

(No Model.)

2 Sheets—Sheet 1.

J. D. COLONY.
REFRIGERATOR.

No. 597,393.

Patented Jan. 18, 1898.

Fig. 2.

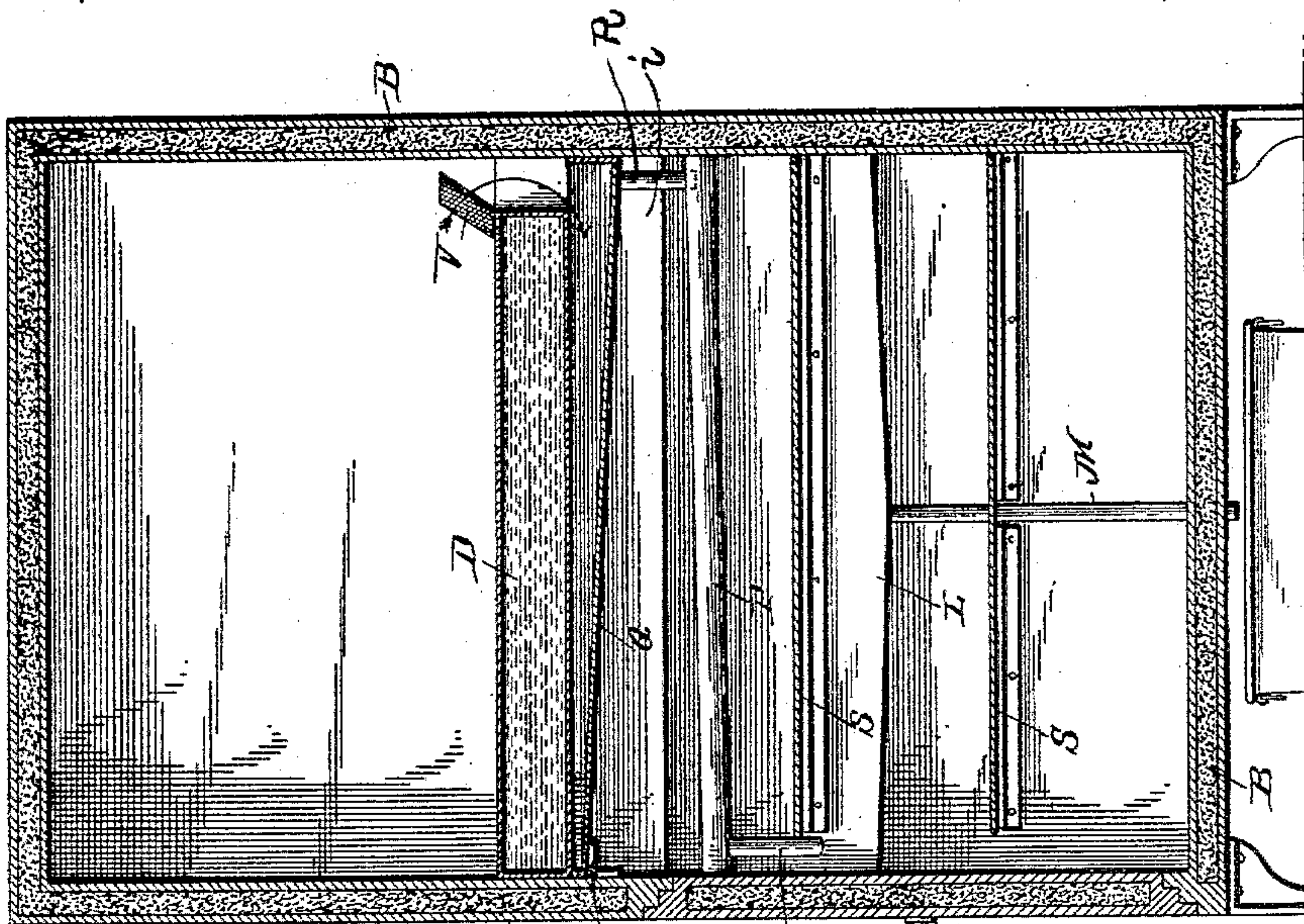
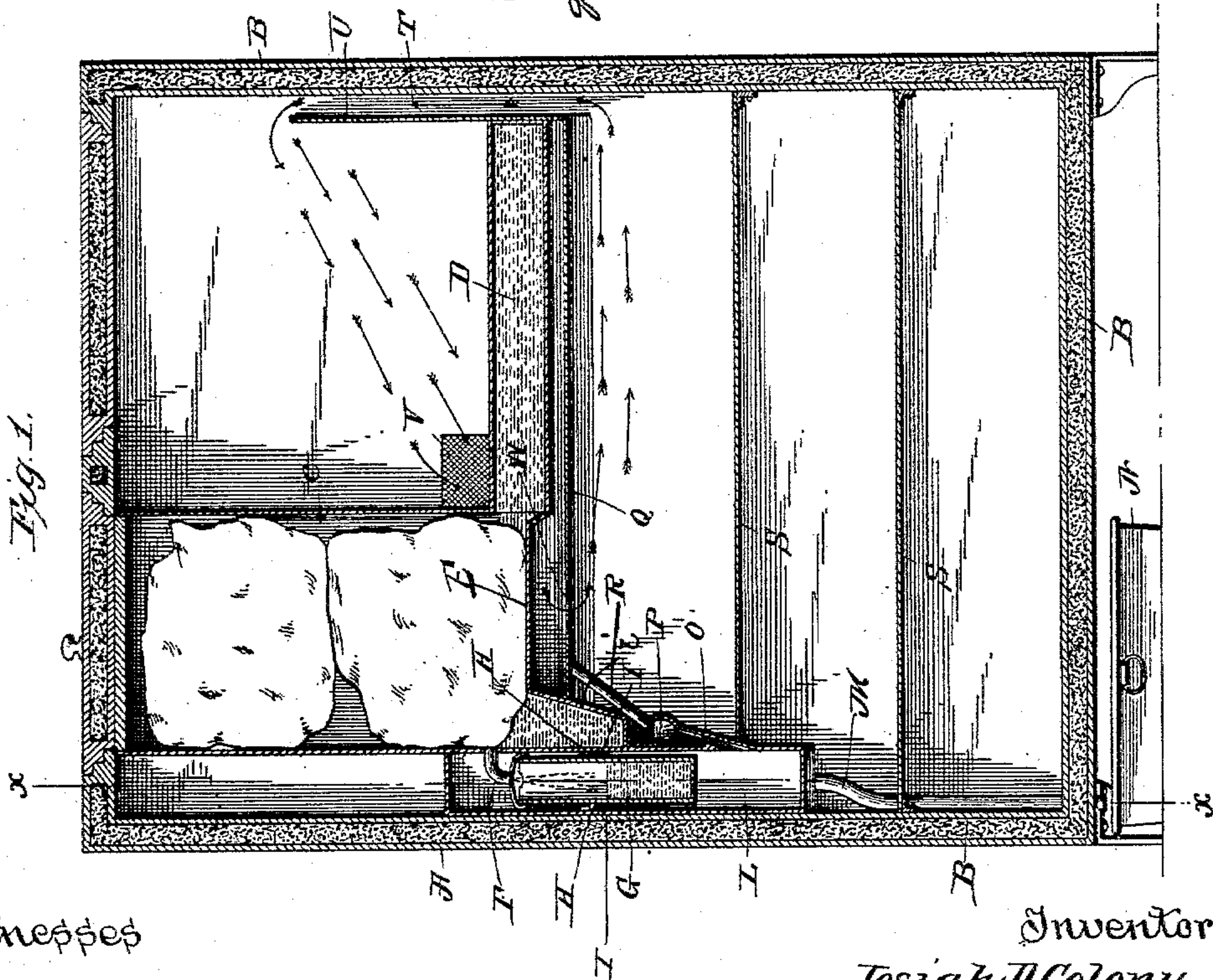


Fig. 1.



