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APPARATUS FOR DRYING HOSIERY AND THE LIKE

Filed Jan. 11, 1929

2 Sheets-Sheet 1

FIG. I.

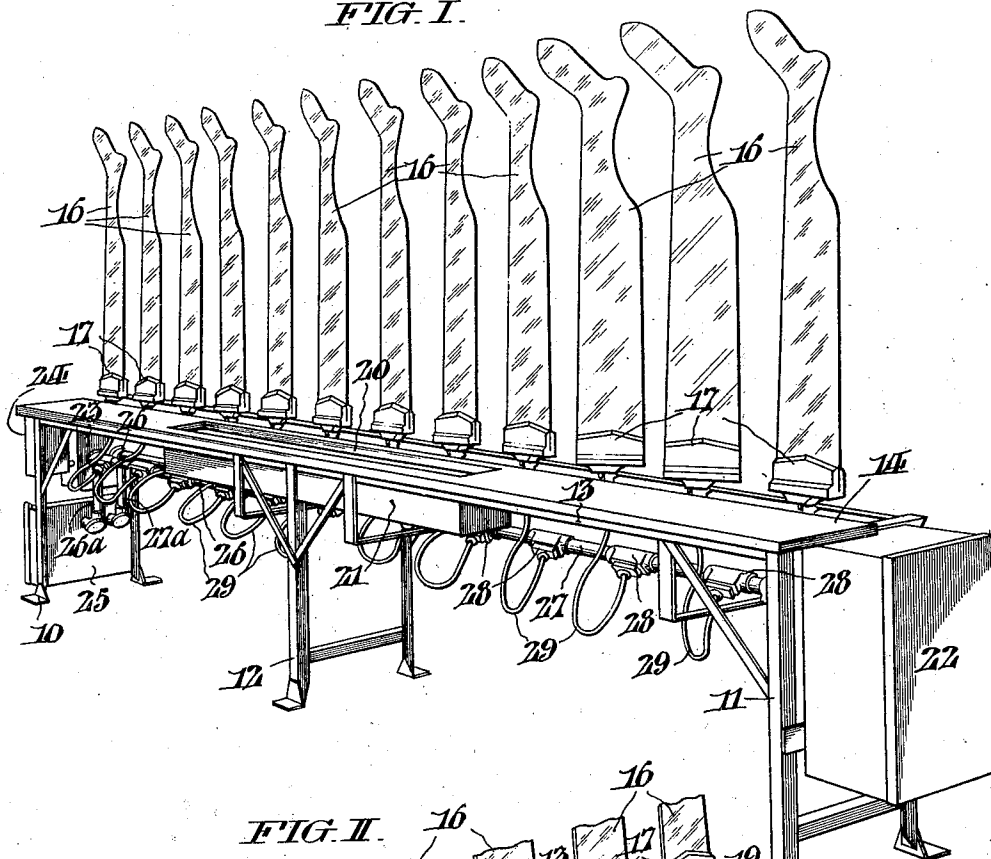
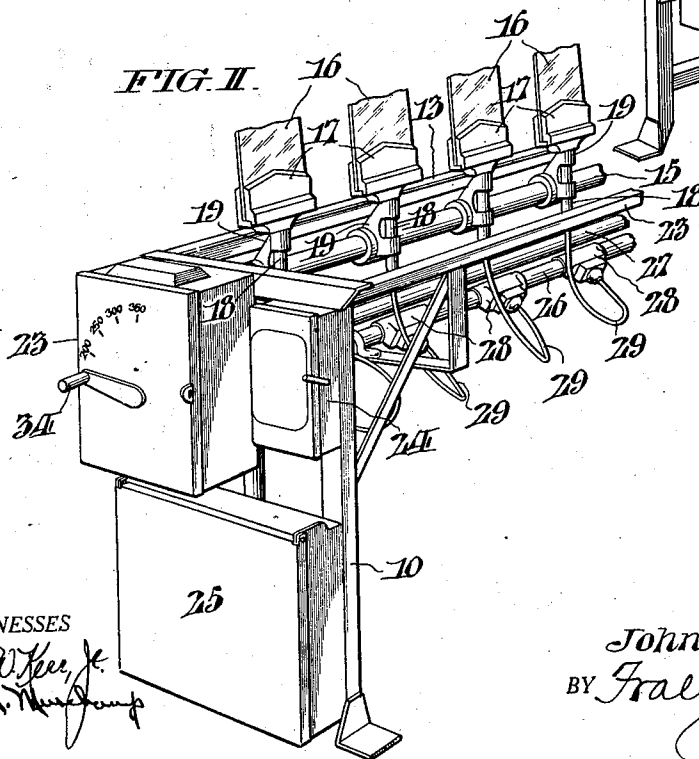


FIG. II.



