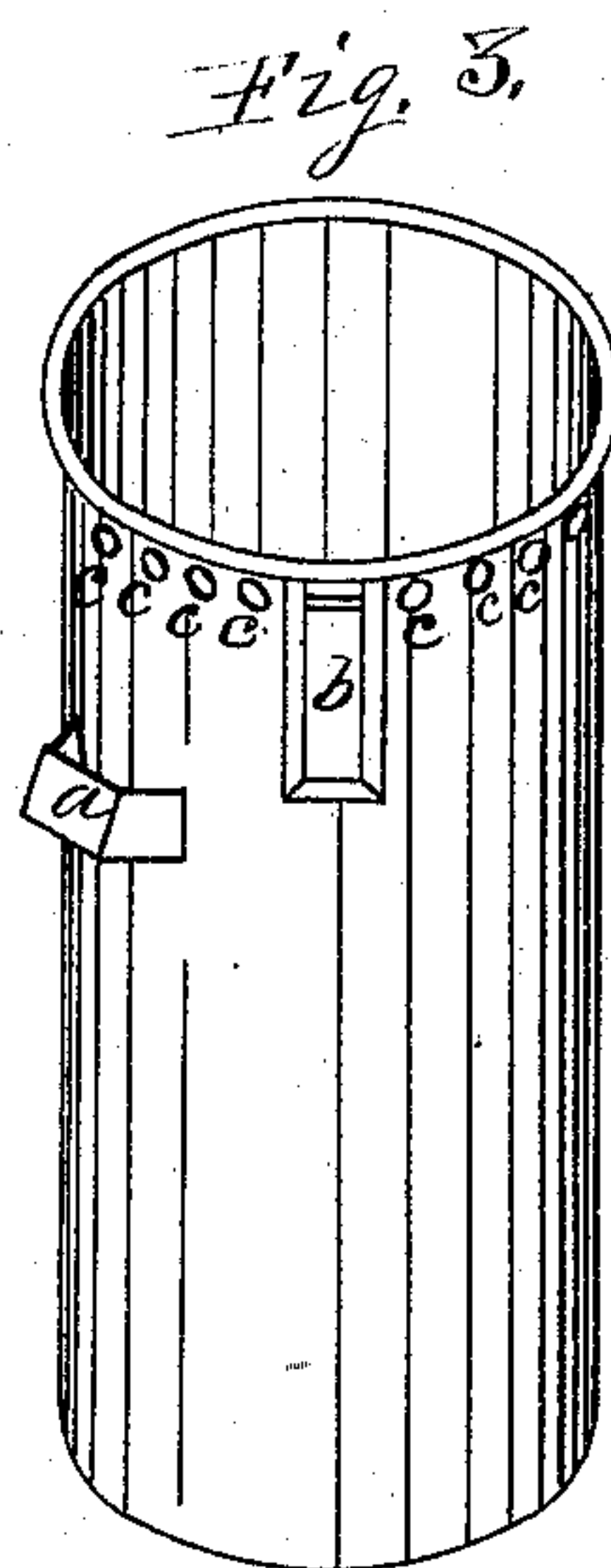
