Dec. 23, 1930. J. V. RILEY 1,786,316

DRYING DEVICE

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Fig. 1.

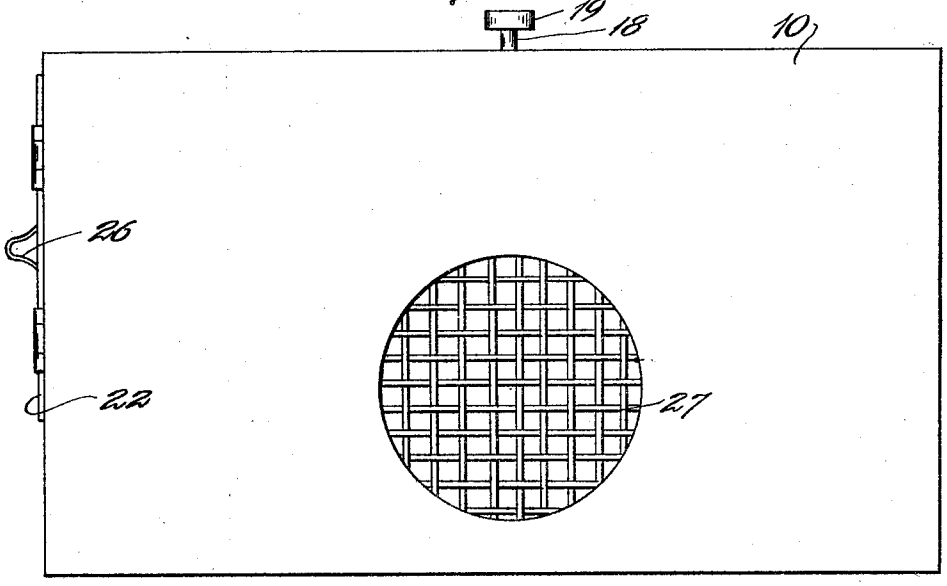
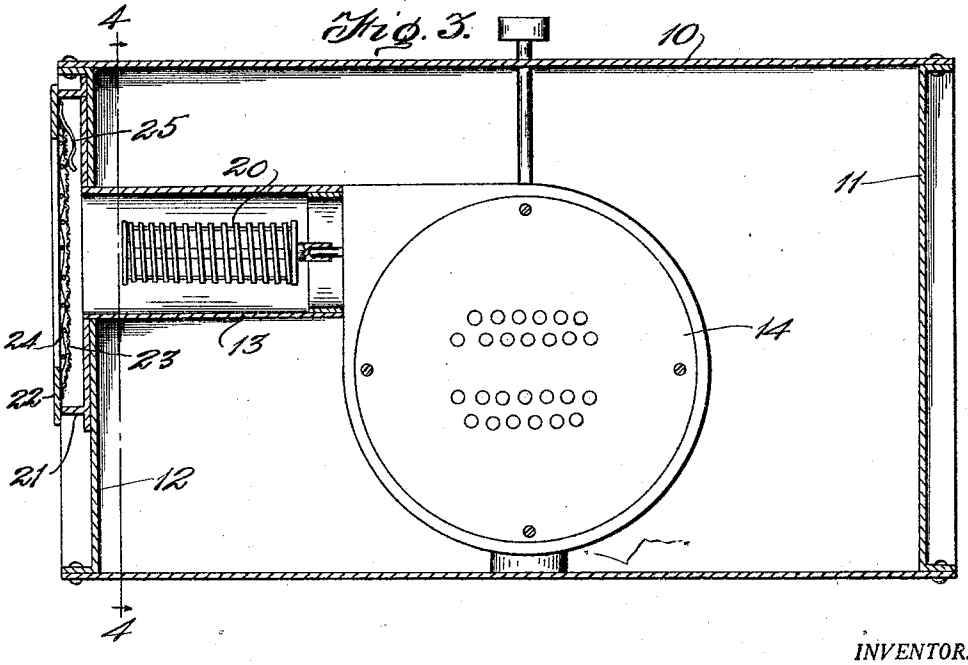


Fig. 3.



