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(72) Inventors:

- **Boorman, Patrick J.**
Benton Harbor, MI Michigan 49022 (US)
- **Thomas, Mark E.**
Benton Harbor, MI Michigan 49022 (US)

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(71) Applicant: **Whirlpool Corporation**
Benton Harbor MI 49022 (US)

(74) Representative: **Nicholls, Michael John**
J A Kemp
14 South Square
Gray's Inn
London WC1R 5JJ (GB)

(54) Custom location ice maker

(57) A method of configuring an ice maker (30) within a refrigerator includes providing the refrigerator, the refrigerator having a refrigerator cabinet (12), a fresh food compartment (14) disposed within the refrigerator cabinet, a freezer compartment (16) disposed within the refrigerator cabinet, the ice maker having a fluid line (38) extending to a fluid supply within the refrigerator, and a door providing access to within the refrigerator cabinet. The method further includes configuring the refrigerator for relocation by positioning the ice maker (30) in a first position within the refrigerator cabinet without disconnecting the fluid line from the ice maker; relocating the refrigerator. The method further includes installing the refrigerator by moving the ice maker from the first position within the refrigerator cabinet to a second position within the refrigerator cabinet without disconnecting or connecting the fluid line (38) to the ice maker.

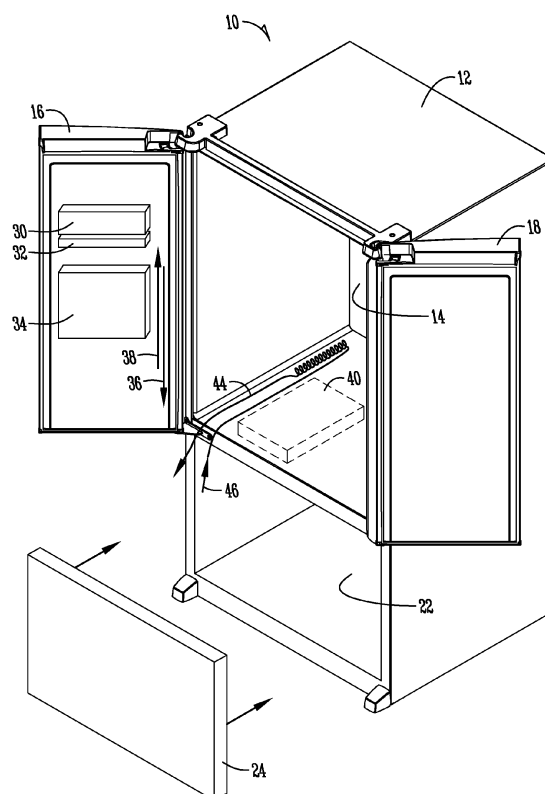


Fig. 1

Description

[0001] The present invention relates to refrigerators. More particularly, the present invention relates to a custom location ice maker for a refrigerator.

[0002] One of the problems presented with refrigerators which have ice makers on the doors relates to shipping and installation. When installing a refrigerator into a home, there is often a need to remove the door of the refrigerator. Where an ice maker is on the door, due to liquid exchange to the ice maker it would usually be necessary to also disconnect plumbing to the door. This may increase the likelihood of a coolant spill or damage to the refrigerator. What is needed is a refrigerator and related methods which address this issue.

[0003] Therefore, it is a primary object, feature, or advantage of the present invention to improve over the state of the art.

[0004] It is a further object, feature, or advantage of the present invention to provide for improved methods and apparatuses for refrigerators which allow a door of the refrigerator to be removed without risking a coolant spill and damage to the refrigerator.

[0005] It is a still further object, feature, or advantage of the present invention to provide for improved methods and apparatuses for refrigerators which allow a door of the refrigerator to be easily removed.

[0006] It is another object, feature, or advantage of the present invention to provide for an ice maker which may be moved to various locations within a refrigerator.

[0007] One or more of these and/or other objects, features, or advantages of the present invention will become apparent from the specification and claims that follow. No single embodiment need meet or provide each and every object, feature, or advantage. Different embodiments may have different objects, features, or advantages. The present invention is not to be limited by or to these objects, features, or advantages.

[0008] According to one aspect, a method of configuring an ice maker within a refrigerator is provided. The method includes providing the refrigerator, the refrigerator having a refrigerator cabinet, a fresh food compartment disposed within the refrigerator cabinet, a freezer compartment disposed within the refrigerator cabinet, the ice maker having a fluid line extending to a fluid supply within the refrigerator, and a door providing access to within the refrigerator cabinet. The method further includes configuring the refrigerator for relocation by positioning the ice maker in a first position within the refrigerator cabinet without disconnecting the fluid line from the ice maker; relocating the refrigerator. The method further includes installing the refrigerator by moving the ice maker from the first position within the refrigerator cabinet to a second position within the refrigerator cabinet without disconnecting or connecting the fluid line to the ice maker. The first position may be within the fresh food compartment, the freezer compartment, or on a door of the refrigerator.

[0009] According to another aspect, a refrigerator is provided. The refrigerator includes a refrigerator cabinet, a fresh food compartment disposed within the refrigerator cabinet; a freezer compartment disposed within the refrigerator cabinet, an ice maker having a fluid line extending to a fluid supply within the refrigerator, the ice maker configured to be removably mounted; a door providing access to within the refrigerator cabinet, and a plurality of mounting locations within the refrigerator cabinet for the ice maker, each of the plurality of mounting locations providing a first support member and a second support member for removably mounting the ice maker. The plurality of mounting locations may include locations on a fresh food compartment door of the refrigerator, locations on a freezer compartment door of the refrigerator, locations within the fresh food compartment, and/or locations within the freezer compartment.

[0010] According to another aspect, a method of configuring an ice maker within a refrigerator is provided. The method includes providing a refrigerator, the refrigerator having a refrigerator cabinet, a fresh food compartment disposed within the refrigerator cabinet, a freezer compartment disposed within the refrigerator cabinet, an ice maker having a fluid line extending to a fluid supply within the refrigerator, the ice maker configured to be removably mounted, a door providing access to within the refrigerator cabinet, and a plurality of mounting locations within the refrigerator cabinet for the ice maker, each of the plurality of mounting locations providing a first support member and a second support member for removably mounting the ice maker. The method further includes configuring the refrigerator for relocation by positioning the ice maker in a first position within the refrigerator cabinet without disconnecting the fluid line from the ice maker, relocating the refrigerator, and installing the refrigerator by moving the ice maker from the first position within the refrigerator cabinet to a second position within the refrigerator cabinet without disconnecting or connecting the fluid line to the ice maker.

