May 12, 1925. 1,537,829

F. M. KANDLE

TOURIST'S FLEXIBLE REFRIGERATOR

Filed Sept. 15, 1923 2 Sheets-Sheet 1

Fig. 1.

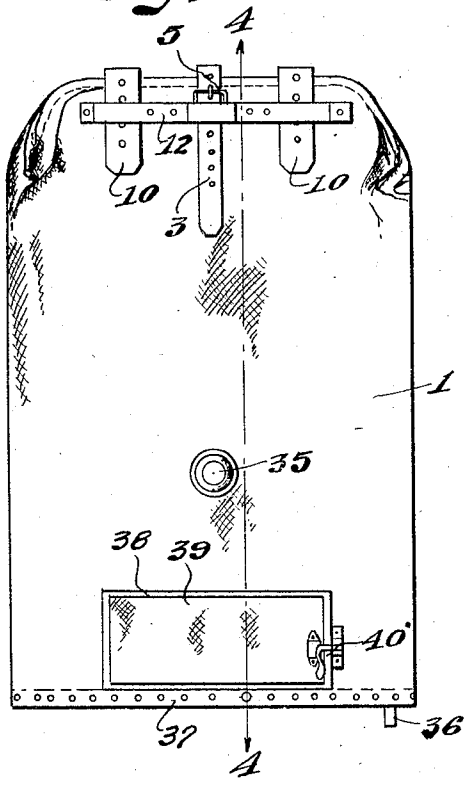


Fig. 2.

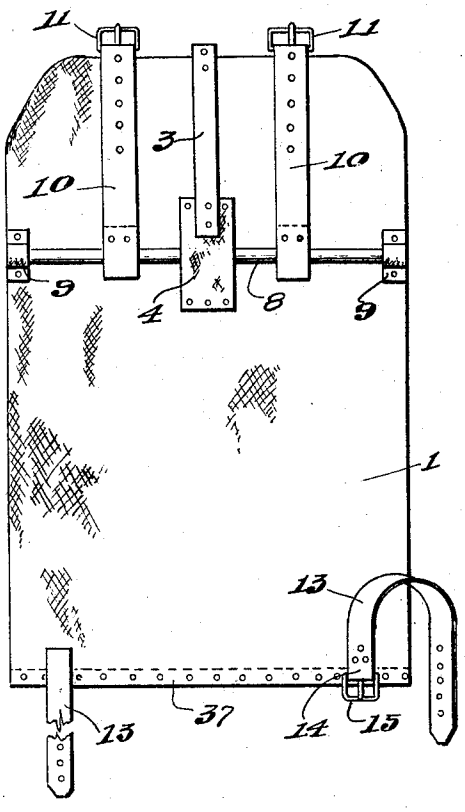


Fig. 8.

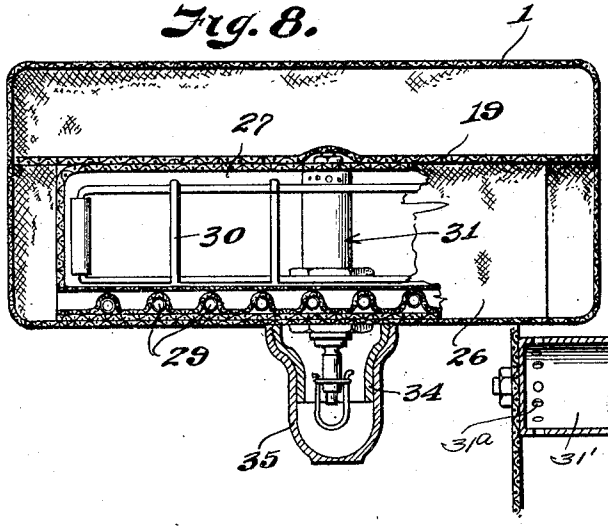
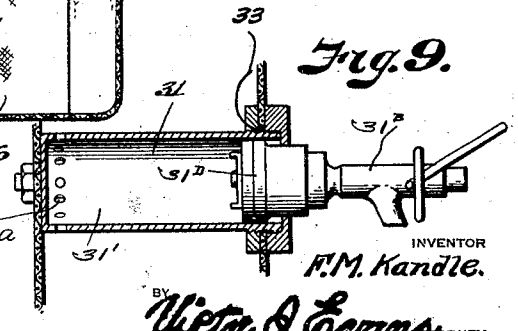


Fig. 9.



