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B. W. McGINNIS

ICE CREAM FREEZER

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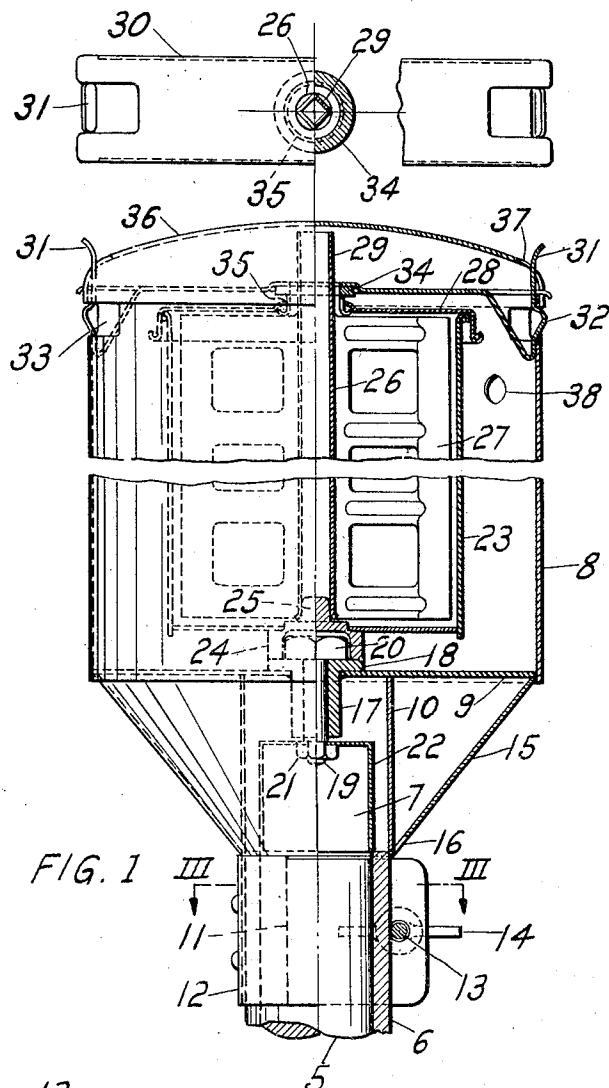
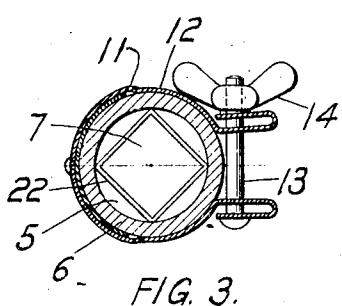
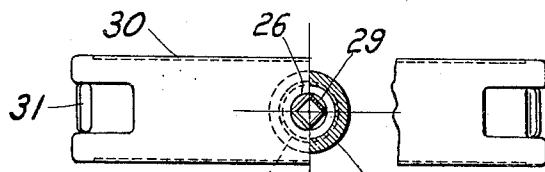


FIG. 2



Inventor
BASIL W. McGINNIS.

By

Attorney

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UNITED STATES PATENT OFFICE.

BASIL W. McGINNIS, OF BIRMINGHAM, ALABAMA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNIVERSAL METAL MFG. CO., OF BIRMINGHAM, ALABAMA, A CORPORATION OF ALABAMA.

ICE-CREAM FREEZER.

Application filed September 25, 1926. Serial No. 137,757.

This invention relates to power-driven ice-cream freezers, and is particularly concerned with the utilization of existing motor-driven domestic machines to operate such freezers.

5 The principal object of the present invention is to adapt other household machinery, such, for instance, as washing machines of the type comprising a vertically-disposed, power-driven shaft, to the operation of an 10 ice cream freezer, so that the usefulness of the existing machinery may thereby be increased without material expense to the user.

My invention contemplates modification of the freezer bucket, or ice-container, so that 15 by means of an opening in the center of its bottom it may be mounted with a water-tight joint on the standard, or sleeve, in which the driving shaft of the washing machine or the like is mounted. Preferably, the freezer 20 bucket will be clamped to this standard to prevent rotation of the bucket.

My invention also contemplates so designing the freezer that its driven shaft will interlock with the power shaft of the washer 25 at the bottom of the freezer bucket, and I provide top means adapted to hold the upper end of the dasher and hence the cream container, in place relative to the ice bucket during the freezing operation.

30 And my invention further contemplates the provision of means to prevent leakage at the bottom of the ice bucket, where the power connection is made between the driving shaft of the washing machine, or the like, and the ice cream container.

