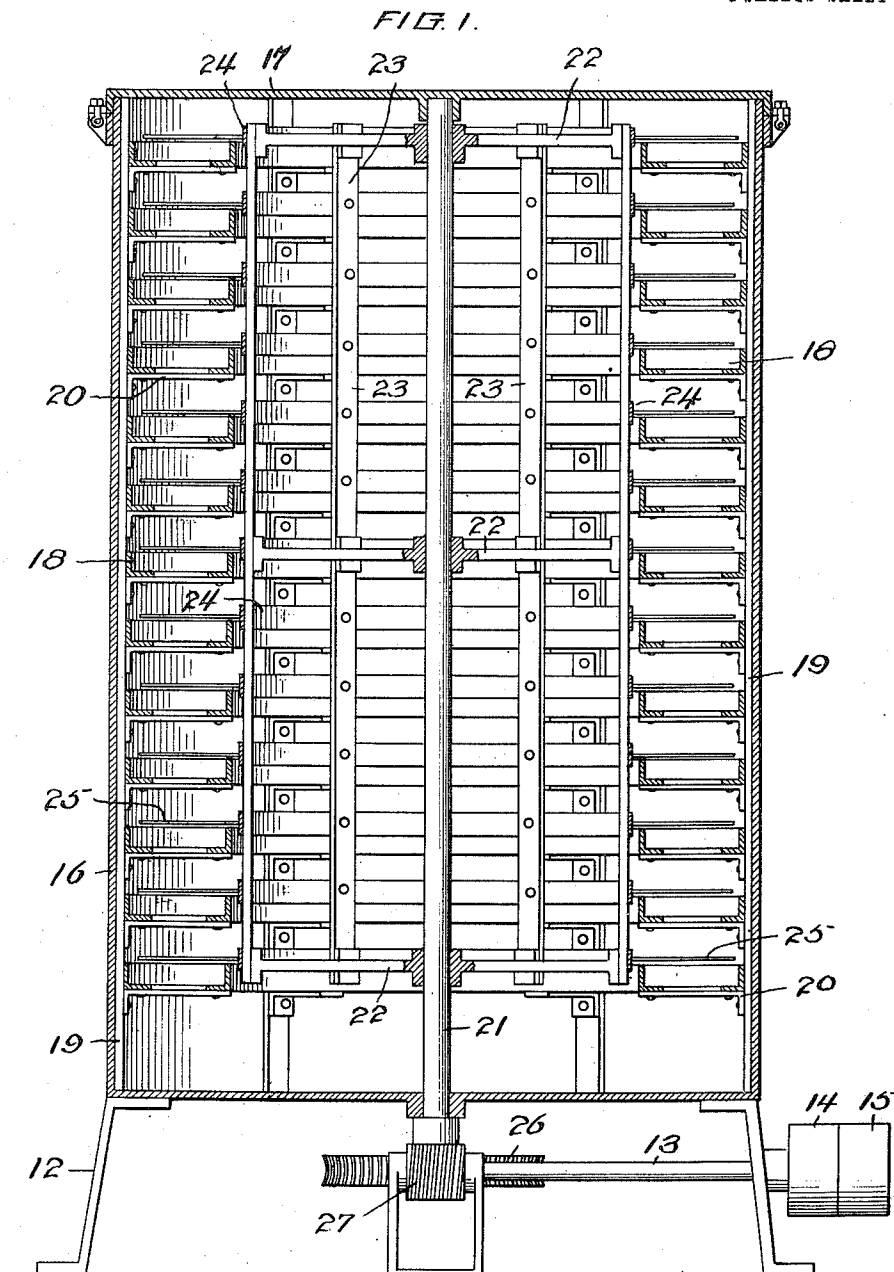


J. C. WINTERS.
CONTINUOUS PROCESS COOKER.
APPLICATION FILED JAN. 27, 1911.

1,006,162.

Patented Oct. 17, 1911.

