

P. W. WHITE.
CLOTHES DRYING MACHINE.

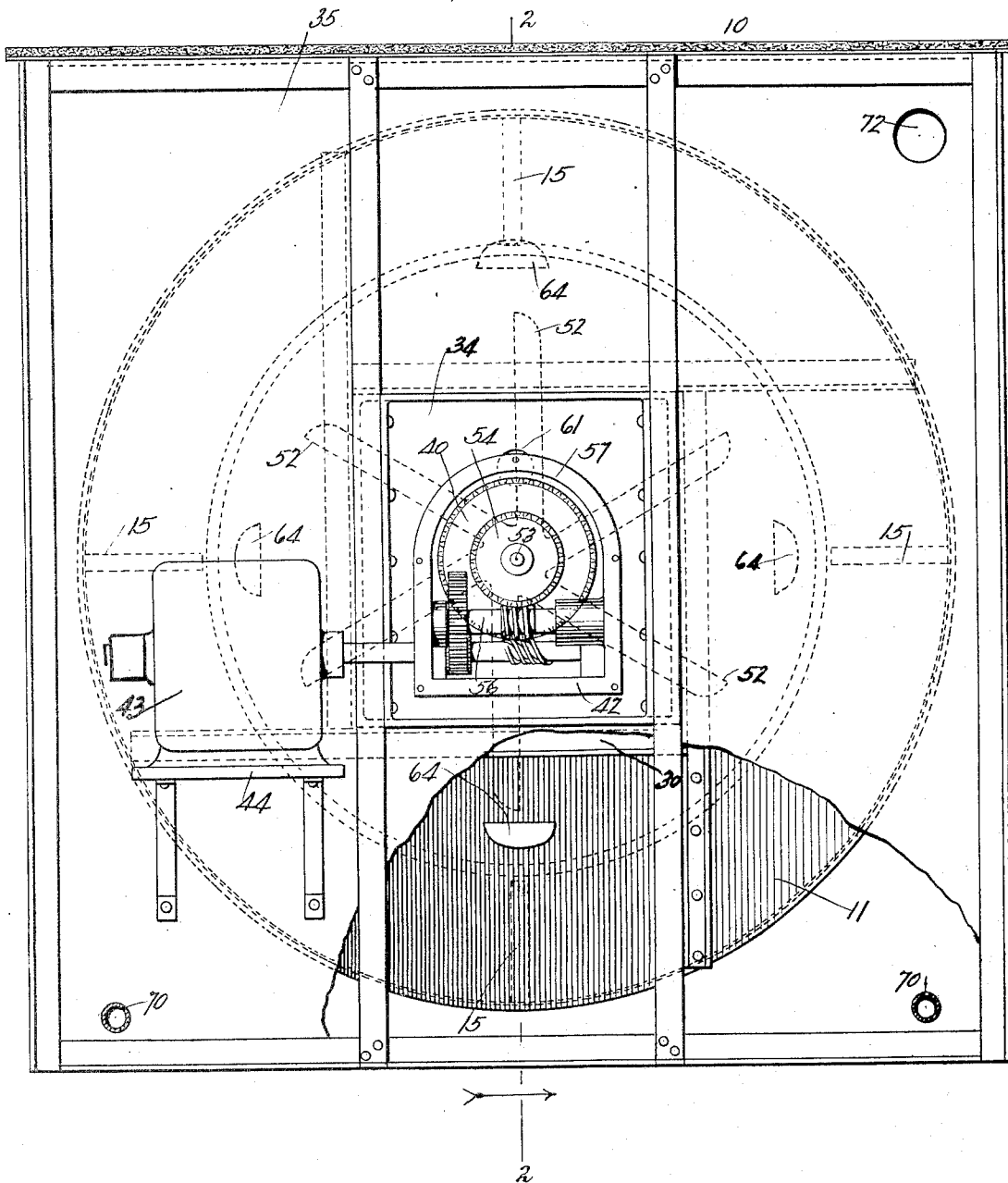
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2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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PERCIVAL W. WHITE, OF EAST MILTON, MASSACHUSETTS.

CLOTHES-DRYING MACHINE.

1,358,599.

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To all whom it may concern:

Be it known that I, PERCIVAL W. WHITE, a citizen of the United States, and a resident of East Milton, in the county of Norfolk and State of Massachusetts, have invented a new and Improved Clothes-Drying Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved clothes drying machine more especially designed for household use and arranged to quickly dry the washed clothes after leaving the wringer and without danger of injuring the clothes.

