No. 638,688. Patented Dec. 12, 1899.

J. A. E. ANDERSON.

FREEZER.

(Application filed Mar. 20, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

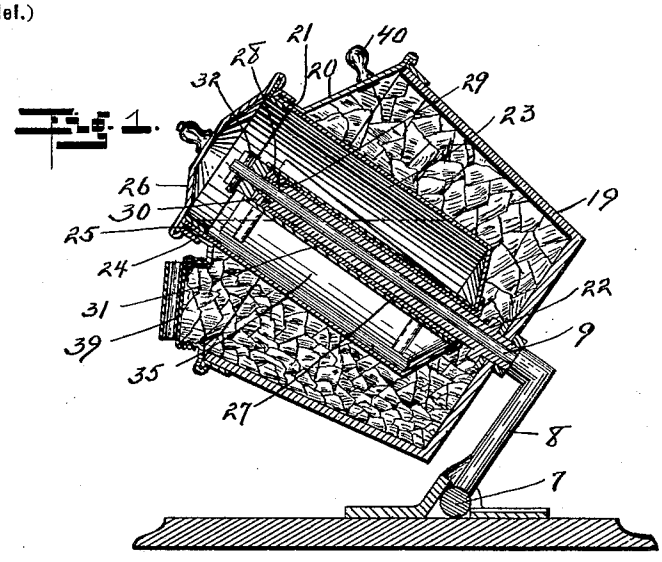


Fig. 2.

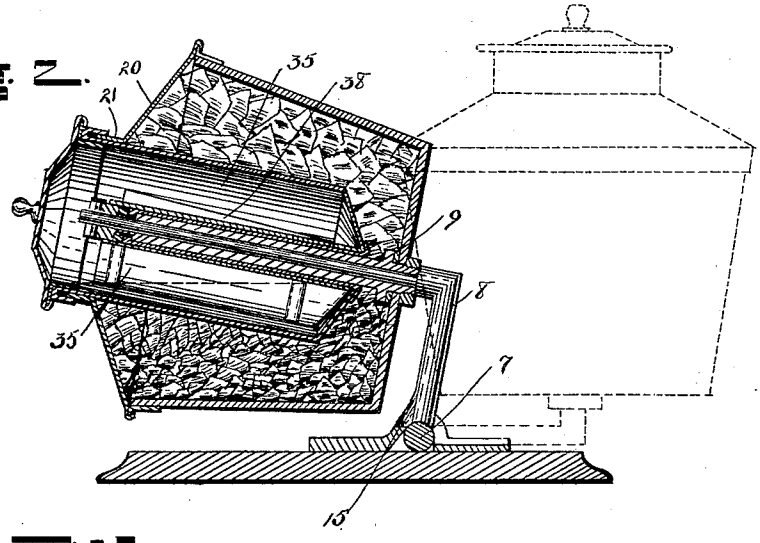
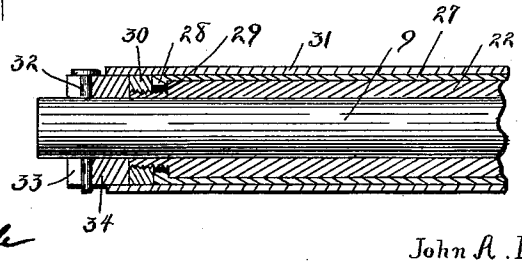


Fig. 7.