Witnesses
E. W. Wurdeman
J. S. Williamson

Inventor
Josiah D. Colony
by Geo. H. Holgate
Attorney

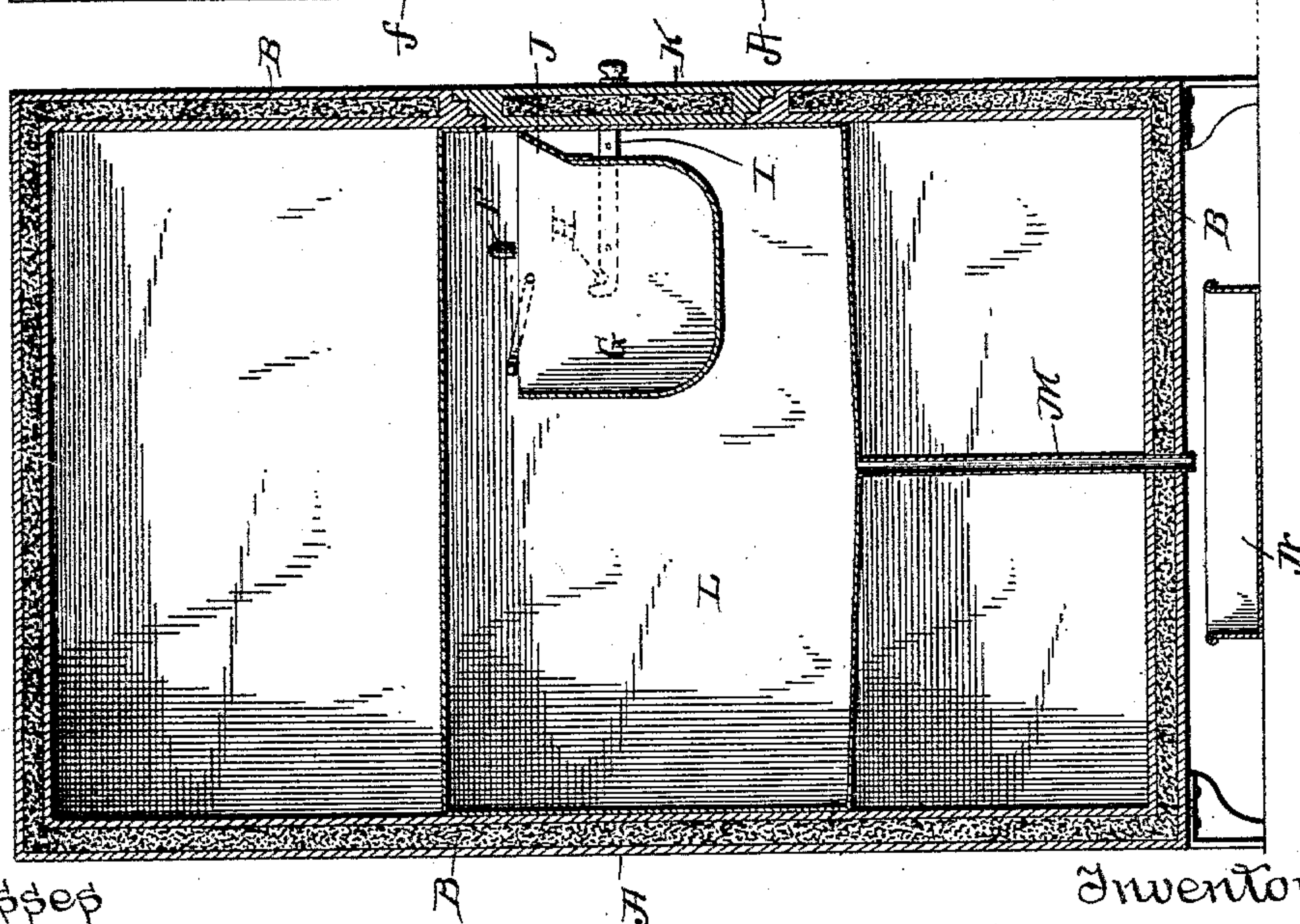
