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J. L. KNIGHT

1,896,846

REFRIGERATOR CABINET SHELF

Filed Sept. 29, 1930

Fig. 1.

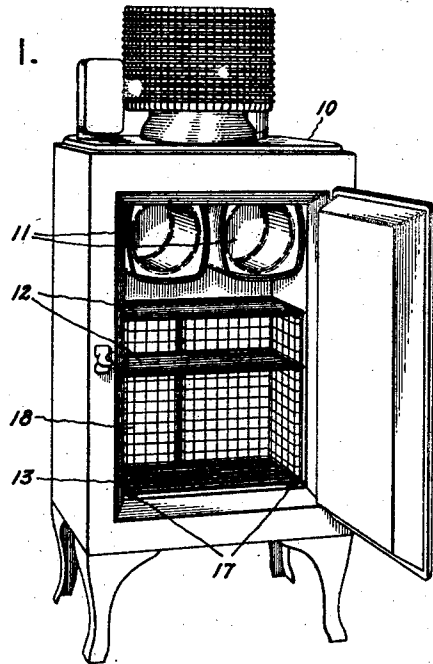


Fig. 2.

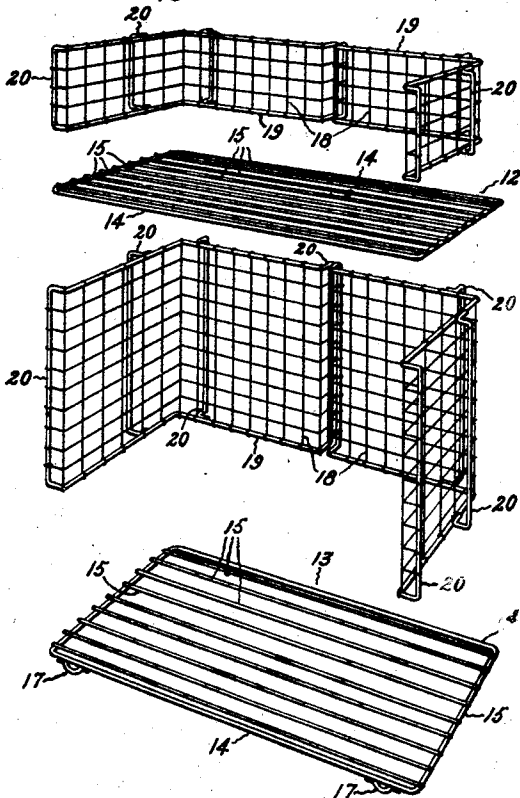
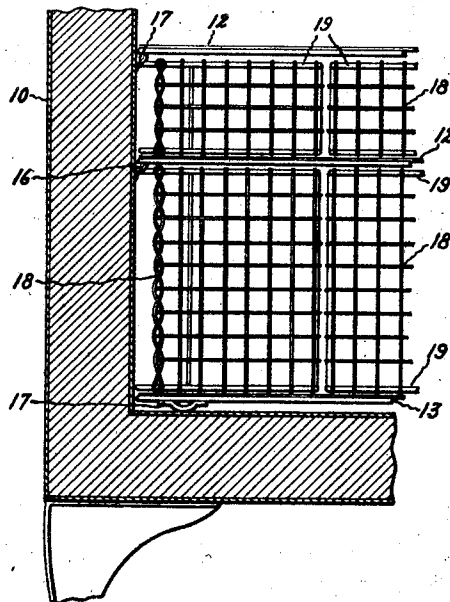


Fig. 3.



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UNITED STATES PATENT OFFICE

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REFRIGERATOR CABINET SHELF

Application filed September 29, 1930. Serial No. 484,951.

My invention relates to refrigerator cabinet shelves.

The shelves of refrigerators as generally constructed are often completely covered with articles thereby preventing the free circulation of air in the cabinet. This causes an undesirably high temperature in the portion of the cabinet in which the circulation of air is cut off, as the transfer of heat from the space within the cabinet to the cooling unit takes place by air circulating in the cabinet being cooled in passing over the cooling unit and then absorbing the heat from the articles within the cabinet when it passes over them. Cutting off of the circulation of air in cabinets has been particularly troublesome when fish were stored in a refrigerator of this kind, as they come in close contact with the inside walls of the cabinet and form an air seal which prevents the circulation of air in the cabinet over the shelves and the cooling unit.

