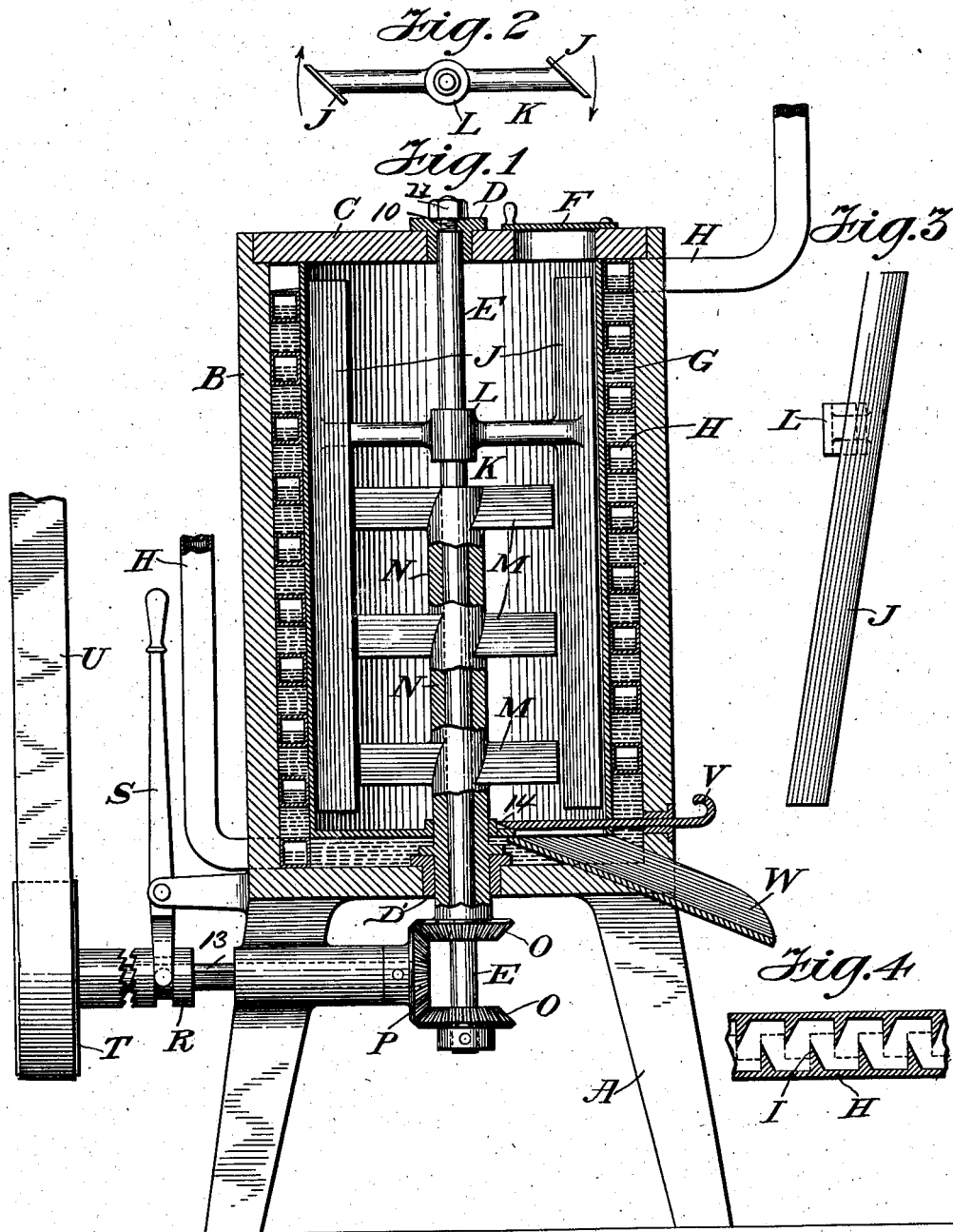


No. 814,993.

PATENTED MAR. 13, 1906.

E. THOMPSON.  
FREEZING DEVICE.  
APPLICATION FILED JULY 26, 1904.



WITNESSES:  
*Chas. Clagett*  
*Chas. L. Wolf*

INVENTOR  
*Emery Thompson*  
BY  
*Charles A. Stephens*  
his ATTORNEY

# UNITED STATES PATENT OFFICE.

EMERY THOMPSON, OF NEW ROCHELLE, NEW YORK.

## FREEZING DEVICE.

No. 814,993.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed July 26, 1904. Serial No. 218,206.

To all whom it may concern:

Be it known that I, EMERY THOMPSON, a citizen of the United States, and a resident of New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Freezing Devices, of which the following is a specification.

My invention relates to freezing apparatus, and more particularly to that adapted for the making of ice-cream. Its principal object is to provide an effective apparatus of this character.

Figure 1 is a central vertical section through one embodiment of my invention. Fig. 2 is a detail in top plan view of the agitating mechanism. Fig. 3 is a view in end elevation of one of the scraper-blades and its supporting-arm, and Fig. 4 is a broken sectional detail through a portion of the refrigerating-pipe.

Within a suitable casing B, which is shown as supported upon legs A, is mounted a can or receptacle G, preferably of some such heat-conducting material as copper. Between the casing and can is a space to admit of the introduction of the desired freezing agencies. I have here illustrated a coil of pipe H, through which a freezing fluid may circulate. Within the pipe may be placed baffle projections I for the purpose of preventing the too-rapid flow of the freezing fluid and to provide increased absorbing-surface.

