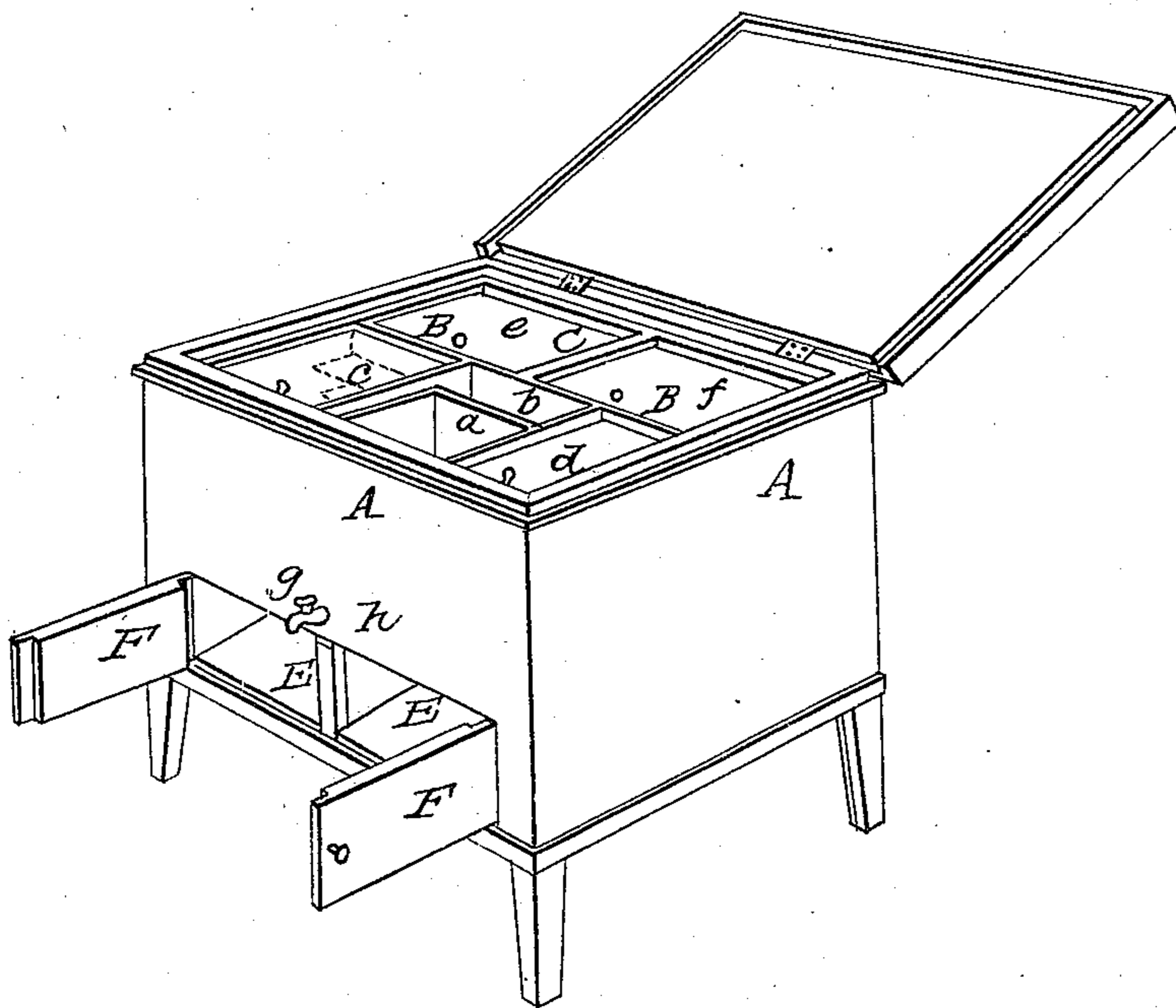


R. D. BURNS.
Refrigerator.

No. 463.

Patented Nov. 11, 1837.



UNITED STATES PATENT OFFICE.

ROBERT D. BURNS, OF BALTIMORE, MARYLAND.

MODE OF CONSTRUCTING REFRIGERATORS.

Specification of Letters Patent No. 463, dated November 11, 1837.

