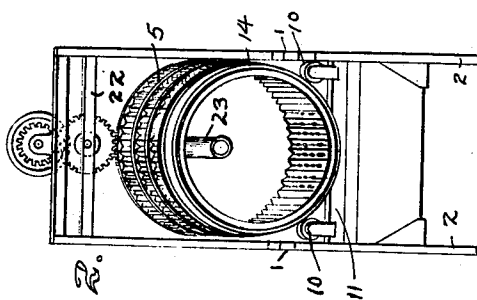
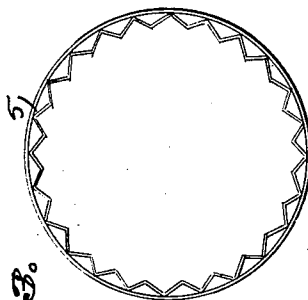
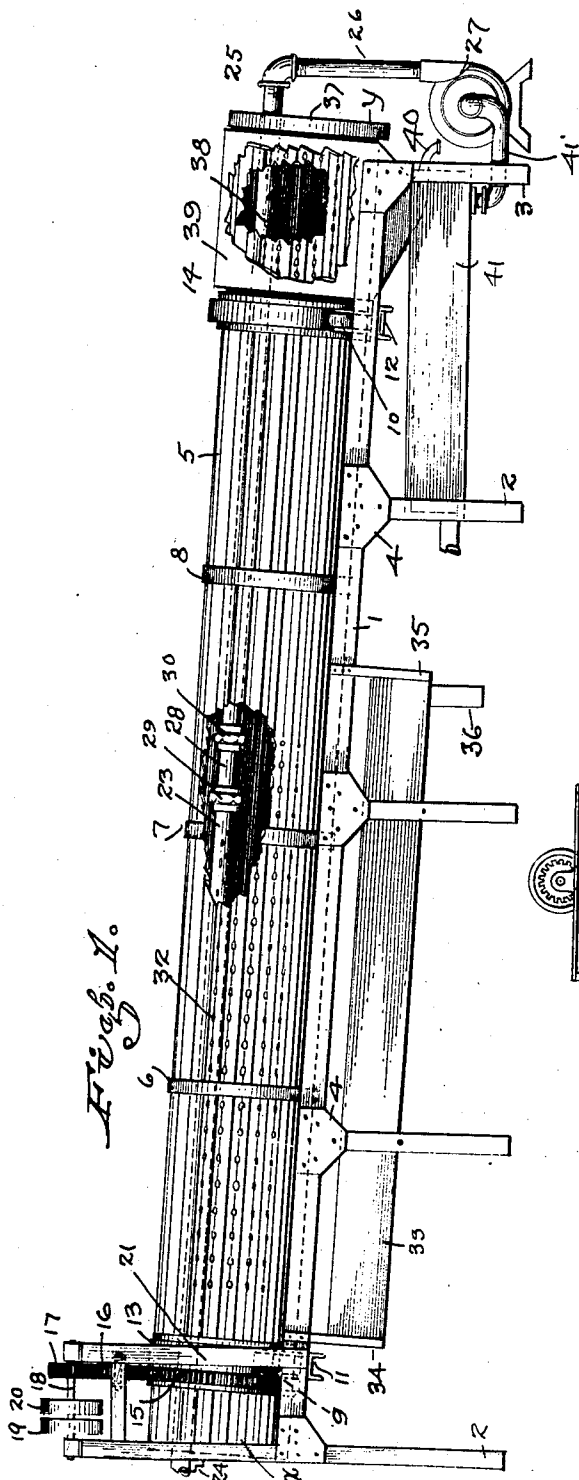


F. O. HUTTON.  
 WASHING AND BLANCHING MACHINE.  
 APPLICATION FILED JUNE 14, 1917.

1,275,560.

Patented Aug. 13, 1918.



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# UNITED STATES PATENT OFFICE.

FRANK O. HUTTON, OF SACRAMENTO, CALIFORNIA, ASSIGNOR TO LIBBY, McNIEL & LIBBY, OF CHICAGO, ILLINOIS, A CORPORATION OF MAINE.

## WASHING AND BLANCHING MACHINE.

1,275,560.

Specification of Letters Patent.

Patented Aug. 13, 1918.

Application filed June 14, 1917. Serial No. 174,718.

*To all whom it may concern:*

Be it known that I, FRANK O. HUTTON, a citizen of the United States, and a resident of the city of Sacramento, county of Sacramento, State of California, have made a new and useful Invention—to wit, Improvements in Washing and Blanching Machines; and I do hereby declare the following to be a full, clear, concise, and exact description of the same.

The invention relates particularly to machines for washing and blanching spinach and like vegetables for canning or other processing. The objects of the invention are to provide means for economically and effectively washing, blanching and sterilizing spinach and other like products.

In this specification and the annexed drawings, the invention is illustrated in the form considered by me to be the best, but it is to be understood that the invention is not limited to such form because it may be embodied in other forms, and it is also to be understood that in and by the claims following the description it is desired to cover the invention in whatever form it may be embodied.

In the accompanying one sheet of drawing:

Figure 1 is a side elevation of a washing and blanching machine, constructed in accordance with this invention, portions being broken away in fragmentary cross section to disclose the underlying parts.

Fig. 2 is an end elevation of the same looking upward from the lower end.

Fig. 3 is a sectional view of the rotary cylinder.

In detail the construction illustrated in the drawing includes the inclined main supporting frame, composed of the sills 1—1 supported upon the legs 2—2 interspaced along the length of the main frame and attached to the sills and braced thereto by the gussets 3—4.

