J. J. VAUGHN.

REFRIGERATOR.

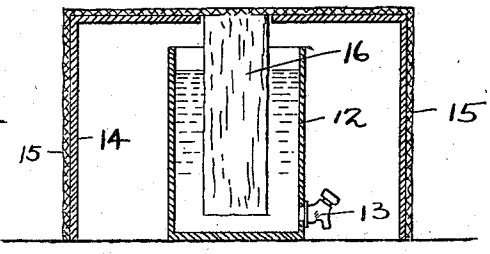
APPLICATION FILED JUNE 17, 1911.

1,015,600.

Patented Jan. 23, 1912.

2 SHEETS—SHEET 1.

FIG. 2



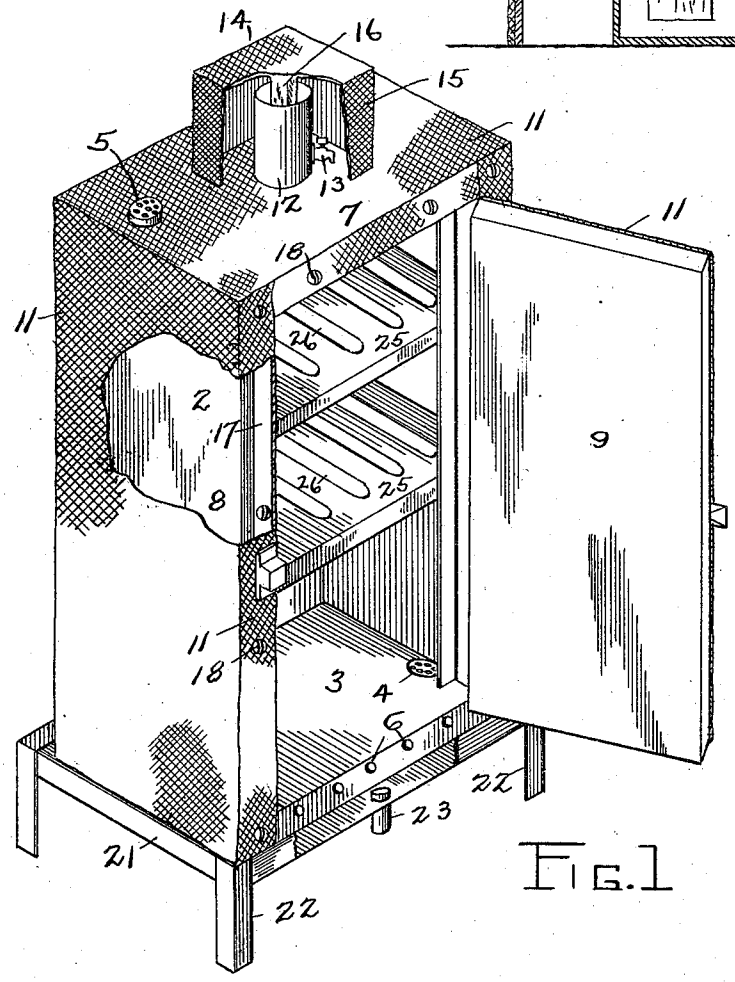


FIG. 1

WITNESSES

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2 SHEETS—SHEET 2.