The object of my invention is to provide an arrangement to prevent fish or other articles on the shelves from coming in contact with the inside walls of the cabinet and entirely covering the shelves so that free circulation of air in the refrigerator is maintained. I accomplish this object by providing a refrigerator cabinet with shelves including spacers which extend about the inner walls of the refrigerator, so as to form a passage for the free circulation of the cooling air about all of the shelves.

My invention will be more fully set forth in the following description referring to the accompanying drawing, and the features of novelty which characterize my invention will be pointed out with particularity in the claim appended to and forming a part of this specification.

In the drawing, Fig. 1 is a perspective view of a refrigerator showing a complete assembly of my improved shelf construction; Fig. 2 is an enlarged perspective of the various parts of my improved shelf, and Fig. 3 is a partial elevation in section showing the details of the spacer construction and the arrangement of parts in the cabinet.

Referring to the drawing I have shown a refrigerator cabinet 10 provided with a re-

frigerating system of a type similar to that described in Steenstrup Patent No. 1,736,635, including cooling units 11 arranged in the cabinet.

In accordance with my invention the refrigerator cabinet is provided with a shelf construction which prevents articles placed in the cabinet entirely covering the shelves so as to cut off the circulation of air between the shelves and the cooling unit. The shelves 12 and 13 closely fit the cabinet and include a rectangular frame 14 and longitudinally extending bars 15 welded or otherwise connected thereto constituting an article supporting grid. In the particular construction illustrated shelves 12 of an open framework, are supported in the cabinet on abutments 16 extending from the wall of the cabinet, and the shelf 13 is provided with legs 17 which rest on the bottom wall of the cabinet so that air can circulate freely under the shelf.

Vertically extending spacers are provided between the shelves, extending about their periphery so as to prevent articles thereon entirely covering the shelves and thereby cutting off the circulation of air in the cabinet. A spacer is not placed above the uppermost shelf in a refrigerator construction like the one illustrated, as drip pans are generally retained thereon below the evaporators, but if it is desired spacers can also be placed here. These spacers include a wire network forming a grating 18 extending between a rod frame 19. The frame 19 is formed with outwardly projecting portions 20, which include in the particular embodiment illustrated, the vertical portions of the frame 19 bent outwardly as shown in Fig. 2 and other rods 20 welded to the frame 19 to maintain the grating in spaced relation to the inner walls of the cabinet and to prevent excessive bulging of the network and frame when the shelf is full. These vertically extending spacers are made in two similar sections each to facilitate handling and shipping and to readily permit their adjustment if they do not make a good fit within the cabinet by merely bending the ends of the frame in or out to make it smaller or larger as required. They are supported in position by resting their lower edges on the

shelves and are not intended to be a direct support for the tray above them although they might also be made to serve this purpose, if desired.

5 As can readily be seen from the drawing, this combination provides a construction which prevents articles on the shelf from coming in contact with the walls of the cabinet and entirely covering the shelf, the
10 spacers providing a space all around the sides and under the bottom where the air will be able to circulate freely between the shelves and the inner walls of the cabinet and insure the proper cooling of articles stored
15 therein. There might be a tendency for dirt to accumulate between the spacers and the walls and to this end the spacers and the shelves are constructed so as to be readily removable by merely lifting them out for cleaning
20 of the cabinet and the shelf structure.

Modifications of my invention, which I have illustrated and described, will occur to those skilled in the art. I desire it to be understood, therefore, that my invention is
25 not to be limited to the particular arrangement disclosed, and I intend in the appended claim to cover all modifications which do not depart from the spirit and scope of my invention.

30 What I claim as new and desire to secure by Letters Patent of the United States is:

In combination, a plurality of shelves, means for supporting said shelves in a cabinet in spaced relation to each other, said means
35 including vertically extending spacers formed of a network arranged about the periphery of said shelves and their lower edges resting on the shelves above which they extend, said spacers having outwardly extending
40 portions for maintaining said network in spaced relation with the inner walls of the cabinet, so as to prevent articles on the shelves from entirely covering the same and cutting off the circulation of air within the
45 cabinet.

In witness whereof I have hereunto set my hand this 27th day of September, 1930.

JAMES L. KNIGHT.

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