[0011] The invention will be further described by way of example with reference to the accompanying drawings, in which:

FIG. 1 illustrates one embodiment of a refrigerator with an ice maker installed on a door.

FIG. 2 illustrates one embodiment of the refrigerator with the ice maker stowed in the refrigerator cabinet for shipping.

FIG. 3 illustrates a door of a refrigerator with an ice maker removably mounted thereon.

FIG. 4 illustrates an ice maker configured for removable mounting.

FIG. 5 is an end view of an ice maker removably mounted on a door of a refrigerator.

FIG. 6 illustrates a refrigerator with an ice maker mounted inside of the cabinet.

FIG. 7 illustrates a refrigerator with an ice maker mounted on a left French door of the refrigerator.

FIG. 8 illustrates a refrigerator with the ice maker mounted on a right French door of the refrigerator.

FIG. 9 illustrates a refrigerator with the ice maker mounted within the freezer compartment.

FIG. 10 illustrates a refrigerator with the ice maker mounted on a freezer door.

[0012] FIG. 1 illustrates one embodiment of a refrigerator of the present invention. In FIG. 1 a refrigerator 10 has a bottom mount freezer with French doors. It should be understood that the present invention may be used in other configurations including side-by-side refrigerator configurations and other types of configurations. The refrigerator 10 has a refrigerator cabinet 12. One or more compartments are disposed within the refrigerator cabinet 12. As shown in FIG. 1, a fresh food compartment 14 is shown with French doors 16, 18 providing access to the fresh food compartment 14. Below the fresh food compartment 14 is a freezer compartment 22 which may be accessed by pulling drawer or door 24 outwardly. Mounted on the inside of the left side French door 16 is an ice maker 30 preferably with a thermoelectric cooler (TEC) 30. Below the ice maker 30 is an ice storage bucket 34. Electric connections 36 and fluid connections 38 provide electric connections and fluid to the ice maker including water for making ice and cooling fluid. These connections may connect to connections 42, 44 which may in turn be operatively connected to a cooling bank 40. Preferably the connections are durable and robust with quick connectors. As shown, connection 44 may be a coiled to allow it to be stretched.

[0013] FIG. 2 illustrates the refrigerator of FIG. 1, however, in FIG. 2, the ice maker 30 is stowed in the fresh food compartment or refrigerator cabinet 14. The configuration shown in FIG. 2 is particularly applicable when the refrigerator is being shipped to a home location. Thus, the refrigerator door 16 may be removed for installation or shipping and then once the refrigerator door 16 is mounted to the refrigerator cabinet 12, the ice maker 30 may be moved to the inside of the French door 16. In other words, the refrigerator may be configured for relocation by positioning the ice maker in a first position within the refrigerator cabinet without disconnecting the fluid line from the ice maker. Then the refrigerator may be relocated. Then the refrigerator may be installed by moving the ice maker from the first position within the refrigerator cabinet to a second position within the refrigerator cabinet without disconnecting or connecting the fluid line to the ice maker.

[0014] FIG. 3 illustrates one example of the ice maker 30 mounted on the door 16. Note that a series of support members 62 extend along the door to provide a plurality of different mounting locations for the ice maker at different heights along the door. The ice maker 30 has mounts 60, such as tabs or pins, which can be attached to the support members 62 at the mounting locations to thereby allow the ice maker 30 to be removably mounted. It is to be further understood that ice maker 30 may be hinged

on one side to allow it to rotate and to assist in alignment. Thus, the ice maker 30 when mounted on a hinge may then be swung over and hooked in place on a mount 60 opposite of the hinge. FIG. 4 provides a top view of the ice maker 20 with the mounts 60 present. FIG. 5 provides an end view of the ice maker 30 as mounted at support members 62 of the door 16. As shown in FIG. 5, note that the position of the ice maker 30 on the door is height adjustable because there is a plurality of different mounting locations on the door 16 at various heights.

[0015] FIG. 6 illustrates an alternative mounting location. In FIG. 6, the ice maker 30 and ice bucket or bin 34 are mounted on the cabinet side of the refrigeration compartment.

[0016] FIG. 7 illustrates another mounting location. In FIG. 7, the ice maker 30 and ice bucket or bin 34 are mounted on the inside left French door 16.

[0017] FIG. 8 illustrates another mounting location. In FIG. 8, the ice maker 30 and ice bucket or bin 34 are mounted on the inside right French door 18.

[0018] FIG. 9 illustrates another mounting location. In FIG. 9, the ice maker 30 and ice bucket or bin 34 are mounted to the cabinet side of the freezer compartment.

[0019] FIG. 10 illustrates another mounting location. In FIG. 10, the ice maker 30 and ice bucket or bin 34 are mounted to the inside of the freezer compartment door or drawer 24.

[0020] It is to be further understood that different configurations of refrigerators are contemplated including French door bottom mount freezer configurations and side-by-side configurations in which the fresh food compartment is to the left or right of the freezer compartment. It is to be further understood that there may be adjustable height mounting wherever the ice maker is to be mounted including on a refrigerator door, within a fresh food compartment, within a freezer compartment, on a freezer drawer or door.

[0021] Therefore, a refrigerator with an ice maker with custom locations is provided. The present invention contemplates numerous variations including the placement of the ice maker and ice bin, the refrigerator configuration, the number of connections to the ice maker, and options, variations, and alternatives. In general, the present invention is only intended to be limited by the scope of the following claims.

