March 4, 1930. C. E. COLE ET AL 1,749,067

ICE CREAM FREEZING ATTACHMENT FOR WASHING MACHINES

Filed Oct. 14, 1927

Fig. 1

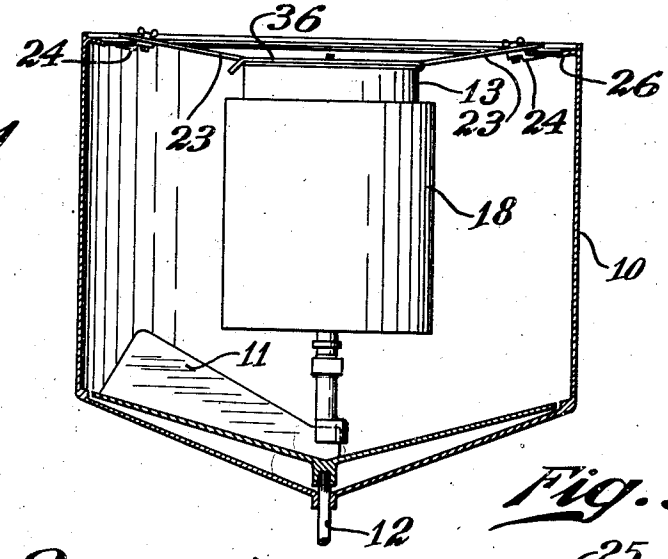


Fig. 2

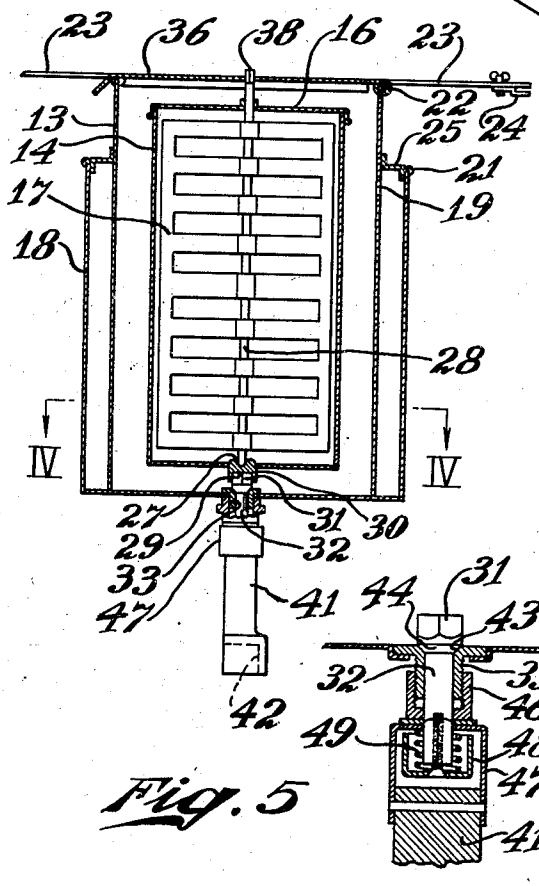


Fig. 3

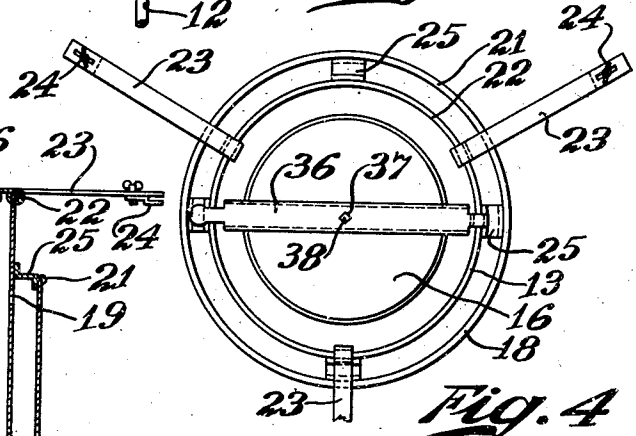


Fig. 4

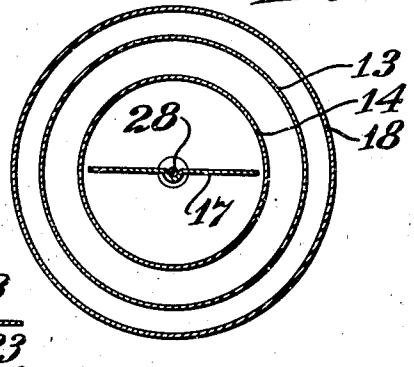


Fig. 5

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UNITED STATES PATENT OFFICE

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ICE-CREAM-FREEZING ATTACHMENT FOR WASHING MACHINES

Application filed October 14, 1927. Serial No. 226,107.