The means by which the foregoing and other objects are accomplished by my invention, and the manner of their accomplishment, readily will be understood from the 40 following description on reference to the accompanying drawings, which depict a preferred embodiment of the invention, and in which:—

Fig. 1 is a view of my improved ice cream 45 freezer, half in side elevation, and half in sectional side elevation.

Fig. 2 is a fragmentary top plan view, partly in section, of the clamping means for holding the ice cream container and its 50 dasher in place during the freezing operation.

Fig. 3 is a sectional plan, taken substantially on line III—III of Fig. 1.

As shown in the drawings, in which cor- 55 responding parts are identified by similar

reference numerals throughout the several views, the shaft 5 of the washer, or other power-driven domestic machine, which shaft commonly has either rotary or radially-oscillatory motion imparted thereto by a motor or other power unit (not shown), is enclosed in a stationary sleeve or standard 6, and said shaft terminates in a squared shoulder portion 7, or other suitable provision is made for connecting the shaft with the member to be driven thereby.

My ice cream freezer proper comprises an outer ice-container or bucket 8, which may be made of any preferred material, and in conventional shape and standard sizes. To the 70 bottom 9 of the bucket, and placed centrally thereof, a cylindrical sleeve 10, preferably of the same material as the bucket 8, is suitably secured to said bottom, as by soldering, and at its lower end said sleeve is cut away, as indicated at 11, and has riveted or otherwise suitably secured thereto a split clip member 12, adapted to fit snugly over the sleeve or standard 6, and to be clamped tightly thereon by means of a bolt 13 and wing-nut 14. 75 The sleeve 10 is reinforced by a frustro-conical member 15, preferably of the same material as the bucket 8, the upper end of said member being secured in any preferred manner to the bucket at or near the periphery of its bottom, and being likewise secured to the sleeve 10 immediately above the clip member 12, and a suitable drip opening 16 being provided at the lower end of the member 15.

The bottom 9 of bucket 8 is centrally apertured for the reception of a sleeve 17, preferably of Monel metal or other rust-proof bearing material, said sleeve having an enlarged annular head 18 which is soldered or otherwise secured to the bottom 9 so as to form a 95 water-tight joint therewith. A bolt 19, having a square or other polygonal head 20, is inserted downwardly in the opening in sleeve 17 with the head of said bolt fitting snugly against the head 18 of said sleeve, and the 100 lower end of said bolt is screw-threaded for the reception of a nut 21. A socket 22, shaped to conform with and fit snugly over the head 7 of shaft 5, is secured upon the lower end of bolt 19 by nut 21.

The ice cream container 23 is of a shape and dimensions to accord suitably with those of the bucket 8, and the bottom of said container is centrally apertured for the reception of a socket member 24, which is suitably 110

secured to said bottom in such a way as to form a water-tight joint therewith, the socket opening in said member being so shaped and dimensioned as to fit snugly over 5 the head 20 of bolt 19, with the lower, plane surface of the socket member bearing upon the head 18 of the sleeve 17. At the upper end of the socket member 24, and projecting inside the container 23, is a cylindrical bearing-stud 25, over which is fitted the spindle 26 of the dasher 27, which spindle projects through a circular opening at the center of the top 28 of the container 23 and is squared at 29 above said top. A clamping member 10 30 has a tongue formed at each end, said tongue being cut out from the body portion of said member and bent angularly downward from the face thereof, and then reversely bent upward substantially at right 15 angles to the plane of said body portion, the upwardly-bent part 31 of said tongue having a hump 32 therein of a size and dimensions to fit into a slot 33 formed in the side of the bucket 8 near the top thereof. The member 20 30 has at its middle a squared opening for the reception of the square portion 29 of the spindle 26 of the dasher, and a washer or other similar annular bearing member 34 is secured to the under side of the member 30 25 concentric with the squared opening therein, sleeve 35 being secured in the central opening in the top 28 in position to bear 30 against the washer 34.

The ice-bucket 8 is provided with a suitable cover 36, of any desired shape, and preferably made of the same material as the body portion of said bucket, said top being adapted to fit the top of the bucket snugly, and being provided with suitable slots 37 into 35 which the upwardly-bent parts 31 of the tongues of the clamping member 30 are inserted. An overflow opening 38 is provided in the side of the bucket 8, near the top thereof.