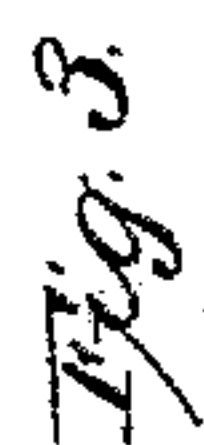
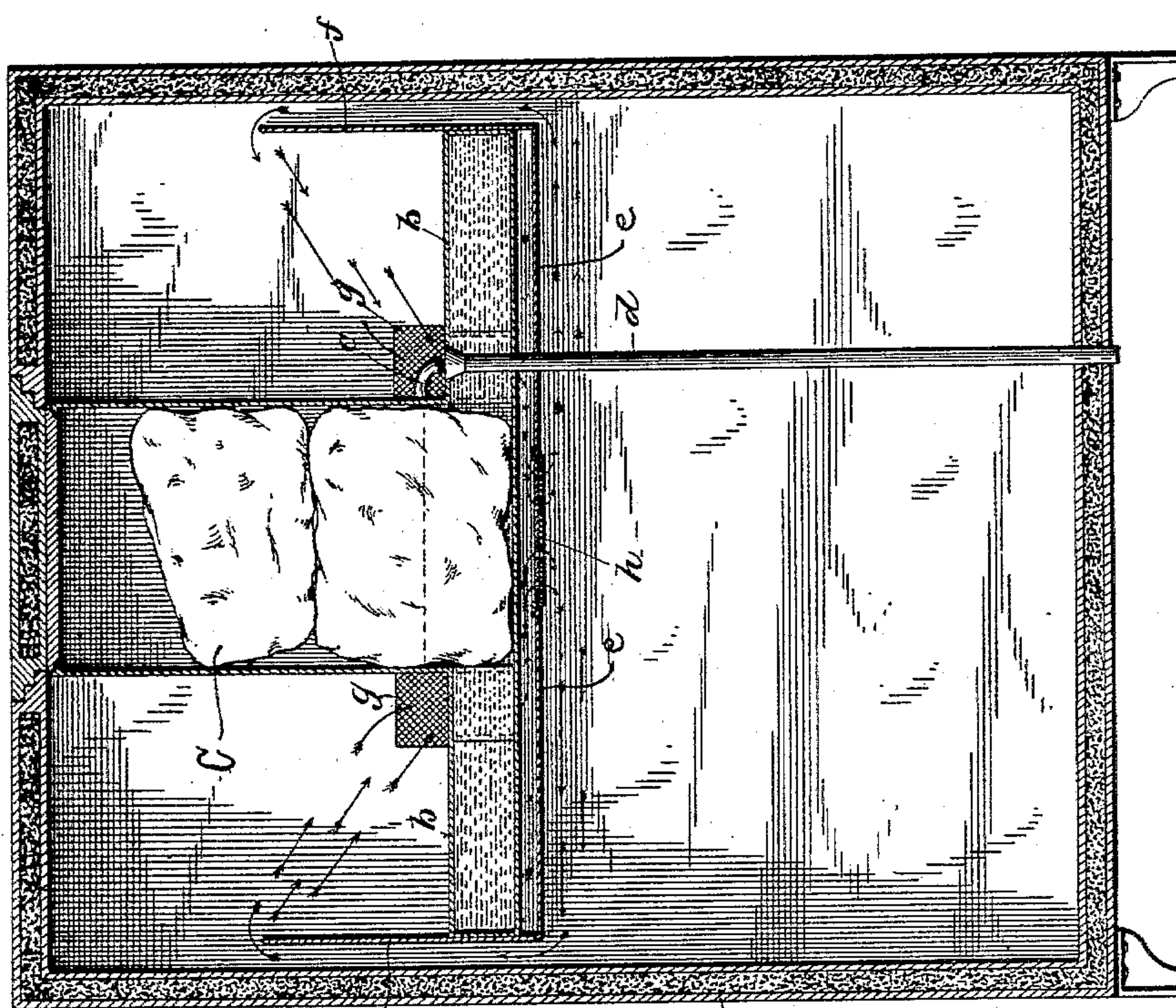
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2 Sheets—Sheet 2.

