June 5, 1934. R. J. ALBRECHT 1,961,655

ICE CREAM DISHER

Filed Nov. 15, 1933

Fig. 1

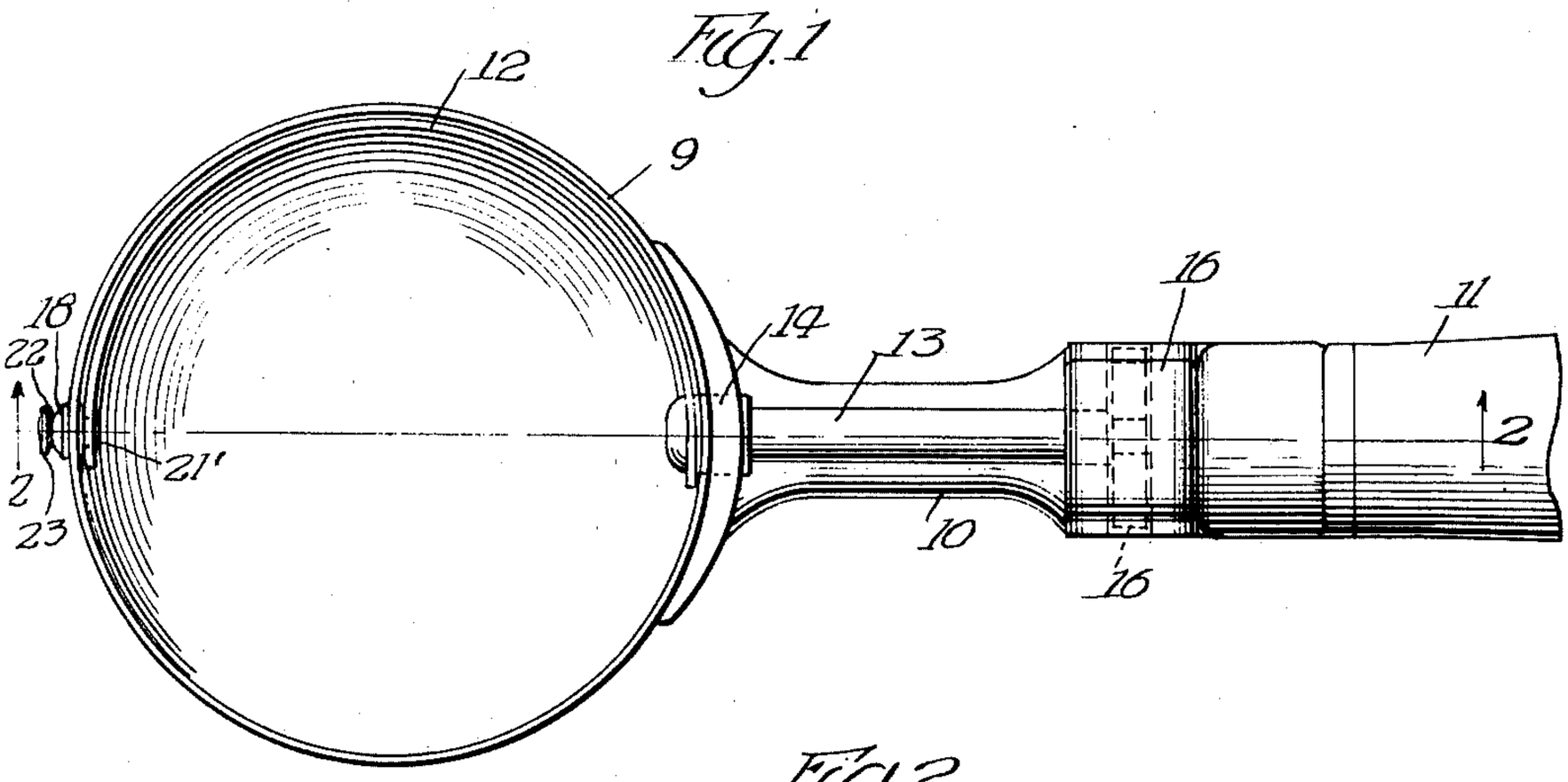


Fig. 2

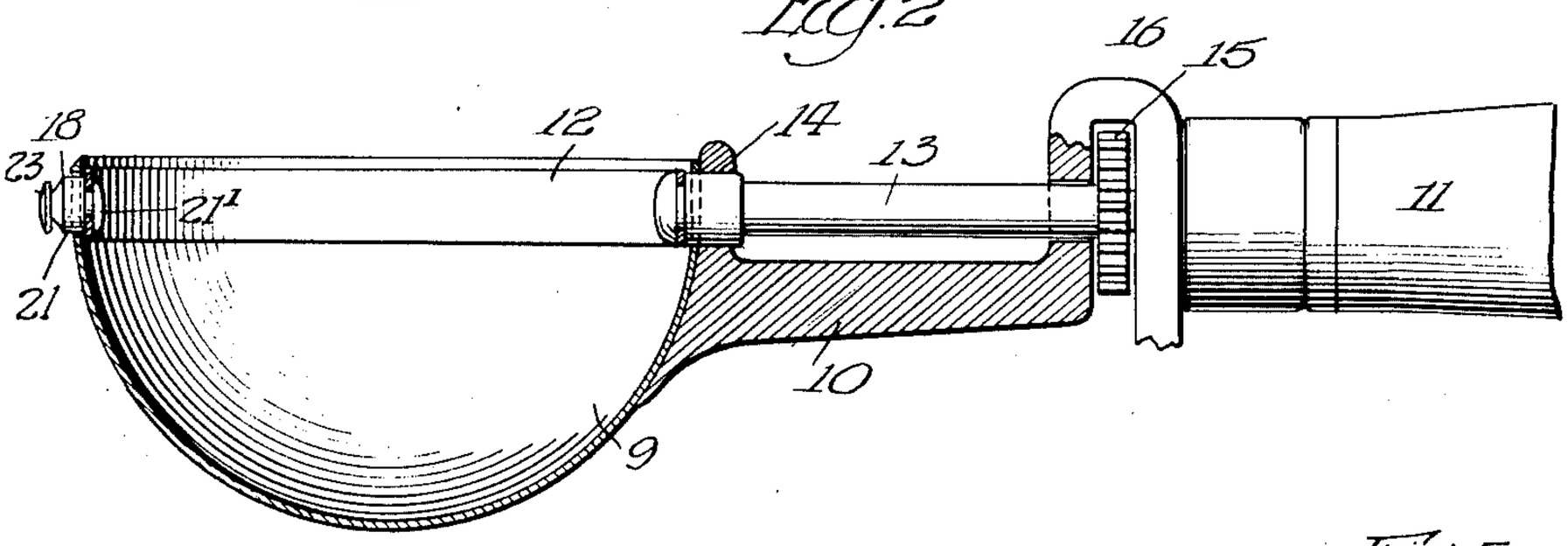


Fig. 3

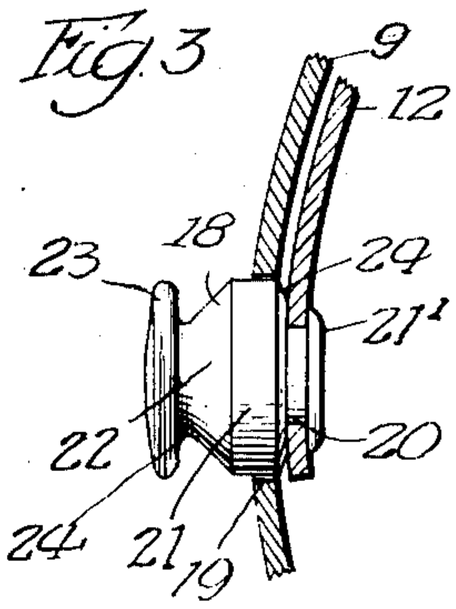


Fig. 4

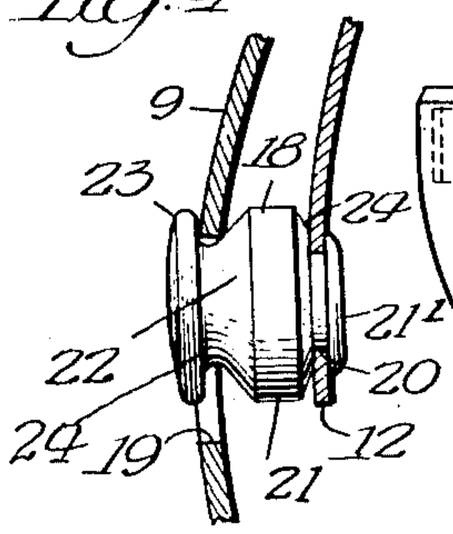


Fig. 5

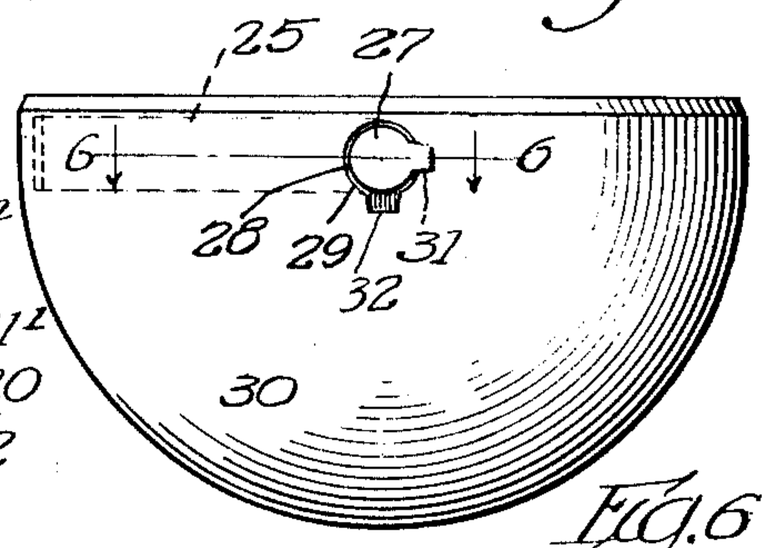


Fig. 6

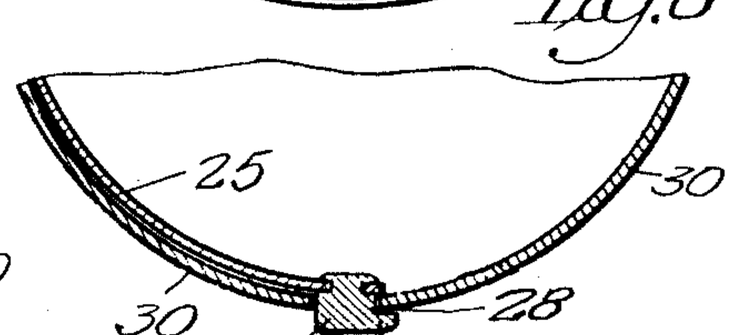
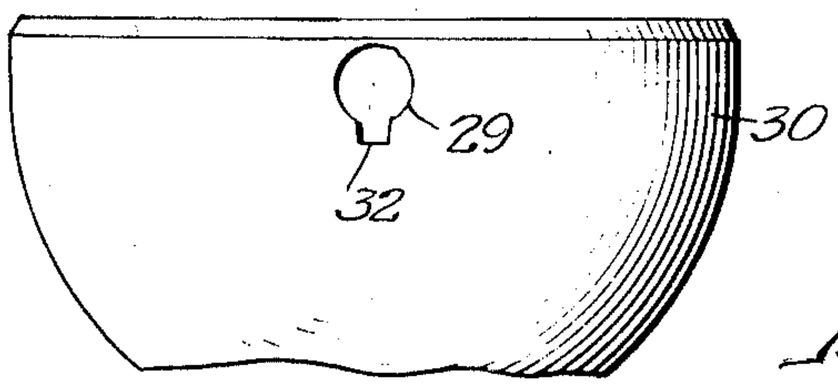


Fig. 7



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UNITED STATES PATENT OFFICE

1,961,655

ICE CREAM DISHER

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4 Claims. (Cl. 107—48)

The invention relates generally to ice cream dishers. More particularly the invention relates to that type of ice cream disher in which the inner end of the scraper blade is operated by a shaft which extends from one side of the bowl and lengthwise of the handle of the disher and the outer end of the blade is journaled in an opening or bearing which is adjacent the rim of the bowl and is coaxial with the shaft.

In ice cream dishers of this type, the scraper blade is formed of a curved strip of spring metal and it has been the practice to provide a trunnion on the outer end of the blade and to form the bowl of thin metal to facilitate its entry into hard ice cream. It has also been the practice to have the scraper blade removable for repair or replacement, and for this purpose to provide a trunnion on the outer end of the blade that could be readily removed from the bearing in the bowl. In dishers of this type, it has been customary to have the trunnion project beyond the outer face of the bowl so that it would not slip out of the bearing in use or in shipment. In practice it has been found, particularly when serving hard ice cream from a container, that the outer end of the trunnion is sometimes forced inwardly through the bearing in the bowl and will not reseat itself.