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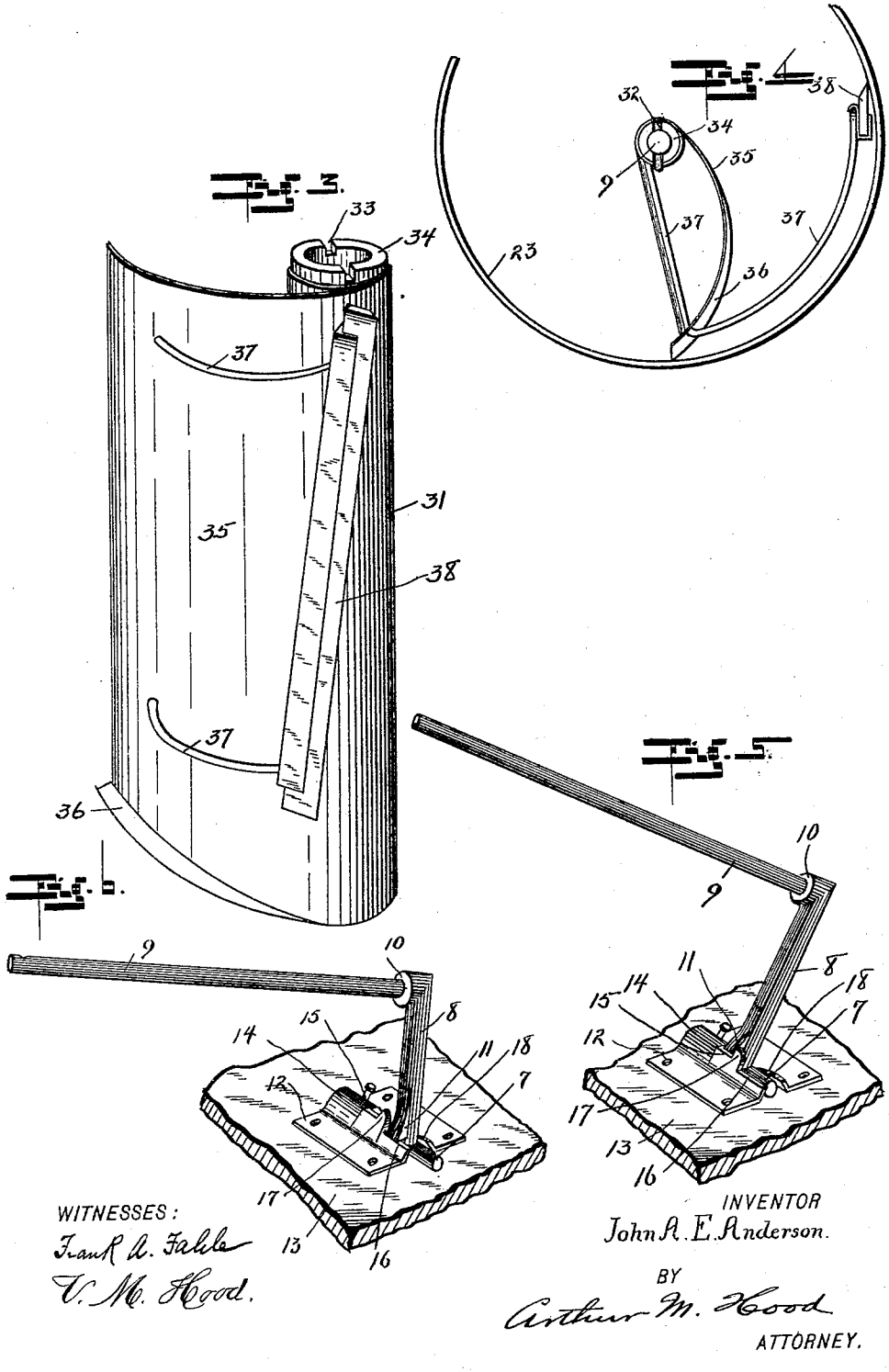
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(Application filed Mar. 20, 1899.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

JOHN A. E. ANDERSON, OF INDIANAPOLIS, INDIANA.

FREEZER.

SPECIFICATION forming part of Letters Patent No. 638,688, dated December 12, 1899.

Application filed March 20, 1899. Serial No. 709,701. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. E. ANDERSON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Freezers, of which the following is a specification.

My invention relates to an improvement in freezers.

The object of my invention is to produce a freezer of a minimum number of parts, each of which may be easily cleaned, and to so mount the freezer that material placed therein may be rapidly frozen.

The accompanying drawings illustrate my invention.

Figure 1 is a central vertical section. Fig. 2 is a similar section showing the parts in another position. Fig. 3 is a perspective view of the combined beater and scraper. Fig. 4 is a plan view thereof. Fig. 5 is a perspective view of the standard. Fig. 6 is a similar view showing the standard in another position. Fig. 7 is a detail, on a larger scale, of the upper, of stem 9 and adjacent parts.

