

March 14, 1961

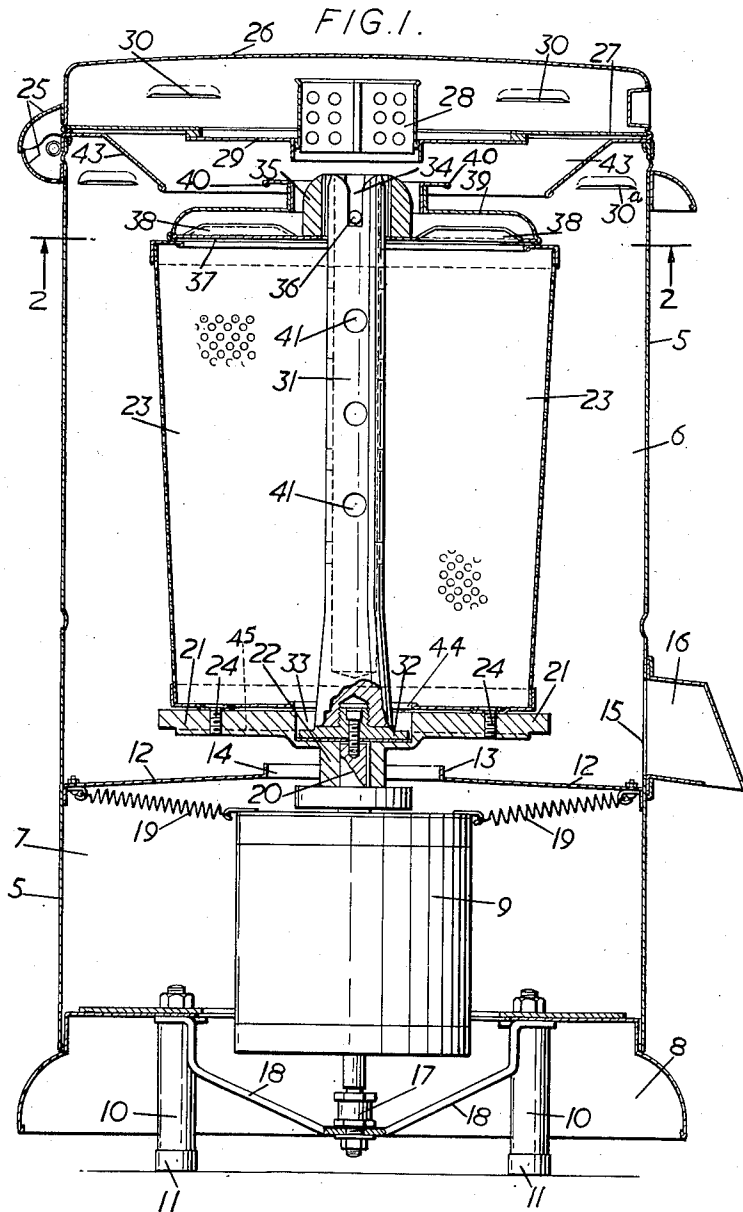
V. H. HOBBS

2,974,422

CENTRIFUGAL CLOTHES DRIERS

Filed May 27, 1958

2 Sheets-Sheet 1



Inventor  
**VERNON H. HOBBS.**  
By  
*Roman S. Barber*  
Attorney

March 14, 1961

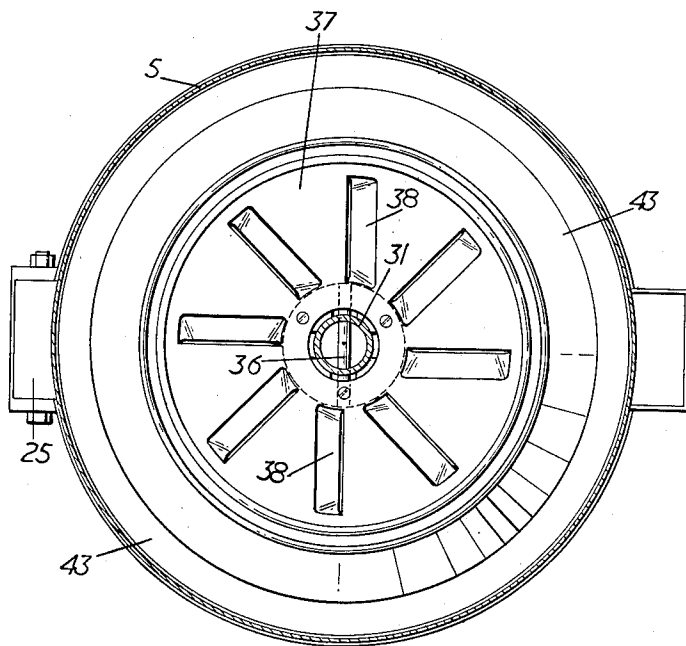
V. H. HOBBS  
CENTRIFUGAL CLOTHES DRIERS

2,974,422

Filed May 27, 1958

2 Sheets-Sheet 2

FIG. 2.



