May 3, 1932. C. L. LOHNER ET AL 1,856,920

REFRIGERATED FOOD PACKAGE

Filed Sept. 17, 1930

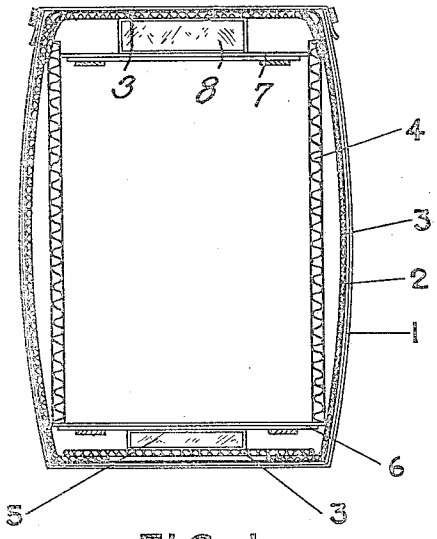

FIG-1

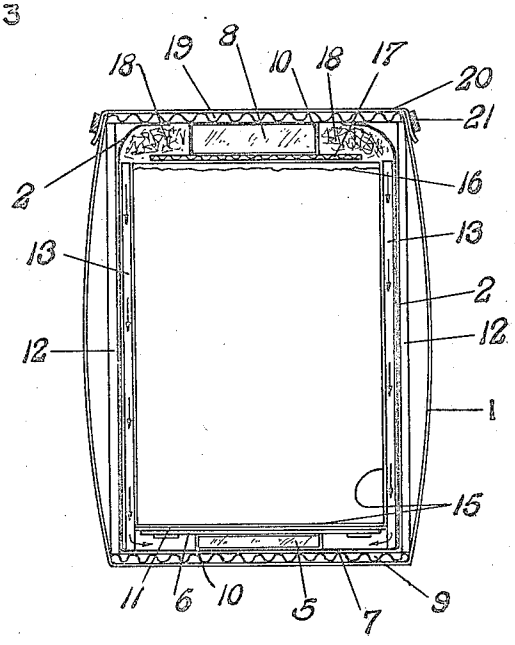

FIG-2

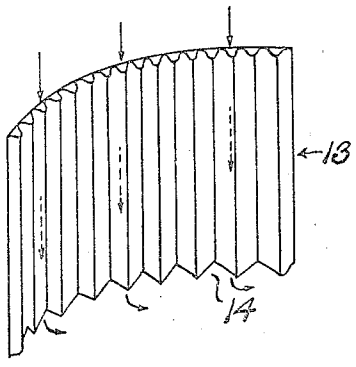

FIG-3

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UNITED STATES PATENT OFFICE

CARL L. LOHNER AND JOHN E. COVEY, OF CHICAGO, ILLINOIS, ASSIGNORS, BY MESNE ASSIGNMENTS, TO INDUSTRIAL PATENTS CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE

REFRIGERATED FOOD PACKAGE

Application filed September 17, 1930. Serial No. 482,418.

Our invention relates to wholesale refrigerated meat packages and methods of making the same, adapted to be used in the shipment by rail or motor truck of fresh meat products, such as require refrigeration, either unfrozen or in a substantially frozen condition. Packages designed for shipments of large quantities containing about 185 pounds of product are prepared by using an ordinary wooden shipping barrel. We first place a disc of corrugated fiberboard faced on one side, the type of corrugated board commonly known in the trade as Jumbo board, with the facing of the board against the bottom of the barrel. We then line the barrel wall with a strip of Jumbo board about 26½ inches high by 66 inches long, allowing about 6 inches overlap, having the facing turned out. We then insert a waxed bag such as that known to the trade as "Arkell", and fold the top surplus over the outer edges of the barrel. We place about 3½ to 4 pounds of the solidified gaseous refrigerant, such as solidified carbon dioxide, wrapped in about five layers of wrapping paper at the center of the bottom of the barrel. We then insert an inner Jumbo board liner, that is, a strip about 22½ inches high by 60 inches long, allowing 6 inches overlap so that the facing is turned inwards, the liner being V-notched at the bottom to facilitate CO_2 gas circulation. We then insert a circular wooden rack over the dry ice and a chipboard circlet on top of the dry ice. Then line the bottom and sides of the barrel with packers waxed paper circlet and strip respectively, to prevent contact of the product with the Jumbo board, since the Jumbo board will collapse if permitted to become soaked with meat juices. We then fill the container with the meat product to be shipped, to a maximum height of about 1 inch below the top of the inner Jumbo board liner, cover the product with circlets of packers waxed paper so that the circlet lies within the edge of the inner liner, and place a 14 inch diameter Jumbo board disc on the top and then place a block of dry ice of about 8½ to 9 pounds wrapped in five layers of wrapping paper on top of the disc. To prevent shifting of the dry ice we pack loosely a wad of ordinary crumpled paper about the block. We then bring the waxed bag closely around the dry ice, twist into a knot, and tie with a string, placing the upper Jumbo board disc with the facing turned out. We then apply burlap over the top of the barrel and cooper the wooden hoop into place.

