(No Model.)

W. TUNSTILL.

FREEZER FOR ICE CREAM, &c.

No. 307,075. Patented Oct. 21, 1884.

Fig. 3.

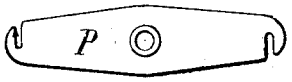
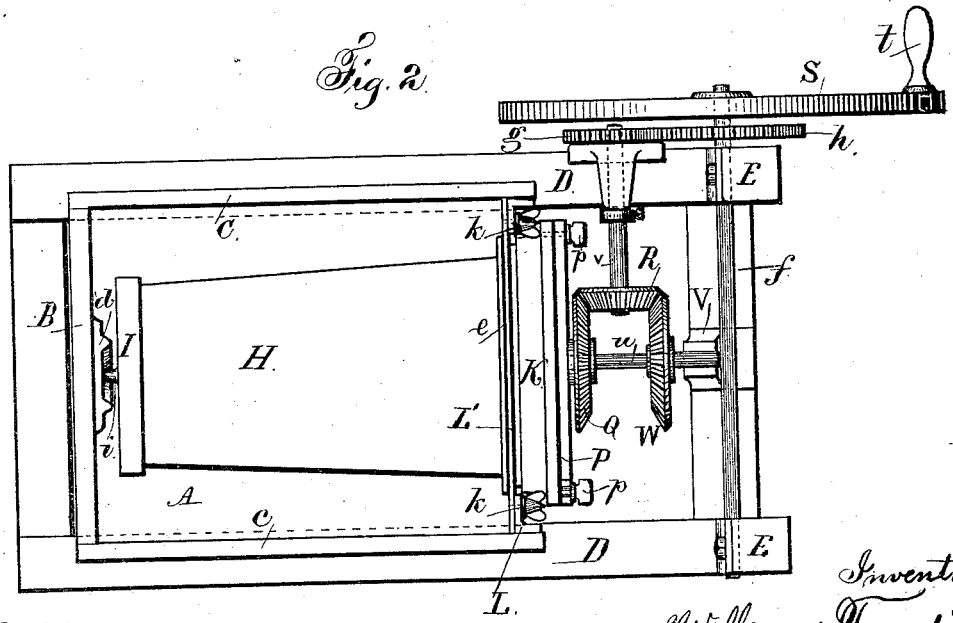


Fig. 1.

Fig. 2.



Witnesses
Harold Serrell
Chas H. Smith

Inventor
per William Tunstill
Lemuel W. Serrell
atty.

UNITED STATES PATENT OFFICE.

WILLIAM TUNSTILL, OF BROOKLYN, NEW YORK.

FREEZER FOR ICE-CREAM, &c.

SPECIFICATION forming part of Letters Patent No. 307,075, dated October 21, 1884.

Application filed May 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TUNSTILL, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Freezers for Ice-Cream, &c., of which the following is a specification.

This invention is for facilitating the manufacture of ice-cream, water-ices, &c., and relates to the combination of devices hereinafter described.

In making some qualities of ice-cream it is desired to keep the mass as solid and firm as possible. In other instances the materials require to be whipped up into a frothy consistency. I provide one instrument for both objects. In placing the material into the freezer it is usually in a liquid condition. The freezer may be tipped up nearly vertically for entering or removing the materials, and the freezer is placed in a horizontal position while the same is being revolved, because the cream is cooled more uniformly and rapidly in this position.

In the drawings, Figure 1 is a longitudinal section of the freezer, Fig. 2 is a plan view of the same, and Fig. 3 is an elevation of the cross-bar.

