Dec. 6, 1927. 1,651,858

S. W. WILKINSON

VENDING APPARATUS

Original Filed May 5, 1921 2 Sheets-Sheet 1

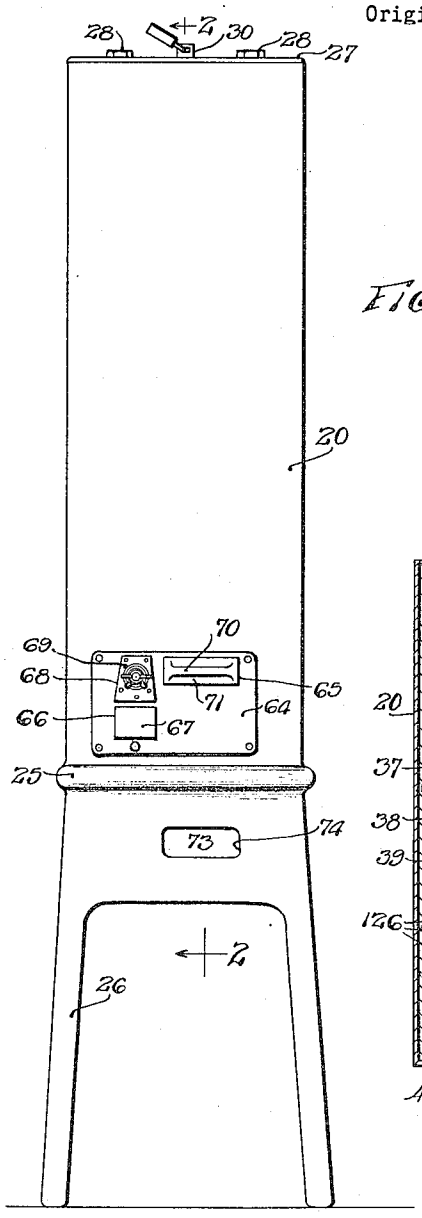


FIG. 1

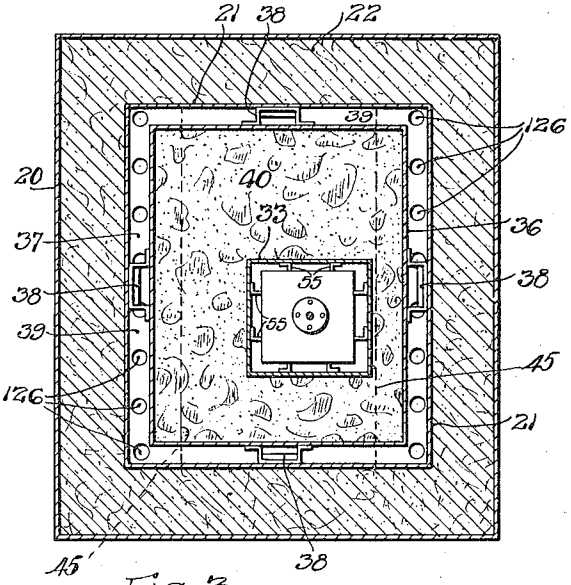


FIG. 3

INVENTOR:
Stanley W. Wilkinson
By John Howard McElroy.
HIS ATT'Y.