One object of the present invention is to provide an ice cream disher of the type under consideration in which the trunnion at the outer end of the blade embodies novel and improved means for preventing displacement thereof from its bearing during the use of the disher while still permitting the scraper blade to be removed for repair or replacement.

Other objects of the invention will appear from the detailed description.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion.

In the drawing, Fig. 1 is a plan of an ice cream disher embodying the preferred form of the invention. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a section on an enlarged scale showing the trunnion for the scraper blade in its operative position in the bearing in the bowl. Fig. 4 is a similar view illustrating the manner in which the trunnion is prevented from being displaced from the bearing. Fig. 5 is an end view of a disher embodying a modified form of the invention. Fig. 6 is a section on line 6—6 of Fig. 5. Fig. 7 is an end view illustrating the trunnion bearing in the bowl of the disher of Figs. 5 and 6.

The ice cream disher which is shown in Figures 1, 2, 3 and 4 and constitutes the preferred form of the invention comprises a hemi-spherical bowl 9 which is formed of thin metal and has permanently secured thereto a shank 10. The latter extends from the inner side of the bowl and embodies a handle 11. A semi-circular scraper blade 12 is adapted to sweep across the bowl from side to side and serves to sever and discharge ice cream from the bowl. This scraper is formed of a strip of resilient metal. At its inner end the scraper 12 is fixed to a shaft 13 which overlies the shank 10 and extends through a closed bearing 14 in the shank and the inner side of the bowl. A pinion 15 is removably held on the inner end of the shaft 13, and is confined in a yoke 16 which is formed on the shank adjacent the handle. This pinion is suitably connected to the shaft so that when it is rotated by a suitable operating lever and rack, as well understood in the art, the shaft 13 will be rotated to rotate the scraper 12 around the inside of the bowl and thus to discharge the ice cream from the bowl. The outer end of the scraper is provided with a trunnion 18 which is adapted to rotate in a bearing 19 in the outer side of the bowl. The scraper 12, being formed of a resilient strip, can be flexed into and out of the bowl so the trunnion will be yieldingly held in its bearing in the bowl. The trunnion has a reduced shouldered inner end 20 which is riveted, as at 21^1, to the scraper so that it is permanently attached thereto. The trunnion has a cylindrical portion 21 which fits in the bearing 19 and projects slightly from the bowl to support pivotally the outer end of the scraper coaxially with the shaft 13, while the disher is assembled and during its operation. Beyond the cylindrical portion 21, the trunnion is annularly grooved to form an outwardly convergent, tapered or conical portion 22 and an annular flange or bead 23 at the outer end of the trunnion. The inner face of this flange extends substantially transversely to the axis of the trunnion to form an abrupt shoulder 24. In assembling the scraper and the bowl, the shaft 13 is passed through the bearing 14 while the scraper is turned out of the bowl and its inner end is inserted into the pinion 15. After the shaft is placed in its operative position, the trunnion 18 is pressed inwardly into the bowl and inserted through the bearing 19. The resiliency of the scraper 12 permits the trunnion to be sprung into and out of the bearing and serves yieldingly to hold the trunnion in the bearing. In practice, it frequently occurs that the operator, in manipulating the disher, strikes the end of the trunnion against the ice

cream can or against comparatively hard ice cream with sufficient force to move the trunnion inwardly and deflect it out of alinement with the bearing 19 as illustrated in Fig. 4. When this occurs the trunnion will ride on the tapered portion 22 until the shoulder 24 on flange 23 strikes the outer side of the bowl. When the ice cream has been discharged from the disher, the resiliency of the spring is sufficient to force the trunnion outwardly so its cylindrical bearing portion 21 will be re-seated in the bearing 19, the tapered portion 22 serving to guide the cylindrical portion 21 of the trunnion to its bearing. As a result, whenever from impact against the ice cream can or hard ice cream, the trunnion is forced inwardly, it will be arrested so it will not be entirely displaced from the bearing and the inherent resiliency of the scraper will restore the trunnion to its operative position in the bearing 19 in the bowl. This exemplifies a trunnion for the outer end of the scraper which is removable from and insertable in its bearing through the inside of the bowl and is provided with means for preventing its unintentional displacement from the bearing in the bowl.