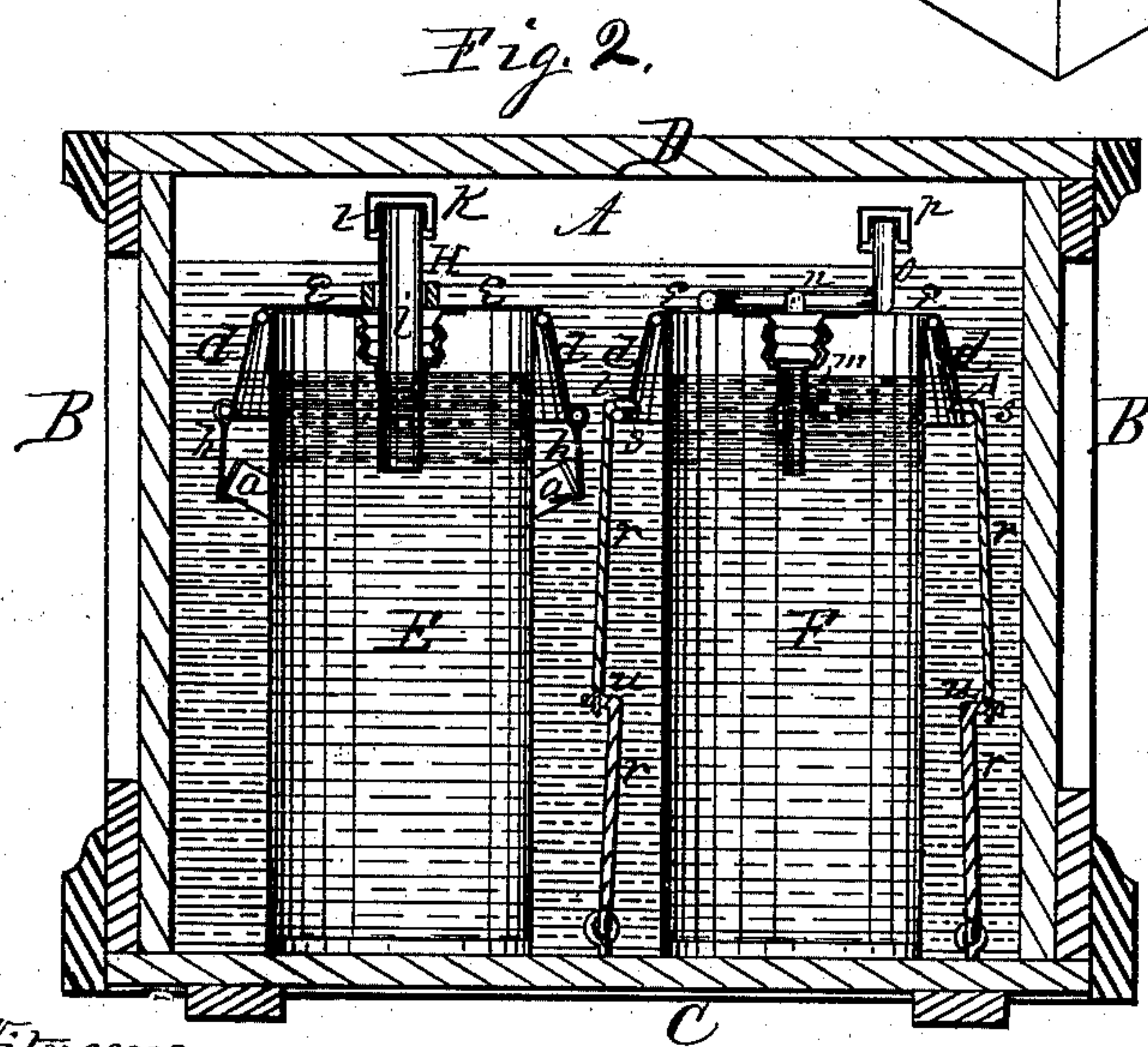
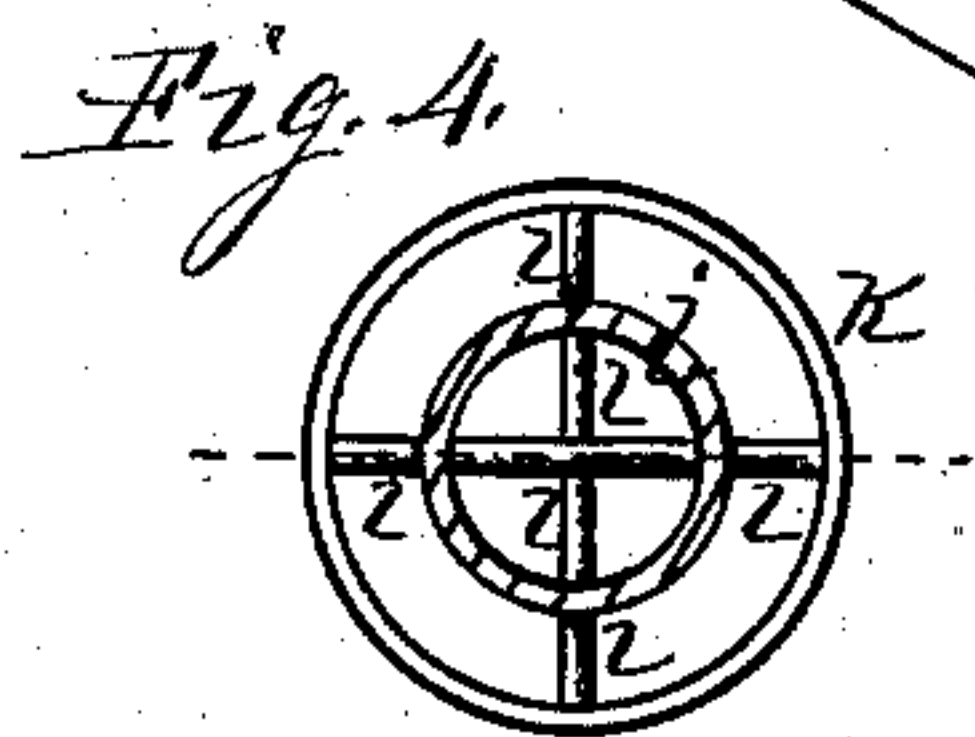