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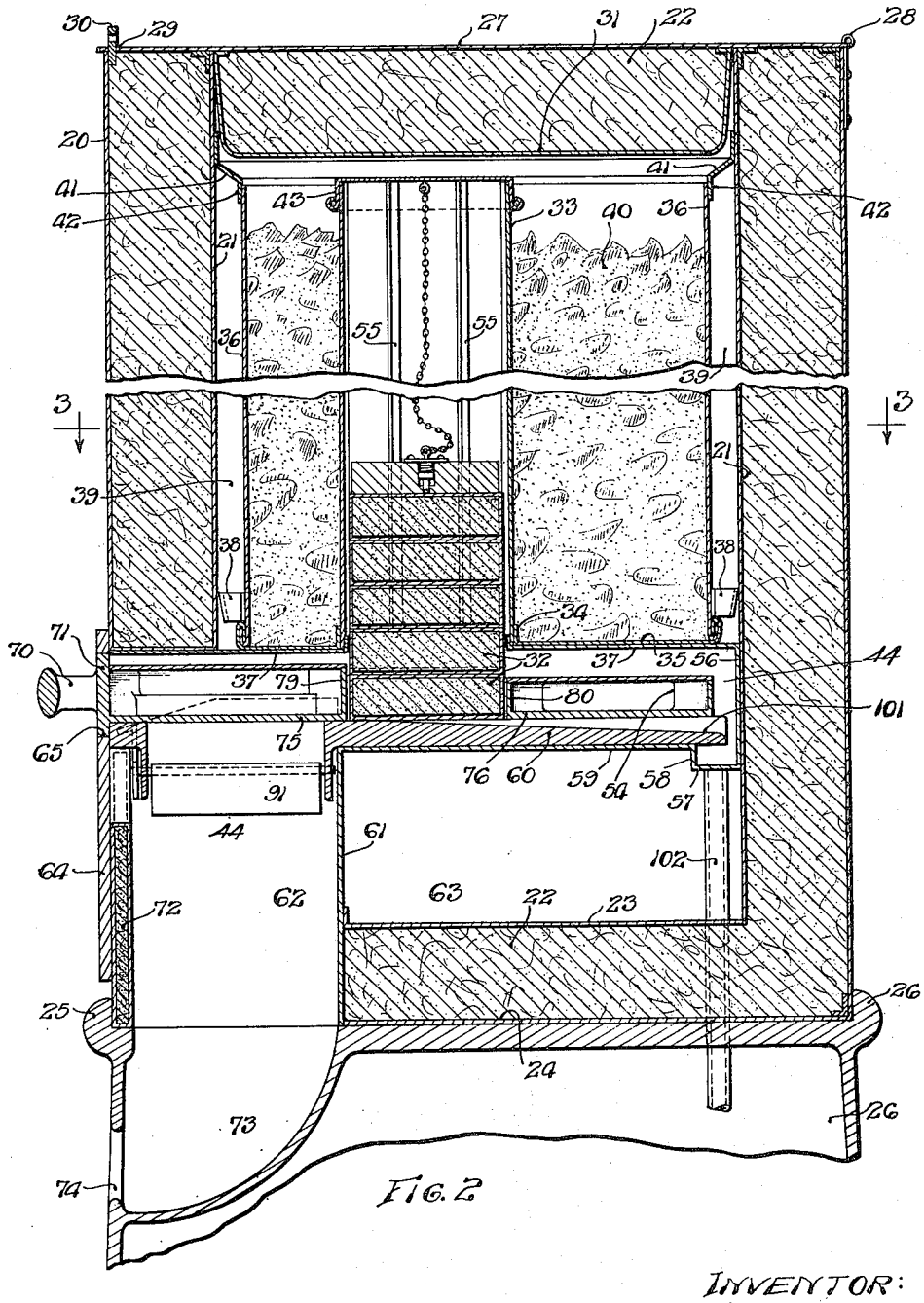


FIG. 2

INVENTOR:
Stanley W. Wilkinson
By John Howard McElroy
HIS ATT'Y.

Patented Dec. 6, 1927. 1,651,858

UNITED STATES PATENT OFFICE.

STANLEY W. WILKINSON, OF WAUKEGAN, ILLINOIS, ASSIGNOR OF TWO-FIFTHS TO WILLIAM C. DAVIS, INDIVIDUALLY, TWO-FIFTHS TO WILLIAM C. DAVIS, AS TRUSTEE, OF CHICAGO, ILLINOIS; AND ONE-FIFTH TO LAWRENCE HUGHES, OF LOS ANGELES, CALIFORNIA.

