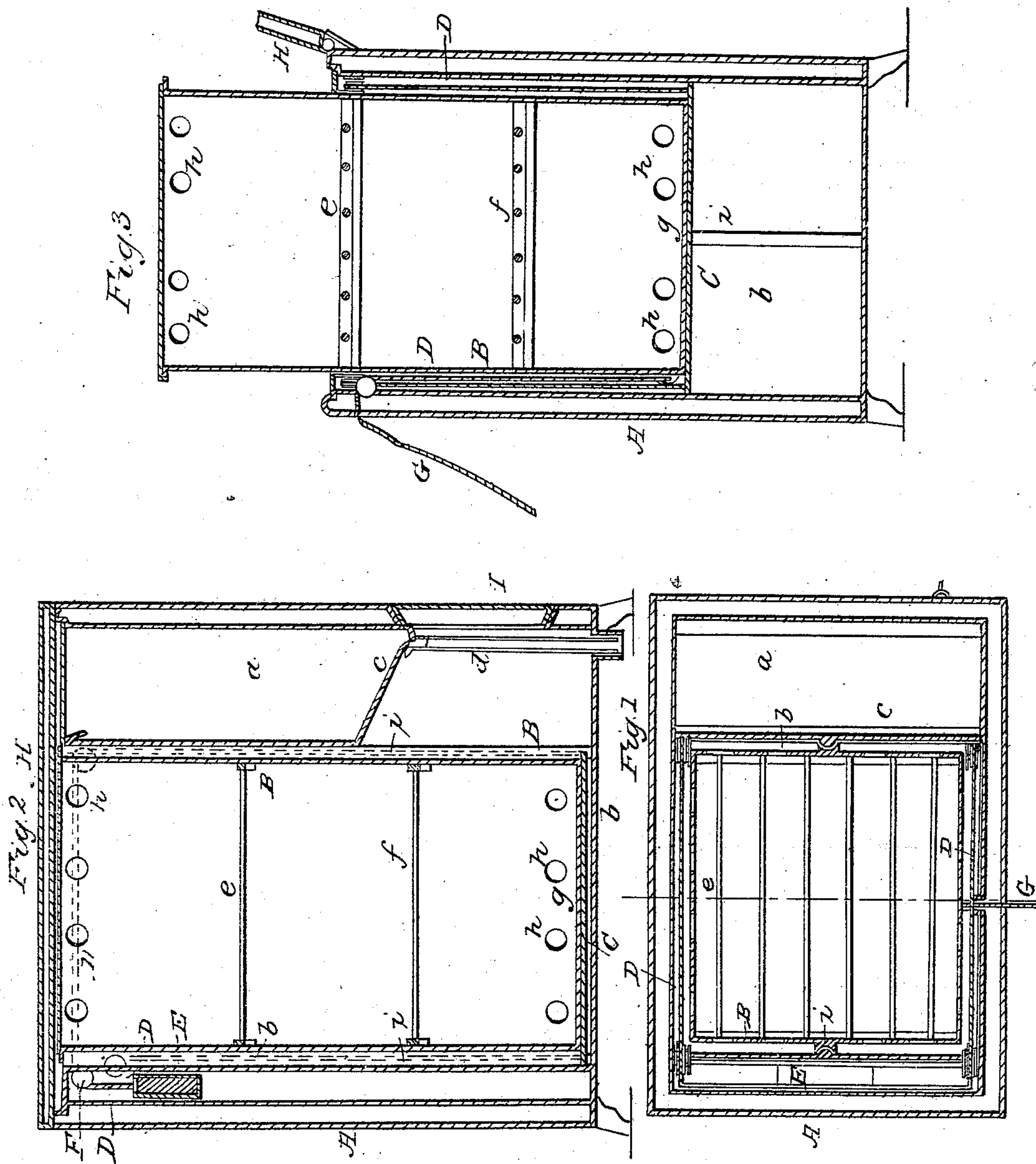


H. L. McAVOY.  
Refrigerator.

No. 23,184.

Patented March 8, 1859.



WITNESSES  
C. V. H. Fenwick  
G. W. Keaser

INVENTOR  
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# UNITED STATES PATENT OFFICE.

H. L. McAVOY, OF BALTIMORE, MARYLAND.

## REFRIGERATOR.

Specification of Letters Patent No. 23,184, dated March 8, 1859.

*To all whom it may concern:*

Be it known that I, H. L. McAVOY, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement in Refrigerators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a horizontal section of a refrigerator with my improvements applied to it. Fig. 2, is a vertical transverse section of the same. Fig. 3, is a vertical longitudinal section of the same.

