

O. PADDOCK.
Ice-Cream Freezer.

No. 69,833.

Patented Oct. 15, 1867.

Fig. 2

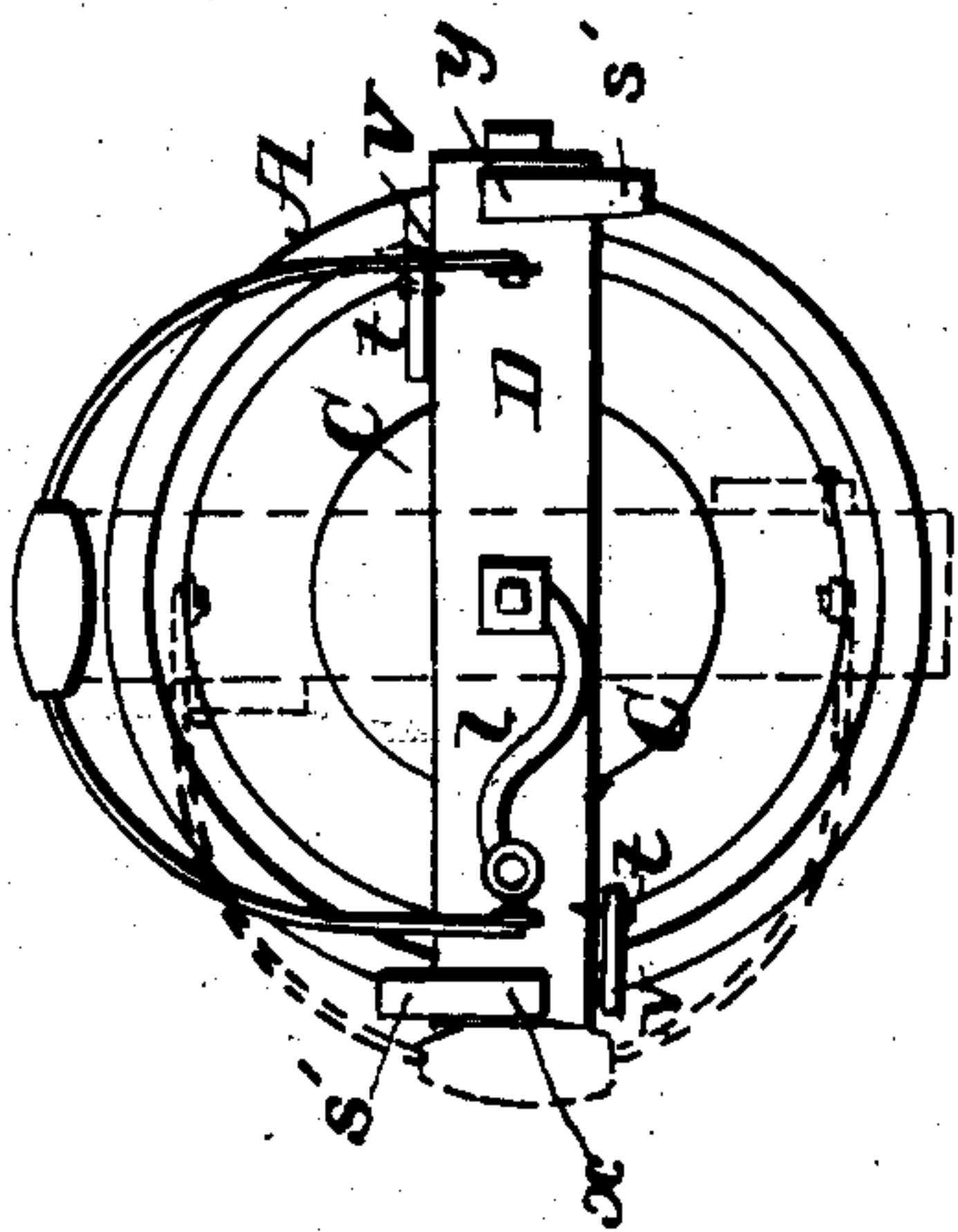


Fig. 3.