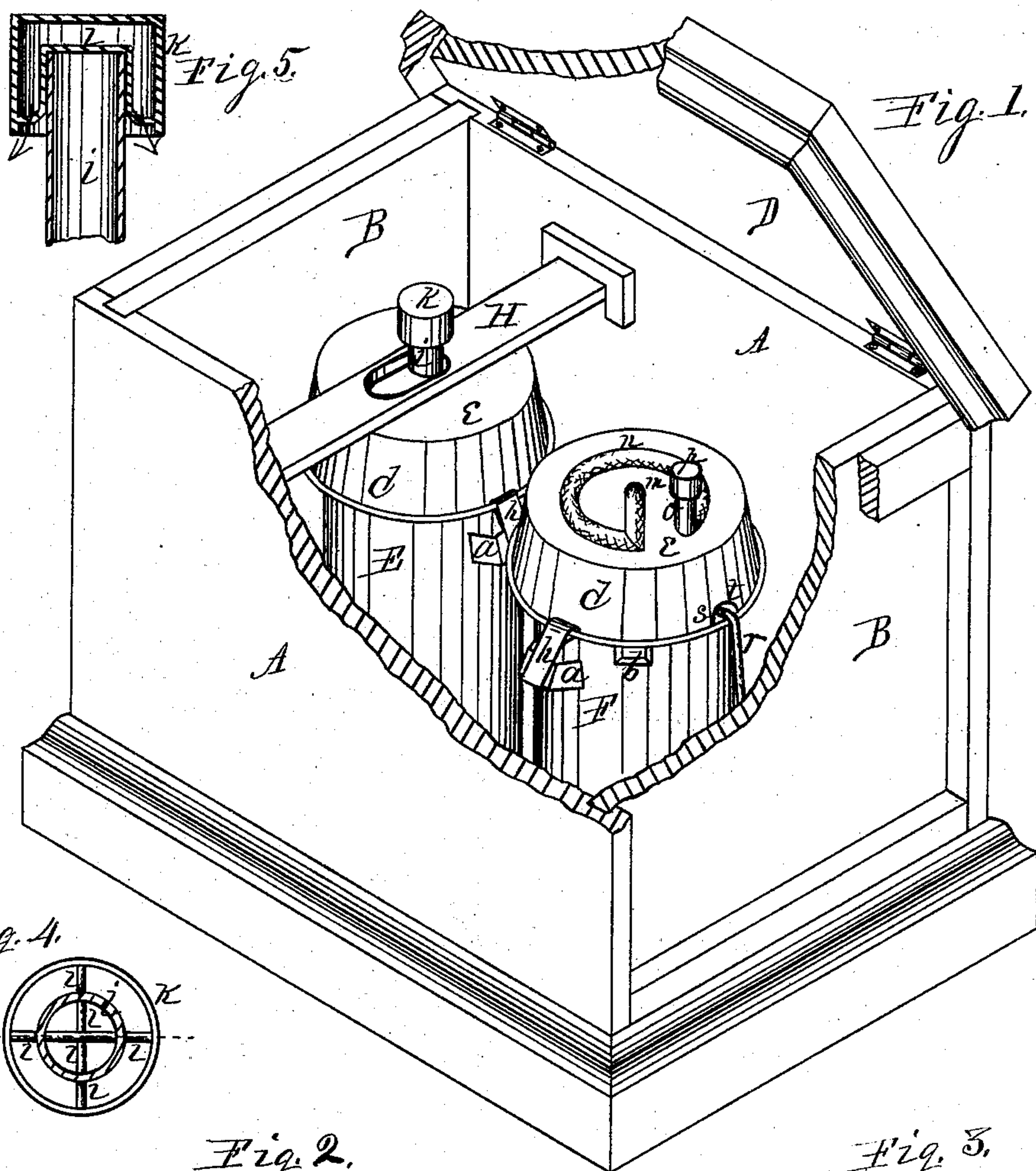