Our invention relates to a power driven ice cream freezer, more particularly to an ice cream freezing attachment for a household washing machine, and has for its object the provision of apparatus of the character designated which shall be simple of construction and which shall be readily applied to, or detached from the washing machine.

A more specific object of our invention is to provide means for supporting the stationary parts of an ice cream freezer from the stationary parts of a washing machine, and to provide a novel coupling and power transmitting means from the movable parts of the washing machine to the movable parts of the ice cream freezer.

A further object of our invention is to provide an ice cream freezing attachment for a washing machine wherein the brine tank of the freezer is provided with means preventing leakage of brine into the tub of the washing machine.

Our invention is adapted for attachment to a number of well known, commonly used household washing machines. The type of washing machines to which it is particularly adaptable is one having a stationary tub with rotatable agitating means within the bottom of the tub. Our ice cream freezer has the same general features found in practically all apparatus of that type, coupled with novel means to adapt it for the purposes described and novel supporting means for connecting it to the washing machine. Preferably, the stationary parts of the ice cream freezer are connected to the stationary tub of the washing machine and are concentrically arranged with respect to the axis of rotation of the agitator. The rotatable parts of the ice cream freezer are connected by detachable means to a power transmission shaft and a readily detachable coupling member connects the shaft to the agitator, whereby rotary motion may be imparted to the movable elements of the ice cream freezer. The term "washing machine", as employed in this specification, is intended to include any clothes or dishwasher or centrifugal drier having a shaft extending up through the bottom and which is adapted to transmit motion to the apparatus as hereinafter described.

Apparatus embodying features of our invention is illustrated in the accompanying drawings, forming a part of this application, wherein

Fig. 1 is a vertical sectional view of a well known form of washing machine tub having our improved freezer attachment mounted therein, and shown in elevation;

Fig. 2 is a vertical sectional view through the ice cream freezer;

Fig. 3 is a plan view of the ice cream freezer, removed from the washing machine;

Fig. 4 is a sectional plan view taken along the line IV—IV of Fig. 2, and

Fig. 5 is a detail sectional view showing the power transmitting coupling between the power shaft and the cream receptacle.

Referring to the drawing for a better understanding of our invention, we show a tub 10 of a well known make of washing machine. Within the tub 10, and at the bottom thereof, is positioned an agitator 11, adapted to have imparted thereto, rotary motion in one direction or in alternately reversed directions, by means of a shaft 12, driven from any suitable power source. We have not shown the power means for driving the agitator 11, because it forms no part of our invention, and is well known in the art.

Our ice cream freezer comprises a cylindrical brine tank 13, a cylindrical cream receptacle 14, enclosed by the brine receptacle and concentric therewith, a lid 16 for the cream receptacle 14, and a dasher 17 within the cream receptacle 14. The brine tank 13 is surrounded by a cylindrical jacket 18 forming an annular chamber and which communicates with the tank 13 through a port 19 provided in the brine tank 13 so that, as the ice in the brine tank melts and more ice is added, the water may pass through the port 19 and into the annular space defined by the jacket 18. This prevents spilling of the brine into the tube which might tend to discolor it. The upper end of the jacket 18 is turned over at 21 to form a reinforced edge and is secured to the brine tank 13 by a plurality of angle lugs 25 leav-

ing the top open for the greater part so that the overflow water may be emptied. The brine tank 13 is rolled over at the top, as shown at 22, in order to form a strengthened portion for supporting the tank and has pivotally connected thereto a plurality of supporting straps 23. Each of the supporting straps 23 is provided, at its outer end, with screw clamp means 24, which are adapted to engage the upper flange 26 of the wash tub 10 and thus form a supporting means for the brine tank 13.

The cream receptacle 14 has extending through its bottom and secured thereto, in any well known manner to make it leak proof, a member 30 provided on its upper side with a depression 27 into which the lower end of the dasher stem 28 rests. The lower side of the member 30 is provided with a square socket 29 adapted to receive a squared head 31 of a coupling member 32. The lower end of the brine tank 13 is provided with a packing member 33 through which the coupling member 32 extends. Extending across the upper end of the brine tank 13 is a member 36 provided with a squared hole 37 adapted to receive the squared upper end 38 of the dasher 28.