Inventor  
VERNON H. HOBBS.  
By  
*Vernon S. Bartlett*  
Attorney

1

2,974,422

## CENTRIFUGAL CLOTHES DRIERS

Vernon Harrison Hobbs, Exmouth, England, assignor to  
Thermair Domestic Appliances Limited, London, Eng-  
land

Filed May 27, 1958, Ser. No. 738,237

2 Claims. (Cl. 34—58)

This invention comprises improvements in or relating to centrifugal clothes driers.

It has been found in practice with centrifugal clothes driers as at present in use that it has not been possible to attain the necessary degree of dryness of the clothes for ironing, on removal from the drier, further drying being therefore necessary before ironing can be satisfactorily performed.

The object of the present invention is to provide an improved centrifugal clothes drier in which a greater degree of dryness is obtained than heretofore with driers of this type.

Referring to the accompanying drawings:

Figure 1 is a sectional elevation of a centrifugal clothes drier according to this invention, and

Figure 2 is a section at 2—2 in Figure 1.

In carrying the present invention into practice as shown upon the accompanying drawings, the casing 5 is divided into two compartments, 6, 7, with a pedestal part 8. The lower compartment 7 providing a housing for the electric motor 9, whilst the pedestal part 8 which forms the closure to the lower end of the motor compartment 7 has secured thereto depending legs 10, the lower ends of which have bonded or otherwise secured thereto rubber shock absorbing blocks 11.

The partition 12 dividing the two compartments 6, 7 in the casing 3 has an upturned lip 13 surrounding the aperture 14 formed thereon for the purpose of facilitating the collection of water on said plate, which is arranged to pass away through the aperture 15 in the casing 5 to which is secured the outlet spout 16.

The electric motor 9 is resiliently mounted at its lower end on a rubber or like block 17 which is secured to a spider 18, which in turn is attached to the anchorage for the depending legs 10. The electric motor 9 is also secured to the casing 5 by means of the tension springs 19.

The rotor 20 of the electric motor 9 extends through the aperture 14 in the partition 12 and has secured on the end of same a recessed disc 21 on the underside of which is provided a boss 22 into which the rotor 20 is located and secured.

To the disc 21 is secured a perforated basket 23 by means of the screws 24.

Hinged to the casing 5 by a knuckle type of hinge 25 is a lid 26 having a partition 27, in which is mounted an electric heater 28, the heating element of which is protected by the guard 29.

Slidably mounted within the upper compartment 6 of the casing 5 between the wall of the casing and the basket 23 is a rod which is adapted to actuate an electric switch, in well known manner, whereby on the closing of the lid 26, the electric motor switch is closed and the circuit to the motor 9 and heating element 28 completed, whilst a brake for the motor is simultaneously released. On the opening of the lid 26 the circuit to the motor 9 and heating element 28 is broken and the brake automatically applied to the motor 9 also in well known manner.

2

The lid 26 is provided with an inlet or inlets 30 for the passage of air into the interior of the lid around the heating element 28.

Secured to the top of the casing 5 is an inverted frusto conical shaped guard member 43 which covers the space between the rotary basket 23 and the casing 5, whilst it also acts as a deflector for any water thrown upwards during centrifuging.

Mounted within the perforated basket 23 is a stabilizer for stabilizing the basket 23, which can take the form of a hollow vertical rod 31 which is of a length slightly longer than the height of the perforated basket 23, the lower end of which may be provided with a flange 32 to secure same in the recess 33 in the disc 21. An aperture 44 is provided in the bottom of the perforated basket 23 through which water in the basket may pass to be spun out from between the bottom of the basket 23 and the top of the recessed disc 21.

The upper end of the rod 31 is provided with a cross slot 34 which is open at its upper end.

Fitting around the upper end of the vertical rod 31 is a relative massive weight 35 which is dynamically balanced about the axis of rotation of the perforated basket 23 and in which is provided a cross member 36 which is adapted to engage the cross slot 34 in the upper end of the hollow vertical rod 31.

Mounted on the underside of the beforementioned weight 35 and extending beyond the periphery of same is a closure member 37 for the basket 23, in which is provided a plurality of radial slits, the metal adjacent said slits being pressed upwards to form vanes 38 of an impeller for driving air through the rotary basket 23. Said vanes 38 can be formed and constructed in any other suitable manner.

Mounted on the beforementioned closure member 37 is a cover member 39, the peripheral edge of which is turned down to form a depending part and at the same time provide an air space between the closure member 37 and the cover member 39.