VENDING APPARATUS.

Original application filed May 5, 1921, Serial No. 467,100. Divided and this application filed October 1, 1925. Serial No. 59,822.

My invention is concerned with a novel vending apparatus, whereby I am enabled successfully to combine a package delivering mechanism with a package holding tube that is located inside of and spaced away from an outer heat insulating casing so that refrigerating material, such as ice, can be placed in the chamber between the tube and the casing. This application is a division of my original application, No. 467,100, filed May 5, 1921.

To illustrate my invention, I annex hereto two sheets of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which—

Fig. 1 is a front elevation of an apparatus embodying my invention;

Fig. 2 is a vertical section on an enlarged scale on the line 2—2 of Fig. 1; and

Fig. 3 is a section on the line 3—3 of Fig. 2, but on a smaller scale.

My novel vending apparatus was devised more especially for vending cakes of ice-cream suitably wrapped in oiled paper, although some features thereof are capable of use in vending apparatus generally.

Where the apparatus is employed to vend cakes of ice-cream, as above stated, the main or outer casing 20 is preferably made of sheet metal and is preferably rectangular in horizontal cross-section, as shown in Fig. 3, and has an inner wall 21, parallel to the outer wall and also preferably made of sheet metal, and with a heavy layer of some suitable heat insulating material 22 interposed between the two walls and between the bottom 23 of the inner casing 11 and the bottom 24 of the outer casing. This outer casing rests in a seat defined by the vertical flange 25 formed on the top of the four-legged base casting 26, in a manner which will be readily understood. The top of the outer casing is formed by the sheet metal cover 27, which is preferably hinged at 28, and has a recess 29 at its other side passing over the apertured ear 30 secured to the casing 20 so a padlock can be passed through the aperture in the ear 30 to hold the cover locked in position to prevent any attempt to steal the ice-cream therefrom. The cover 27 is also insulated by securing to the under side thereof the sheet metal container portion 31 in which is placed the customary insulating material 22. The cakes 32 of ice-cream are stacked one on the other in an inner holder tube 33, which is substantially square in cross-section, made of sheet metal, with air-tight joints which are preferably lapped, riveted and heavily soldered, and it is secured at its bottom by an air-tight joint in the upwardly turned flanges 34 surrounding an opening formed in the sheet metal bottom 35 of the ice containing tank made up of the sheet metal outer walls 36, said bottom, and the inner walls formed by the vertical walls of the container 33, as seen in Figs. 2 and 3. This container rests on the sheet metal bottom piece 37 extending across the entire interior of the apparatus between the walls 21, from which walls 21 the walls 36 are spaced by the four sheet metal abutments 38 secured to the outside of the walls 36 and preferably beveled on their outer faces, as shown. These abutments 38 insure the uniform air space 39 between the walls 21 and the walls 36, thus furnishing additional means of heat insulation so as to prevent the rapid melting of the ice 40, which is placed in the container in the manner which will be readily understood. The primary function, however, of this air space is to provide means whereby the temperature can be equalized between the top and the bottom of the holder 33. As the device was originally constructed, I did not employ the air space 39, and I found that the lower cakes of ice cream softened although the upper ones remained hard. This result I conceived to be due to the unmelted ice floating at the top, keeping the top cakes cold, while the water in the bottom, being somewhat higher in temperature, permitted the cakes to soften. When the air chamber was added, as in the present application, the circulation of the air about the ice holder caused the temperature to become equalized throughout the container and in the space beneath the delivery slide, and I had no more trouble with the lower cakes of ice cream getting soft so long as any of the ice remained unmelted. To prevent any moisture which condenses on the portion 31 from getting into this air space, and to prevent the air in the space from being changed when the cover 27

is opened, I provide the inwardly and downwardly projecting sheet metal flange 41 which extends from the inner wall 21 to the tops of the walls 36, to which it is secured by means of the vertical flange 42 made integral therewith and soldered or otherwise secured to the walls 36. The container 33 is provided with a sheet metal cap 43 adapted to fit snugly over the top thereof. The sweating of the metal due to the cold tends to freeze the cakes to the walls of the container 33, and to prevent this I secure on the inner walls of the container 33 a plurality of small angle bars 55 on all four sides, which space the cakes 32 away from the walls and furnish very small surfaces where the cakes might tend to freeze to the contacting metal.

