

Oct. 30, 1928.

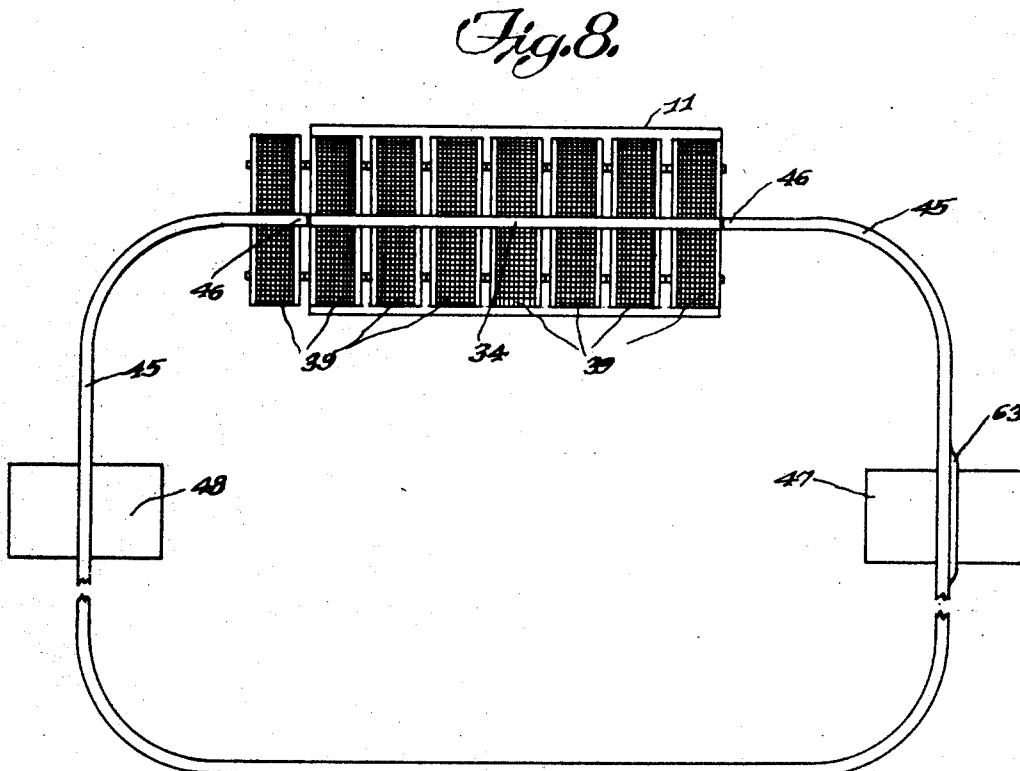
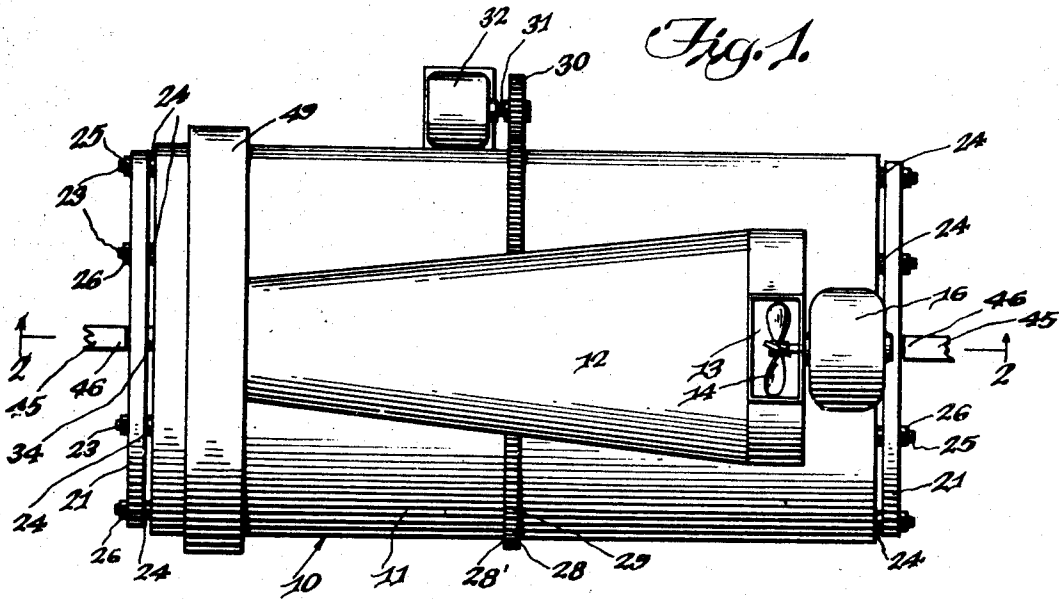
1,690,024

