

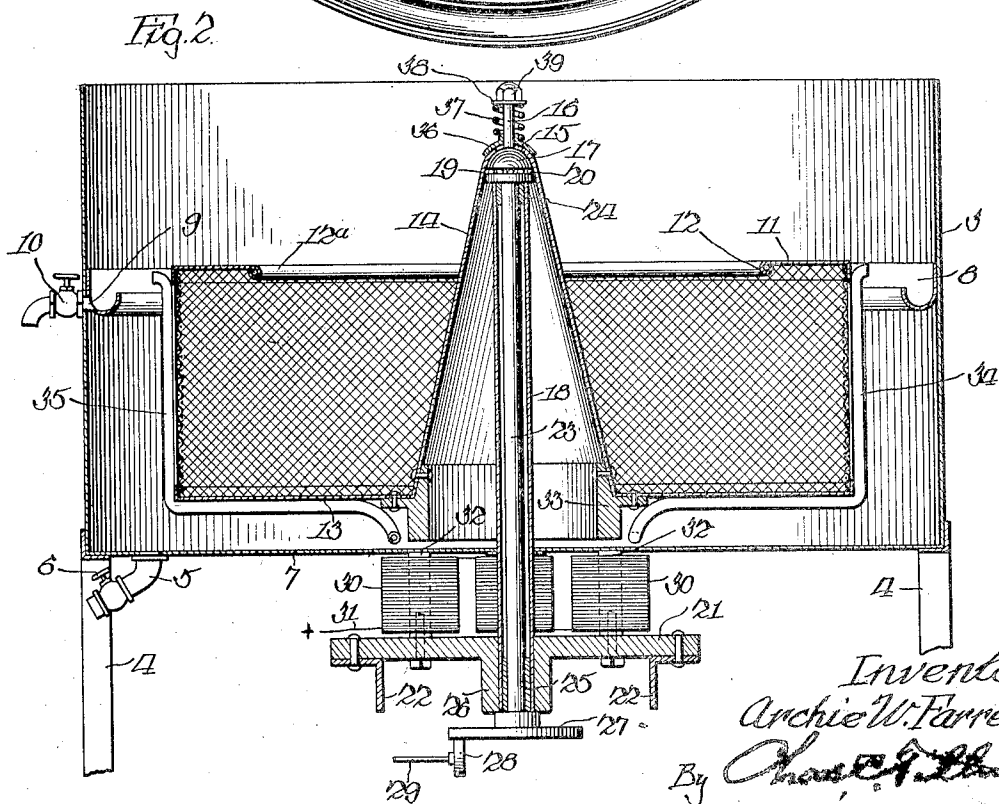
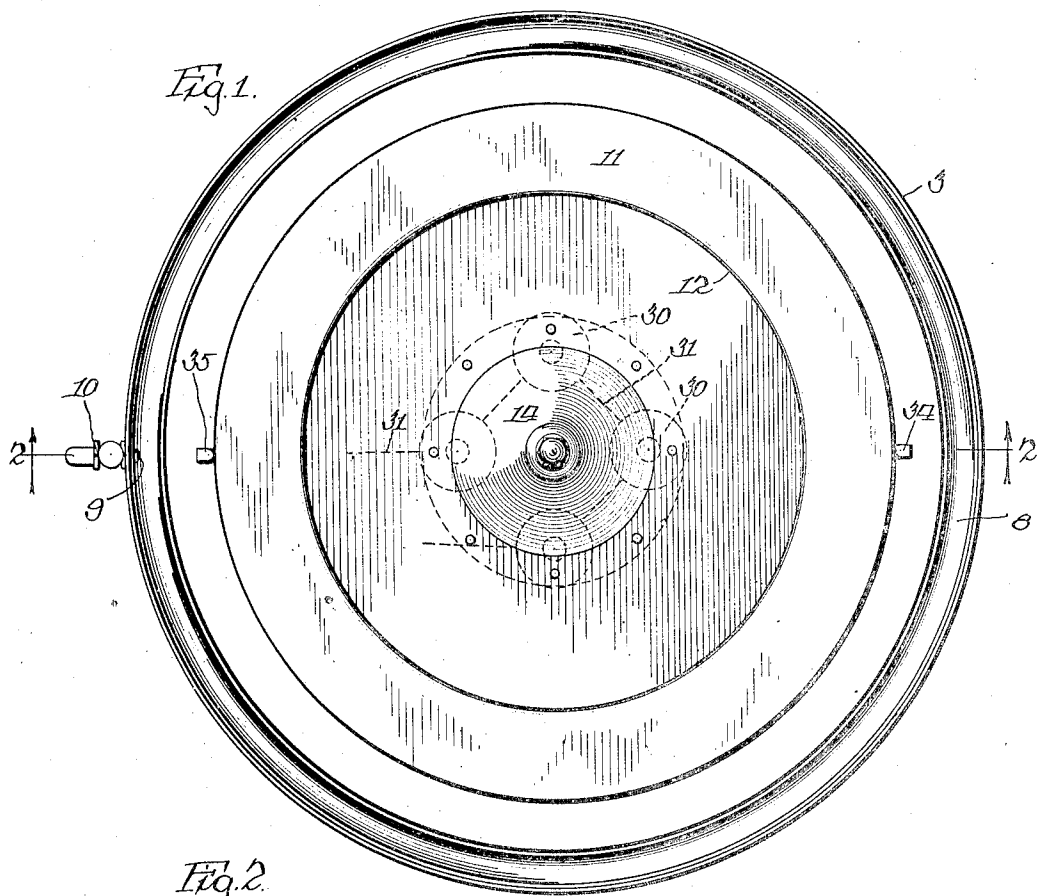
Oct. 19, 1926.

