D. CLARK.

CAR.

APPLICATION FILED AUG. 11, 1916.

1,264,899.

Patented May 7, 1918.

2 SHEETS—SHEET 1.

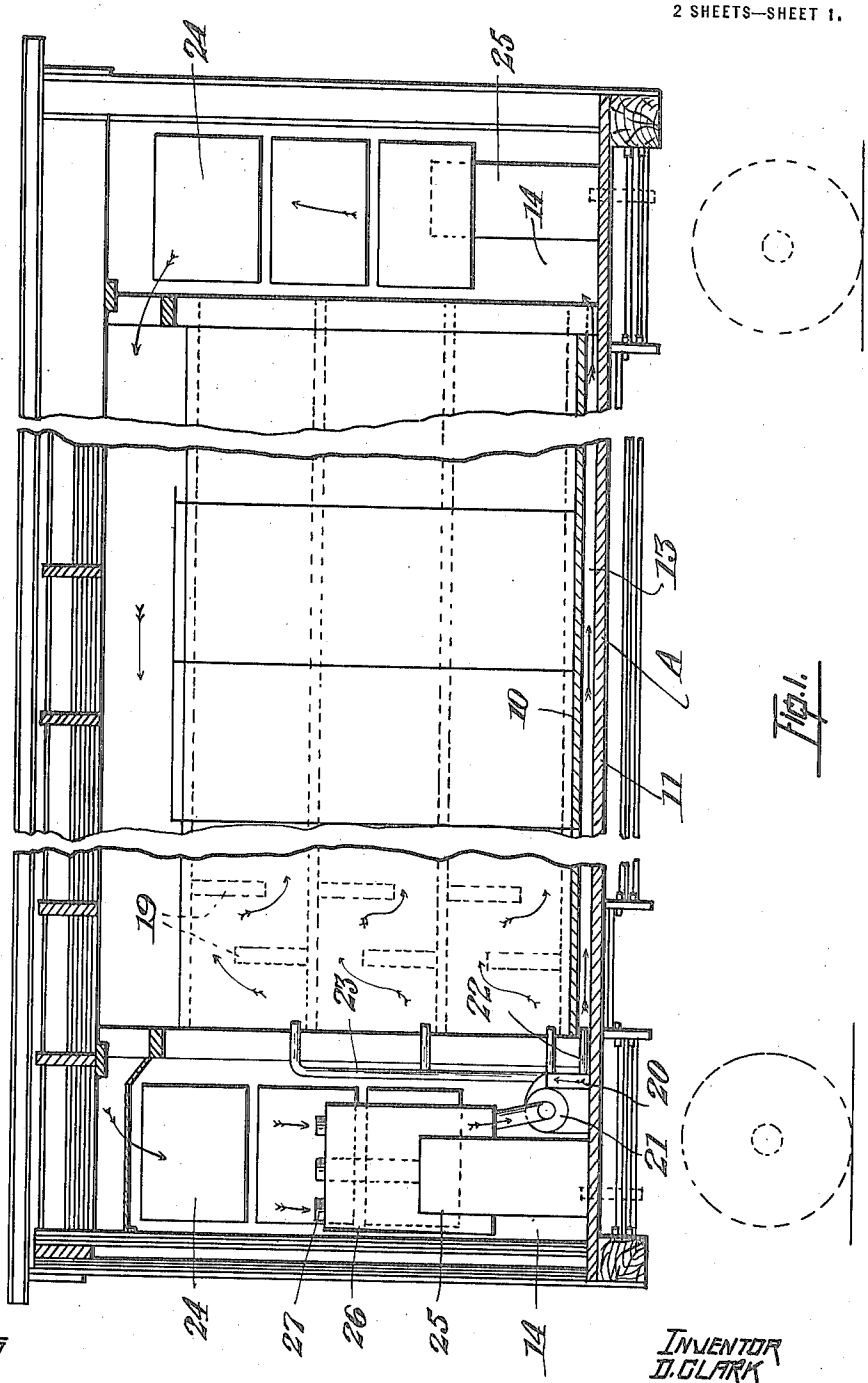


Fig. 1.

WITNESS

INVENTOR
D. CLARK

BY Fetherstonhaugh & Co

ATT'YS.