G. A. LEWIS

DRYING MACHINE

Filed Aug. 25, 1926

3 Sheets-Sheet 1



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Fig. 2.

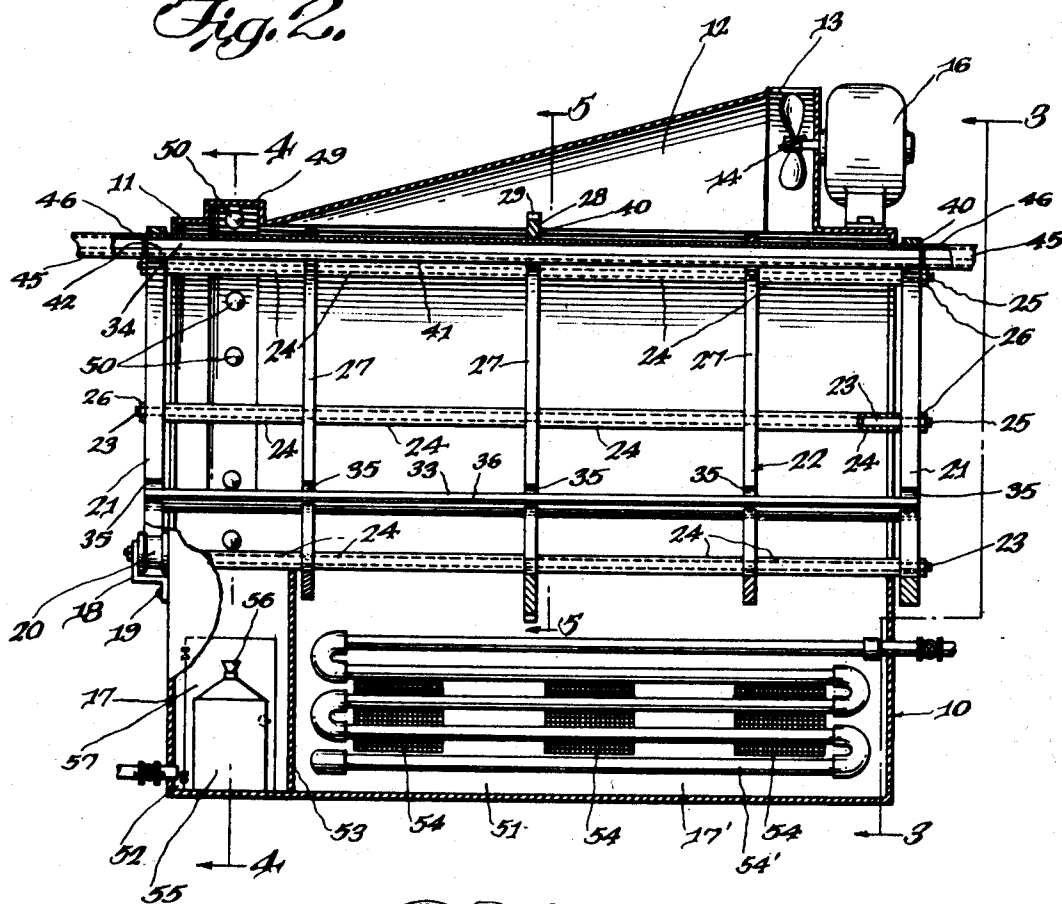
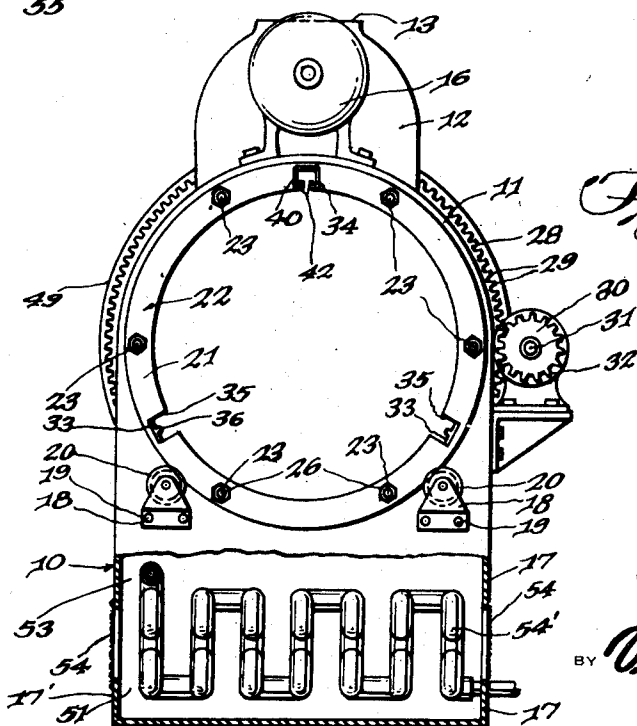