1,603,757

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ROTARY DRIER FOR CLOTHES AND THE LIKE

Filed July 30, 1925



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ROTARY DRIER FOR CLOTHES AND THE LIKE.

Application filed July 30, 1925. Serial No. 46,969.

This invention has relation to a device which is particularly intended for laundering purposes, that is to say, it is especially intended to provide a centrifugal or rotary drier for extracting liquids and moisture from the garments and fibrous material in the operation of washing or laundering the same, and it consists in certain peculiarities of the construction, novel arrangement and combination of the various parts thereof as will be hereinafter more fully set forth and specifically claimed.

Among the objects of the invention is, the provision of means included in a rotary drier to prevent what is commonly called "hunting" of the rotary member or clothes basket of the device.

Another object is to furnish means for self-centering the rotary member of the device and also to afford adjusting means for assisting the rotary member or clothes basket to be held in the proper position and with a sufficient degree of tension upon its pivotal support or member.

Still another object of the invention is, to provide means for catching soap suds and water in the act of it being thrown from the clothes or garments within the clothes basket by centrifugal force and retaining said suds or water for re-use if desired.

A further object is to simplify the construction of the device and to render it of such nature as to be more compact than other devices of a similar character, yet highly efficient in its operation.

Other objects and advantages of the invention will become apparent from the accompanying explanation and description of the invention, which explanation will be more readily understood when read in conjunction with the accompanying drawing in which an embodiment of the invention is illustrated, it being understood, that modifications and changes therein may be resorted to without a departure from the spirit of the invention, so long as they fall within the scope of the appended claims forming a part of this specification.

In the accompanying drawing:

Figure 1 is a top plan view of a device embodying the invention, and

Figure 2 is a transverse vertical sectional view of a rotary drier, showing its parts in about the positions they will occupy when in

use, and illustrating portions only of the supporting legs and a part only of the main drive shaft.

The corresponding numerals of reference refer to like parts throughout the different views of the drawings.

