Sept. 17, 1929. E. PLATTEN 1,728,696

REFRIGERATING COUNTER

Filed March 14, 1927 2 Sheets-Sheet 1

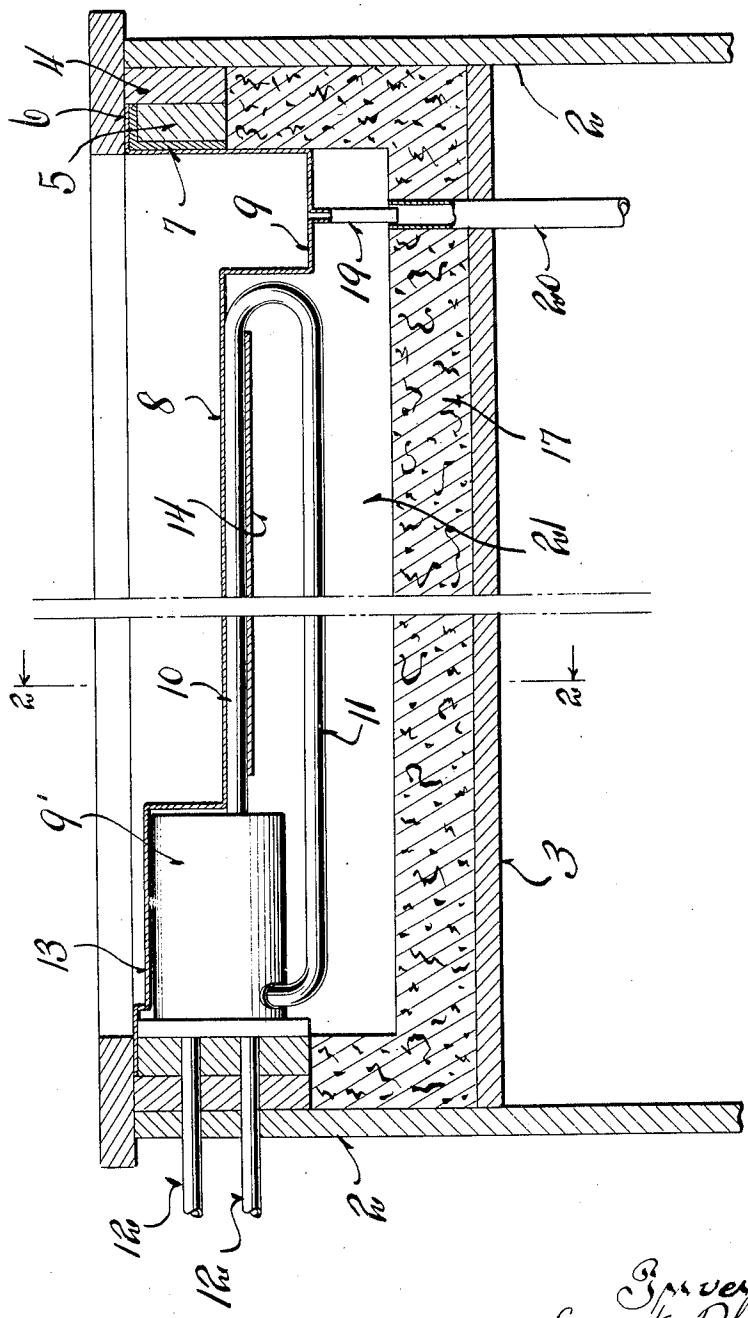


Fig. 1

Inventor:
Emmet Platten
By
Attorneys.

