

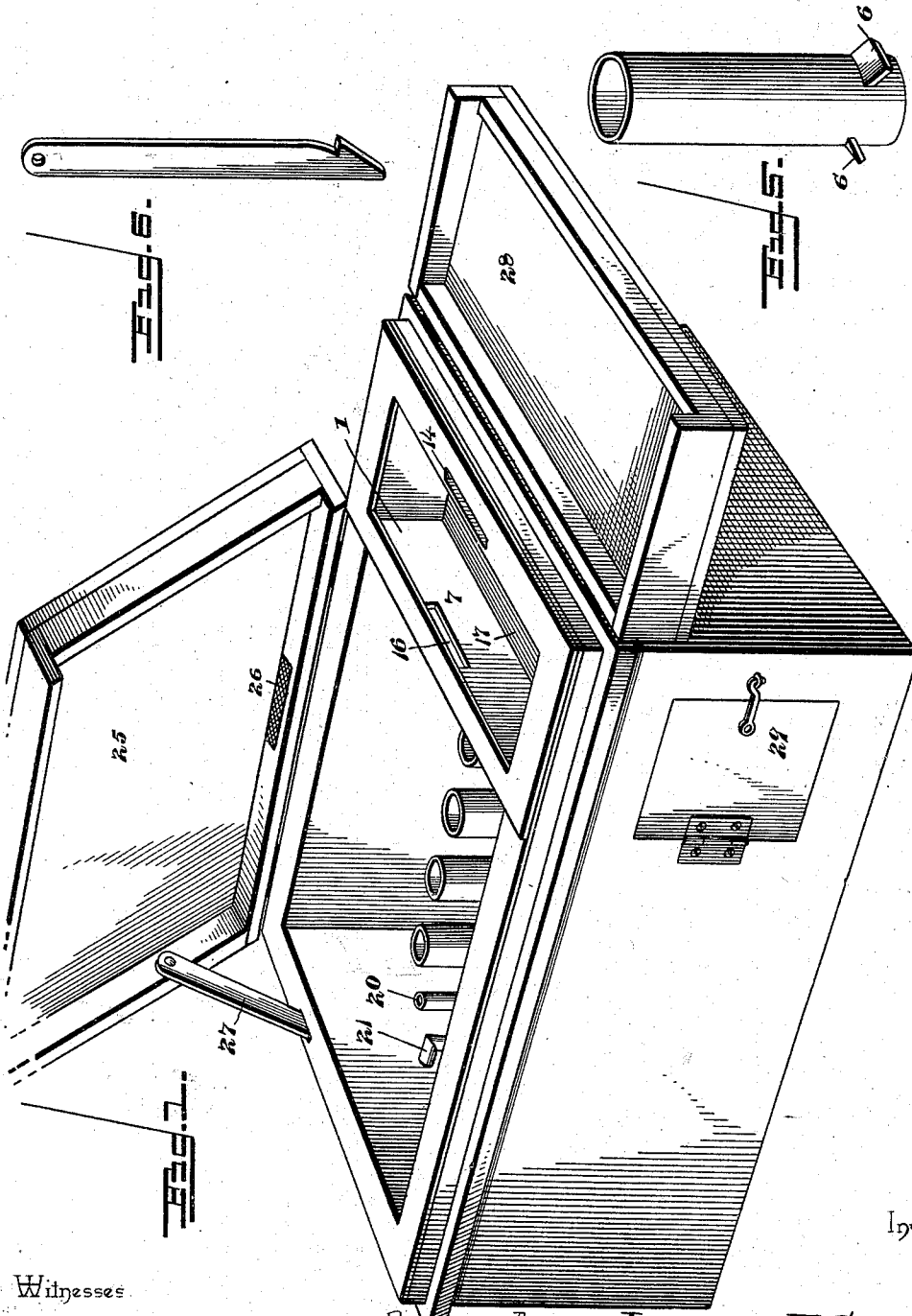
(No Model.)

2 Sheets—Sheet 1.

L. E. CAMPBELL.
COMBINED CREAMER AND REFRIGERATOR.

No. 562,570.