Claims

1. A method of configuring an ice maker within a refrigerator, the method comprising:

providing the refrigerator, the refrigerator comprising (a) a refrigerator cabinet, (b) a fresh food compartment disposed within the refrigerator cabinet, (c) a freezer compartment disposed within the refrigerator cabinet, (d) the ice maker having a fluid line extending to a fluid supply

- within the refrigerator, and (e) a door providing access to within the refrigerator cabinet; configuring the refrigerator for relocation by positioning the ice maker in a first position within the refrigerator cabinet without disconnecting the fluid line from the ice maker; relocating the refrigerator;
- installing the refrigerator by moving the ice maker from the first position within the refrigerator cabinet to a second position within the refrigerator cabinet without disconnecting or connecting the fluid line to the ice maker.
2. The method of claim 1 wherein the first position is either: (a) within the fresh food compartment; or (b) within the freezer compartment.
 3. The method of claim 1 or 2 wherein the second position is on an interior portion of the door.
 4. The method of claim 3 wherein the door is a fresh food compartment door providing access to the fresh food compartment.
 5. The method of claim 4 wherein the door is a first French door and wherein the refrigerator further comprises a second French door and wherein the freezer compartment is positioned below the fresh food compartment.
 6. The method of claim 3 wherein the door is a freezer compartment door providing access to the freezer compartment.
 7. The method of claim 6 wherein the fresh food compartment is positioned to vertically extend side-by-side with the freezer compartment.
 8. The method of any one of the preceding claims further comprising removing the door from the refrigerator cabinet and wherein the installing the refrigerator further comprises replacing the door on the refrigerator cabinet.
 9. The method of any one of the preceding claims further comprising selecting the second position from a plurality of different mounting locations positioned within the refrigerator cabinet.
 10. The method of claim 9 wherein each of the mounting locations has an associated first support member and a second support member.
 11. The method of any one of claims 1 to 8 wherein the ice maker is configured to be removably mounted, and there are a plurality of mounting locations within the refrigerator cabinet for the ice maker, each of the plurality of mounting locations providing a first support member and a second support member for removably mounting the ice maker.
 12. The method of any one of the preceding claims wherein the relocating the refrigerator comprises delivering the refrigerator to a home.
 13. A refrigerator, comprising:
 - a refrigerator cabinet;
 - a fresh food compartment disposed within the refrigerator cabinet;
 - a freezer compartment disposed within the refrigerator cabinet;
 - an ice maker having a fluid line extending to a fluid supply within the refrigerator, the ice maker configured to be removably mounted;
 - a door providing access to within the refrigerator cabinet;
 - a plurality of mounting locations within the refrigerator cabinet for the ice maker, each of the plurality of mounting locations providing a first support member and a second support member for removably mounting the ice maker.
 14. The refrigerator of claim 13 wherein the plurality of mounting locations comprise:
 - (a) locations on a fresh food compartment door of the refrigerator; or (b) locations on a freezer compartment door of the refrigerator; or (c) locations within the fresh food compartment; or (d) locations within the freezer compartment.
 15. The refrigerator of claim 13 or 14 further comprising fluid connections to the ice maker such that the ice maker is moveable between the plurality of mounting locations without disconnecting the fluid connections.