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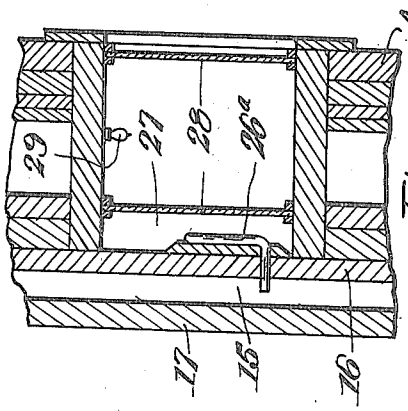


Fig. 3.

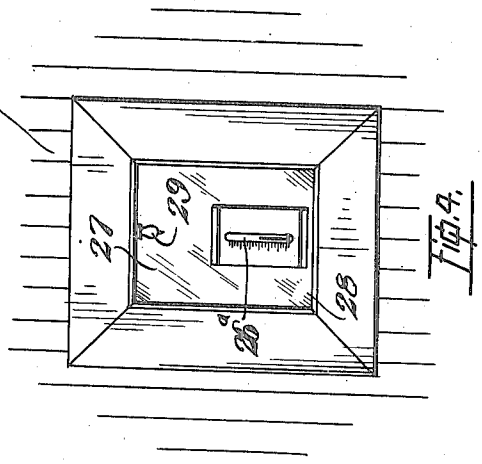


Fig. 4.

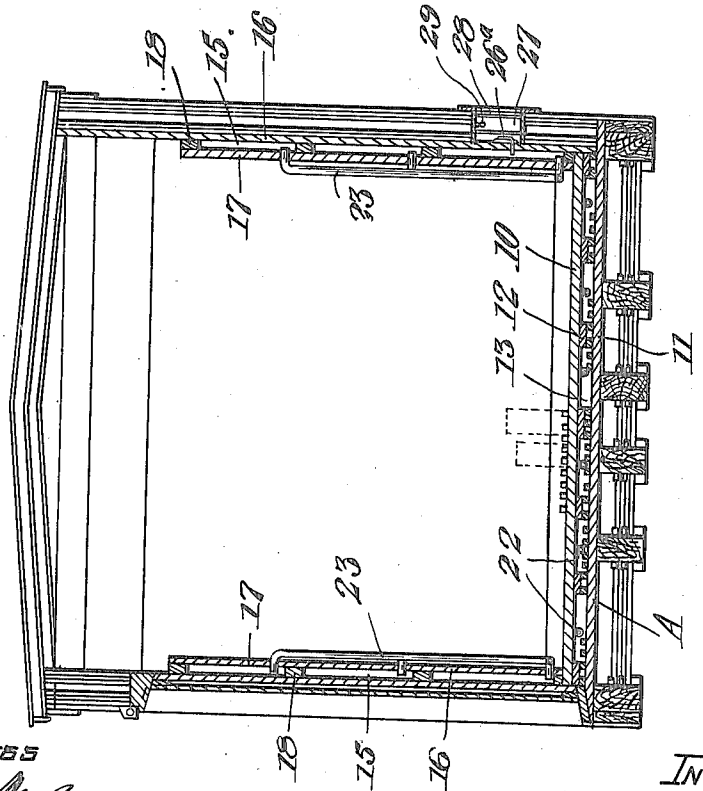


Fig. 2.

WITNESS

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UNITED STATES PATENT OFFICE.

DANIEL CLARK, OF EDMONTON, ALBERTA, CANADA.

CAR.

1,264,899. Specification of Letters Patent. Patented May 7, 1918.

Application filed August 11, 1916. Serial No. 114,486.

To all whom it may concern:

Be it known that I, DANIEL CLARK, a subject of the King of Great Britain, and resident at 10333 123rd street, in the city of Edmonton, Province of Alberta, Dominion of Canada, have invented certain new and useful Improvements in Cars, of which the following is a specification.

This invention relates to improvements in cars and especially refrigerator cars, and the objects of the invention are to maintain a continuous circulation of air throughout the cars, along and parallel to each external surface of the car, to adequately control the temperature of the air, so circulated and of the central portion of the car inclosed within the circulating streams of air, and generally to adapt the cars to better perform the functions required of them.

