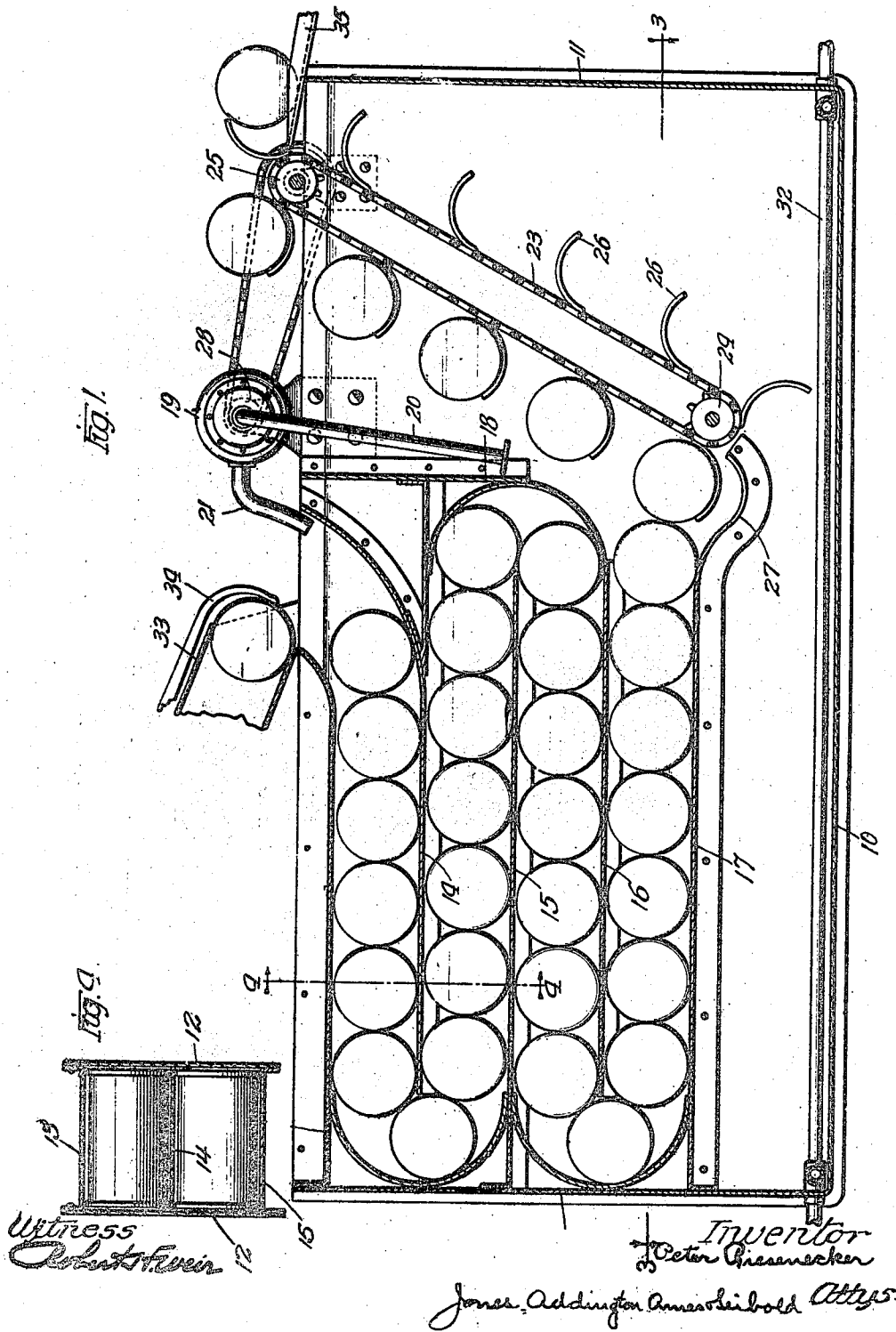


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 APPLICATION FILED MAR. 13, 1917.

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Patented Jan. 1, 1918.

2 SHEETS—SHEET 1.



Witness
Robert F. F. F.

Inventor
Peter Riesenecker

Jones, Addington Ames & Co. Attys.