The reference numeral 3 designates a tank or vessel, which is preferably made of copper, but can be made of any other suitable non-magnetizable material and is usually cylindrical in shape as shown. This tank may be supported at a suitable height, by means of legs 4, arranged at proper points on its lower portion, and is provided near its wall in its bottom with a drain pipe 5, having a shut-off valve 6, which pipe is for the purpose of draining the tank of its liquid contents when desired.

At a suitable distance above the floor or bottom 7 of the tank 3, the same is provided on the inner surface of its wall with an annular gutter or trough 8, which has an opening 9 communicating with a faucet 10, seated in the wall of the tank, and by preference directly above the drain pipe 5, before mentioned. This gutter lies closely against the inner surface of the wall of the tank 3 and may be supported thereby in any suitable manner and is for a purpose to be presently explained.

Located normally concentrically within the tank 3 is a rotatable member or clothes basket 11, whose upright wall is by preference perforated or made of reticulated material, as is clearly shown in Figure 2 of the drawing, in which view, it will be observed that the clothes basket or rotatable member 11 is cylindrical in shape and has in its top a circular opening 12, for the ready access and removal of garments or clothes and the like to be dried. The bottom or floor of the member 11 is imperforate and has upwardly extended from its central portion a cone-shaped hollow extension 14, the upper end of which terminates by preference, a slight distance below the upper edge of the vessel 3 and is provided with an opening for the passage and movement laterally of an upright rod 16, extended upwardly through said opening from the semi-spherical member 17, which supports the cone-shaped member 14, as well as the clothes basket. Extending vertically through the floors 7 and 13, respectively, of the tank and clothes

basket is a tube 18, which projects above the top of the basket in the member or extension 14, thereof to a point near its top. This tube is provided at its upper end with an annular flange 19, which serves as a support and race way for a series of anti-friction balls 20, arranged in a circular row on said flange, so that the semi-spherical member 17 may rest thereon at its flat or lower portion. The flange 19 is rigidly fixed to the tube 18, which tube is rigidly fixed at its lower portion to a circular plate or platform 21, which is situated at a suitable distance below the floor 7 of the tank 3, and may be supported by legs 22, or otherwise. Extended longitudinally through the tube 18 is a shaft 23, which is provided at its ends between said shaft and the tube 18 with bushings 24 and 25, so as to hold the shaft in a rotatable position with respect to said tube. This shaft is by preference extended at its upper end through a central opening in the flange 19 and is secured to the bottom of the member 17, so as to cause the latter to rotate with said shaft. To firmly hold the shaft 23 in an upright position, the platform 21 is provided with a depending hub 26, through the hollow of which the lower end of said shaft extends. Mounted on the lower end of the shaft 23 is a horizontally disposed friction disk 27, which engages a vertically rotatable disk 28 or roller on the main drive shaft 29, which may lead from an electric motor (not shown) or any other suitable prime mover, which may be located at any suitable point.

Carried on the upper surface of the platform 21 are a plurality of magnets 30, which are spaced apart and united in series by wire 31, and each has its core 32 located in close proximity to, or loose contact with the bottom 7 of the tank as is clearly shown in Figure 2 of the drawing.

Fixed to the floor 13 of the basket 11 and fixed within the cone-shaped member 14 at its lower portion is an armature or an annular metal casting 33, which is slightly spaced at its lower part from the central portion of the floor 7 of the tank.

Mounted on the wall of the clothes basket, by preference, at diametrically opposite points are a pair of tubes 34 and 35, which are vertically disposed along said wall, and have their lower portions extended horizontally towards said casting, and their receiving or inner ends downwardly deflected and open in different directions. The upper end of each of these tubes is located above the trough or gutter 8 and deflected outwardly, so as to discharge thereinto.

The opening 12 in the clothes basket may be provided with a bead 12^a for the purpose of protecting the operator while placing garments or clothes in the basket or removing them from injury.