J. D. COLONY.
REFRIGERATOR.

No. 597,393.

Patented Jan. 18, 1898.



Witnesses
E. W. Warden
J. Williamson

Inventor
Josiah D. Colony
by Geo. H. Holgate
Attorney

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UNITED STATES PATENT OFFICE.

JOSIAH D. COLONY, OF PHILADELPHIA, PENNSYLVANIA.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 597,393, dated January 18, 1898.

Application filed August 21, 1896. Serial No. 603,537. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH D. COLONY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

My invention relates to a new and useful improvement in refrigerators, and has for its object to improve upon the constructions shown in Letters Patent Nos. 330,208 and 348,109, granted to me upon the 10th day of November, 1885, and the 24th day of August, 1886, respectively, and which consists in so constructing such a refrigerator as to decrease the temperature therein with a given quantity of cooling agent, to increase the holding capacity of the refrigerator, to supply drinking-water from the melting of the ice, which water shall be free from sediment heretofore commingled with said water, and to obviate the use of a spigot for drawing water from the tank.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction and operation in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central vertical section of one embodiment of my improvement; Fig. 2, a similar section taken at right angles to Fig. 1; Fig. 3, a section at the line $x x$ of Fig. 1; and Fig. 4, a modification of my improvement, in which the construction is especially adapted for the use of butchers and the like.

Referring to Figs. 1, 2, and 3, A is the casing of the refrigerator, which may be of any design, here shown as rectangular in shape, and having a space formed between its inner and outer walls for holding a heat-non-conducting material B, such as asbestos or the like, and within the upper portion of this casing is located the ice-compartment or box C of a suitable size to support the amount of ice necessary for use in maintaining the proper temperature within the refrigerator. Connected with the ice-compartment is a tank

D, the upper surface of which serves as a shelf for the support of provisions and has a cooling-surface, and the air coming in contact therewith by convection will be lowered in temperature and caused to pass from off the surface, thereby maintaining the circulation once set up.

E is a bridge located at the bottom of the ice-compartment, upon which the ice is to rest, the object of which is to hold said ice at the proper distance from the bottom of the compartment in order that it may be at all times partly submerged within the water contained in the bottom of the compartment, the level of which is preferably upon the line of the top of the water-tank D, as shown by dotted lines in Fig. 1. This bridge may be varied in height from the bottom of the ice-box, thereby permitting the ice to be more or less submerged, which will be regulated by the size of the refrigerator, and an offset i is formed with the ice-box for the catching of foreign matter, and this accumulation may be removed from the box at predetermined times by flushing or siphoning. This level is maintained by the drip-pipe F being located at a suitable distance from the bottom of the ice-compartment. A tank G is arranged beneath this drip-pipe, so as to catch the water flowing therefrom, and said tank is pivoted at H to the straps I, in order that it may be drawn from within the refrigerator for cleaning or other purposes. This tank is provided with a spout J, in order that the water therein may be poured into a suitable receptacle by tilting the tank upon its pivotal points, and a door K is located immediately in front of the tank, so that when drinking-water is desired this door may be opened and the tank tilted to pour a sufficient quantity therefrom.

The tank G is preferably placed within the catch-trough L, so that should said tank overflow the water would fall within the trough and be conveyed by the drain-pipe M to the catch-pan N. Also connected with the catch-trough is a pipe O, leading from a small trough P, arranged to receive any water or other liquid which may be caught by the baffle-plate Q, which liquid will pass through the pipe R to the trough P. The pipe R should be made of flexible material, so that it will not interfere with the movement of the plate Q.