We have successfully varied this package by lining the entire barrel with an excelsior pad, leaving sufficient overlap to entirely cover the top lining with an Arkell bag, packing in the product and placing a block of dry ice upon a rack or disc at the top of the package, closing the Arkell bag, lapping over the excelsior pad, covering with burlap and coopering on the hoop.

Another variation is to first line with the excelsior padding, placing a block of dry ice on the bottom after first wrapping it in several layers of wrapping paper, placing a wooden rack on the top of the dry ice block, then lining the sides with corrugated double faced Jumbo board, lining the package with substantial moisture-proof waxed paper, placing in the product, and covering with a wooden rack or slats, placing another block of dry ice on top of such rack, lapping over the excelsior padding, covering with a burlap bag and coopering on the hoop.

Our package permits the shipment of fresh meat without the use of water ice, thus considerably reducing container tare weight and refrigerant weight. Our package eliminates objectionable soaking of product by refrigerant meltage, and is substantially a "throw-away" container. Inasmuch as meat products to be so shipped are in relatively small units, a plurality of such units is packed in the container such that air spaces exist between the several units, permitting the oozing of CO_2 gas throughout the container. It is to be noted that our container is so constructed as to obviate over-freezing when shipping fresh product.

Referring now to the drawings:

Fig. 1 is a vertical central sectional view of a package illustrative of an embodiment of the invention.

Fig. 2 is a similar view of a modification.

Fig. 3 is a detail perspective view of a por-

tion of a corrugated lining having an edge notched to provide circulating passages.

In the embodiment of the present invention shown in Figure 1, a barrel having wooden stave walls 1 acts as a receptacle in which is placed Arkell bag 2 lined with excelsior padding 3 inside of which is placed a corrugated double-faced Jumbo board 4, a block of dry ice 5 being placed at the bottom and covered with a wooden rack 6, the product being then placed in the barrel and a wooden rack 7 placed thereon, on which to hold a larger block of dry ice 8.

Figure 2 shows a barrel having wooden stave walls 1. A single faced corrugated Jumbo board disc 9 is placed on the bottom, the facing of the board against the bottom of the barrel. A block of dry ice 5 wrapped in paper 10, separates the disc 9 from the wooden rack 6 on which rests chipboard circlet 11. The barrel is lined with corrugated Jumbo board 12 within which is Arkell bag 2 lined on the inside with a Jumbo board liner 13, being V-notched at the bottom, as shown in Figure 3, at 14. Inside of the inner liner of Jumbo board 13 is a waxed paper liner 15. The product is placed inside of the several insulating walls and liners and covered at the top with a waxed paper circlet 16, on which is placed a Jumbo board disc 17 to support a block of dry ice 8, which is wrapped in paper 10. Crumpled paper 18 provides shifting of the dry ice block 8 over which is closed the Arkell bag 2. On top is placed a Jumbo board disc 19, burlap cover 20 being held in place by hoop 21.

The V-notch 14, which is shown in detail in Figure 3, permits circulation of cold gas and of refrigerated air space between the product and the barrel walls, as well as to equalize the refrigeration in the top and bottom of the barrel by permitting free circulation.

We claim:

1. A refrigerator meat package comprising a wooden container, a water-proof lining covering the interior of the container, a packing of open material covering the inner side of the lining, a liner of corrugated material within the packing, a waxed paper liner within the corrugated liner to receive the meat and of a length to be gathered over the contents of the package, a solid refrigerant at the top and bottom of the container, and a cover closing the top of the container.

2. A refrigerator meat package comprising a wooden container, a water-proof lining covering the interior of the container, a packing of open material covering the inner side of the lining, a liner of corrugated material within the package, a waxed paper liner within the corrugated liner and of a length to be gathered over the contents of the package, a corrugated liner within the waxed paper liner notched in its bottom edge, a waxed paper liner within the last mentioned corrugated liner to receive the meat, a solid refrigerant within the ends of the outer waxed paper liner, corrugated ends at the top and bottom of the container, and a closure for the container.

Signed at Chicago, Illinois this 12th day of September A. D. 1930.

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