INVENTOR.
JAMES V. RILEY
BY
ATTORNEYS.

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Fig. 2.

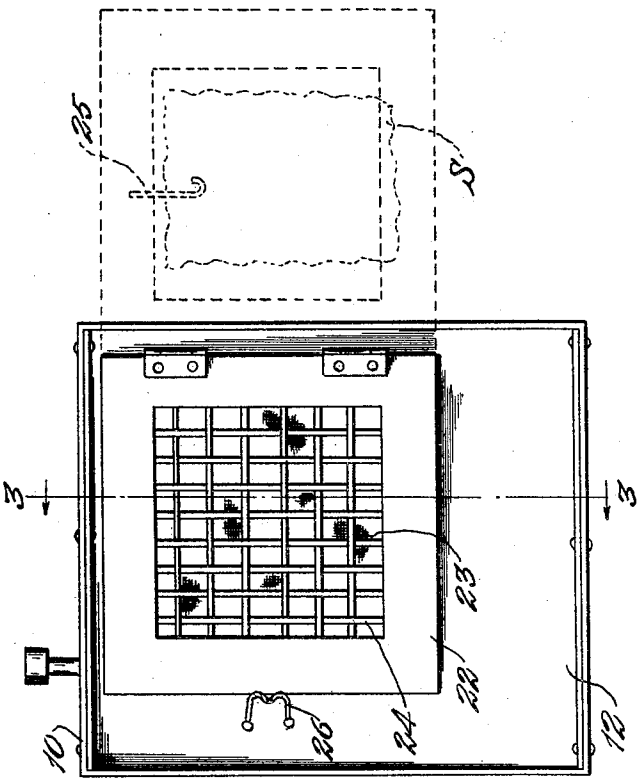
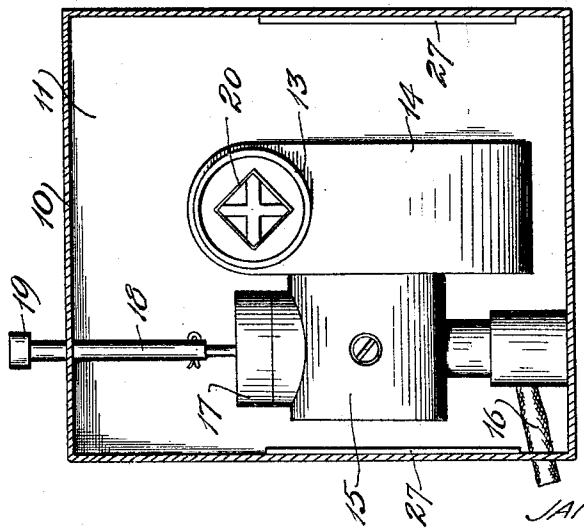


Fig. 4.



INVENTOR.
JAMES V. RILEY
BY
ATTORNEYS.

Patented Dec. 23, 1930 1,786,316

UNITED STATES PATENT OFFICE

JAMES V. RILEY, OF SIMCOE, ONTARIO, CANADA

DRYING DEVICE

Application filed April 17, 1930. Serial No. 445,044.

This invention relates to driers and has special reference to a drier peculiarly adapted for the drying of swatches, pads, clippings and the like.

In textiles manufacture it is the common practice to cut a swatch or clipping from a full length bolt or piece of the material after dyeing and to use this as a sample in order that other pieces of cloth may be dyed to a uniform shade with the first piece. In order not to interrupt the dyeing of successive pieces of cloth it is necessary that this swatch, as well as those removed from the successive pieces, be rapidly dried. Commonly this is done by placing the swatch on a hot steam filled pipe of brass or other suitable metal. A strip of cloth of any suitable kind is then laid over the swatch and the operator presses firmly on the cloth or rubs over the cloth to bring the swatch into intimate contact with the pipe and thus facilitate drying. When the swatch or clipping is dry it is cooled by holding it in a draft of cold air or by waving it back and forth, this cooling operation being necessary since many dyes, when applied to cloth, appear of a somewhat different shade than when cool. This method is objectionable, not only because of the loss of time involved, but also because contact with hot metal frequently alters the shade or tint so that proper matching cannot be effected and the dried swatch is of a different shade than the dried full piece of cloth, the drying of the latter being effected in a heated chamber or compartment through which air is circulated by suitable means.