Fig. 3.



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Fig. 4.

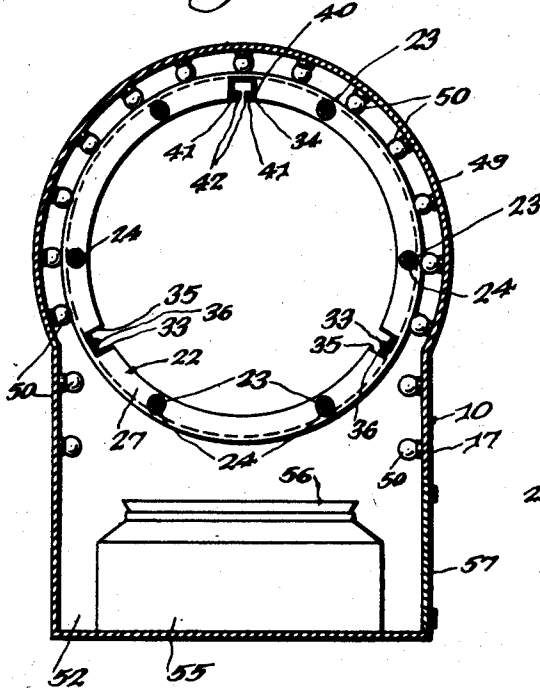


Fig. 5.

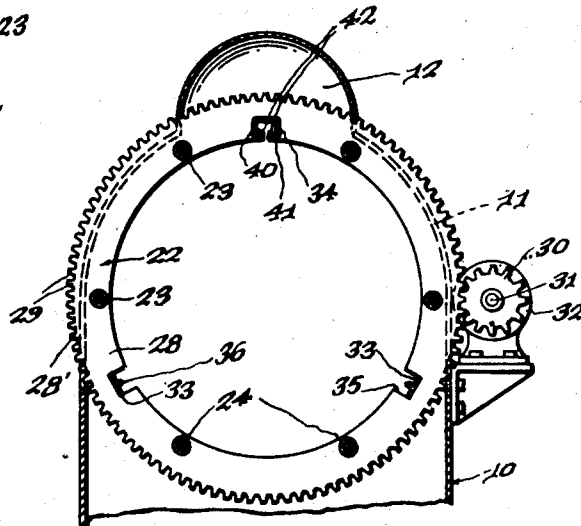


Fig. 6.