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Filed Sept. 15, 1923 2 Sheets-Sheet 2

Fig. 3.

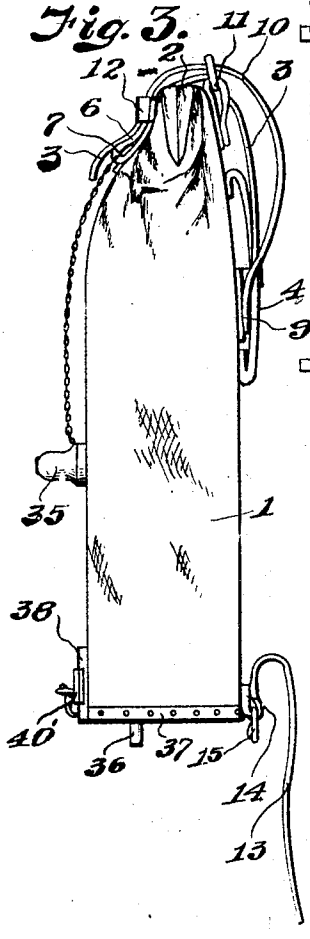


Fig. 6.

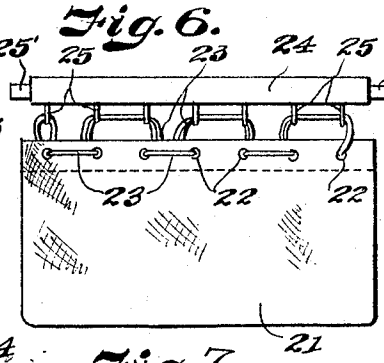


Fig. 7.

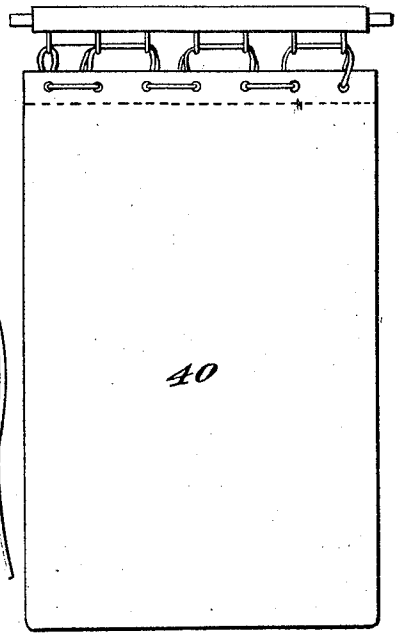


Fig. 4.

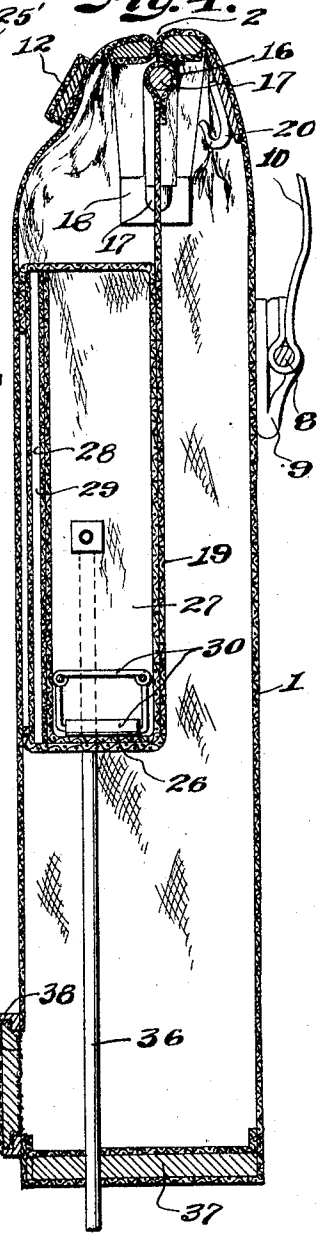
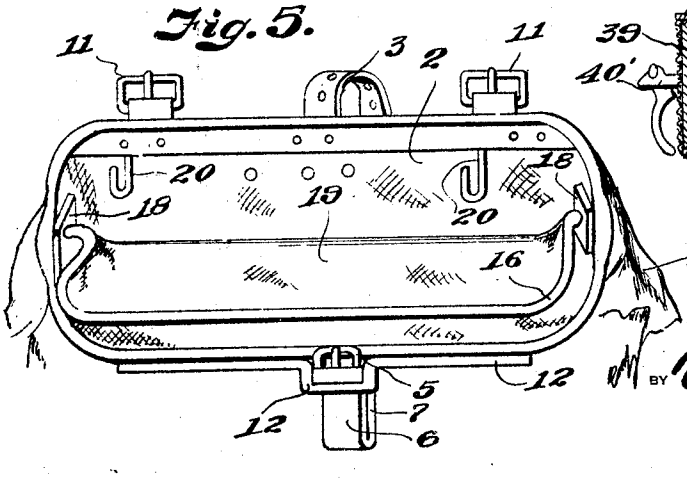


