

Sept. 1, 1925.

F. KERSHAW ET AL

1,552,312

HOSIERY DRIER

Filed Dec. 11, 1923

4 Sheets-Sheet 1

Fig. 1.

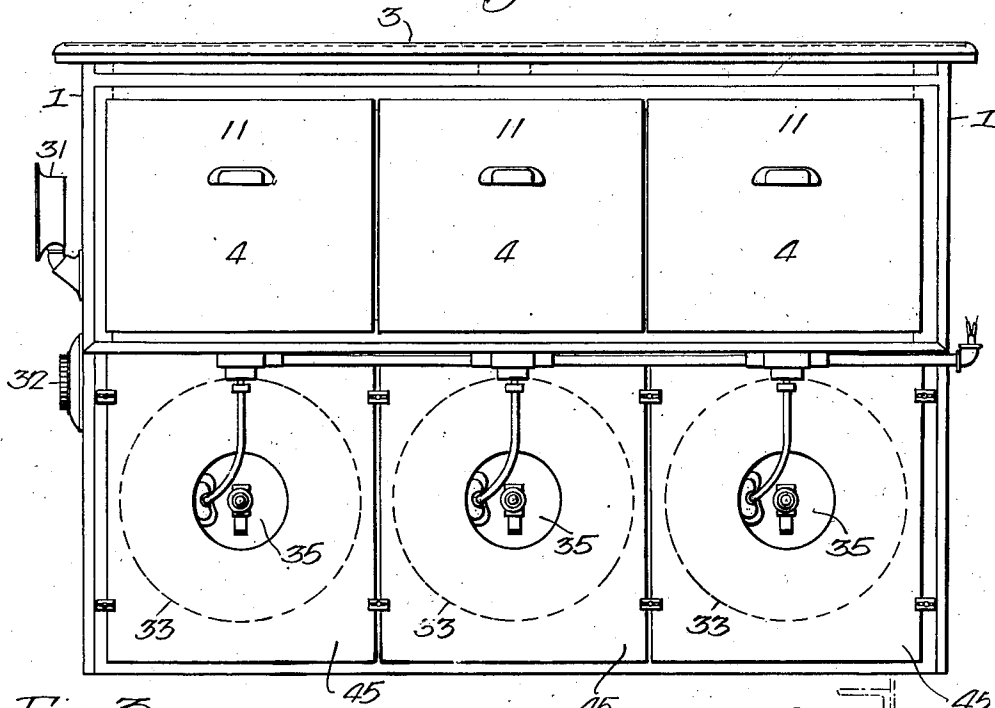


Fig. 3.

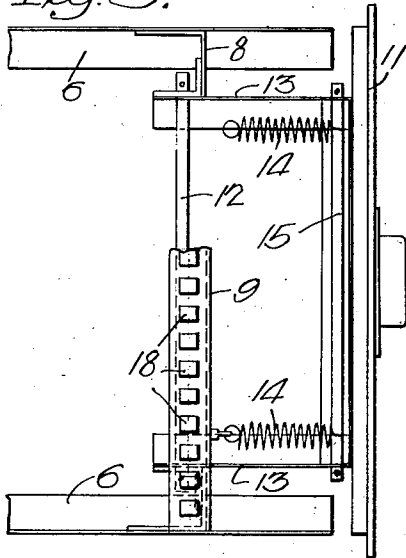
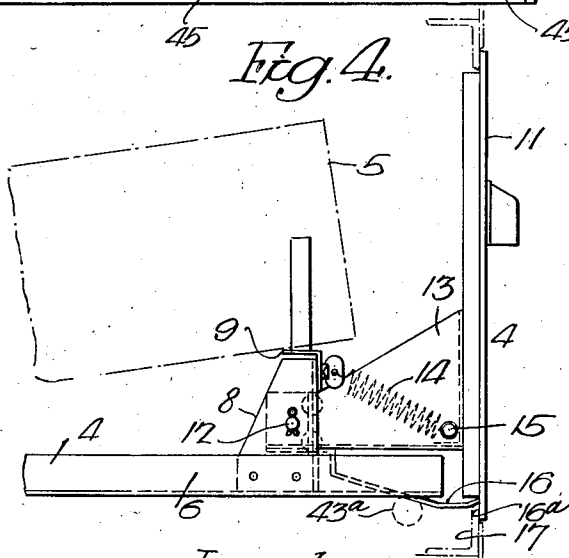


Fig. 4.



