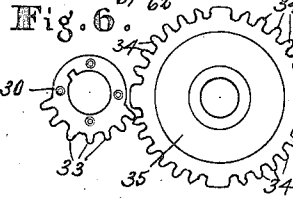
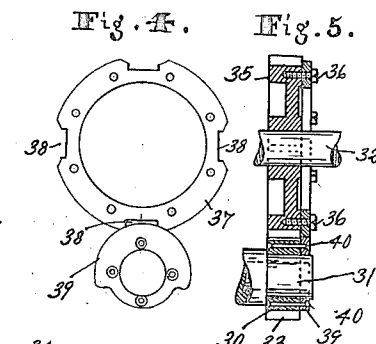
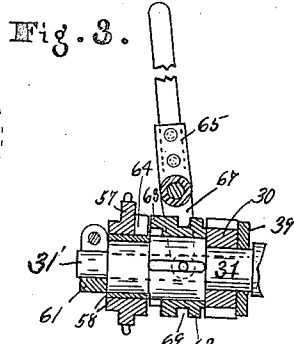
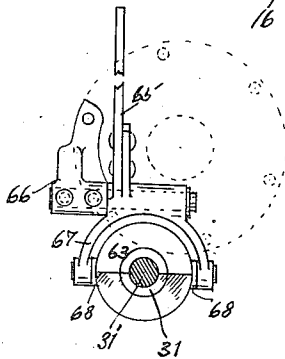
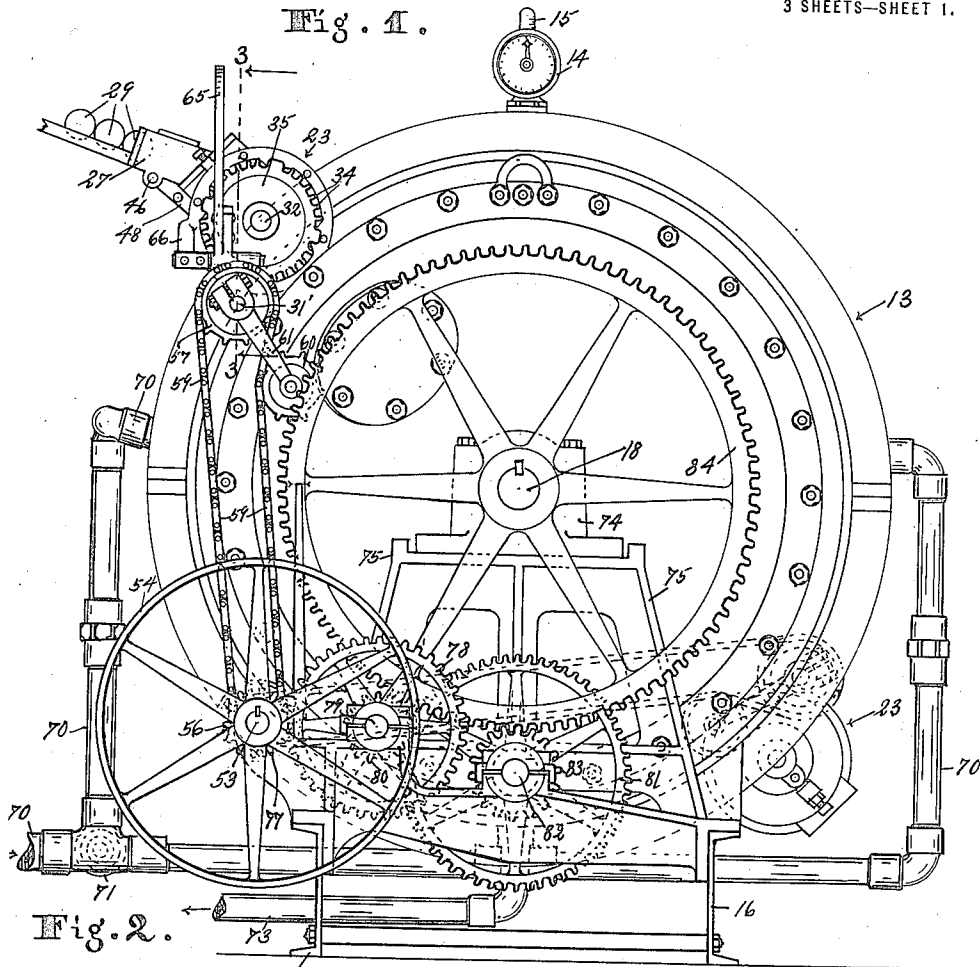


