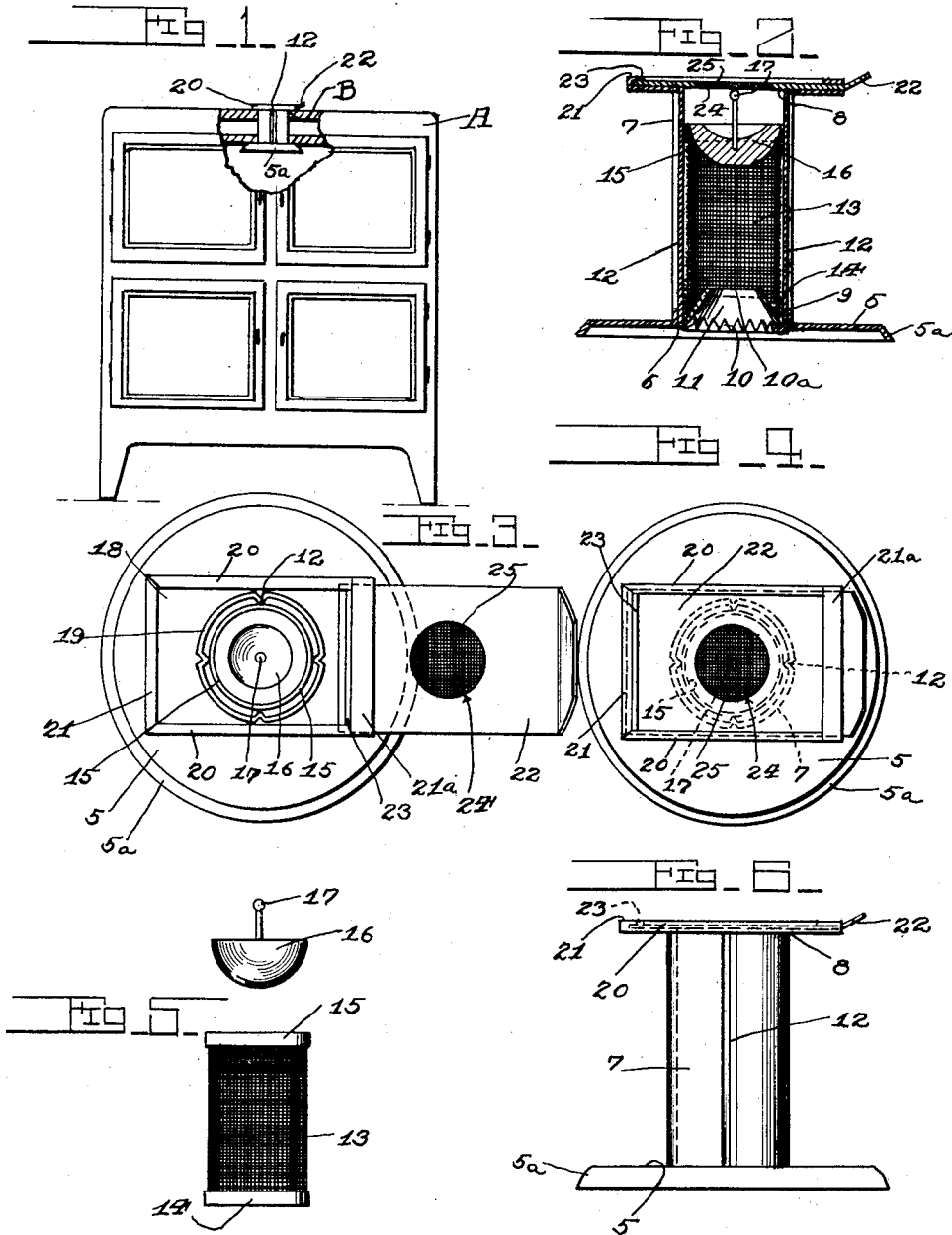


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VENTILATOR.
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To all whom it may concern:

Be it known that I, OTTO KERWIEN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Ventilators, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to ventilators, and particularly to a ventilator for refrigerators.

An object of the invention is to provide a ventilator of this character capable of being readily attached to any form of refrigerator and which permits the escape of gases or impure air from the refrigerator without permitting the entrance of fresh or warm air through the ventilator into the box.

Another object is to provide a ventilator of this character having an indirect passage for the exhaust of warm air within the refrigerator, said indirect passage preventing the entrance of warm air into the refrigerator through the ventilator.

A still further object of the invention is to provide a ventilator of this character wherein the various parts of the device may be readily disassembled for cleaning.

With these and other objects in view, the invention consists in the improved construction and arrangement of parts to be hereinafter more particularly described, fully claimed and illustrated in the accompanying drawing, in which:

Figure 1 is a vertical elevation of a refrigerator showing the ventilator applied;

Fig. 2 is a vertical sectional view of the ventilator;

Fig. 3 is a top plan view showing the cover plate open;

Fig. 4 is a top plan view showing the cover plate closed;

Fig. 5 is a detail view of the air filter and deflector;

Fig. 6 is a vertical elevation.

Referring to the drawings, 5 designates a base plate adapted to engage the inner surface of the refrigerator A. The plate 5 has an annular flange 5^a and a central opening 6 adapted to register with a similar opening B provided in the refrigerator. It is, of course, obvious that the opening B may be provided in the top of the refrigerator, the front or either side of the same near the top. A cylindrical body member or casing 7 is provided, said casing being open at its ends

8 and 9 and arranged to have its end 9 secured in the opening of the plate 5. The marginal edge of the end 9 is formed into a plurality of supporting tabs 10, which are extended inwardly and upwardly toward the center of the casing to provide a support for a frusto-conical bottom member 11. The member 11 has a central opening 10^a smaller in diameter than the opening 6 and disposed inwardly of the casing. The casing 7 is also provided with a plurality of inwardly projecting ribs 12, said ribs extending longitudinally of the casing, the purpose of which will be hereinafter described.

