

S. SCOTT. Refrigerator.

No. 222,604.

Patented Dec. 16, 1879.

Fig. 1.

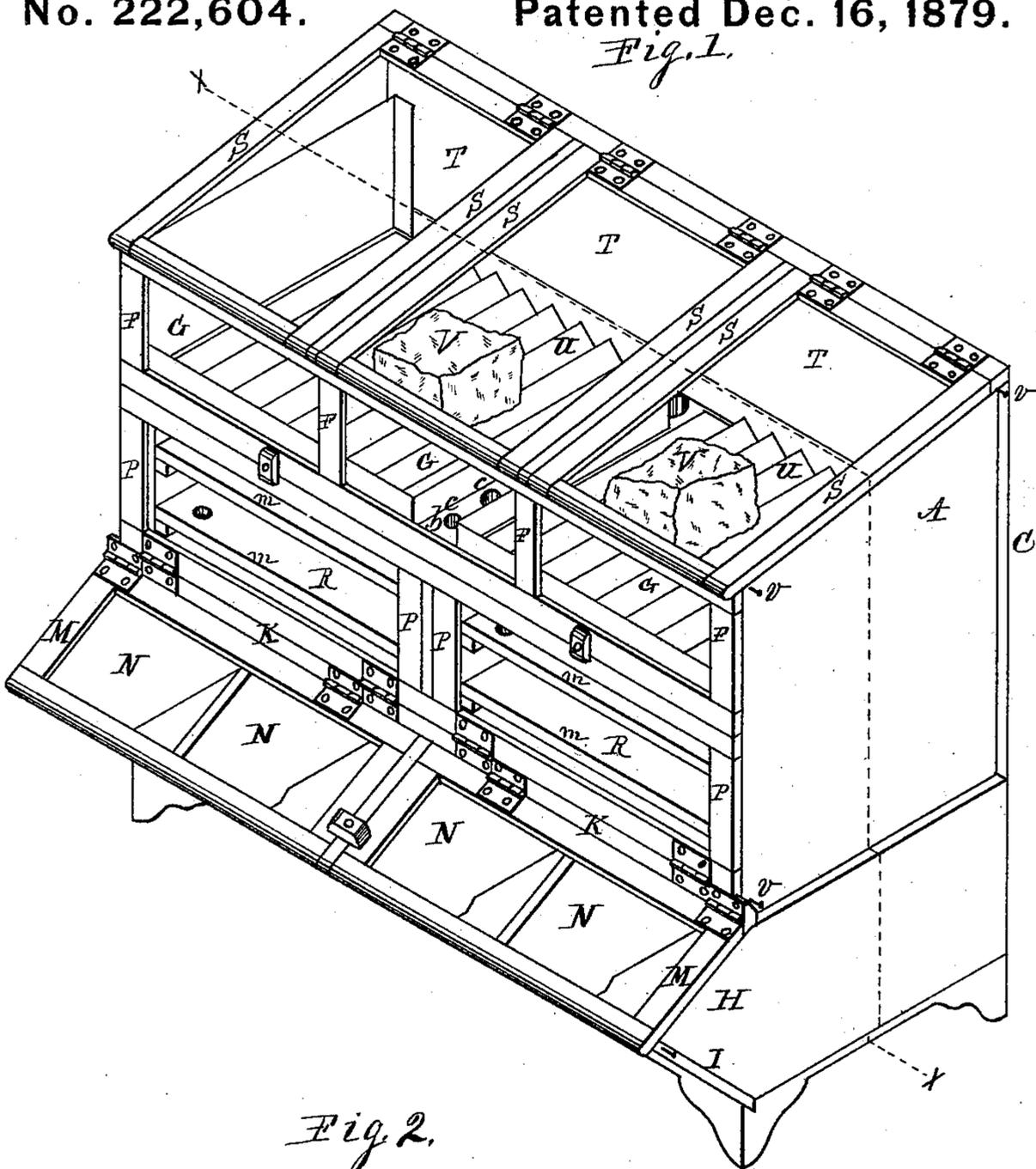
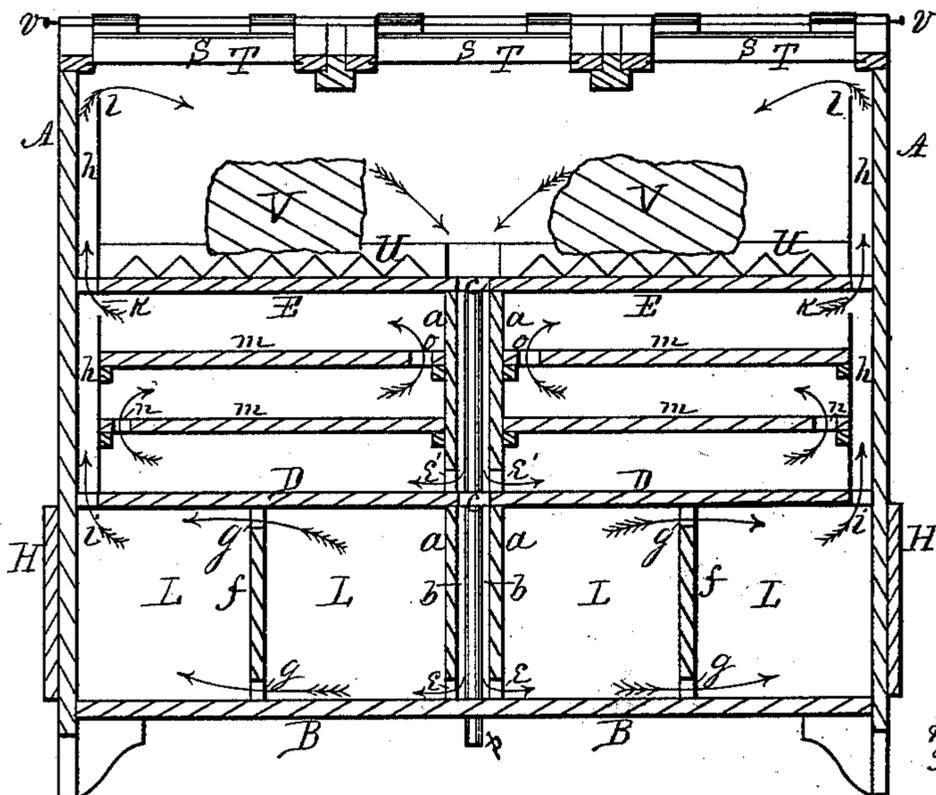