Patented June 23, 1896.



Inventor

Witnesses

E. H. Stewart
R. M. Smith

By *his* Attorneys *Laurence E. Campbell*

Cash & Co.

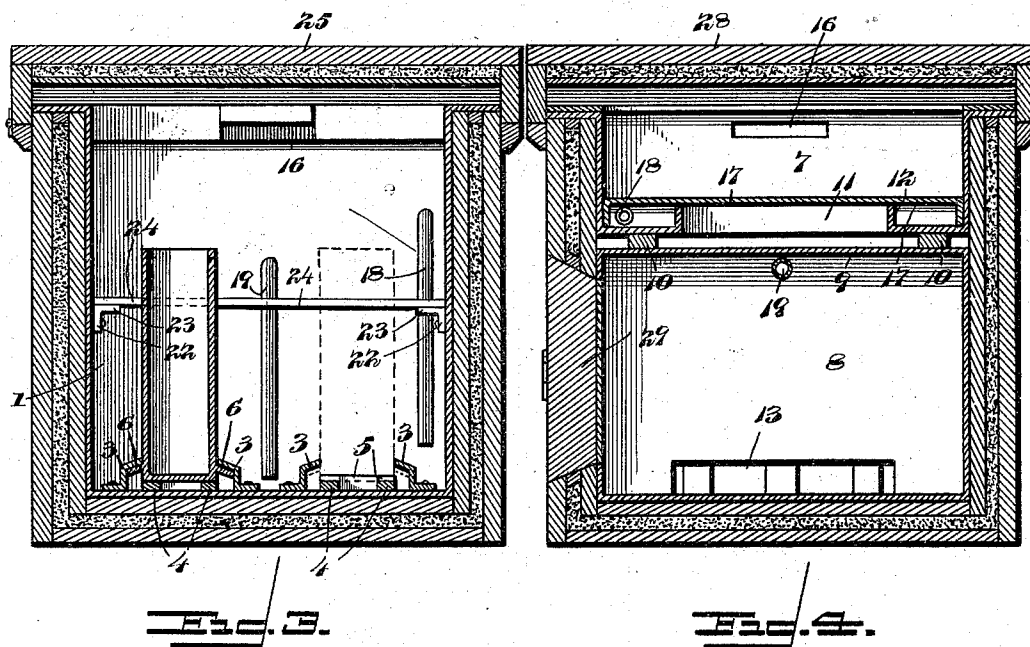
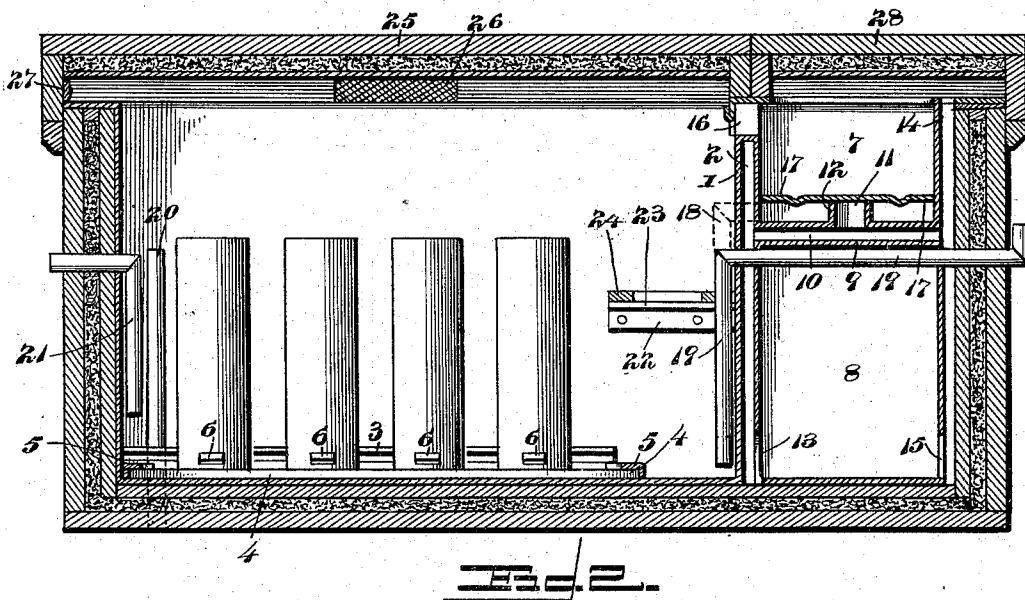
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UNITED STATES PATENT OFFICE.