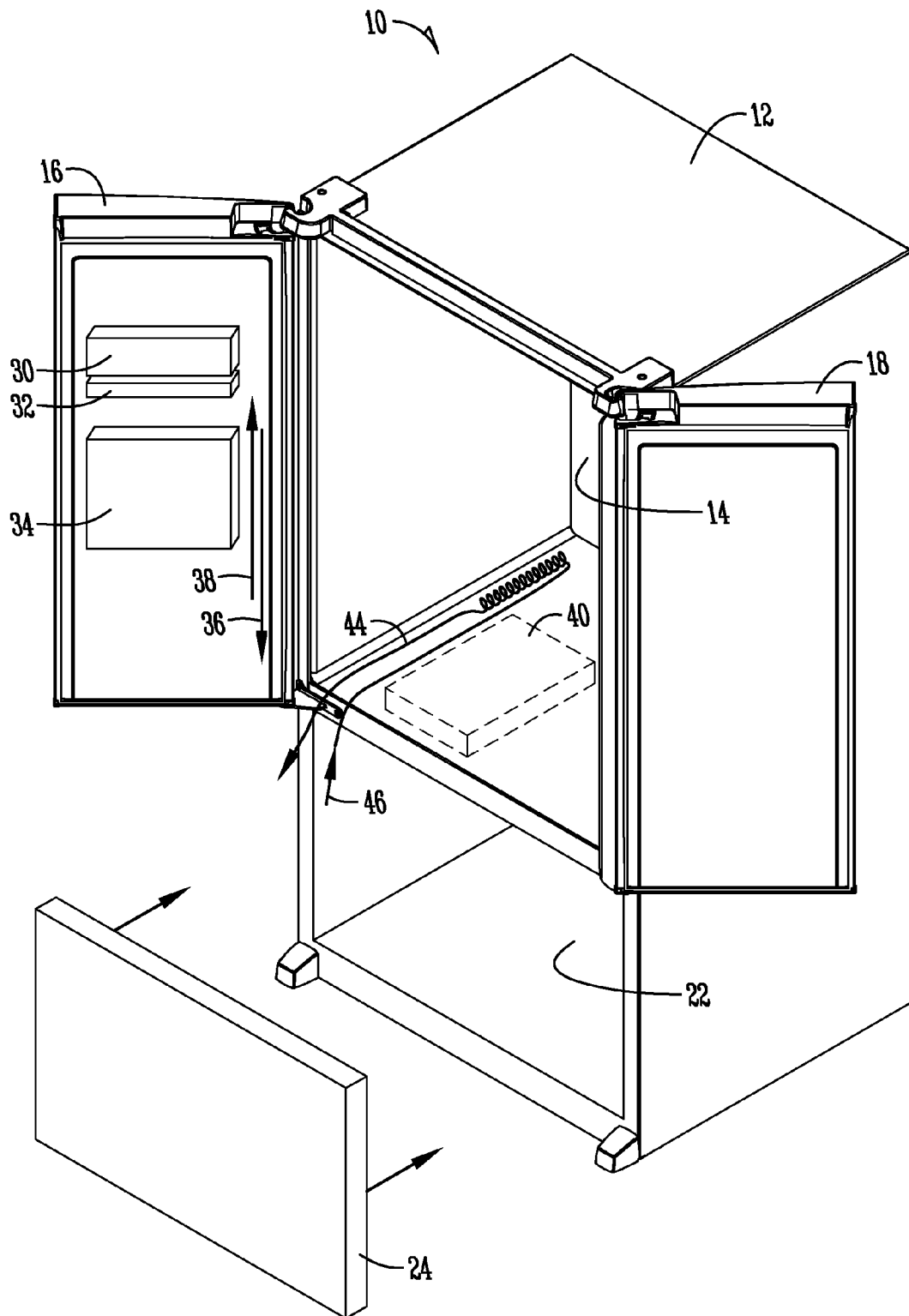


Fig. 1

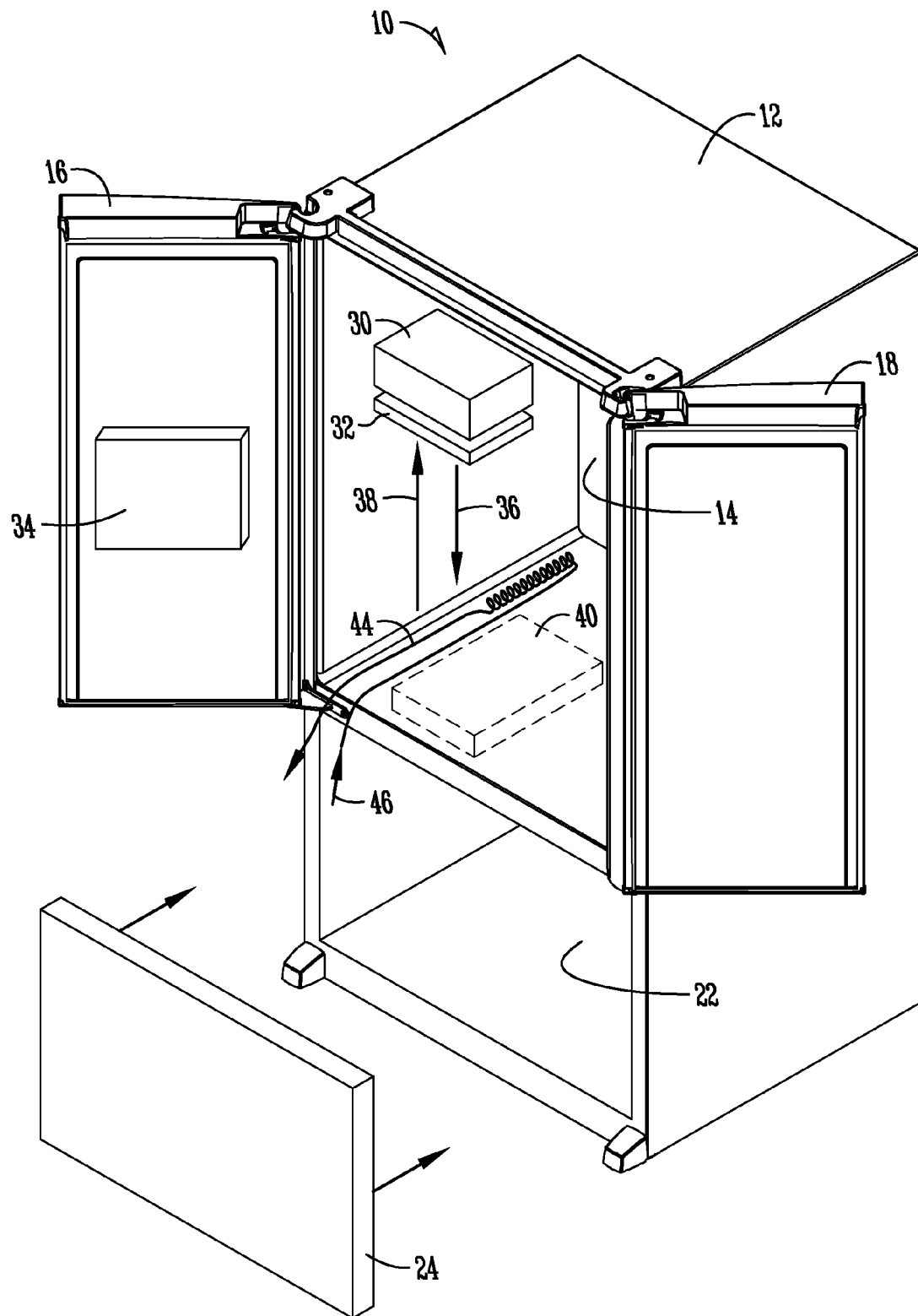


Fig. 2

