Nov. 22, 1966 W. F. THOMAS 3,286,368

CARPET AND RUG DRYER

Filed Oct. 4, 1963 2 Sheets-Sheet 1

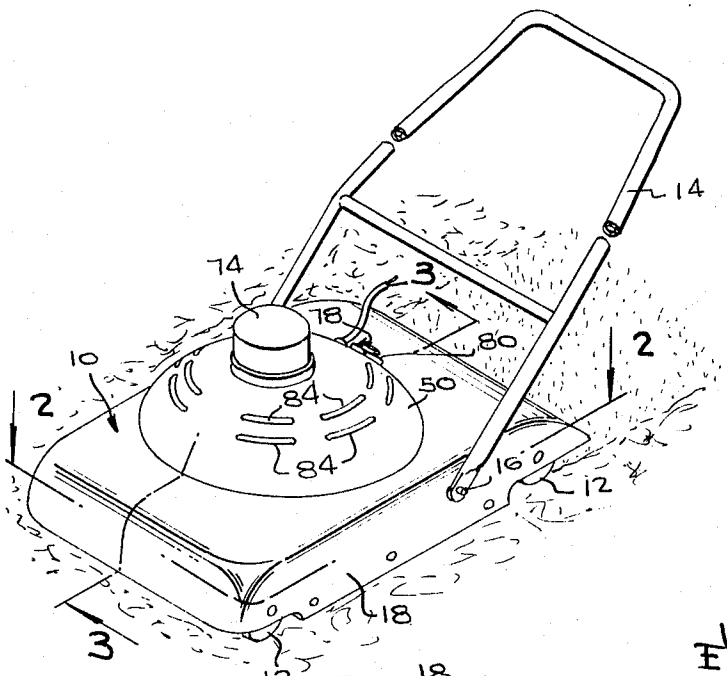


FIG-1

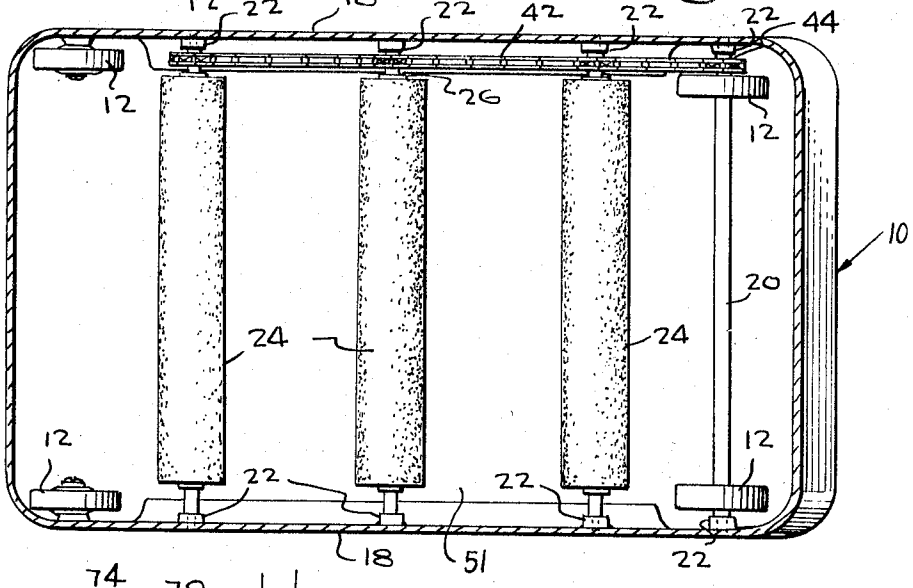


FIG-2

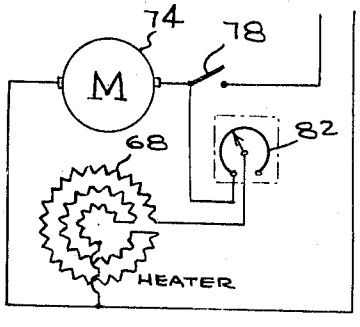


FIG-6

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FIG-3

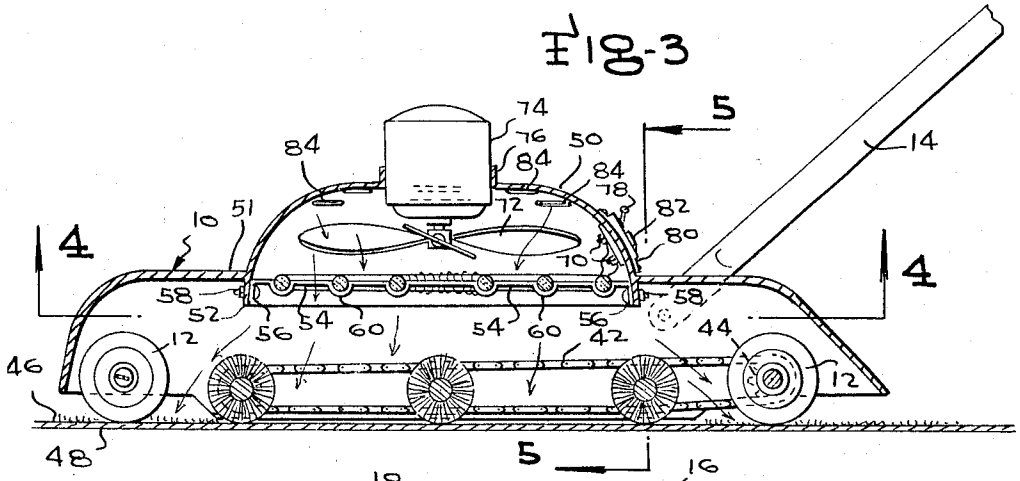


FIG-4

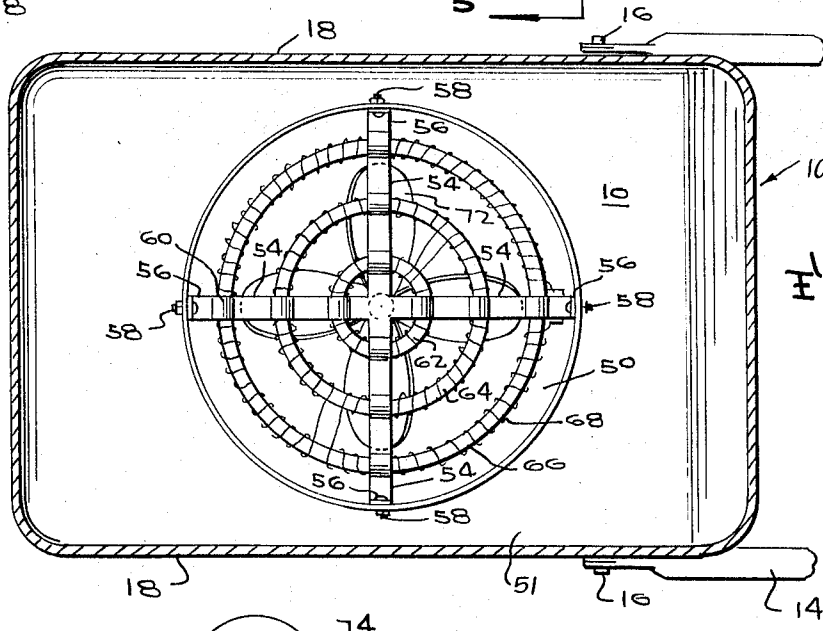
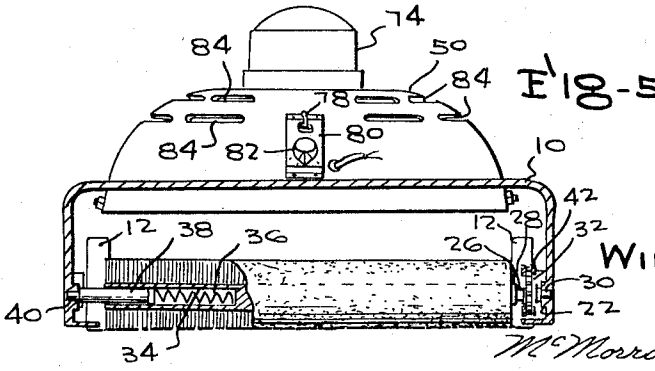


FIG-5



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3,286,368

CARPET AND RUG DRYER

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1 Claim. (Cl. 34—151)

This invention relates to a dryer, and in particular to an electric dryer for carpets, rugs, and the like.

In the wet cleaning of such items, whether the vehicle be water, or other liquid, accelerated drying is a desirable feature for several reasons, such as the great affinity of a wet nap, or other surface, for floating dust, which generates a mud covering, which not only slows the evaporation process, but leaves the material with a caked layer of dirt which is unsightly, and therefore requires additional treatment.

It is a general object of the invention, to avoid shortcomings such as those mentioned, by providing for accelerated drying by electric heating, aided by forced draft.

Yet another object is to provide means for accomplishing the aforementioned objects, which is mobile, for scanning the surface to be treated, and, more particularly, provides an electrically heated means, with forced downdraft.

A still further object is to improve both evaporation and fiber conditioning, by providing a brushing action simultaneously with the forced draft heating, and in particular, to provide rotary brushes, actuable in response to travel of the device.

These and other objects, which will be apparent, are attained by the present invention, a preferred form of which is described in the following specification, as illustrated in the drawing, in which:

FIGURE 1 is a perspective view of the mobile dryer, engaged in a drying operation on a rug,

FIGURE 2 is an enlarged horizontal sectional view through the dryer, taken on the plane of the line 2—2 of FIGURE 1, and looking downwardly,

FIGURE 3 is a vertical sectional view through the dryer, taken on the plane of the line 3—3 of FIGURE 1,

FIGURE 4 is another horizontal section through the dryer, taken on the plane of the line 4—4 of FIGURE 3, and looking upwardly.