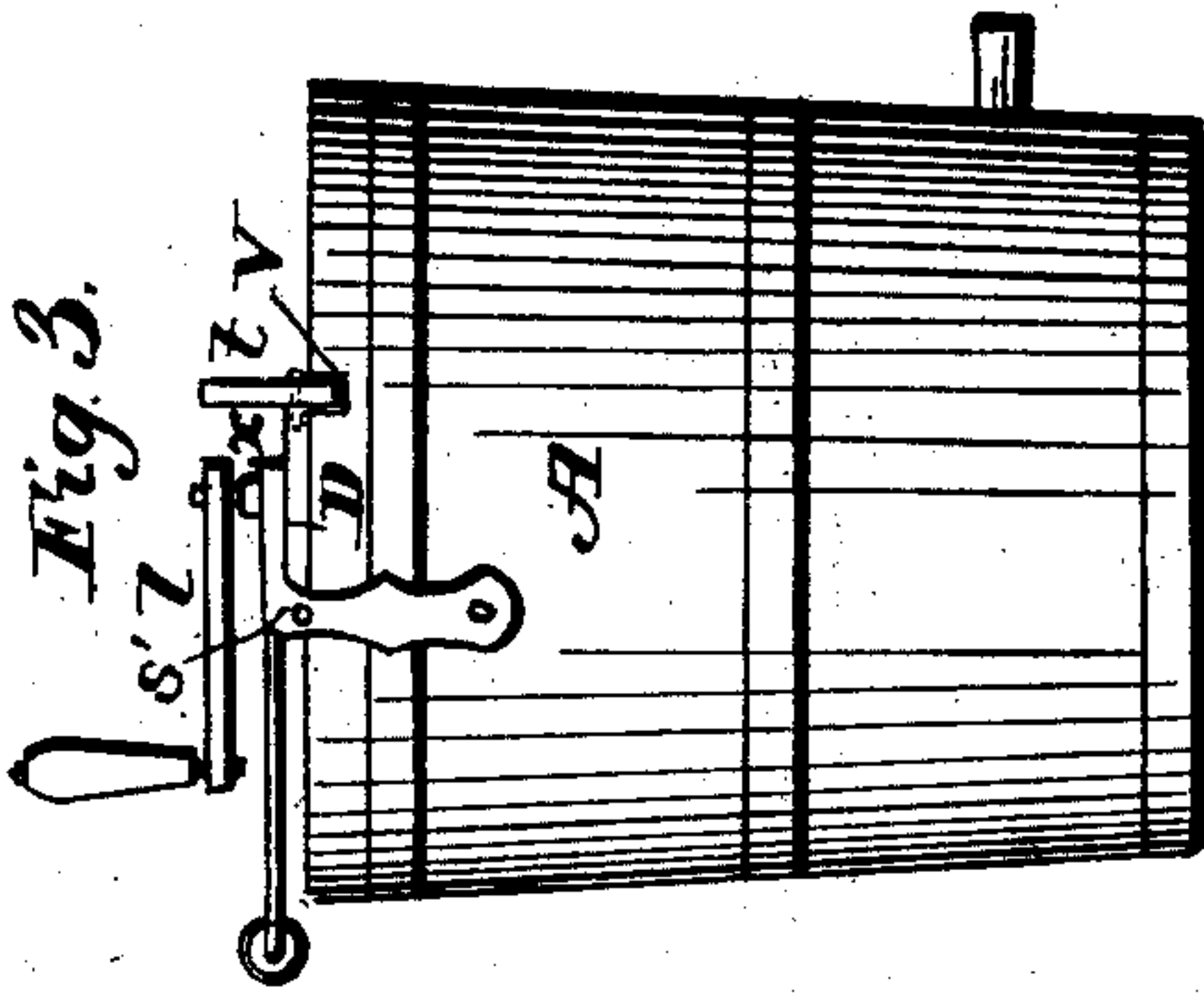
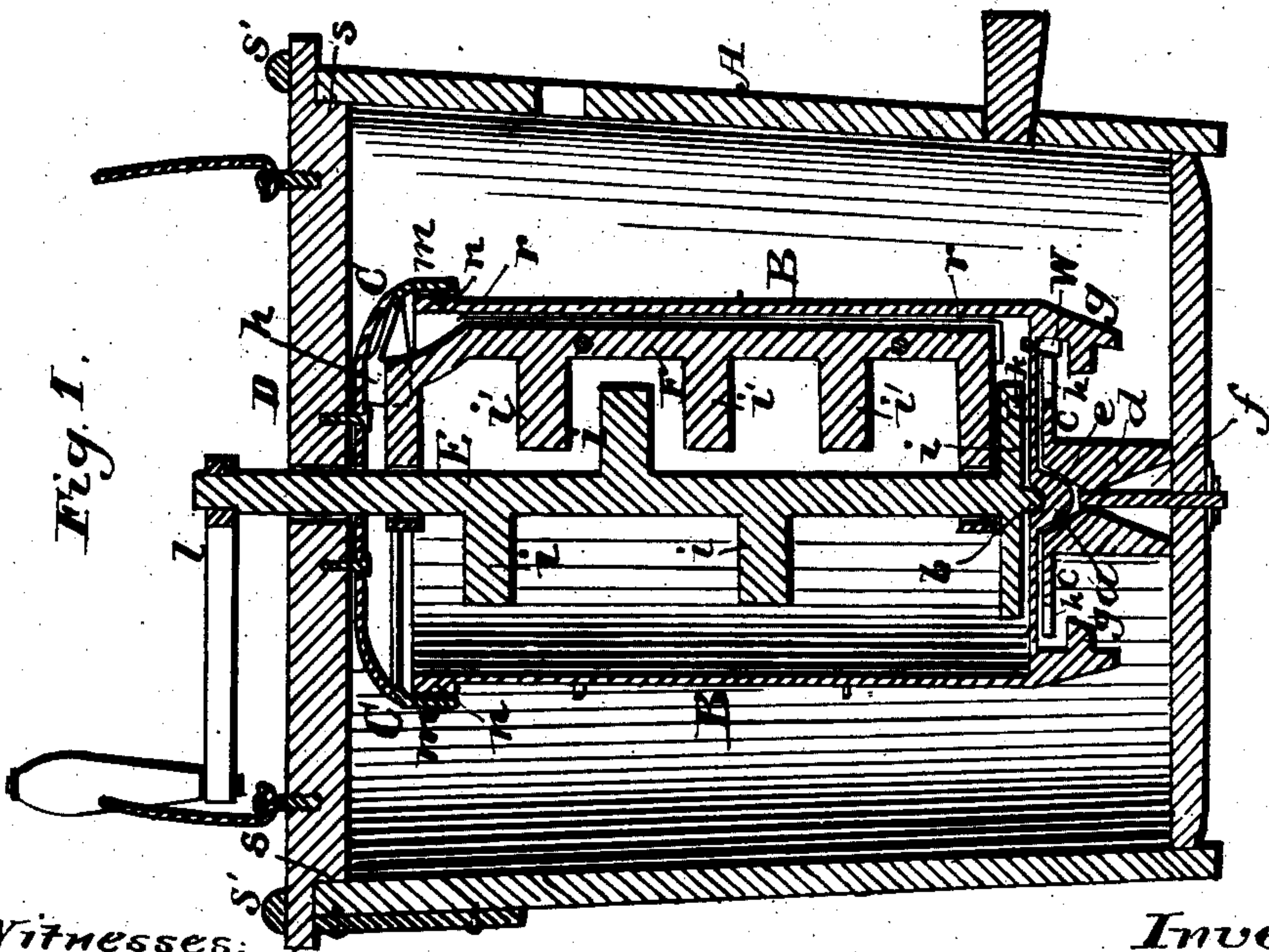