Similar letters of reference, in each of the several figures, indicate corresponding parts.

The nature of my invention consists in the combination of a rising and falling shelf frame of any construction with a non-conducting refrigerator casing of any configuration, provided the exposition and removal of the articles placed on the shelves is effected by the elevation of the shelves, through the rising of the shelf frame, to the upper portion of the refrigerator casing.

By having a shelf frame which can be raised and lowered at the will, the articles can be conveniently removed through the top of the refrigerator casing and thus the air in the refrigerator which is colder than the external air retained in the refrigerator, for, as may be well known, owing to the air in the refrigerator casing being much heavier than the external air its tendency is to descend and consequently it will not escape rapidly at the top, especially so when the lower part of the shelf frame is solid and fits nearly air tight on all sides; nor will the external air enter until the escape of the colder air in the refrigerator takes place which will not occur except when the temperature of the external air is colder than the internal air or refrigerator is left open a sufficient length of time to allow of a slow or a gradual mingling of the cold internal air and comparatively warm external air. Thus the interior of the refrigerator is always kept at a uniform temperature and a most perfect refrigeration of articles contained in the same accomplished, whereas with refrigerators in use which have stationary shelves and side doors through which to remove or insert articles the moment the

doors are opened the air contained in the refrigerator rolls out just like so much lead, and its place is immediately filled with the external air which is of a warmer temperature than the air which escaped and consequently the interior of the refrigerator is not kept at a uniform temperature and the object designed to be attained from the use of refrigerators but poorly effected.

To enable others, skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

In carrying out my invention, I shall of course adopt various styles of non-conducting refrigerator casing round, oval, square, octagon and other shapes which may suit the fancy of purchasers and I may combine with the same an ice water cooler and other attachment which may be found desirable, but as such shapes and such attachments are all common with refrigerators they form no part of my invention.

In the accompanying drawing I have shown my invention applied to a non-conducting refrigerator casing A, of rectangular form. This casing is divided into two chambers *a*, *b*, one serving as the ice chamber and the other as the refrigerating chamber. The ice chamber *a*, is provided with the usual inclined drip board and spout *c*, *d*, as shown.

Within the refrigerator chamber B, is fitted loosely, a rectangular frame B. This frame is closed in at bottom and on three of its sides and is shelved or partitioned off by wire partitions as shown at *e*, *f*, *g*, or otherwise, and is perforated as at *h*, so as to support various articles to be refrigerated and to permit a free circulation of air to and from the ice chamber, through it. C, is a platform on which this frame rests. This platform is fitted so as to move up and down nearly air-tight on all its sides within the refrigerator casing over guide rods *v*, *v*, it being suspended at its four corners by means of cords D, D, D, D, a weight E, and pulleys F, F, F, F, as shown or in any other manner which will effect its vertical elevation and descent without binding when power is applied to the cord G, said cord being attached to the bottom frame and passed up over a pulley near the top of the refrigerator casing as shown in Figs. 1 and 3. This platform H, is a top or cover to shut up (air tight) the whole apparatus.

I, is an end door which is to close air



tight and only to be used when it is desired to cleanse the interior of the refrigerator casing.

From the foregoing description, it will be  
5 evident that by simply raising the top or cover of the refrigerator and pulling the cord G, the shelved frame can be elevated so as to bring the first, second or third shelf up to or above the upper edge of the re-  
10 frigerator casing, and it will also be evident that the cold air cannot readily escape from the refrigerator at the sides of the platform which supports the shelved frame, nor can warm air insinuate itself at said sides. This  
15 however matters not, much of the main obstacle to the escape of the cold air is its natural tendency to descend and therefore so long as the air in the refrigerator is kept at a uniform temperature which is colder  
20 than the external air, very little inflowing of comparatively warm air will occur.

In conclusion, I would remark that doors might be placed on the front of the shelf

frame if desirable so that the contents of the shelves may be hidden from view when 25 the frame is elevated. I would also remark that various mechanical devices for elevating the shelf frame, such as rack and pinion, shear levers, windlass and cord, &c., may be adopted, but as my invention consists in the 30 use of rising and descending shelves in connection with a non-conductor, irrespective of the mode of elevating the same, I deem it useless to describe particularly the mode of applying such mechanical devices. 35

What I claim as my invention and desire to secure by Letters Patent, is—

The combination of a rising and falling shelf frame with a non-conducting refrigerator casing substantially as and for the 40 purposes set forth.

H. L. McAVOY.

Witnesses:

G. YORKE AT LEE,  
N. W. FENWICK.