Fig. 5.



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Patented May 12, 1925. 1,537,829

UNITED STATES PATENT OFFICE.

FURMAN M. KANDLE, OF ATLANTIC CITY, NEW JERSEY.

TOURIST'S FLEXIBLE REFRIGERATOR.

Application filed September 15, 1923. Serial No. 662,898.

To all whom it may concern:

Be it known that I, FURMAN M. KANDLE, a citizen of the United States, residing at Atlantic City, in the county of Atlantic and State of New Jersey, have invented new and useful Improvements in Tourists' Flexible Refrigerators, of which the following is a specification.

This invention relates to a refrigerator construction, and more particularly to a flexible portable refrigerator particularly designed for attachment to automobiles, for use by tourists.

Heretofore considerable inconvenience has been experienced by tourists, campers or the like, through lack of proper cooling or refrigeration means for preserving perishable edibles, and also by fishermen or other sportsmen in preserving their game or fish while returning from a fishing or hunting trip.

It is an object of this invention to provide a tourist's flexible refrigerator which may be attached to the spare tire of an automobile when the tires are carried in the usual manner by tire carriers at the rear of the body of the vehicle or at the sides of the body or in other convenient places where the tire is positioned in a substantially vertical position and located so that the refrigerator may be readily attached thereto, and will thus be out of the way and will not in any way interfere with the comfort of the occupants of the automobile, and a refrigerator which is designed to permit the providing of cool, pure drinking water as well as providing a preservative for perishable foods.

Another object of this invention is to provide a flexible refrigerator as specified which includes a removable water-proofed food or water container which may be used as a bucket in emergency cases or may be used as a container for sandwiches or various types of foods, and also to provide a removable ice and water container which is normally confined in one compartment of the refrigerator body proper and which has a drain opening through the bottom of the refrigerator body proper, and also has a novel form of faucet or valve structure associated therewith to permit the taking of drinking water from the ice compartment.

A further object of the invention is to provide a flexible refrigerator as specified which is braced across the back by a rigid bracing rod to maintain sufficient rigidity of the flexible refrigerator to hold it in proper position when in operative use; to provide a refrigerator which may be folded up into a comparatively small compact form when not in use; to provide a non-flexible bottom for the flexible body which serves as a support for various articles such as bottles of milk, or the like, which are removable through a removable door in one side of the refrigerator body adjacent the bottom thereof.

Other objects of the invention will appear in the following detailed description, and in the accompanying drawings wherein:

Figure 1—is a front elevation of the improved tourist's flexible refrigerator.

Figure 2—is a rear elevation of the refrigerator.

Figure 3—is a side elevation of the refrigerator.

Figure 4—is a vertical section through the refrigerator taken on the line 4—4 of Figure 1.

Figure 5—is a fragmentary view showing the mouth or entrance of the refrigerator open.

Figure 6—is a detail view of the removable container which may be used for emergency purposes.

Figure 7—is an enlarged elevation of a provision bag which may be used in connection with the main flexible body or bag.

Figure 8—is a horizontal section through the refrigerator body with the ice container removed.

Figure 9—is a detail section through the valve structure.

