

Aug. 18, 1936.

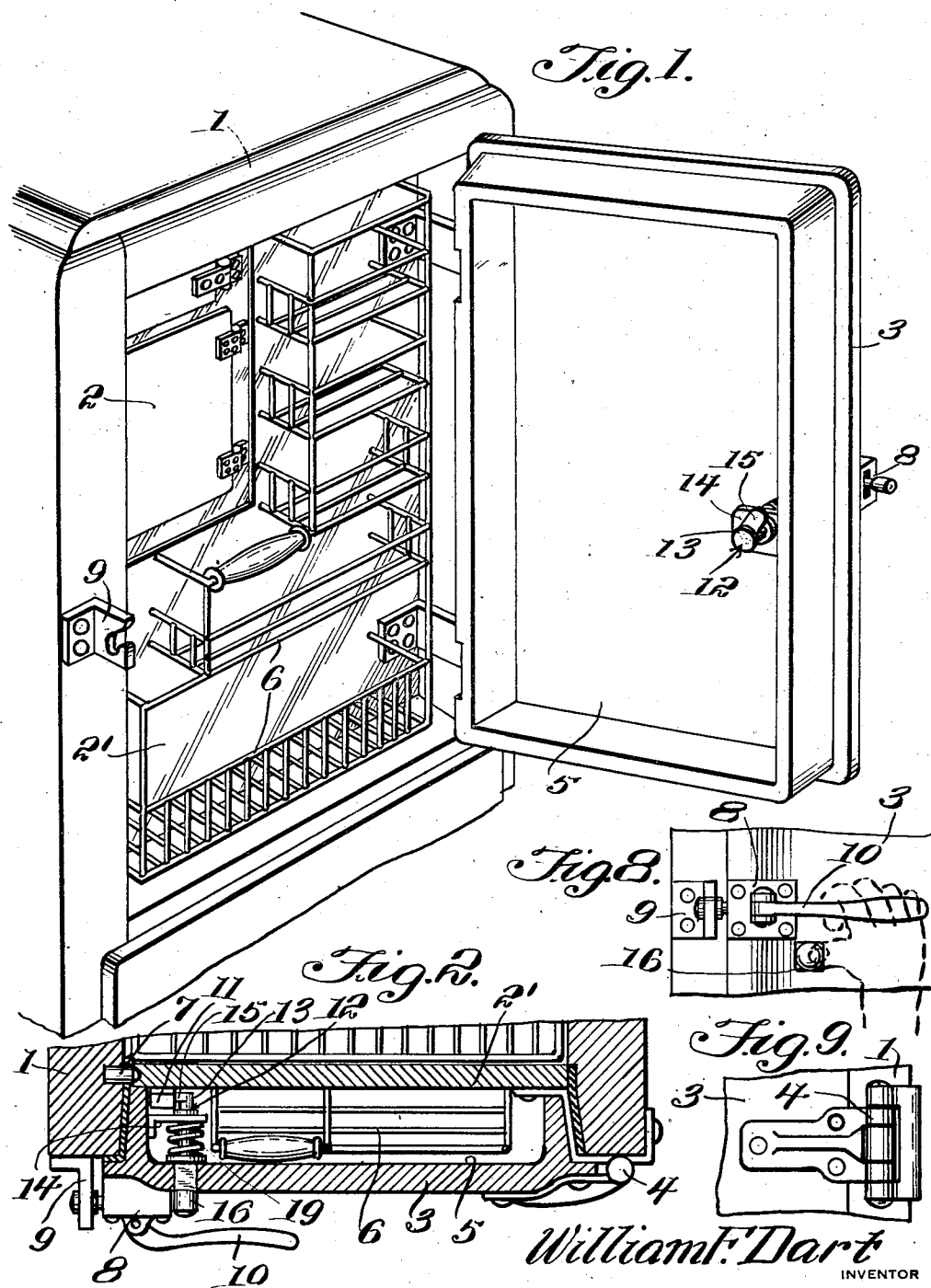
W. F. DART

2,051,132

REFRIGERATOR DOOR

Filed March 8, 1934

2 Sheets-Sheet 1



William F. Dart

INVENTOR

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WITNESS:

