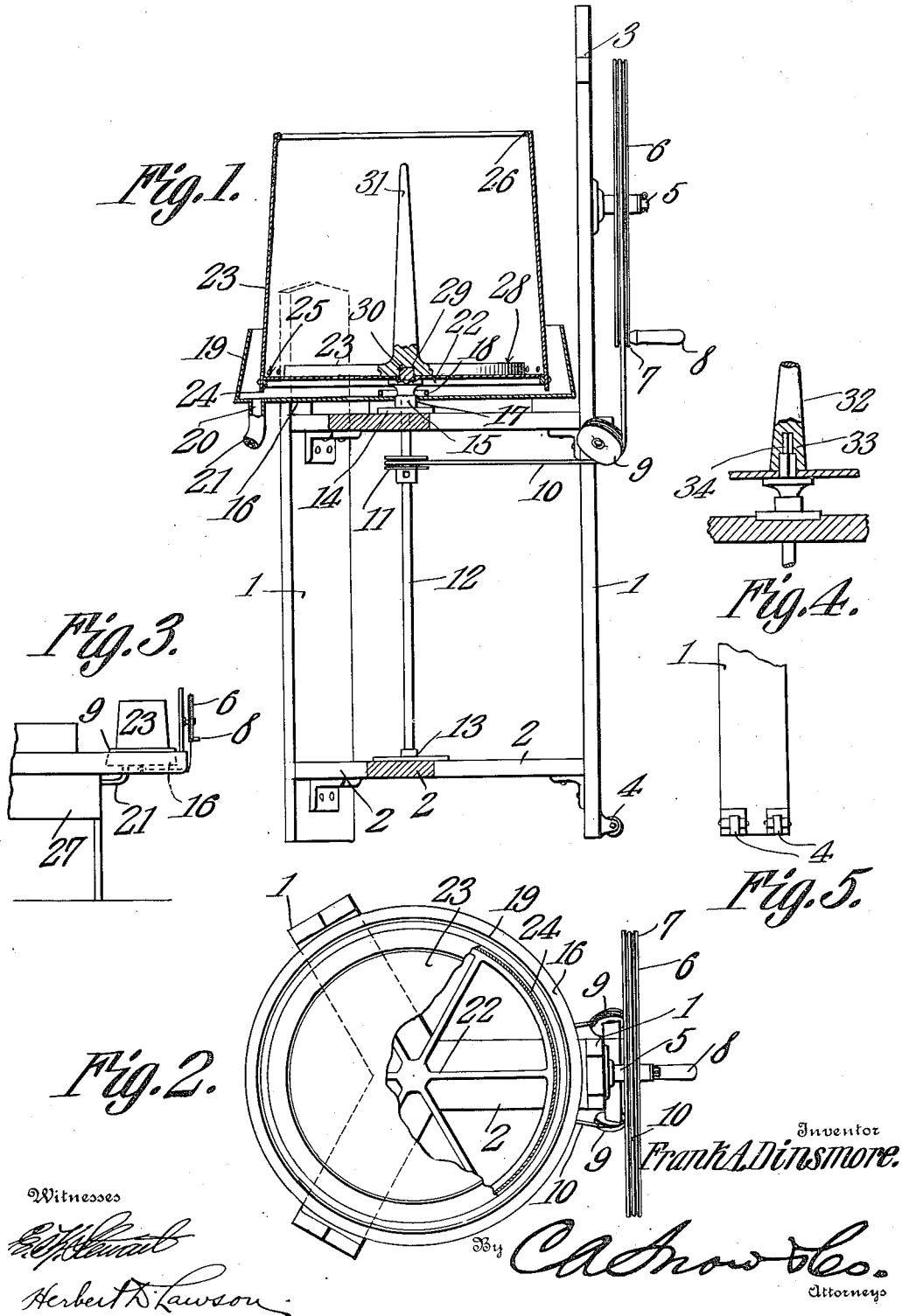


F. A. DINSMORE.
CENTRIFUGAL CLOTHES DRIER.
APPLICATION FILED APR. 14, 1909.

945,921.

Patented Jan. 11, 1910.



UNITED STATES PATENT OFFICE.

FRANK A. DINSMORE, OF FREDONIA, NEW YORK, ASSIGNOR TO MARY E. DINSMORE,
OF FREDONIA, NEW YORK.

CENTRIFUGAL CLOTHES-DRIER.