J. B. COOK.
 APPARATUS FOR STERILIZING OR COOKING CANNED GOODS.
 APPLICATION FILED FEB. 24, 1915.

1,165,757.

Patented Dec. 28, 1915.

3 SHEETS—SHEET 1.



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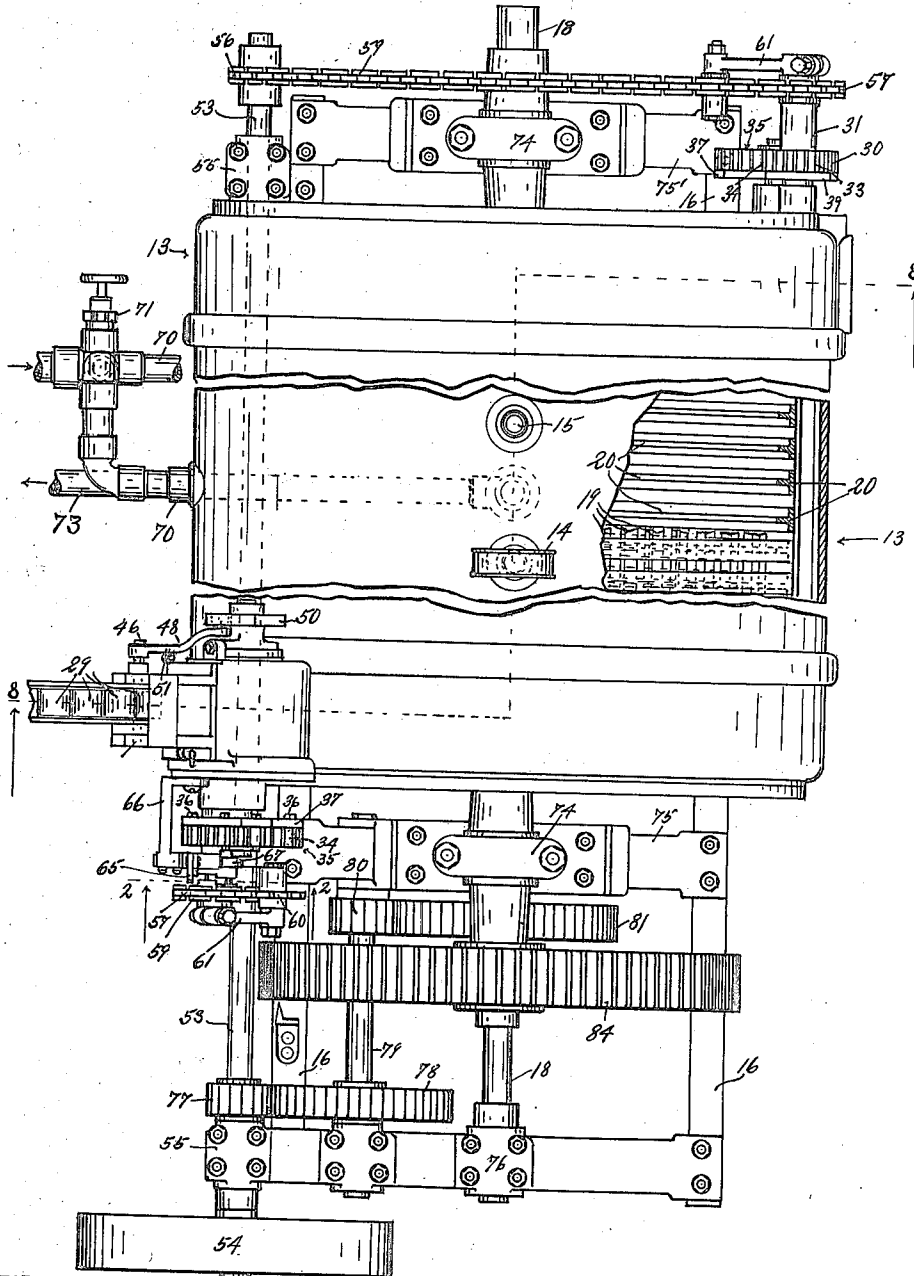
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Fig. 7.