Referring more particularly to the drawings, an improved tourist's flexible refrigerator comprises a main body 1 which is formed of khaki, canvas or analogous relatively heavy—preferably water-proof material—and as clearly shown in the drawings, the body is formed in a satchel-like shape having a mouth 2 at its upper end which opens and closes in the same manner as the mouth of a satchel. The mouth 2 is held closed by a strap 3 which is attached in any suitable manner to the central fabric strap 4 on the rear side of the body. The strap 3 extends over the mouth 2 and co-operates with the buckle 5 which is carried by the strap 6. The strap 6 is formed in a loop 7

which may serve as a handle if desired, and which also adds to the appearance of the refrigerator.

A rod 8 is attached to the rear side of the body 1 of the refrigerator by means of suitable fabric loops 9 which are, in turn, riveted or otherwise rigidly and securely attached to the body 1. The rod 8 serves as a brace to brace the refrigerator body and it also serves as a means for connecting the attaching straps 10 to the refrigerator body. The attaching straps 10 are adapted to pass over the upper portion of the spare tire on an automobile or at any other convenient place on an automobile, and through the buckles 11 carried at the upper edge of the back of the body for securely attaching the refrigerator to an automobile. After the straps 10 have passed through the buckles 11 they pass over the mouth of the refrigerator and beneath the loop strap 12 which is riveted or otherwise suitably attached to the front side of the refrigerator adjacent to its mouth.

A second pair of attaching straps 13 are securely connected to the refrigerator body 1 at the bottom of the refrigerator body, and they have loops 14 formed on their attached ends which carry buckles 15. The buckles 15 are provided for receiving the ends of the straps 13 which are in turn adapted to pass about the lower portions of a spare tire of a motor vehicle or any other convenient place on a motor vehicle. By attaching the improved flexible refrigerator to the spare tire at the back of the automobile, the refrigerator will be supported in upright position with its mouth opening upwardly and out of the way so that it will not, in any manner, interfere with the comfort of the passengers of the vehicle.

A central flexible partition 19 is provided in the interior of the refrigerator body, dividing the interior into two spare compartments, access to one of which is gained from one side of the upper hinged braced end 16 of the partition 19 while access to the other compartment is gained from the opposite side of the partition. The upper end 16 of the partition is braced by a substantially U-shaped rod 17, which in turn has its ends pivotally connected to the hinge structures 18 of the mouth of the refrigerator body. The rod 17 fits snugly within the mouth of the body so as to permit tight closing of the mouth.

The inner or back compartment formed by the partition 19 is provided for receiving various articles which it may be desirable to preserve against deterioration, by refrigeration or cooling, and it may be used, by sportsmen for storing their game after it has been caught or killed, and while returning home or going from one camp-site to another.

A pair of hooks 20 are supported at the upper edge of the inner side of the back of the body 1 and these hooks are adapted to carry or support a removable waterproofed container 21. The container 21 is designed so that it may be utilized for containing sandwiches, or other articles of food-stuffs or the like, which it is desired to maintain separate and out of contact with the contents of the inner or back compartment, and it is water-proof in any approved manner so that it may be used as an emergency bucket for carrying water when needed. The container 21 has a plurality of eyelets 22 at spaced points around its upper edge through which a closing rope 23 is threaded, as clearly shown in the drawings. The closing rope 23 is fastened by certain of its loops to the supporting and carrying bar 24, while other of the loops are detachably connected to the carrying bar by means of hooks 25 so as to permit the container to be opened to gain ready access to the interior thereof. The ends of the bar 24 are rounded as shown at 25′ for engagement over the hooks 20 to support the container 21 within the body 1.

A horizontal partition 26 is formed across the outer or forward compartment in the body 1 and it terminates short of the ends of the body 1 as clearly shown in Figure 8 of the drawings to provide air-spaces which establish communication between the front and rear compartments within the body so as to allow circulation of the cool air all through the interior of the body. An ice containing bag 27 is provided which rests upon the horizontal partition 26 and the ice containing bag is formed of heavy canvas or other suitable material, preferably water-proof, and its front side is formed of a plurality of layers of the material which have vertically extending pockets 28 formed therein at spaced points in which tubes, springs or analogous flexible members 29 are placed to permit circulation of air.