945,921.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed April 14, 1909. Serial No. 489,829.

To all whom it may concern:

Be it known that I, FRANK A. DINSMORE, a citizen of the United States, residing at Fredonia, in the county of Chautauqua and State of New York, have invented a new and useful Centrifugal Clothes-Drier, of which the following is a specification.

This invention relates to centrifugal clothes driers of that type utilizing a basket designed to be filled with fabrics to be dried and having mechanism whereby it may be rotated at a high speed. Heretofore devices of this character have utilized baskets having openings or perforations throughout the height thereof, it thus being necessary to utilize a jacket for catching the water thrown outwardly during the operation of the machine. It has also been necessary to utilize means for preventing the water and fabrics from being thrown out of the top of the basket. These constructions have all been objectionable because of their cumbersome character which has obviously added to the cost.

One of the objects of the present invention is to simplify machines of this character by forming the baskets of material having openings only adjacent the bottom thereof, said baskets being so shaped as to deflect downwardly the water separated from the fabrics by centrifugal force, it thus being necessary to provide only a comparatively shallow pan for the reception of the separated water.

Another object is to provide a basket so shaped as to direct the fabrics downwardly against the bottom of the basket, forcing them against said bottom with such pressure as to materially assist in the removal of water therefrom.

Another object is to provide improved means for actuating the basket.

Another object is to provide a machine of this type which may be used in connection with a washing machine, the separated water being directed back into the machine where it can again be utilized for washing purposes.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a central vertical section through a machine embodying the present improvement. Fig. 2 is a plan view thereof, a portion of the bottom of the basket being removed. Fig. 3 is an elevation on a reduced scale of a modified construction wherein the machine is used in connection with a washing machine, a portion of the washing machine being shown in elevation and the pipe connection between the said drier and the washing machine being also shown. Fig. 4 is a view, partly in section and partly in elevation, showing a modified form of centering device for use within the basket. Fig. 5 is an elevation of the lower portion of one of the standards and showing the rollers thereon.

Referring to the figures by characters of reference, 1 designates the supporting standards of the machine, said standards being connected adjacent their lower ends and at intermediate points by means of braces 2. One of the standards is provided at its upper end with a reduced handle portion 3 and said standard also has casters 4 secured to the outer face thereof at its lower end, said casters being supported close to but out of contact with the floor while the machine is in an upright position but being designed to move into contact with the floor when the machine is tilted in one direction. It will be seen therefore that these casters can be utilized for the purpose of facilitating the moving of the machine from place to place. A stud 5 extends from the upper portion of said standard and has a drive wheel 6 journaled thereon, said wheel being provided with a peripheral groove 7 and a crank 8. Inclined sheaves 9 are journaled upon opposite sides of this standard at points below the upper braces 2 and extending under these sheaves is an endless belt 10, said belt being seated within the groove in wheel 6 and also extending partly around a sheave 11 which is detachably secured in any preferred manner upon a spindle 12. This spindle is journaled at its lower end in a casting 13 secured upon the lower braces 2, while the upper portion of the spindle extends through the upper braces 2 and also through a bearing plate 14 secured on said braces and provided with a boss 15 extending upwardly therefrom.

A receiver 16 is mounted upon the upper

braces 2 and has a central opening 17 into which the boss 15 projects, said opening being surrounded by an upstanding flange 18. A rim 19 extends upwardly from the margin of the bottom of the receiver, said rim being inclined upwardly and inwardly. An outlet 20 is formed in the bottom of the receiver adjacent the rim, and this outlet has a discharge pipe 21 extending from it. A wheel 22 is secured to the upper end of spindle 12 and mounted upon and secured to this wheel is the bottom of a frusto-conical basket 23 provided at its lower end with a skirt portion 24 extending below the rim portion of the wheel 22 and spaced from the bottom of the receiver 16. A series of apertures 25 is formed within the basket close to the bottom 23 thereof and an inwardly extending bead 26 is preferably formed at the upper end of the basket. It is of course understood that the rim 19 of the receiver extends above the plane of the openings 25.