Fig. 1.



Witnesses:

W. Bailey
Chas. Bagby

Inventor:

O. Paddock

by his attorney

A. Paddock

United States Patent Office.

OSCAR PADDOCK, OF WATERTOWN, NEW YORK.

Letters Patent No. 69,833, dated October 15, 1867.

IMPROVED ICE-CREAM FREEZER.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that I, OSCAR PADDOCK, of Watertown, in the county of Jefferson, and State of New York, have invented certain new and useful Improvements in Ice-Cream Freezers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical central section of a freezer constructed in accordance with my invention.

Figure 2 is a top view, and

Figure 3 an elevation of the same on a reduced scale.

The object I have in view in the invention, the subject of this application, is to simplify and improve the construction and arrangement of ice-cream freezers, more particularly those in which the cream-vessel or holder is arranged to rotate upon its axis within the tub or larger vessel in which the ice is contained

My invention consists principally in combining the revolvable cream-vessel with the cover or cap which fits over its top, in such manner that during the rotary movement of the said vessel its cover shall remain stationary. By thus combining the two the cover has two functions: it not only covers or closes the top of the cream-holder, but also constitutes the means by which the latter is maintained upright and in proper position; for, during the rotation of the cream-holder, its upper end will slide or move around within the cover, which, remaining stationary, forms a bearing for supporting the said holder and guiding its movement.