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 3 SHEETS—SHEET 3.

Fig. 8.

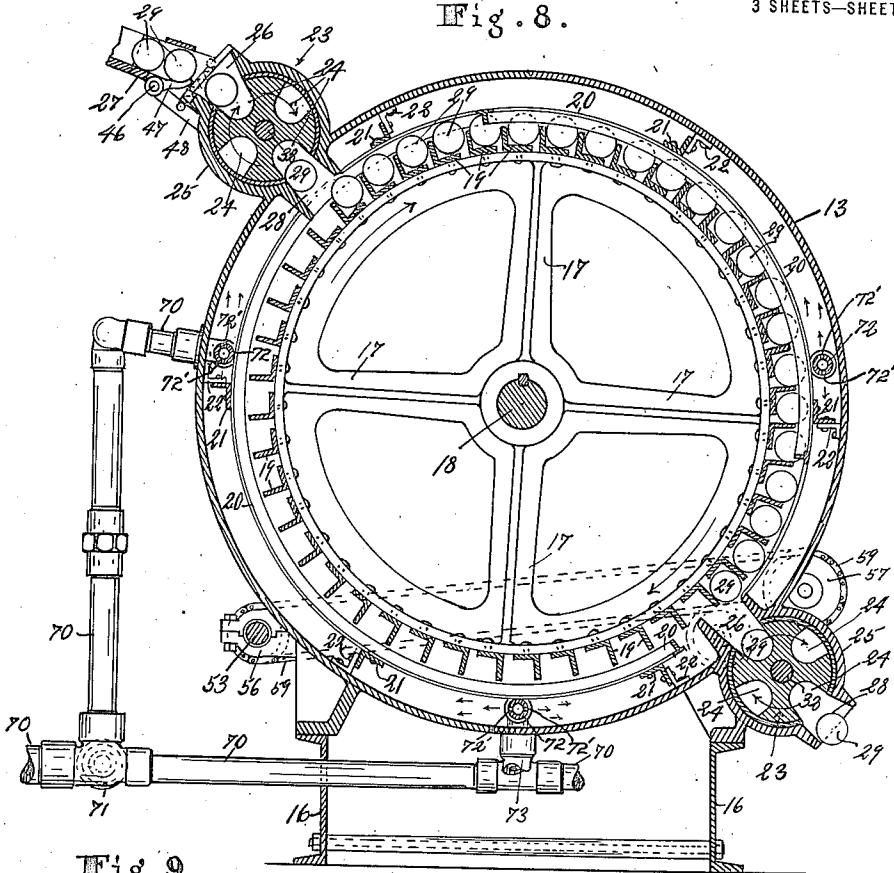


Fig. 9.

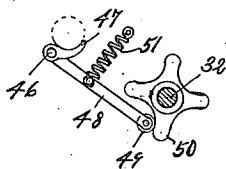


Fig. 10.

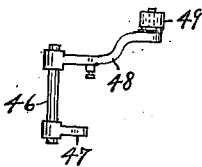


Fig. 12.

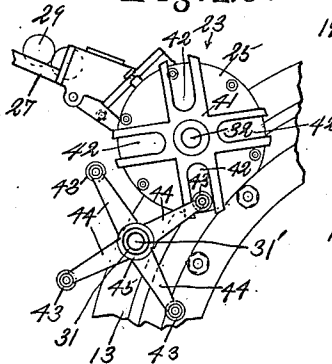
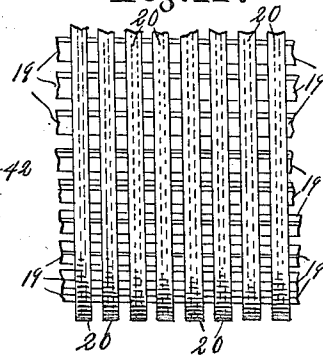


Fig. 11.



