

March 1, 1949.

A. C. TRAVIS

2,463,218

DRIER

Filed Jan. 4, 1946

5 Sheets-Sheet 1

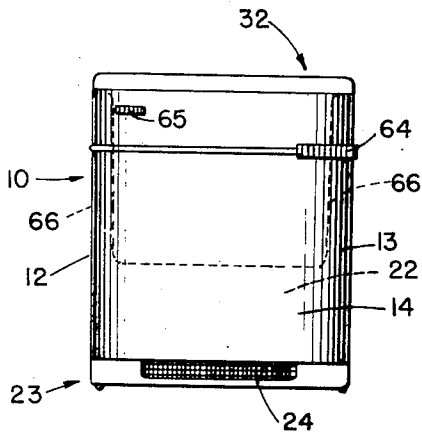


FIG. 1

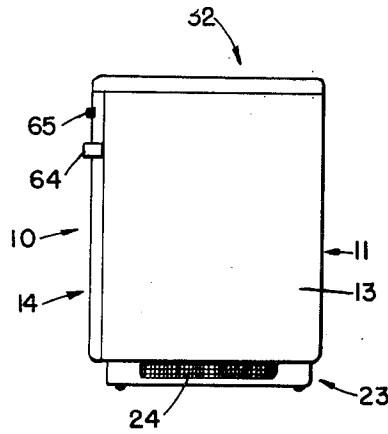


FIG. 2

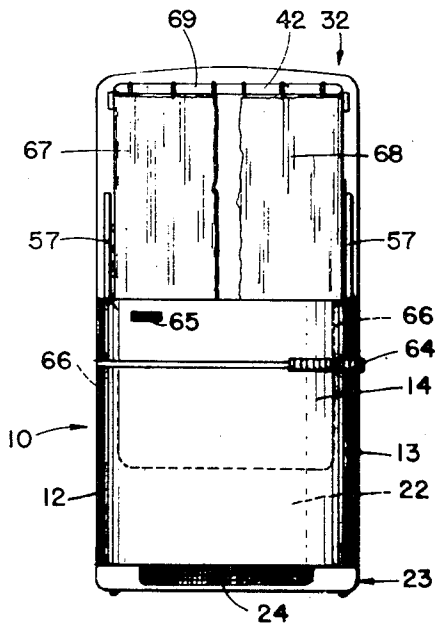