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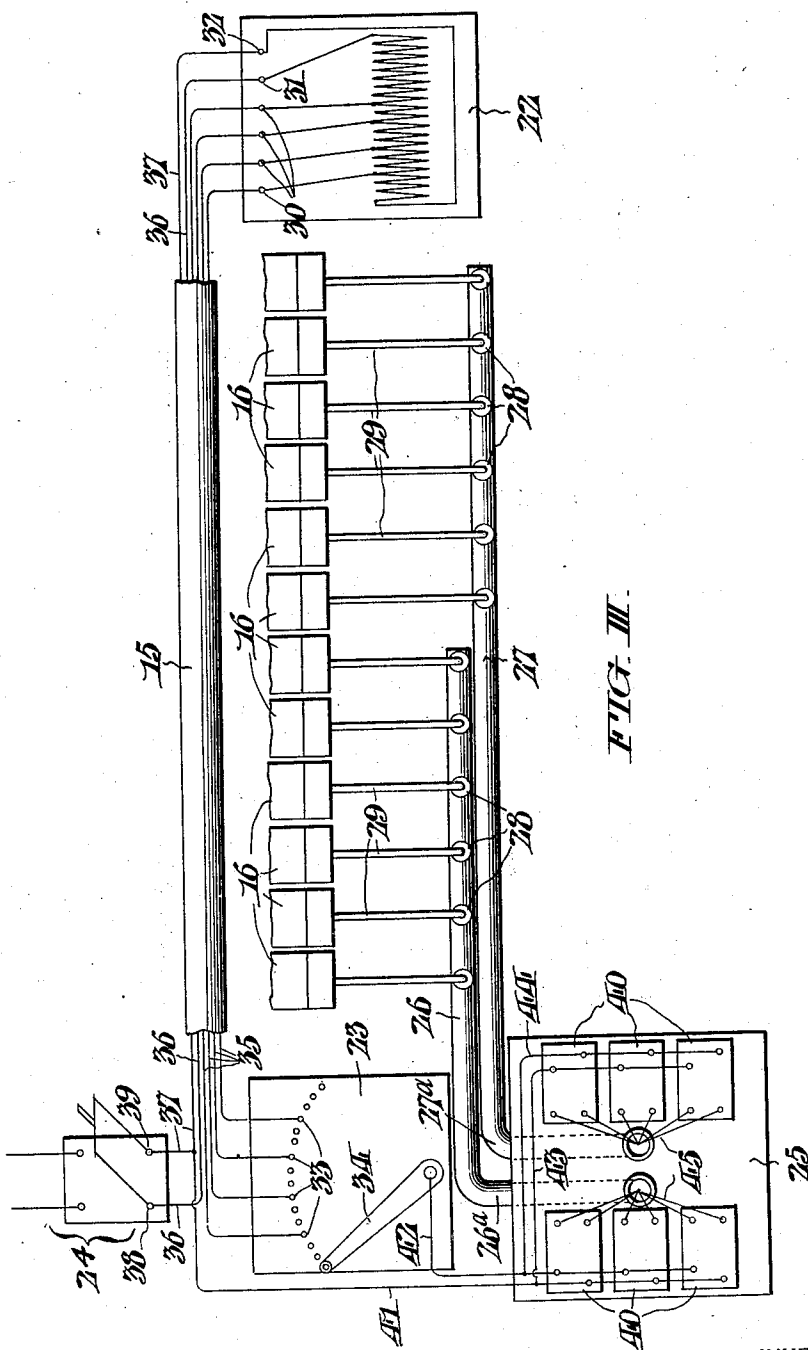
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

JOHN W. DENNIS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE PHILADELPHIA DRYING MACHINERY COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

APPARATUS FOR DRYING HOSIERY AND THE LIKE

Application filed January 11, 1929. Serial No. 331,778.

This invention relates to apparatus useful in drying, i. e. finishing textile manufactures such as hosiery, and more particularly to drying apparatus of the type characterized by a multiplicity of electrically heated profile forms over which the articles are individually stretched and thus shaped as they undergo drying.

In connection with apparatus of the specific kind referred to, I aim to enable operation of the several forms at different heats suitable to drying articles of different thicknesses and weights; and to secure the advantages of simplified construction and arrangement as regards the controls involved and the forms, to the end of facilitating wiring initially, as well as operation and maintenance of the apparatus in use.

Other objects and attendant advantages of this invention will appear from the detailed description which follows of the typical embodiment shown in the attached drawings, whereof Fig. I is a frontal perspective view of my improved apparatus equipped with forms suitable for drying hosiery.

Fig. II is a fragmentary perspective view of one end of the apparatus, on a somewhat larger scale, with certain parts removed to expose important details; and,

Fig. III is a wiring diagram showing the electrical equipment and connections by which the current to the several drying forms is controlled.

As depicted in Figs. I and II, the drying apparatus of my invention comprises a table with a frame constructed, in the present instance, from structural iron with end standards 10, 11, and an intermediate standard 12, joined at their upper ends by longitudinals 13, with a top 14 of wood or the like mounted thereon. Extending the length of the table top 14 from one end frame 10 to the other 11 is a tubular rod 15 which serves to support a series of profile drying forms 16 of a conventional type heated by electric resistance coils (not illustrated) at their interiors. As shown, these forms 16 have basal portions 17 with depending stems 18 which are journaled, with capacity for limited swiveling motion, in twin bearing lugs of brackets 19

secured to the tubular supporting rod 15 aforesaid. By virtue of such mounting, the forms 16 can be turned about as required for convenience of inspecting the stockings for imperfections, sponging them, etc. Medially of its length, the table top 14 has an elongated opening 20 that affords access to an underlying receptacle 21 for wet hose which are to be dried. The plane ends of the table top 14 beyond the opening 20 are, on the other hand, reserved for the finished hosiery taken from the forms 16.