FIG. 5

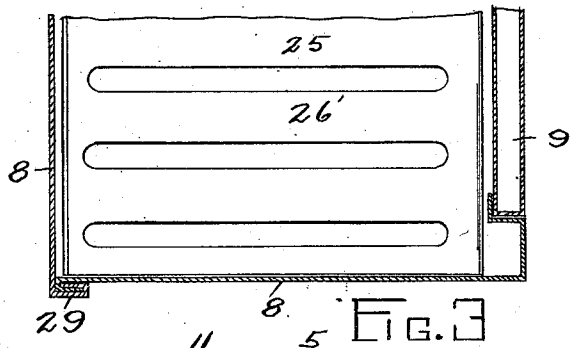
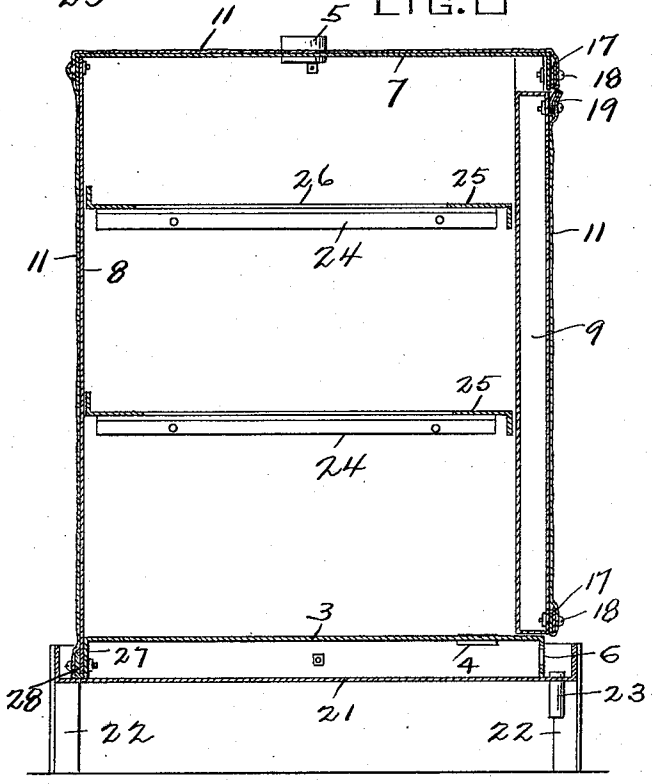


FIG. 3



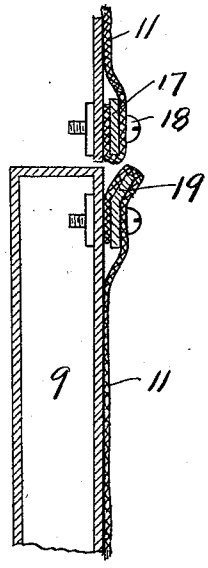


FIG. 4

WITNESSES

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UNITED STATES PATENT OFFICE.

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REFRIGERATOR.

1,015,600. Specification of Letters Patent. Patented Jan. 23, 1912.

Application filed June 17, 1911. Serial No. 633,751.

To all whom it may concern:

Be it known that I, JOSEPH J. VAUGHN, a citizen of the United States, and a resident of San Mateo, in the county of San Mateo, State of California, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

The invention relates to refrigerators which are generally known as iceless refrigerators which are rendered cool by the evaporation of water.

The object of the invention is to provide a refrigerator of the class described embodying many new features which operate to produce a refrigerator which is improved both in construction and operation.

Another object of the invention is to provide means for cooling the water before it is fed onto the fabric covering, thereby aiding in reducing the temperature within the refrigerator.

This device possesses other advantageous features which, with the foregoing, will be set forth at length in the following description, where I shall outline in full, that form of embodiment of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification. The novelty of the invention will be included in the claims succeeding said description. From this it will be apparent that I do not restrict myself to the showing made by such drawings and descriptions as I may adopt many variations within the scope of my invention as expressed in said claims.

Referring to the drawings: Figure 1 is a perspective view of the refrigerator with the door open, several of the parts being broken away to disclose the construction. Fig. 2 is a vertical section through the water receptacle and water cooling device on the top of the refrigerator. Fig. 3 is a vertical section through the refrigerator. Fig. 4 is a detailed section showing the means of attaching the fabric to the casing and to the upper edge of the door. Fig. 5 is a horizontal section through part of the refrigerator showing the method of connecting the sides and the back.

It is a well known fact that when evaporation takes place without a supply of heat from an external source, cooling of the liquid and its surroundings takes place. This principle is utilized in the present invention by covering a cupboard with a fabric, such as burlap or canvas and keeping such fabric in a moist condition, so that evaporation takes place constantly, thereby cooling the cupboard and any substances which may be therein.