FIG. 3

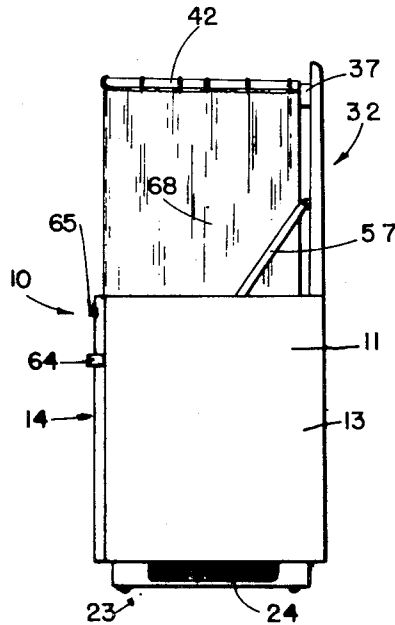


FIG. 4

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5 Sheets-Sheet 2



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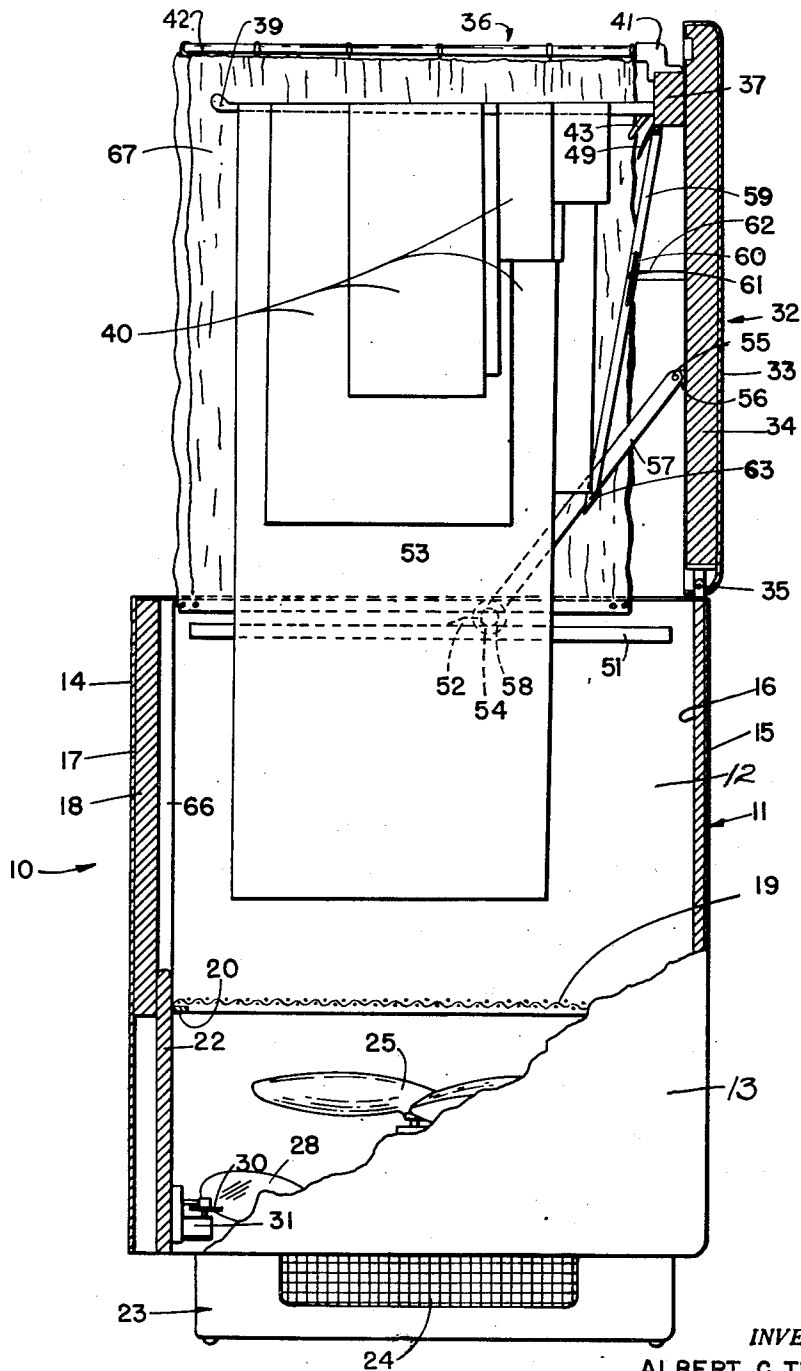