My invention further consists in the combination of the special devices which I prefer to use in order to accomplish the result above named; and it also has relation to the improved construction of the cream-vessel itself and the bearing or frame upon which the bottom of the holder or vessel rests; the object of these latter features of my invention being to facilitate the operation of turning out the solidified or frozen cream from the holder, and also to prevent the latter from being raised or separated from its bearing by the action of the ice and water contained in the tub.

To enable those skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the accompanying drawings.

A represents the ice-tub or bucket within which is placed the cream-holder B. In order to facilitate the rotation of this latter vessel a pivot, *a*, is formed on its bottom, on which pivot the vessel revolves. Within the vessel this pivot is countersunk, or has a socket made in it, to form a bearing for the spindle by which rotary movement is imparted to the holder; the construction and arrangement of this portion of the apparatus being similar to that described in Letters Patent heretofore granted me. The pivot *a* bears in a socket, *e*, formed in a metal frame, *c d*, the upper portion *c* of which consists of a circular plate a little less in diameter than the bottom of the cream-vessel. This frame rests on the bottom of the tub, and is secured thereto by a bolt, *f*, the head of which is held in the bottom of the socket *e*. The lower end of the bolt passes through the bottom of the tub, and is held by means of a nut. Extending downwards from the bottom of the cream-holder are hooks or catches, *g*, which may be cast in one piece with the bottom if desired. Slots *h* are formed in the edge of the circular plate *c*, and the catches *g* and slots are so arranged as to occupy the same relative positions upon the plate and bottom of the cream-holder, so that when the holder is placed upon the plate the catches *g* will pass down through the slots. If the cream-holder be rotated after being thus placed it will be seen that the hooks *g* will catch under that portion of the plate which is not slotted, and thus hold the cream-vessel firmly in its bearing. In ice-cream freezers, as heretofore constructed, no means are provided for thus holding the cream-vessel, so that when the vessel is not held down by pressure from above the water and ice contained in the tub will, in many instances, float the vessel or cause it to be lifted and separated from its bearing. The object of the above-described arrangement is to remedy this difficulty. When the vessel is turned upon its pivot *a*, so as to bring the catches under the unslotted portion of the plate, the cover can be removed with facility, and all pressure from above may be removed without danger of deranging the position of the vessel, while, on the other hand, by turning the vessel so as to bring the catches under or opposite to the slots, the whole vessel can be detached from its bearing and lifted from the tub without trouble. The cream-vessel is provided with a cover, C, which is fastened securely and immovably to a cross-bar, D, resting on the top of the tub, and secured thereto in the manner hereinafter explained. The spindle E bears, as above men-

tioned, in a socket, *h*, in the bottom of the cream-vessel, and is provided with a series of arms or beaters, *i*. When the shaft is revolved its lower arms come in contact with studs *k* projecting from the bottom of the cream-holder, the latter being thus caused to move or rotate in unison with the spindle. On the upper end of the spindle, which passes up through both the cover *C* and cross-bar *D*, is mounted a crank, *l*, by means of which the necessary rotary movement is imparted to the spindle and cream-holder. As the cover *C* is fastened firmly and securely to the cross-bar *D*, which in turn is made fast to the tub, it will be seen that when the spindle is rotated it will communicate motion to the cream-holder alone, the cover remaining immovable. Thus the upper end of the cream-vessel revolves or slides around within the cover, which forms a bearing for centering and steadying the vessel in its movement. The flange or annular portion *m* of the cover and the upper end *n* of the cream-holder, which moves within such annular portion, may be made of greater thickness and solidity than the other parts of the cover and holder, as represented in the drawings. There is a stud or stop, *p*, which projects from the interior of the cover, whose function is, during the revolution of the cream-vessel, to arrest the movement of a frame, *F*, mounted loosely on the spindle, and provided with a series of arms, *i'*, arranged opposite the intervals between the arms *i* on the spindle. This frame is also provided with a wooden scraper, *r*, the arrangement of the whole being similar to that described in Letters Patent heretofore granted me. When the shaft is revolved the frame *F* catches against the stop *p*, and is held stationary during the continuance of the rotary movement of the cream-vessel. It is obvious that the cover *C* may be held stationary in many ways, and that it can, if necessary, be secured or attached directly to the tub by means of arms extending from the cover to the sides of the tub. I prefer, however, to secure it to the cross-bar *D*, which is combined with the ice-tub in such manner as to be readily fastened to or removed from the same. The bar is cut away at each end, as shown at *s*, fig. 1, so that it shall partly fit between the sides of the tub, and at the same time rest upon the top of the same. It is thus capable of being moved around or rotated upon the axis of the tub or its centre, the shoulders *s*, which bear against the sides of the tub, holding it in proper position. In order to secure the bar so as to prevent it from being lifted or moved from the tub while the apparatus is in operation, catches *s'* are secured to each side of the tub, diametrically opposite each other, or nearly so. Each catch is formed of a piece of angle-iron, the shank being attached to the side of the tub by suitable means. The upper part, which stands at right angles to the shank, is at a suitable distance above the top of the tub, and is parallel, or nearly so, therewith. These catches thus, in effect, constitute jaws, which open in opposite directions, the one jaw being open at *x*, while the other is open at *y*, (see fig. 3.) The cross-bar *D*, when placed on the tub, as above explained, is moved around upon the axis of the tub as its centre until its ends pass under the catches *s'* and are brought against the shanks or upright portions of the same, as shown in fig. 3, and in black lines in fig. 2. So long as the bar is in this position it cannot be lifted out from the tub; and in order to prevent its being moved out from under the catches, a locking device is employed at each end, consisting of a bolt or latch, *t*, which is pivoted to the side of the cross-bar, and is intended to fit in a notch or slot, *v*, formed in the edge or top of this tub. When the cross-bar is in the position shown in black lines in fig. 2, the latches *t* are pressed down until they fit in their respective slots *v*, and the bar is thus firmly secured to the tub. When it is desired to remove the bar the bolts are raised or swung back, as represented in fig. 3, and the bar can then be moved out from under the catches *s'* to the position shown in red lines, fig. 2.