2 SHEETS—SHEET 1.



WITNESSES:
H. F. Doyle
C. M. Sweeney

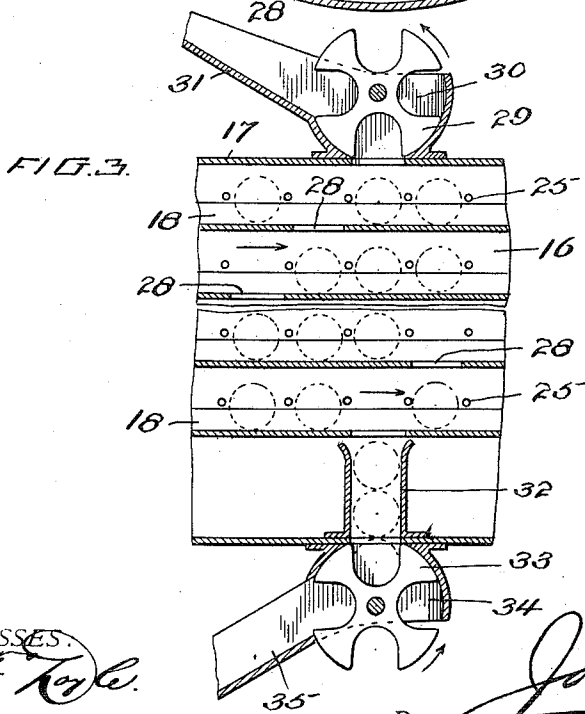
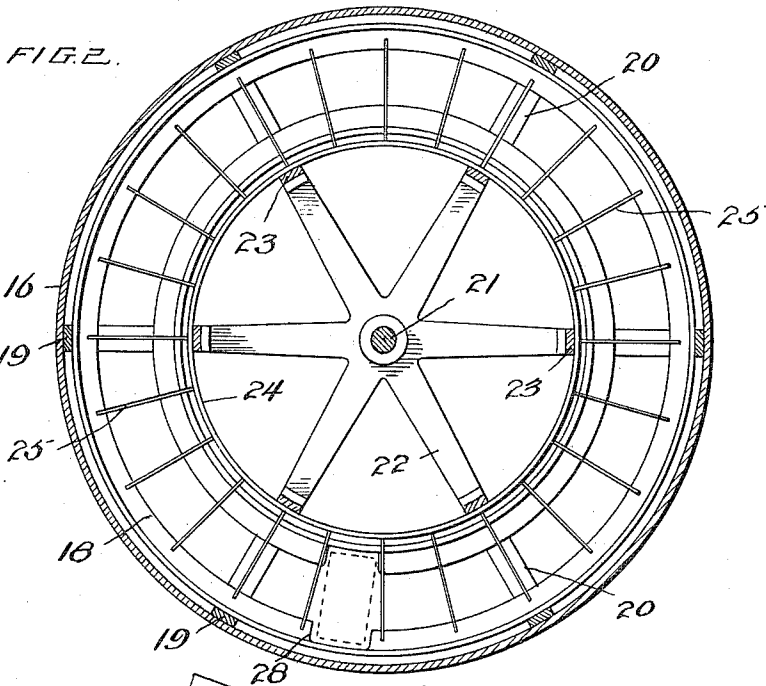
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WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN C. WINTERS, OF MOUNT MORRIS, NEW YORK.

CONTINUOUS-PROCESS COOKER.

1,006,162.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed January 27, 1911. Serial No. 605,112.

To all whom it may concern:

Be it known that I, JOHN C. WINTERS, a citizen of the United States, residing at Mount Morris, in the county of Livingston and State of New York, have invented or discovered certain new and useful Improvements in Continuous-Process Cookers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an apparatus for cooking or sterilizing canned goods, and more particularly to that class of cookers known as continuous process cookers, and through which sealed cans are caused to travel successively in such a manner that they will be continuously fed into and continuously discharged from the cooker when the same is in operation; and the invention has for its object to provide an apparatus, of the class referred to, which is of such construction that the material in the cans will be properly agitated during the travel of the cans through the cooker, so that the contents of the cans may be properly subjected throughout to the action of heat in such cooking operation, thus avoiding the objection resulting from imperfect cooking of the inner or middle portions of the contents of the cans.

The improved apparatus comprises a retort which is preferably in the form of a vertical, tightly closed cylinder into which steam may be admitted for the cooking operation. Within the said cylinder is a series of annular, horizontal, stationary or non-rotating shelves which may be supported in any suitable manner adjacent the wall thereof, said shelves providing ways in which the cans may be caused to travel. Rotatably mounted within the cylinder is a can driver or carrier having horizontally projecting fingers extending over the shelves for the purpose of rolling the cans along on said shelves. Each shelf is provided with a discharge aperture through which the cans may pass downward by gravity from one shelf to the other throughout the entire series of sleeves, said apertures being staggered or arranged out of line with each other vertically, so that when a can passes through an aperture in one shelf it will be received on the shelf below, and in thus passing downward will have its contents

agitated by the impact of the fall, such contents being also more or less agitated or stirred by the rolling action to which the cans are subjected in passing around the shelves. The cans will be fed into the retort or receptacle by a rotary cut-off valve having a series of pockets, and are likewise discharged from the retort, without permitting any considerable escape of steam, all as will hereinafter more fully appear.

In the drawings Figure 1 is a vertical sectional view of an apparatus embodying the present invention. Fig. 2 is a plan view of the same with the cover removed. Fig. 3 is a broken out detail sectional view to show the inlet and outlet valves and the discharge apertures in the shelves.

Referring to the drawings, 12 denotes a suitable base in which may be mounted the driving shaft 13 provided with pulleys 14 and 15. Supported by said base is a retort 16, preferably in the form of a vertical cylinder having at its top a cover 17 by which it may be tightly closed. The said cylinder is provided in its interior with a series of annular shelves 18 so constructed as to provide suitable ways in which the cans may travel. These shelves are preferably supported on a stationary frame 19 having supporting brackets 20, said frame resting at its bottom on the floor or bottom wall of the cylinder 16, and being non-rotatably attached or fixed relative to the said cylinder in any suitable manner.

