L. A. WAGNER.

DRYING MACHINE.

APPLICATION FILED MAR. 18, 1919.

1,410,230. Patented Mar. 21, 1922.

Fig. 1.

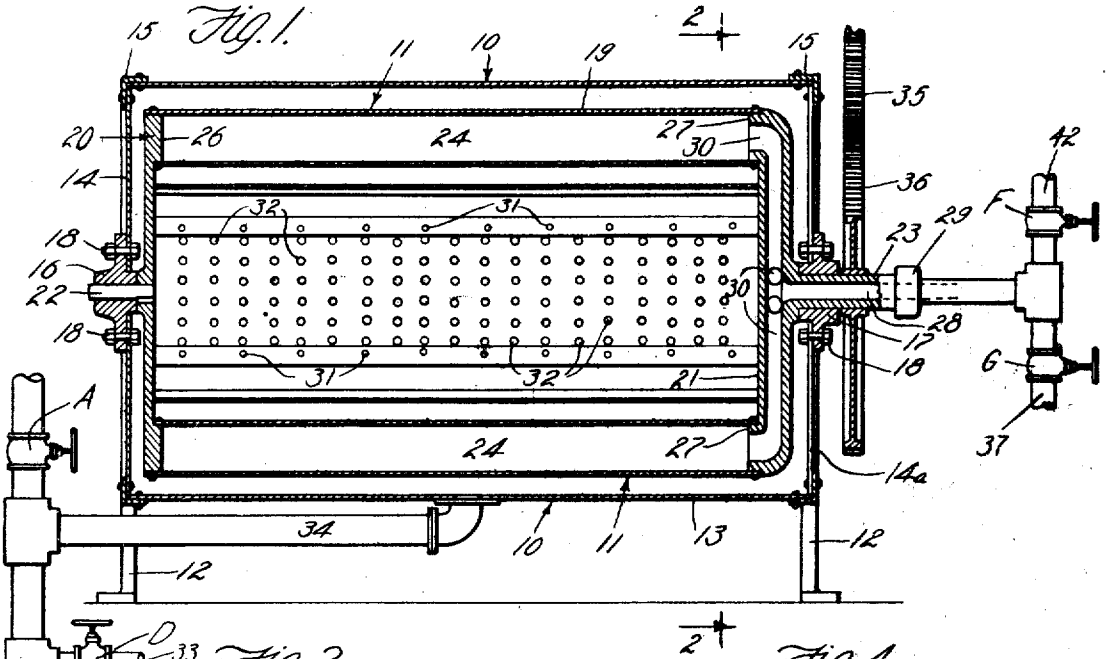


Fig. 2.

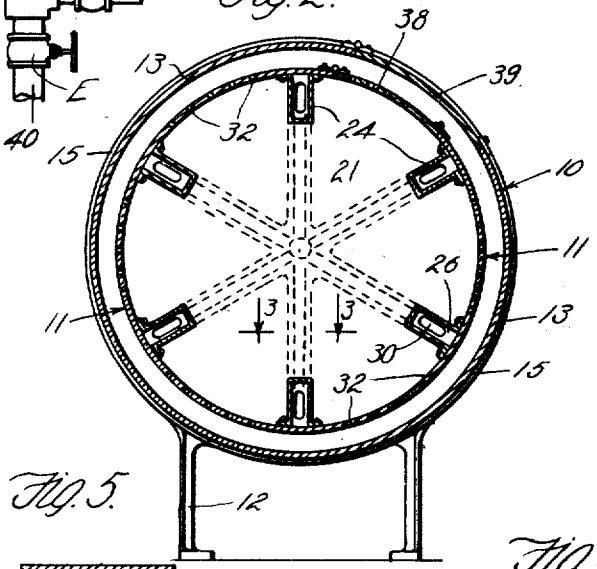


Fig. 4.

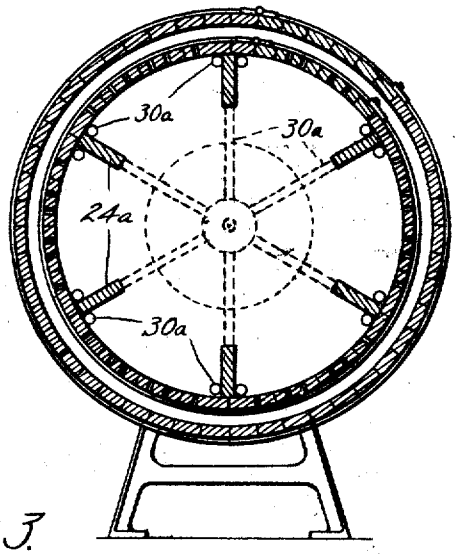


Fig. 5.