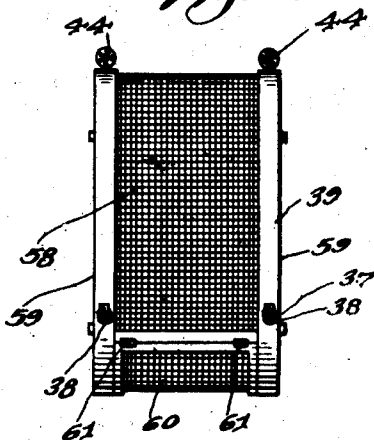
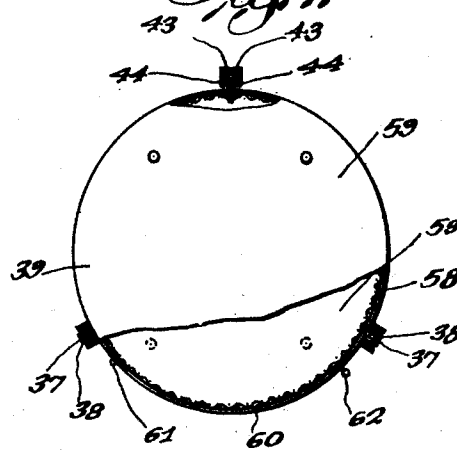


Fig. 7.



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1,690,024

UNITED STATES PATENT OFFICE.

GEORGE A. LEWIS, OF CHICAGO, ILLINOIS.

DRYING MACHINE.

Application filed August 25, 1926. Serial No. 131,499.

This invention relates to certain novel improvements in drying machines and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

The drying machine, embodying this invention is adapted to work in combination with my washing apparatus disclosed and described in my United States Letters Patent No. 1,220,308 and is adapted to synchronize production in laundries of the family wash type so that a unit system may be employed in producing individual family bundles.

An object of the present invention is the production of a drying machine of this character adapted for laundry use in drying clothes whereby the clothes are placed in containers or baskets and conveyed to the drying machine to pass therethrough over a heat producing chamber and from the heat producing chamber through a chamber having confined therein a plurality of lighting element for subjecting the clothes to an ultra-violet ray treatment and also subjecting the clothes to an atomizer treatment while being subject to the ultra-violet ray treatment thereby removing the laundry odor from the clothes.

A further object of the invention is to provide a device of this character which is capable of rotating the basket containing the clothes while the baskets containing the clothes are being manually or automatically conveyed through the drying machine.

In commercial laundries, of the family wash type, the type of drying machine universally employed is the tumbler dryer. This is a rotatable cylinder in which a batch of damp clothes are placed in one or more pockets and the cylinder rotated in oscillatory action while heated air is either forced through or sucked through a steam coil and heated, after which it passes through perforated walls of the cylinder coming into contact with the damp surfaces of the clothes or other material while they are being tumbled in the cylinder. The air to come in contact with the clothes or other materials, after gathering the dampness, is removed through an exhaust to the atmosphere.

One of the many objects of the invention is to provide a system whereby the clothes of a single customer may be placed in a container having a perforated outside wall and

either manually or automatically conveyed through the drying machine through the several compartments where the clothes are subjected to several individual treatments.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing illustrating the preferred form of my invention, and in which;

Fig. 1 is a top plan view of the invention.

Fig. 2 is a sectional detail view of the same taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a sectional detail view taken substantially on line 3—3 of Fig. 2.

Fig. 4 is a sectional detail view taken substantially on line 4—4 of Fig. 2.

Fig. 5 is a fragmentary sectional detail view taken substantially on line 5—5 of Fig. 2.

Fig. 6 is a side elevational view of a clothes container or basket embodied in the invention.

Fig. 7 is a typical side elevational view of the basket illustrated in Fig. 6 showing parts of the side wall broken away.

Fig. 8 is a diagrammatical top plan view of the invention.