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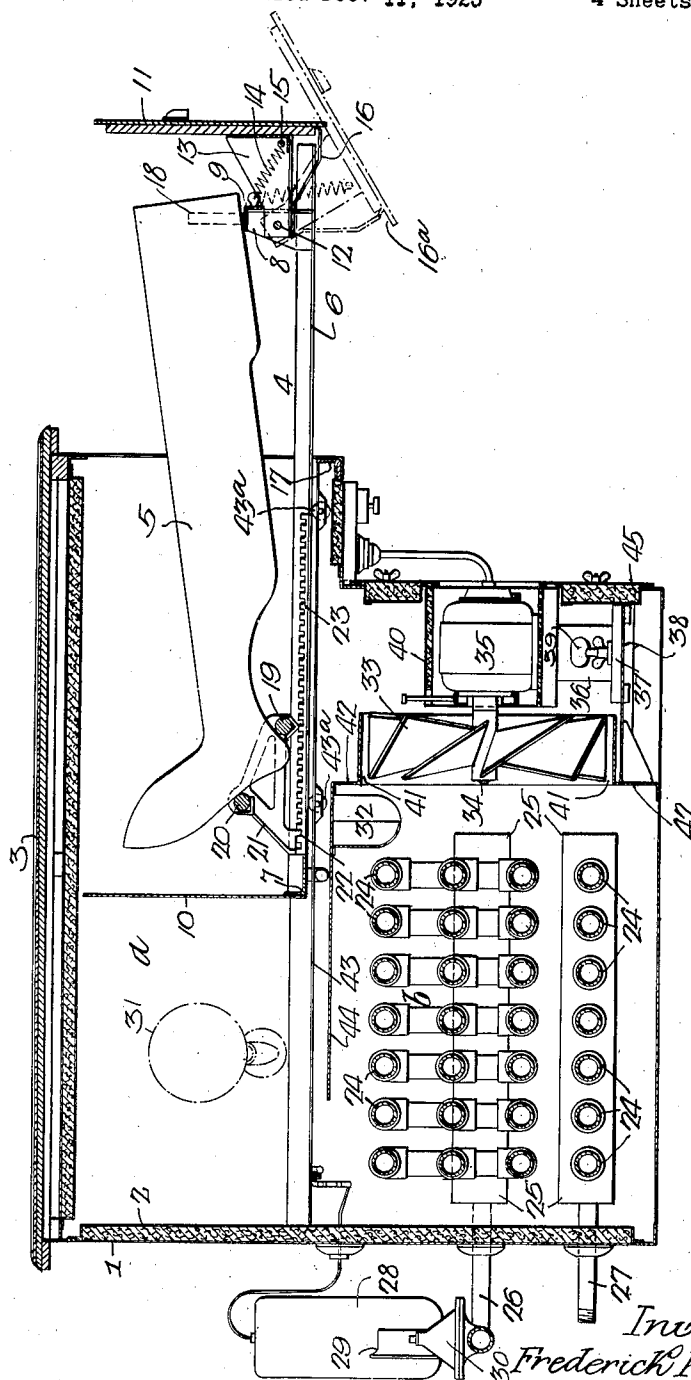
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Fig. 2.



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Fig. 5.