With the above and other objects in view, the invention consists essentially of the improved construction particularly described and set forth in the following specification and accompanying drawings forming part of the same and of the use therewith of adequate means to maintain a constant circulation of air and of the use therewith of adequate means for controlling the temperature and humidity of the air.

In the drawings:

Figure 1 is a longitudinal section of a refrigerator car embodying the present invention.

Fig. 2 is a transverse section of the same.

Fig. 3 is a fragmentary transverse section through one of the walls of the car showing the location of the thermometer.

Fig. 4 is a fragmentary side elevation of the refrigerator car showing the thermometer.

Like characters of reference refer to like parts in the several figures.

Referring to the drawings, A represents a refrigerator car provided with a false bottom 10, spaced from the bottom 11, by the longitudinally extending stringers 12, so forming a plurality of air spaces 13, the said bottom only extending partially along the length of the car A, terminating at the chambers 14, in which are installed adequate appliances for controlling the temperature and humidity of the air.

A plurality of air passageways 15 are formed along the lateral walls 16 of the car by the walls 17 which are spaced from the first said walls by the longitudinally extending stringers 18, the walls 17 being approximately the same length as the false bottom 10, so that the air passageways terminate at the refrigerating chambers 14.

The passageways 15 are provided with a plurality of baffles 19, designed to direct and guide the flow of air therethrough.

Along one end of the car A, an air distributing chamber 20 is located into which the fan 21, or other appliance for furnishing air at a pressure discharges, the chamber having a plurality of outlet conduits 22 communicating with the air passageways 13, and being provided with upwardly extending conduits 23, having a plurality of discharge nozzles communicating with the air passageways 15.

An ice-box 24 or other suitable cooling means is located in the chamber 14 at each end of the car so that when the fan 21, or other appliance serving the same purpose is in operation, the air is delivered through the passageways 13 and 15, and after being delivered to the chambers 14 at the other end of the car, circulates around the cooling means 24 and passes backwardly over the top of the goods in the car to the other chamber 14, and other cooling means 24, when it again comes under the influence of the fan and is re-delivered into the air passageways.

Any suitable means may be utilized to drive the fan 21, or substitute therefor, which it will be understood can be kept in operation, continuously or whenever desired while the car is under load.

During the winter the cooling means 24 are not in use and are replaced by means of the lamps 25 or any other heating system, over which the hoods 26 are located, the said hoods being provided with inlet passageways 27, through which the air is designed to pass, so that it will positively come in contact with the said lamps and be brought to the desired temperature. Means for the elimination of any moisture in the air is to be installed in the chambers 24.

It is desirable that inspection of the car may be readily made to determine whether the air being circulated through the same is of the desired temperature, and to this end I provide a thermometer 26^a which extends through the wall 16 into the air passageways 15, the thermometer being incased

in the casing 27, provided with suitable glass protecting walls 28, between which the electric bulb 29 is operatively mounted.

The assembly of the car will be readily understood from the foregoing description.

When the car is in use the fan 21 or its equivalent is set in motion and a continuous circulation of air takes place through the passageways 13 and 15, keeping the goods stored within the car at the requisite temperature, so that it will be evident that perishable goods of all natures can be readily carried extremely long distances without any liability of deterioration, due to marked changes of temperature.

From this description it will be seen that I have invented an apparatus for cars by means of which a continuous circulation of air can be obtained inside and along the outer surfaces thereof, and since the doors of the car are also formed with passageways 15 therethrough, it will be readily seen that there is no liability of any of the goods being spoiled in any way due to temperature conditions.

While in the embodiment illustrated the air passageways 13 and 15, are such that by adding a false bottom and inner side walls to cars at present in use, this means of air circulation may be readily installed, it will be understood that in building new cars the said passageways may be formed in the walls of the cars to suit the structural conveniences.

As many changes could be made in the above construction, and many apparently widely different embodiments of my invention, within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

In a car having side and end walls, a plurality of superposed longitudinally extending air circulating passageways in the side walls of the car, an air pump, a multi-nozzled pipe extending upwardly from the pump and having a nozzle thereof extending into each of the superposed chambers to supply air thereto, the car having a passageway for returning the air to the pump, and means in said passageway for changing the temperature of the air.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

DANIEL CLARK.

Witnesses:
RUSSEL S. SMART,
B. LEAMY.