Rotatably mounted within the retort or cylinder 16 is a can driver or carrier comprising a central shaft 21 to which are attached spider-wheels 22 connected by vertical bars 23 to which are secured hoops or bands 24 carrying radially projecting driving fingers 25, the latter being spaced apart a distance slightly greater than the diameter of the cans to be operated upon, so that said fingers, as they travel around over the shelves 18, will roll the cans along on said shelves. The shaft 21 may be driven in any suitable manner as by being provided with a worm-wheel 26 meshing with a worm 27 on the driving shaft 13.

The shelves 18 are preferably formed with partly open bottoms so that steam may have free access to the cans which are to be rolled along thereon, and each of the said shelves is provided with a discharge aper-

ture 28 through which the cans may be successively discharged from one shelf to the next shelf below after they have completed their travel around each shelf. The discharge apertures are arranged out of line with each other vertically, so that when a can falls through an aperture it will be received on the shelf below, and thus the cans may be successively discharged from one shelf to another until they have passed downward through the cylinder, each can preferably performing a nearly full circle of travel around a shelf before being discharged to the next shelf below.

The cans are successively fed to the retort or cooker by a rotary valve 29 having a series of pockets 30, to receive the cans, and cut-off or body portions between said pockets to prevent the escape of steam; the cans being supplied to the said rotary valve by any suitable means, as by being passed down an inclined chute 31. After the cans have been fed through the cooker or retort they are discharged therefrom in any suitable manner, as by being passed through an outlet spout 32 to an outlet or discharge valve 33 having can-receiving pockets 34 which will carry the cans from the spout 32 to a discharge spout 35.

In the operation of the carrier steam under a pressure of preferably about 15 pounds to the square inch will be supplied to the cylinder or retort by any suitable means (not shown) and the rotary inlet and discharge valves 29 and 33 will be driven by any suitable or well-known driving means. The driving shaft 13 being set into operation the rotary valve 29 will supply the cans to the upper shelf in the cooker or retort, and after the cans have passed around said upper shelf they will fall through an aperture 28 therein to the next succeeding shelf, and so on downward through the different shelves until they are discharged from the cooker to the spout 32 and the outlet valve 33. In this operation the rotating carrier within the cylinder or retort will be driven at such a speed, according to the kind of goods to be cooked, as will complete the cooking operation for each particular kind of goods by the time the cans have traveled through the cooker. As the cans will be rolled along on the shelves 16 by the driving fingers 25 the contents of said cans will be suitably agitated, and as the cans fall from one shelf to another this agitation or stirring of the material in the cans will be augmented by the impact of the falls, so that the contents of the can will be suitably exposed throughout to the action of heat within the cooker or retort for the cooking operation.

The shelves 18, supported by the brackets 20, and affording tracks on which the cans may travel, will preferably consist of curved or circular angle-irons spaced apart from

each other, thus providing inner flanges which will retain the cans on the shelves, and leaving curved openings between the spaced angle-irons.

Having thus described my invention I claim and desire to secure by Letters Patent:

1. In a continuous process cooker, the combination with a vertical cylinder or retort, of a series of annular, horizontal, can-receiving shelves within said cylinder or retort, each of said shelves being provided with a discharge aperture, a rotary driver within the said cylinder or retort for carrying the cans around on said shelves, and inlet and outlet valves provided with pockets for feeding the cans to and discharging them from the cooker.

2. In a continuous process cooker, the combination with a vertical cylinder or retort, of a series of annular, horizontal, can-receiving shelves within said cylinder or retort, each of said shelves being provided with a discharge aperture, the discharge openings of successive shelves being out of line, vertically, with each other, a rotary driver within the said cylinder or retort for carrying the cans around on said shelves, and inlet and outlet valves provided with pockets for feeding the cans to and discharging them from the cooker.

3. In a continuous process cooker, the combination with a vertical cylinder or retort, of a series of annular, horizontal, can-receiving shelves within said cylinder or retort, each of said shelves being provided with a discharge aperture, a rotary driver within the said cylinder or retort for carrying the cans around on said shelves to the discharge apertures, said rotary driver comprising spaced radial fingers extending over said shelves to engage the cans, and inlet and outlet valves provided with pockets for feeding the cans to and discharging them from the cooker.

4. In a continuous process cooker, the combination with a vertical cylinder or retort, of a series of annular, horizontal, can-receiving shelves within said cylinder or retort, each of said shelves being provided with a discharge aperture, a rotary driver within the said cylinder or retort for carrying the cans around on said shelves, said rotary driver comprising a vertical shaft, spider-wheels carried by said shaft, vertical bars connecting said spider-wheels, circular bands or hoops attached to said bars, and spaced, radially projecting fingers carried by said bands or hoops, and inlet and outlet valves provided with pockets for feeding the cans to and discharging them from the cooker.

5. In a continuous process cooker, the combination with a suitable retort or receptacle, of a series of stationary, horizontally disposed can-receiving tracks within said retort or receptacle, said tracks being arranged one

above the other and each provided with an opening, of means within said retort or receptacle for causing the cans to travel on said tracks and to be successively discharged
5 downward from one track to another, and means for feeding cans to and discharging them from said retort or receptacle.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHN C. WINTERS.

Witnesses:

JNO. M. PROPHEL,
H. T. RANNEY.