(No Model.)

J. T. WESTWOOD.

REFRIGERATOR AND ELEVATING CUPBOARD.

No. 478,898. Patented July 12, 1892.

Fig. 3.

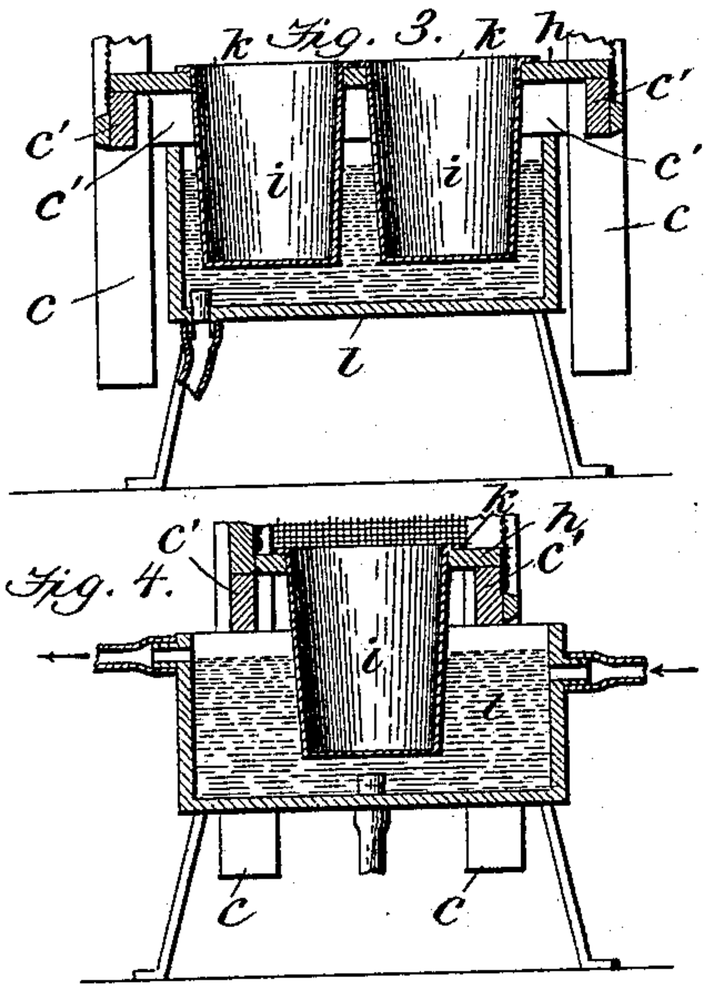


Fig. 4.

Fig. 2.

