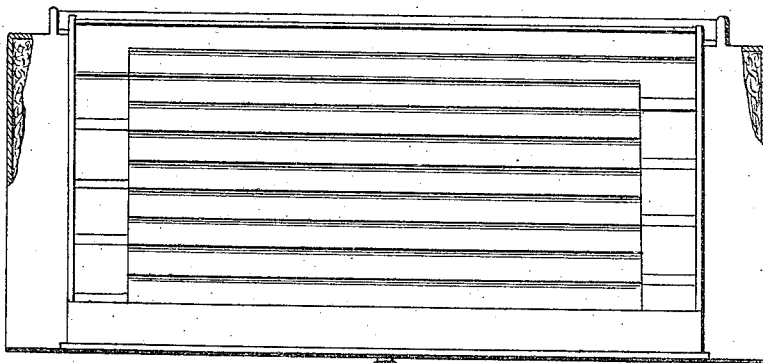
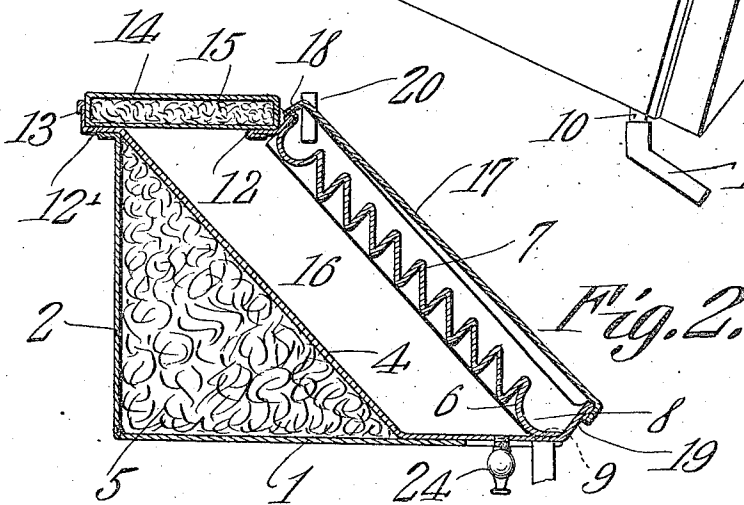
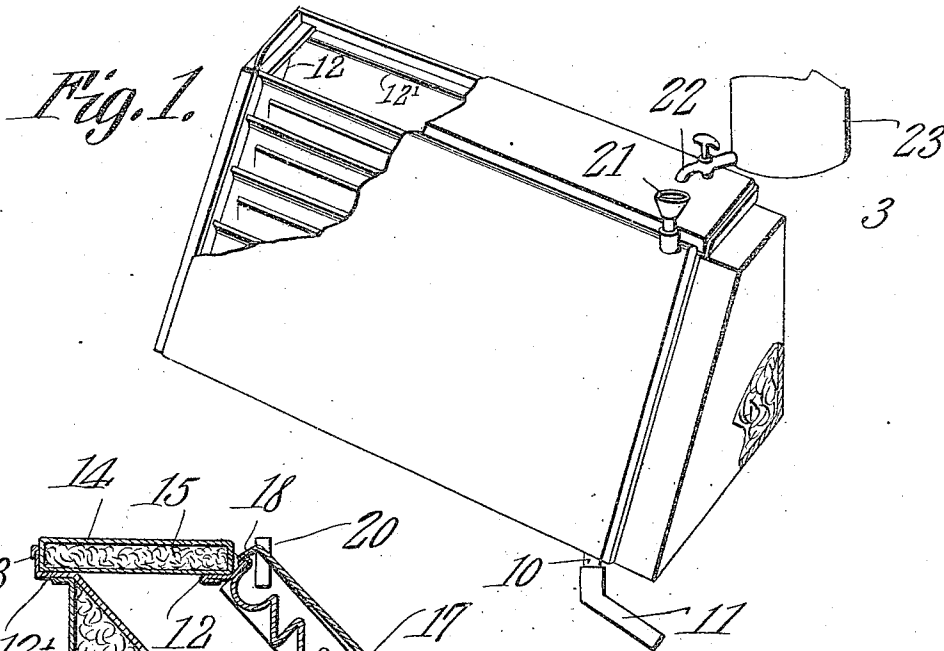


J. S. McNEEL, JR.
MILK COOLER.
APPLICATION FILED SEPT. 24, 1909.

948,960.

Patented Feb. 8, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES S. McNEEL, JR., OF SAN ANTONIO, TEXAS.

MILK-COOLER.

948,960.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed September 24, 1909. Serial No. 519,328.

To all whom it may concern:

Be it known that I, JAMES S. McNEEL, JR., a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Milk-Cooler, of which the following is a specification.

This invention relates to devices for cooling milk and one of its objects is to provide a simple, durable and efficient device of this character which is cheap to manufacture and which will operate to quickly cool milk supplied thereto and during the passage of the milk from one receptacle to another.

Another object is to provide a device of this character having a tortuous passage compactly arranged for the purpose of directing the milk over a chilled surface.

Another object is to provide a novel form of receptacle for holding a refrigerant, said receptacle being provided with insulated walls.

With these and other objects in view the invention consists of certain novel details of construction and the combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a perspective view of a cooler embodying the present improvement, portions of the covers and one end being broken away. Fig. 2 is a vertical section taken through the center of the cooler from front to rear thereof. Fig. 3 is a front elevation of the cooler with the front cover removed.