The bottom of the bag 27 is braced and held open by a suitable bracing structure 30 formed of wire which also serves to support the ice off the fabric bottom of the bag and above the cylinder of the valve construction 31. The valve construction 31 is novel in that the faucet or valve structure proper which may be of any approved spring operated type and telescopes within the cylinder 31 and consequently, within the bag 27 so as to permit the bag 27 to be readily removed from the body 1 for the purpose of refilling or for any desired purpose. The faucet or valve construction 31 includes the cylinder 31′ which is provided with the inlet openings 31^a at its inner end through which the water enters the cylinder for flowing outwardly through the faucet 31^b. Suitable fluid-tight gaskets 31^d are

carried by the faucet 31[b] and engage the inner surface of the cylinder 31. When the faucet is telescoped within the cylinder 31, the gaskets 31[d] close the openings 31[a]. The body 1 is provided with a reinforced opening 33 in its front side through which the valve structure is projected when the refrigerator is in use. A protecting shell 34 is detachably carried by the body 1 and protects the valve structure and a removable cup 35 is threaded on the shell 34, providing a further protection for the valve, and also providing a cup cover for use when drawing drinking water from the bag 27 through the valve structure. An over-flow or drain-tube 36 preferably of flexible rubber tubing has communication with the interior of the bag 27 upwardly of the bottom of the bag so as to permit the containing of a predetermined quantity of drinking water in the bottom of the bag but to permit an over-flow of any surplus water, caused by the melting of the ice from the bag. The flexible drain-tube 36 extends downwardly through the outer end of the compartment body 1 and through a suitable opening in the rigid bottom 37 of the body 1. The rigid bottom 37 may be constructed of wood or any suitable material, and it is provided for supporting various articles, such as bottles of milk or the like.

The front side of the body 1 is provided with a preferably rectangular opening adjacent to the bottom of the body, which opening is reinforced about its edges by an angle iron frame 38 which forms a casing for the removable door 39. The removable door 39 and the frame 38 have a latch structure 40′ thereon of any approved type, preferably of the type used on refrigerator doors. The door 39 fits tightly within the frame 38 and is removable to permit access to the interior of the outer compartment within the body 1 at the bottom of the refrigerator.

When the refrigerator is not in use, and it is desired to store it or pack it, the shell 34 and cup 35 are removed and the valve structure is telescoped within the cylinder 31 after which the refrigerator may be folded or rolled into a comparatively compact structure, its sides being limited preferably by the width of the bottom and the width of the door 39.

If it is so desired, a relatively large bag as shown in Figure 7 of the drawings, may be provided for inserting in the inner compartment within the body 1. This modified form of bag 40 is preferably formed of rubber or rubberized material so as to prevent the transmission of odors from it into the remainder of the body 1 particularly adapting the bag 40 for use in carrying fish, game or the like. The bag 40 is hooked to or supported from the hooks 20 in the same manner in which the portable container 21 is supported.

From the foregoing description taken in connection with the accompanying drawings, it will be apparent that a flexible refrigerator has been provided which will have numerous uses and is particularly adapted for use by automobile tourists, campers or the like, and it will also be apparent that while a multiple food compartment refrigerator has been illustrated and heretofore described, that a single food compartment refrigerator may be provided in smaller sizes which may be particularly adapted for use by fishermen in bringing home their catches in a fresh, well-preserved condition.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the parts may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein shown nor to anything less than the whole of my invention limited only by the appended claims.

What I claim is:—

1. A tourist's refrigerator formed of flexible material comprising a body of satchel-like shape having a hingedly opening mouth, attaching straps carried by said flexible body, a partition within said body forming an ice containing compartment, an article containing compartment, and an ice containing bag in said ice containing compartment, said bag formed of flexible material and having its front side composed of multiple layers of material, certain of which are provided with vertically extending tubular pockets forming air passage-ways.

2. A tourist's refrigerator formed of flexible material comprising a body of satchel-like shape having a hingedly opening mouth, attaching straps carried by said flexible body, a partition within said body forming an ice containing compartment and an article containing compartment, an ice containing bag in said ice containing compartment, said bag formed of flexible material, a water-valve structure carried by said ice bag at the bottom thereof, and a rigid ice support in the bottom of the bag.