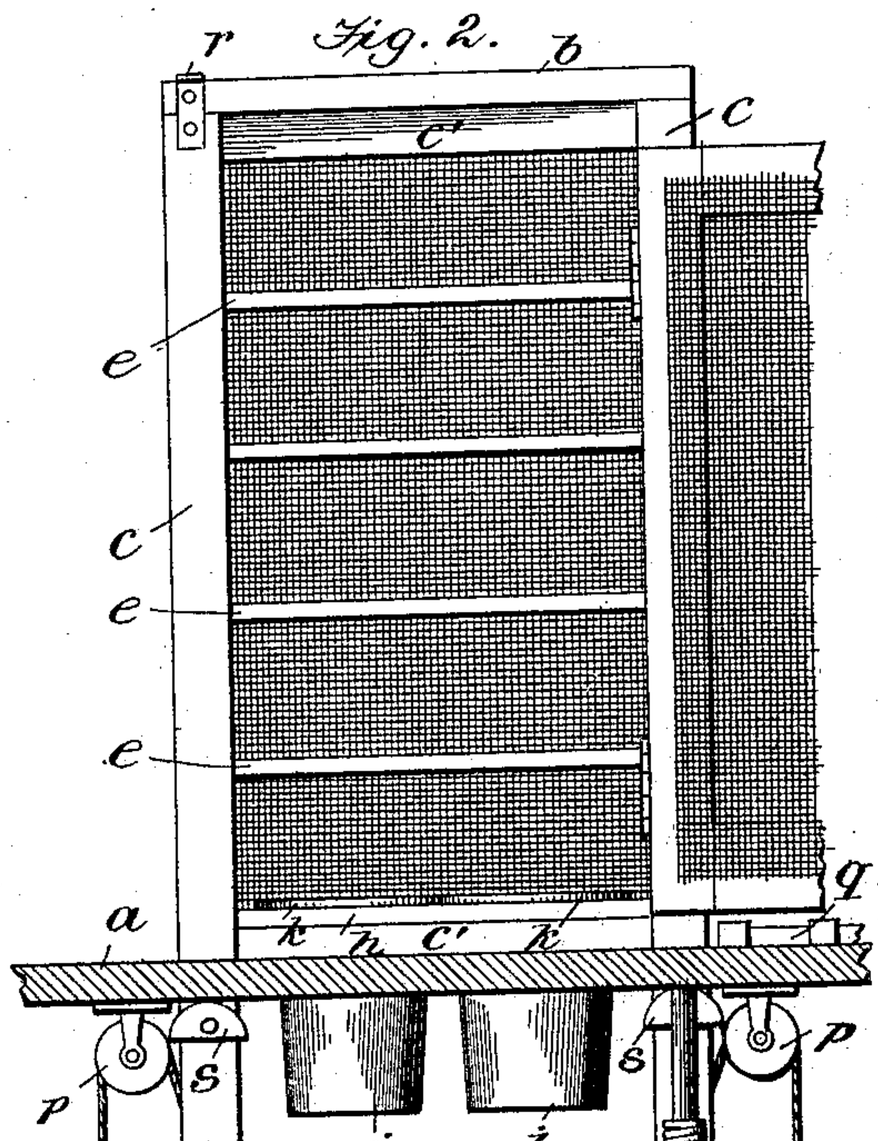


Fig. 1.

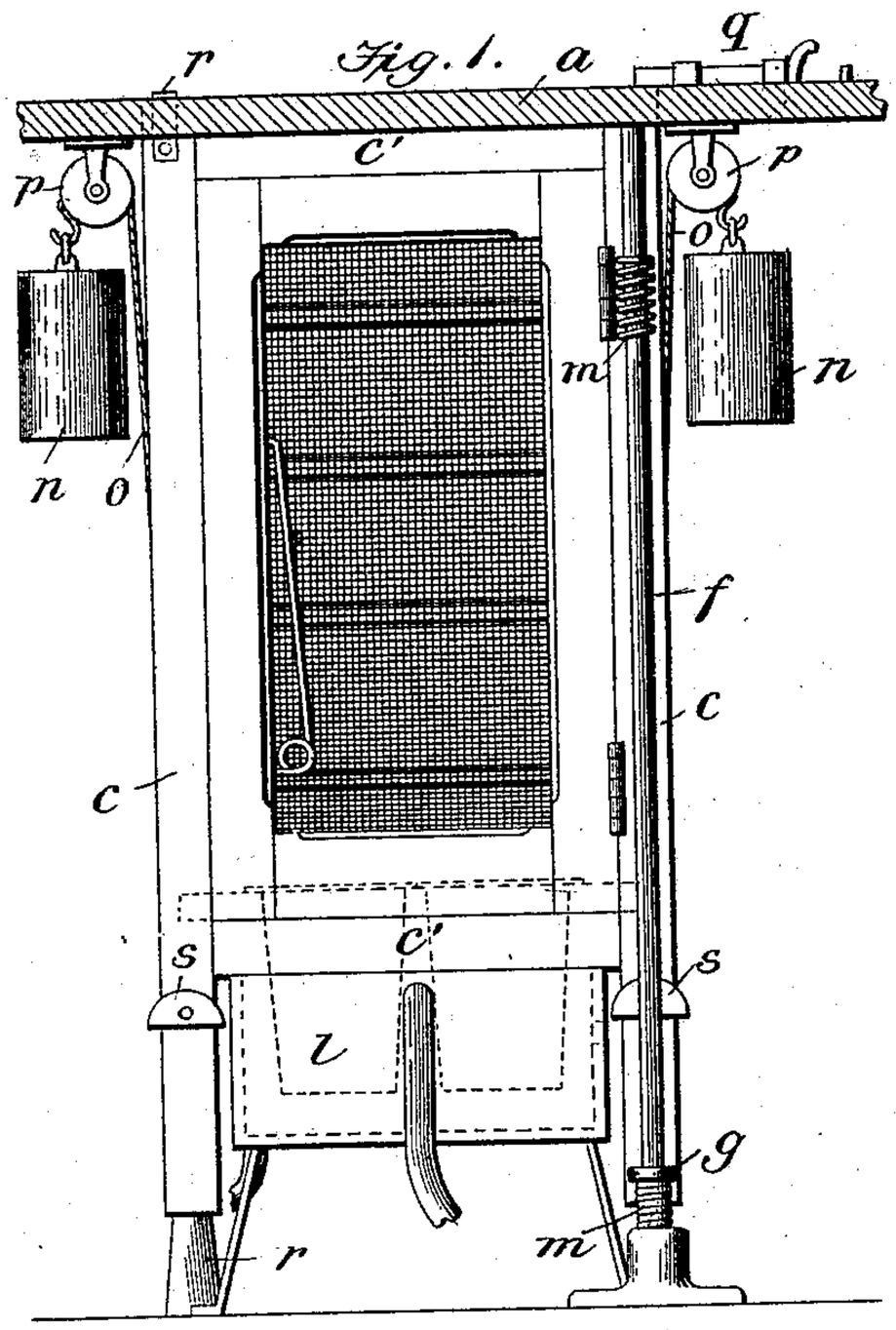
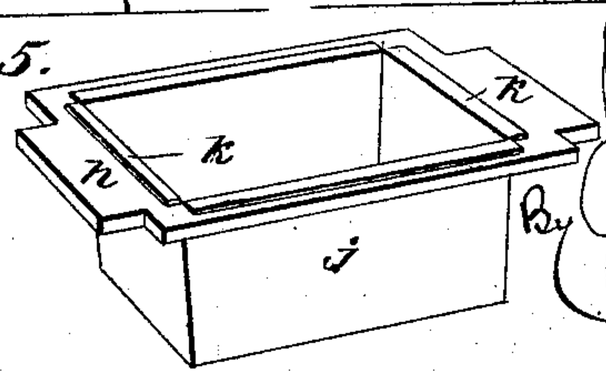