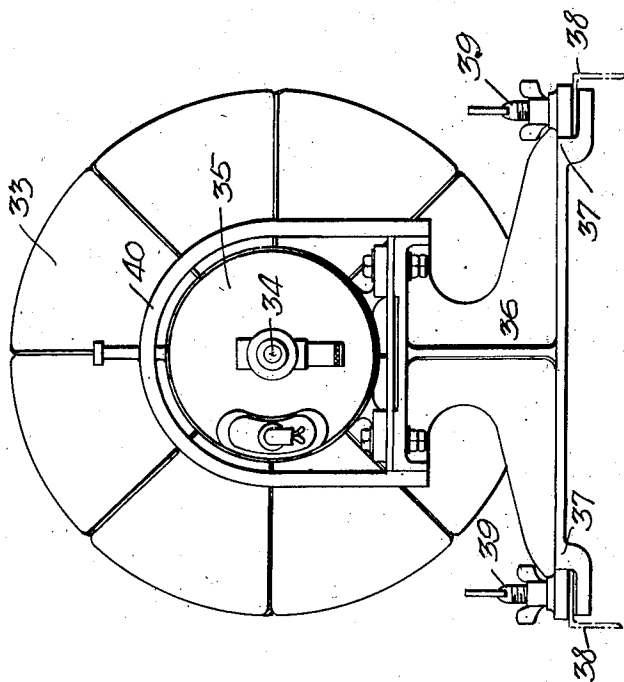
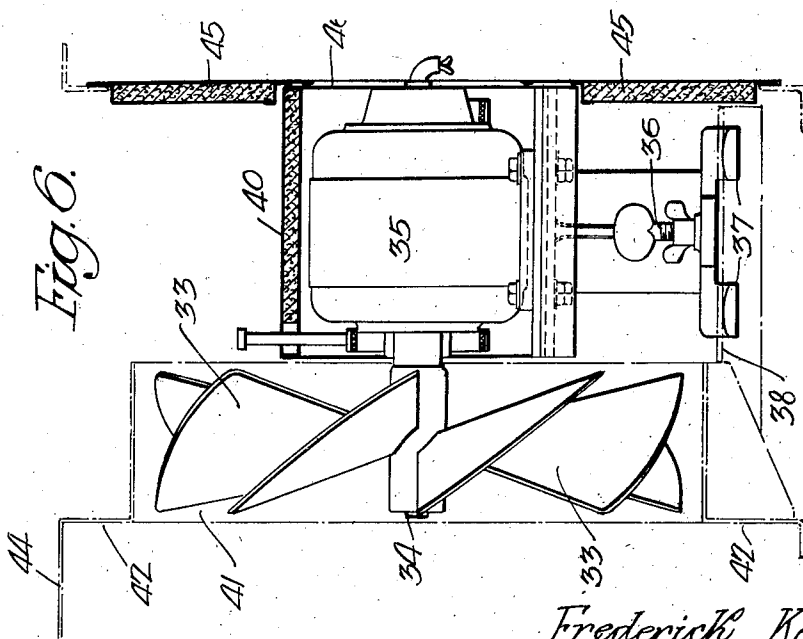


Fig. 6.



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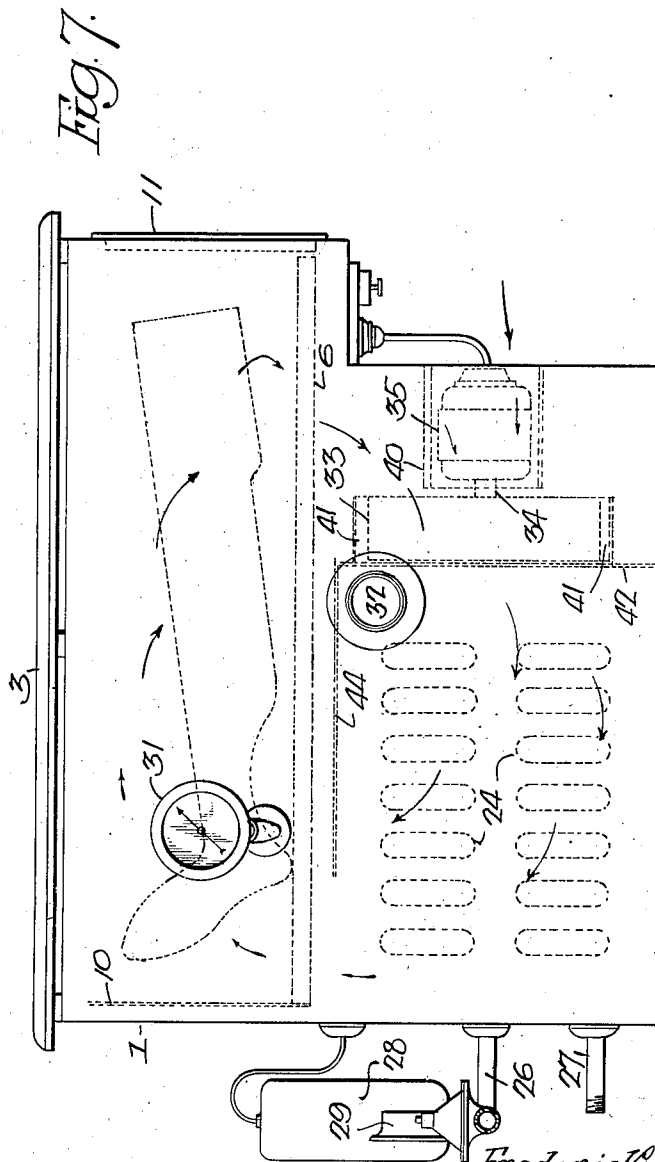
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HOSIERY DRIER

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4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE.

