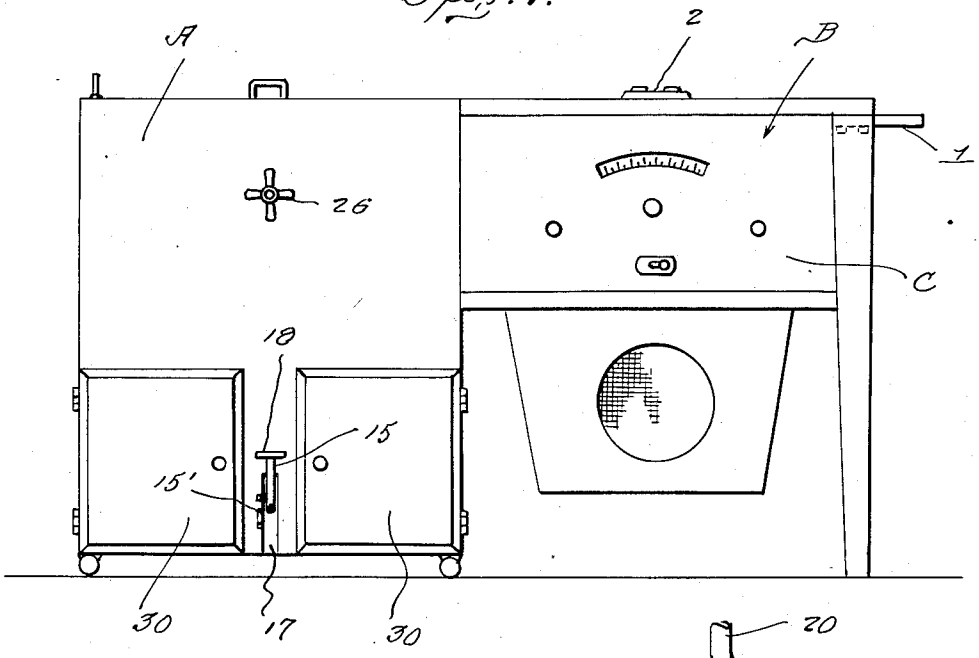
Feb. 19, 1935. C. H. B. CONLEY 1,991,661

REFRIGERATOR ARRANGEMENT

Filed July 17, 1934 4 Sheets-Sheet 1

Fig. 1.



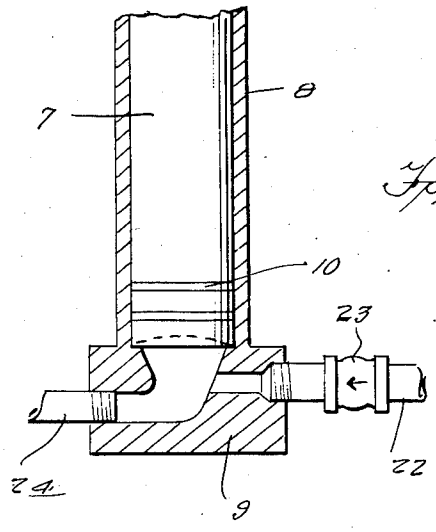
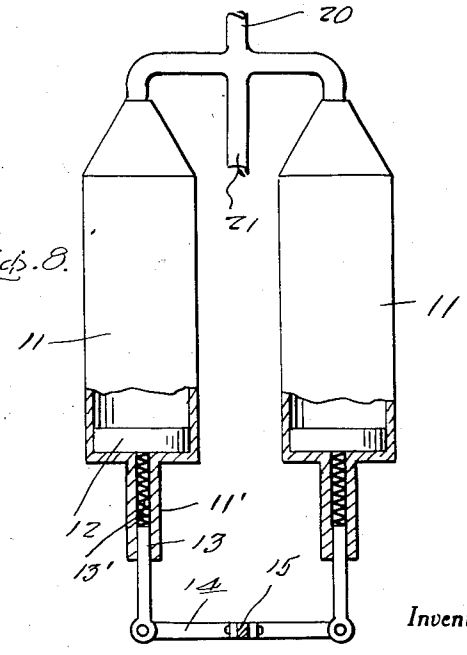


Fig. 7.

Fig. 8.