To accomplish the various objects of the invention the drying machine is indicated generally as at 10 and includes a cylindrical body 11 open at both ends. The body 11 defines a duct 12 having an exit 13 through which air is drawn by means of a fan structure 14 operated by a motor 16 supported by the body 11 at the top thereof. The base 17 of the drying machine 10 has secured thereto brackets 18 as at 19 and these brackets 18 support rollers 20. The rollers 20 are adapted for engagement with ring members 21 which form the end walls of a skeleton supporting frame 22. These ring members 21 are operatively connected together through the medium of tie rods 23 and are properly spaced apart with respect to each other through the medium of sleeves 24 carried by the tie rods 23. The end portions 25 of the tie rods are threaded to receive nuts 26 which bind the ring members 21 against the sleeves 24. The skeleton frame 22 includes spaced frame rings 27 which are equally spaced apart through the

medium of the sleeves 24. The frame ring 28 of the frame rings 27 defines on its outer peripheral edge which projects exterior of the cylindrical body 11 as at 28', Fig. 5, gear teeth 29 and this frame ring provides a driving element for oscillating the skeleton carriage 22. Operatively meshing with the teeth 29 is a driving gear 30 which is carried by a shaft 31 of the motor 32. This motor 32 is preferably of the reversible type and may be of any approved construction and is operatively connected in circuit with a suitable source of electrical energy in any approved manner known in the art.

Associated with the frame rings 27 and the end rings 21 are tracks 33 and 34. The tracks 33 in the present instance are received in notches 35 provided in the frame rings 27 and end rings 21 and these trackways are preferably substantially T-shaped in cross section to provide lateral ribs 36 which are adapted to engage in the grooves 37 of rollers 38 carried by the baskets 39 hereinafter described. The track 34 is likewise received in notches 40 and this track is preferably substantially U-shaped in cross section and has longitudinal edge portions 41 bent inwardly and upwardly to define ribs 42 which are adapted to engage in the grooves 43 formed in the rollers 44 likewise associated with the baskets 39.

Adapted for alignment with the track 34, under certain conditions, is a track 45. This track 45, as diagrammatically illustrated in Fig. 8, has its end portions 46 which are adapted, as above indicated, to be disposed in alignment with the track 34. This track 45 extends from opposite ends of the drying machine over and in close proximity with loading and unloading platforms 47 and 48, respectively.

Formed in the cylindrical body 11 is a channel 49 and arranged in this channel and circumferentially with respect to the cylindrical body is a plurality of lighting elements 50 which are connected in circuit with a suitable source of electrical energy in any approved manner known in the art.

The base 17 of the drying machine 10 is divided into two compartments 51 and 52, respectively, by a vertically extending partition 53. Defined in the wall portions 17' of the base 17 defining together with the partition 53 the compartment 51 is a plurality of screen covered openings 54 which permit the admission of atmospheric air to the compartment 51. Arranged in the compartment 51 in any approved manner is a steam coil 54' connected to a feed and return pipe (not shown) of a steam supply reservoir in any approved manner.

Arranged in the compartment 52 is an atomizer 55 including a discharging nipple 56. This atomizer has been diagrammatically illustrated in the drawings and is pref-

erably of the type which includes a valve structure for permitting slow discharge of the atomizing fluid. This valve structure and the atomizer in general has not been illustrated in detail or described because they do not constitute a part of the present invention and it is pointed out that any approved atomizer may be used which will accomplish the desired result.

In Fig. 2 I have illustrated a door 57 which communicates with the compartment 52 to permit removal or replacement of the atomizer 55.

In Figs. 6 and 7 I have illustrated a conventional type of basket which I prefer to use in combination with my improved dryer. In this instance the basket includes a reticulated cylindrical wall 58 and end walls 59. The cylindrical wall 58 defines a door 60 which permits access to the interior of the basket and this door 60 is hinged as at 61 and releasably held in closed position through the medium of a suitable fastening element 62 of any approved construction.

In the description to follow with reference to the operation of the invention it is pointed out that in some instances it might be profitable to automatically feed the baskets through the drying machine and when such is required it is at this time pointed out that reference is to be had to my U. S. Letters Patent No. 1,220,308 which fully discloses an automatic feed mechanism for feeding the baskets to the drying machine and which may be incorporated as a part of the construction embodying this invention without departing from the spirit of the present invention. In the following description therefore, for the purpose of better understanding the utility of the present invention the baskets will be described as being manually moved along the tracks.