FREDERICK KERSHAW AND ALPHEUS O. HURXTHAL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO PROCTOR & SCHWARTZ, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

HOSIERY DRIER.

Application filed December 11, 1923. Serial No. 679,932.

To all whom it may concern:

Be it known that we, FREDERICK KERSHAW and ALPHEUS O. HURXTHAL, citizens of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Hosiery Driers, of which the following is a specification.

One object of our invention is to improve the construction of a drier for hosiery of the table type having a series of drawers, in which are mounted the stocking forms with stockings thereon.

A further object of the invention is to make the fronts of the drawers so that they will drop down to provide an uninterrupted opening for the operator to remove the forms from the drawers.

Another object of the invention is to arrange the motor driven fan so that it can be readily removed, or replaced, when necessary.

In the accompanying drawings:

Fig. 1 is a front view of our improved hosiery drier;

Fig. 2 is a longitudinal sectional view;

Fig. 3 is a plan view of the outer portion of one of the drawers;

Fig. 4 is a side view of the drawer shown in Fig. 3;

Fig. 5 is an end view of the motor and the fan;

Fig. 6 is a side view of the motor and the fan, the casing being illustrated in section; and

Fig. 7 is a side view of the drier illustrating the circulation of air.

Referring to the drawings, 1 is a casing having a lining 2 of any suitable non-conducting material. 3 is the top of the drier, forming a suitable table for the operator. The table top is preferably spaced from the casing of the drier, as shown in Fig. 2. The space is closed at the front of the drier, as shown in Fig. 2, to prevent heated air escaping at the front.

4 designates a series of drawers, in which the stockings forms 5 are mounted. These drawers are skeleton drawers and have longitudinal members 6, which are made of angle iron connected together at their inner ends by an angle member 7, and near their outer ends by brackets 8 and an angle cross bar 9, which forms the support for the leg portions of the stocking forms.

10 designates a back plate, which is secured to the angle bar end member 7 and prevents the air escaping from the drier when one of the drawers is open. The front 11 of each drawer is pivotally mounted on the frame. Extending from one bracket 8 to the other bracket is a pivot bar 12 on which are mounted arms 13 that project from the front section of the drawer. This arrangement allows the front of a drawer to be moved into normal position, as, in full lines, in Fig. 2, or turned down to the position shown by dotted lines in said figure to provide a full opening for the operator to remove the forms from the drawers. The front section 11 is preferably counterbalanced by springs 14 so that it can be returned to its normal position with little effort. The springs are attached to the angle bar 9 and to a rod 15 on the brackets.

Depending from each bracket 13 is a bar 16, bent at the end to form a catch 16^a. The bar comes in contact with the front of the frame of the drier when a drawer is pushed in to raise the front to its normal position. As the drawer is closed, the end of the bar enters the notch 16^a and the front section of the drawer is held in the closed position. On the bar 9 is a series of spaced pins 18, between which the stocking forms are placed. The foot of each frame rests on two cross rails 19 and 20, which are carried by side frames 21 that are mounted adjustably in the drawer. Each frame 21 has a projection 22, arranged to enter one of a series of notches in rails 23, secured to each of the longitudinal members 6. This construction allows the rails 19 and 20 to be adjusted to accommodate forms of different lengths.

At each end of the drying chamber α are longitudinal angle rails 43, which carry rollers 43^a, 43^b. These rollers support the drawers and allow them to be moved freely into and out of position in the drier.

b designates a circulating and heating chamber, which is located below the inner end of the drying chamber. In this chamber b are steam pipes 24, which are connected to manifolds 25.

26 designates a steam inlet pipe and 27 designates the outlet, or drip, pipe. Connected to the steam pipe is the temperature control device 28, the pressure gage 29, and the reducing valve 30.

31 designates the thermometer and 32 designates a cross pipe, which has an opening therein that forms an exhaust flue for moist air.

5 33 designates a circulating fan. This fan is mounted directly upon the shaft 34 of the electric motor 35. The motor 35 is made as clearly shown in Figs. 5 and 6, and is mounted on a pedestal 36, which has feet 10 37 that engage angle iron supports 38. Set screws 39 secure the pedestal in position on the supports. The supports 38 form part of the frame of the apparatus and act as guides when the motor is removed, or re- 15 placed in position.