The cover member 39 adjacent the weight 35 secured to the closure member 37 is flared outwardly to form a hand grip 40 for lifting these parts 35, 37 and 39 off the top of the basket 23, an air space is also provided between the hand grip part 40 and the weight member 35 through which air is drawn, which air is forced into the rotary basket 23, whilst said cover member 39 also acts as a guard against the vanes 38 of the impeller in the closure member 37 underneath. In the event of the hand of the user coming into contact with the cover member 39, before it has stopped rotation, no injury will be caused to the user.

The hollow rod 31 secured to the disc 21 is provided with a plurality of radial holes 41 therein to permit the flow of air therethrough, which facilitates the cooling of the metal parts after the electric heater in the lid 26 of the drier has been switched off by an independent switch, preferably some minutes before the electric motor 9 is switched off by the opening of the lid 26, to permit of the metal parts cooling down.

The central hollow metal rod 31 assists in the clothes being packed equally around the basket 23, to effect a balance as far as possible, before centrifuging, whilst the weighted member 35, closure member 37 and cover member 39, when rotated provides a gyroscopic action which retains the basket 23 steady in its rotation and prevents movement of the drier on the surface on which it is standing.

The recessed disc 21 is provided with expeller vanes 45 for assisting the air flow through the perforated basket 23.

In operation, the lid 26 is raised and the cover for the basket 23 is removed by the hand grip 40, whereupon the

clothes to be dried are loaded into the basket 23 by placing them around the inner periphery of said basket. The basket cover is then replaced, the lid 26 closed, when the brake of the motor 9 is automatically released and the switch to the circuit of the motor 9 closed. The independent switch to the heating element 28 is also closed. The basket 23 is then spun, effecting a drying of the clothes in the basket 23 by centrifugal action, the extracted water being forced through the perforations in the basket 23 and draining onto the partition 12, thence through the aperture 15 to the spout 16.

At the same time as the basket 23 and the contents are being spun, a current of air is drawn by the impeller blades 38 through the heating element 28, where the air is heated, through the basket 23, by the expeller blades 45 where it passes amongst the clothes and through the perforations in the basket 23, and upwardly along the space between the basket 23 and the inner periphery of the casing 5, out through the outlet 30<sup>a</sup> in the compartment 6 of the casing 5, thus simultaneously subjecting the clothes in the basket 23 to a drying action due to the centrifugal force and also to the drying action of a heated air current through and around the clothes, as they are being centrifuged.

The radially disposed holes 41 in the rod 31 facilitate the passage of cool air through same, to cool said rod when the heating element 28 is switched off for the passage of cool air through the drier, to cool same before emptying.

It has been found that a clothes drier as hereinbefore described admits of clothes being dried to an extent which permits ironing to be carried out upon removal of the clothes from the drier.

I claim:

1. A centrifugal clothes drier, comprising a casing, a power unit located in said casing, a perforated basket for rotation axially located in said casing and coupled to said power unit, a lid pivoted to said casing, an electric heater positioned in said casing lid, air inlets located in said lid, a rod axially mounted in and rotatable with said perforated basket, a removable closure member to said perforated basket for coupling to said rod, an impeller embodied

in said closure member for drawing an air current through the air inlets in the casing lid past the electric heater, a cover member for the closure member located in spaced relationship with the closure member for the perforated basket to form a guard for the impeller in said closure member, an inlet in said cover member forming the guard to permit of the entry of heated air into the perforated basket and expeller blades located at the bottom of the perforated basket for drawing through the perforated basket during centrifuging the current of heated air.

2. A centrifugal clothes drier, comprising a casing, a power unit located in said casing, a disc secured to the rotor of said power unit, a perforated basket secured to said disc for axial rotation in said casing, a lid pivoted to said casing, a partition mounted in said lid, an electric heater mounted in said partition, air inlets located in said lid through which air to be heated is drawn, a deflector for water thrown upwards during centrifuging located in the top of the casing, a rod axially mounted in and rotatable with said perforated basket, a closure member for said perforated basket removably located thereon for coupling to said rod, an impeller embodied in said closure member for drawing air to be heated through the air inlets in the pivoted lid, a cover member for the closure member secured thereto in spaced relationship with the closure member for the perforated basket to form a guard for the impeller in said closure member, an air inlet in said cover member to permit the entry of heated air into the perforated basket having a flared part forming a hand grip for said cover member, and expeller blades located at the bottom of said perforated basket for drawing through the perforated basket during centrifuging the current of heated air.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

|           |          |               |
|-----------|----------|---------------|
| 1,087,528 | Cassirer | Feb. 17, 1914 |
| 1,687,829 | Clark    | Oct. 16, 1928 |
| 2,415,238 | Emerson  | Feb. 4, 1947  |
| 2,784,500 | Beaumont | Mar. 12, 1957 |