

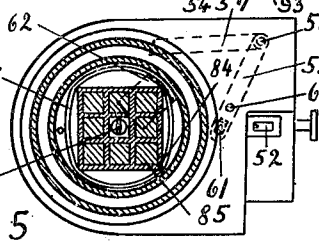
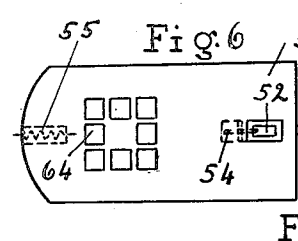
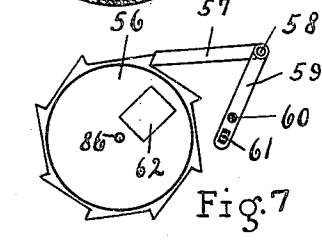
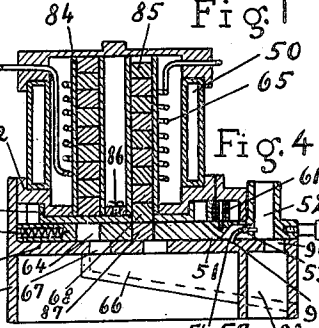
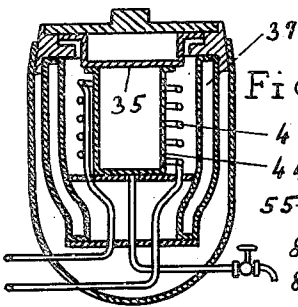
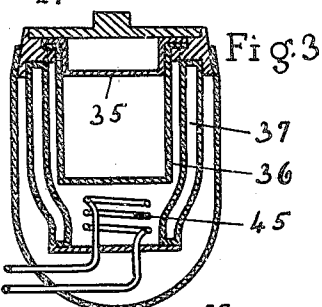
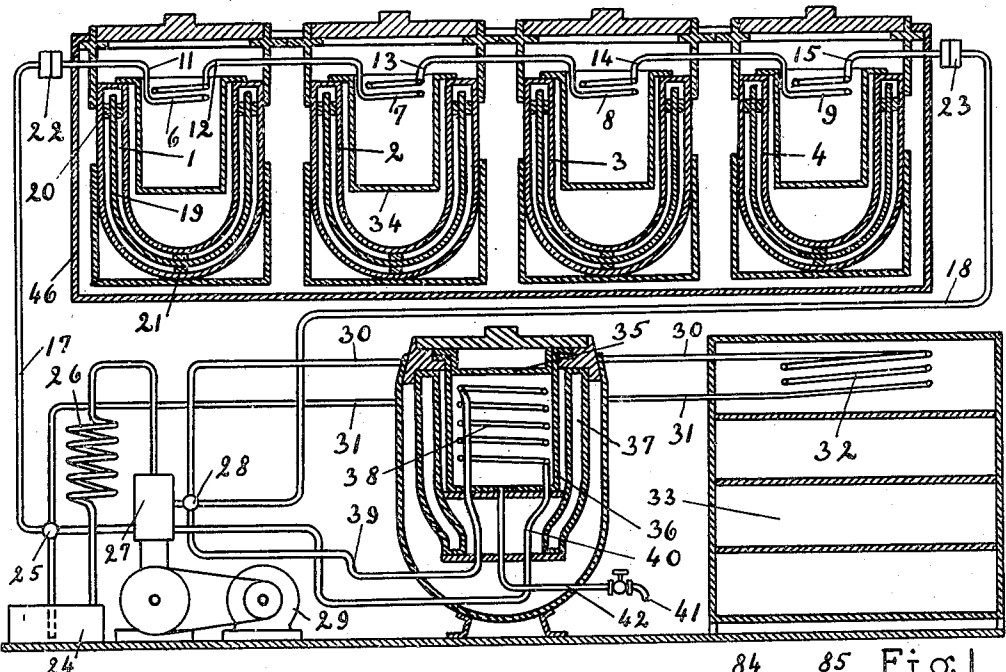
May 30, 1939.

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2,160,184

COOLING PLANT

Filed May 26, 1936



WITNESSES.

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2,160,184

COOLING PLANT

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Application May 26, 1936, Serial No. 81,959
In Switzerland July 6, 1935

3 Claims. (Cl. 62—89)

My invention relates to a cooling plant and has for its object to employ one or more vacuum vessels, each associated with an evaporator, to conserve the cooling effect of the latter. This application shows a cheap vacuum vessel which is fitted with walls having a high resistance to the transfer of heat.

Reference is to be had to the accompanying drawing in which

Fig. 1 shows a section of the total plant.

Fig. 2 shows a vessel with the evaporator in the upper portions.

Fig. 3 shows a vessel with the evaporator in the bottom.

Fig. 4 shows a vessel with an evaporator in connection with a dispensing device for ice-cream parcels.

Figs. 5-7 show details.