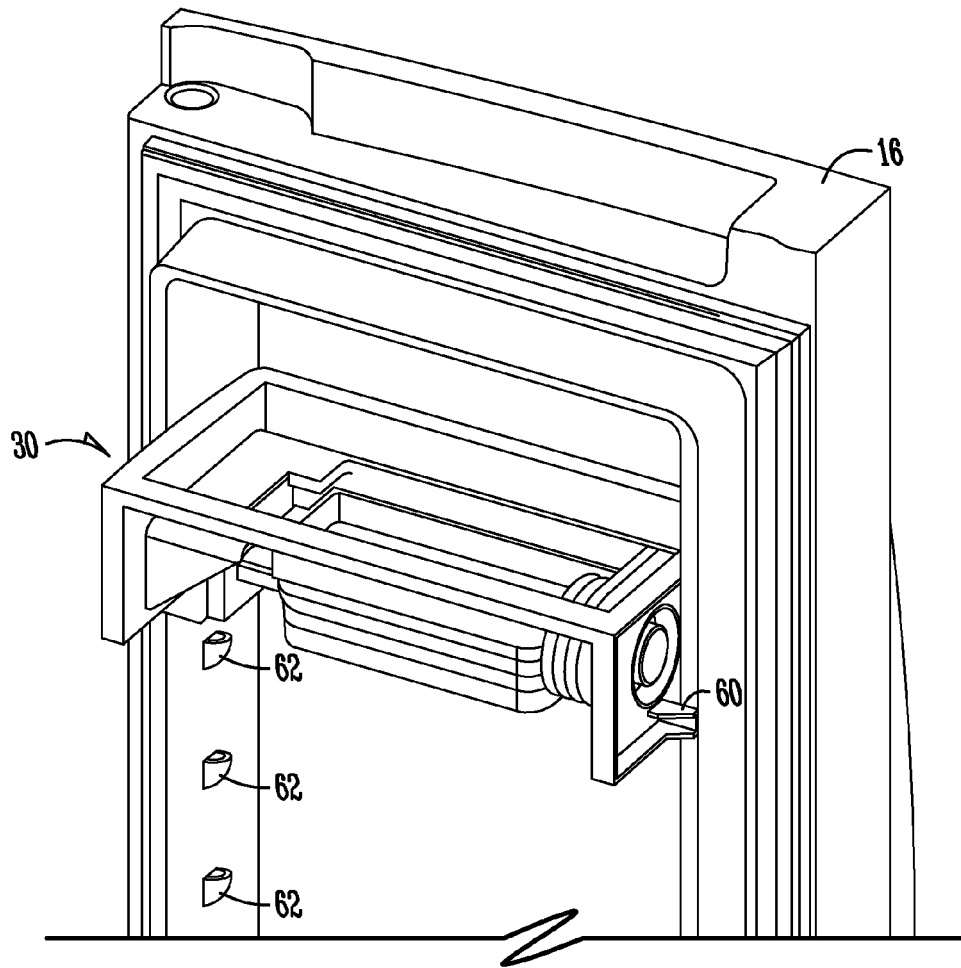


Fig. 3

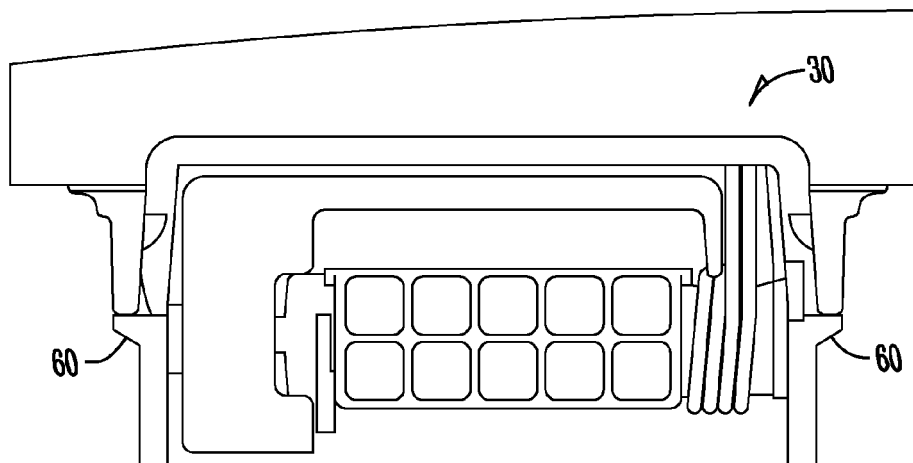


Fig. 4