One important object of the invention is to provide a novel drying apparatus by means of which swatches and the like may be rapidly dried in a manner which is, in its effect, the full equivalent of the maner in which the full piece of cloth is dried so that, upon both being in a dried state, they will exactly match in color and shade.

A second important object of the invention is to provide a novel means for holding a swatch during the drying operation.

A third important object of the invention is to provide for the cooling of the swatch without handling.

With the above and other objects in view as will be presently understood, the invention consists in general of certain novel features of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a side view of the drier.

Figure 2 is a front elevation of the invention with the swatch holder shown closed in full lines and open in dotted lines.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is a section on the line 4—4 of Figure 3.

As here shown the invention consists of a rectangular tubular casing body 10 closed at its rear end by a closure plate 11. In the front end of the body is mounted a plate 12 and in this plate is formed a suitable opening for the outlet end of a pipe 13 through which air passes from a suitable fan or blower 14 of standard stock type such as is used in barber shops and other places. This blower is driven by an electric motor 15 receiving its power through a cable 16 and is controlled by a suitable snap switch 17 having a stem 18 which projects through the top of the casing and is provided with a button or bead 19 by which the switch may be turned on and off as desired. In the tube or pipe 13 is the usual electric heating element 20 common in devices of this character and also turned on and off by the switch 17.

Surrounding the opening in the plate 12 is a frame 21 and this frame and the portion of the plate 12 within its limits form respectively the sides and back of a shallow box or chamber which may be termed the swatch drier box or swatch box. To the frame is hinged a door frame 22 having a central rectangular opening therein which is covered by fine wire gauze 23 supported by a coarser wire netting 24. Fixed to the top of the frame 22 is a spring clip 25 which serves to hold a swatch S or the like against the inner side of the netting. This structure forms the front of the swatch box and is normally held closed

by a spring clip 26 as shown in full lines in Figure 2, but may be opened to the position shown in dotted lines in that figure so as to permit insertion and removal of a swatch. Reticulated openings 27 admit air to the casing.

In using the device the wet swatch is laid on the inner side of the door with its upper edge caught beneath the clip 25. The door is not closed and current turned on by the switch button 19. Then the warm air accumulates in the swatch box and is forced through the swatch, quickly drying it without making it so hot as to alter the shade of the dye. When dried the current is turned off and the door opened whereupon the swatch may be at once removed or, if desired, may be allowed to stand till it assumes room temperature.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

Having thus described the invention, what is claimed as new, is:

1. In combination, a casing, a blower in said casing having an outlet pipe opening through one end of the casing, a heater in said pipe, a swatch box on the front of the casing into which the pipe opens, said box being provided with a door having a reticulated opening, and a spring clip on the top of the inner face of the door to clip the upper edge of a swatch and support it behind said opening.

2. In combination, a casing, a blower in said casing having an outlet pipe opening through one end of the casing, a heater in said pipe, a swatch box on the front of the casing into which said pipe opens, said box being provided with a door having an opening therein, a fine wire mesh covering said opening, and a coarser wire netting supporting the fine wire mesh.

3. In combination, a casing, a blower in said casing having an outlet pipe opening through one end of the casing, a heater in said pipe, a swatch box on the front of the casing into which said pipe opens, said box being provided with a door having an opening therein, a fine wire mesh covering said opening, a coarser wire netting supporting the fine wire mesh, and means to support a swatch across the opening on the inner face of the door.

4. In combination, a casing, a blower in said casing having an outlet pipe opening through one end of the casing, a heater in said pipe, a swatch box on the front of the casing into which said pipe opens, said box being provided with a door having an opening therein, a fine wire mesh covering said opening, a coarser wire netting supporting the fine wire mesh, and a spring clip on the top of the inner face of the door to clip the upper edge of a swatch and support it behind said opening.

In testimony whereof he has affixed his signature.

JAMES V. RILEY.