The baskets, which may be of any number, are associated with the trackway 45 by engaging the grooves 43 of the roller 44 with the ribs 42. At the loading station 47 the baskets are filled with the clothes to be dried and conveyed along the trackway 45 to dispose the grooves 43 of the rollers 44 in engagement with the ribs of the track 34 and to dispose the grooves 37 of the rollers 38 in engagement with the ribs 36. In this position the basket is moved into the skeleton carrier 22 and the carrier oscillated by operation of the motor 32. When the first basket is positioned at the entrance of the drying machine, the outer side wall 59 thereof being solid will act as a closure member for the open entrance end of the drying machine and this is true with each successive basket as it is admitted into the skeleton carrier. The first basket in this position will rotate with the skeleton carrier and during the rotation of the basket the clothes therein will be subjected to the heated air

generated by the steam coils. The fan 14 being operative at this time will create a suction through the drying machine and draw the damp air and condensation through the duct 12 and through the exit 13. A second basket now loaded with clothes is admitted into the drying machine in substantially the same manner as the first basket and when this second basket is admitted into the drying machine at the entrance thereof it will move the first basket toward the exit end of the drying machine. When the skeleton carrier is filled to capacity with baskets it will be seen that both ends of the cylindrical body will be closed thereby permitting the heated air to effectively remove the dampness from the clothes. As each and every basket is conveyed through the drying machine the clothes are subjected to the atomizer and the ultraviolet rays produced by the lighting elements 50. As each basket is ejected from the drying machine it is conveyed to the unloading platform 48 at which time the door 60 is disposed in open position to permit the discharge of the dried clothes from the basket.

To facilitate the loading of each basket the trackway has a longitudinal portion 63 which is twisted from alignment with the remaining portion of the trackway 45 whereby when each basket engages this twisted portion the basket will be tilted in an upward direction to dispose the door 60 in substantially a vertical plane at which time the door can be conveniently opened and the clothes confined in the basket.

It is pointed out that the rotation of the skeleton carrier is such that it will momentarily stop at the proper time to permit the operator to move the basket from the track 45 to the track 34 and for further description pertaining to this portion reference is to be had to my U. S. Letters Patent herein mentioned.

By oscillating the carriage it is manifest that the clothes container in the baskets will be agitated to expose their surfaces to the different treatments as the baskets pass through the carriage thus when the baskets are discharged from the carriage the clothes will be dried and fumigated.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I,

therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A drying machine of the class described comprising a body, a skeleton carriage, means for rotating the skeleton carriage, a plurality of clothes containing baskets, means for removably associating the baskets with the skeleton carriage for passage through the skeleton carriage, and means for subjecting the clothes contained within the baskets to a heating element during their passage through the skeleton carriage.

2. A drying machine including a body open at opposite ends, a skeleton carriage, means associated with the body for supporting the skeleton carriage for rotary movement, means for rotating said carriage, a plurality of clothes containing baskets, means for operatively associating the clothes containing baskets with the skeleton carriage for passage therethrough, means for subjecting the clothes contained in said baskets to a heating element, and means for creating a suction within said body for discharging damp air from within the body.

3. A drying machine including a rotary carriage, tracks carried by the carriage, a trackway having opposite end portions adapted for alignment with one of said tracks, a plurality of clothes containing baskets, means for movably associating the clothes containing baskets with the trackway, said clothes containing baskets adapted to be moved along said trackway for movable engagement with said tracks, and a cylindrical body having opposite open ends and enclosing said carriage.

4. A drying machine including a rotatable frame having a longitudinal passage there-through, a cylindrical body open at opposite ends and enclosing said frame, a plurality of containers movable through said passage and rotatable with the frame, means for rotating said frame, means for subjecting clothes contained in said containers to a heating element during passage of the containers through the frame, and a fan structure for creating a suction in said body for exhausting damp air therefrom.

In testimony whereof I affix my signature.
GEORGE A. LEWIS.