In order to permit the escape of warm or impure air from the refrigerator without permitting the entrance of air into the refrigerator through the ventilator, I provide a novel air filter consisting of a casing 13 formed of wire fabric and open at its ends. This casing is smaller than the casing 7 and is disposed in spaced relation to the inner walls of the casing by means of the ribs 12. The end 14 of the casing 13 is intended to engage the frusto-conical member 11 of the casing 7 and positioned so that the opening 10^a is disposed inwardly of the casing 13. The end 15 of said casing is closed by means of a concavo-convex air deflecting cap 16, the edge of said cap being provided with a flange adapted to engage the edge of the end 15, while the handle 17 projects from the concave surface of the cap so as to permit the cap to be readily removed for cleaning, etc. When the casing 13 is disposed within the casing 7, the handle 17 is disposed even with the open end 8 of the casing 7.

Carried by the end 8 of the casing 7 is a guide plate 18 having a central opening which registers with the open end 8 of the casing 7. The longitudinal marginal edges of the plate 18 are turned back upon the same to provide guides 20. One end of the plate is extended back to provide a stop 21, while a strip 21^a extends laterally of the opposite end and is secured to the guides 20. A cover plate 22 is provided, the marginal edges of said plate being arranged to engage the guides 20 and stop 21 of the plate 18, while a laterally extending stop 23 is formed adjacent one end of the plate and adapted to engage the strip 21^a to prevent disengagement of the plate from the guide plate. The cover 22 is also provided with a central opening 24 smaller in diameter than the opening 19, said opening being disposed over the

opening 19 and open end of the casing 7. A sheet of wire fabric 25 is disposed over the opening 24 to prevent the entrance of dirt or like foreign matter into the ventilator but at the same time to permit unobstructed discharge of impure air from the refrigerator.

It is a well known fact that air or gases that accumulate within a refrigerator cause the ice to melt rapidly, and the quantity of this air is increased every time the door of the refrigerator is opened, and with the conventional form of refrigerators, no means is provided to remove this air, which, of course, is forced to the top of the refrigerator by the cool or pure air. With my device, the impure air that rises to the top of the refrigerator is caused to pass through the opening 6 and opening in the frusto-conical end of the casing 7, into the wire fabric casing 13. The casing 13 is smaller than the casing 7 and is therefore held in spaced relation to the inner walls of said casing by the ribs 12, said ribs forming passages between the casings 7 and 13. The air passes through the walls of the casing 13 into the passages formed by the ribs 12, the concavo-convex cap serving as a deflector to block the direct current of air in its passage upwardly through the ventilator and cause the same to pass through the walls of the casing 13. The air then passes over the deflector 16 and through the cover plate 22, the wire fabric covering of the opening 24 preventing the entrance of foreign matter. In view of this novel construction, an indirect passage is provided for the impure air, and in view of this indirect passage, it is impossible for the air to return or for warm air to enter the refrigerator by passing through the ventilator.

Should it be desired to clean the ventilator, the cover 24 can be readily removed so as to permit removal of the air filter or wire fabric casing 13, the opening 19 having the same diameter as the open end of the casing 7 so that the casing 13 may be readily disengaged therefrom. Should it be desired to render the refrigerator air-tight, for instance when the same is not in use, the cover 22 can be moved so as to bring the solid portion of one end thereof over the opening 19, thereby closing the ventilator.

From the foregoing, it will be readily seen that this invention provides a novel form of ventilator which is simple and compact in form, may be applied to any refrigerator,

and operates efficiently at all times to permit the escape of impure air and prevent the entrance of warm air into the refrigerator.

I claim:—

1. A device of the character described comprising a casing having an upper open end, means for partially closing the lower end of said casing, a supplemental casing disposed within the first mentioned casing, said casing having wire fabric walls and open at its ends, a removable air deflector carried by one end of said second mentioned casing, a guide plate secured to the upper end of the first mentioned casing, said plate having an opening registering with the end of the casing, a cover plate slidable on said guide plate, said cover plate having an opening adapted to be disposed over the opening in the guide plate, and a wire fabric covering for said last mentioned opening.

2. A device of the character described comprising a body member open at its ends, longitudinally extending ribs formed inwardly of the body member, a reticulated casing disposed within the body member, said casing being positioned in spaced relation to the inner wall of the body member by said ribs to provide air passages, and an air deflector carried by and closing one end of the casing, whereby air is deflected through the casing into said passages.

3. A device of the character described comprising a body member open at its ends, longitudinally extending ribs formed inwardly of the body member, a reticulated casing disposed within the body member, said casing being positioned in spaced relation to the inner wall of the body member by said ribs to provide air passages, and a detachable air deflector and closure member for one end of the casing, whereby the air is directed exteriorly of the reticulated casing, said deflector being substantially concavo-convex in cross section, said convex surface serving to deflect the air entering the casing, said concave surface extending toward the outlet end of the casing whereby air endeavoring to enter the casing through the outlet end is accumulated in the concave portion and withdrawn by suction of the air passing through the outlet end of the body member.

In testimony whereof I hereunto affix my signature.

OTTO KERWIEN.