FIG. 6

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2,463,218

DRIER

Filed Jan. 4, 1946

5 Sheets-Sheet 4

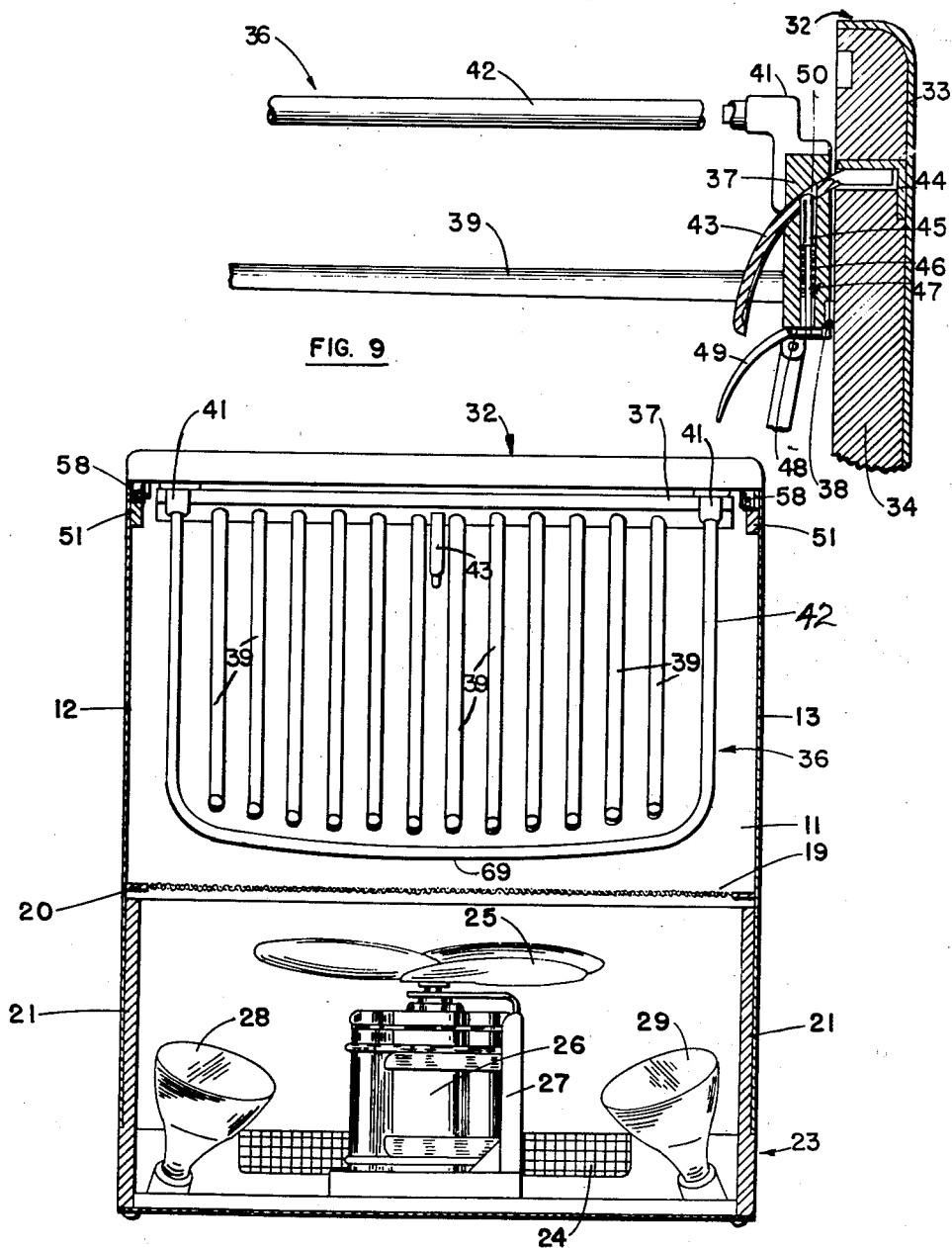


FIG. 7

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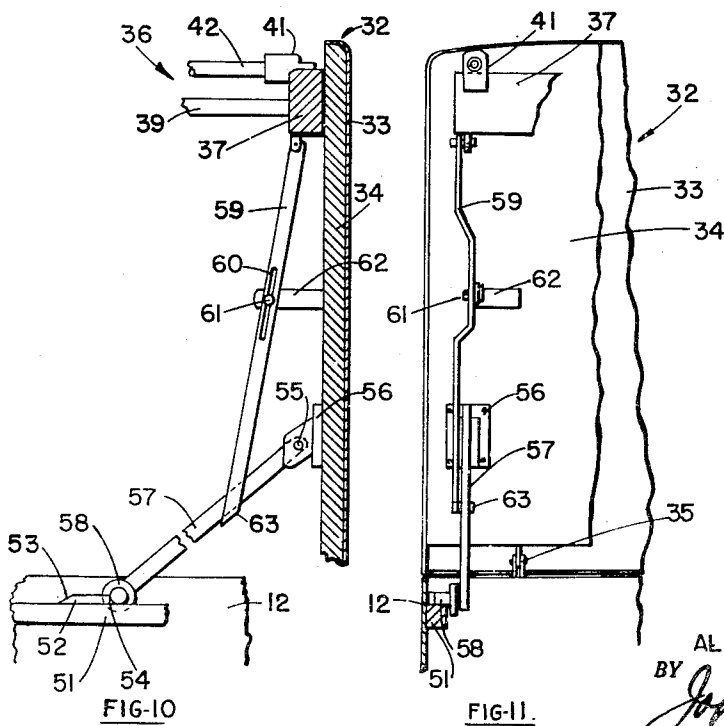
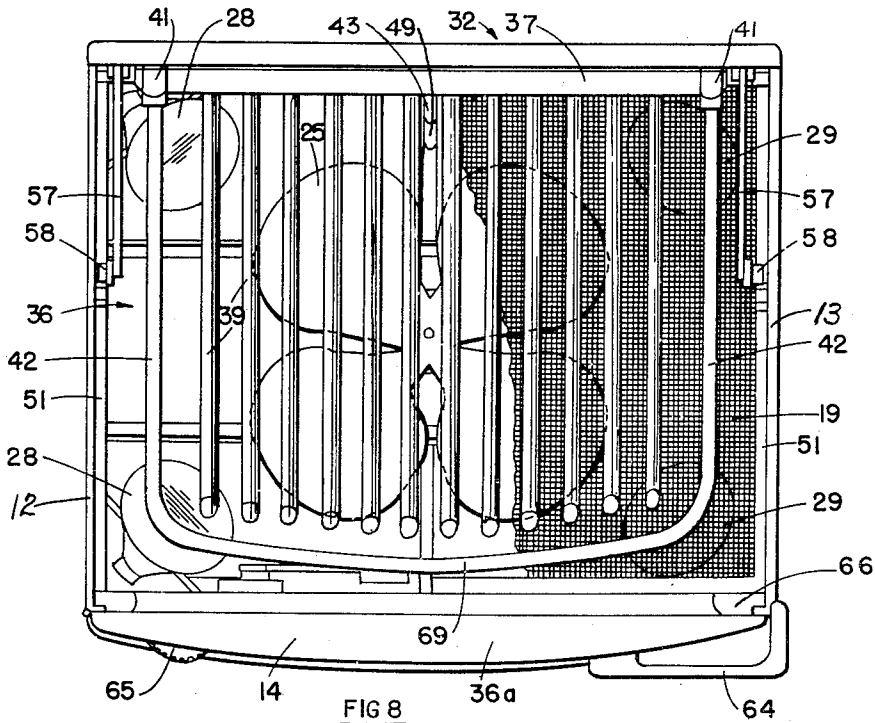
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5 Sheets-Sheet 5



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DRIER

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Application January 4, 1946, Serial No. 639,075

9 Claims. (Cl. 34-60)

1

This invention relates to new and useful improvements in driers and has particular relation to a clothes drier adapted for household use.

An object of the invention is to provide a clothes drier adapted when not in use to occupy a minimum of space and to be of neat and attractive appearance and which is adapted to be easily and quickly opened or expanded for use.

Other objects and advantages of the invention will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein a satisfactory embodiment of the invention is shown. However, it is to be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawings:

Fig. 1 is a front elevational view showing the drier of the invention in closed condition;

Fig. 2 is a side elevational view of the same;

Fig. 3 is a front elevational view showing the drier of the invention open and in use or ready for use;

Fig. 4 is a side elevational view taken at right angles to Fig. 3;

Fig. 5 is a view partly in section and partly in side elevation, on a larger scale, showing the drier when closed and in dotted lines showing the cover in partly open position;

Fig. 6 is a similar view showing the drier fully open and in use;

Fig. 7 is a sectional view taken approximately along the line 7-7 of Fig. 5;

Fig. 8 is a top plan view of the drier when open as in Fig. 6;

Fig. 9 is a detailed sectional view showing the manner in which the clothes supporting rack and curtain supporting bar are located in relation to the cover when the latter is fully open;

Fig. 10 is a detailed view showing the cover, one prop for holding the cover open and the linkage for releasing said prop; and

Fig. 11 is a front elevational view of the structure shown in Fig. 10.

Referring in detail to the drawings, the drier of the invention comprises a cabinet generally designated 10 and of, or approximately of, the height of an electric range, washer, or other kitchen installation. Cabinet 10 comprises a rear wall 11, side walls 12 and 13 and a front wall comprising a hinged door 14. The various walls may be of single layer or laminated construction and as here shown the side walls 12 and 13 comprise metal panels while the rear wall 11 includes an outer metal panel 15 and inner stiffening panel or board 16.