In order to accomplish the desired result, use is made of a casing in which is mounted to revolve a drum adapted to contain clothes to be dried, the drum having a perforate partition adjacent its back, and a fan intermediate the said perforate partition and the drum back to circulate air through the drum. Use is also made of means for supporting the revoluble drum solely from the back and providing a rim of unbroken continuity, and providing the front of the drum with an opening for passing the wet clothes into the drum and removing the dry clothes therefrom.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a rear end elevation of the clothes drying machine with parts of the casing broken out;

Fig. 2 is a sectional side elevation of the same on the line 2—2 of Fig. 1; and

Fig. 3 is a reduced cross section of the same on the line 3—3 of Fig. 2.

Within a suitably constructed casing 10 is mounted a revoluble drum 11 having a rim 12 of unbroken continuity and having a front 13 and a back 14. Within the drum are arranged radially disposed agitating wings 15 extending inwardly from the rim 12 to agitate the clothes during the time the drum is revolving. The front 13 of the drum 11 is provided with a central opening 16 into which extends an annular flange 20 attached to the front 21 of the casing 10 to permit of conveniently placing the wet clothes into the drum by way of the said flange 20 or removing the dried clothes from the drum. The outer end of the flange 20 is adapted to be closed by a suitable door

22 preferably connected at its lower end by hinges 23 with the casing front 21 to permit of conveniently swinging the door into open or closed position. The upper end of the door 22 is provided with a suitable locking bolt 24 adapted to engage a keeper 25 held on the casing front 21 to hold the door 22 in closed position during the time the clothes are dried within the revolving drum 11.

The back 14 of the drum is provided with a centerpiece 30 from which extends a hollow shaft 31 journaled in bearings 32 attached to a hub 33 extending from the centerpiece 34 of the back 35 of the casing 10, as plainly shown in Fig. 2.

The outer end of the hollow shaft 31 is provided with a worm wheel 40 in mesh with a worm 41 secured on the shaft 42 of a motor 43, preferably of the electric type, and mounted on a bracket 44 attached to the back 35 of the casing 10. Thus when the motor is running a slow rotary motion is given to the drum 11.

In the rear end of the drum 11 is arranged a transverse perforate partition 50 extending preferably to the rear ends of the wings 15, and this partition 50 is spaced from the back 14 to provide a suction chamber 51 in which rotates a fan 52 for circulating air within the drum 11 to insure quick drying of the clothes. The fan 52 is provided with a fan shaft 53 which extends through the hollow shaft 31 and carries at its outer end a helical gear wheel 54 in mesh with a helical pinion 55 secured on a shaft 56 journaled in a suitable housing 57 forming an extension of the hub 33 of the casing 10. On the shaft 56 is secured a gear wheel 58 in mesh with a pinion 59 secured on the shaft 42 of the motor 43 so that when the latter is rotated a rotary motion is given to the fan 52 to rotate the latter at a considerably higher speed than that of the drum 11.

The centerpieces 30 and 34 are provided with registering air inlet openings 60 and 61 to permit air to pass from the outside into the chamber 51 to mix with the air drawn out of the drum by way of the perforate partition 50. Within the outer portion of the chamber 51 is arranged an annular deflector 62 surrounding the fan 52 and inclined upwardly and inwardly to direct the air from the chamber 51 through the outer portion of the perforate partition 50 into the outer portion of the drum 11 at the rear end thereof. The drum back 14 is pro-

vided adjacent the deflector 62 with air outlets 63 to allow a portion of the air to escape from the chamber 51 during the time the drum 11 is in operation. The air passing out of the air outlets 63 is deflected in an outward direction at the back 14 of the drum 11 by deflectors 64.

The drum 11 is exteriorly heated by suitable heating means such as gas burners 70 in the form of perforate pipes extending lengthwise at the lower corners of the casing 10. The rear ends of the burners 70 are provided with suitable valves 71 and are connected with a suitable source of gas supply. An air outlet opening 72 is arranged in one upper corner of the back 35 of the casing 10 for the escape of the spent air.