(No Model.)

A. McCALLUM.
Milk Cooler.

No. 237,403.

Patented Feb. 8, 1881.



Witnesses
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UNITED STATES PATENT OFFICE.

ARCHIBALD McCALLUM, OF BOONE, ILLINOIS.

MILK-COOLER.

SPECIFICATION forming part of Letters Patent No. 237,403, dated February 8, 1881.

Application filed July 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD McCALLUM, of the town of Boone, in the county of Boone, State of Illinois, have invented a new and useful Improvement in Milk-Coolers, of which the following is a specification.

This invention relates to that class of creamers employing cans in which to set the milk to raise the cream.

10 The object of my invention is to provide a creamer in which the cans containing the milk are provided with ventilated water-sealing lids to permit them to be submerged in a suitable water-tank.

15 To this end I have designed and constructed the creamer represented in the accompanying drawings, in which—

Figure 1 is an isometrical representation of a tank containing my improved cans, and in which portions of the tank are broken away to more clearly represent the cans of this figure. Fig. 2 is a lengthwise vertical central section. Fig. 3 is an isometrical representation of my improved can, in which the lid is omitted. Fig. 25 4 is a plan view of a portion of the ventilating-tube inserted in the lid of the can, and of the removable cap supported on the tube, as seen from the under side of this figure. Fig. 5 is a vertical section.

30 In the figures, A represents the side walls, B the end walls, C the bottom, and D the hinged lid, of a water-tank, constructed of suitable material, rectangular in form, and of proper size to receive a convenient number of cans, in this instance consisting of the cans E and 35 F. These cans are constructed of tin-plate as a suitable material, and are of cylindrical form, having a height greater than their diameter, and having an open upper end. These cans 40 are fitted with side handles, *a*, of loop form, which serve as a convenience in handling, and also serve to receive hinged clasps to hold the lid in place. These cans are fitted with a plate-glass, *b*, extending down the side of the can, supported in grooves, in which it is suitably 45 cemented, and through which the depth of the cream-collection may be seen. They are also provided with a series of holes or openings, *c*, immediately under the ring of its open end, employed to permit the gases rising from the 50 milk in cooling to escape and mingle with the

