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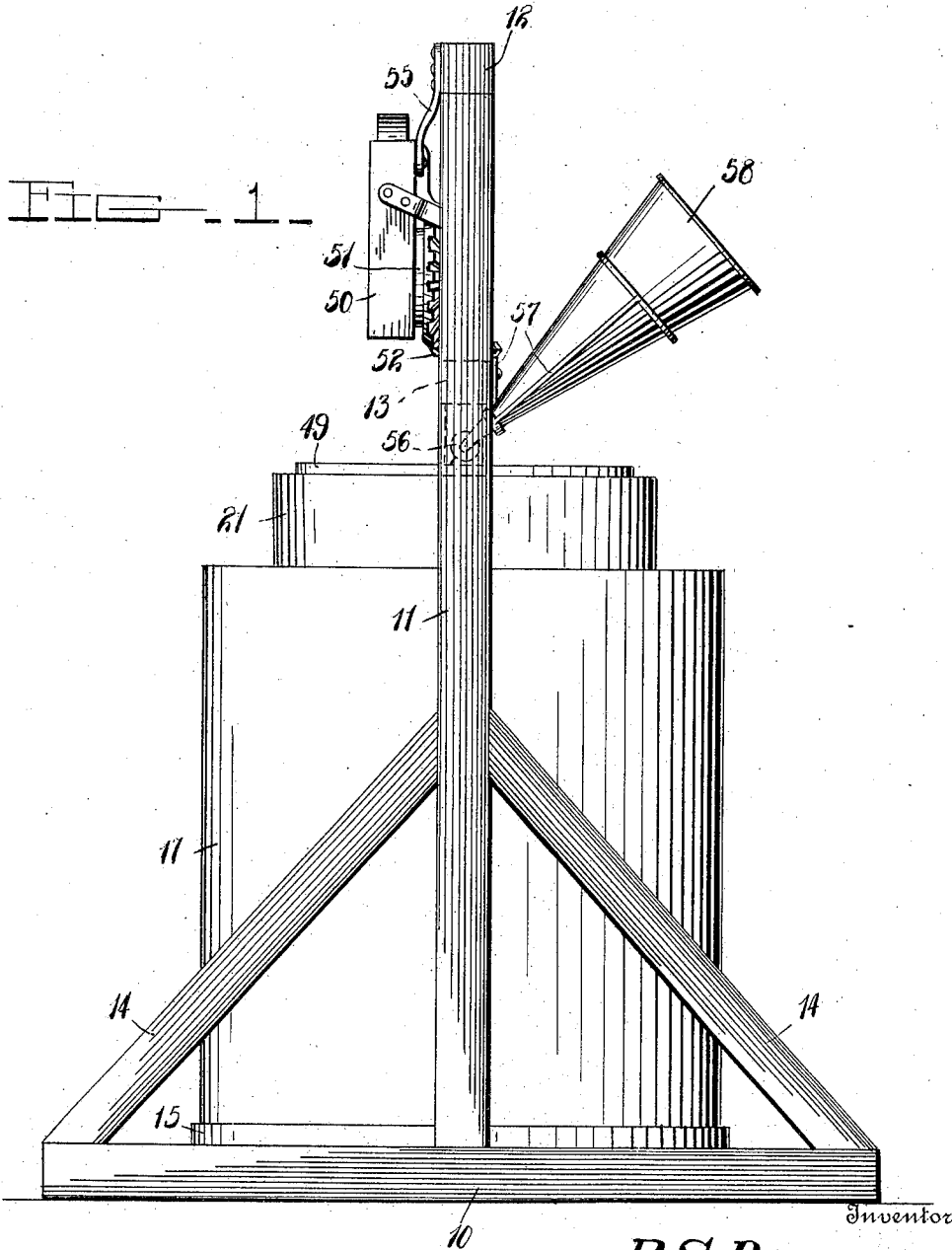
CHURN.

APPLICATION FILED APR. 3, 1911.

1,016,218.

Patented Jan. 30, 1912.