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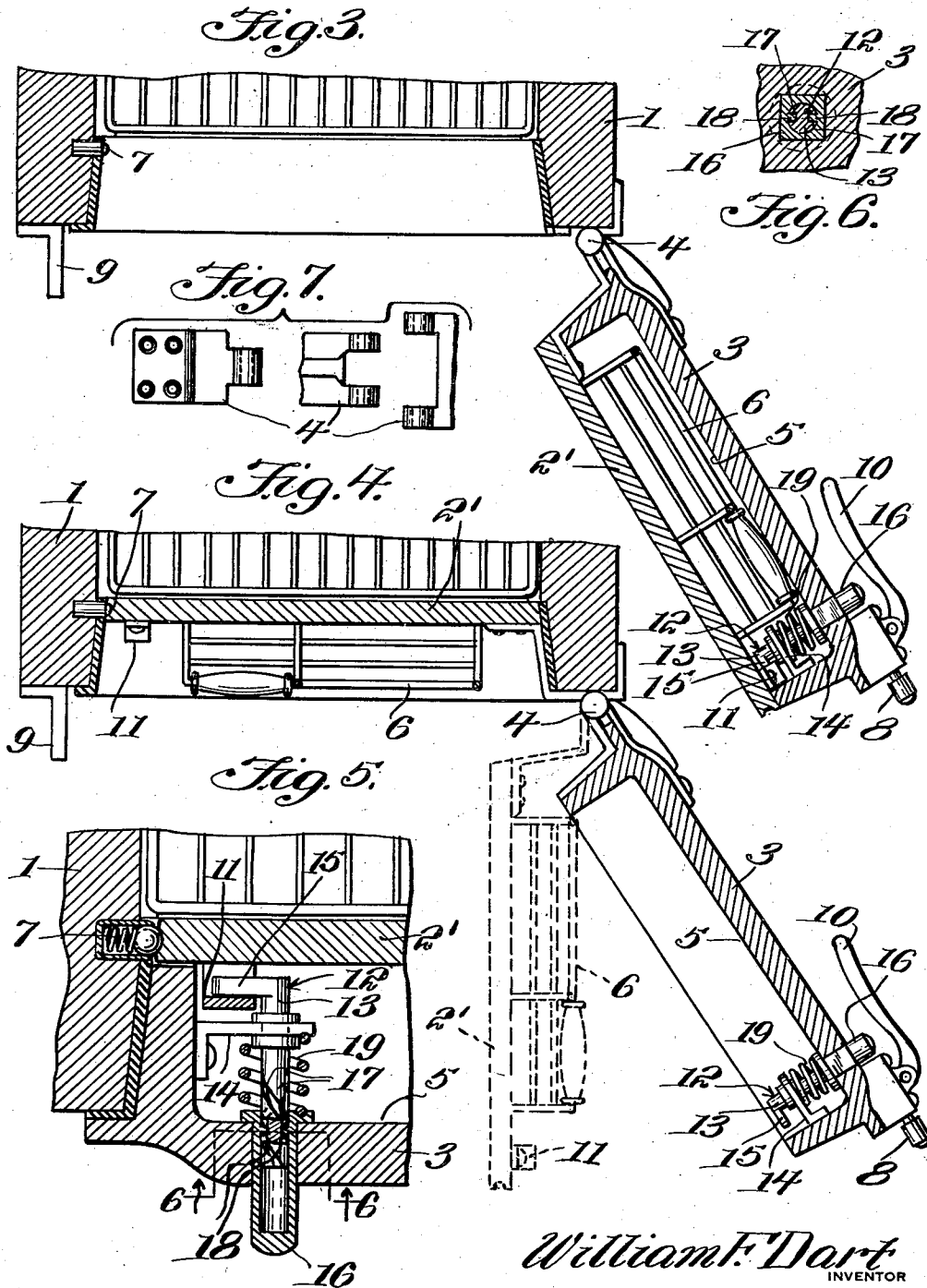
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WITNESS: *J. L. Wright*

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UNITED STATES PATENT OFFICE

2,051,132

REFRIGERATOR DOOR

William F. Dart, Mason, Mich., assignor to The
Crosley Radio Corporation, Cincinnati, Ohio, a
corporation of Ohio

Application March 8, 1934, Serial No. 714,717

4 Claims. (Cl. 62-89)

This invention relates to a closure for refrigerators and like containers and has for the primary object, the provision of a device of the above stated character which will permit the refrigerator to be fully opened when desiring to remove or replace articles from the food compartment or permit exposure of the ice cube chamber when desiring to obtain ice so that atmospheric temperatures will not readily enter the food compartment and unnecessarily raise the temperature therein, consequently permitting the refrigerator to be more economically operated and the temperature within the refrigerator more evenly maintained, assuring a better preserving of food products over a longer period of time.

Another object of the invention is the provision of inner and outer doors mounted for simultaneous opening and closing of the refrigerator and capable of being operated, so that the inner door may remain closed for the closing of the food compartment during the opening of the outer door to give admittance to the ice cube chamber.

A further object of the invention is the provision of the outer door of the chambered construction to receive an article rack supported by the inner door and which rack becomes fully exposed on the opening of the outer door while the inner door acts to close the food compartment of the refrigerator.

Figure 1 is a fragmentary perspective view illustrating a refrigerator equipped with a door construction constructed in accordance with my invention.

Figure 2 is a fragmentary horizontal sectional view showing the inner and outer doors latched together and occupying door-closing position.

Figure 3 is a similar view showing the inner and outer doors moved simultaneously to an open position for exposing the interior of the refrigerator.

Figure 4 is a similar view showing the outer door occupying an open position while the inner door occupies a closed position and exposing the rack of the inner door so that articles may be readily placed in and removed therefrom.

Figure 5 is a fragmentary sectional view showing the means of latching the inner and outer doors together and also a spring catch for aiding in maintaining the inner door in a closed position when the outer door is released therefrom and swung to an open position.

Figure 6 is a detail sectional view taken on the line 6-6 of Figure 5.