Fig. 2.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. 222,604, dated December 16, 1879; application filed July 18, 1879.

To all whom it may concern:

Be it known that I, SYLVESTER SCOTT, of the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Show-Case Refrigerators, of which the following is a specification.

This invention relates to the preservation of perishable articles of food, especially when placed on exhibition, as in the market-place or other similar situations.

The object of this invention is to provide a refrigerator show-case in which to preserve vegetables, fruits, and other perishable articles when exposed for sale on the street, in the market-place, or in other situations in which it may be found applicable.

This invention consists of a refrigerator show-case, of cabinet form, constructed in suitable compartments, fitted with glass fronts, doors, or lids, to expose to view the articles contained therein, and is fitted with ice-compartments and openings or flues for the circulation of air to equalize the temperature, prevent evaporation, and preserve the articles contained therein.

To this end I have designed and constructed the refrigerator cabinet-formed show-case represented in the accompanying drawings, in which—

Figure 1 is an isometrical representation of a show-case refrigerator embodying my invention in a practical form, of which Fig. 2 is a central lengthwise vertical section on dotted line *x*. Fig. 3 is an isometrical representation of my improved refrigerator show-case with the outside covering in place, of which Fig. 4 is a vertical transverse section on dotted line *y*.

In the figures, the main outline of my improved cabinet in some respects is of desk form, in which A represents the ends joined by the bottom B, back C, shelves D and E, and front frame, F, filled with glass G.

H are pieces fixed to the lower portion of the main ends, crosswise thereof, having their forward-projecting ends beveled in the pointed manner represented. A piece, I, joins their lower beveling portion. These parts, fixed to each other in any suitable manner, form the main outer walls of my improved show-case refrigerator.

a are vertical transverse partitions, placed near the lengthwise center of the cabinet, sepa-

rated sufficiently to produce a vertical flue, *b*, which extends from the front to the rear of the case, and from the bottom upward into the upper chamber. The shelves D and E are perforated between the vertical partitions, as at *c*, which practically extends the flue from the bottom into the upper chamber. This flue is designed as a descent-flue, through which the cool air will descend to the lower chamber, which will occur more particularly when ice is employed to lower the temperature of the contained air.

The vertical partitions forming the flue are opened on their under edge, as at *e* and *e'*, to communicate with the compartments on each side of the flue, and are employed to permit the air from the flue to circulate through the compartments. The lower main division is separated into suitable compartments (represented at L) by means of vertical partitions *f*, which are fitted with openings *g* on both their lower and upper edges, employed to permit a free circulation of the air descending the central flue. These compartments have inclined outward openings on the plane of the upper beveled portion of the pointed projecting end pieces, and the openings are provided with inclined lids M, fitted with glass fronts N, through which their contents may be seen. These inclined lids are hinged at their upper inner edges to open upward, which furnish a ready means of access to the contents of the compartments. These compartments are well adapted to contain the heavier vegetables, such as potatoes, turnips, or other heavy or bulky articles.