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UNITED STATES PATENT OFFICE.

JUSTIN B. COOK, OF TEMPE, ARIZONA.

APPARATUS FOR STERILIZING OR COOKING CANNED GOODS.

1,165,757.

Specification of Letters Patent.

Patented Dec. 28, 1915.

Application filed February 24, 1915. Serial No. 10,370.

To all whom it may concern:

Be it known that I, JUSTIN B. COOK, a citizen of the United States of America, residing at Tempe, county of Maricopa, State of Arizona, have invented a certain new and useful Apparatus for Sterilizing or Cooking Canned Goods; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for sterilizing or cooking canned goods, and it may be said to consist in the provision of the novel and advantageous features and in the novel and improved construction, arrangement, and combination of parts and devices as will be apparent from the description and claims which follow hereinafter.

One object of the invention is to provide a novel and improved apparatus of the nature specified which is practical in design and adapted to act effectively to accomplish its purpose.

Another object of the invention is to provide novel and improved mechanism for feeding the cans to continuously moving conveying means in a manner adapted to avoid the defect of cans being jammed, dented, or deformed, by the apparatus.

Another object of the invention is to provide novel and improved operative connections for the rotary feed gate whereby the rotation of the feed gate is intermittently retarded to permit free delivery of the cans to and from the feed gate without any jamming or denting of the cans.

A further object of the invention is to provide novel and improved means whereby the cans within the casing are all subjected to practically the same amount of heat at the same temperature.

A further object of the invention is to provide a novel and improved apparatus of the class specified in which the operation of the feed mechanism can be stopped without stopping the operation of the can conveying means, so that the latter may continue to operate until the cans are all discharged from the casing and thus the contents of the cans may be saved from damage from overheating in case the feed mechanism becomes clogged or jammed by cans, or becomes faulty in its operation.

Further objects of the invention are to

provide a novel and improved apparatus of the class specified which is adapted to produce large capacity results, and which is economical to manufacture, install, and use, and practical and efficient in operation.

Other objects and the advantages of the invention will be apparent to those skilled in the art from a careful consideration of the following description of preferred forms of construction embodying the invention, taken in connection with the accompanying drawings in which

Figure 1 is a partly broken end elevational view of the apparatus; Fig. 2 is a broken cross-sectional view of the clutch, taken on the line 2—2 of Fig. 7; Fig. 3 is a longitudinal sectional view of the clutch, taken on the line 3—3 of Fig. 1; Fig. 4 is an elevational view of the locking plates disconnected from the gears for operating the rotary feed gate; Fig. 5 is a sectional view of the locking plates mounted on the gears for operating the rotary feed gate; Fig. 6 is an elevational view of the gears for operating the rotary feed gate; Fig. 7 is a partly broken plan view of the apparatus; Fig. 8 is a cross-sectional view of the apparatus, taken on the line 8—8 of Fig. 7; Fig. 9 is an elevational view of the trip finger and operating mechanism connected therewith; Fig. 10 is a plan view of the trip finger and a portion of the operating mechanism; Fig. 11 is an elevational view of a portion of the means for moving the cans from the receiving end to the delivery end of the casing; and Fig. 12 is a broken elevational view showing a modified mechanism for operating the feed gate.

In the drawings, similar parts are indicated by like reference characters.

The preferably cylindrical steam-tight cylinder 13 may have suitably arranged thereon the pressure-gage 14 and the thermometer 15, and it may be mounted on a suitable bed or base 16.

