

(No Model.)

E. C. BROWN.
COOLING AND PRESERVING APPARATUS.

No. 538,233.

Patented Apr. 30, 1895.

Fig. 3.

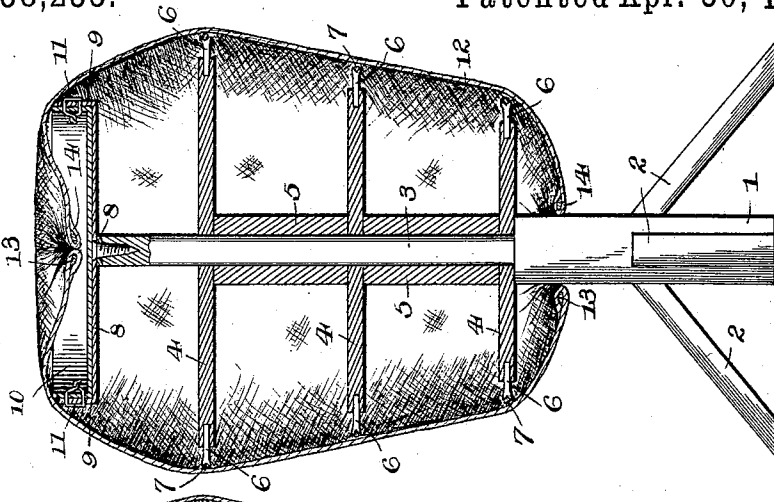


Fig. 2.

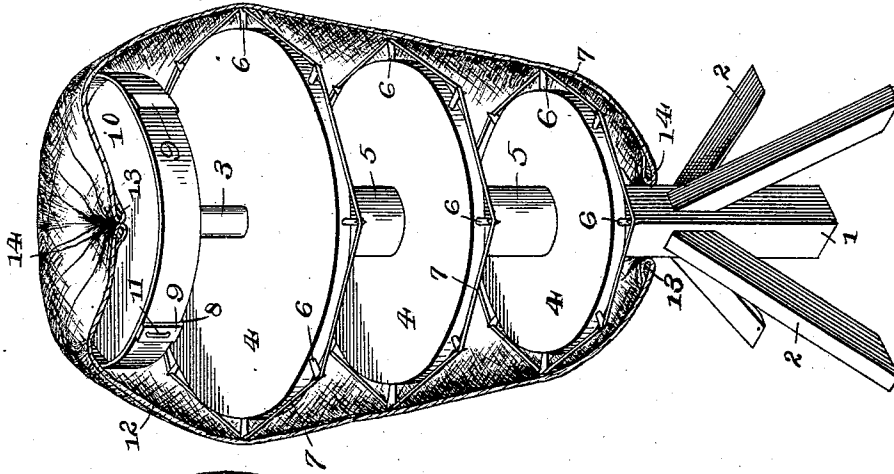
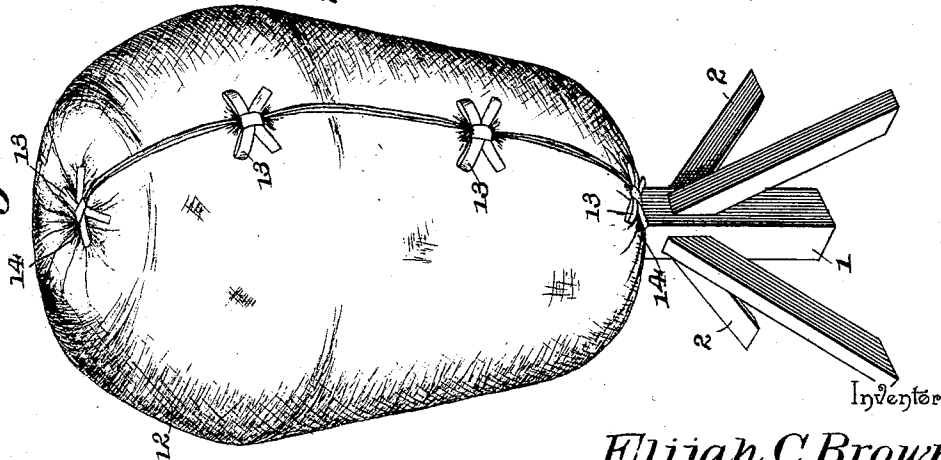


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

ELIJAH CLARK BROWN, OF WEST, TEXAS.

COOLING AND PRESERVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 538,233, dated April 30, 1895.

Application filed October 8, 1894. Serial No. 525,265. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH CLARK BROWN, a citizen of the United States, residing at West, in the county of McLennan and State of Texas, have invented a new and useful Cooling and Preserving Apparatus, of which the following is a specification.

My invention relates to that class of cooling apparatus in which a cloth envelops a vertically-disposed series of supports, and has its upper end dipping into a receptacle supplied with water; and the object of the improvement is to secure a uniformity of temperature throughout the structure, and particularly in the several compartments formed between the various supports, as well as to prevent the spoiling of food by foreign matter entering the same by accidental dislodgment from a support immediately thereover. With these ends in view, the improvement consists, essentially, of a vertical series of supports graduating in size from the upper to the lower end of the device, the top support being the largest and the bottom support the smallest.

The improvement also consists of the novel features which hereinafter will be more fully described and pointed out in the claims.

In the drawings: Figure 1 represents a perspective view of my apparatus, the parts being in the position which they assume when the device is practically employed; Fig. 2, a similar view, the absorbent cloth being partially broken away to disclose the construction of the framework and the general arrangement of the apparatus; Fig. 3, a vertical longitudinal section thereof, the parts being in the position of Fig. 1.