The ice-holding box is made with a bottom, A, sides C, and closed end B, and it is supported by a framing, as shown, having side pieces, D, uprights E, and cross-bearers F, and said ice-box is let into this framing and rests upon the cross-bearers F in a horizontal position, and it is in this position that the freezer is revolved in making the ice-cream, water-ice, or similar material. The ice-box may have a cover or partial cover to retain cold air and retard melting. The cream-cylinder H is made with a fixed head, I, having a central pivot or axis, *i*, entering a bushing or bearing, *d*, in the head B of the ice-box. The sheet metal of H is firmly soldered to the edge flange of the head I. At the other end of the sheet-metal cylinder H is a cast-metal ring, K, the parts being soldered together so as to be perfectly tight. Around the ring K is a peripheral groove at *e*, and at this end of the ice-box there is a metal head, L, having a U-shaped opening, the lower part of which is semicircular, and fits the groove *e* in the ring K. There is a gate-piece, L′, the lower edge of which is concave and semicircular to fit over the metal ring K or a peripheral groove in its surface. This gate-piece L′ is parallel with and fits closely to the head L, and is held in place by screws and nuts passing through the same and through slots in ear pieces or flanges upon the head L, as at *k*. Should there be any leakage of ice-water, it cannot enter the cream-cylinder, because the ring K extends outside the head L, and such leakage will pass down the surface of the head L and be taken away by the waste-pipe *l* or other suitable appliance. The interior of the ring K is turned off true to form a seat for the metallic head N. There may be a packing-ring secured to the head N in any desired manner, but usually it will only be necessary to grind the same to place and secure it by the cross-bar P, the ends of which are notched (see Fig. 3) to pass upon the screws, and beneath the clamping-nuts *p*, and be clamped by such nuts to the ring K, so as to press the head N closely to its seat. This head is removed when filling or emptying the freezer.

To the hub of the head N, or to the cross-piece P of the same, the bevel gear-wheel Q is fastened, and this is acted upon by the bevel gear-wheel R, its shaft-pinions *g* and *h*, fly-wheel S, and handle *t*, or other suitable means, so as to revolve the wheel Q, the head N, ring K, and cylinder H to refrigerate any material that may be placed in the cylinder H within the mixture of ice and salt in the box A B C. There is within the cylinder H a beater or scraper, T, constructed with an arm and pivot, *r*, at one end, and an arm, *t′*, at the other end, to which the shaft *u* is fastened. The pivot *r* passes into a socket at the inner end of the head I, and the shaft *u* passes through the tubular hub of the head N, and the outer end of such shaft *u* is supported in the slotted bearing V, so as to be easily removed whenever the cylinder of the freezer is opened. There is a bevel gear-wheel, W, on the shaft *u*. The shaft *v* is supported by a sleeve-bearing secured to the frame D, and upon said shaft are the bevel gear-wheel R and toothed pinion *g*. The shaft *f* extends across the frame of the freezer and is carried in suitable bearings, and upon said shaft are the fly-wheel with a handle, and the toothed pinion *h*, that meshes with pinion *g* on shaft *v*. When the handle and fly-wheel are turned and the pinions

and bevel-gears set in motion, the cylinder H will be revolved in one direction and the shaft *u* in the other direction, carrying with it the beater or scraper T, and this movement causes violent agitation of the contents of H, whipping up the materials into a frothy condition, as well as scraping the interior of H during the freezing operation. The bevel-gear R is secured upon the shaft *v*, and there is a collar upon said shaft, and a set-screw which can be loosened and the shaft and gear moved back away from the gears Q and W, when it is desired to lift the freezer from the ice-box. After removal the freezer is preferably stood upon end for filling. The fly-wheel can be turned either from right to left or left to right, and the mechanism and freezer revolved accordingly, at pleasure of the operator without in any way affecting the working of the machine.

I claim as my invention—

1. The combination, with the cylinder H, of a ring, K, and movable head N, and a box for the ice, and an end to such box through which the ring K projects, so as to prevent ice-water or salt entering the cylinder H, substantially as set forth.

2. The cylinder H, ring K, movable head, and means for rotating the cylinder, in combination with the ice-box A B C, and head L and gate L′, the edges of which head L pass into a peripheral groove in the ring K, substantially as set forth.

3. The combination, with an ice-box, the cylinder H, and its ring K, of the head N, and the notched cross-bar P, the shaft *u*, the clamps *p* upon the ring K for holding the bar P and head N in place, the beater upon the shaft *u*, and the bevel-gears Q and W also upon said shaft, the bevel-gear R and its shaft, a frame and separate bearing for the same, and a crank, whereby the head, bar, beater, shaft, and gears Q N can be removed from the cylinder H and gear R, and its actuating mechanism, substantially as set forth.

Signed by me this 14th day of May, A. D. 1883.

WILLIAM TUNSTILL.

Witnesses:
HAROLD SERRELL,
WILLIAM G. MOTT.