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Fig. 2

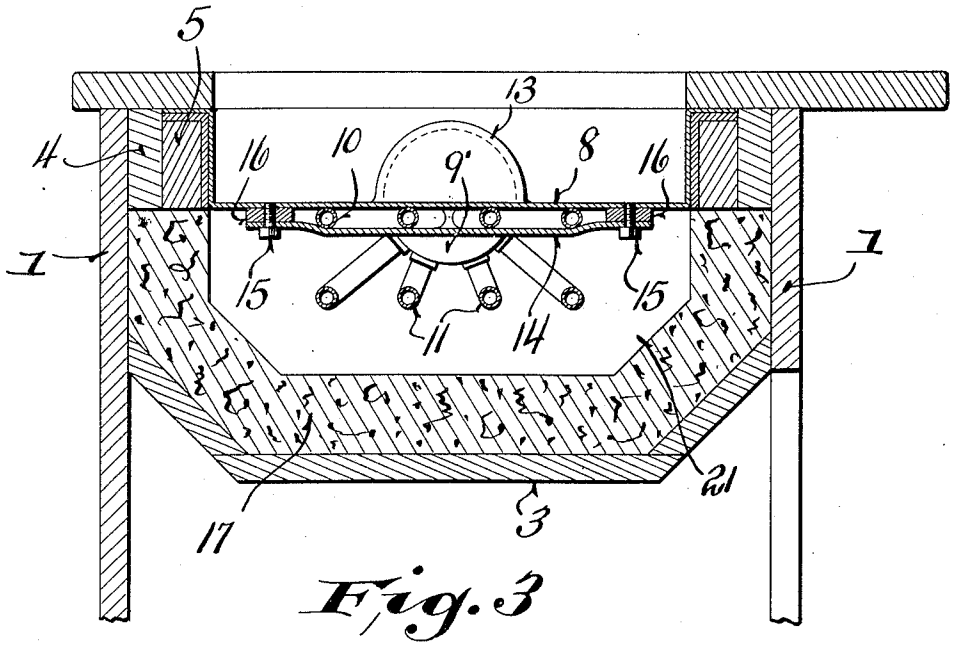
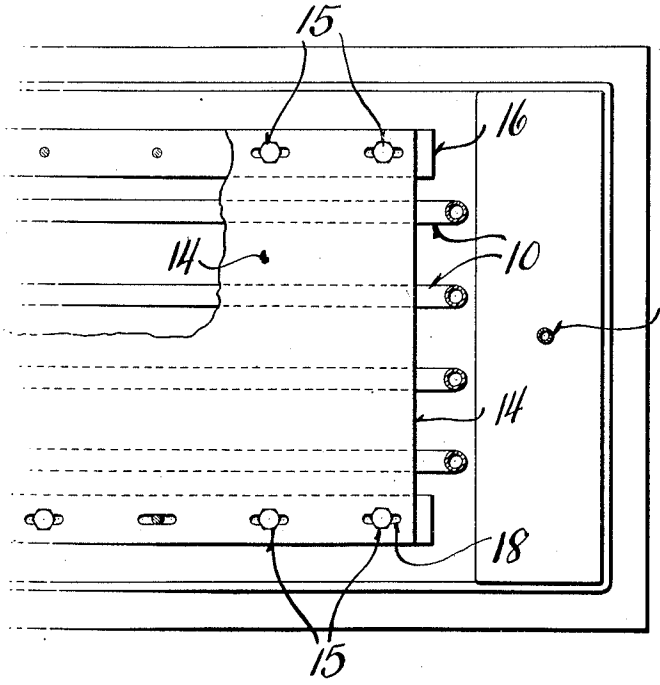


Fig. 3



Inventor:
Emmet Platten
By
Attorneys.

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UNITED STATES PATENT OFFICE

EMMET PLATTEN, OF GREEN BAY, WISCONSIN

REFRIGERATING COUNTER

Application filed March 14, 1927. Serial No. 175,254.

This invention relates to a refrigerating counter.

This invention is an improvement over that disclosed in Patent No. 1,552,949 of September 8, 1925 for a refrigerating counter, issued to William J. Platten.

Objects of this invention are to provide a novel form of refrigerating counter which is adapted for display of foods or kitchen or hotel use, and for other purposes, and is adapted to have the food placed directly on the counter and maintained chilled and in a highly sanitary condition.

Further objects are to provide a refrigerating counter which has no traveling stream of chilled air, which does not cause condensation upon any glass cover that may be placed thereover, which does not frost up, and which is adapted to be used either with or without a cover.

Further objects are to provide a refrigerating counter which depends upon direct conduction of the heat from the counter to the refrigerating unit, which employs a standard refrigerating unit, and which does not require soldering of the unit to the conducting portions of the counter, but which removably holds the unit in direct contact with the counter, thus materially cheapening the construction of the device and permitting independent shipping of the counter to the customer and of the standard refrigerating unit to the customer, so that the unit may be assembled in the counter in the customer's place of business.

An embodiment of the invention is shown in the accompanying drawings in which:

Figure 1 is a longitudinal sectional view through the counter;

Figure 2 is a transverse sectional view on the line 2—2 of Figure 1;

Figure 3 is a view from the underside of the counter with parts of the refrigerating unit in section and with the insulating bottom portion removed.

