B. B. BANKS.

REFRIGERATOR.

APPLICATION FILED JUNE 12, 1916.

1,291,366.

Patented Jan. 14, 1919.

2 SHEETS—SHEET 1.

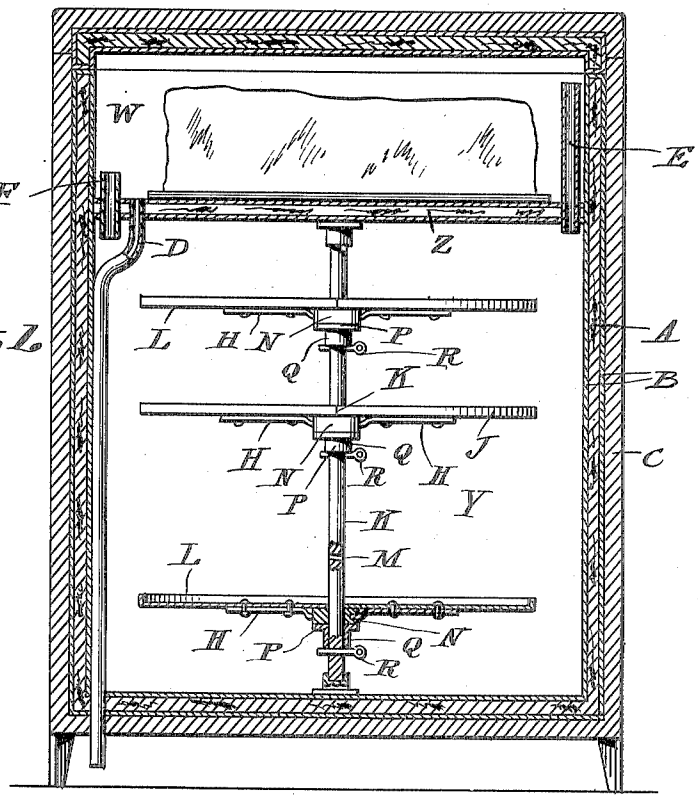

Fig. 1.

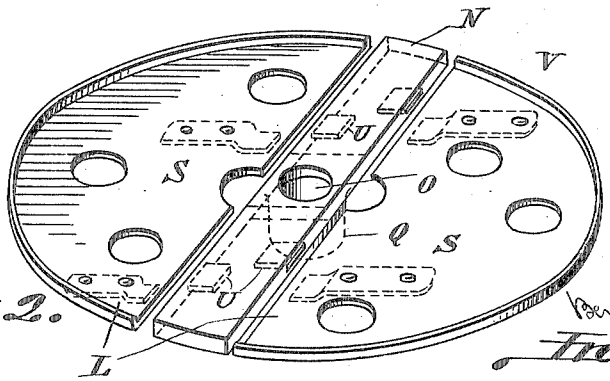

Fig. 2.

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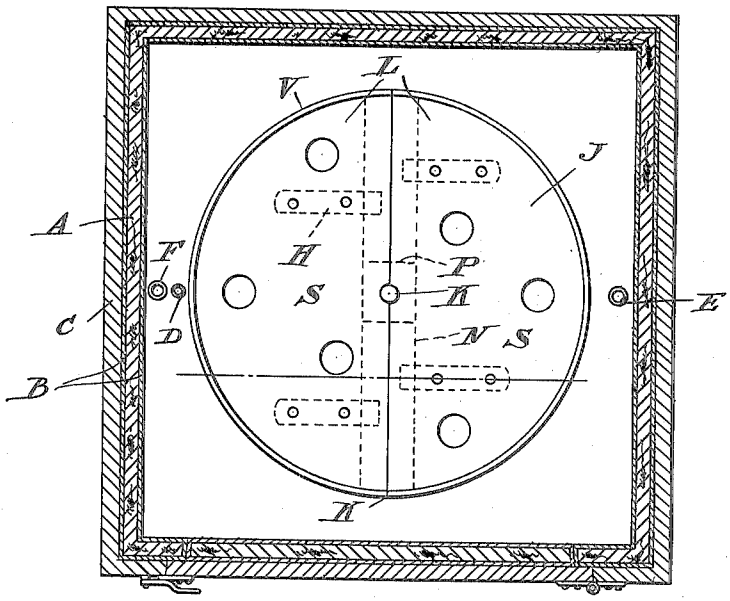

Fig. 3.

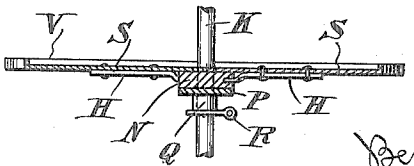

Fig. 4.

Benjamin B. Banks,

Inventor

UNITED STATES PATENT OFFICE.

BENJAMIN B. BANKS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ALFRED BRETTEL, OF CHICAGO, ILLINOIS.

REFRIGERATOR.

