

A. MAY.
 DRIP CUP FOR REFRIGERATORS AND ICE BOXES.
 APPLICATION FILED JUNE 21, 1909.

960,103.

Patented May 31, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

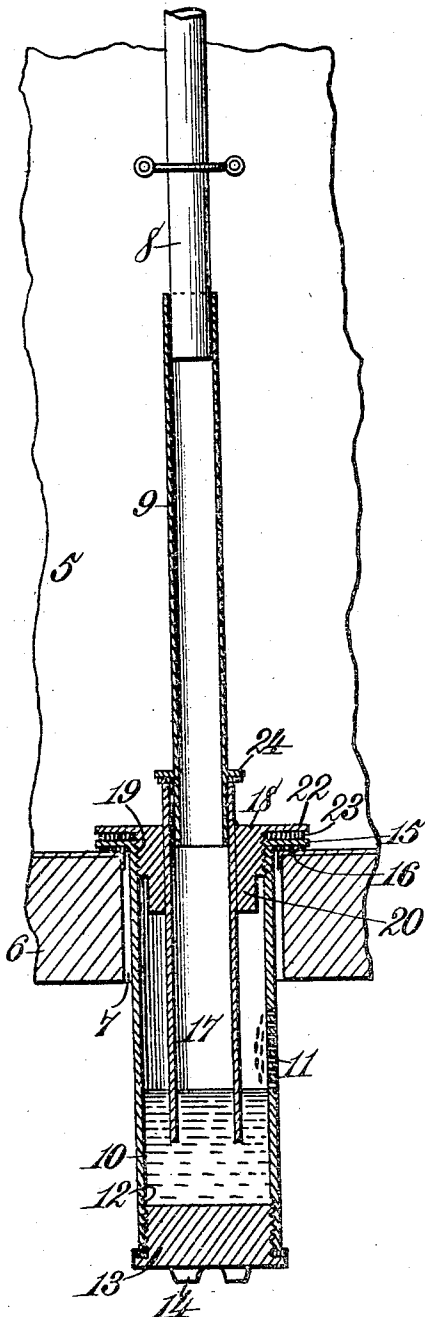


Fig. 2.

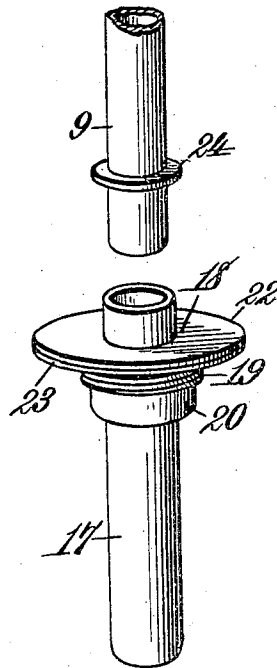
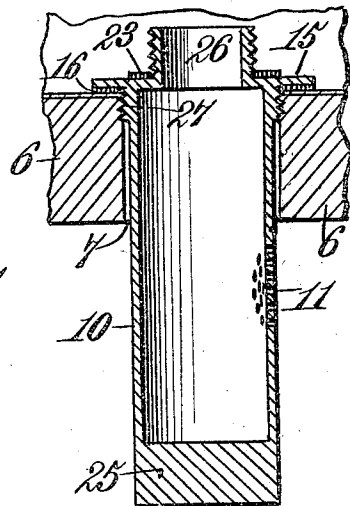
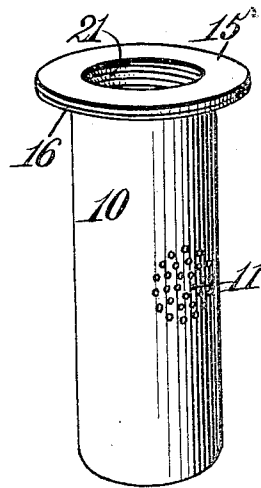
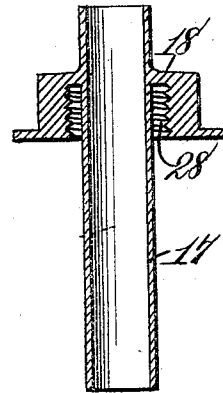


Fig. 3.