From the foregoing and by reference to the drawings, it will be readily understood and clearly seen that by applying power to the drive shaft 29, the same will be rotated and movement therefrom will be imparted through the disks 28 and 27 to the shaft 23, and consequently to the basket 11, which is supported for rotation on the flange 19 of the tube 18, and by means of the bearing member 17 in such a way as to permit of free and rapid rotary movement of the clothes basket, which may be supplied with wet washed clothes or garments from which it is desired to extract the water or moisture. In the rapid rotation of the clothes basket 11, it is obvious that the load of garments or clothes may be unevenly distributed in said basket, and thus cause, or have a tendency to cause, the basket to "hunt" or to describe an uneven, not to say excessive, orbit or path around its pivotal support. To prevent this objection is one of the main objects of the invention, and is accomplished by the use of the energized magnets 30 and the armature or casting 33, for it is manifest that, in the rotation of the basket, the magnets which are energized through the wire 31, leading from an electric source (not shown) will cause the casting 33 to describe a true circle around the pivotal support 18 of the basket, and thus eliminate or reduce to a great extent the tendency of the basket to "hunt".

In the foregoing operation, the water extracted from the basket of clothes may be drained from the tank through the drain pipe 5, but should the same become clogged or be unopen, the water collected in the lower portion of the tank will be forced through centrifugal action through the lower ends of the tubes 34 and 35, and from thence through their upper ends into the trough 8, from which it may be drawn off for re-use or for discharge through the faucet 10 leading from said trough.

Surrounding the upper end of the cone-shaped part 14 is a curved washer 36, which surrounds the rod 16 and is held in place by means of a spring 37 coiled around said rod and resting at one of its ends against the washer 36, and at its other end against the washer 38, adjustably held in position on the upper end of said rod by means of a nut 39 used for regulating the tension of said spring.

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

1. In a rotary drier for clothes and the like, the combination with a tank, of a rotatably and pivotally mounted basket therein, having perforations in its wall, means to rotate said basket, and magnetic means associated with said basket to prevent it vibrating excessively.

2. In a rotary drier for clothes and the like, the combination with a tank having a faucet seated in its wall, of a rotatably and pivotally mounted basket within the tank
 5 having perforations in its wall, an annular trough located between the upper portion of said basket and the wall of said tank and communicating with said faucet, a tube extending vertically along-side the wall of the
 10 basket and then horizontally and inwardly thereof and secured to said basket, and means to rotate said basket, and means associated with said basket to prevent it wobbling.

15 3. In a rotary drier for clothes and the like, the combination with a tank, of a rotatably and pivotally mounted basket therein having perforations in its wall, means to rotate said basket, and means associated
 20 with said basket to prevent undue vibration thereof, said means including a magnetizable element carried centrally on the lower portion of said basket.

25 4. In a rotary drier for clothes and the like, the combination with a tank, of a rotatably and pivotally mounted basket therein having perforations in its wall, means to rotate said basket, and means associated with
 30 said basket to prevent it vibrating, said last named means including an armature mounted on the lower portion of the basket around the pivot thereof and magnets mounted

around said pivot below the bottom of said tank.

5. In a rotary drier for clothes and the like, the combination with a tank, of a tube
 35 vertically mounted in the center thereof and having on its upper end an orificed flange, a basket rotatably mounted in said tank and having centrally a hollow vertical extension
 40 rising from its bottom, said extension having an opening in its upper end, a bearing member having an upright rod extended through said opening, said bearing member
 45 being located in the top of said extension, anti-friction balls interposed between said bearing member and said flange, a curved washer mounted on the upper end of said extension around said rod, a spring surrounding
 50 said rod and resting at one of its ends against said curved washer, another washer surrounding the upper end of said rod and resting on said spring, a nut adjustably mounted on said rod, a shaft extended
 55 through said vertical tube for rotation therein and connected to said bearing member, a platform suitably supported at the lower portion of said shaft and vertical tube, means to rotate said shaft and basket, a series of magnets mounted on said platform,
 60 an armature around said shaft on the lower portion of said basket, and means to drive said shaft.

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