Referring to the drawings, it will be seen that the counter comprises a pair of side members 1, end members 2, and a channel-like bottom 3. A plurality of supporting beams 4 and 5 extend along the inner sides of the side and end members, as shown in Figures 1 and 2. One, at least, of these side beams carries the outturned flange 6 of the depressed counter, and preferably such outturned portion is reenforced by an angle iron 7. This depressed portion of the counter consists of a trough-like member having a bottom 8 and a small depessed portion 9. It is adapted to receive below it a standard refrigerating unit consisting of a drum 9′, a plurality of upper pipes 10, and a plurality of lower pipes 11, such refrigerating unit having outwardly extending pipes 12. This unit may be of the standard type commonly known as Frigidaire, for instance. Preferably, the bottom 8 is provided with an upwardly bowed portion 13, as shown in Figures 1 and 2, which forms a bulge for the reception of the drum 9′ of the unit. The unit is held in direct contact with the metallic depressed counter by means of a spring metal plate 14, which extends below the pipes 10 and clamps such pipes into binding direct engagement with the metallic bottom 8 of the counter. The plate 14 is secured in place by means of bolts or screws 15, and preferably spaces 16 are provided at its marginal edges, as shown in Figure 2. Thus, the unit is held in direct contact with the metallic counter and soldering of the pipes to the counter is avoided. There is, therefore, the utmost simplicity secured in assembling the device and no unusual skill is required. All that is necessary is to ship the counter to the customer and have the factory which supplies the standard unit ship a unit to the customer. Thereafter, the counter and unit are assembled as shown in the drawings and described above, to provide a unitary direct conduction refrigerating counter.

It is to be noted that the retaining plate 14 due to its springy nature holds all of the pipes 10 in binding engagement and direct contact with the bottom 8, and also it is to be noted that only a very small space is provided between the plate 14 and the bottom 8 and, consequently, the conduction of heat is direct from the plate to the pipes and no liquid conductor is required.

The bottom of the counter is surrounded,

as stated, by the channel shaped bottom portion 3 and a high grade insulation, such, for instance, as cork, is provided, as indicated by the reference character 17 and is contoured to provide in effect a trough-like insulating sheath below the refrigerating counter and spaced from the pipes 11.

It is also preferable to provide the spring plate or retaining plate 14 with elongated slots 18 (see Figure 3) through which the bolts or screws 15 pass, so that ease of assembling is secured.

It is also desirable to provide a discharge pipe 19 leading from the depressed portion 9. This discharge pipe opens into a larger discharge pipe 20 which communicates with the space 21.

It will be seen that a novel form of refrigerating counter has been provided by this invention in which the counter is surrounded on its bottom, sides and ends by insulating material, it being noted that the wooden beams 4 and 5 and the members 1 and 2 constitute insulation for the upper portion of the sides of the counter. If desired, additional insulation may be positioned at these points.

It will be seen therefore that the counter is thoroughly insulated around its sides and ends and across its bottom and that the depressed formation of the counter insures the collection therein of dense chilled air directly surrounding and forming a bank over the food. This chilled bank of air prevents flies and insects from alighting on the food and thoroughly protects the food.

It will be seen that no liquid refrigerant or conducting medium, such as brine, for instance, is required with this type of counter but that direct conduction is depended upon for securing the desirable results enumerated above.

It is to be understood that the counter may be used with or without a glass top. Preferably, if a glass top is used it is left open at its rear, as disclosed in the above noted patent, to provide ready access to the material placed within or upon the coutner.

It will be seen that if a cover is used, no frosting up or condensation upon the cover occurs.

It will be seen further that the counter may be kept in a highly sanitary condition and may be washed with the utmost facility as the cleaning water will drain from the counter through the pipe 19 which is located at its lowest portion.

It is to be noted particularly that if a leak or other defect occurs in the refrigerating unit that it is a very simple matter to remove the retaining plate and to remove the unit. No melting of solder is required or other difficult operations, and a new unit may be readily installed in place of the old unit.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

1. A conduction refrigerating counter comprising a permanently mounted depressed body portion of heat conducting material provided with marginal supporting flanges, a support for said flanges, a refrigerating unit secured in direct contact with the underside of said counter, and a channel-like insulating member surrounding said unit and closing the space below said counter, said channel-like insulating member being spaced below and out of contact with said refrigerating unit.

2. A conduction refrigerating counter comprising a depressed heat conducting body portion for the direct reception of the material to be chilled, a standard refrigerating unit having upper and lower spaced pipes, and a removable plate positioned below the upper of said pipes for holding said pipes in contact with said body portion.

3. A conduction refrigerating counter comprising a depressed body portion for the reception of the material to be chilled, a standard refrigerating unit having upper and lower spaced pipes, a plate positioned below the upper of said pipes, spacers positioned between said plate and the bottom of said body portion, and fasteners passing through said plate and securing said plate in position, said plate being springy and providing a yielding pressure against said upper pipes and holding such pipes in binding engagement and direct contact with said body portion.

In testimony that I claim the foregoing I have hereunto set my hand at Green Bay, in the county of Brown and State of Wisconsin.

EMMET PLATTEN.