LAURENCE E. CAMPBELL, OF PAXTON, ILLINOIS.

COMBINED CREAMER AND REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 562,570, dated June 23, 1896.

Application filed June 29, 1895. Serial No. 554,485. (No model.)

To all whom it may concern:

Be it known that I, LAURENCE E. CAMPBELL, a citizen of the United States, residing at Paxton, in the county of Ford and State of Illinois, have invented a new and useful Combined Creamer and Refrigerator, of which the following is a specification.

This invention relates to an improvement in creamers and refrigerators, and has for its object to provide, in one article, a creamer adapted to receive and hold a number of milk-containing vessels, and to permit a current of cold water to pass continually through the same, an ice-box having a passage leading therefrom into the creamer, and a cold-storage compartment having one or more passages in communication with the ice-box, said compartments being combined and arranged in a novel manner, whereby advantages in point of simplicity and efficiency are attained, as hereinafter more particularly described.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists of a combined creamer and refrigerator embodying certain novel features and details of construction and arrangement of parts, as hereinafter particularly set forth, illustrated in the drawings, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a combined creamer and refrigerator constructed in accordance with this invention, with the lids thereof lifted to show the interior construction. Fig. 2 is a longitudinal section through the same. Fig. 3 is a vertical transverse section through the creamer-compartment, looking toward the refrigerator. Fig. 4 is a similar section taken through the ice-box and cold-storage chamber. Fig. 5 is a detail perspective view of one of the improved milk-cans. Fig. 6 is a detail view of the pivoted brace which supports the hinged lid of the creamer.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

This invention contemplates combining in one article a creamer, an ice-box, and a cold-storage chamber, and for the purposes of carrying out this idea an elongated box or case is constructed, the same being rectangular in

horizontal section and approximately square in cross-section. This box or case is constructed with double walls, comprising an outer wall or casing of wood and an inner wall, which is formed, preferably, from sheets of galvanized iron, coated upon each side with zinc, this material giving the desired stability to the inner wall, while at the same time retaining all of the advantages of the customary zinc lining provided in articles of this character. The space between the inner and outer walls is filled with a packing of any suitable or preferred non-conducting material, which will effectually exclude both heat and cold of an extreme temperature. The bottom of this box is constructed similarly to the side walls, being also formed with an outer and an inner wall, the space between which is filled with non-conducting material. Within this box and arranged nearer to one end than the other is a partition 1, extending the entire height of the box from top to bottom and formed of two sheets of galvanized iron, secured upon opposite sides of vertically-extending standards or posts 2, whereby space is left between the opposite walls of said partition for conducting the cold air from the ice-box to the cold-storage chamber, which will be hereinafter described.

The large compartment formed by the partition 1 constitutes the creamer or milk-cooling chamber, in which are arranged longitudinally-extending flanged plates 3. These plates extend practically the entire length of the creamer and are secured in any convenient manner to the bottom thereof. Each of said plates comprises a base-flange, by means of which it is secured to the bottom of the creamer, a vertical portion arising therefrom, and a laterally and upwardly inclining flange formed at the upper edge of the vertical portion. These longitudinal plates are arranged in pairs, with the upper inclined flanges of each pair projecting inwardly toward each other, sufficient space being left between the inner edges of said flanges to permit the milk-containing cans or vessels to be introduced between the same from above.

4 represents a series of longitudinally-extending slats, two of which are arranged between each pair of retaining-plates 3, the ends of said slats being received in metal clips 5,

arranged at each end of the creamer-compartment, said clips being adapted to hold said slats in place and at the desired distance apart.