Witnesses.
 Robert Enright,
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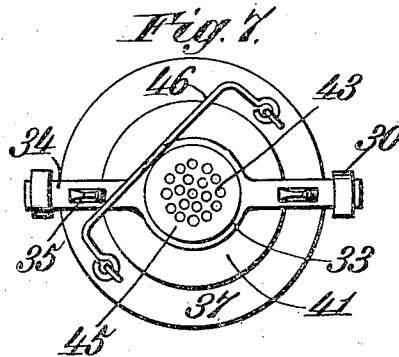
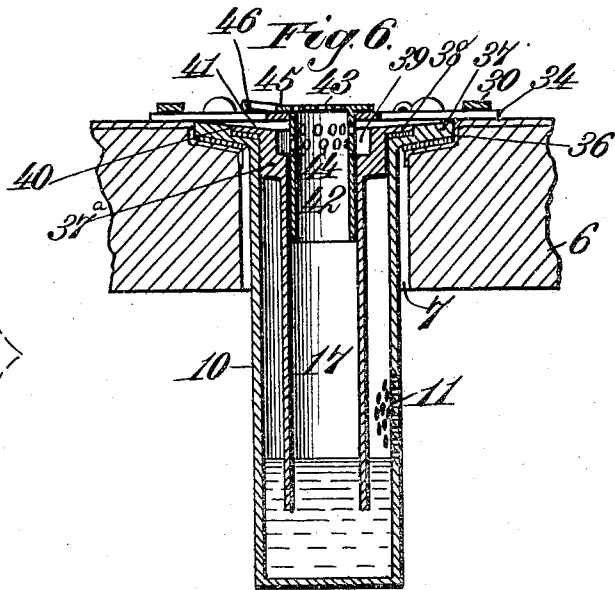
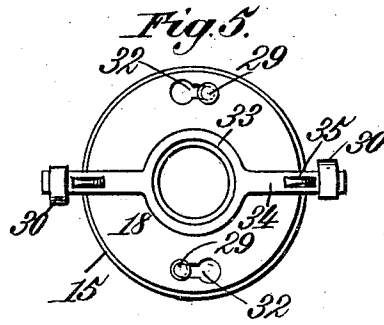
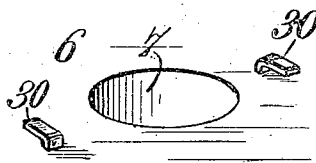
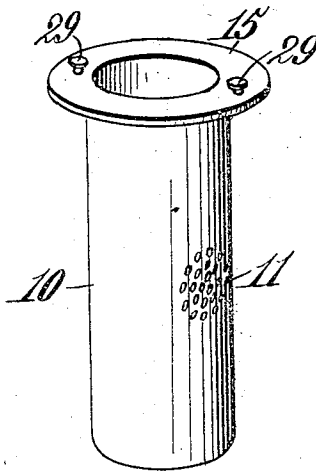
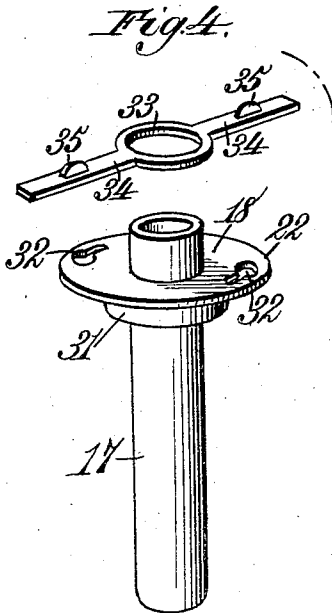
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

AUGUSTUS MAY, OF NEW ORLEANS, LOUISIANA.