Inventor

C. H. B. Conley

By Clarence A. O'Brien

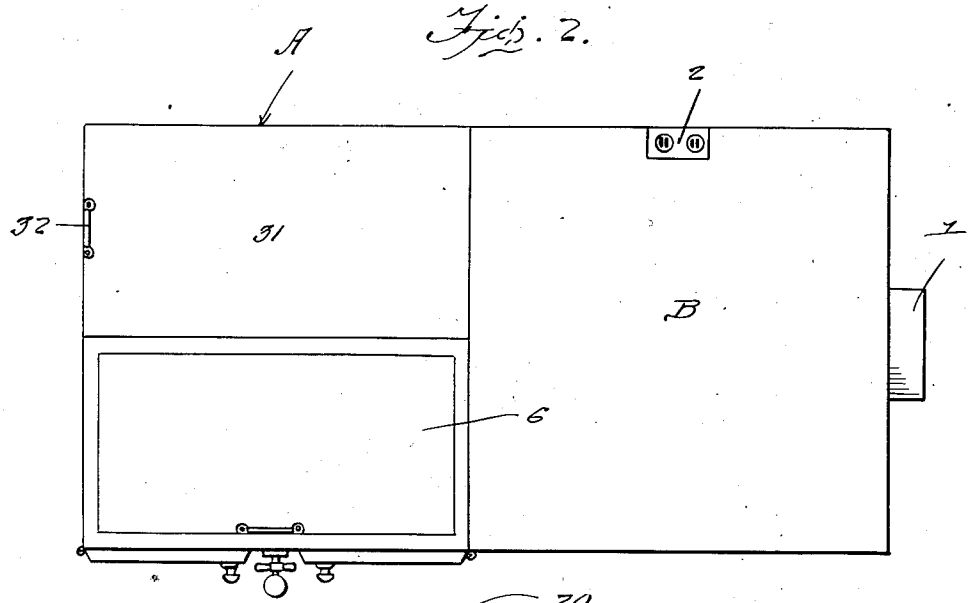
Attorney

Feb. 19, 1935. C. H. B. CONLEY 1,991,661

REFRIGERATOR ARRANGEMENT

Filed July 17, 1934 4 Sheets-Sheet 2

Fig. 2.



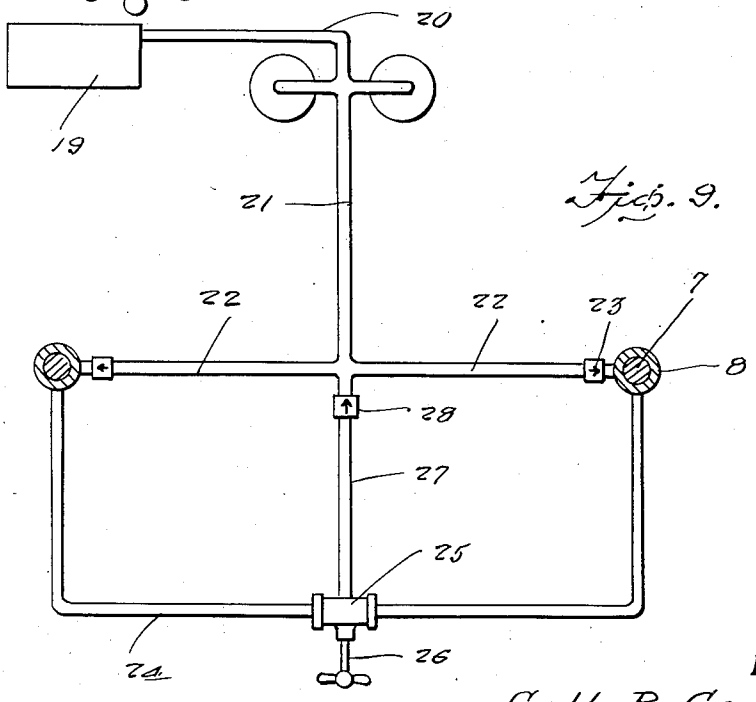


Fig. 9.

Inventor

C. H. B. Conley

By Clarence O'Brien

Attorney

Feb. 19, 1935. C. H. B. CONLEY 1,991,661

REFRIGERATOR ARRANGEMENT

Filed July 17, 1934 4 Sheets-Sheet 3

Fig. 3.