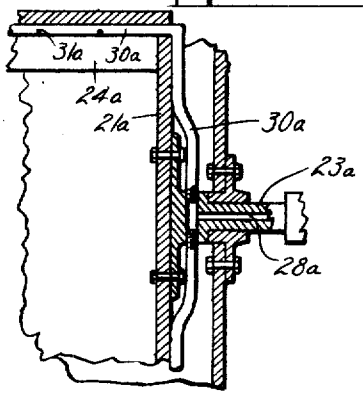
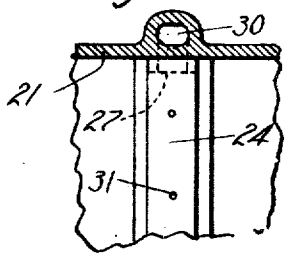


Fig. 3.



Inventor
Leslie Arthur Wagner
by James L. Bartlett
his Attorney

UNITED STATES PATENT OFFICE.

LESLIE ARTHUR WAGNER, OF LOS ANGELES, CALIFORNIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FIFTH TO FREDERIC H. VERCOE, OF LOS ANGELES, CALIFORNIA, ONE-FIFTH TO CHARLES DENMUN, OF SANTA MARIA, CALIFORNIA, TWO-FIFTHS TO SIDNEY W. ROOT AND ONE-TENTH TO CHRISTIAN A. KURFESS, OF LOS ANGELES, CALIFORNIA, AND ONE-TENTH TO JOHN A. MARONDE, OF MONTEREY PARK, CALIFORNIA.

DRYING MACHINE.

1,410,230. Specification of Letters Patent. **Patented Mar. 21, 1922.**

Application filed March 18, 1919. Serial No. 283,423.

To all whom it may concern:

Be it known that I, LESLIE ARTHUR WAGNER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Drying Machines, of which the following is a specification.

The present invention relates to laundry machinery, and it is an object of the invention to provide a simple, effective and easily operated machine which will expeditiously dry clothes; and a machine in such form that it may be used effectively for washing clothes as well.

Clothes being washed by the machinery now in common use, are washed in a washer then wrung in an extractor and then finally dried in a dryer. This not only necessitates a great deal of handling from one machine to the other but also requires considerable time and is hard on the clothes. By my present improvements in the drying of clothes I am enabled not only most efficiently to dry them, but also to wash them in the same machine, it being unnecessary to handle them until they have been washed and dried. The machine first operates as a washer, and when the clothes are thoroughly washed the operator opens and closes proper valves thereby causing the machine to operate as a dryer; the clothes remaining in the machine until they are thoroughly dried. If, however, the clothes are to be mangled they may be removed from the machine when slightly damp.

My invention greatly simplifies the washing and drying of clothes and saves time and labor. The manner in which these results are accomplished and the construction of my machine will be clearly understood from the following detailed description of a specific preferred form of machine embodying the invention, reference being had for this purpose to the accompanying drawings in which—

Fig. 1 is a vertical section of a preferred form of my invention; Fig. 2 is a cross section taken as indicated by line 2—2 on Fig. 1; Fig. 3 is an enlarged detail section taken as indicated by line 3—3 on Fig. 2; Fig. 4 is a section, similar to Fig. 2, of a modified form of the invention; and Fig. 5 is a detail of a modified form of the invention.

In the drawings numeral 10 designates a stationary drum or holder, 11 the inner drum or rotor and 12 the legs or supports for holder 10. The holder 10 may be made in any suitable manner, for instance, it may be made of a cylindrical wall 13 and ends 14 and 14^a which are fastened to angles 15 said angle brackets cast integral with legs 12. Within the holder 10 is rotor 11. The rotor 11 may comprise a cylindrical wall 19 and ends 20 and 21. The rotor is suspended within the holder by means of shafts 22 and 23 which run in bearings 16 and 17. Bearings 16 and 17 are secured to ends 14 and 14^a, respectively, by means of bolts 18. The shaft 22 is secured in rotor end 20 as shown in Fig. 1, while shaft 23 may be cast integral with end 21. Within the rotor 11 are paddles 24 which extend the entire length of the rotor and project radially inwardly from the outer cylindrical wall. These paddles 24 are shaped as shown in Fig. 2, being flange-riveted to the cylinder 19 and their ends fitting over bosses 26 and 27 on ends 20 and 21, respectively. Extending through shaft 23 is hole 28 which leads from swivel coupling 29 to passage ways 30. The passage ways, which are preferably cored holes in the end 21, extend radially outwardly to and through bosses 27 and open into the interiors of paddles 24. In the inward surface of paddles 24 are discharge holes 31. The cylindrical wall 19 of rotor 11 has perforations 32 as shown in Figs. 1 and 2.