In the modified form of the invention illustrated in Figs. 5, 6 and 7, the trunnion 27 is riveted to the outer end of the scraper 25 and is provided with a cylindrical bearing portion 28 which fits in a bearing 29 in the bowl 30. The trunnion is provided with a radially projecting lug 31 which is adapted to pass through a notch 32 in the bowl and communicating with the bearing 29, when the scraper is rotated into a predetermined position or out of the bowl. When the scraper with its shaft has been assembled with the bowl, the scraper is rotated to its normal position in the bowl and connected to the operating mechanism by which its range of movement is limited in the bowl. The lug 31, when the scraper and bowl are assembled, will remain out of registry with the notch 32 of the bearing 29 in the bowl. During the operation of the scraper, it will sweep across the bowl and in this movement the lug 31 will not pass into registry with the notch 32. As a result, the lug 31, when it is impacted against an ice cream can or hard ice cream, will engage the outer face of the bowl and prevent displacement of the trunnion from its bearing. When the scraper is to be removed, it is rotated so the lug 31 will be aligned with the notch 32 and the trunnion can thus be withdrawn from bearing.

The invention is not to be understood to be restricted to the details described, since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. In an ice cream disher of the character described, the combination of a bowl provided in the rim and outer side portion thereof with a bearing, a shank secured to and projecting from the inner side of the bowl and having a handle, a shaft removably mounted on the shank and extending through said inner side of the bowl and lengthwise of the shank, a semi-circular scraper of resilient material fitting in and adapted to sweep across the bowl and having its inner end secured to the shaft so that it is removable with the latter, and a trunnion for supporting the outer end of the scraper secured to the latter and insertable into and removable from the bearing through the inside of the bowl and provided with means located normally exteriorly of the bowl and adapted to coact with the bearing-forming portion of the latter to prevent the trunnion from being disconnected from the bowl when inward force is accidentally delivered to the trunnion, said means being attached fixedly to the outer end of the trunnion and being constructed and arranged so that upon proper manipulation of the trunnion with respect to the bearing it permits of inward release of the trunnion from said bearing and accompanies the trunnion out of the bearing when the scraper is removed from the bowl.

2. In an ice cream disher of the character described, the combination of a bowl provided in the rim and outer side portion thereof with a bearing, a shank secured to and projecting from the inner side of the bowl and having a handle, a shaft removably mounted on the shank and extending through said inner side of the bowl and lengthwise of the shank, a semi-circular scraper of resilient material fitting in and adapted to sweep across the bowl and having its inner end secured to the shaft so that it is removable with the latter, and a trunnion for supporting the outer end of the scraper secured fixedly to the latter and insertable into and removable from the bearing through the inside of the bowl and provided with an annular groove outside of the bearing forming an integral flange and adapted to coact with the bearing-forming portion of the bowl to prevent the trunnion from being disconnected from the bowl when inward force is accidentally delivered to it, said flange being of slightly less diameter than the bearing so that when the trunnion is centered with respect to the bearing it permits the trunnion to be moved inwardly from the bearing in connection with removal of the scraper from the bowl.

3. In an ice cream disher of the character described, the combination of a bowl provided in the rim and outer side portion thereof with a bearing, a shank secured to and projecting from the inner side of the bowl and having a handle, a shaft removably mounted on the shank and extending through said inner side of the bowl and lengthwise of the shank, a semi-circular scraper of resilient material fitting in and adapted to sweep across the bowl and having its inner end secured to the shaft so that it is removable with the latter, and a trunnion for supporting the outer end of the scraper secured fixedly to the latter and insertable into and removable from the bearing through the inside of the bowl and provided with an outwardly tapered portion outside of the bearing and a shoulder-forming flange at its extreme outer end adapted to coact with the bearing-forming portion of the bowl to prevent the trunnion from being disconnected from the bowl when inward force is accidentally delivered to it, said flange being of slightly less diameter than the bearing so that when the trunnion is centered with respect to the bearing it permits the trunnion to be moved inwardly from the bearing in connection with removal of the scraper from the bowl.

4. In an ice cream disher of the character described, the combination of a bowl provided in the rim and outer side portion thereof with a bearing, a shank secured to and projecting from the inner side of the bowl and provided with a handle, a shaft removably mounted on the shank and extending through one side of the bowl and lengthwise of the shank, a semi-circular scraper fitting

in and adapted to sweep across the bowl and having its inner end secured to the shaft, and a trunnion for supporting the outer end of the scraper secured fixedly to the scraper and insertable into and removable from said bearing from the inside of the bowl and provided with a radially projecting lug outside of the bowl for preventing it from being accidentally displaced inwardly through the bearing, the bowl being provided with a notch adjacent to the bearing through which the lug can pass when the scraper is rotated to an abnormal position for trunnion removing purposes.

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