3 SHEETS—SHEET 1.



Witnesses

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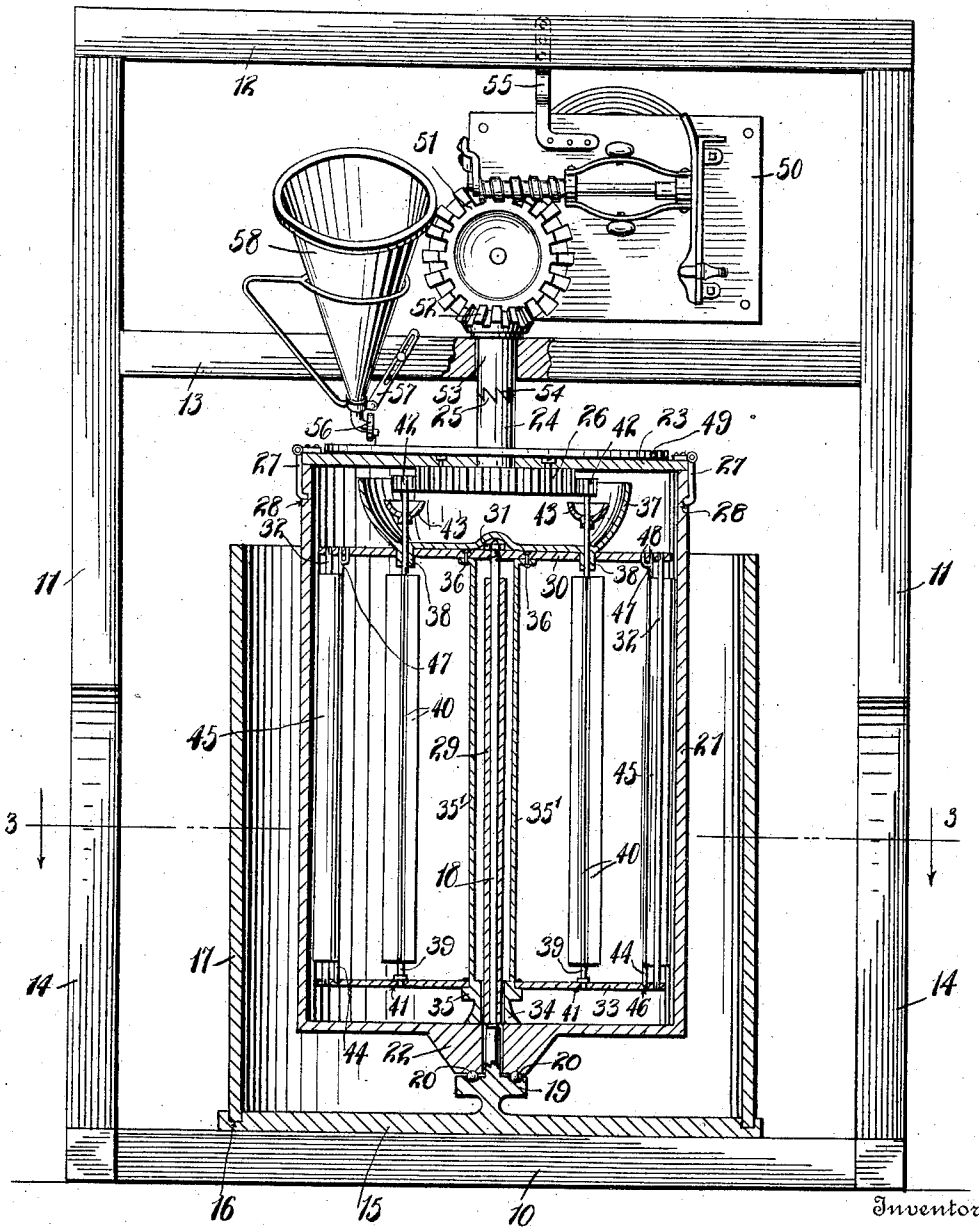
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3 SHEETS—SHEET 2.

FIG. 2.