40 In the use of my improved ice-cream freezer, the bucket 8 is secured to the sleeve or standard 6 by placing the clip member 12 thereover and tightening the wing-nut 14; or, if no such standard be present, said bucket is secured against rotary or other movement by being suitably attached to some other stationary part of the machine with which the freezer is to be used. When the clip member 12 is thus in place on the 45 standard 6, the socket member 22 will be fitted over the squared shoulder portion 7 of shaft 5, so as to rotate with said shaft. The ice cream container 23 is then placed in the ice-bucket, with the socket member 24 fitted over the head 20 of bolt 19, and the lower surface of said member bearing upon the head 18 of sleeve 17; the dasher 27 is put in place, with the lower end of the spindle 26 over the bearing-stud 25; the substance 50 or substances to be iced is or are placed in

55 container 23; the top 28 of said container is put in place, with the squared upper end 29 of the spindle 26 projecting through the opening in said top; and the clamping member 30 is placed over the container 23, with the humps 32 engaged in the slots 33 in the ice-bucket 8, and the ring or washer 34 in position for engagement by the sleeve 35 secured in the central opening in the top 28 of container 23. When the parts are in the 60 position just described, the container 23 and its dasher 27 are held by the clamping member 30 against upward displacement, and the lower surface of the socket member 24 bearing upon the head 18 of sleeve 17, and forming a water-tight joint therewith. Thus the only point at which water can leak out of the ice-bucket 8 is at the overflow opening 38. Said bucket may now be 65 filled with ice and salt, or any other suitable freezing mixture; the cover 36 is put in place, and the freezer is ready for use. It is then only necessary to start the operation of the motor or other power unit by 70 which rotary or radially-oscillatory motion is imparted to shaft 5, in order to freeze or ice the contents of container 23 quickly and efficiently without manual labor. While, as 75 has been stated, provision is made for preventing leakage at the bottom of the bucket 8, the vent or drip opening 16 preferably is provided in the frusto-conical member 15, to guard against possible accumulation of 80 water in said member. It will be noted that, if desired, the sleeve 10 may be entirely 85 omitted, and the frusto-conical member 15 extended at its lower end sufficiently to provide for attaching the clip member 12 directly thereto.

Various modifications of minor details 90 of the improvements disclosed herein doubtless readily will suggest themselves to those skilled in this art, but such modifications fall within the scope of my inventive rights, and my invention is not to be construed as being 95 limited to any details not specifically set out in the claims.

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

1. A freezer attachment for a machine having a vertically extending turnable shaft with a surrounding sleeve, said attachment comprising a receptacle for a freezing substance, supporting means for securing said receptacle to the sleeve and against turning movement, and a container within said receptacle and rotatable relative thereto, said container being connected for power transmission with said shaft by a connection extending through said supporting means.

2. A freezer attachment for a machine having a vertically-disposed, turnable shaft having a stationary surrounding sleeve, said attachment comprising a receptacle for a

freezing substance mounted on the sleeve and supported thereby, means for securing said receptacle against turning movement, and a container within said receptacle and rotatable relative thereto, the lower end of said container being connected with said shaft.

3. A freezer attachment conforming to claim 2, said receptacle having an opening therein through which the connection between 10 said shaft and said container is made, said opening having a water-tight closure to prevent leakage from said receptacle, and means included in the connection between the container and the shaft to prevent leakage by said shaft.

4. A freezer attachment for a machine having a vertically-disposed, turnable shaft and a stationary sleeve member surrounding the shaft comprising a receptacle for a freezing substance, means for detachably supporting said receptacle on said stationary member, a container within said receptacle, and means for detachably connecting the lower end of said container to said shaft.

25 5. A freezer attachment for domestic power driven appliances comprising a vertically disposed turnable shaft and a fixed sleeve bearing therefor, the attachment com-

prising an outer container for the freezing materials having means to mount it fixedly in position concentric with and above the turnable shaft, a turnable freezer within said container, a bushing mounted centrally in the bottom of the receptacle, a coupling element extending through the bushing, a bottom member on the coupling element connecting to the turnable shaft, a top member on the coupling element for connection to a driving member on the freezer.

6. The combination with a vertically disposed power driven shaft of a household appliance and an ice cream freezer comprising an outer freezing solution receptacle and an inner rotary ice cream container, of means for supporting the receptacle concentric with the shaft, a bushing mounted centrally in and extending through the bottom of the receptacle, a coupling element extending through the bushing, means for detachably connecting the power driven shaft and the ice cream container to the opposed ends of the coupling element, and means associated with the coupling means to prevent leakage by the coupling member.

In testimony whereof I affix my signature,

BASIL W. McGINNIS.