DRIP-CUP FOR REFRIGERATORS AND ICE-BOXES.

960,103.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed June 21, 1909. Serial No. 503,412.

To all whom it may concern:

Be it known that I, AUGUSTUS MAY, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Drip-Cups for Refrigerators and Ice-Boxes, of which the following is a specification.

This invention relates to drip cups for refrigerators, ice boxes and the like, and the objects of the same are to provide means for effectively carrying off the drainage from the interior of the refrigerator or ice box and at the same time exclude hot air, insects and bugs from the inclosure and preserve sanitary conditions by rendering the cup easily removable from the refrigerator or ice box and the parts thereof readily separable for cleaning.

In addition to the desirable functions in drip cup construction just specified, the improved cup is removable and placeable in the refrigerator or ice box through the front door or lid, thus avoiding the necessity of pulling the refrigerator or ice box out from the wall when it is desired to clean the cup.

The cup embodying the features of improvement essentially comprises an outer tubular drainage receiving member having an outflow opening above its lower end, and an inner tube drainage delivering member removably projecting downwardly into the receiving member below the overflow opening and having formed around its lower extremity a perfect water seal which will exclude hot air and insects, the drainage receiving and delivering members having means associated therewith for maintaining them in operative relation and preventing accidental disconnection of the same. The outer drainage receiving member is normally closed at its lower end and in one form said end is provided with a removable closing cap, and the upper end of said member is also closable by means of a removable cap with which the inner tubular drainage delivering member is operatively associated with and preferably fixed thereto and as a whole constituting the second member of the cup. The tubular portion of the inner drainage delivering member is open at both the upper and lower ends except in the form modified for use in ice boxes, and in the latter instance the inner tubular member is terminated immediately above the cap and

a perforated thimble inserted in its upper end.

In the drawings: Figure 1 is a vertical section through a portion of a refrigerator and the improved drip cup disposed in operative position therein. Fig. 2 is a perspective view showing the parts of the drip cup separated. Fig. 3 is a sectional view showing a modification of the drip cup, the inner tubular drainage delivering member being detached from the outer drainage receiving member. Fig. 4 is a perspective view of the drip cup illustrating a further modification, the parts being shown separated. Fig. 5 is a top plan view of the drip cup as shown by Fig. 4 illustrating the parts as assembled. Fig. 6 is a sectional view of a portion of the bottom of an ice box showing the drip cup modified and also in section to adapt it for use in an ice box. Fig. 7 is a top plan view of the form of drip cup shown by Fig. 6.

The numeral 5 designates a refrigerator of any suitable construction and provided with a bottom 6 having an opening 7 there-through. Projecting downwardly through a suitable portion of the refrigerator from the ice chamber or receptacle is a drainage pipe 8 illustrated as being formed in separable and telescopic sections, or the lower section 9 detachable from the remaining part of the pipe or movable upwardly over the latter portion of the pipe.

The improved drip cup comprises an outer tubular drainage receiving member 10 having a lateral overflow at a suitable elevation above the lower end thereof, as at 11, the overflow in this instance being provided by perforating a portion of the side of the member. In the form of the drip cup shown by Figs. 1 and 2 the lower end of the drainage receiving member 10 is interiorly screw-threaded as at 12 to receive a removable closing cap 13 which is weighted or has considerable thickness to render it heavy enough to hold the drainage receiving member down in place in the bottom 6 of the refrigerator. The removable closing cap 13 is exteriorly screw-threaded, as will be understood, and is provided at its lower side with suitable means, as at 14, for applying and removing the same. The upper end of the drainage receiving member 10 has a circumferential flange 15 to limit the downward movement of said member through the opening 7, and