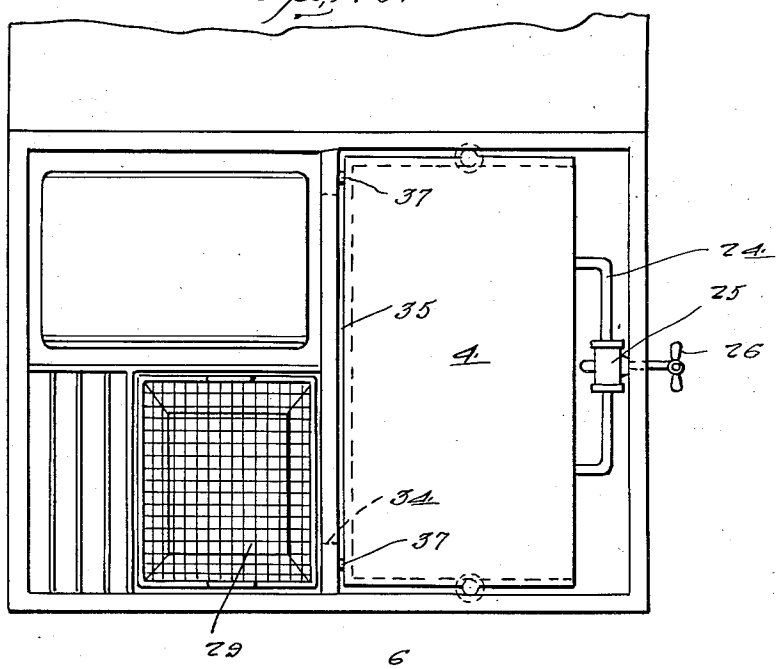
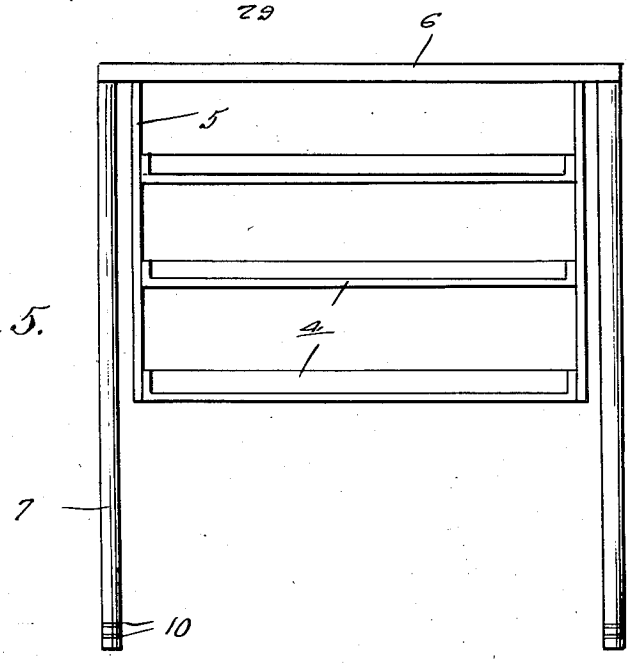


Fig. 5.



Inventor

C. H. B. Conley

By Clarence O'Brien

Attorney

Feb. 19, 1935. C. H. B. CONLEY 1,991,661

REFRIGERATOR ARRANGEMENT

Filed July 17, 1934 4 Sheets-Sheet 4

Fig. 4.