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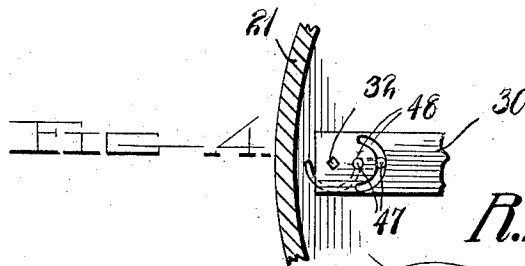
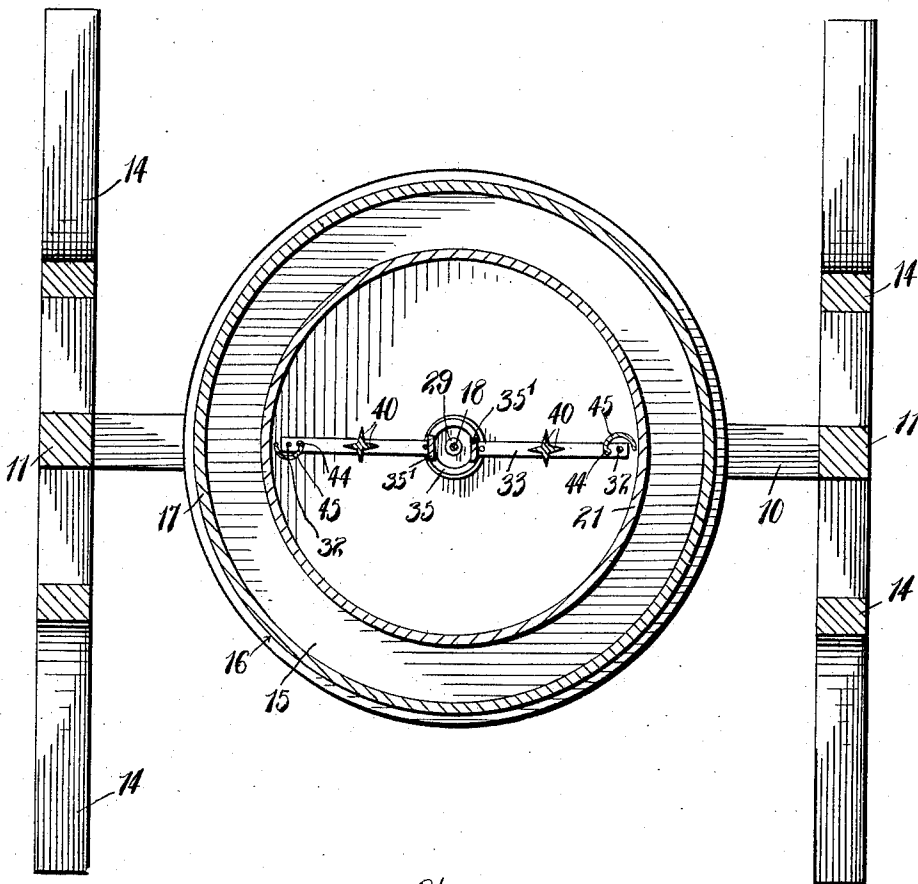
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3 SHEETS—SHEET 3.

FIG. 3.



Witnesses

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CHURN.

1,016,218.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RAYMOND S. DEVNEY, a citizen of the United States, residing at Glasgow, in the county of Barren, State of Kentucky, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to churns and has for an object to provide within the rotary churn bottom a stationary frame upon which rotary dashers are mounted, and also upon which are mounted baffles which prevent swirling of the contents, this construction serving to churn milk in less time than ordinary.

A still further object of the invention is to provide a churn having an outer vat or tub within which may be packed ice so that the churn may be used as an ice cream freezer.

With the above objects in view the invention consists in certain novel details of construction and combination of parts herein-after fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claims.

In the accompanying drawings forming part of this specification:—Figure 1 is a side elevation of a churn embodying my improvements. Fig. 2 is a longitudinal sectional view through the churn. Fig. 3 is a cross sectional view taken on the line 3—3 Fig. 2. Fig. 4 is a fragmentary sectional view showing one of the baffle mountings.

Referring now to the drawings in which like characters of reference designate similar parts, the churn frame in the present instance is shown to comprise a bottom sill 10 from which rise uprights 11 which are connected at their upper ends by a cross bar 12, a second cross bar 13 being terminally secured to the uprights below the cross bar 12. Inclined props 14 are secured to the uprights adjacent to the lower ends of the latter.

Fixed to the bottom sill 10 is a circular disk 15 provided in its top face with a groove 16 in which is supported a cylindrical vat or tub 17. Mounted centrally in the disk 15 is the stem 18 of a stationary bearing cup 19, which is provided with a

ball race in which balls 20 rest. The stem 18 passes upwardly and forms means for anchoring the stationary frame in position as will presently be described. A cylindrical receptacle 21 is provided in its bottom with an orifice to receive the stem 18, and is further equipped on its bottom face with a cone 22 which bears upon the balls 20. The receptacle 21 is rotated upon the stem 18 as an axis, the weight of the receptacle being borne by the balls 20 in the ball cup.

A circular cover 23 closes the mouth of the receptacle 21, and projecting centrally through the cover is a spindle 24 which is provided at its upper end with clutch serrations 25 and is furthermore provided at its opposite end with a gear 26 which may be fixed to the inner face of the cover in any preferred manner. It is to be understood that the cover is clamped to the receptacle upon the latter being filled with milk, and to attain this end hinged clasps 27 are secured to the periphery of the cover and engage in locking notches 28 formed in the receptacle near its rim. By virtue of the cover being locked to the receptacle, and the gear 26 being fixed to the cover, upon rotation of the gear, the receptacle will be rotated. The spring motor for rotating the receptacle will be presently described.

