

Nov. 1, 1932.

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1,886,042

REFRIGERATOR

Filed Oct. 13, 1930

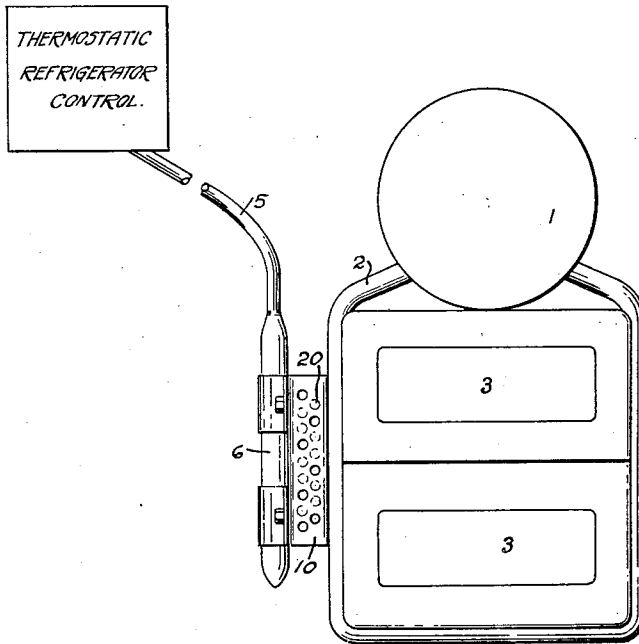


Fig. 1

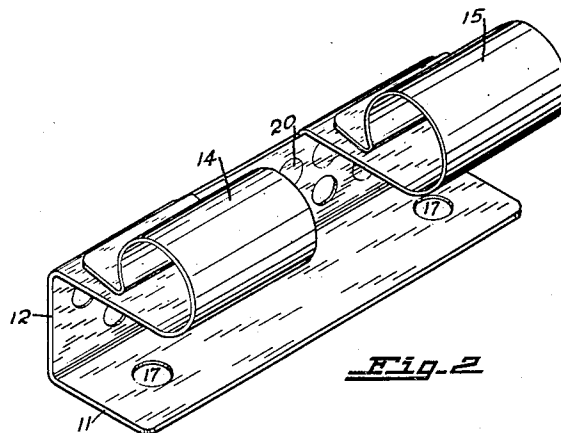


Fig. 2

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REFRIGERATOR

Application filed October 13, 1930. Serial No. 488,390.

This invention relates to refrigerators, and particularly to the automatic control of the temperature thereof. In mechanical refrigeration units, it is customary to have the operating mechanism automatically controlled in accordance with the temperature of the evaporator or refrigerating compartment. Thus, in household refrigerators, it is customary to have a volatile substance, such as liquid sulphur-dioxide in a cartridge communicating with a sylphon bellows, or suitable expansible chamber. The variation in temperature of the evaporator results in a variation of pressure of the sulphur-dioxide within the cartridge and results in a movement of the bellows or chamber wall. By suitable mechanism this movement is adapted to control the source of power and thus control the refrigerating mechanism. As a rule, such cartridges are soldered or clamped directly against a portion of the evaporator, or are disposed in the refrigerating chamber, completely removed from the evaporator.

The first disposition of the cartridge against the evaporator is objectionable for the reason that, if the thermostatic control is adjusted for low temperature, it frequently occurs that the refrigerating compartment, wherein food and similar materials are stored, has its temperature reduced to, or below, freezing. If the second disposition of the cartridge is chosen, excessive and unnecessary operation of the mechanism will result when the refrigerator door is frequently opened.

An object of this invention is to devise a mounting for the cartridge, so that the resulting temperature control will be exercised by both the evaporator and refrigerating compartment in substantial degrees. An additional object is to devise a mounting for connecting the evaporator and cartridge so that a predetermined rate of heat transfer between the evaporator and cartridge may take place. An additional object is to devise a mounting, of the character described,

which may be adjusted so that substantially the same mounting may be used for refrigerators and evaporators of different sizes and capacities.

Referring to the drawing:

Figure 1 is a front view of an evaporator, showing a thermostatic control with its cartridge mounted upon the evaporator with the improved bracket.

Figure 2 is a detail of the bracket itself.

Referring to the drawing:

An evaporator of the usual type is shown and comprises a header, or gas chamber 1, with depending duct loops 2. Loops 2 inclose a freezing chamber in which are disposed trays 3 for freezing ice or similar purposes. As is well known, the complete evaporator is disposed inside of a heat insulated container and is adapted to chill the air therein. A thermostatic refrigerator control is connected by a length of flexible piping 5, to a cartridge 6, containing any suitable volatile liquid, such as compressed sulphur dioxide. In order to suitably support cartridge 6 in desired heat conducting relation to the evaporator, a bracket, generally designated as 10, is provided. This bracket, which may be made out of one piece of sheet metal, comprises a substantially elongated mounting portion 11, having a similar portion 12 joined thereto at one edge, and at right angles thereto. Portion 12, which is also referred to as the heat conducting portion, has its sides extended to form clips 14 and 15. Cartridge 6 is adapted to be inserted into and gripped by clips 14 and 15, which are soldered or tightened in any suitable manner, so as to maintain said cartridge firmly in place. Mounting portion 11 is preferably disposed against one or more of pipes 2 and rigidly connected thereto, as by soldering or bolting in place at apertures 17.

In order to govern the rate of heat transfer, between cartridge 6 and duct loops 2 of the evaporator, heat conducting portion 12

has punched out therein a plurality of knock-outs 20. A predetermined number of these knock-outs may be very easily removed leaving circular apertures and resulting in a decrease in the amount of metal joining mounting portion 11 and clips 14 and 15 of the entire bracket. If for some reason a change is desired after the installation of the bracket, more knock-outs may be removed or metal discs may be inserted until the desired rate of heat transfer is effected.

It is evident that by virtue of the large exposed surface of cartridge 6, the temperature of the air in the refrigerating compartment will have a substantial effect upon the pressure developed within the thermostatic control. Obviously this effect may be varied by suitably changing the heat conducting properties of the bracket, as well as the exposure of the cartridge to the air.

I claim:

1. A bracket for mounting a temperature control member to the cooling unit of a refrigerator comprising a mounting portion for mounting said bracket on said cooling unit, a clamping portion for fixedly retaining said heat control member and a heat conducting portion joining said two portions, said heat conducting portion having removable means for readily varying the amount of metal joining said two portions and thereby varying the heat transfer therebetween.

2. A bracket adapted to maintain a heat control member in predetermined relation to a refrigerator evaporator comprising a strip of metal having a plurality of knock-outs therein for ready removal, and means on opposite sides of said strip for mounting said strip on said evaporator and mounting said heat control member on said strip.

3. A bracket for maintaining a heat control member and evaporator in desired heat conducting relationship to each other, comprising a single piece of stamped metal having one end thereof serving as a mounting portion for mounting said bracket on said evaporator, the other end formed as a mounting portion for maintaining said heat control member and an intermediate heat conducting portion joining said two portions and having a plurality of knock-outs cut therein whereby any desired number of said knock-outs may be removed to alter the heat conducting properties of said intermediate portion.

4. A bracket for mounting a heat control member on an evaporator, comprising a single piece of stamped metal, bent to form a U shape, and a plurality of knock-outs punched in the intermediate section of the strip, whereby the heat conducting property of said center portion may be readily adjusted.

In testimony whereof he affixes his signature.

FRED H. OSBORNE.