It is well known that considerable difficulty is ordinarily experienced in "turning out" the solidified or frozen cream from the holder, and that before the cream can be removed the vessel must be heated in order to partially melt the cream, a considerable portion of which, in many instances, is reduced to a liquid form before the removal is effected. This difficulty arises not only from the adhesion of the cream to the sides of the holder, but also from the fact that the passage of the cream from the holder tends to form a vacuum in the vessel. In ordinary freezers the air to fill this vacuum enters through the mouth of the vessel, and must pass up nearly the whole length of the same before it reaches the point where the vacuum exists. This not only makes the operation of turning out the cream troublesome, but renders it necessary to melt a much greater portion of the cream than would otherwise be required. To obviate this difficulty, I form a vent or hole in the bottom of the cream-holder, which is closed by a screw-plug, *w*, fig. 1, or other equivalent means. This plug remains in the vessel while the cream is being frozen, but when it is desired to turn out the solidified cream the plug, after the vessel has first been slightly heated in order to detach the cream from its sides, is removed, leaving the vent or hole in the bottom open. The cream can now be turned out with perfect facility, the air passing into the vessel through the vent in the bottom as the cream passes out, and preventing in any degree the formation of a vacuum.

Having now described my invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is as follows:

1. In an ice-cream freezer in which the cream-vessel is arranged to rotate upon its axis as described, I claim the combination with the cream-vessel of a stationary cover, which constitutes the bearing in which the upper portion of said vessel is supported and moves during its rotary movement, substantially as shown and set forth.
2. The combination, in an ice-cream freezer, as described, with the cream-vessel and spindle for rotating the same, of the cover for said cream-vessel and cross-bar to which it is attached, under the arrangement substantially as herein shown and specified.
3. The combination, with the stationary cream-holder cover and the stop or catch which it carries, of the frame *F* mounted upon the spindle and within the rotary cream-holder, substantially in the manner and for the purposes set forth.
4. The combination of the cross-bar and the bolts or latches pivoted to it, as described, with the catches

mounted on the ice-tub and the slots formed in the said tub, under the arrangement and substantially as set forth.

5. The combination, with the cream-vessel or holder and catches or hooks upon its bottom bearing upon which the said vessel is supported and pivoted, substantially as herein described.

6. The method herein indicated of facilitating the removal of the frozen or solidified cream in which it is contained by forming in the bottom of said vessel one or more vents or openings for the entrance of air to the interior of said vessel while the cream is passing out from the same, closed by screw-plugs or other suitable means, as set forth.

In testimony whereof I have signed my name to this specification before two subscribers.

Witnesses:

B. R. MEIGS,

G. L. WOODRUFF.