Fig. 5.



Witnesses
Guy A. Johnson
Woodbury Lowery

Inventor
John T. Westwood
By Johnson & Johnson
his Attorneys

UNITED STATES PATENT OFFICE.

JOHN THOMAS WESTWOOD, OF WHEELING, WEST VIRGINIA, ASSIGNOR TO THE WHEELING NOVELTY MANUFACTURING COMPANY, OF SAME PLACE.

REFRIGERATOR AND ELEVATING CUPBOARD.

SPECIFICATION forming part of Letters Patent No. 478,898, dated July 12, 1892.

Application filed April 4, 1892. Serial No. 427,591. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS WESTWOOD, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented certain new and useful Improvements in a Refrigerator and Elevating Cupboard, of which the following is a specification.

My invention relates to improvements in elevating cupboards in which the top of the cupboard is adapted to form a part of the floor of the kitchen or dining-room, the shelves of the cupboard having descended into the cellar or other excavation below the flooring for the preservation under a low temperature of food and perishable articles, as set out in a patent granted to me April 23, 1878.

My present improvements are directed to provisions whereby a metal receptacle supported at and depending below the bottom of the cupboard for containing food or milk is adapted to be carried and held into a tank containing a refrigerating liquid placed at the limit of descent of the cupboard, whereby the food or milk is more effectually preserved and for a longer time than when such refrigeration is made dependent upon the low temperature of the cellar or excavation.

The accompanying drawings illustrate my improved elevating cupboard, in which—

Figure 1 shows the cupboard in elevation at the limit of its descent, with its food-containing receptacle standing in a refrigerating-tank. Fig. 2 shows the cupboard in its elevated position above the floor. Fig. 3 is a vertical section of the lower portion of the cupboard, showing milk-containing cans immersed in a refrigerating-tank. Fig. 4 is a similar section taken at right angles to Fig. 3. Fig. 5 shows the food-containing receptacle and its removable support.

The flooring *a* in a room where the cupboard is to be used is cut away to form a square opening, and the top *b* of the cupboard is made to fit and to close this opening when at the limit of its descent and to form a part of the flooring. The cupboard is constructed of four posts *c*, connected by top and bottom bars *c'*, by the top-board *b*, and by cross-bars placed at suitable distances apart, which also serve as supports for the shelves *e* for containing food, dishes, &c. The square corner-posts fit the angles of the floor-opening and, in connection with a vertical rod *f*, fixed in the flooring and in the bottom of the cellar and an eyed arm *g* at the lower end of the cupboard engaging said rod, form the guides for the cupboard. The eyed arm is made adjustable by nuts at its connection with the cupboard-post, and the guide-rod I prefer to make of gas-piping, and when properly set prevents the binding of the cupboard in the floor-guides.

At or near the bottom of the cupboard I provide a removable board *h*, having an opening or openings to receive cans *i* for containing milk or a metal receptacle *j* for containing food or perishable articles. The board is supported upon the cross-bars of the posts, and the cans or metal receptacle are formed with top edge flanges *k*, by which they are supported in the openings in the board in positions depending therefrom. This removable board is placed so that the cupboard at the limit of its ascent will bring said board above the floor for access for the removal or placing of the cans or of the food.

In a fixed position at the limit of descent of the cupboard I place a tank *l*, which I prefer to make of earthenware, since that material retains the frigidity desired for a longer time than metal when filled with water, brine, or other refrigerating liquid, and into which the milk-cans or food-receptacle is carried when the cupboard is lowered to keep the milk or food cool, and thereby refrigerate them. When the water is supplied from a flowing stream, as from a spring, the tank is provided with an inflow and outflow, keeping the tank filled; but I may refrigerate the water with brine or otherwise.