The packing member 33 is provided with a ground beveled seat 43, where it opens into the brine tank 13, the bevel seat cooperating with a complementary valve portion 44 provided on the coupling member. The coupling member 32 therefore serves to transmit power to the cream receptacle 14 and also acts as a valve to prevent leakage of brine into the tub of the washing machine. In addition to the valve and seat provided, a suitable packing nut 46 fits over the lower end of the packing member 33 so that the coupling member 32 may be further guarded against leakage.

Power is transmitted from the agitator 11 through a shaft 41, provided at its lower end with a slot 42 which is adapted to fit over the agitator 11. Fitting over the upper end of the shaft 41 is a hollow member 47 which bears against the packing nut 46. The coupling member 32 enters the upper end of the hollow member 47 and has secured to its lower end a cup-like member 48. A spring 49 surrounds the coupling member 32 and bears, at its lower end, against the cup-like member 48 and at its upper end against the upper end of the hollow member 47. The spring 49 thus acts to hold the valve portion 44 of the coupling member 32 tightly on its seat, thus insuring that there shall be no leakage past the coupling member.

From the foregoing description, the operation of apparatus made in accordance with our invention will be apparent. Whenever it is desired to utilize our attachment, it is mounted in the tub of the washing machine with the coupling 41 fitting over the agitator 11 and with the straps 23 clamped to the flange 26 of the tub by means of the screw clamps 24 so as to suspend the brine tank 13 concentrically with the tube 10. The ice cream freezer is packed in the usual manner and the power means is put in operation to impart rotary motion in alternately reversed directions to the agitator 11, such motion being continued until the cream is frozen. The cream receptacle 14 may then be removed from the brine tank 13, and the brine tank 13 may then be detached and emptied, together with the receptacle 18.

From the foregoing it will be apparent that we have devised an improved ice cream freezing attachment for a washing machine which is simple of design and easy of manufacture and which embodies novel supporting and power transmission means.

While we have shown our invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications, without departing from the spirit thereof, and we desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art or as are specifically set forth in the appended claims.

What we claim is:

1. An ice cream freezing attachment for a washing machine having a vertically disposed stationary tub, open at the top, an agitator in the bottom of the tub and means to impart rotary motion to the agitator, comprising an ice cream freezer having a stationary brine tank and a rotary cream receptacle within the brine tank and arranged concentrically therewith, radially arranged supporting means connecting the brine tank with the walls of the tub and so disposed as to position the brine tank substantially concentric with respect to the axis of rotation of the agitator and above the agitator, coupling means provided on the cream receptacle, power transmitting means coacting with the coupling means and extending through the bottom of the brine tank, and means for detachably connecting the power transmitting means to the agitator.

2. An ice cream freezing attachment for a washing machine having a vertically disposed stationary tub, open at the top, an agitator in the bottom of the tub and means to impart rotary motion to the agitator, comprising an ice cream freezer having a stationary brine tank and a rotary cream receptacle within the brine tank and arranged concentrically therewith, radially arranged supporting means connecting the brine tank with the walls of the tub and so disposed as to position the brine tank substantially concentric with respect to the axis of rotation of the agitator and above the agitator, power transmitting means extending upwardly and centrally through the

bottom of the brine tank, detachable coupling means adapted to cooperate with the power transmitting means and provided on the bottom of the cream receptacle, and means for detachably connecting the lower end of the power transmitting means to the agitator.

3. An ice cream freezing attachment for a washing machine having a vertically disposed stationary tub, open at the top, an agitator in the bottom of the tub and means to impart rotary motion to the agitator, comprising an ice cream freezer having a stationary brine tank and a rotary cream receptacle within the brine tank and arranged concentrically therewith, an overflow jacket surrounding the brine tank and communicating therewith, radially arranged supporting members pivotally connected to the upper end of the brine tank and having clamp means to detachably connect them to the upper wall of the tub so as to suspend the brine tank above the agitator and concentrically therewith, power transmitting means extending upwardly and centrally through the bottom of the brine tank, detachable coupling means adapted to cooperate with the power transmitting means and provided on the bottom of the cream receptacle, and means for detachably connecting the lower end of the power transmitting means to the agitator.

4. An ice cream freezing attachment for a power driven washing machine having a tub and an agitator with relative rotary motion therebetween, comprising an ice cream freezer having a brine tank, a cream receptacle, a dasher within the cream receptacle, suspension means for supporting the brine tank from the tub, means for fixedly holding the dasher with respect to the brine tank, and an operative connection between the agitator and the cream receptacle.