In the drawings, 7 indicates a cylindrical head, from the middle of which projects an arm 8. Projecting from the end of arm 8, substantially at right angles to said arm and to the head 7, is a stem 9, a shoulder 10 being formed at the lower end of said stem. A lug 11 projects from arm 8 near its juncture with head 7. Head 7, arm 8, and stem 9 are preferably formed in one piece, forming a standard upon which the rotating parts of the freezer may be mounted. This standard is supported by a base-plate 12, which may be secured to the base 13. Plate 12 is provided with a semicylindrical portion 14, which is adapted to receive one end of head 7. At the inner end of portion 14 plate 12 is provided with a stepped portion, between the stem 15 and 16 of which lies a short upwardly-extending lug 17. Steps 15 and 16 are so arranged that when lug 11 of arm 8 is brought into engagement with said steps the stem 9 will lie, respectively, in the positions indicated in Figs. 1 and 2, the weight of the parts carried by said stem being sufficient to hold said lug in engagement with either one of said steps. Opposite steps 15 and 16 the plate is cut away, so that arm 8 may be thrown horizontally, thus throwing stem 9 into a vertical position, as shown in Fig. 2. A flange 18 on this side of the head has its upper edge inclined downward and toward portion 14, so that when arm 8 is thrown downward from the position shown in Fig. 6 the whole standard will be automatically shifted toward portion 14. In this arrangement lug 17 prevents an accidental endwise displacement of the standard when in the position shown in Fig. 5, and flange 18 prevents the standard from being accidentally thrown down and out away from engagement under portion 14.

Rotatably mounted on stem 9 is an ice-reservoir 19, the upper end of which is partially closed by the cap 20, the said cap, however, being provided with a central opening surrounded by an annular flange 21. Secured to the bottom of reservoir 19 is a tubular bearing 22, through which the stem 9 may be projected.

The freezing-chamber 23 is of proper size to fit snugly into the opening formed by flange 21 and is provided at its outer end with a downwardly-extending flange 24, between which and the wall of the chamber is thus formed a packing-space 25, into which the upper end of flange 21 may be forced. The upper end of chamber 23 may be closed by a suitable cover 26, which should fit tightly.

The lower end of chamber 23 is provided with a central opening in which is secured a sleeve 27, which is adapted to be slipped down over bearing 22. The upper end of sleeve 27 is provided with an inwardly-projecting flange 28, which is adapted to rest upon shoulder 29, formed at the upper end of bearing 22. The upper end of bearing 22 is threaded, so as to receive a nut 30, which nut is adapted to clamp flange 28 against shoulder 29, and thus detachably fasten the freezing-chamber to the ice-reservoir. The outer diameter of nut 30 must be no greater than the diameter of sleeve 27. Mounted on sleeve 27 is a sleeve 31 of a combined scraper and beater, and this combined scraper and beater is non-rotatably secured to the stem 9 by means of a pin 32, which passes through the upper end of said stem and lies in the grooves 33, formed in the upper end of the head 34 of sleeve 31.

The combined scraper and beater is formed in the following manner: The head 34 is an annulus the outer diameter of which is of substantially the diameter of sleeve 27 and the inner diameter is that of stem 9. One end of a sheet of thin metal is wrapped around

head 34 and secured thereto, so as to form sleeve 31, while the other end is thrown out in a convenient curve, so as to form the beater-arm 35, the outer end of which lies close to but does not touch the wall of the freezing-chamber. At the lower end arm 35 is bent outward, so as to form an auxiliary scraper 36, which lies against and scrapes the bottom of the freezing-chamber, the said bottom being preferably conical, as shown. Running through the outer end of the beater-arm and extending from there to the sleeve 31 are the inner ends of two spring-arms 37 37, to the outer ends of which is secured a scraper 38, the edge of which is arranged to engage and scrape the side wall of the freezing-chamber. The inner ends of arms 37 are secured both to the sleeve 31 and to the beater-arm, thus forming braces for the outer end of the beater-arm.