Referring to the drawings, the reference numeral 1 indicates the main standard upon which the provision-supporting devices are arranged; and this standard is provided at its lower end with the four downwardly and outwardly extending legs 2, by which it is held in an upright position. The lower extremity of the standard is squared and adapted to rest upon the ground, while the cross-sectional shape of the standard at its lower portion is square.

Above the square lower portion of the standard 1 the standard is reduced to form the rod

3, upon which the provision-supporting disks 4 are mounted. Each of the disks 4 is formed with a central and circular opening adapted to receive the rod 3; while the size of the disks decreases as they extend downwardly. Thus the top disk is the largest, the middle disk smaller than that above it, and the lowest disk even smaller than the middle disk. The disks 4 are held in the proper relative positions by means of the spacing sleeves 5, which are two in number and which are interposed between the respective disks, the lower disk being rested directly upon the shoulder attending the reduction in the standard 1.

Rigidly secured to the peripheries of, and projecting radially from, the disks 4, are the short arms or studs 6, which are preferably eight for each disk, though this is immaterial, and which have their ends notched or bifurcated to receive the wires 7. The wires 7 are one for each disk 4, and are stretched around the same, they being held away from the peripheries of the disks by means of the arms or studs 6, as will be understood and as is well illustrated in the drawings.

The rod 3 projects above the upper disk 4 for a distance equal to about the distance between the several disks, and is provided at its upper extremity with the arms 8, which are rigidly secured thereto and extended at right angles to each other. Each end of the arms 8 is bent upwardly to form the projection 9; and the arms are provided whereby to support the water-receiving pan 10. The pan 10 is formed, preferably, of sheet metal, and is of such a size that it will fit snugly within the projections 9 of the arms 8, the pan being placed upon said arms and supported as shown in the drawings.

The pan 10 is secured in place and prevented from accidental, indeed all displacement by means of the wire bindings 11, which pass through the sides of the pan and into two of the projections 9.

12 indicates the absorbent cloth, which is preferably cotton flannel, and which is of a size and shape that will permit it to completely envelop the pan 11 and disks 4, leaving the lower end of the standard 1, together with its legs, exposed. The cloth is provided with cords 13 by which it may be secured in

place, said cords being adapted to be tied, as shown in Fig. 1. The top and bottom of the cloth are provided with the respective casings 14 through which draw-cords are passed as 5 illustrated in the drawings, and by which the cloth may be drawn over every portion of the apparatus which it is desired to cover.

By reference to Fig. 3 it will be seen that the upper end of the cloth is arranged in the 10 pan 10, which will cause the water contained therein to be absorbed by the cloth.

The use of my invention will be understood by reference to the drawings. To cool and preserve articles of food, such as milk, meat, 15 butter, &c., the articles to be cooled or preserved should be placed upon the disks 4, and the pan 10 filled with water. The cloth 12 should now be placed in position so that its upper end will drop into the pan 10 and absorb the water therein. The capillary action 20 attending the cloth will now cause the water to be drawn through the whole extent thereof, which will be followed by the evaporation of the water and a consequent reduction of the 25 temperature of the space embraced by the disks. The purpose of the arms or studs 6 and wires 7 is to hold the cloth 12 from contact with the edges of the disks 4; for if this were allowed, the circulation of air from the 30 vicinity of one disk to that of another would be prevented, and the process of cooling thereby retarded. The apparatus while particularly adapted for cooling and preserving milk and fresh meat, is equally applicable to all 35 kinds of provisions, as will be well understood.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or 40 sacrificing any of the advantages of this invention.

It will be understood that in the operation of the invention the upper end portion of the cloth 12 will be thoroughly saturated, the 45 degree of saturation diminishing toward the lower end portion of the said cloth, at which point no moisture practically exists. From this it will be seen that the wetting of the cloth is gradual and progressive from the upper 50 to the lower end of the structure, and that the consequent degree of evaporation of the moisture is proportionately in an inverse order, being greatest at the top portion of the cloth and decreasing to the lower end, at 55 which point practically no evaporation takes place, because of the absence of moisture.

As the degree of coolness, or temperature, between the supports, or disks, 4 depends upon the rapidity of the evaporation of the moisture from the cloth, the advantage of 60 having the said supports, or disks, 4 and the compartments formed between them, grow smaller from the top to the lower end of the structure, is manifest. In order to prevent spoiling of the food by the dropping of foreign matter, or dirt, therein from the support 65 immediately over the same, it is essential that the supports 4 be imperforate, and by having them arranged in a decreasing series, it is practically impossible for dirt, or such foreign matter, falling from the edge of an upper support to enter the food placed upon a support immediately below. In order to prevent the moisture of the cloth from creeping 70 along the supports, it has been found expedient to hold the said cloth from contact with the edges of the said supports. This is effected in a simple and efficient manner by means of the short arms, or studs, 6 and the circumscribing wires 7. 75

Having described the invention, I claim— 80

1. An apparatus for cooling and preserving articles of food, consisting of a series of supports arranged in vertical relation, and gradually decreasing in size from the upper to the 85 lower end of the structure, a pan for containing water arranged above the top support of the series, and a cloth enveloping the series of supports, and having its upper end dipping into the pan containing the water, substantially as described for the purpose set 90 forth.

2. An apparatus for cooling and preserving articles of food, comprising a series of supports arranged in vertical relation, and gradually decreasing in size from the upper to the 95 lower end of the structure, arms, or studs, projecting outward from the edges of the said supports, wires stretched over the ends of the said arms, or studs, a water-containing pan 100 located above the series of supports, and a cloth enveloping the supports, and having its upper end dipping into the said water-containing pan, substantially as set forth.

In testimony that I claim the foregoing as 105 my own I have hereto affixed my signature in the presence of two witnesses.

ELIJAH CLARK BROWN.

Witnesses:

WILL. WILLIAMS,
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