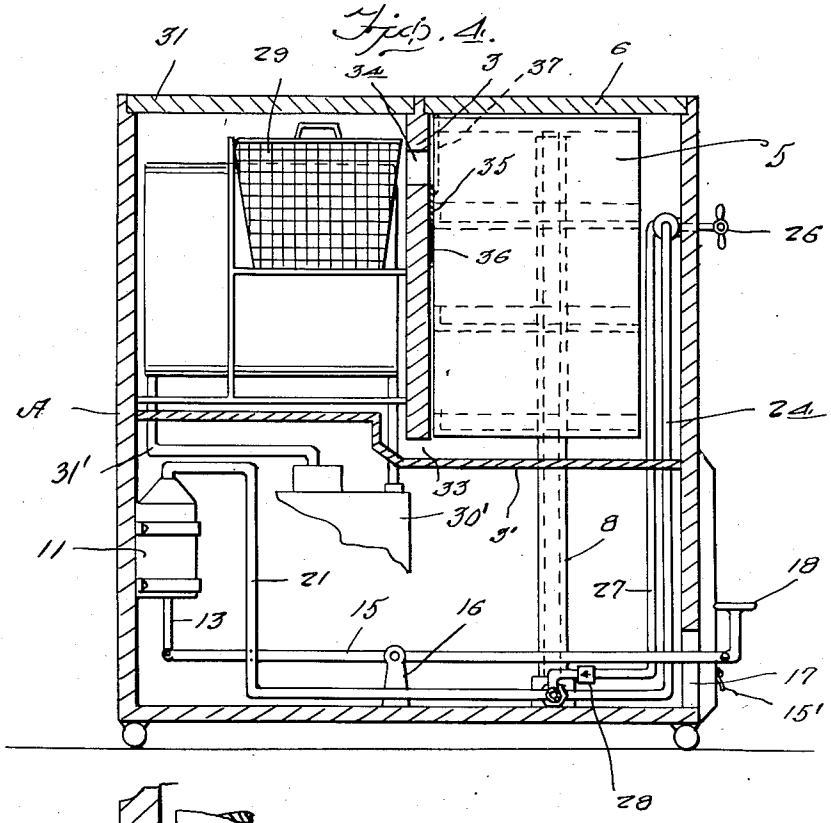
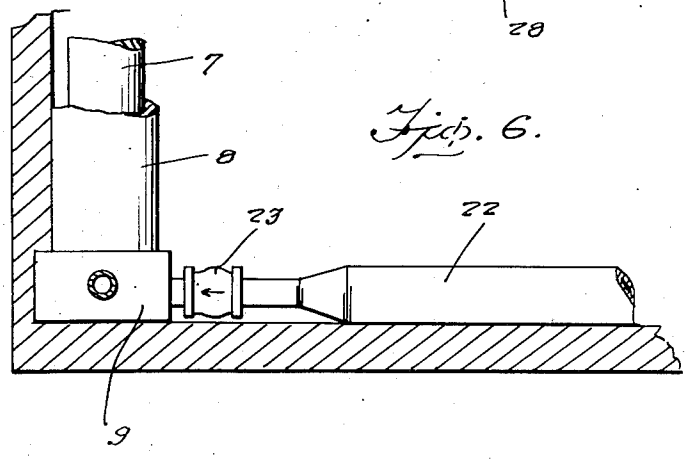


Fig. 6.



Inventor

C. H. B. Conley

By Clarence A. O'Brien

Attorney

Patented Feb. 19, 1935 1,991,661

UNITED STATES PATENT OFFICE

1,991,661

REFRIGERATOR ARRANGEMENT

Carl H. B. Conley, Methuen, Mass.

Application July 17, 1934, Serial No. 735,701

2 Claims. (Cl. 62—34)

This invention relates to a refrigerator arrangement, the general object of the invention being to provide a refrigerator having a shelf arrangement therein which is vertically movable through an opening in the top of the refrigerator with manually operated means for raising the shelf structure above the top of the refrigerator to provide access to the shelves thereof and with other manually operated means for permitting the shelf structure to be moved downwardly into the refrigerator.

This invention also consists in certain other features of construction and in the combination and arrangement of several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a front view of the invention.

Figure 2 is a top plan view thereof.

Figure 3 is a top plan view with the cover parts removed.

Figure 4 is a vertical sectional view.

Figure 5 is a view of the shelf structure and the piston rods.

Figure 6 is a fragmentary elevation with parts in section showing one of the plunger assemblies.

Figure 7 is a sectional view of one of the plunger assemblies.

Figure 8 is an elevation with parts in section and a double cylinder and piston arrangement.

Figure 9 is a diagrammatic view with parts in section of the pressure system.

In these drawings, the refrigerator is shown at A and a table at B, this table being connected to a side of the refrigerator and if desired a radio C may be supported by the table as shown in Figure 1. A projection 1 is connected to the outer side of the table for supporting a meat chopper or the like and electric connections 2 are carried by the table for connecting various appliances on the table with a source of current.