The motor 35 is encased in an insulated cover 40. This cover is open at both ends to allow air to be drawn through the cover. By this means, the motor and its bearings 20 are kept cool. The fan 33 is located in an opening 41 in a vertical partition 42. A deflecting plate 44 extends from the upper end of the partition over part of the heating pipes so as to cause the air to circulate throughout the entire drier. 25

When the drawers are in position, the air is drawn by the fans 33 through the heating chamber 7, around the deflecting plate 44 through the bottom of the drawers at the 30 rear end thereof into the drying chamber 4 and around the stocking forms 5, then down past the leg portions of the forms and back of the fan. Cold air is drawn through an opening 46 in the removable cover panel 45 35 and through the cover of the motor. Moist air is carried off through the exhaust flue 32.

It will be noticed that the air is drawn downwards at the front of the drier, and, when a drawer is opened, the air is drawn 40 into the drier through the drawer opening.

While the exhaust flue is located as shown in Fig. 2, it may be located in any position, preferably between the fan and the heating pipes.

45 We claim:

1. The combination in a hosiery drier, of a casing; a series of drawers in the casing arranged to receive hosiery forms; a heating chamber under the drawers; a series of motors; and a circulating fan carried 50 by each motor and removably bodily with the motor, one of said motors being under each drawer.

2. The combination in a hosiery drier, of 55 a casing enclosing a heating chamber and a drying chamber above the heating chamber; a drawer in the drying chamber; and a motor having a fan located in front of the heating chamber and below the front of the drying chamber so that, when the drawer 60 is open, the circulation will be downwards at the front of the drier, drawing in fresh air from the drawer opening, and preventing heated air from blowing into the face 65 of the operator.

3. The combination in a hosiery drier, of a casing enclosing a drying chamber and a heating chamber, the heating chamber being below the inner end of the drying chamber; a series of removable motors in 70 front of the heating chamber; a vertical partition separating the heating chamber from the motor chamber; openings in the partition; a fan on the shaft of each motor, said fans being located in the openings in 75 the partitions; a series of drawers in the drying chamber, said drawers having an open bottom; and means, in the drawers, for supporting hosiery forms.

4. The combination in a drier, of a casing enclosing a drying and a heating chamber, means for circulating air in said chambers; a series of drawers in the drying 80 chamber; and means for supporting hosiery forms in the drawers, the front section of each drawer being movably mounted there- 85 on to allow ready access to the frames.

5. The combination in a hosiery drier, of a casing enclosing a drying and a heating chamber, said heating chamber being located 90 under the drying chamber; a drawer in the drying chamber having an open bottom; a motor in front of the heating chamber; a circulating fan on the shaft of the motor; a removable panel on the casing in front of 95 the motor; and means for removably securing the motor in position.

6. The combination in a drier, of a casing enclosing a heating and a drying chamber; a motor in front of the heating chamber; a 100 fan driven by the motor; and a casing extending over the motor and open at each end, there being a fresh air inlet opening in front of the motor so that air is drawn 105 through the motor into the heating chamber.

7. The combination in a drier, of a casing enclosing a drying chamber; a drawer in the chamber; means, in the drawer, for supporting the hosiery forms; a cross bar near 110 the front of the drawer; a front section pivotally mounted on the cross bar; and a counterbalancing spring for the front section.

8. The combination in a drier, of a casing enclosing a drying chamber and a heating 115 chamber; a deflecting plate between the two chambers; a drawer in the drying chamber, said drawer being open at the bottom and closed at the front; a back plate on the drawer substantially closing the space be- 120 tween the top of the casing and the deflecting plate when the drawer is open; heating coils in the heating chamber; a circulating fan; and means for driving the fan.

9. The combination in a drier, of a casing enclosing the drying chamber; means for circulating air in said chamber; a sliding 125 drawer in which stocking forms are mounted, the front of the drawer being pivoted so that it will drop and allow access to the in- 130

terior of the drawer; and a bar secured to the front section, said bar having a notch so that an edge on the casing can engage the notch and close the drawer tight against the casing.

5 10. The combination in a hosiery drier, of a casing enclosing a drying chamber; a drawer therein containing the material to be dried; means for circulating heated air in the chamber; and a table top spaced from the top of the casing, the space being closed 10 at the front of the drier to prevent heated air, which circulates under the top, escaping at the front of the drier.

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