April 29, 1930. C. GROEN 1,756,821

METHOD OF AND MACHINE FOR DRYING AND BLEACHING LAUNDRY

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Fig. 2.

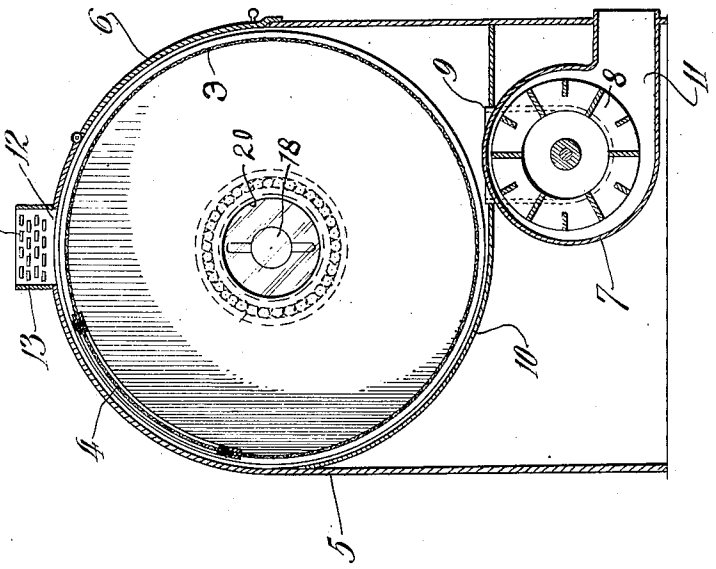
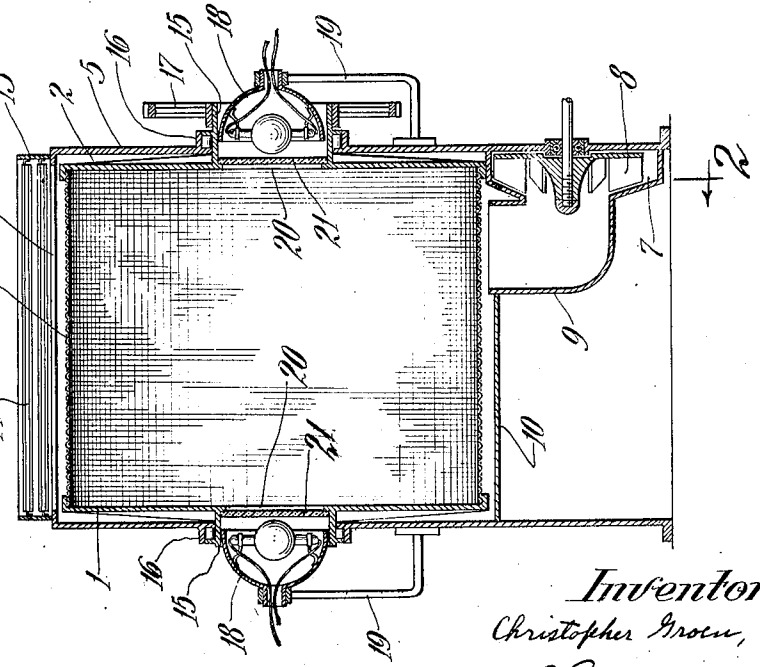


Fig. 1.



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METHOD OF AND MACHINE FOR DRYING AND BLEACHING LAUNDRY

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One of the objections to the washing and drying of clothing and other laundry articles by machinery is that the advantages of hanging the wet laundry out in the sunlight to dry the same are lost.

The object of the present invention is to make it possible rapidly and efficiently to dry laundry by means of power apparatus while retaining the advantages accruing from natural drying in the open air.

In carrying out my invention, I provide a perforated or foraminous rotary cylinder into which the wet laundry is placed and by means of which it is tumbled. Warm air is drawn down through the cylinder, so that the laundry is tumbled about in a heated moving stream of descending air. At one or both ends of the cylinder, preferably at the axis, are placed ultra-violet ray lamps, the rays from which travel across and fill the cylinder. Thus the drying air, passing through the space filled with the rays, is sterilized and the laundry, which is tossed or tumbled about in the space traversed by the current of heated air and the stream of ultra-violet rays, is not only dried, but it is left in a bleached and freshened condition just as though it had been dried in the sunlight in clean open air.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a vertical section taken through the axis of rotation of a machine embodying my invention; and Fig. 2 is a section taken on line 2—2 of Fig. 1.