Door 14 comprises an outer metal sheet 17 so that outwardly the door matches the remainder

2

of the cabinet and at the inner side of the upper portion of the sheet 17 the door includes a heavy filler 18 of wood or the like whereby the door is given rigidity and whereby the panel 17 is damped against vibration. Extending across the cabinet 10 toward the lower end thereof is a partition 19 comprising wire or perforated plate or the like and such wire or the like 19 may be mounted in a frame 20 for support.

The lower cabinet portion below partition 19 is provided with an inner lining 21 at the inner sides of walls 11, 12 and 13 and the front side of lower portion 10 is constantly closed by member 22. This member is shown (Fig. 5) as extending slightly above wire 19 so that it overlaps with the portion 18 of the door 14 when the door is closed. Member 22 has a fixed position and is not part of and does not move with the door 14.

At its front and rear sides the lower or base portion 23 of the cabinet is reduced to provide toe space and in its various sides is provided with openings for the discharge of air and which openings are preferably covered with screens 24. Within the lower portion of the cabinet, below the screen 19, is a fan or propeller 25 adapted to be driven by motor 26, the whole being supported by any suitable means 27. 28 and 29 are pairs of lamps arranged in the corner portions of the lower part of the cabinet for projecting heat rays upwardly.

Preferably, these are infra-red lamps whereby the heat rays are projected upwardly although the fan 25 is operating to draw the air downwardly through the cabinet. When the present drier is started in operation the control switch 35 energizes the motor 26 and thereafter when the fan 25 is moving a sufficient volume of air a small plate 30 is overbalanced by this current of air and the switch 31 is closed to energize the lamps 28 and 29. This is to prevent overload on the line.

In addition to the described construction the cabinet 10 includes a top 32 comprising an outer metal covering 33 and an inner strengthening portion, as of wood, 34. This top is hinged to the rear wall 11 as by hinge means 35 and when closed extends across the upper edge portion 36 of the door 14 as shown in Fig. 5.

A clothes supporting rack generally designated 36 is mounted on the inner side of the top 32 and the same comprises a mounting bar 37 hinged at its lower edge, as at 38, to the inner side of top member 34. Further, rack 36 includes a series of spaced fingers 39 arranged in parallel spaced relation supported by and extending at right angles or substantially at right angles from the mounting bar 37. These fingers are adapted to have clothes hung thereon as suggested by the various pieces 40 in Fig. 6. A pair of brackets 41 fixed to the bar 37 adjacent the respective ends

3

of the latter serve to support a generally U-shaped curtain rod 42, preferably formed of a metal tube.

Top 32 is movable on the hinges 35 between a substantially horizontal closed position and a substantially vertical open position as will be clear from a comparison of Figs. 5 and 6. Block 37 is movable on the hinge 38 so that the rack 36 is movable relative to the top 32 from a position wherein said rack is substantially at right angles to the top as shown in Figs. 6, 8 and 9 and a folded position as best shown by both the dotted and the full lines in Fig. 5. To the desired end, an arcuate metal finger 43 is fastened to the top 32 as by being held in the metal plate 44.

This finger 43 passes through a slot in the block 37 and (see Fig. 9) in alignment with the finger said block mounts a bolt 45 normally urged to locked position as by a small coil spring 46. A stem 47 comprising part of the bolt is fixed to a small lever 48 to which is attached a hand piece 49. When the top 32 is fully open and the rack 36 is at right angles to the top or substantially at right angles to the top, bolt 45 is disposed in an opening 50 in the finger 43 and the rack is thereby latched or locked in right angular relationship to the open top 32.

When the drier is not in use and the top is to be closed, the finger piece 49 is moved upwardly thus drawing downwardly on the stem 47 withdrawing the bolt 45 from the opening 50. Now the entire rack 36 may be permitted to fold with regard to the top 32 as to the relationship illustrated in Fig. 5. When the rack is thus folded, it will pass into the cabinet 10 as the top 32 is lowered to closed position.

