and relative positioning of the float members herein disclosed makes for the greatest convenience and utility of the device, in that it lends buoyant support to the bowl from three sides while leaving the fourth side open for convenient access of the operator's ladle, I do not wish to be understood as restricting myself thereto since the same general principle of adjustably supporting the apertured bowl at the desired elevation for filling from below with the exact quantity of molten metal desired, could be served with a lesser number of floats a different arrangement of them, or even by the use of a single float.

While it will be apparent that the illustrated embodiment of my invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarly stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

What I claim is:

1. Means for effecting uniformity in the

quantity of molten metal removed from a melting pot by ladling, consisting of an inferiorly apertured bowl of substantially the contour of a ladle, into which molten metal may proceed by gravity-induced flow, and means adapted to float on the top of the contained molten mass, with which said bowl is adjustably connected at the desired relative elevation.

2. In combination with a plurality of float members, a yoke member for holding said members in desired position relatively to one another, and an inferiorly apertured bowl adapted to be supported by said float members at a suitable elevation for the gravity-induced inflow of the desired quantity of molten metal.

3. In combination with a bowl having an aperture relatively remote from its top edge, buoyant means for supporting said bowl in a fluid mass wherein both are positioned, and means for regulatably varying the relative elevation of such bowl with respect to its supporting element.

4. In combination with a plurality of float members, a correlating yoke whereby said members are held in desired arrangement, and an inferiorly apertured bowl member adjustably supported at the desired elevation relatively to said float members, whereby the inflowing access of a measured quantity of the fluid, wherein both said float members and said bowl are positioned, may be automatically effected.

5. In combination with an apertured bowl member, supporting means therefor, comprising buoyant elements adapted to be rested with it on the surface of a fluid mass, and means for regulating the elevation of said bowl member relatively to said buoyant elements, whereby the gravity-induced inflow of the fluid into said bowl is regulated as to quantity by the degree to which said bowl is held submerged in the fluid.

6. In combination with a bowl provided with an aperture relatively remote from its top edge, means for supporting such bowl at the desired degree of submergence in a fluid mass, comprising a buoyant element and means for adjustably correlating said bowl therewith at the desired level.

7. The combination, with a spacedly correlated series of float members, of an inferiorly apertured bowl provided with means for its supported connection with said float members at the desired relative elevation, for determining the level in said bowl to which the gravity-induced inflow of the fluid, in which it and its float members are positioned, may rise.

8. The combination, with an apertured bowl member and buoyant means adapted to be positioned in a fluid mass, of means for regulatably connecting said members at variant relative levels, whereby the degree to which fluid may enter said bowl through its aperture is determined by the extent of its buoyantly supported submergence therein.

9. The combination, with an apertured bowl, of buoyant means adapted to support said bowl in a fluid mass at such predetermined level as will automatically insure the restriction to a certain maximum of the gravity-induced inflow through said bowl's aperture.

10. The combination of a correlated series of buoyant elements and an apertured bowl supported thereby at a predetermined relative level in a fluid mass, whereby said bowl receives the gravity-induced inflow of such fluid to a predetermined level.

11. In combination with an inferiorly apertured fluid-receiving member, float elements whereby said fluid-receiving member is supported against sinking, and means whereby the elevation of said fluid-receiving member relatively to said float elements may be adjusted.

12. In combination with a plurality of float elements, an inferiorly apertured fluid-receiving member positioned intermediately of said float elements, and means correlating said fluid-receiving element and said members whereby they are adjustably held in desired relative position to one another.

In testimony whereof I sign this specification.

JOHN LEYLAND.