Figure 7 is a disrupted view showing one of the hinges.

Figure 8 is a fragmentary view showing the latch for securing the outer door in closed position and the finger piece of the latch employed for securing the inner and outer doors together.

Figure 9 is a fragmentary view showing one of the hinges.

Referring in detail to the drawings, the numeral 1 indicates a conventional type of refrigerator wherein the cooling unit is shown at 2 and is of the type to freeze ice cubes or blocks, the remaining interior of the refrigerator being employed for the storage of food products and the like. Heretofore when obtaining ice from the freezing or cooling unit it was necessary to expose the entire interior of the refrigerator to atmospheric temperatures, causing an unnecessary raising of the temperature of the refrigerator and increasing the cost of operation and maintenance, and to overcome these disadvantages my invention is employed and is in the form of a closure hingedly mounted to the refrigerator and includes inner and outer doors 2' and 3 both supported to the refrigerator 1 by hinges 4 capable of permitting the doors to swing simultaneously or one independent of the other. The inner door 2' is shaped so that when in closed position it will expose a freezing or cooling unit 2 while the food compartment is closed to the atmosphere. The outer door 3 is of the chambered or flanged construction forming upon the interior face thereof a chamber or space 5 to receive a rack 6 supported by the outer face of the inner door when said doors engage with each other or when latched together which will be hereinafter more fully described. The rack 6 may be employed for various articles not needing very low temperatures for their preservation and when the outer door 3 is opened independently of the inner door, the rack 6 becomes fully exposed so that articles may be readily placed in and removed therefrom.

A spring catch 7 is carried by the refrigerator to engage with the inner door for aiding in retaining the latter in a closed position when the outer door is swung open. The catch 7 is of a conventional type, that is employing a spring pressed ball engageable with a notch or socket formed in the inner door.

The outer door is equipped with a conventional type of latch 8 to engage with a keeper 9 on the refrigerator 1 for retaining the outer door in a closed position and is operable by a handle 10

when desiring to free the outer door for movement into an open position.

A keeper 11 is carried by the outer face of the inner door and enters the chamber 5 when the inner and outer doors are in abutting engagement and is engaged by a latch 12 carried by the outer door where said doors will be fastened together. The latch consists of a member 13 journaled in a bracket 14 carried by the outer door and has formed upon its inner end an angularly disposed projection or arm 15 to engage with the keeper 11. Slidably mounted in the outer wall of the outer door is a tubular finger piece 16 which slidably receives the member 13 and the latter is provided with spiral grooves 17 engaged by a lug 18 formed on the finger piece 16 whereby endwise movement of the finger piece will impart rotation to the member 13. A coil spring 19 is interposed between the bracket 14 and the inner end of the finger piece 16 for normally urging the latter in one direction or in a direction to cause rotation of the member 13 for positioning the arm 15 in engagement with the keeper 11. A manual movement of the finger piece in an opposite direction causes reverse rotation of the member 13 to disengage the arm 15 from the keeper 11. It is preferable that the finger piece 16 be located in close proximity to the handle 10 of the latch 8 so that a person operating the handle 10 to free the outer door may also operate the latch 12 to free said outer door from the inner door, permitting the latter to remain in closed position. When desiring to open both doors simultaneously the operator simply releases the outer door by actuating the handle 10 to release the latch 8 from the keeper 9 and both doors may then be swung simultaneously to an open position.

Having described the invention, I claim:

1. In combination with a refrigerator having a cooling unit and a food compartment, inner and outer doors for said refrigerator, hinges connecting said doors to the refrigerator, a latch between the outer door and the refrigerator, a latch be-

tween the inner and outer doors and operable from the exterior of the outer door, and said inner door having a cut away portion to expose the cooling unit when said inner door is in a position to close the food compartment.

2. In combination with a refrigerator having a cooling unit and a food compartment, inner and outer doors for said refrigerator, hinges connecting said doors to the refrigerator, a latch between the outer door and the refrigerator, a latch between the inner and outer doors and operable from the exterior of the outer door, said inner door having a cut away portion to expose the cooling unit when said inner door is in a position to close the food compartment, said outer door having a chamber, and a rack carried by the inner door and received within the chamber.

3. A device of the character set forth comprising inner and outer doors mounted for swinging movement, a latch for the outer door, a bracket carried by the outer door, a member rotatably supported by the bracket, a keeper carried by the inner door, an arm on said member to engage with the keeper, a finger piece slidably mounted to the outer door and receiving said member, a spiral drive between said finger piece and the member for imparting rotation to the latter, and a spring between the bracket and the finger piece.

4. In combination with a refrigerator having a cooling unit and a food compartment, inner and outer doors for said refrigerator, hinges connecting said doors to the refrigerator, a latch between the outer door and the refrigerator, a latch between the inner door and the refrigerator, means operable exteriorly of the refrigerator for releasing the latch on the inner door, said inner door carrying a rack of shelves, and having a main panel lying between the main food compartment and said shelves, said panel being so dimensioned as to permit the passage of refrigerated air from the cooling unit to said rack of shelves.

WILLIAM F. DART.