Any number of shelves *S* may be located in the lower portion of the refrigerator for the reception of provisions, and the baffle-plate *Q* is set at an angle, as clearly shown in Fig. 2, so that the uprising air from the lower portion of the refrigerator will be guided in such manner as to pass through the passage-ways *T*, which are formed by the side walls of the refrigerator and the partitions *U*, and after passing through the upper edges of these partitions will flow downward into contact with the upper surface of the water-tank *D*, and after also coming in contact with the side walls of the ice-box will flow through the grated opening *V* and from thence to the space between the baffle-plate and bottom of the water-tank *D* and ice-box *C*, and finally pass through the hole *W* to the lower portion of the refrigerator, from whence it will again start upon its circuit, as just described. The baffle-plate *Q* is pivoted at its upper edge, so that the lower end thereof may swing downward on its hinges for cleaning said plate.

Another advantage of my improvement is that the water accumulating from the melting of the ice will not only serve to maintain a low temperature within the refrigerator, but will gradually pass to the tank *G* without carrying therewith the sawdust or other impurities suspended in the water, and after gaining access to this tank the impurities in said water will be given an opportunity to settle, and the water drawn from said tank for drinking purposes will be decanted rather than drawn in the usual manner through a spigot from the bottom of the tank, thus insuring said water being in the most favorable condition for drinking purposes.

It has been found by actual test that after the ice has been entirely consumed the temperature of the refrigerator will be maintained at a sufficiently low degree to accomplish the refrigeration of the provisions placed therein for a number of hours without renewing the supply of ice, thus accomplishing a considerable saving.

The tank *G* is preferably made of granite-ware or other suitable material, so that the water held therein will not deteriorate for drinking purposes.

As no spigots are needed for the drawing off of the water, it will be seen that the annoyance heretofore experienced in the clogging of the spigot by the accumulation of sawdust therein will be obviated.

Suitable doors are provided for access to the several compartments of the refrigerator in order that both provisions and ice may be placed therein without the admission of atmosphere to all of the compartments at once.

In the modification shown in Fig. 4 the ice-box *a* is placed in the center of the upper portion of the refrigerator and has connected

therewith two water-tanks *b*, thus increasing the capacity for the storage of provisions upon the upper surface of the tanks and also increasing the surface exposed to the air both of the tanks and the ice-box, and also giving a greater free space in the lower portion of the refrigerator for the accommodation of meats and the like, so that this form of refrigerator is especially adapted for use by butchers and the like.

The overflow of the water from the tanks *b* and ice-box is conveyed through the drip-pipe *c* to the drain-pipe *d* and from thence to any suitable receptacle outside of the refrigerator. The baffle-plate *e* is located below the water-tanks *b* and have partitions *f* projecting upward therefrom, so as to form passages for the upflowing of the air from the lower portion of the refrigerator to the upper portion thereof, and grated openings *g* serve for the downflowing of the air after reaching the upper portion of the refrigerator to the space between the walls of the water-tanks and the baffle-plate, and from thence this air is conveyed through the opening *h* back to the lower portion of the refrigerator.

Other slight modifications might be made in the designs here shown without departing from the spirit of my invention, and I therefore do not wish to be limited to the exact details of construction.

Having thus fully described my invention, what I claim as new and useful is—

1. In a refrigerator, an ice-box provided with a horizontal portion, for the reception of the drip-water, an overflow for maintaining the height of the drip-water in such horizontal portion, a hinged baffle-plate located below said horizontal portion and at a distance therefrom to form a cold-air flue and said flue being in communication with a space above the horizontal portion, and also in communication with the provision-chamber below the baffle-plate whereby cold air may circulate in the space so formed, as specified.

2. In a refrigerator, an ice-box, and a drip-receptacle below said box, located within said refrigerator, an overflow leading from the ice-box into the said drip-receptacle, said drip-receptacle being provided with a pipe leading outside of the refrigerator and also provided with a door in the side of the refrigerator, opening into said receptacle and a tilting receptacle located in said drip-receptacle opposite said door and immediately below the overflow from the ice-box, as specified.

In testimony whereof I have hereto fixed my signature in the presence of two subscribing witnesses.

JOSIAH D. COLONY.

Witnesses:

S. S. WILLIAMSON,
MARK BUFORD.