The operation of the machine is as follows: The clothes are put into the rotor 11 through door 38 in the rotor, and door 39 in the holder. The machine is first used as a washer; vacuum valve A and drain valve E are closed and water valve D is opened. Water or washing liquid enters the holder from pipe 33 through pipe 34. When the proper amount of water has entered holder 10, water valve D is closed. Air valve F is closed while the machine is being operated as a washer. The rotor 11 is then rotated or oscillated in the manner common to washing machines by means of

pinion 35 and gear 36 which is mounted upon shaft 23. The clothes are thoroughly and quickly washed in the water or other fluid by the agitation caused by paddles 24. When the clothes have been thoroughly washed, drain valve E is opened allowing the water or washing compound to drain from the holder through pipes 34 and 40. When the holder 10 is completely drained, drain valve E is closed and vacuum valve A may be opened, causing a partial vacuum in holder 10. Any suitable vacuum pump or other apparatus may be used. Hot air valve F is then opened allowing dry warm air to enter the rotor 11 from pipe 42, through swivel joint 29, hole 28 in shaft 23, thence through passage ways 30 into paddles 24 where it blows into the rotor 11 through perforations 31. This air may be drawn in by the vacuum or it may be forced in by pressure, or both. If it is desired to use air at ordinary temperatures rather than warm air, valve G can be opened instead of hot air valve F, thereby allowing air from pipe 27 to enter the rotor. The machine operating in this manner very quickly dries the clothes.

In Figs. 4 and 5 I show a modified form of the invention. In the foregoing described form the construction is adapted to be of metal; and in the form now to be described I adapt my invention to a wooden construction. This form also shows how the invention may be applied to any existing washer. In this form the paddles 24^a are solid and shaft 23^a is pivoted with a bored passage way 28^a into which pipes 30^a are connected. Pipes 30^a extend outward from shaft 23^a to a point 30^b near the rim of end 21^a where they pass through said end and extend along the cylinder 19^a next to paddles 24^a. There may be one pipe by each paddle or there may be a pipe on each side of each paddle as shown in Fig. 4. There are holes 31^a in pipes 30^a through which the air passes into the rotor 11^a. It will be understood that the operation may be varied to suit circumstances and that the above description is intended only to be typical. Rinsing water may be put through the machine from the paddles before drying the clothes; and many other variations of use will readily occur to those skilled in the art. And, furthermore, I do not intend the foregoing specific description to be a limitation of my invention, believing it to be broad in its nature and not specifically limited except as so stated in the following claim.

Having described a preferred form of my invention, I claim:

A drying machine, comprising a cylindrical rotary hollow clothes carrier, inwardly projecting peripherally spaced and axially extending paddles in the inner cylindrical surface of the carrier to disturb the clothes during rotation of the carrier, the paddles being hollow, extending substantially the whole length of the carrier and being perforated substantially throughout their length, and means to feed drying air into the hollow paddles regardless of their position of rotation.

In witness that I claim the foregoing I have hereunto subscribed my name this 12th day of March, 1919.

LESLIE ARTHUR WAGNER.

Witness:
VIRGINIA BERINGER.

Certificate of Correction.

It is hereby certified that Letters Patent No. 1,410,230, granted March 21, 1922, upon the application of Leslie Arthur Wagner, of Los Angeles, California, for an improvement in "Drying Machines," were erroneously issued, by direct and mesne assignments, of one-fifth to Frederic H. Vercoe, of Los Angeles, California, one-fifth to Charles Denmun, of Santa Maria, California, two-fifths to Sidney W. Root and one-tenth to Christian A. Kurfess, of Los Angeles, California, and one-tenth to John A. Maronde, of Monterey Park, California, whereas said Letters Patent should have been issued *to the inventor said Wagner, one-fifth to Frederic H. Vercoe, two-fifths to Sidney W. Root, one-tenth to Christian A. Kurfess, all of Los Angeles, California, and one-tenth to John A. Maronde, of Monterey Park, California, as assignees, by mesne assignments*, of the entire interest in said invention, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 6th day of June, A. D., 1922.

[SEAL.]

WM. A. KINNAN,
Acting Commissioner of Patents.