For cushioning the cupboard at the limits of its movement up and down I provide the guide-rod with a spring *m* at its upper and lower ends, respectively, upon which the cupboard-arm strikes and serves to lessen the shocks of the cupboard, so that the said cupboard-arm serves the two purposes of a guide connection for the cupboard and a stop to limit its movements. The cupboard is elevated by weights *n*, attached to cords *o*, connected to the lower cross-bars of the cup-

board and passing over pulleys *p*, hung on brackets in the under side of the floor or its joists. The sides of the cupboard are covered with wire-cloth, and one of its sides is hinged to form the door. A floor-catch *q* holds the cupboard when down, and a stop *r* is placed at the bottom of the cellar to support the cupboard with its top flush with the floor when the cupboard is at its lower limit of descent.

In cellars which have springs it is obvious that the cans or receptacles may be carried into the spring instead of into a tank; but in either case the receptacles must depend from the bottom of the cupboard.

It is obvious that the tank containing the cooling liquid may form the stop to limit the descent of the cupboard, as the bottom cross-bars *c'* of the latter may rest upon the top of the tank and support the top of the cupboard flush with the floor.

Co-operating with the springs of the guide-rod I may use a rubber cushion *s*, fixed on the post at that side of the cupboard opposite to the guide-arm and in position to come in contact with the under side of the floor simultaneously with the contact of the guide-arm with the spring on the upper end of the guide-rod.

In Fig. 1 the open frame *h* is shown as having two cans for containing milk supported by said frame in depending position below the bottom of the cupboard, while in Fig. 5 this frame is shown as having an oblong vessel for containing perishable solids. The ends of this frame are recessed at the corners to fit over the inner corners of the posts *c c* and upon the bottom cross-bars *c'* to give a firm support to said open frame within the open bottom of the cupboard, as seen in Figs. 3 and 4.

In Figs. 1, 3, and 4 the lower cross-bars *c'* of the cupboard are seen resting upon the large cooling-tank *l* and the cupboard *c* as resting upon the fixed rigid stop *r*, whereby to give a firm support to the cupboard-top as a part of the flooring when the cupboard is pressed down below the floor.

In Fig. 2 the cupboard is seen as having been stopped in its ascent by the contact of its flexible cushions *s s* with the under side of the flooring and the upper spring *m* on the guide-rod *f* as having been compressed by the cupboard-arm *g* to prevent shocks to the cupboard and its contents, and it will be understood that this compression of the upper spring *m* takes place in advance of the contact of the cushions *s*.

While in Fig. 1 the lower spring *m* is seen compressed by the guide-arm *g*, so as to cushion the descent of the cupboard before it strikes upon the cooling-tank and the rigid stop *r*, and it will be understood that this compression of the spring takes place in advance of the contact of the cupboard with the tank and stop. In this construction it will be seen that the ascent of the cupboard is cushioned before being stopped and that its descent is cushioned before being stopped, and thus gives a perfectly easy movement to the cupboard.

It is important that the cupboard when pressed down and fastened shall have a firm support to keep its top level with the floor as a section thereof, and for this purpose I provide the fixed bottom supports, and it is important that the cupboard be raised and lowered free from shocks, and it is for this purpose that the springs on the guide-rod are arranged to act before the stops, otherwise the contents of the cupboard would be liable to be displaced or broken, and these things, so far as I know and can find, are new in a cupboard arranged for use in a floor guideway, raised by weights for access to its contents above the floor and depressed by hand and held down with its bottom receptacles in a cooling-tank.

I claim as my improvement—

1. A refrigerator-elevator comprising a fixed floor provided with the well or guideway, an elevating cupboard having a closed top, a removable open-bottom frame for holding depending receptacles, and a guide-arm, the guide-rod provided with the upper and lower springs, the lower fixed stop, the elevating ropes and weights, and the fixed tank containing a cooling liquid and adapted to receive the depending receptacles when the cupboard is lowered, at which time the closed top is flush with and forms a continuation of the fixed floor, substantially as described.

2. In a refrigerator-elevator wherein a cupboard has a closed top which when in its normal position is flush with and forms a continuation of a fixed floor having a well or guideway, the removable open-bottom frame seated in the open bottom of said cupboard for holding depending receptacles, the guide-arm and the cushions on the walls of the lower part of the cupboard, the guide-rod for said arm having the upper and the lower springs, the elevating ropes and weights, the fixed tank for containing a cooling liquid, and the fixed stop below said floor, the said top and bottom rod springs being arranged in relation to the cupboard-wall cushions so as to act upon the said rod guide-arm in advance of the cushions on the ascent of the refrigerator and in advance of the contact of the latter with the bottom stop on the descent of the refrigerator to immerse the depending receptacles in said cooling-tank, substantially as described.

In testimony whereof I have hereunto signed this specification in the presence of two witnesses.

JOHN THOMAS WESTWOOD.

Witnesses:

A. D. HOWE,

W. J. MAIER.