According to Fig. 1 the vacuum vessels 1, 2, 3, 4, are placed in the box 46 and are fitted with the evaporators 6, 7, 8, 9, which are connected by the pipes 12, 13, 14. The end members 11 and 15 of the piping carry the couplings 22, 23. The piping itself does not show any other couplings or connections as the chances for a leakage are avoided as much as possible. The plant of the machinery consists of the tank 24 for the liquid refrigerant, the compressor 27, the electrical motor 29, the condenser 26 and the connections 25, 28. Any kind of a cooling box can be connected to the connections 26, 28. In the present case the evaporators 6, 7, 8, 9 are connected by the pipes 17, 18 to the connections 25, 28. These connections are also joined to the evaporator 32 of the cooling box 33 by the pipes 30, 31 and the evaporator 38 of the vacuum vessel 37 by the pipes 39, 40. A tank 36 with the outlet pipe 42 and the valve 41 is placed inside of the vacuum vessel 37. The metallic tank 36 is closed by the metallic cover 35.

The cooling apparatus works in the known manner. The liquid refrigerant is driven to the evaporators 6, 7, 8, 9, 32 and 38. The vapors are drawn back through the connection 28 of the compressor 27. The goods are placed into the tank 36 and the cooling box 33. The tank 36 is used for a liquid which is led to the outside through the valve 41. For improving the insulation of the vacuum-vessels one or more walls 19 are placed between the walls of the vacuum vessels. The wall 19 is held in place by the pieces 20, 21. Also an insulating material can be placed on the outside surface of the vacuum vessel. The evaporator 45 of Fig. 3 is placed into the bore of the bottom of the vacuum vessel 37. The evaporator 43, shown in Fig. 2, is placed outside of the tank

44 which is used for goods. If the tank 44 is removed, the vacuum vessel can be used for liquid. The vacuum vessel 50 with the evaporator 65 is fitted with a dispensing device according to Figs. 4 to 7. Ice-cream parcels 85 are placed inside of case 84 which has eight channels for placing those parcels. The case 84 is surrounded with the evaporator 65 and is placed inside of the vacuum-vessel 50. The layers of the ice-cream parcels 85 are held in place by the wheel 56 mounted on the pivot 86. The wheel may be shifted to such positions that the parcels 87 may drop through the opening 62. The parcel 68 lies over the parcel 87. A slide 51 is placed under the wheel 56. The slide 51 carries eight openings 64 which correspond with the eight channels of the case 84. A bottom 88 with eight openings 67 is placed under the slide 51. The openings 67 correspond with the openings 64 of the slide in the extreme position of the slide at the left. The slide 51 is fitted with a spring 55. One end of the spring 55 is fastened to the slide and the other end is fastened to the vertical wall of the case 89. The case 89 is fitted with the chute 66 for the ejected ice-cream parcels. The slide 51 carries the opening 52 for the coin which is inserted into the opening 52. If the slide 51 is shifted to its extremest position at the right the opening 52 registered with the opening 90 of the bottom 88. The end of a lever 54 with the pivot 53 projects into the opening 52. The hook 91 of the lever 54 rests in a hole of the bottom 88. A lever 57 rests against the teeth of the wheel 56. The lever 57 is hinged at 58 to the lever 59, which through the pivot 60 is fastened to the plate 92 of the case 89, while the pin 61 is fastened to the slide 51.

The arrangement with the dispensing device works in the following way:

The vacuum vessel is filled with ice-cream parcels 85. One parcel drops into one of the openings 64 of the slide 51. One parcel 68 rests just in this opening 64. If a coin is inserted into the opening 52 of the slide 51 the coin presses the end of the lever 54 down and the hook 91 leaves the hole of the bottom 88. The slide 51 can be shifted by hand to its extreme position at the right and the coin drops through the opening 90 into the space 93 of the case 89. The spring 55 draws the slide back to its original position. The parcel 87 drops into the chute through the corresponding opening 64 as soon as the slide has reached its extreme position at the right. As the pin 61 of the lever 59 is fastened to the slide 51 the levers 57 and 59 shift the wheel 56 forward and the opening 62 is shifted to the next channel of the case 84 and the

next tooth rests against the front of the lever 57. The lowest parcel of this channel drops into the opening 64 of the slide 51 and will be ejected at the next insertion of a coin. For a better understanding of the Fig. 4 the wheel 56 is shown thicker than it should be.

I claim:

1. In a cooling plant comprising a plurality of glass vacuum vessels for the reception of goods, each glass vacuum vessel having an opening on top for taking the goods out, formed with a closed bottom and having an insulated wall between the walls of the glass vacuum vessel.

2. In a cooling plant comprising a plurality of glass vacuum vessels for the reception of goods, each glass vacuum vessel having an opening on top for taking the goods out, formed with a closed bottom and having an insulated wall between the walls of the glass vacuum vessel, an

evaporator placed inside of each glass vacuum vessel, all evaporators connected in series with each other and with the compressor of the system.

3. In a cooling plant comprising a plurality of glass vacuum vessels for the reception of goods each glass vacuum vessel having an opening on top for taking the goods out, formed with a closed bottom and having an insulated wall between the walls of the glass vacuum vessel, an evaporator placed inside of each glass vacuum vessel, all evaporators connected in series with each other and with the compressor of the system, another glass vacuum vessel for the reception of a liquid connected to the compressor separately, having an opening on the bottom for the outflow of the liquid and an opening on the top for the introduction of the liquid.

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