A partition 3 divides the upper part of the refrigerator into front and rear compartments and a shelf structure 4 is located in the front compartment and includes a number of shelves connected to the posts 5 which have their upper ends connected to the cover part 6 which fits in an opening in the top of the refrigerator. Long piston rods 7 depend from the cover part 6 and extend into the long cylinders 8 which have their base parts 9 supported on the bottom of the refrigerator, the lower ends of the pistons having rings 10 therein as shown in Figure 5. A pair of cylinders 11 is located in the rear portion of the refrigerator and contain the pistons 12 and rods 13 pass into the reduced parts 11' of the cylinders with the rods connected to a cross piece 14 which has its central portion connected to the rear end of a lever 15 pivoted intermediate its ends to a bracket 16 with the lever passing through a slot 17 in the front of the refrigerator and having its front end bent upwardly and provided with a pedal 18. Springs 13' are located in the parts 11' for transmitting the movement of the rods to the pistons. Thus, by depressing the lever, the pistons are moved upwardly in the cylinders. A reservoir 19 is connected with the cylinders by a pipe 20 and a pipe 21 connects the tops of the cylinders with branch pipes 22 which lead to the base parts 9 of the cylinders 8, each pipe 22 having a check valve 23 therein. Pipes 24 connect the base parts 9 with a manually operated valve 25 the handle 26 of which passes through a hole in the center of the refrigerator and a pipe 27 connects the valve with the pipe 21 and contains a check valve 28.

These parts are so arranged that when the pedal 18 is depressed the pistons 12 are moved upwardly in the cylinders 11 so as to force the fluid therein through the pipes 21 and 22 into the cylinders 8 thus raise the pistons 7 so as to elevate the shelf structure above the top of the refrigerator. Thus articles can be placed on the shelves or removed therefrom and as it will be seen the check valves will hold the fluid in the parts and the shelf structure will be retained in raised position. If the shelf structure is to be lowered the operator turns the handle 26 of the valve 25 which permits the fluid to escape from the cylinders 8 through the pipe 27 into the pipe 21 so that the fluid returns to the cylinders 11 and thus the weight of the shelf structure will lower the same. If desired, latch means 15' may be provided for holding the pedal depressed.

This invention eliminates the necessity of one having to open the doors in the refrigerator which permits warm air to enter the same and thus the device reduces the operative cost of the refrigerator.

The rear compartment contains shelves for supporting bottles and the like and I also provide a basket 29 in this compartment. The compressor, motor and condenser unit is shown generally at 30' and the pipes leading to the coils are shown at 31'.

Doors 30 are provided for the front and lower part of the refrigerator to provide access to the refrigerator and access is had to the rear compartment through the removable cover 31, the covers 6 and 31 being provided with handles 32.

As will be seen from Fig. 7, the port feeding the oil from the pipe 22 into the base of the cylinder 8 is small and this port should be approximately one-sixteenth of an inch or less. Thus, when the pipe system is full of oil, the least pressure on the foot pedal will start upward movement of the shelf structure.

I also prefer to make the lower end of the piston 7 concave, as shown in dotted lines in Fig. 7, so as to give a greater area for the oil to push against.

In order to prevent loss of cold air when the shelf structure is raised, I provide a horizontal partition 3' which extends under the compartment for the shelf structure and provides an opening 33 which connects the lower part of the shelf compartment with the coil or cold air compartment, and I also provide an opening 34 in the partition 3 for connecting the top part of the shelf compartment with the upper part of the cold air compartment so that a circulation is provided between the two compartments. A valve plate 35 normally closes the openings 34 by means of the springs 36 so that the upper opening 34 is closed when the shelf structure is raised but when the shelf structure is lowered, the cover member 6 thereof engages the arms 37 connected with the plate and thus moves the plate downwardly to open the opening 34. As many of these openings 33 and 34 can be provided as are necessary.

What is claimed is:—

1. A refrigerator having an opening at its top, a cover member for closing the opening, a shelf structure depending from the cover member, pistons depending from the cover member, cylinders located in the refrigerator and receiving the pistons, a cylinder containing fluid, a piston therein, a pedal device extending through the front of the refrigerator for raising the piston last mentioned, conduits connecting the last mentioned cylinder with the lower ends of the first-mentioned cylinders, a reservoir connected to the fluid cylinder, check valves in the conduits for retaining the fluid in the first-mentioned cylinders, a manually operated valve, and conduits connecting the same to the lower ends of the first-mentioned cylinders and with the second-mentioned cylinder.

2. A refrigerator having an opening at its top, a cover member for closing the opening, a shelf structure depending from the cover member, a piston depending from the cover member, a cylinder located in the refrigerator and receiving the piston, a cylinder containing fluid, a conduit connecting the last mentioned cylinder with the lower end of the first mentioned cylinder, manually operated means for placing the fluid in the second cylinder under pressure to cause the fluid to enter the first cylinder to raise the piston.

CARL H. B. CONLEY.