Within the casing 13 is arranged suitable conveying means which is preferably adapted to continuously move the cans in a helical path from one end—the inlet or receiving end—of the casing, to the other end—the outlet or discharge end—of the casing. As shown in this instance, the conveying means consists of the spiders 17 which are disposed near the ends of the casing 13 and mounted fast on a shaft 18 which passes substantially

centrally through the ends of the casing, the spaced angle irons 19 which extend longitudinally of the casing and have their end portions suitably secured to the spiders 17, and the helical guide bar 20 which is spaced from and surrounds the spaced angle irons 19. The helical guide bar 20 is preferably formed of T-iron and it may be held in place by angle irons 21 and 22 which have legs thereof suitably fastened to each other and have the other legs thereof fastened on the guide bar 20 and on the inner wall of the casing 13.

At the upper part of the forward or receiving end of the casing 13 is arranged the rotary feed gate 23 which is provided with pockets 24 and is disposed in the housing 25. The latter is provided with a passageway 26 leading from the lower end of a chute 27 secured thereto, and with a passageway 28 leading to the interior of the casing 13. The rotation of the feed gate 23 is intermittently retarded to permit of free delivery of the cans 29 and from the feed gate so that any jamming, denting or damage to the cans is avoided.

As shown in Figs. 1, 4, 5, 6 and 7, the mechanism for effecting intermittent retardation in the speed of rotation of the feed gate 23 consists of a mutilated pinion 30 fast on the quill 31 mounted on the shaft 31' which latter is suitably mounted adjacent to the shaft 32 of the feed gate; the teeth 33 on the pinion 30 being adapted to mesh with the teeth 34 provided on spaced sections of the gear wheel 35 which latter is mounted fast on the shaft 32 and has secured on one face thereof by cap screws 36 the annular plate 37 which is provided with recesses 38 into which is adapted to fit the circumferential portion of the substantially semi-circular plate 39 which latter is secured to the pinion 30 by rivets 40.

In the operation of the mechanism just described it will be understood that on successive revolutions of the quill 31 the teeth on the pinion 30 mesh with the teeth on successive sections of the gear wheel 35, and that the plates 37 and 39 coact to retard the rotation of the gear wheel 35, shaft 32, and feed gate 23 when the teeth 33 on the pinion are not in mesh with the teeth 34 on the gear wheel. The number of teeth on the pinion 30 and the number of the toothed sections of the gear wheel 35 of course vary according to the number of pockets 24 in the feed gate.

As seen in Fig. 12 which shows a modified construction, the speed of rotation of the feed gate 23 can be intermittently retarded by means of the wheel 41 which is mounted fast on the shaft 32 and provided with radial slots 42 into and out of which slots are adapted to move the rollers 43 which latter are mounted on the outer ends of the

radial arms 44 of a wheel 45 which latter is mounted fast on the quill 31 on the shaft 31'.

On the chute 27 is suitably mounted the shaft 46 having fast thereon the trip finger 47 for controlling the feed of the cans 29; said shaft 46 being operatively connected to the shaft 32 of the rotary feed gate 23 by means of a link 48 which has one end thereof secured to the shaft 46 and has on the other end thereof a roller 49 which latter is held in contact with the cam wheel 50 fast on the shaft 32 by the spring 51 which latter is fastened to the link 48 and to the chute 27 or other adjacent stationary part of the apparatus.

At the lower part of the rear or discharging end of the casing 13 is arranged a rotary gate which is adapted to discharge the cans 29 from the casing and is constructed and operated similarly to the feed gate 23 except as hereinafter described.

The driving shaft 53 has thereon the pulley 54 and is suitably mounted in bearings 55 carried by the base or frame 16. On the shaft 53 are mounted fast the sprocket wheels 56 over which and the sprocket wheels 57 on the quills 31 pass the sprocket chains 59. At the discharge end of the casing 13 the sprocket wheel 57 is mounted fast on the quill 31 instead of fast on the sleeve 58 as it is at the receiving end of the casing. The sprocket chains 59 may be tensioned by sprocket wheels 60 which are mounted at one end of the arms 61 which latter have the other end thereof adjustably clamped on the shafts 31'.