3. A tourist's refrigerator formed of flexible material comprising a body of satchel-like shape having a hingedly opening mouth, attaching straps carried by said flexible body, a partition within said body forming an ice containing compartment and an article containing compartment, an ice containing bag in said ice containing compartment, said bag formed of flexible material, a water-valve structure carried by said ice bag at the bottom thereof, and a rigid ice support in the bottom of the bag, a drain-

tube having communication with the interior of said ice bag upwardly of its bottom to permit the retaining of a predetermined quantity of water within the ice bag.

4. A tourist's refrigerator comprising a flexible body, a rigid bottom for said body, a front side provided with a door opening adjacent to said rigid bottom, a rigid frame about said door opening, a removable door forming a closure for said opening, a flexible ice-bag in said body, said flexible ice-bag having its front side formed of a plurality of layers of fabric having vertically extending tucks therein, and semi-flexible spacing members within said tucks and forming air passage ways.

5. A tourist's refrigerator comprising a flexible body, a rigid bottom for said body, the front side of said body provided with a door opening adjacent to said rigid bottom, a rigid frame about said door opening, a removable door forming a closure for said door opening, a flexible ice bag in said body, and a drain outlet for said ice bag communicating with the ice bag upwardly of the lower end of the ice bag to maintain a predetermined amount of water in the ice bag.

6. A tourist's refrigerator comprising a flexible body, a rigid bottom for said body, the front side of said body provided with a door opening adjacent to said rigid bottom, a rigid frame about said door opening, a removable door forming a closure for said door opening, said flexible body having a satchel-like mouth at its upper end, and supporting hooks carried within said flexible body adjacent to its mouth.

7. A tourist's refrigerator comprising a flexible body, a rigid bottom for said body, the front side of said body provided with a door opening adjacent to said rigid bottom, a rigid frame about said door opening, a removable door forming a closure for said door opening, said flexible body having a satchel-like mouth at its upper end, supporting hooks carried within said flexible body adjacent to its mouth, and a collapsible water-proof receptacle supported by said supporting hooks.

8. A tourist's refrigerator comprising a flexible body, a rigid bottom for said body, a front side provided with a door opening adjacent to said rigid bottom, a rigid frame about said door opening, a removable door in said frame, a flexible ice bag in said body, a drain outlet for said ice bag communicating with the ice bag upwardly of its inlet and to maintain a predetermined amount of water in the ice bag, and a valve structure communicating with the ice bag for controlling the outlet of water therefrom.

9. A tourist's refrigerator including an ice bag formed of flexible water-proofed material, a rigid ice support in the bottom of said body, a valve structure carried by said bag and comprising a cylinder extending across the bottom of the bag, a valve structure mounted for telescoping into said cylinder or for extension out of the cylinder, said flexible ice bag having its front side formed of a plurality of layers of fabric, vertically extending tucks in said front side, and semi-flexible spacing members within said tucks forming air passage-ways.

10. A tourist's refrigerator including an ice bag formed of flexible water-proof material, an ice support in said bag, said flexible ice bag having its front side formed of a plurality of layers, and vertically extending tucks in the front side of said ice bag for forming air passage-ways.

11. A tourist's refrigerator including an ice bag formed of flexble water-proof material, an ice support in said bag, said flexible ice bag having its front side formed of a plurality of layers, vertically extending tucks in the front side of said ice bag, and semi-flexible spacing members within said tucks and forming air passage-ways.

12. A tourist's refrigerator formed of flexible material comprising a body, a partition within said body forming an ice compartment and an article containing compartment, an ice containing bag in said containing compartment, a drain tube having communication with the interior of said ice bag upwardly of its bottom to permit the retaining of a predetermined quantity of water within the ice bag.

13. A tourist's refrigerator formed of flexible water-proof material, a partition in the refrigerator forming a food-stuff containing compartment and an ice containing compartment, supporting hooks carried within the food-stuff containing compartment adjacent the upper end thereof, and a collapsible water-proof refrigerator supported by said supporting hooks.

In testimony whereof I affix my signature.

FURMAN M. KANDLE.