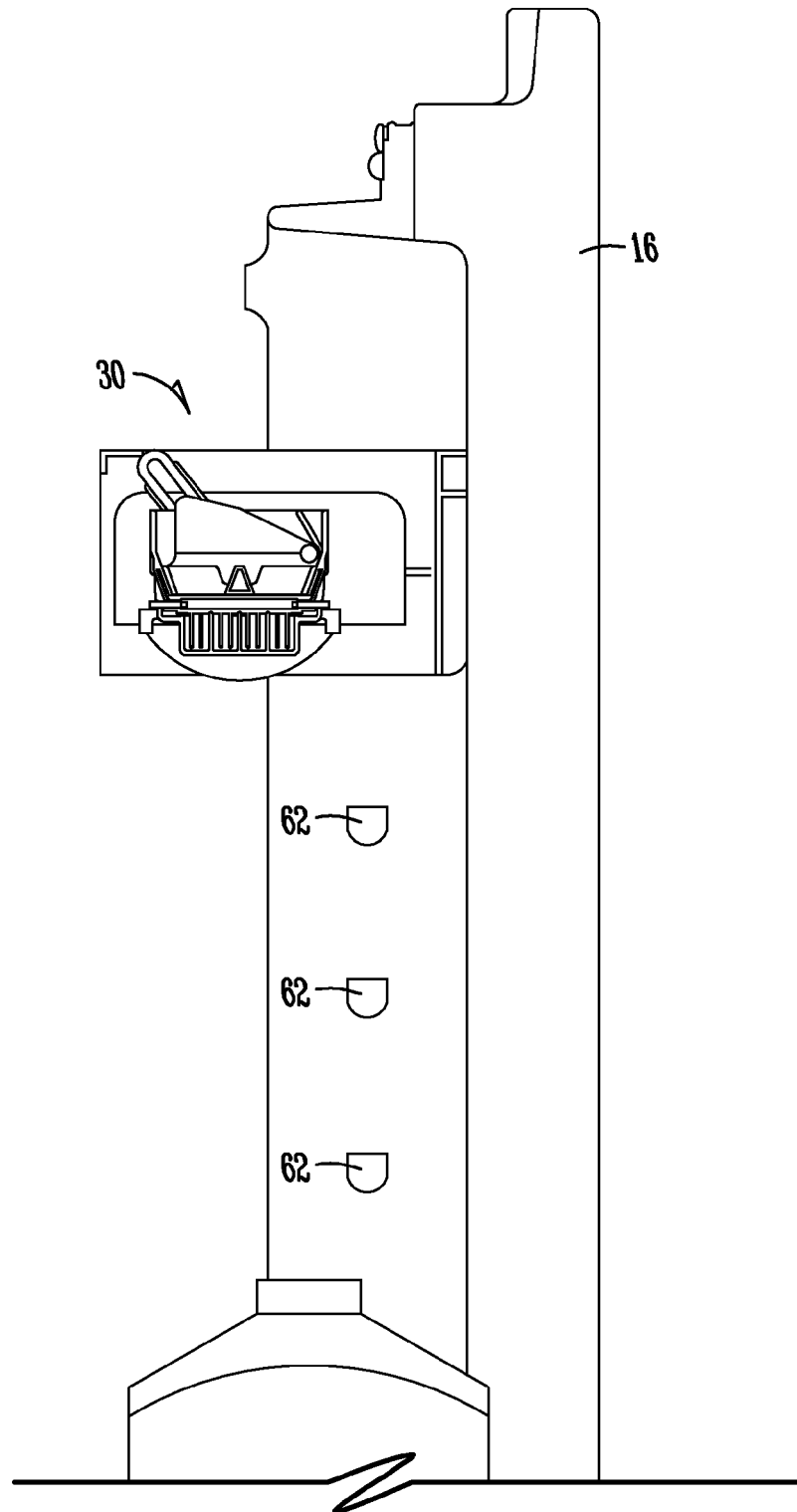


Fig. 5

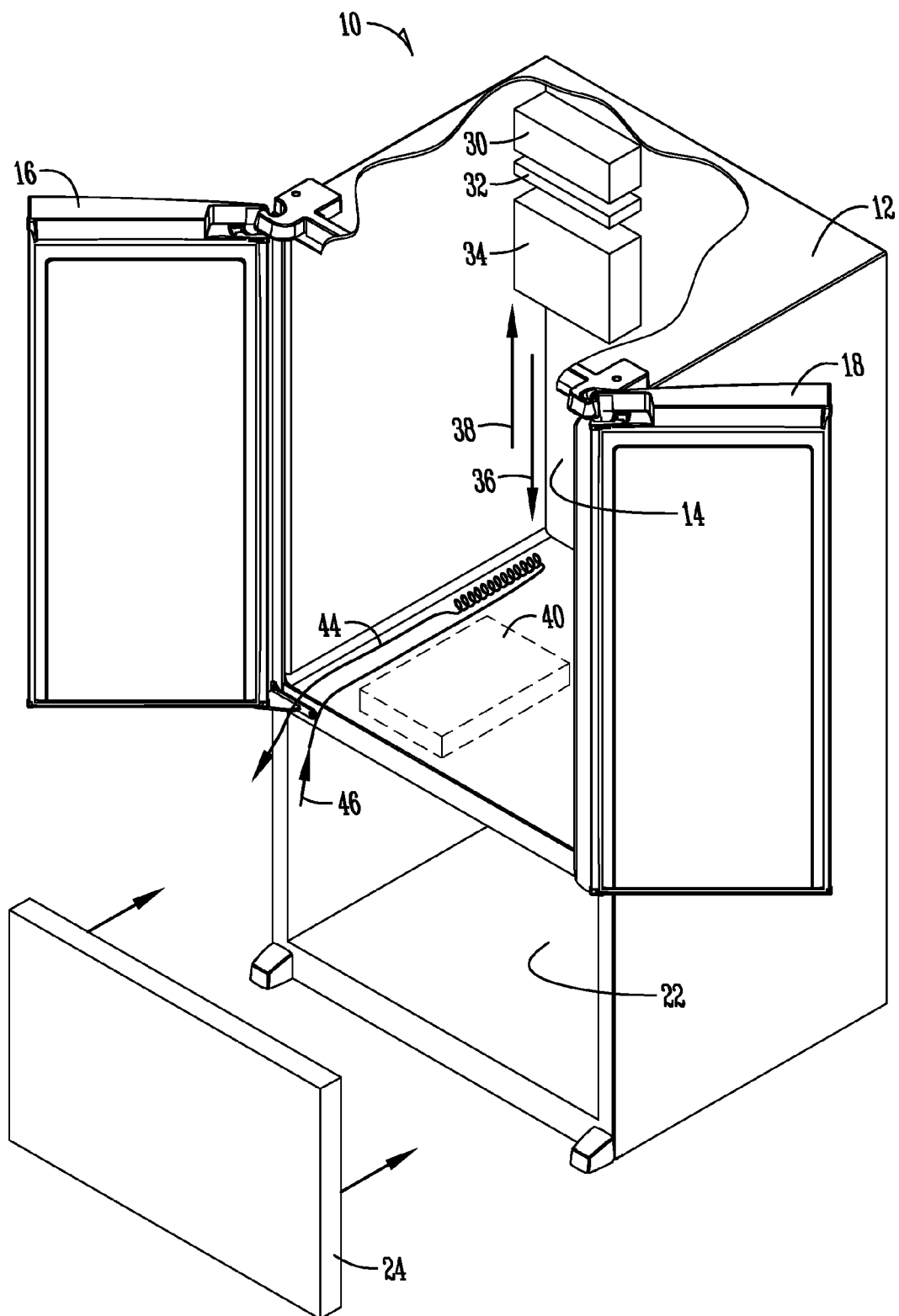


Fig. 6