The electric equipment of the apparatus includes an auto-transformer 22 which is secured to the standard 11 at the right hand end of the apparatus; a device 23 for controlling the transformer 22 as hereinafter noted; a main switch 24; and fuses protected within a box 25; said control device, main switch and fuse box being mounted on the left hand end standard 10 of the table. For convenience of circuit arrangement, the forms 16 are in the present instance divided into two serial groups of six each; and two separate conduits 26, 27 are provided for the conductors carrying current from the fuse box 25 to the forms 16 of the respective groups. As shown, the conduit 26 extends half the length of the table and serves the first group of the forms 16; while the conduit 27 is substantially co-extensive with said table and serves the second group of the forms 16. At properly spaced intervals, the conduits 26, 27 are provided with outlets 28 for conductor cords 29 by which the current is directly supplied to the several forms 16. From Fig. I it is to be observed that the conduits 26, 27 have downward branches 26a, 27a which terminate at the back of the fuse box 25. The transformer 22 and the control device 23 are electrically coordinated, as will also be explained presently, by conductors extending through the tubular rod 15 that supports the drying forms 16.

With reference now to the wiring diagram of Fig. III, the transformer 22 is conventionally represented as being of the "auto" type with taps extending at spaced intervals from its coil to individual terminals 30, and the coil end leads extending likewise to sepa-

rate terminals 31, 32. The control device 23 has, in the present instance, the form of a point switch with an arcuate series of button contacts including "live" points 33 all adapted to be overtravelled by control handle 34. Conductors 35 coordinating the several tap terminals 30 of the auto-transformer 22 and the points 33 of the control switch 23, together with conductors 36, 37 coordinating the terminals 38, 39 of the main switch 24 with the coil end terminals 31, 32 of said transformer, pass as previously stated, through the tubular rod 15, which, in the diagrammatic illustration of Fig. III, is conventionally represented above the forms 16. The fuses employed for individual protection of the forms 16 are mounted in pairs on blocks 40 within the fuse box 25, and, as shown, are connected in parallel through leads 41, 42 and branches 43, 44 with the terminal 39 of the main switch 24 and the fulcrum of the point switch handle 34, respectively. The conductors 45 that carry the current to the several forms 16 of the two groups are shown as entering the open branch ends 26a, 27a of the conduits 26, 27, their extension in said conduits having been omitted from the diagram in view of the obviousness of the connections.

Segregation of all the electric controls, i. e. the point switch 34 and the main switch 24 as well as the fuse box 25 at one end 10 of the table top 14 as herein shown and described, aside from facilitating making of the electric connections, renders operation of the apparatus extremely easy and convenient. The subdivision of the forms 16 into groups with separate conduits 26, 27 for the supply conductors 29 also contributes toward facilitating wiring with attendant minimization of labor costs in setting up the apparatus initially.

Having thus described my invention, I claim:

1. In apparatus for drying stockings and the like, a table comprising end frames and a top; a series of electrically heated forms supported above the table top by means of a tubular bar with brackets at intervals affording a twin bearing for said forms; and electric equipment including a main switch, a transformer, a device controlling supply of current to enable varying of the heating effect in the forms and a box housing fuses for protection of the forms, said main switch, control device and fuse box being mounted on one end frame of the table and the transformer on the other; and separate conduits extending longitudinally beneath the table top for conductors coordinating the electric devices at opposite ends of the table, and for conductors carrying current by way of outlets with flexible connection to the several forms.
2. In apparatus for drying stockings and the like, a table comprising end frames and

a top, a tubular bar extending between the table ends with bearing brackets at intervals supporting a series of electrically heated forms, said forms being journaled in the brackets with capacity for limited swiveling movement; and electric equipment including a transformer mounted on one of the end frames, a device for controlling the transformer to vary the heating effect in the forms mounted on the other frame end, and circuit conductors extending through the tubular bar aforesaid to coordinate the transformer and the control device.

3. In apparatus for drying hosiery and the like, a table comprising end frames and a top; a tubular bar extending between the table ends with bearing brackets at intervals supporting serial groups of electrically heated forms, said forms being journaled in twin bearing lugs on the brackets with capacity for limited swiveling movement; and electric equipment including a transformer mounted on one of the end frames, a device for controlling the transformer to vary the heating effect in the forms and a box housing fuses for protection of the forms mounted on the other frame end; circuit conductors extending through the tubular bar aforesaid to coordinate the transformer and the control device, and separate longitudinal conduits with outlets for conductors leading from the fuse box to the several drying forms.

In testimony whereof I have hereunto signed my name at Philadelphia, Pennsylvania, this 7th day of January, 1929.

JOHN W. DENNIS.