water when the lid is fixed to the can and submerged in the tank. These cans are provided with removable pan-like lids of such construction that their depending outward-flaring side walls, *d*, will freely receive the open end of the 55 cans in such a manner that the disk portion *e* of the pan-like lids shall rest on the outer rim of their open end and their flaring side walls depend over the side walls of the cans. These 60 pan-like lids are provided with hinged clasps, *h*, having their hinged connection formed with the depending outer edge of the flaring side walls, and their free hooking ends adapted to embrace the loop-formed side handles, *a*, in 65 such a manner as to clamp and hold the lid to the can. These lids are provided with ventilating-tubes, which, in the lid in place on the can E, consists of a tube, *i*, placed in a vertical position centrally in the disk of the lid, having its depending portion of sufficient length 70 to enter the milk in the can to a depth sufficient to prevent the escape of the air contained in the can above the milk when the can is submerged, and its upper portion rises above the 75 disk portion of the lid to a height sufficient to receive a cap above the water-line in which the can is submerged.

At *k* is represented a cap of tubular form, having a closed end, and is of greater diameter 80 than the tube *i*, on which it is mounted, and its inner surface is provided with bracket-supports *l*, adapted to receive the open end of the tube to support it centrally thereon, to permit the gases and heat rising from the milk 85 through the tube to escape downward, as indicated by the arrows, and to prevent insects and dirt descending the tube. This can, when filled and the lid in place thereon, is placed in the tank, and is fixed in position by means 90 of a transverse bar, *H*, provided with a center opening to receive the ventilating-tube, and is placed in position thereon, having its ends removably fixed in the side walls of the tank.

In the lid on the can F is represented a ventilating-tube, *m*, which, after rising from the 95 milk to the outer surface of the lid, is formed in a horizontal coil, *n*, resting thereon, having its upper end portion, *o*, rising in a vertical position, and provided with a removable cap, 100 *p*, in every particular the same as the cap *k* on tube *i*, and operating in the same manner

for the same purpose. This tube, by means of its coiled form, presents a greater surface to the cooling action of the water, and aids in cooling the milk more rapidly. This can F, when filled and the lid put in place thereon, is then placed in the tank, and is held in position therein to resist the lifting action of the water in which it is submerged by means of hook-links *r*, having an eye-joint connection with the tank, and their free ends are provided with a suitable hook, *s*, adapted to enter openings *t* formed in the edge of the depending portion of the lid. These hook-links are formed of parts provided with a screw-joint connection, *u*, by means of which their length may be varied to adjust them to hold the can in a proper manner. These cans, thus constructed and filled, having the ventilated lids put in place thereon, are placed in the tank and fixed in position, as herein described. The tank is then filled with water sufficient to submerge the cans, but not to close the downward opening of the caps on the ventilating-tubes. The lid of the tank, if desired, may then be closed and the milk left to cool, which process will progress rapidly by radiation from the surface of the can and lid, and also from the center of the can through the tube, and the gases rising from the surface of the milk under the lid will escape through the openings in the upper end of the can, to be absorbed by the water between the can and depending walls of the lid, and the gases escaping from the center of

the can through the tube will be absorbed by the water in the tank. In this position the milk is allowed to stand to permit the cream to rise, and when the cream has risen to the surface the cans are removed from the tank or the water withdrawn therefrom, when the depth of the cream in the cans can be seen through the plate-glass in its side. The lids are then removed, and the cream carefully collected by skimming it from the surface of the milk and depositing it in a suitable receptacle, after which the cans can be cleansed and prepared for a second process.

I claim as my invention—

1. In a creamer, the combination, with a can or milk-receptacle, of a water-sealing lid provided with a tube extending through the same, the upper end of the tube being furnished with a cap of larger diameter than the tube and arranged to depend below the top of the tube, substantially as set forth.

2. The combination, with the can and self-sealing lid, of two-part holding-links, the lower section being hinged to the tank and the upper section provided with a hook adapted to engage with the lid, said parts being adjustably secured to each other, substantially as set forth.

ARCHIBALD ^{his} + McCALLUM.
mark.

Witnesses:

DONALD McINTYRE,
JOHN ROBINSON.