In using the clothes drying machine, the door 22 is opened to permit of placing the wet clothes into the drum, and when this has been done the door 22 is closed and the motor 43 is started to cause the drum 11 and the fan 52 to rotate, as previously explained. By rotating the drum 11 the clothes therein are constantly agitated by the action of the agitating wings 15 and the revolving fan 52 establishes a circulation of air within the drum by drawing the air centrally out of the drum and forcing it into the outer portion of the drum, as previously mentioned. As the drum is heated by the heating means 70 the clothes within the drum are likewise heated and the air circulates therethrough so that a rapid drying of the clothes is insured, it being understood that the moist air can rapidly escape through the openings 63 while the fresh air can pass through the registering air inlet openings 60 and 61. By the arrangement described the wet clothes are quickly dried, and after the drying operation is completed the machine is stopped and the door 22 is opened to permit of conveniently removing the dried clothes from the drum 11.

It will be noticed that the drum 11 is solely supported from the rear end and is provided at the front with an opening for conveniently placing the wet clothes into the drum or removing the dried clothes therefrom.

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

1. A clothes drying machine, comprising a casing, a drum revoluble in the said casing and having a perforate partition spaced from the back of the drum, and a fan intermediate the said perforate partition and the back to circulate air through the drum.

2. A clothes drying machine, comprising a casing, a drum revoluble in the said casing and having a perforate partition spaced from the back of the drum, a fan intermediate the said perforate partition and the back to circulate air through the drum, and

heating means within the lower portion of the casing outside of the said drum.

3. A clothes drying machine, comprising a casing provided at its front with a door opening and a flange at the door opening and extending inwardly, a drum revoluble within the said casing and having in its front end a central opening into which extends the said flange, and a door for opening and closing the door opening in the said casing to allow of placing the wet clothes into the drum or to remove the dry clothes from the drum by way of the said flanged opening.

4. A clothes drying machine, comprising a casing, a drum revoluble within the casing and having a back and a perforate partition forward of the said back, the front of the drum being provided with a central opening for the introduction or removal of the clothes, a drum shaft on the back of the drum and journaled at the back of the casing, a fan revoluble within the drum intermediate the said drum back and the said perforate partition to circulate air through the drum, and a motor connected with the said drum and the said fan to drive the same.

5. A clothes drying machine, comprising a casing, a drum revoluble within the casing and having a back and a perforate partition forward of the said back, the front of the drum being provided with a central opening for the introduction or removal of the clothes, a hollow drum shaft on the back of the drum, a fan revoluble within the casing intermediate the back of the casing and the said perforate partition, a fan shaft carrying the said fan and extending through the said hollow shaft, a motor having a shaft, and gearings connecting the said motor shaft with the said drum shaft and the said fan shaft.

6. A clothes drying machine, comprising a casing provided at the front with a door and having a back provided with a bearing, and a drum within the said casing having a rim of unbroken continuity, the drum having at the front an opening in register with the said door for placing the wet clothes into the drum and removing the dry clothes therefrom, and a shaft attached to the back of the drum and journaled in the said bearing.

7. A clothes drying machine, comprising a casing provided at the front with a door and having a back provided with a bearing, a drum within the said casing having a rim of unbroken continuity, the drum having at the front an opening in register with the said door for placing the wet clothes into the drum and removing the dry clothes therefrom, a shaft attached to the back of the drum and journaled in the said bearing, the said shaft being hollow, a revoluble fan

within the drum adjacent the back of the drum and having a shaft extending through the said hollow drum shaft, a motor, and gearings connecting the said motor with the said shafts to rotate the drum and the fan at different speeds.

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8. A clothes drying machine, comprising a casing provided at the front with a door and having a back provided with a bearing and a drum within the said casing having a rim of unbroken continuity, the drum having at the front an opening in register with the said door for placing the wet clothes into the drum and removing the dry clothes therefrom, and a shaft attached to the back of the drum and journaled in the said bearing, the said drum having an annular deflector adjacent the peripheral face of the fan for directing the current of air set up by the revolving fan into the peripheral portion of the drum, the air being drawn centrally out of the drum by the said fan.

9. A clothes drying machine, comprising a casing provided at the front with a door and having a back provided with a bearing 25 and a drum within the said casing having a rim of unbroken continuity, the drum having at the front an opening in register with the said door for placing the wet clothes into the drum and removing the dry clothes 30 therefrom, and a shaft attached to the back of the drum and journaled in the said bearing, the said drum having an annular deflector adjacent the peripheral face of the fan for directing the current of air set up 35 by the revolving fan into the peripheral portion of the drum, the air being drawn centrally out of the drum by the said fan, the back of the casing having an air inlet and the back of the drum having an air es- 40 cape adjacent the outer end of the fan.

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Witness:

GEORGE J. QUINN.