The cupboard consists preferably of a sheet metal structure 2, having solid walls, bottom, top and door, so that the vapor arising from the moistened fabric cannot enter the cupboard. Sheet metal, being a good conductor of heat, the interior of the cupboard is quickly cooled and the air therein is maintained in a practically dry condition. Heretofore, such devices have consisted of a frame having the fabric stretched thereon, but the moist condition of the air has rendered them useless, by causing the food to deteriorate very rapidly.

The bottom 3 of the cupboard is raised above the base of the structure, for reasons that will hereinafter appear, and is provided with a ventilator 4 for allowing air to pass into the cupboard. The top is provided with a similar ventilator 5 for reasons which are apparent. Along the front wall of the cupboard, and below the bottom 3 are a plurality of apertures 6 for allowing the air under the bottom and through the ventilator 4.

The top 7, sides 8 and door 9 of the cupboard are covered with a fabric 11, such as burlap or canvas, which is kept continually moist with water supplied by the receptacle 12. This receptacle 12 is provided with a cock 13 which is opened to allow a sufficient quantity of water to drip onto the fabric to keep it continually moist. The capillary action of the water in the fabric causes it to spread over the entire surface.

In order to cool the water in the receptacle 12, and thereby aid in cooling the cupboard, I provide a cover 14 which completely incloses the receptacle. This cover is preferably made of sheet metal and is covered with a layer of fabric 15. The cover 14 has an opening in the top through which a wick 16 extends from the fabric 15 to the water in the receptacle 12. The fabric 15 is thereby kept continually moist and the evaporation of the water therein, cools the water in the receptacle.

In attaching the fabric 11 to the body of the cupboard, I prefer to attach it in such

manner that it may be readily removed when desired. This is a very desirable feature of the device as it allows the cover to be removed and a new one substituted when it becomes worn. The cover is held in place by means of clamping strips 17 under which it is lapped and which are held in place by means of screws 18. These strips 17 are preferably arranged only around the door opening, but may be placed in other places as found convenient.

The outer face of the door 9 is also covered with fabric 11. This fabric is moistened by water dripping from the fabric on the body of the cupboard immediately above the door. The clamping strip 19 along the upper edge of the door is bent outward so that the fabric on the upper edge of the door projects beyond the fabric on the body and catches all of the water that drips therefrom. This arrangement also provides a trough along the upper edge of the door for catching the water and distributing it evenly over the door surface.

The cupboard sets in a pan 21 having standing sides and provided with legs 22 for holding it above the surface on which it rests. This pan is provided with a drip pipe 23, which projects above the bottom of the pan, and thereby maintains a quantity of water in the pan at all times. The presence of this water prevents ants and other insects from gaining access to the cupboard. The drip pipe 23 may discharge into a suitable receptacle or into a pipe connected with the sewer.

Supported within the cupboard on the cleats 24 attached to the sides thereof are shelves 25. These shelves are preferably provided with elongated apertures 26, to allow air to circulate through the cupboard and around the articles therein.

The cupboard is preferably made of sheet metal and is so constructed that it may be readily assembled or knocked down. The bottom is formed with a depending flange 27 having an exterior upturned flange 28, spaced apart a sufficient distance from flange 27 that the side, or back of the cupboard readily fits therebetween. After being inserted in the groove thus formed, the parts are screwed together thereby forming a rigid structure. The sides and back are united by a double seamed joint 29, which is so constructed that the parts may be moved vertically to separate them. The top of the cupboard is also formed with a depending flange which is united to the sides and back by suitable screws.

I claim:—

1. In a refrigerator having a fabric covering adapted to be maintained in a moistened condition, a receptacle adapted to contain water to moisten said fabric, a cover adapted to inclose said receptacle having an opening in the top thereof, a fabric covering said cover, and a wick attached to said fabric extending through said opening into the water receptacle.

2. In a refrigerator having solid walls covered with a fabric adapted to be maintained in a moistened condition, means for moistening said fabric comprising a water receptacle provided with a drip-cock arranged on top of said refrigerator, and means for cooling the water in said receptacle, comprising a cover of larger dimensions than the receptacle adapted to inclose the receptacle, and having an opening in its top, a fabric covering said cover and a wick attached to said fabric extending through said opening into the water receptacle.

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Witnesses:
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