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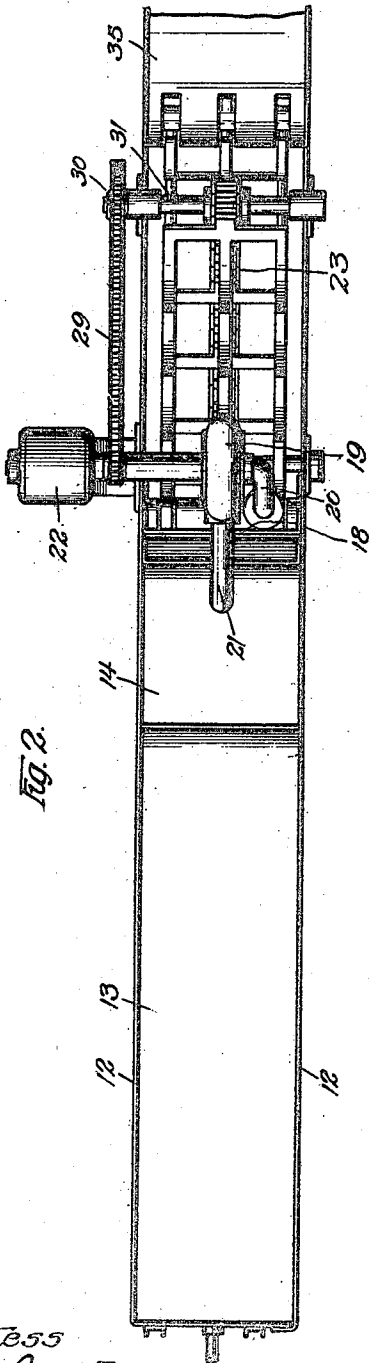


Fig. 2.

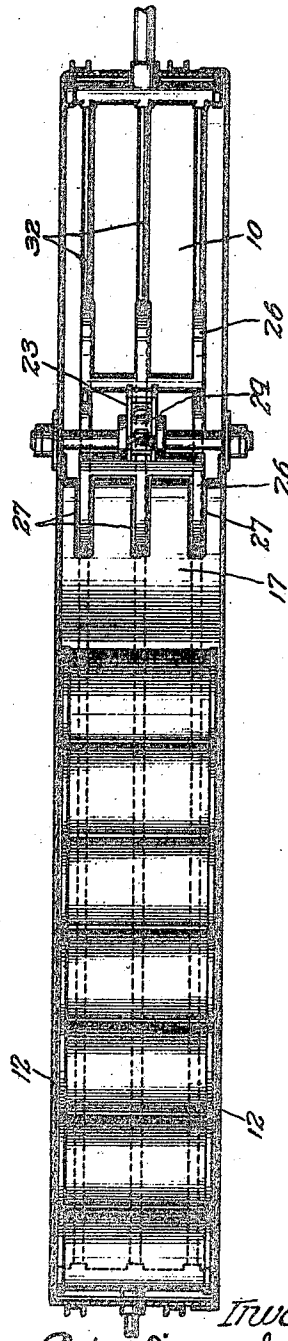


Fig. 3.

Witness
Charles F. Furrer

Inventor
Peter Riesecker

Jones & Addington Ames & Herbold Attys

UNITED STATES PATENT OFFICE.

PETER RIESENECKER, OF CHICAGO, ILLINOIS.

MEANS FOR AND METHOD OF OPERATING ON CANNED GOODS.

1,252,302.

Specification of Letters Patent.

Patented Jan. 1, 1918.

Application filed March 13, 1917. Serial No. 154,440.

To all whom it may concern:

Be it known that I, PETER RIESENECKER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Means for and Methods of Operating on Canned Goods, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to means for and method of operating on canned goods, and, more specifically, to means for and method of sterilizing canned goods.

One of the objects of my invention is to provide such a means which will be simple in construction and rapid and efficient in operation. A further object is to provide an improved method by means of which the canned goods will be quickly and uniformly and thoroughly sterilized. Further objects will appear from the detailed description to follow and from the appended claims.

In the drawings, in which is shown a machine exemplifying my improved means and method—

Figure 1 is a vertical longitudinal section of a sterilizing machine;

Fig. 2 is a plan view of this machine;

Fig. 3 is a horizontal section on the line 3—3 of Fig. 1; and

Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 1.

Referring to the drawings in detail, the sterilizing machine shown comprises a tank for the sterilizing liquid, a tortuous passage forming a can-guide and also forming a passage through which the sterilizing liquid is caused to flow to carry the cans along the passage, a pump for withdrawing the sterilizing liquid from the tank and causing it to flow through the tortuous passage, a chain conveyer for receiving the cans from the outlet of the tortuous passage and removing them from the tank, and heating-coils in the tank for heating the sterilizing liquid.

The tank may be of sheet-metal construction comprising a bottom-plate 10, end-plates 11, and side-plates 12. The tortuous passage for the cans may be formed by sheet-metal plates 13, 14, 15, 16 and 17 extending from one side 12 to the other and secured to the sides 12. The cross-plates 13, 15 and 17 extend to the end 11 of the tank and are secured thereto. The plates 14 and 16 do

not extend up to the end-plate 11, but are spaced from it far enough to allow a can to pass between the end of the plates 14 and 16 and the end-plate 11. The other ends of the plates 14 and 16 extend to a vertical cross-plate 18 to which they are secured. Enough space is left between the end of the plate 15 and the vertical cross-plate 18 to allow a can to pass therebetween.