between the flange 15 and the upper surface of the bottom 6 a suitable washer 16 is interposed and snugly fits over the adjacent portion of the body of the drainage receiving member 10 to form a tight joint at this point and prevent the entrance of heated air and insects or bugs into the refrigerator through the opening 7. Within the drainage receiving member 10 a tubular drainage delivering member 17 is removably inserted and is open at both the upper and lower ends, the member 17 when fully projected into the member 10 having its lower open end covered by a perfect water seal, as shown by Fig. 1, and formed by the water in the said member 10 below the lateral overflow 11. The drainage delivering member 17 is provided near its upper end with a closing cap 18 which is fixed thereto and embodies a screw-plug 19 with a weight section 20, the screw-plug 19 removably engaging inner threads 21 at the upper end of the drainage receiving member 10. The closing cap 18 also embodies as a part thereof a circumferential flange 22 which is disposed over the flange 15 when the two members are assembled, and between the flanges 15 and 22 a suitable washer 23 is interposed to form a tight joint. The lower extremity of the section 9 of the drainage pipe is removably projected into the upper open end of the drainage delivering member 17, and to limit the downward movement of the pipe section into the member a collar 24 is fixed on the section to bear on the upper end of the member 17.

In the form of the device shown by Fig. 3 the drainage receiving member 10 has a closed weighted bottom 25 which is fixed to the member, and the upper end of the member has a vertically extending reduced neck 26 which is exteriorly screw-threaded and below the flange 15 the body of the member is screw-threaded as at 27 to engage corresponding screw-threads in the upper portion of the opening 7 in the bottom 6 so that the drainage receiving member may be secured in the opening by a few turns and likewise released, thus forming a tighter joint between the member 10 and the bottom of the refrigerator. It is proposed in some instances to provide the drainage receiving member as shown by Figs. 1 and 2 with a bottom similar to that shown in Fig. 3, the substitution being obvious. The drainage delivering member 17, as shown by Fig. 3, carries a closing cap 18 similar to the form shown by Figs. 1 and 2, but the cap in this instance has a downwardly opening screw-threaded socket 28 to fit over the screw-threaded neck 26 instead of projecting the plug, as shown by Fig. 1, into the upper end of the drainage receiving member 10. In other respects the construction shown by Fig. 3 is similar to that illustrated by Figs.

1 and 2 and like reference numerals are applied to corresponding parts.

In the modification shown by Figs. 4 and 5 the drainage receiving member 10 has the same lateral outflow 11 and top flange 15, the latter being provided at diametrically opposite points with headed studs 29. The drainage receiving member in this instance is also projected through the opening 7 in the bottom 6 of the refrigerator, and secured on the said bottom at diametrically opposite points in relation to the opening 7 are reversely arranged clips or catches 30, the diameter of the upper extremity of the member 10 including the flange 15 being less than the distance between the said clips or catches so that said extremity may be readily disposed between the latter. The drainage delivering member 17 also has the cap 18 fixed thereto as in the previous construction and embodies a plug 31 which fits into the upper open end of the drainage receiving member 10. The flange of the cap 18, as indicated by the numeral 22, has oppositely disposed key-hole slots 32 reversely arranged therein to receive the studs 29 carried by the flange 15 of the drainage receiving member 10. The studs 29 and key-hole slots 32 will be in many instances found sufficient to lock the drainage receiving member and drainage delivering member in operative association, but in some instances it may be desired to use a further securing means for the parts of the drip cup as shown by Figs. 4 and 5, and to meet this contingency a clamp is provided which may be properly termed a tube clamp, and comprising a central collar or ring 33 having outwardly extending arms 34 at diametrically opposite points, the arms being provided with upwardly projecting lugs to facilitate the application and release of the clamp. The collar or ring 33 is fitted over the upper extremity of the drainage delivering member 17 and the arms 34 are turned under the clips or catches 30, thereby exerting a downward pressure through the cap 18 on both members 10 and 17 and insuring positive retention of the said members of the drip cup in applied position. It is also proposed to weight the bottom of the drainage receiving member 10 to resist accidental displacement of the members from applied position in the refrigerator bottom, particularly when the clamp is not used.