The bottom piece 37 has the downwardly turned portion 56, of a width sufficient to extend across the rear portions of the drawer slide and the coin-controlling mechanism to be hereinafter referred to, engaging the rear wall 21, and an inwardly turned portion 57 with an upwardly turned portion 58, and the horizontal portion 59, which forms the support for the drawer supporting casting 60. An extension 61 of the sheet metal 59 forms the rear wall of a passage 62 for the ice-cream cakes, and it and the portion 23 and the portion 59 and the vertical walls 21 form the bottom portion of a cold air space 63, U-shaped in vertical transverse section surrounding the drawer casting 54 and the supporting casting 60 and the coin-controlling mechanism. The upper portion of this space is formed by the lower part of the walls 21 and by two vertical sheet-metal plates 44 and 45, the positions of which are indicated by dotted lines in Fig. 3, the rear portions of which plates extend from the bottom piece 37 down to and are secured to the edges of the parts 57, 58 and 59, while the forward portions extend clear down to the bottom of the casing and form the sides of the passage 62. By this means and the apertures 126 (see Fig. 3) through the bottom piece 37, the cold air spaces 39 and 63 are connected so as to furnish a circulation of cold air about the lowermost cakes of ice cream which are below the brine chamber. A front plate 64 (see Figs. 1 and 2) is secured to the casing 20 and contains an aperture 65 for the drawer slide and also an aperture 66 for the coin box 67 locked therein, and an aperture 68 in which is placed the coin controlling mechanism generally designated by the reference character 69. The drawer slide 54 is provided with the handle 70 and the rectangular portion 71 fitting in and closing the rectangular aperture 65 in the plate 64. As the sheet metal portion of the casing 20 does not extend below the plate 64, I place back of the plate 64 the sheet 72 of insulating material, which forms the front of the passage 62, and rests on the adjacent bearing formed by the flange 25. Below the passage 62 in the cast base 26, I form the curved pocket 73 into which the cakes are finally delivered by the mechanism to be hereinafter described, and through the front wall of the casting 26, I place the aperture 74 through which the cake is withdrawn from the pocket 73 when it has been finally delivered and is available to the purchaser.

As will be apparent from Fig. 2, the drawer is made up of a generally rectangular casting having the bottom portions 75 and 76, between which is located a rectangular recess in which the cakes of ice-cream are deposited, the front and rear walls of said recess being numbered 79 and 80, respectively. The operation of this drawer is controlled by coin operated mechanism which forms no part of my present invention, being claimed in my aforesaid divisional application to which reference is made for any details not here disclosed. The lowermost cake of ice-cream normally rests in the rectangular recess in the drawer, and when a cake is to be withdrawn, the drawer is pulled out until it is over the aperture in the bottom piece 60 of the casting, whence it is discharged on to leaves 91, which temporarily support the same until the drawer is shoved home, when the leaves 91 are released and the cake of ice-cream can fall down in the pocket 73 from which it is withdrawn through the aperture 74. The details of the leaves 91 form no part of my present invention, but are claimed in the aforesaid application No. 467,100.

As the water condensed from the air by the action of the cold tends to freeze the parts together, to overcome this obstacle I form the surface of the casting 60 over which the drawer slides with a series of corrugations 101, see Fig. 2, which slope from the front downward toward the rear, so that any water condensing thereon will flow to the rear and into the trough formed by the lower portion of the sheet 56 and the portions 57 and 58. At some point in the trough formed by these portions I secure the small pipe 102 which extends downward therefrom through the bottom of the casing and through the supporting casting 26 so that the water can drain off. It will also be understood that I may provide the ice holding casing 36 with a pipe, not shown, leading downward therefrom and opening into the trough 56, 57 and 58. This pipe will be preferably supplied with a cock by which the brine may be drawn off before it is iced again.