Referring to the drawing, 1 and 2 represent cylinder heads between which is located a perforated cylinder 3 that may conveniently be made of wire mesh. In the side of the cylinder is a suitable door 4 through which the laundry may be introduced and removed. The long axis of the cylinder is horizontal. Enclosing the cylinder is a casing 5 the upper portion of which is cylindrical, whereas the lower portion is in the form of a rectangle whose width is equal to the diameter of the upper portion. The casing is provided with a door 6 with which the door 4 in the cylinder may be brought into registration. The casing extends a considerable distance below the bottom of the cylinder to provide room underneath the cylinder for a fan or blower. In the arrangement shown, the housing 7 for the fan or blower is formed in part of one of the end walls of the casing. Within the housing is a suitable rotor 8. The blower housing is provided with an inlet or suction pipe 9 of considerable diameter, this being in the form of an elbow the inlet arm of which is vertical. The casing is provided with what may be termed a bottom wall 10 that continues downward from what may be termed the rear half of the upper cylindrical part of the casing, in proximity to the cylinder, and then continues tangentially to the front wall of the casing. The wall 10 is provided with an opening into which the upper end of the inlet or suction pipe 9 extends. As best shown in Fig. 2, there is a discharge conduit 11 extending from the blower housing and out through the front wall of the casing, in a tangential direction.

In the top of the casing is an opening 12 bounded by a continuous vertical wall 13 rising above the casing so as to provide an air inlet chute of considerable width and of a length approximately equal to the length of the cylinder. In this chute is a suitable heater 14. It will be seen that when the blower is running air will be drawn down past the heater, through the cylinder, and be discharged at the bottom of the casing. If, during this time, there is wet laudry in the cylinder, and the cylinder is rotated, the laundry will be tumbled so that all parts thereof will be exposed to the action of the heated air moving through the cylinder. At the same time, in accordance with my invention, the air and the laundry is subjected to the action of ultra-violet rays.

The lamps for producing the ultra-violet rays are preferably placed at the axis of rotation of the cylinder, so that the rays pass directly into the cylinder without being intercepted by any part of the cylinder walls. I have therefore provided the cylinder heads

with journals 15 in the form of short tubes of large diameter. These journals extend through and are rotatably supported by suitable hubs 16 on the end walls of the casing. On the outer end of one of the journals is a suitable driving element as, for example, a gear wheel 17. The journals are open at their outer ends to receive the lamps 18. These lamps are supported from the casing by means of suitable brackets 19, so as to be held stationary while the journals revolve about the same. The cylinder heads are provided with large central openings 20 registering with the inner ends of the journals and each of which is closed by a pane of quartz glass 21. It will thus be seen that the rays from the lamps pass lengthwise through the cylinder, from one end to the other, the rays from each lamp spreading out as they travel away therefrom. Consequently most of the air that is drawn down through the cylinder will be subjected to the action of the rays, as will also the laundry as it is tumbled across the paths of the rays.

I claim:—

1. A laundry drying and bleaching machine comprising a horizontal work-holding cylinder having a foraminous cylindrical wall, means for rotating the cylinder to tumble the laundry therein, means for forcing heated air through the cylinder past the laundry, and means at the axis of the cylinder, at opposite ends of the latter, for projecting ultra-violet rays across the interior of the cylinder from one end to the other.

2. A laundry drying and bleaching machine comprising a horizontal work-holding cylinder having a foraminous cylindrical wall, a casing over the cylinder, hollow trunnions on the ends of the cylinder journalled in the casing, means for causing a stream of heated air to flow through the casing and the cylinder, and means for projecting ultra-violet rays across the interior of the cylinder through said trunnions.

3. A laundry drying and bleaching machine comprising a horizontal work-holding cylinder having a foraminous cylindrical wall, a casing over the cylinder, hollow trunnions on the ends of the cylinder journalled in the casing, there being an opening in the top of the casing, a heater in said opening, a blower having its suction side connected to the casing below the cylinder, and ultra-violet ray lamps in said hollow trunnions in position to direct their rays across the interior of the cylinder.

In testimony whereof, I sign this specification.

CHRISTOPHER GROEN.