Figs. 6 and 7 show a still further modified form of the drip cup adapted for use in ice boxes or as a floor drainage means in that class of refrigerating devices which do not embody an ice chamber at a distance above the bottom but have the ice disposed directly on the bottom or so close to the latter as to render a drainage pipe unnecessary. In this instance the drainage receiving member 10 has a closed bottom and the overflow 11 in the same position as in the preceding struc-

tures. The opening 7 through the bottom 6 of the ice box has an upper counter-sink or surrounding recess 36, and the upper end of the member 10 has a flange 37 shaped to fit in the said counter-sink or recess 36 so that the upper surface of the flange may be about flush with the top surface of the bottom 6. The drainage delivering member 17 in this form of the cup is removably inserted in the member 10, but does not have its upper end extending above the upper end of said member 10. The upper end of the drainage delivering member 17, as shown by Fig. 6, is provided with a plug 37^a to fit in the upper end of the member 10, a flange 38 similar to the flange 22 of the preceding forms of the cup and a top recess 39 extending downwardly into the plug or upper end of the said member 17. The flange 38 fits in a recess 40 in the upper end of the member 10 and the upper surface of the upper end of the member 17 is concave or dished as at 41 to give a good drainage effect toward the recess 39, the latter serving as a receiving trap. In the upper end of the drainage delivering member 17 a thimble 42 is removably fitted and is preferably fully open at the bottom and formed with an apertured top 43, apertures 44 being also formed in the body of the thimble a short distance below the top 43 and having communication with the receiving trap 39 whereby the water from the said trap may flow downwardly through the thimble 42 into the member 17 and from the latter into the member 10. The top 43 of the thimble 42 is flanged as at 45 and is adapted to be engaged by a locking clamp in all respects similar to that illustrated by Figs. 4 and 5 and held in applied position by like clips or catches secured on the bottom 6. This locking clamp extends over the upper terminals or ends of the members 10 and 17 and the thimble 42 is inserted through the collar or ring 33 with the flange 45 resting on the latter as shown by Fig. 6. For convenience in lifting the drip cup as shown by Figs. 6 and 7 and placing the said cup in proper applied position, a bail 46 is movably attached to diametrically opposite portions of the flange 37 of the member 10. When not in use this bail may be folded down closely over the top portion of the drip cup as shown by Fig. 7.

In the form of the drip cup as shown by Figs. 1, 2, 3, 4 and 5 the assembled members 10 and 17 may be readily disposed in the opening 7 of the bottom 6 of the refrigerator and the pipe section 9 inserted in the upper open end of the said member 17, this application being accomplished by inserting the assembled members of the drip cup through a front door of the refrigerator. In withdrawing the drip cup from the refrigerator the pipe section 9 is detached from

the upper end of the member 17 and the members 10 and 17 unitedly lifted from the opening 7 and removed from the refrigerator. The two members 10 and 17 when removed may be readily separated and cleaned, and in the form of the member 10 shown by Figs. 1 and 2 the weighted cap 13 may be readily detached for cleaning purposes or to render the said member more readily accessible. The form of the drip cup shown by Figs. 6 and 7 may be removed and replaced through the open top of the ice box or like receptacle, and the parts of this drip cup can also be readily dissociated for cleaning purposes.

It will be understood that a suitable receptacle may be placed under the drip cup for receiving the overflow therefrom.

The several parts of the drip cup will be preferably constructed of metal of a non-corrosive nature and the washers used between the several joints will be constructed from material best adapted for the purpose.

What is claimed is:

1. A drip cup for the purposes specified comprising an outer tubular drainage receiving and holding member provided with a perpendicularly straight wall and having a completely closed lower end and an overflow exit above said lower end, said outer tubular member also having an open upper end and means at such open upper end for engaging and holding the outer member vertically suspended through a refrigerator floor, a drainage delivering member with a straight wall and of less diameter than the said receiving and holding member and removably fitted in the latter, the drainage delivering member having fully open upper and lower extremities and a portion thereon to increase its diameter, said diametrically increased portion removably engaging the upper open end of the outer member and holding the delivering member in proper position in the outer member, the drainage delivering member being of such length as to project into the receiving and holding member below the overflow exit of the latter member and held suspended by said portion, and a tubular device removably inserted in the upper open end of the drainage delivering member, the cup as an entirety being removable through the interior of the receptacle in which it is placed.