Situated in an annular recess in the upper edge of the casing is a cover C, at one side of which is an opening over which operates a pivoted plate or closure F. In the cover and in the bottom of the casing are alined axial openings in which are preferably inserted bushings D and D', respectively. Journaled in the bushing D and passing through that designated by D' is a shaft E, upon which is secured a spider L, having at the outer ends of its radiating arms scraper-blades J, cooperating with the wall of the can. These blades extend substantially the full length of the can and are inclined both vertically and laterally. The lateral inclination directs the accumulating cream from the surface of the can in toward the center, while the vertical angularity forces said cream downwardly for the purpose which will be hereinafter described. The bushing D is shown as having a top wall in which is a contracted axial opening through which extends a threaded extremity 10 of the shaft E. To this threaded

portion above the cover a retaining-nut 11 may be applied to hold the shaft against downward movement. Surrounding the shaft is a sleeve N, which extends from below the bottom of the casing to a point adjacent to the spider L. This sleeve fits closely within the bushing D', which furnishes a bearing for it, and is provided with a flange 12, which is stepped upon the upper surface of the bushing to hold the sleeve against downward displacement. From the sleeve radiate sets of mixing-blades M, which are inclined in the usual manner for the purpose of agitating the cream.

The scraping and mixing portions of the agitating mechanism are preferably rotated in opposite directions by bevel-gears O O, fixed upon the lower extremities of the sleeve and shaft and having meshing with them a similar gear P, fast upon a shaft 13. Power may be applied to this shaft by a pulley T, over which passes a belt U. As illustrated, the pulley is normally loose upon the shaft, but may be caused to rotate therewith to effect the driving by means of a clutch R, splined upon the shaft and actuated by a lever S, though in my invention this is immaterial.

In the bottom of the can at one side of the sleeve and shaft of the agitating means is an opening, from which a conduit W extends through the casing. This opening may be controlled by a valve slide or closure V, operating through a slot in the side of the casing and movable in ways above the opening. The slide is preferably provided with an inclined face 14, contacting with a portion of the ways and serving to raise the slide into close contact with the opening to prevent the leakage of the contents.

In use the slide V being closed and the freezing fluid in circulation through the pipe H the cover is removed and the material to be frozen poured into the can. The cover is then replaced, it resting upon the upper edge of the can, tightly closing the same, and thus being common to both receptacles. The agitating mechanism is started in rotation, its direction being such that the vertical inclination of the scraper-blades will tend to force the material toward the bottom of the can. This continues until the proper condition is attained, its progress being noted through the opening in the cover by moving aside the plate F, this giving ample space for observation, yet not admitting an appreciable amount of heat nor requiring the raising

of the cover. To remove the frozen material, it is only necessary to withdraw the slide, whereupon the agitating mechanism, and more particularly the scraper-blades, will force the contents through the opening and along the conduit, at the end of which a suitable receptacle may be placed to receive it. The operation of freezing once having been begun it may be practically continuous, since it is unnecessary to stop the rotation of the agitating mechanism to permit the introduction of a new batch of the material. Instead, when the preceding batch has been ejected the valve is closed and the cover raised. The sleeve journaled in the bushing D' now furnishes a bearing for the shaft E, both these elements being held against lateral movement. The can is again charged and the cover replaced, and the operation proceeds as before. It should be noted that not only is uninterrupted freezing attained, but the gearing is so situated that it is wholly out of the way of the operator and may be freely lubricated without danger of the oil passing into the can and contaminating its contents.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a freezing apparatus, the combination with a casing, of a receptacle mounted therein, agitating mechanism situated within the receptacle, driving mechanism for said agitating mechanism located below the casing, and a discharge-conduit leading from the lower portion of the receptacle.

2. In a freezing apparatus, the combination with a casing, of a receptacle mounted therein, a rotatable sleeve extending through the bottom of the casing and receptacle and having a flange engaging the inner side of the bottom of the casing, an agitator carried by the sleeve within the receptacle, a rotatable

shaft extending through and above the sleeve, an agitator carried by the shaft, a removable upper bearing for the shaft, and means below the casing for driving the sleeve and shaft.

3. In a freezing apparatus, the combination with a casing, of a receptacle mounted therein, a rotatable agitating-sleeve extending through the bottom of the casing and receptacle and reaching but a portion of the distance through said receptacle, mixing-blades carried by the sleeve, a shaft extending through the sleeve, scraper-blades secured upon the shaft above the sleeve, and driving mechanism for the sleeve and shaft located below the casing.

4. An ice-cream freezer having an outer casing, a receptacle located therein, a holder for cooling means situated between the casing and receptacle, a hollow shaft passing vertically through the bottom of the casing and receptacle and revolubly mounted on the latter, an agitating device carried by the hollow shaft within the receptacle, a shaft extending loosely through the hollow shaft, an agitator in connection with the second-named shaft and within the receptacle, a removable bearing for the upper end of the agitator-shaft, gearing below the casing in connection with the two shafts for independently rotating the same, a discharge-chute extending through the lower part of the receptacle and casing, and a closure commanding the discharge-chute.

Signed at New York, in the county of New York and State of New York, this 22d day of June, A. D. 1904.

EMERY THOMPSON.

Witnesses:

CHAS. L. WOLF,  
M. BENDER.