At *h* are represented vertical end flues, which connect with the several main divisions by means of suitable openings, the lower-end openings of which, as at *i*, communicate with the upper portion of the lower division, the side openings *k* communicate with the upper portion of the central division, and the upper-end openings at *l* communicate with the upper portion of the upper division. The central division, in this instance, is fitted with removable shelves *m*, the lower one of which in each division is perforated near its outer end, as at *n*, and the upper ones are perforated near their inner ends, as at *o*, to permit a free circulation of the contained air through the compartments. On these shelves may be placed such articles as it is desirable to exhibit for sale, and to preserve in a fresh state. This central di-

vision is provided with doors P, fitted with glass R, through which the contents of the shelves may be seen, and are hinged at their lower edge to open downward onto the doors of the lower compartment, and when so opened the contents of the shelves are rendered accessible. Instead of the shelves and the glass-filled doors, drawers having glass fronts may be employed.

At S are represented framed lids having their centers filled with glass, as at T, in the manner common in such work, and are in sections, hinged to open upward. These lids, in connection with the glass-filled front frame, permit the contents of this division to be seen from two sides of the case. The bottom, or a portion of the bottom, on one or both sides of the lengthwise center of this division are fitted with a corrugated surface, (represented at U,) designed to permit a free circulation of air, and, when ice is employed, to conduct the drippings therefrom to a suitable drip-tube.

At p is represented a drip-tube, opening at its upper end into the upper division, as at r, and descending through the central vertical flue, having its outlet-opening at t under the refrigerator.

At V are represented blocks of ice placed in the upper division on the corrugated bottoms, from which the drippings will flow in the corrugations to the outlet-tube and be discharged under the refrigerators.

In the use of my improved show-case refrigerator the articles may be placed in the several divisions and compartments thereof, in cases, or in any suitable or convenient manner to best expose them to view when the doors and lids are closed, in which situation they will be practically excluded from the action of the atmosphere, which prevents evaporation and still permits the air contained in the cabinet to circulate freely through all the divisions and compartments thereof in the following manner:

The cold air from the ice will descend through the central vertical flue, and a portion thereof will pass into the center division through the openings communicating therewith, and will circulate through the several compartments therein, and as it becomes warmer will escape through the opening communicating with the vertical flues, to be returned to the upper division in contact with the ice, to be cooled, and again descend the central flue. A portion of the cold air descending the center flue will pass into the lower division through the openings at the lower end of the flue communicating therewith, and will circulate through the several compartments therein, and as it becomes warm it will enter the lower open end of the end flues, through which it will ascend into the upper division in contact with the ice contained therein, to be cooled, and again descend the center flue, all of which is clearly indicated by the arrows and will be readily understood.

In the exhibition and preservation of vegetables in my improved show-case refrigerator, ice may be employed when thought best, but will not, of necessity, be required for the purpose of preserving them in a fresh state a reasonable length of time, except during the heated term, as in ordinary temperatures vegetables will be well preserved in my improved show-case without its use. This I accomplish by exhibiting them under cover, practically excluding them from the direct action of the atmosphere to prevent evaporation, and by means of suitable flues to provide for the equalization of the temperature of the contained air throughout the cabinet.

In the foregoing I have represented and described a practical form of my improved show-case cabinet; but other forms may be employed, and the form may be varied to meet the requirements of different parties, and to adapt it to different situations, without departing from the gist of my invention, so long as the main features of my invention as hereinbefore set forth are retained, which consist mainly in a compartment or compartments to receive the vegetables, fruits, or other articles, and provided with glass or transparent fronts, lids, doors, or walls, through which the contents may be seen, and so fitted as to practically exclude them from the direct action of the atmosphere, to prevent evaporation, and provide for the equalization of the temperature, with or without ice.

For the purpose of adapting my improved cabinet show-case to out-door purposes, I have provided removable lids W, all of which are fitted to engage the case by means of suitable hook-clasps u, adapted to engage studs v, or other suitable device fixed to the case, and are provided with a hasp and staple, w, adapted to receive a suitable lock, which secures them all in place on the case to protect its contents.

I claim as my invention—

1. In a refrigerator, the combination, with an ice-chamber located in the upper portion of the cabinet, and lower and intermediate compartments, of a central descending cold-air flue, provided with separate openings for discharging air into both the lower and intermediate compartments, the latter provided at their opposite ends with openings to cause the air to take a zigzag course through the series of intermediate compartments on its way to the ice chamber, and side flues for conveying the upward current of warmer air to the ice receptacle or chamber, substantially as set forth.

2. In a show-case refrigerator, the combination, with the refrigerator proper, having glass fronts and separate chambers or compartments for ice, fruit, vegetables, &c., of the removable lids W, substantially as set forth.

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Witnesses:

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