5. An ice cream freezing attachment for a washing machine having a stationary tub and rotary agitating mechanism in the tub, comprising a freezing brine tank, an overflow jacket surrounding the brine tank and communicating therewith, a cream receptacle arranged concentrically within the brine tank, a stationary dash within the cream receptacle, means for supporting the brine tank from the stationary tub, and means for transmitting movement to the cream receptacle from the rotary agitating mechanism.

6. An ice cream freezing attachment for a power driven washing machine having a tub and a rotating agitator, said attachment comprising, in combination, a stationary brine tank having means by which said tank is adapted to be supported by the tub, a cream receptacle rotatably mounted within said brine tank, a stationary dasher within the cream receptacle, and means projecting through the bottom of the brine tank and constructed to provide at its lower end a readily detachable driving connection between said cream receptacle and the agitator.

7. An ice cream freezing attachment for a power driven washing machine having a tub and rotary agitator mechanism, said attachment comprising, in combination, a stationary brine tank having means by which said tank is adapted to be supported by the tub, said tank having a valve seat in its bottom, a cream receptacle rotatably supported within the brine tank, a stationary dasher within the cream receptacle, and a coupling device projecting through the bottom of the brine tank and constructed to provide at its lower end a detachable connection between the cream receptacle and a part of the agitator mechanism, said coupling device having a valve portion cooperating with the valve seat on the brine tank to prevent leakage of brine therefrom.

8. An ice cream freezing attachment for a power driven washing machine having a tub and a rotary agitator mechanism, said attachment comprising in combination, a stationary brine tank having means by which said tank is adapted to be supported by the tub and having a tubular packing member in its bottom wall providing a valve seat, a cream receptacle rotatably supported within the brine tank, a stationary dasher within the cream receptacle, and a coupling device projecting through the bottom of the brine tank and constructed to provide a detachable connection between the cream receptacle and a part of the agitator mechanism, said coupling device comprising a member passing through said tubular packing member and having a valve portion cooperating with the valve seat on the packing member to prevent leakage of brine from the brine tank.

9. An ice cream freezing attachment for a power driven washing machine having a tub and a rotary agitator mechanism, said attachment comprising, in combination, a stationary brine tank having means by which said brine tank is adapted to be supported by the tub, said tank having a tubular packing member in its bottom wall providing a valve seat, a cream receptacle rotatably supported within the brine tank, a stationary dasher within the cream receptacle, and a coupling device projecting through the bottom of the brine tank and constructed to provide a detachable connection between the cream receptacle and a part of the agitator mechanism, said coupling device comprising a member passing through said tubular packing member and having a valve portion cooperating with the valve seat on the packing member to prevent leakage of brine from the brine tank, and a spring operable to hold the valve portion of the coupling member in tight contact with the valve seat on the packing member.

10. An ice cream freezing attachment for a power driven washing machine having a tub and a rotary agitator mechanism, said attachment comprising, in combination, a stationary brine tank having means by which said brine tank is adapted to be supported by the tub, said tank having a vertical tubular packing member extending downwardly from its bottom wall with a valve seat at its upper end, a cream receptacle rotatably supported within the brine tank and having a squared socket in its bottom wall, a stationary dasher within the cream receptacle, and a coupling device projecting through the bottom of the brine tank and constructed to provide at its lower end a detachable connection between the cream receptacle and a part of the agitator mechanism, said coupling device comprising a shaft passing through the tubular packing member and having a squared upper end fitting in the squared socket in the cream receptacle and a valve portion fitting the valve seat on the tubular packing member to form a valve preventing leakage of brine from the brine tank.

11. An attachment for a power driven washing machine having a tub and a rotating agitator in the bottom thereof, said attachment comprising a stationary container having means by which it is adapted to be supported from the top of the tub, a rotating member within said container and readily removable therefrom, and means projecting through the bottom of the container and constructed to form a readily detachable driving connection between the bottom of the rotating member and the agitator.

12. An attachment for a power driven washing machine having a tub and a rotating agitator in the bottom thereof, said attachment comprising a container, means to support the container stationarily from the top of the tub, a rotating member within said container and readily removable therefrom, and a coupling member projecting through the bottom of the container and constructed to form a readily detachable driving connection between the bottom of the rotating member and the agitator and to prevent leakage from the container.

In testimony whereof we, CLIFFORD E. COLE, and BASIL W. MCGINNIS, affix our signatures.

CLIFFORD ELBRIDGE COLE.
BASIL W. McGINNIS.