Arranged axially in the receptacle is a tubular bearing 29 which surrounds the stem 18 and prevents wobbling of the receptacle during its rotation on the stem as an axis. To the upper end of the stem 18 is rigidly secured a bar 30, a nut 31 being advanced on to the end of the stem and into engagement with the bar to rigidly secure the latter in position. Depending from the ends of the bar are spaced side bars 32, and secured to the lower ends of these bars are bars 33 which extend in the direction of and terminate short of the bearing 29. A journal box 34 is loosely mounted on the bearing 29 and is provided with a flange 35 to which the extremities of the bars 33 are rigidly secured. Projecting upwardly from the box 34 are spaced metallic fingers 35' the upper ends of which are bent abruptly and are rigidly secured by screws or the like 36 to the top bar 30. It is now clear that the rectangular frame formed by the bars 30, 32, and 33 is mounted in stationary position upon the stem 18.

Fixed to the top bar 30 of the stationary frame is a cup 37 which is greater in diam-

eter than the gear 26 and is designed to retain drippings of oil therefrom so that the milk within the receptacle will not become contaminated. In the present instance the cup is shown equipped on its bottom face with spindles 38 which project through suitable orifices formed in the top bar and form bearings of the about to be described rotary dashers.

Each rotary dasher comprises a stem 39 from which radial wings 40 project, one end of the stem being journaled in a suitable opening 41 formed in the bottom bars 33 of the stationary frame, and the opposite end of the spindle extending out through the related nipple 38, of the cup and being terminally equipped with a pinion 42 which meshes with the gear 26. A small trap cup 43 is arranged upon the spindle below the pinion to catch drippings of oil therefrom. During rotation of the receptacle, the gear 26 will rotate the pinions 42 in opposite directions from the direction of rotation of the gear and consequently the rotary dashers will be rotated in opposite directions from the direction of rotation of the gear 26 and at a considerably higher speed than the receptacle. During rotation of the receptacle, there is apt to be set up a swirling current of centrifugal force, and to prevent this, baffle-hooks are secured adjacent to the inner wall of the receptacle. Each baffle comprises a stem 44 through which projects laterally an arcuate flange or wing 45, the lower end of the spindle being journaled in an opening 46 formed adjacent to the end of the bottom bar of the stationary frame, and the upper end of the spindle being bifurcated to form branches 47 which fit in spaced grooves 48 formed adjacent to the related end of the top bar of the stationary frame. By virtue of the branches of the stem fitting in these slots, the baffle may yield slightly longitudinally of the rectangular frame but is held against rotary movement. By virtue of the frame being stationary, these baffles remain stationary in the path of movement of the swirling liquid within the churn receptacle and effectively break up this swirling motion of the liquid.

Since the churn receptacle is rotated bodily, the cover may be utilized as a sup-

port for the graphophone disk 49, the spindle 24 projecting through the central opening of the disk so as to properly center the disk upon the cover. A spring motor mechanism 50 of any preferred kind may be utilized in rotating the receptacle, in the present instance an ordinary graphophone spring motor being shown, this motor being equipped with a driving gear 51 which meshes with a pinion 52 formed upon the spindle 53, the latter having clutch teeth 54 which are adapted to engage the clutch teeth of the spindle 24 carried by the churn receptacle. A bracket arm 55 carried by the spring motor mechanism is attached to the top bar 12 of the stationary frame. Upon actuation of the spring motor, the churn receptacle will be rotated and consequently the graphophone disk 49 thereon will be rotated.

A graphophone reproducer 56 is supported by a substantially V-shaped swivel bracket 57 upon the cross bar 13, the reproducer being equipped with a graphophone horn 58. By virtue of the swivel connection between the bracket 57 and cross bar, the reproducer may be moved radially toward the stem 24 by a spiral impression on the graphophone disk 24.

What is claimed, is:—

1. The combination in a churn, of a rotary receptacle, a stationary frame within the receptacle, rotary dashers on said frame, said dashers being rotated simultaneously with and in an opposite direction from the rotation of said receptacle, baffles carried by said frame and arranged adjacent to the inner wall of said receptacle, and means for rotating said receptacle.

2. In a churn, a rotary body, a cover therefor, a spindle projecting through said cover and equipped with a gear, a stationary frame within said receptacle, rotary dashers carried by said frame and having pinion connections with said gear, yielding baffles carried by said frame and arranged adjacent to the inner wall of said receptacle, and means for rotating said receptacle.

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