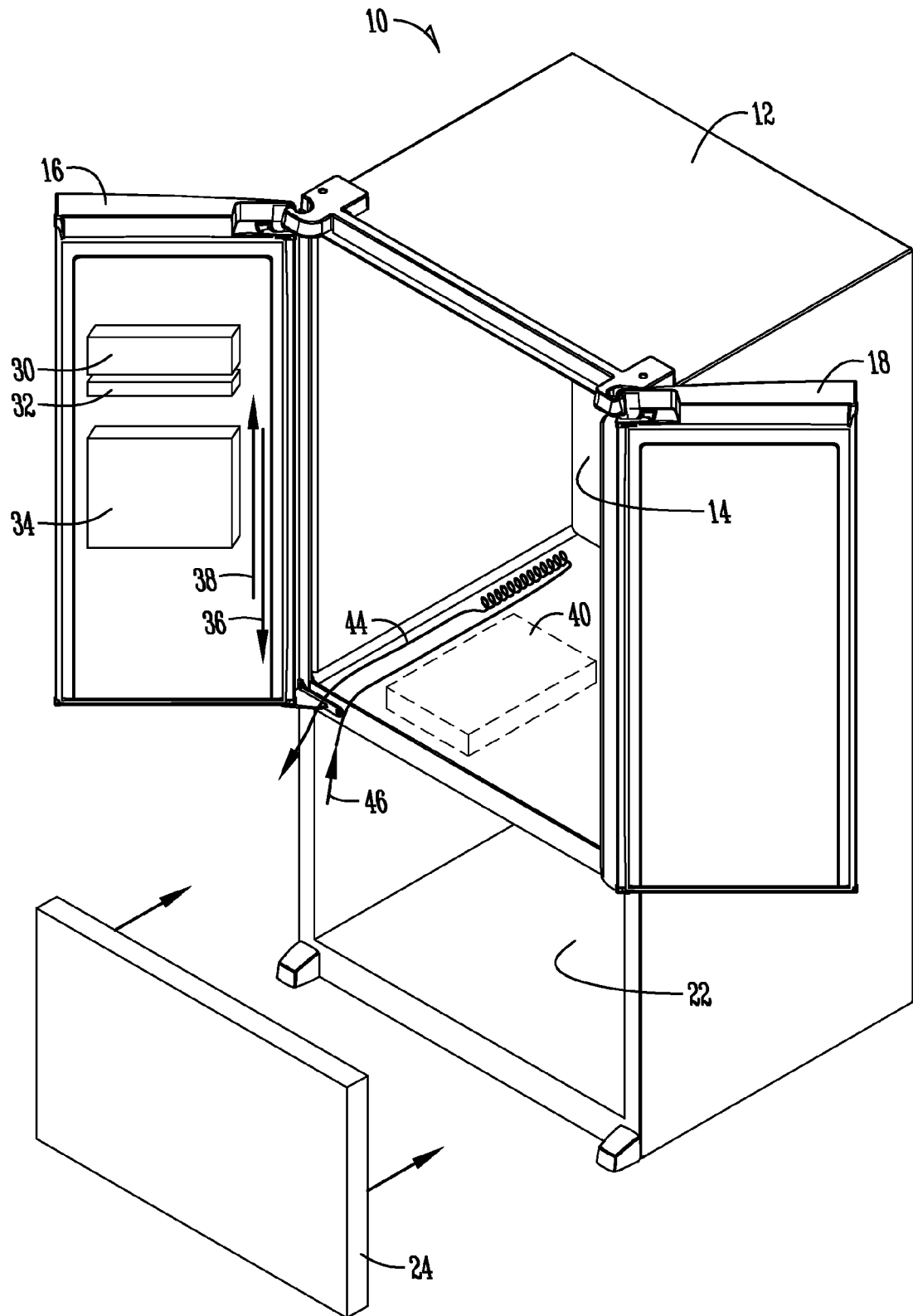


Fig. 7

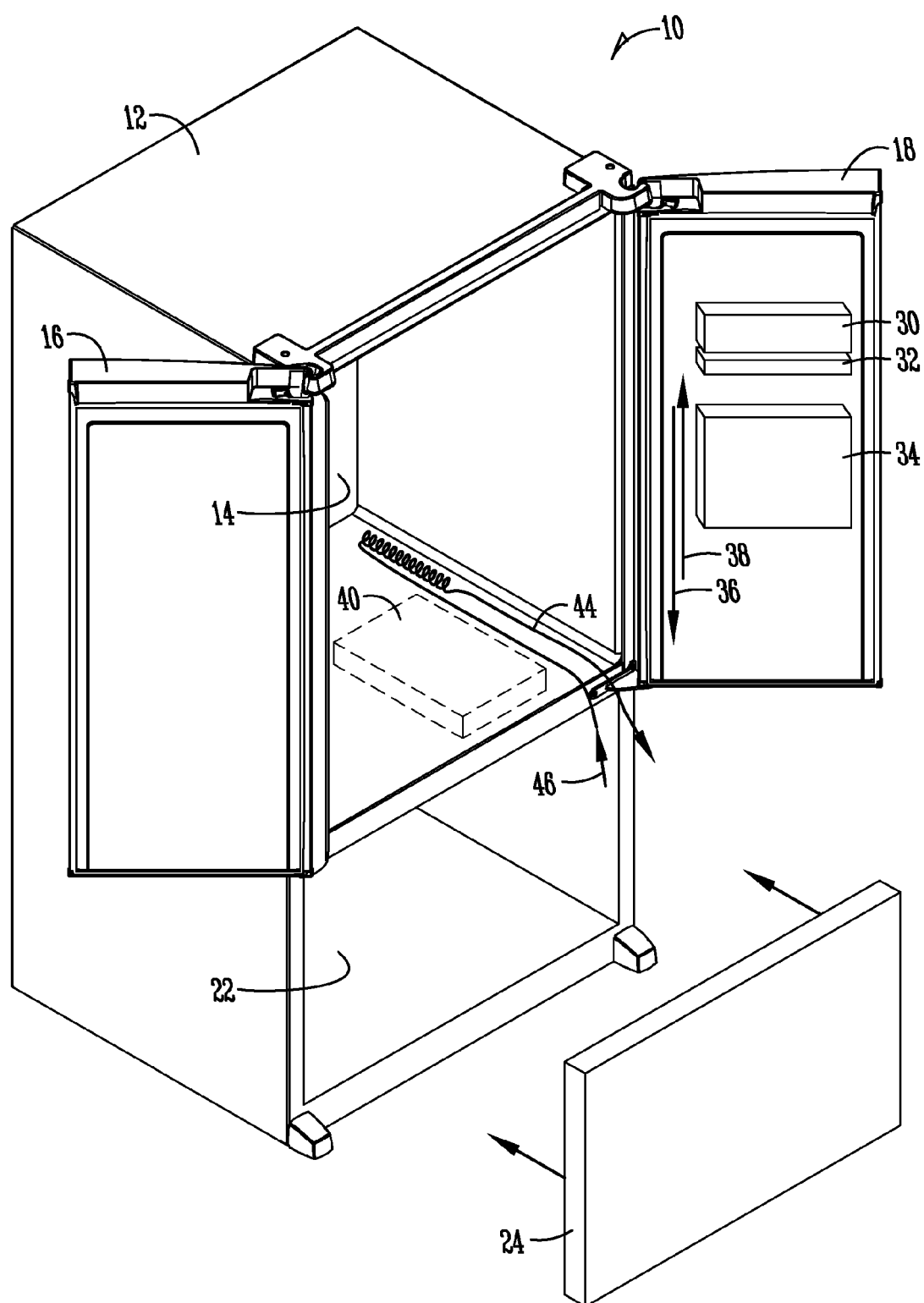


Fig. 8