Referring to the figures by characters of reference, 1 designates the base of the cooler, the same being provided with a perpendicular rear wall 2 and perpendicular trapezoidal side walls 3. An inclined partition 4 connects the side walls and extends from the base 1 to the upper edge of the rear wall 2, this partition thus forming a compartment 5 between it and the rear wall and which is filled with mineral wool or other suitable insulating material. Each of the side walls 3 is hollow and filled with a similar insulating material and it will therefore be seen that the contents of the cooler is protected at the back and sides from the heat contained in the external atmosphere.

The front of the cooler is closed by an inclined wall 6 formed preferably of sheet metal and having longitudinally extending

ribs 7 struck outward therefrom and arranged in staggered relation, each of the ribs being inclined downward from one end to the other, the adjoining ribs being oppositely inclined and the lower end of each rib being spaced from the adjoining end wall of the cooler. The upper faces of the ribs are inclined backward and downward so as to form channels in which the milk, supplied to the cooler, is designed to flow. The lower channel 8 has an outlet opening 9 at its lowest end and from which a short nipple 10 extends. This nipple projects into an angular nozzle 11 which is designed to be turned to any desired angle to the cooler so as to direct the discharged milk to any one of a series of pans or other receptacles located below the cooler.

Supporting ledges 12 extend inwardly from the end walls 3 and the upper edge of the front wall 6 and another ledge 12' is formed in rear of the top of the partition 4, all of these ledges being provided with upstanding flanges 13. A closure 14 is designed to be placed upon the ledges 12 and 12' and between the flanges, this closure being preferably hollow and filled with a suitable insulating material such as has been indicated at 15 in Fig. 2. This closure 14 is designed to cover the compartment 16 formed between the partition 4 and front plate 6, said compartment being provided for holding ice.

A front cover 17 is removably mounted on the front plate 6 and is held in place by top, bottom and side flanges 18 which lap and engage corresponding flanges 19 formed upon the sides, top and bottom of the plate 6. Said cover 17 has an inlet tube 20 extending through the upper portion thereof and opening into the upper end of the upper channel 8 of the front plate 6.

In using the device herein described, the compartment 16 is filled with ice and the cover 14 placed in position upon the ledges 12 and 12'. The cover 17 is placed upon the plate 6 and a funnel 21 may then be inserted into the tube 20. The cooler is then placed under the faucet 22 extending from a supply can 23, this faucet being so arranged as to direct milk into the funnel 21. After the nozzle 11 has been adjusted so as to direct milk into a can or other receptacle, the faucet 22 is opened so as to discharge milk into the funnel 21 and the milk will therefore flow into the upper channel 8 and then

back and forth within the series of channels in the front plate 6 and finally through the outlet nipple 10 and nozzle 11. During the passage of the milk through the series of channels it will be thoroughly cooled by reason of the fact that the plate 6 in which the channels are formed is in direct contact with the ice contained in compartment 16.

It will be obvious that the quantity of liquid flowing through the cooler can be controlled by means of the faucet 22 and after one receptacle has been filled with cooled milk, the nozzle 11 can be turned so as to direct milk into another adjoining receptacle.

It is of course to be understood that any desired number of channels may be formed in the front plate 6 and the capacity and efficiency of the device increases in proportion thereto.

It is to be understood that various changes may be made in the construction and the arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention. For example a faucet such as indicated at 24 may be connected to the bottom of the compartment 16 so as to permit the ice water to be drained therefrom.

What is claimed is:—

1. A device of the class described including a casing having an inclined wall provided with a tortuous passage therein, and extending from the top to the bottom thereof, an inclined partition within the casing and back of said wall, the wall and partition forming a refrigerant receiving compartment therebetween, said compartment being open at the top, a closure for the upper end of the compartment, said closure extending back of the inclined wall of the casing, a cover removably mounted upon the inclined wall of the casing, means within the upper portion of the cover for directing liquid into the upper portion of the tortuous passage, said passage being provided with a discharge opening at the lower end thereof.

2. A device of the class described including a casing having an inclined front wall formed with a tortuous passage extending from the top to the bottom thereof, an inclined partition within the casing and spaced from said wall to form a refrigerant receiving compartment, insulating material interposed between said partition and the back

and bottom of the casing, a closure for the refrigerant receptacle, and constituting the top of the casing, said closure being removable to fill the receptacle, a cover parallel with the inclined wall of the casing and concealing the tortuous passage therein, means within the cover for directing liquid into the upper end of the passage, and a discharge nozzle movably connected to the casing, there being an outlet extending from the lower end of the passage to said nozzle.

3. A device of the class described including a casing having an inclined front wall provided with a tortuous passage extending from the top to bottom thereof, an inclined partition within the casing and spaced from said wall, said partition extending upwardly to the top of the back wall of the casing, supporting ledges on the upper ends of the front wall and the partition and at the sides of the casing, said partition and wall having a refrigerant receiving compartment therebetween, a closure removably mounted upon the ledges and constituting the top of the casing, a cover extending over the front wall and concealing the passage therein and means within the cover for directing liquid into the upper end of the passages, there being an outlet at the lower end of said passage.

4. A device of the class described including a casing having an inclined wall provided with outstanding longitudinally extending ribs disposed in staggered relation, the adjoining ribs being oppositely inclined and spaced at their lower ends from the adjoining walls of the casing, said ribs forming a tortuous passage therebetween, a partition within the casing and subdividing the same into a refrigerant containing compartment and an insulating compartment, and a closure extending over the inclined wall and having a fluid inlet opening into one of the channels, there being an outlet in the lower channel.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES S. McNEEL, JR.

Witnesses:

J. P. DAVIS,
C. J. THOMSON.