If preferred, and as shown in Fig. 1, means may be provided within the basket for the purpose of centering the fabrics within the basket and thus causing the machine to be more evenly balanced during its operation and thus reduce the vibration to the minimum. In the form shown in Fig. 1 the basket has a disk 28 detachably mounted upon the bottom thereof, said disk being formed in the center of its lower face with a recess 29 designed to receive a projection 30 extending upwardly from the center of the bottom of the basket. A centering pin 31 extends upwardly from the center of the disk 28. When the fabrics are placed within the basket they are positioned on the disk 28 and around the pin 31, the weight of the fabrics serving to hold the disk in engagement with the projection 29. When the basket is rotated the pin 31 will cause the fabrics to part at the center of the basket and the weight will thus be evenly distributed.

A device such as herein described is especially useful when large articles, such for example as bed-quilts, are to be dried. These can be wrapped around the pin 31. If desired however the pin and the disk can be readily removed from the basket and an article of considerable size placed loosely within the basket.

Instead of providing a centering device which is mounted upon a disk in the manner described, the same can be in the form of a pin 32 having a socket 33 at its lower end for the reception of a projection 34 which can, if preferred, be produced by extending the upper end of the shaft 12 into the basket a short distance.

In using the machine herein described the fabrics to be dried are placed within the basket 23 and said basket rotated at a high speed by revolving the wheel 6 and causing

motion to be transmitted therefrom through belt 10 to the sheave 11. The water clinging to the fabrics will be thrown outwardly by centrifugal force against the wall of the basket and as said basket is frusto-conical in form this freed water will be deflected downwardly toward the bottom from which it will be discharged through the openings 25. The upwardly and inwardly inclined wall of the basket will also serve to force the fabrics downwardly against the bottom where the water will be pressed therefrom and discharged through said openings 25. The water upon leaving the basket will be caught in the receiver 16 by the rim 19 and will pass outwardly through the outlet 20 in pipe 21. If preferred, and as shown in Fig. 3, this pipe 21 may be connected to the tub 27 of a washing machine and the drier and its operating mechanism supported at one end of said machine. The water after being separated from the fabrics may thus be returned to the tub and again used for washing purposes.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. A clothes drier comprising a stationary receiver having an outlet, there being a central opening within the bottom of the receiver and a flange surrounding said opening, a revoluble spindle projecting through the opening, a wheel secured to said spindle and located within the receiver, means for rotating the spindle, a frusto-conical basket secured at its bottom upon the wheel, said basket having apertures in that portion of the wall thereof within the receiver, there being a skirt depending from the basket and below the wheel.

2. A clothes drier comprising a supporting structure, a frusto-conical receiver fixedly mounted thereon and having an outlet, a revoluble spindle extending into the receiver, a frusto-conical basket secured upon and revoluble with the spindle, the basket being disposed within and extending above the receiver, that portion of the basket within the receiver having apertures in the wall thereof, and means for actuating the spindle.

3. A clothes drier comprising a stationary frusto-conical receiver, a frusto-conical basket within and extending above the receiver, that portion of the basket within the receiver being provided with apertures and that portion of the basket above the receiver being imperforate, the bottom of the basket being fixed relative to the wall thereof, and means for rotating the basket.

4. A clothes drier comprising a stationary frusto-conical receiver having an outlet, a

frusto-conical basket mounted for rotation within the receiver and extending thereabove, that portion of the basket within the receiver being apertured and that portion
5 thereof above the receiver being imperforate, a revoluble spindle extending through the receiver and geared to and disposed to rotate the basket.

10 5. A clothes drier comprising a stationary frusto-conical receiver, there being an aperture within the bottom of said receiver and a flange upon said bottom and spaced from and surrounding the aperture, a spindle extending through the aperture, a wheel secured thereto and revoluble therewith, said
15 wheel being located within the receiver, a basket having an integral bottom secured upon and revoluble with the wheel, there being a depending flange upon the basket and extending down below the peripheral
20 portion of the wheel, said basket having a series of apertures in the wall thereof and adjacent the wheel, the upper portion of the basket being extended above the receiver

and said portion and the bottom of the 25 basket being imperforate.

6. A clothes drier comprising a basket, means for rotating the same, a clothes supporting disk removably mounted within the basket, the walls of the basket constituting
30 means for retaining fabrics upon the disk, and a centering pin upstanding from said disk and removable therewith.

7. A drier including a frustoconical clothes receiving basket having an integral
35 bottom provided with a plurality of apertures in the wall thereof, and adjacent the bottom, the upper portion of the wall and the bottom being imperforate, and means
40 for rotating the basket.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK A. DINSMORE.

Witnesses:

ADELAIDE T. HEALY,
GEORGE D. FOSTER.