5 The milk-containing vessel is made, preferably, in the form of a cylindrical can, from tin or zinc, and of an external diameter adapting the lower end thereof to be passed between the inwardly-extending flanges of the retaining plates or cleats 3. Each can is also provided, adjacent to its lower end, with an oppositely-disposed pair of laterally and downwardly extending plates or wings 6, secured thereto and adapted, when the can is placed
10 in position and partially revolved, to engage beneath the inwardly-projecting flanges of the retaining plates or cleats for securely holding the can in place and preventing the same from upsetting. The bottom of the can
20 will rest upon the upper edges of the slats, above referred to, and the water contained within the creamer will thus be allowed to circulate beneath the bottom of said can. It will be understood that any number of such cans
25 or milk-containing vessels may be placed in position between the retaining plates or cleats, the number being only limited by the size and capacity of the creamer-compartment.

7 designates the ice-box, which is located
30 upon the opposite side of the partition 1 from the creamer-compartment, being arranged in the upper portion of the box or casing and divided from the cold-storage chamber (indicated at 8) by means of a horizontal partition 9,
35 which is, like the partition 1, formed from a pair of galvanized-iron plates disposed upon opposite sides of suitable spacing-strips 10. The upper plate of this partition is formed with an aperture 11, surrounded by an upwardly-extending flange 12, which admits air
40 into the space between the walls of said partition, and at the same time excludes water from the ice contained therein. This hollow horizontal partition also communicates with the
45 vertical partition 1, the air admitted through the aperture 11 passing through the horizontal partition and downwardly through the vertical partition 1, and thence through an aperture 13 into the cold-storage compartment 8.
50 Cold air may also pass through an aperture 14, leading from the ice-box into the space between the end walls of the box or casing, and from thence through a corresponding aperture 15, communicating with the cold-storage chamber near the base thereof.
55 An opening 16 in the partition 1 and arranged at or near the top thereof places the ice-box and creamer-compartment in communication for allowing the cold air from said ice-box to pass
60 into the creamer. The ice in the ice-box rests upon a platform 17, formed, preferably, of galvanized iron, formed with strengthening corrugations and provided with downturned ends, which rest upon the flooring of the ice-
65 box and support the platform portion above and clear of the flange which surrounds and guards the aperture in the upper wall of the

horizontal partition 9, the same also constituting the bottom of the ice-box. The water formed by the melting of the ice passes through a waste-pipe 18 into the creamer, the
70 discharge end of said waste-pipe being disposed near the bottom of the creamer, so as to conduct this ice-cold water to the point where it will be of the greatest benefit. 75

19 designates the water-supply pipe, which passes from the exterior of the box or case through the cold-storage compartment just beneath the horizontal partition 9 and through the vertical partition 1 and into the creamer,
80 the lower end of said pipe being disposed near the bottom of said creamer.

20 indicates an overflow-pipe, which is screw-threaded at its lower end and removably inserted into a threaded perforation in
85 the bottom of the creamer, said perforation opening out beneath the bottom of the box or case. The height of this overflow-pipe is made to correspond to the level to which it is desired the water shall rise in the creamer-
90 compartment, being so arranged, of course, as not to permit the water to rise above the tops of the milk-containing vessels. When desired, the overflow-pipe 20 may be unscrewed and removed from the creamer, for
95 the purpose of allowing the entire body of water to drain off and be discharged from the creamer.

21 represents another overflow-pipe, the lower end of which extends downwardly
100 within the creamer-compartment, the upper portion thereof passing horizontally through the end wall of the creamer at a point slightly beneath the plane of the upper end of the
105 overflow-pipe 20, said pipe being provided for the purpose of conducting the overflow-water into a suitable trough for supplying cattle, horses, &c.

22 indicates a pair of cleats secured to the front and rear walls of the creamer-compartment, the same lying adjacent to the vertical
110 partition 1 and being provided with horizontally-projecting portions or ledges 23, adapted to support a slatted shelf 24, which rests at its ends upon the said cleats and is removable.
115 This shelf is supplied for the purpose of supporting crocks or jars containing milk for domestic purposes or more immediate use, said shelf being arranged at a height which will adapt the crocks to be submerged for a
120 greater part of their height.