To all whom it may concern:

Be it known that I, ROBERT D. BURNS, of the city of Baltimore and State of Maryland, have invented an improved cooler or refrigerator for the purpose of cooling and preserving the various alimentary articles which it is desirable to submit to that process and by which it is effected in a more perfect and economical manner than by the instruments heretofore employed for that purpose. Now be it known that the following is a full and exact description thereof.

With the exception of the outer case, this cooler is constructed entirely of metal; zinc, on account of its economy, and its adaptedness to the purpose, being generally employed. The metallic interior is divided into any number of compartments that may be required, the partitions being all united to the main lining of the exterior box, or case, by riveting or soldering, so that the whole shall form one continuous receptacle of metal; in consequence of the conducting property of which, the cooling of one part will rapidly influence the whole.

In the drawing which accompanies this specification, I have exhibited such an arrangement of the divisions as experience has shown to be perfectly convenient and effective; and although I do not intend to limit myself to any particular dimensions, those which I shall give are such as I prefer for general purposes, after due trial.

The box which forms the exterior case, A, A, is thirty one inches long, twenty one inches deep, and twenty one inches high, in the clear. The legs may be twelve or thirteen inches long. A lining of zinc is made to this box, which lining is itself to be a complete box, thirty inches long, twenty deep, and fourteen high, soldered and riveted at its joinings, so as to be perfectly water tight. This when put into the wooden case will leave between them a void space of half an inch at each side and end, which space constitutes an air chamber, and it is not to be filled with charcoal, or with any other imperfect conductor; the simple air chamber, well closed, being preferable. The upper edges of the metallic lining are nailed around the upper edge of the case with brass pins, or in preference, with nails of zinc; suitable ledges are prepared against which the lining is to rest. The lid is also to be lined with zinc, resting upon ledges so as to leave an air chamber. A partition, B, B,

is soldered to the bottom and ends of the metallic lining, as are, also, cross partitions C, and D, D, dividing it, as shown in the drawing, into five compartments. In the compartments *a*, *b*, I place a vessel for containing water, *a* being its top, or cover, it is about twelve inches long, six deep, and fourteen high. It may be made of earthen ware, but I prefer a rectangular one of good pewter, or of pure Banca tin. This vessel it will be seen, occupies the front of the compartment, and near its bottom there is a cock or faucet, for drawing off the water, inserted into it, through a hole in the outer case, as shown at *g*. This vessel stands upon ledges raising it about an eighth of an inch from the bottom to allow the water produced from the melted ice to pass freely under it. A space, *b*, five inches in depth, it will be seen, is thus left behind the water vessel; and into this space, or compartment, the ice is to be put; which ice may rest upon a shallow stand of wood covered with a few thicknesses of cloth, which, however, may be omitted. The dotted line in the compartment *c*, represents the edges of shelves placed upon suitable ledges, for containing butter. Wine may be placed in *d*, vegetables, fruit, or other articles in *e*, and *f*. Each of these compartments is furnished with a closely fitting hinged lid, or cover, of zinc; and it will be seen that by this arrangement there cannot be any intermingling of odors, the communication from one compartment to another being entirely cut off. A small tube, furnished with a cork, or stopper, passes out through the front at *h*, from the lower part of the compartment *a*, *b*; this is to allow the water produced from the melted ice, to be drawn off when requisite, but this should not be done while there is any ice unfused; nor, indeed, until the temperature of the water is such as to require it, which will not be the case until long after the ice has disappeared.

For the purpose of receiving dishes containing meat, either dressed or undressed, I make two compartments below those already described. These are shown at E, E, in the front of the case; they are inclosed by doors F, F, which doors, like the lid of the case, are lined with zinc, leaving an air chamber, in like manner. These lower apartments are six inches and a half in height; their top is formed by the bottom of the upper compartments, and their bot-

tom and sides are constructed with air chambers, like the parts already described. They form one sheet with, or are connected by soldering to the metal of the upper com-
5 partments.

What I claim as my invention is—

The forming the whole interior of my cooler of metal, the continuity of which is unbroken, or rendered perfect, by soldering,
10 in the manner described, so that the cooling influence operating in one compartment

may be readily communicated to the whole, by the conducting power of the metal; and this I claim in conjunction with the arrangement for retaining, and drawing off, 15 the water produced by the melting of the ice, as above set forth.

R. D. BURNS.

Witnesses:

JOHN FOREMAN,
WM. H. RICHARDSON.