Cap 20 of the ice-reservoir is provided with a suitable capped opening 39, through which ice may be introduced, and a suitable handle 40, by means of which the ice-reservoir and the freezing-chamber may be rotated upon stem 9.

The operation is as follows: The several parts of the freezer proper are secured in the positions shown in Fig. 1 on the stem 9. Reservoir 19 is filled with a suitable freezing mixture and the liquid to be frozen is placed in freezing-chamber 23, the quantity of such liquid being not greater than enough to come to the dotted line when stem 9 is thrown into the position shown in Fig. 1. The operator then grasps handle 40 and rotates the ice-reservoir about stem 9. The rotation of reservoir 19 carries with it the freezing-chamber 23, the said chamber being clamped to the sleeve 22 of the reservoir by means of nut 30. The combined beater and scraper, however, is held stationary, owing to its connection through pin 32 to the stem 9. As the freezing-chamber is rotated a thin layer of liquid next the wall thereof will be frozen, and as this frozen layer comes into contact with the scraper 38 it is scraped away from the wall and drops back into the unfrozen liquid. The auxiliary scraper 36 serves to clear the bottom of the chamber of any frozen material, and the beater-arm 35 forces the liquid out against the wall of the chamber. When the material has been properly frozen, cover 26 may be removed, pin 32 removed, and the combined scraper and beater removed. Nut 30 may then be removed and the freezing-chamber be removed bodily from the ice-reservoir, inverted, and the frozen material allowed to drop out. This construction allows the removal of the frozen material in a much easier manner than has heretofore been possible in freezers of this class.

The freezing-chamber may be much more easily cleaned than heretofore, and the combined beater and scraper, being in one piece, may also be much more easily manipulated and cleaned.

If a smaller amount of material is to be frozen, the parts may be thrown down into the position shown in Fig. 2, thus giving substantially the same freezing-surface as in case of a larger quantity.

I claim as my invention—

1. In a freezer, the combination with a suitable supporting-stem, of an ice-reservoir removable upon said stem, a tubular bearing extending well up into said reservoir from the bottom thereof and adapted to receive and revolve upon said stem, a freezing-chamber having an internal sleeve adapted to removably fit over said tubular bearing, means for detachably securing the freezing-chamber to the ice-reservoir, a scraper, adapted to be mounted within the freezing-chamber, and means for securing said scraper to the stem, substantially as and for the purpose set forth.

2. In a freezer, the combination with a suitable supporting-stem, of an ice-reservoir, a tubular bearing extending into said reservoir from the bottom thereof and adapted to receive said stem, an opening in the top of said reservoir and surrounded by an upwardly-extending flange, a freezing-chamber adapted to removably fit inside said flange, a packing-space formed at the upper end of the freezing-chamber in position to receive said flange, an internal sleeve carried by the freezing-chamber and adapted to receive said tubular bearing, means for preventing a relative rotation of the ice-reservoir and freezing-chamber, a scraper adapted to be placed within the freezing-chamber, and means for securing said scraper to the stem.

3. A combined beater and scraper for a freezer, consisting of a sheet having one end rolled so as to form a sleeve 31, and the other end extended so as to form a beater-arm 35, spring-arms 37 secured to the beater-arm and carrying a scraper 38 at their outer ends, and braces between the sleeve and the outer end of the beater-arm.

4. A combined beater and scraper for a freezer, consisting of a sheet having one end rolled so as to form a sleeve 31 and the other end extended so as to form a beater-arm 35, spring-arms 37, a scraper carried by the outer ends of said arms, the arms, at their inner ends, being secured to the beater-arm and the sleeve so as to form braces for the beater-arm, and an auxiliary scraper 36 formed at the lower edge of the beater-arm.

5. A standard for freezers, consisting of the head 7, arm 8, stem 9 and lug 11, and a support therefor consisting of a plate 12, having cylindrical portion 14 and steps 15 and 16, substantially as and for the purpose set forth.

6. A standard for freezers, consisting of the head 7, arm 8, and stem 9, substantially as shown and described.

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