Mounted on the upper inner portions of the side walls 12 and 13 of the cabinet are a pair of rails 51, each having a stop 52 fixed to its upper side. These stops as shown in Figs. 5 and 10 have inclined front edges or portions 53 and vertical rear edge portions 54. Pivoted at 55 to small brackets 56 fixed to the inner sides of the top 32 are links or arms 57, at their lower ends carrying rollers 58. When the top 32 is in fully open position, the rollers 58 are against the straight sides 54 of the stops 52 and the top is propped in open position.

Owing to the weight of the rack 36 and to the weight of any clothes on the rack, there is a tendency for the top to swing down. However, the arms 57 prevent such movement. Links 59 supported from the bar 37 are provided with slots 60 through which extend pins 61 carried by brackets 62 on the inner side of the top. At their lower ends the links 59 are bent at 63 to extend under and partly about the props 57 as shown best in Figs. 6, 10 and 11. This is the relationship of the parts when the top 32 is open.

When it is desired to close the top, the hand piece 49 is first operated to release the bolt 45 and the rack 36 is lowered into an angular relationship, of substantially less than 90 degrees, to the top. Then by giving the top a slight backward movement or a movement further toward open position, the links 59 raise the props 57 upwardly, swinging them on the pivots 55 to move the rollers 58 into position above the stops 52. Then as the top is swung forwardly the pins 58 pass over the stops 52 and the top 32 may be lowered to closed position.

When it is again desired to open the drier to have the same ready for use, the operator swings the top 32 to open position. During this

4

movement the rollers 58 travel along the upper sides of the rails 51 and up the inclined faces 53 of the stops 52 and thus over the stops. Passing over the stops 52 the arms 57 drop downwardly locating the rollers 58 opposite the straight faces 54 of the stops. Now the top is released but it cannot move closed.

Thereafter, either one of the fingers 39 or the curtain rod 42 is used to swing the rack 36 on the hinge 38 to dispose the rack at right angles to the top. As this is accomplished, the free end of the bolt 45 is riding against the under side of the finger 43 and immediately it comes opposite the opening 50, is projected into such opening by the spring 46. Thus, the rack is locked in position and the drier is ready to receive clothes to be dried.

Opening the door 14 facilitates the hanging of clothes on fingers 39 and particularly facilitates hanging of long pieces. The door is shown as provided with a handle 64 and it also mounts the switch 65 controlling the motor 26. The member 22 is somewhat U-shaped when viewed from the front of the cabinet and in addition to its lower portion mounting the switch 31 includes vertical side portions or arms 66 which serve to strengthen the front portion of the cabinet.

On the curtain rod 42 are a pair of curtains 67 and 68 which are preferably anchored at their lower edges as by being clamped or buttoned to the side walls of the cabinet adjacent the upper ends of such walls. The upper portions of these curtains are on the U-shaped rod 42. When clothes are being disposed or hung on the fingers 39 the curtains 67 and 68 are pushed apart along the connecting portion 69 of the rod 42 to give free access to the fingers 39. Thereafter, before the motor 26 is started these curtains are pulled together and preferably into overlapping relation at the front of the machine.

When the device is in operation, the air is drawn down through the open upper end of the device and over the clothes on the fingers 39. The path of this air above the actual side walls of the cabinet is controlled by the curtains 67 and 68 which preferably are of a material which will not pass air or has been treated to give it this characteristic. Passing downwardly between and over the various articles on the fingers 39, the air is discharged through the screens 24. In spite of the fact that the air is moving downwardly through the device, heat rays from the lamps 28 and 29 are being projected upwardly against the various articles of clothing.

From the above description it will be understood that I have provided a clothes drier which when not in use will occupy a relatively small space and by its height and other dimensions fit in with various household devices with which it may be used. However, in order that the drier may be properly useful in the drying of relatively long articles, such as sheets and the like, it is noted that when the drier is in open position it is of very substantial height and sheets and the like may be hung in the drier without being folded an undue number of times.

Having thus set forth the nature of my invention, what I claim is:

1. In a drier, a cabinet having substantially vertically disposed side walls surrounding a drying space for hanging clothes, there being air outlet means in the lower part of said cabinet below said drying space, a top wall hinged at one edge to the upper side of said cabinet and

5

movable between a substantially horizontal closed position and a substantially vertical open position, a rack comprising a series of spaced fingers adapted to support clothes, and means attaching said rack to said top wall toward the edge thereof opposite said hinged edge to dispose said rack above said drying space of said cabinet.