FIGURE 5 is a vertical section through the dryer, taken on the plane of the line 5—5 of FIGURE 3, and

FIGURE 6 is a wiring diagram of the motor and heater circuit.

Referring to the drawings by characters of reference there is shown a dryer assembly comprising an inverted pan-shaped housing **10**, mounted on four wheels **12**, for locomotion, and carrying an articulated bail handle **14**, by means of which the dryer is pushed, pulled, and guided and controlled as to direction. Conveniently, the handle is pivoted on a pair of pins **16**, protruding from the respective, parallel, vertical side walls **18** of the housing **10**. Front wheels **12** are journalled on stub shafts carried by said side walls, and rear wheels **12** are keyed to an axle **20**, which is journalled in bosses **22** protruding inwardly from side walls **18**.

A further series of six bosses **22**, arranged in axially aligned pairs along walls **18**, form journals for three cylindrical, rotary brushes **24**, with radially disposed bristles. As seen in FIGURE 5, the brushes have a central, cylindrical shaft, or core, **26**, with two successively reduced portions **28**, **30**, on one end, the former carrying a sprocket **32**, and the latter journalled in the related boss **22**. At its other end, the shaft **26** is bored, as at **34**, to receive a compression coil spring **36**, and a slidable shaft section **38**, having a reduced end **40**, receivable in a related boss **22**, which furnishes support

for the other end of the brush. It will be seen that the brushes may be mounted or demounted by the simple expedient of retracting the shaft **38** against the pressure of the springs **36**.

The three brushes, which are preferably arranged with their lowermost points tangent to the plane of ground contact of the wheels **12**, are rotated in response to rolling progress of the dryer, by means of a chain **42**, trained over the three sprockets **32** on the rotor brush shafts, and also a similar sprocket **44**, carried by the axle **20**. Thus, any upstanding fibers, such as **46** (FIG. 1), on a rug or carpet **48**, will be given a vigorous, brushing or combing agitation during passage of the dryer thereover.

The heating elements, and the forced draft feature are contained in a dome **50**, on the top wall of the housing **10**, the dome being received with a suitable opening in the top wall **51**, and having a lower, peripheral edge **52**, which extends below the top wall **51**, and the parts being suitably secured together, as by brazing or welding.

The heating elements are supported in the lower part of the dome **50** on a four-armed spider in the form of a Greek cross, having radial arms **54**, the ends of which have downturned tabs **56**, which are secured to the inner surface of the dome **50**, at the lower edge thereof, by bolts **58**. Each arm **54** has a series of three, semicylindrical, saddle-like depressions **60**, constituting seats, at the quarter-point locations, for three, concentric, "doughnut" rings **62**, **64**, **66**, of refractory, or other material providing insulation against both electrical flow and heat. Around these rings, resistance elements **68** are helically wound, in series, their terminals being secured to binding posts **70**, carried by dome **50**.

The forced draft, for moving the heat from elements **68** downward, is provided by a four-bladed fan **72**, carried on the vertical shaft of an electric motor **74**, suitably secured in a top, central opening in the dome, with an upstanding, cylindrical flange, or neck, **76**, in which the motor housing is secured. As seen in FIGURE 6, the heating elements **68**, are shunted across the motor, and both are opened and closed, simultaneously, by a master switch **78**. The switch is also shown pictorially, in FIGS. 1, 3 and 5, as a toggle switch, carried on a control plate **80** on the dome **50**. The heat generated may be regulated by a rheostat **82**, which is also shown schematically in FIG. 6, and pictorially in FIGS. 1, 3 and 5.

To provide the necessary degree of air circulation, the dome **50** is formed with a series of concentric louvers **84**, and the lower edges of the vertical side walls of the housing **10** are arranged to provide a suitable degree of clearance above ground, or floor surface. However, downdraft of air need only be of such magnitude as to avoid stagnation and thermal stratification, so that in general, a relatively high temperature obtains at all times within the housing **10**.

While a certain, preferred embodiment has been shown and described, various modifications will be apparent, in light of this disclosure, and the invention should not, therefore, be deemed as limited, except insofar as shall appear from the spirit and scope of the appended claim.

I claim:

A dryer comprising an inverted pan-shaped housing having a top wall and sidewalls, wheel means on the housing providing mobility for the housing on a surface, said housing top wall being formed with a central opening, a dome having an open lower end registered with said opening and secured to the top wall, a spider extending across the lower end of the dome and secured thereto, concentrically-spaced electrical heating elements carried by the spider, a vertical axis fan supported within

the dome above the heating elements, said fan comprising an electric motor secured through the center of the wall of the dome, the wall of the dome being formed with air inlet opening means, a plurality of longitudinally spaced rotary brushes extending across the housing beneath the heating elements and journaled on the side wall of the housing, said wheel means comprising a wheel, and means operatively connecting said wheel to the brushes.

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