2. A drip cup for the purpose specified, consisting of an outer tubular drainage receiving and holding member having a normally closed lower end and an overflow opening above the said end, the upper end of the said member being open and having means to vertically suspend the member through the bottom of a receptacle, and a tubular drainage delivering member removably inserted in the upper open end of the drainage receiving member and projecting downwardly into the latter, said members having

means at the upper portions thereof for holding them in positive assembled relation.

3. A drip cup for the purposes specified consisting of an outer tubular drainage receiving and holding member with a normally closed lower end and an upper open end, the said member having an overflow opening above its lower closed end, a tubular drainage delivering member removably inserted in the upper open end of the drainage receiving member and projecting downwardly into the latter, and means cooperating with the upper extremities of the two members for holding them in positive associated relation.

4. A drip cup for the purposes specified consisting of an outer tubular drainage receiving and holding member with a normally closed lower end and an upper open end, the said member having an overflow opening above its lower closed end, and a tubular drainage delivering member removably inserted in the upper open end of the drainage receiving member and projecting downwardly into the latter, each member carrying means which cooperate to secure the two members in assembled relation.

5. A drip cup having an outer tubular drainage receiving and holding member provided with means for vertically suspending the same through the bottom of a receptacle and also with a lower closed end and an overflow opening above the said lower end, a drainage delivering member removably inserted in the outer member, the drainage receiving and delivering members being provided with means for holding them in associated relation, and a drain pipe for connecting the drip cup with the ice chamber of a receptacle.

6. A drip cup for the purposes specified comprising an outer tubular drainage receiving and holding member having a normally closed bottom and an overflow opening at an elevation above the said bottom, the said outer member being also provided with means for vertically suspending it through the bottom of a receptacle, a tubular drainage delivering member removably mounted in the upper end of the drainage receiving member and projecting downwardly into the latter, and means cooperating with the said members to hold the same down in applied position.

7. A drip cup for the purposes specified comprising an outer tubular drainage receiving and holding member having a lower closed end and an overflow opening above the said lower end, said outer tubular mem-

ber also having a fully open upper end and flange means about said open upper end for holding the outer member vertically suspended through a refrigerator floor, the flange means having diametrically opposed fastenings thereon, a drainage delivering member removably mounted in the said upper open end of the drainage receiving member and normally open at both its upper and lower ends and provided with a flange at its upper end having means to engage the fastenings of the flange means at the upper end of the receiving member, and a locking means fitted over a portion of the upper extremity of the drainage delivering member to hold the latter and the receiving member in immovable applied position.

8. In a drip cup for the purposes specified, the combination with the bottom of a refrigerator or ice box having an opening there-through and clips at diametrically opposite points with relation to said opening, of a tubular drainage receiving member removably mounted in the said opening and having a flange at its upper extremity provided with headed studs rising therefrom at diametrically opposite points, a drainage delivering member removably mounted in the upper end of the drainage receiving member and provided with a flange at its upper portion having key-hole slots to engage the said studs, and a clamp having a central collar to fit over the upper extremity of the drainage delivering tubular member and oppositely extending arms to removably engage the said clips.

9. A drip cup for the purposes specified comprising an outer tubular drainage receiving and holding member provided with a flange at its upper extremity having fastening means rising therefrom, a drainage delivering tubular member movably and removably mounted in the upper open end of the drainage receiving member and having a flange at its upper extremity formed with slots to engage the said fastening means, and a clamp removably applied over the upper extremity of the drainage delivering member to hold both members in immovable applied position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

AUGUSTUS MAY.

Witnesses:

JNO. J. WARD,
AND. HERO.