1,291,366. Specification of Letters Patent. **Patented Jan. 14, 1919.**

Application filed June 12, 1916. Serial No. 103,270.

To all whom it may concern:

Be it known that I, BENJAMIN B. BANKS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Refrigerator, of which the following is a specification.

My invention relates to improvements in refrigerators in which adjustable, revolving sectional shelves are employed in conjunction with a ventilating system creating a constant circuit of air. The objects of my improvements are:

1st. To render access to and removal of food and other contents from the refrigerator more convenient, expeditious and safe. Heretofore it has been necessary in order to obtain articles or dishes from the back of the shelves to either remove the contents from the front of the particular shelf containing the desired article while the refrigerator door is open, and after obtaining the desired article or dish to replace the others, thereby allowing the cold air to escape and be replaced by hot air, or to reach over the contents to obtain the desired article or dish, an unsanitary, awkward and inconvenient method accompanied by the danger of frequently upsetting the various dishes, etc. in the way. Whereas, by my improvement a given shelf is simply whirled around until the desired article on said shelf is at the front of the refrigerator where it can be removed without molesting or interfering with the other articles therein.

2nd. To render the refrigerator more adaptable to the various sizes and dimensions of the food dishes and provision articles desired to be preserved therein by providing shelves which are readily adjusted at any desired depth or height, and which may be used in sections or half sections.

3rd. To create a circulation of air by providing a communicating pipe between the food chamber and the ice chamber which attracts the hot air from the food chamber, and another communicating pipe from the ice chamber to the food chamber which attracts the cold air from the ice chamber.

I attain these objects by the mechanism illustrated by the accompanying drawings in which Figure 1 is a vertical section of the interior of the refrigerator showing both the ice chamber and the food chamber with the ventilating pipes and the shelves in place.

Fig. 2 is a perspective view of a single shelf showing its component parts and construction.

Fig. 3 is a cross section showing one of the shelves in place in a refrigerator.

Fig. 4 shows how a shelf is secured and fastened to the main shaft or post around which it revolves.

In the drawings A represents the cork lining of the refrigerator, B the metal linings which contain the cork, C the wooden exterior of the refrigerator, D the drain pipe from the ice chamber W, and E and F the longer and shorter ventilating pipes, respectively between the ice chamber W and the food chamber Y.

The shaft or post K to which the shelves L are fastened and around which they revolve contains horizontal holes M drilled through the shaft at frequent intervals. The metal strip N which carries a given shelf L (Fig. 2) is reinforced at the center around the hole O through which the post or shaft K, centrally positioned between the shelf Z and the bottom of the refrigerator passes by a piece of iron or steel P having a hollow pipe-shaped casing Q extending downward at least two inches in length, just large enough for the shaft or post K to pass through. This secures the shelves L against any tendency of rocking or tipping but permits the shelves to freely revolve about the post K. It is manifest that the vertical distance in which the shaft or post K is incased in the shelf carrying strip N and its reinforcing piece P and casing Q at the lower end of which the supporting pin R is placed through the adjacent hole M necessarily eliminates any rocking of the shelves. (Fig. 4).

The shelves L themselves are made in half sections. The under side of each half section contains two metal parts or cleats designated as H, the ends of each protruding and bending downward. These protruding ends slip into corresponding notches U on the flat iron strip N, as illustrated by Fig. 2. A ridge V is turned up slightly at the edge of the shelf so as to prevent articles from falling over the sides.

The ventilating system illustrated by Fig. 1 shows on the right hand side a hollow pipe designated by the letter E, which extends from the top of the food chamber to a point near the top of the ice chamber. On the left

hand side designated by the letter F, is a similar pipe which extends from a lower point in the ice chamber, than that to which pipe E extends, to the top of the food chamber. Pipe E, extending to a higher point in the ice chamber than pipe F, both communicating with the food chamber, causes the warmer air in the food chamber to gravitate toward and ascend in pipe E, the cold air which it displaces in the ice chamber to descend in pipe F into the food chamber, thus creating a circulation of air which is further accelerated whenever one of the shelves is revolved.

I claim,

In combination with a refrigerator having a lower food chamber and an upper ice chamber, of a vertical post secured centrally within the food chamber and having a plurality of spaced horizontally disposed, openings, pins for said openings, a horizontally disposed metal strip having spaced pairs of notches in its opposite side edges, a hollow casing secured centrally to and depending from the underside of the said strip, said casing and strip slidably mounted on said post and supported in adjusted position thereon by said pins, a pair of semi-circular shelves fitted about said post and resting upon the upper side of said strip, and pairs of spaced cleats secured to each semi-circular shelf and fitting in the notches of said strip whereby said shelf-sections are held against displacement with relation to the post and the engagement of the shelves with the upper side of the strip prevents tilting thereof.

BENJAMIN B. BANKS.

Witnesses:
FLORENCE GALLIVAN,
MATHILDE M. WAITE.