While I have shown and described my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications, and that I do not

desire to be limited in the interpretation of the following claims, except as may be necessitated by the state of the prior art.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a refrigerating structure adapted to be employed with vending apparatus, the combination with a holding member, adapted to have a delivery member movable past the bottom of the holding member, of a support for said delivery member over which it moves, said support having drain channels therein, for the purpose described.

2. In a refrigerating structure adapted to be employed with vending apparatus, the combination with a casing, of a materially smaller holder casing supported therein, with a liquid tight chamber surrounding the holder casing, and a passage extending into the outer casing and into which the holder opens at its lower end, said passage adapted to have a vending apparatus movable therein and operating to remove articles from the holder casing, one by one, thereby causing a movement of the articles through the holder casing preparatory to their removal therefrom, said holder casing having internal ribs with which only the articles to be vended contact extending in the direction of the movement of the articles through the holder casing for the purpose described.

3. In a refrigerating structure adapted to be employed with vending apparatus, the combination with an external heat insulating casing, of an ice receptacle located within the casing but spaced therefrom to form a space about the receptacle filled with air cut off from the outside air, and an article holder located in the ice receptacle and having its bottom opening through the bottom portion thereof, said article holder adapted to have an article delivery mechanism moved past the bottom of the holder to deliver articles from the casing one by one, said casing being designed so as to furnish an air space surrounding the article delivery mechanism below the ice receptacle and connected with the air space surrounding the vertical walls of the ice receptacle.

4. In a refrigerating structure adapted to be employed with vending apparatus, the combination with an external heat insulating casing, of an ice receptacle located within the casing but spaced therefrom to form a space about the receptacle filled with air cut off from the outside air, a horizontal partition on which the ice receptacle is supported, and an article holder located in the ice receptacle and having its bottom opening through the bottom portion of the ice receptacle and the horizontal partition, said article holder adapted to have an article delivery mechanism moved beneath the horizontal partition to deliver the articles from the holder one by one, said casing and partition being designed to furnish an air space surrounding the article delivering mechanism below the ice receptacle and connected with the air space surrounding the vertical walls of the ice receptacle.

5. In a refrigerating structure adapted to be employed with vending apparatus, the combination with an external heat-insulating casing, of an ice receptacle located within the casing, and an article holder located in the ice receptacle and having its bottom opening through the bottom portion thereof, said article holder adapted to have an article delivery mechanism moved past the bottom of the holder to deliver articles from the casing one by one, said apparatus being so designed that there is a connected air space between the interior walls of the heat insulating casing and the adjoining walls of the ice receptacle and beneath the article delivery mechanism so that by reason of said air space the temperature at the top and bottom may be equalized.

6. In a refrigerating structure adapted to be employed with vending apparatus, the combination with an external heat-insulating casing, of an ice receptacle located within the casing, and an article holder located in the ice receptacle and having its bottom opening through the bottom portion thereof, said article holder adapted to have an article delivery mechanism moved past the bottom of the holder to deliver articles past the casing one by one, said apparatus being so designed that there is a connected air space between the interior walls of the heat insulating casing and the adjoining vertical walls of the ice receptacle and connected to another air space beneath the article holder so that by reason of said air spaces the temperature at the top and bottom is equalized.

7. In an ice-cream vending apparatus, a receptacle, a dispensing magazine within the receptacle, said magazine being constructed to present a relatively small contacting surface to bricks of ice cream contained within the magazine whereby the adherence of the bricks to the walls of the magazine is prevented.

In witness whereof, I have hereunto set my hand this 25th day of September, 1925.

STANLEY W. WILKINSON.