For withdrawing water from the tank and causing it to flow through the tortuous passage, a centrifugal pump 19 is mounted above the tank, having a suction-pipe 20 extending down into the tank, and a discharge-pipe 21 for delivering the liquid to the tortuous passage. A motor 22 may be provided for driving the centrifugal pump. The chain-conveyer for receiving the cans from the tortuous passage and removing them from the tank comprises a chain 23 extending over suitably-mounted sprockets 24 and 25, and a plurality of sets of curved fingers 26 secured to the chain 23 for engaging the cans. At the discharge end of the tortuous passage, the plate 17 may be curved to form a depressed pocket into which the cans roll to properly position them for engagement with the curved fingers 26 of the conveyer. This pocketed portion of the plate 17 may be provided with slots 27 to furnish clearance for the fingers 26. The conveyer-chain 23 may be driven from the pump motor 22 by means of a sprocket 28 mounted on the motor-shaft, a sprocket-chain 29 driven from the sprocket 28, and a sprocket-wheel 30 driven from the sprocket-chain 29 and mounted on the shaft 31, to which the sprocket 25 is secured.

The sterilizing liquid may be heated in any suitable manner, as by apertured steam-pipes 32.

The cans may be supplied to the tortuous passage in any suitable manner, as by a can-chute 33, and an intermittently-operated can-releasing mechanism indicated at 34. Any suitable discharge means may be provided for receiving the cans from the fingers 26 of the chain conveyer, such as an inclined can-chute 35.

The operation of the machine is as follows: The motor 22 is put in operation to drive the pump 19 and the conveyer-chain 23. The can-releasing mechanism 34 is operated to supply the cans to the tortuous passage. The action of the pump causes the sterilizing liquid to flow through the tor-

5 tortuous passage. This movement of the liquid carries the cans along with it through the tortuous passage. The movement of the chain conveyer carries the cans one at a time from the discharge end of the tortuous passage and delivers them to the discharge-chute 35. As the cans move through the tortuous passage they roll along on the supporting plates 14, 15, 16 and 17. The circulation of the sterilizing liquid caused by the pump renders the liquid in the tank and in the tortuous passage of substantially the same temperature throughout. This uniformity of temperature results in a uniform treatment of the canned goods, which is desirable.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

20 1. A method of sterilizing and conveying containers comprising placing the containers in a heated liquid and imparting motion to the heated liquid to cause the containers to be carried along by the liquid and heated thereby.

25 2. A method of conveying containers and transferring heat with respect thereto comprising placing the containers in a liquid of a different temperature from that of the containers and imparting motion to the liquid to cause the containers to be carried along by the liquid and to cause a transference of heat between the liquid and the containers.

35 3. A sterilizing machine comprising a combined can-guide and liquid-passage, and means for causing heated liquid to flow through said passage, to carry the cans along said can-guide.

40 4. A sterilizing machine comprising a combined can-guide and liquid-passage, means for causing liquid to flow through said passage to carry the cans along said can-guide, and means for heating said liquid to cause it to heat the contents of the cans.

50 5. A sterilizing machine comprising a tank, a combined can-guide and liquid-passage having its entrance above the liquid level of said tank and its outlet below the liquid level and in communication with said

tank means for heating the liquid, and means for withdrawing liquid from said tank and supplying it to said entrance to cause it to flow through said passage and back into the tank to carry the cans along said can-guide.

6. A sterilizing machine comprising a tank, a combined can-guide and liquid-passage having its entrance above the liquid level of said tank and its outlet below the liquid level and in communication with said tank means for heating the liquid, means for withdrawing liquid from said tank and supplying it to said entrance to cause it to flow through said passage and back into the tank to carry the cans along said can-guide, and a mechanical conveyer operating in said tank for receiving the cans from said outlet and removing them from the tank.

7. A sterilizing machine comprising a combined liquid-passage and can-guide having a surface on which the cans may roll, means for causing liquid to flow through said passage to cause the cans to roll along said can-guide on said surface, and means for heating said liquid to cause it to heat the contents of said cans.

8. A method of sterilizing and conveying containers comprising directing a heated fluid against said containers to cause them to be carried along by said fluid and heated thereby.

9. A method of conveying containers and transferring heat with respect thereto comprising directing a fluid of a different temperature from that of the containers against said containers to cause them to be carried along by said fluid and to cause a transference of heat between the fluid and the containers.

10. A sterilizing machine comprising a combined can-guide and fluid-passage, and means for directing heated fluid against the cans in said passage to carry the cans along said can-guide and to heat the cans.

In witness whereof, I have hereunto subscribed my name.

PETER RIESENECKER.

Witness:

LELAND A. BABCOCK.