Suitable clutch mechanism is mounted on the quill 31, at the receiving end of the casing 13, in order that the operation of the quill 31, trip finger 47, and the feed gate may be stopped at any time without stopping the can conveying means in the casing and the consequent discharge from the casing of cans which are in the casing when the operation of the feed gate is stopped. As shown in this instance the clutch mechanism consists of the sleeve 62 which is feathered on the quill 31 and is provided with a substantially semi-circular projection 63 adapted to fit in a corresponding recess 64 in the sleeve 58; the operating handle 65 being pivotally mounted on a bracket 66 and provided with a yoke 67 having thereon projections 68 which extend into the annular groove 69 in the sleeve 62. The bracket 66 is suitably fastened on one end of the feed gate housing 25.

Steam is admitted to the casing 13 by suitable piping 70 having thereon the valve 71 and connected to a plurality of pipes 72 which are arranged in the space between the interior wall of the casing and the can conveying means. The piping 70 is connected to the pipes 72 intermediate of the ends of

the pipes 72 and the latter are provided longitudinally thereof with perforations 72' substantially in parallel to the adjacent interior wall of the casing so that the steam issuing from the perforations 72' does not strike the cans 29 directly but the heat of the steam is effectively diffused and distributed throughout the interior of the casing—the open or skeleton form of the construction for the can conveying means permitting such heat distribution—and thus the cans 29 all receive practically the same amount of heat at the same temperature—a very desirable result in practice.

The shaft 18 is mounted in bearings 74 carried by brackets 75 and 75' which are mounted on the base 16 at the forward end and at the rear end of the casing 13. The forward end portion of the shaft 18 is journaled in a bearing 76 carried by the base or frame 16, and it is operatively connected to the driving shaft 53 by speed reducing gearing consisting of the pinion 77 which is mounted fast on the shaft 53 and meshes with the spur wheel 78 mounted fast on the shaft 79 which latter is suitably mounted on the base or frame 16, the pinion 80 which is mounted fast on the shaft 79 and meshes with the spur wheel 81 mounted fast on the shaft 82 which latter is also suitably mounted on the base or frame 16, and the pinion 83 which is mounted fast on the shaft 82 and meshes with the comparatively large spur wheel 84 which is mounted fast on the forward end portion of the shaft 18.

From the foregoing the mode of operation and the advantages of the construction will be understood by those skilled in the art, and it will be seen that the construction is well adapted to accomplish the objects of the invention.

The forms of construction which have been particularly illustrated and described admit of minor changes and modifications, wherefore the right is reserved to all such changes and modifications as do not depart from the spirit and scope of the invention which is defined in the appended claims.

I claim:

1. In apparatus of the class specified, the combination of a gate, a shaft thereon, a quill mounted adjacent to said shaft, means for driving the quill, a chute mounted adjacent to the gate, a trip finger for controlling the feed of cans from the chute to the gate, coacting means on said shaft and on said quill whereby the speed of rotation of said shaft is intermittently retarded to permit free delivery of cans to and from the gate, a cam on said shaft, a shaft on which the trip finger is mounted, a link having one end thereof connected to the last mentioned shaft, a roller on the other end of the link, and a spring connected to the link and to a stationary part of the apparatus whereby the roller is held in contact with said cam.

2. In apparatus of the class specified, the combination of a gate, a shaft thereon, a quill mounted adjacent to said shaft, means including clutch mechanism mounted on the quill for operating the latter, a chute mounted adjacent to the gate, a trip finger for controlling the feed of cans from the chute to the gate, coacting means on said shaft and on said quill whereby the speed of rotation of said shaft is intermittently retarded to permit free delivery of cans to and from the gate, a cam on said shaft, a shaft on which the trip finger is mounted, a link having one end thereof connected to the last mentioned shaft, a roller on the other end of the link, and a spring connected to the link and to a stationary part of the apparatus whereby the roller is held in contact with said cam.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses at Tempe, county of Maricopa, State of Arizona, this 15th day of February, A. D. 1915.

JUSTIN B. COOK.

Witnesses:

W. N. WINCLES,
ZOE SMITH.