This main frame supports the revolving cylinder 5 provided with the annular reinforcing hoops 6, 7 and 8. The opposite ends of the cylinder are supported upon the anti-friction rollers 9—9 and 10—10 suitably mounted on the cross braces 11 and 12 respectively extending between the sills 1—1. These rollers travel on the annular bands 13 and 14 respectively encircling the cylinder at or near its opposite ends. These bands

being provided with flanges abutting the edges of the roller to counteract the end thrust of the cylinder.

The cylinder is driven by the encircling gear 15, enmeshed with the intermediate gear 16, engaging the driving pinion 17 fixed upon the driven shaft 18, provided with the fixed and idle pulleys 19 and 20 belted to the source of power, not shown. The shaft 18 is suitably journaled in bearings supported in a superstructure built upon the main frame, comprising the upper extensions of the legs 2 and the standards 21 on opposite sides of the cylinder. The idle gear 16 is suitably journaled in the cross brace 22 of the superstructure. The gear ratio between the source of power and the cylinder results in about 15 revolutions per minute of the cylinder.

The water spray pipe 23 extends into the washing cylinder longitudinally and is suspended in the upper portion thereof, the outer end being supported on the cross bracket 24 extending between the legs 2—2, the inner end being supported by the spray pipe 25, supported on the outside of the machine by the stand 26 fixed in the pump 27. The spray pipes 23 and 25 being separated by the nipple 28 engaging the unions 29—30 provided with blind gaskets, stopping communications between the pipes 23 and 25. The spray pipe 23 is perforated along the lower portion whereby water pumped into the pipe is sprayed downward over the contents of the cylinder.

The cylinder is preferably corrugated throughout its length and provided with perforations 32 therethrough from its upper end X, to about the middle of its length, whereby the water sprayed thereinto from the pipe 23 finds exit through the perforations 32 in the cylinder.

Beneath the perforated portions of the cylinder the trough 33 is provided, being suspended at its opposite ends by the studs 34—35 fixed to the sills 1—1. The water discharged from the cylinder flowing into the trough 33 from which it is discharged through the spout 36.

The discharge of the cylinder is similarly perforated for a distance back from its end, being provided with perforations 37 extending through the cylinder wall in the angle of the corrugations, to permit the escape of the boiling blanching water introduced through

the spray pipe 25 and escaping from the perforations 38, within the latter portion of the cylinder. This portion of the cylinder is surrounded or partially surrounded with a shield 39, to prevent the escape of steam and water emitted through the perforations 37. The water and condensed steam collecting in the bottom of the shield is passed through the overflow 40.

10 The blanching water is held within the steam chest 41 wherein it is suitably heated, before passing into the intake 41 of the pump 27 which forces it into and through the spray pipe 25.

15 This apparatus operates substantially as follows: The spinach or other matter to be washed and blanched is introduced at the upper end X of the cylinder 5, down which it gravitates by reason of the inclination and rotation of the cylinder. Throughout the

20 first half of the rotating cylinder the spinach is subjected first to the cleansing action of the clear water forced through the spray pipe 23, the dirt and other foreign matter being washed from the spinach and escaping

25 through the perforations of the cylinder. Passing from the washing portion of the cylinder, the spinach continues to gravitate, the rotation of the cylinder tumbling the mass therein, removing the excess of water

30 due to the washing, which action is aided by the corrugations of the cylinder. Passing from the second stage the mass of spinach passes into the third or blanching step

35 of the operation, wherein it is subjected to the sterilizing and blanching action of the hot water pumped through the spray pipe 25 and sprayed onto the mass in the cylinder.

40 The blanching water escaping through the perforations 37 is drained off through the overflow 40. The agitating effect of the rotating cylinder subjects all of the parts of the mass therein to the blanching and sterilizing effect of the water.

45 Passing from this stage of the operation, the mass of spinach is discharged from the end Y of the cylinder and is ready for canning or any other form of preservation.

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

1. A washing and blanching machine including a rotatable perforated cylinder; spray means at different portions of said cylinder and fed from independent sources.

2. A washing and blanching machine in-

cluding a rotatable corrugated cylinder spray means at different portions of said cylinder and fed from independent sources.

3. A washing and blanching machine including a rotatable cylinder; perforated portions in the opposite ends of said cylinder; and independent spray means within said cylinder adjacent each of the said perforated portions.

4. In a washing and blanching machine of the character disclosed of a rotatable, corrugated cylinder; perforated portions in the opposite ends of said cylinder; and independent spray means within said cylinder within each of said perforated portions.

5. In a washing and blanching machine of the character disclosed of a rotatable, corrugated cylinder; perforations in the opposite ends of said cylinder in said corrugations farthest from the axis of said cylinder; independent spray means within said cylinder within each of the said perforated portions; and means beneath each of said perforation portions for carrying away the sprayed water.

6. In a washing and blanching machine of the character disclosed, of a frame having an inclined corrugated cylinder mounted therein; means for rotating said cylinder; perforations in the opposite ends of said cylinder in said corrugations farthest away from the axis of said cylinder; independent spray means within said cylinder within each of said perforated portions and means adjacent each of said perforated portions for carrying away the sprayed water.

7. A blanching and washing machine including a frame; a horizontally inclined cylinder rotatably mounted in said frame; and having perforated portions near its opposite ends; independent spray means within said cylinder within each of said perforated portions; a trough in said frame beneath the perforated portion at the higher end of said cylinder and a shield on said frame adjacent to the perforated portion at the lower end of said cylinder, and means for rotating said cylinder.

In testimony whereof, I have hereunto set my hand at San Francisco, California, this 7th day of May, 1917.

FRANK O. HUTTON.

In presence of—

FRANK F. ATKINSON,  
C. A. ELLIOTT.