A hinged top or lid 25 covers the creamer-compartment, extending up to but not covering the ice-box. This top is provided with an inner and outer wall, between which non-
125 conducting material is packed in a manner similar to the construction of the walls of the box or case itself, and for a similar purpose, and is hinged to said box in any convenient manner. The side and end portions of the
130 frame of the lid 25 extend downward and embrace the top of the box and are formed at suitable points with apertures 26, which are covered upon the inside and outside with per-

forate metal plates or pieces of wire-gauze, which will exclude flies and permit the heat and odors from the warm milk to escape, thus affording the necessary ventilation.

27 indicates a pivoted latch and brace, which is hinged to the top or lid and provided at its swinging end with a pointed nose and a hook or catch adapting the same to engage with a notch or recess in the upper face of the end wall of the creamer-compartment, whereby the lid is held in its elevated position and supported in either direction, this latch being pivoted loosely to the hinged top and adapted to drop into and automatically engage the notch referred to.

28 designates a supplemental hinged top or lid, which is arranged to swing endwise of the box and away from the lid of the creamer, said supplemental lid being adapted to cover and inclose the ice-box. The cold-storage chamber opens outward at the front of the box, where a horizontally-swinging door 29 is provided for closing the same.

In operation the milk-containing vessels are introduced into the creamer-compartment and engaged and held therein in the manner above described, whereupon the lids are closed. Cold water is now admitted through the pipe 19, and passes at once into the creamer-compartment, filling the same to the level of the top of the overflow-pipe, which brings the water to near the level of the tops of the milk-cans. A continued circulation of water is thus maintained until the contents of the cans have been sufficiently cooled, when the supply of water may be cut off and the overflow-pipe removed for draining the creamer. Where ice is placed in the ice-box, the cold air therefrom may pass through the aperture 16 in the vertical partition 1, or it may pass downwardly into the cold-storage chamber in the manner hereinabove described, thus adapting said chamber to receive perishable goods, such as meat, butter, fruit, &c., and preserve the same for a considerable period of time. The cold water from the ice, as it melts, will pass through the discharge-pipe described into the bottom of the creamer-compartment, and by reason of its reduced temperature, as compared with the other water in said compartment, it will retain a lower level and be utilized to the greatest advantage.

By means of the construction described a simple and efficient creamer is produced, a refrigerator being at the same time combined therewith and provided with an independent

lid or cover, whereby access may be obtained to one without disturbing the other.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A combined creamer and refrigerator, comprising a creamer-compartment, an ice-box arranged at one end thereof and separated therefrom by means of a vertical partition extending the entire height of the creamer and formed with a double wall having an intervening air-space, a cold-storage chamber arranged beneath the ice-box and upon the same side of said vertical partition and separated from the ice-box by a partition having a double wall and an intervening air-space communicating with the air-space in the vertical partition, the upper wall of said horizontal partition having an aperture therein, an upwardly-extending flange or guard surrounding said aperture, an elevated ice-platform arranged over said flange or guard, and a discharge-pipe arranged in the base of the ice-box and communicating with the creamer, substantially in the manner and for the purpose set forth.

2. A combined creamer and refrigerator, comprising a creamer-compartment, a cold-storage chamber arranged at one end thereof and separated therefrom by a hollow vertical partition extending the entire height of the creamer, the said cold-storage compartment terminating below the plane of the top of the creamer-compartment, an ice-box located above the cold-storage chamber and upon the same side of the vertical partition and occupying the remaining vertical space of the creamer, and the hollow partition between the ice-box and cold-storage chamber, the said hollow partitions having communicating air-spaces and being provided with apertures affording communication between the creamer-compartment and ice-box, and also between the ice-box and cold-storage compartment, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LAURENCE E. CAMPBELL.

Witnesses:

H. P. REYNOLDS,
JOHN A. KELLY.