2. In a drier, a cabinet having substantially vertically disposed side walls surrounding a drying space for hanging clothes, there being air outlet means in the lower part of said cabinet below said drying space, a top wall hinged at one edge to the upper side of said cabinet and movable between a substantially horizontal closed position and a substantially vertical open position, a rack comprising a series of spaced fingers adapted to support clothes, means attaching said rack to said top wall toward the edge thereof opposite said hinged edge, and said means including hinge means and latch means, the latter being adapted to secure the rack in substantially right angular relationship to the top wall when the latter is in open position to dispose said rack above said drying space of said cabinet.

3. In a drier, a cabinet including a top wall hinged at its rearward edge and movable between a substantially horizontal closed position and a substantially vertical open position, a rack comprising a series of spaced fingers adapted to support clothes, means attaching one end of said rack to said top wall toward the forward edge thereof opposite said hinged edge, said means including hinge means and latch means, the latter being adapted to secure the rack in substantially right angular relationship to the top wall when the latter is in open position, and a curtain bar supported by said cover and disposed outwardly of the sides and forward end of said rack for supporting the upper portion of a vertically hanging curtain extending between said bar and the upper portion of said cabinet when the top is open.

4. In a drier, a cabinet including a top wall hinged at one edge and movable between a substantially horizontal closed position and a substantially vertical open position, a rack comprising a series of spaced fingers adapted to support clothes, means attaching one end of said rack to said top wall toward the edge thereof opposite said hinged edge, said means including hinge means and latch means, the latter being adapted to secure the rack in substantially right angular relationship to the top when the latter is in open position, and a curtain bar fixed to and movable with said rack for supporting the upper portion of a curtain extending between said bar and the upper portion of said cabinet when the top is open.

5. The drier as in claim 3, wherein said curtain rod is substantially U-shaped with its connecting portion disposed toward the forward side of the cabinet when the rack is in position for use and a pair of vertically hanging curtains slidably supported at their upper ends by said rod and movable thereon away from one another along said connecting portion of the rod to expose portions of the rack for the reception of articles to be dried.

6. In a drier, a cabinet having substantially vertically disposed side walls surrounding a drying space for hanging clothes, there being air outlet means in the lower part of said cabinet below said drying space, a rack supported by said

6

cabinet vertically above said drying space adapted to support clothes in vertically hanging relation within said drying space, a fan in the lower portion of said cabinet for drawing air downwardly through the cabinet, and heat directing lamps in the lower portion of said cabinet for projecting heat rays upwardly therein.

7. In a drier, a cabinet including a top wall hinged at one edge and movable between a substantially horizontal closed position and a substantially vertical open position, a rack comprising a series of spaced fingers adapted to support clothes, hinge means attaching said rack to said top toward the edge thereof opposite said hinged edge, prop means hinged to said top wall and engageable with said cabinet for restraining said top wall against movement to closed position, and lift means connected to said rack operable on slight further movement of the top toward open position for releasing said prop means.

8. In a drier of the character described, a cabinet having substantially vertically disposed side walls surrounding a drying space for hung clothes, there being air outlet means in the lower part of said cabinet below said drying space, a top wall hinged to the cabinet for movement between a substantially horizontal closed position and a substantially vertical open position, rack means on the inner side of said top wall, said rack means comprising a bar, means hinging said bar to the inner side of said top wall to dispose said rack above said drying space of said cabinet when said top wall is in open position, means for locking said bar to the top wall against movement on said hinge means, and a series of spaced substantially parallel fingers extending from said bar, said rack means in the open position of said top wall being above said drying space of said cabinet.

9. In a drier of the character described, a cabinet, a top wall hinged to the cabinet for movement between a substantially horizontal closed position and a substantially vertical open position, rack means on the inner side of said top wall, said rack means comprising a bar, means hinging said bar to the inner side of said top wall, means for locking said bar to the top wall against movement on said hinge means, a series of spaced substantially parallel fingers extending from said bar, a substantially U-shaped curtain rod secured at its end portions to said bar and having its side arms extending substantially parallel with said fingers.

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