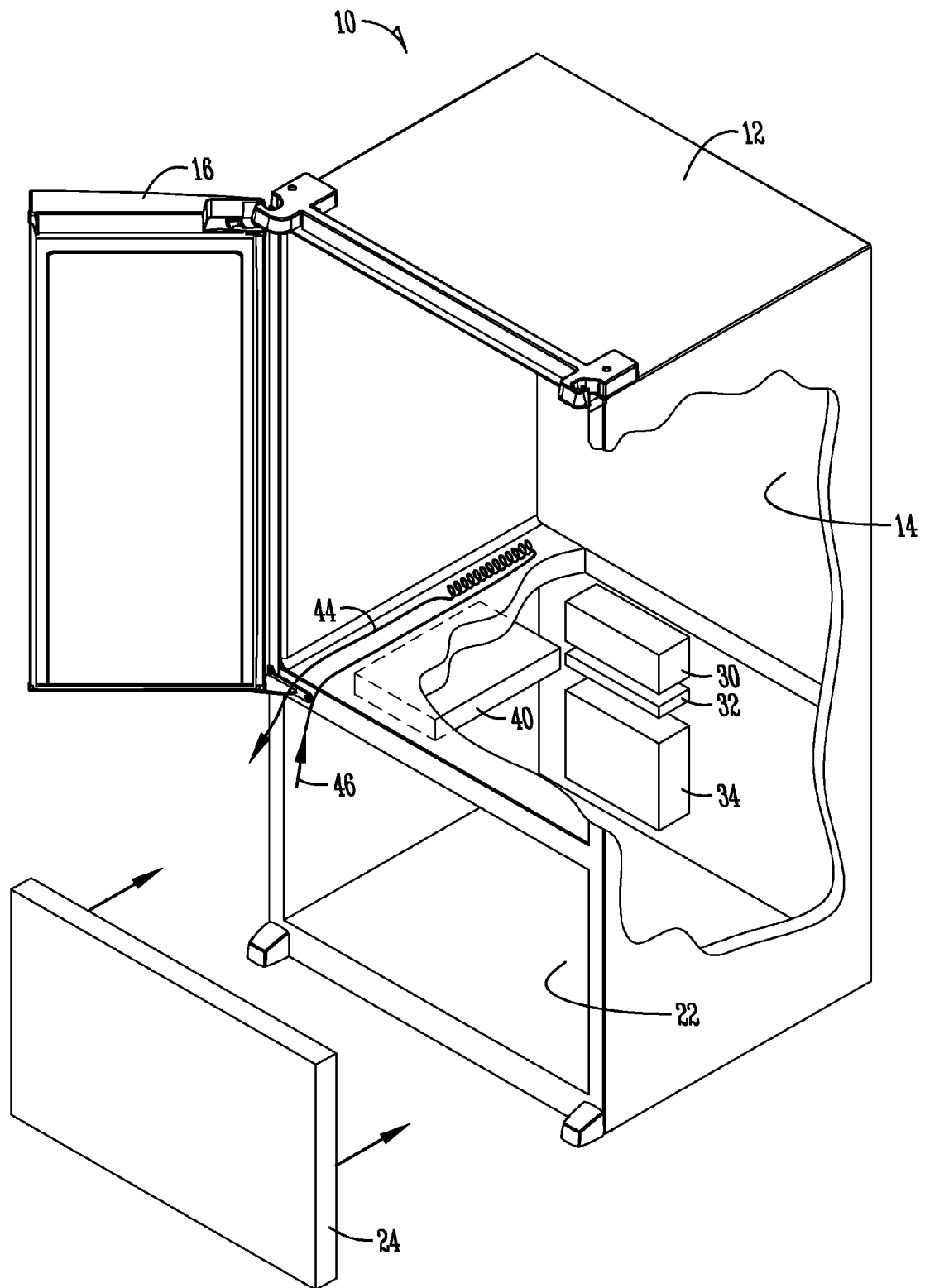


Fig. 9

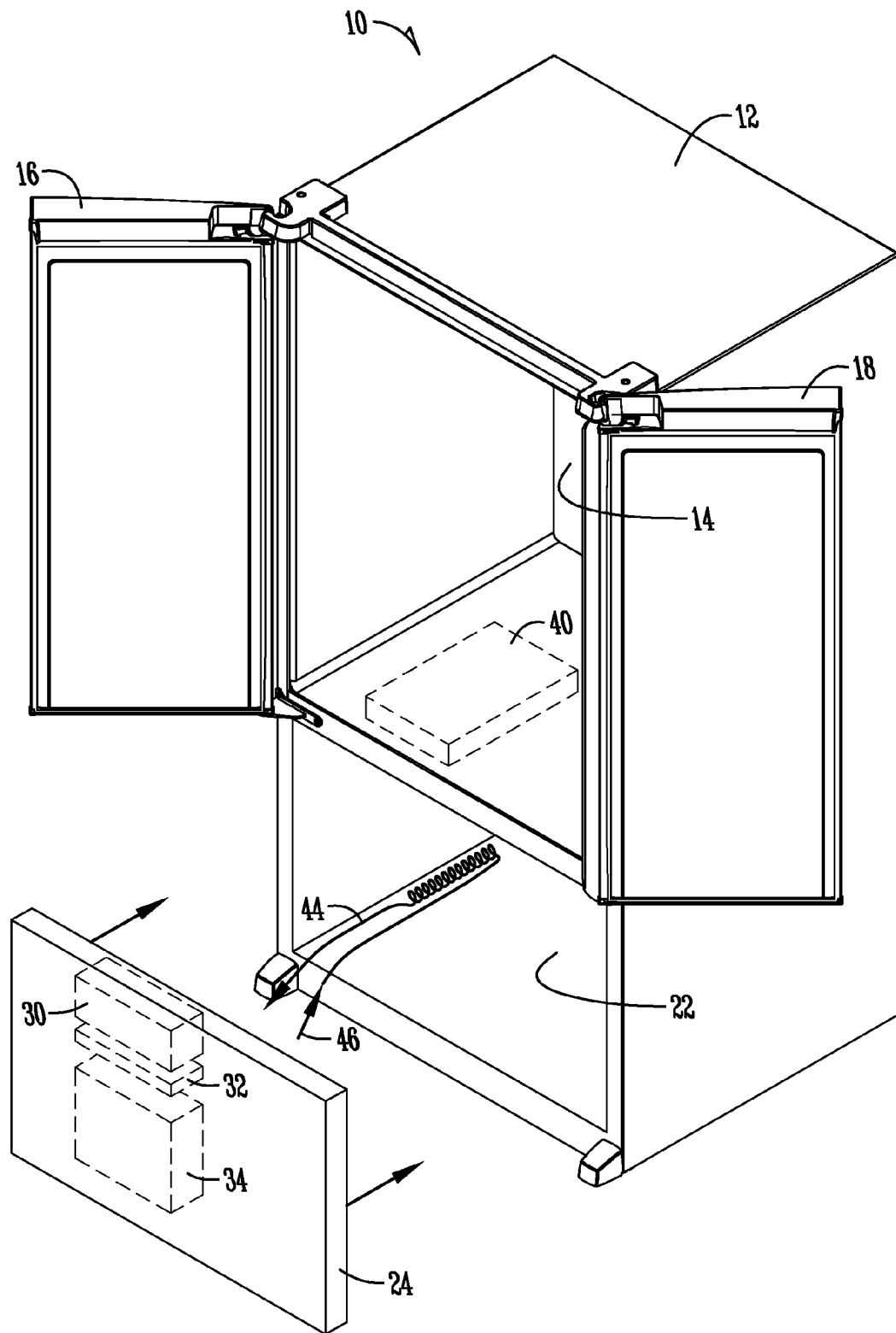


Fig. 10