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H. L. GIBSON

WAX APPLYING TOOL

Filed Jan. 15, 1926

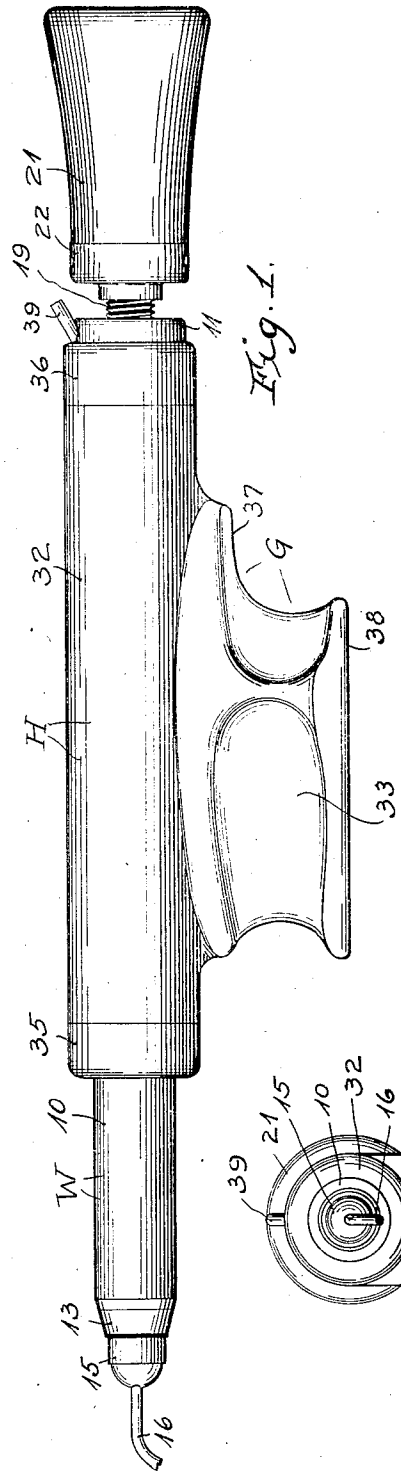


Fig. 1.

Fig. 3.

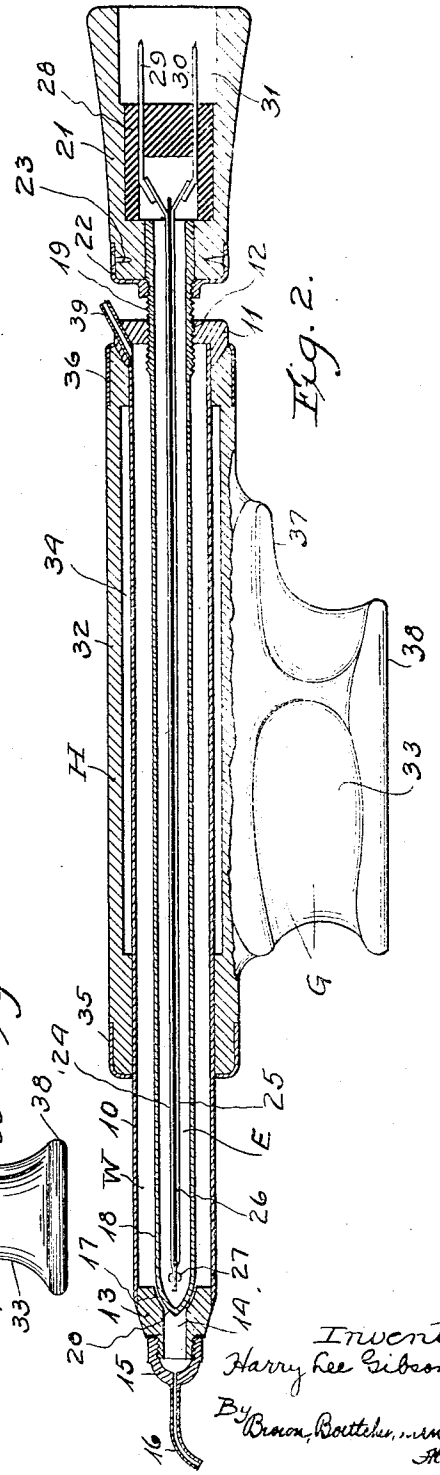


Fig. 2.

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UNITED STATES PATENT OFFICE.

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WAX-APPLYING TOOL.

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My invention relates to wax applying or distributing tools used in the art in connection with batik work in which paint, colors, pigments, dyes or the like are applied at design sections on silk, wool and other fabrics and materials, the design areas being outlined with wax before application of the coloring or decorative matter to prevent running together of such matter, the wax being subsequently melted or dissolved out of the material or fabric. Heretofore, a very crude tool has been used for applying the wax, such tool requiring periodic heating, as over an alcohol lamp, in order to keep the wax sufficiently fluent for application to the fabric or material.

Among the important objects of my invention are to provide improved means, preferably electrical, for heating the wax and maintaining an even temperature thereof; to provide means for readily and accurately regulating the flow of the wax from the application nozzle; to provide a structure which will permit application of the wax in the form of a fine thread and with a minimum wastage of wax; to provide an arrangement in which a wax magazine member and a heating member cooperate to form an adjustable valve passageway for regulating the flow of the wax; to provide an arrangement which will permit ready charging of the magazine with wax and ready cleaning thereof; to provide improved means enabling the structure to be more conveniently held in the hand to permit more accurate operation with the tool and to prevent the heat of the heating element from reaching the hand; and, in general, to produce a simple, efficient and reliable tool for the purpose referred to.

On the drawing, Fig. 1 is a side elevational view of the tool;

Fig. 2 is a vertical diametral sectional view; and

Fig. 3 is a front end view.

The tool comprises a wax magazine or barrel element W, the heating element E, and the body or holder element H. The magazine element comprises a tube 10 preferably of metal which has the head 11 provided with the threaded opening 12. At the outer end of the tube 10 is inserted a plug or fitting 13 having the outlet passageway 14. The outer end of the plug is threaded for the reception of a cap 15 from which extends the nozzle tube 16. At the inner end of the passageway 14 the plug 13 is formed to provide a conical valve seat 17.

The heating element comprises the metal heating tube 18 of considerably smaller diameter than that of the magazine tube 10. Near its outer end the heating tube has the threaded section 19 for engaging in the threaded opening 12 of the magazine element so that upon turning of the heating tube it can be adjusted longitudinally within the magazine barrel. The inner end of the heating tube is closed and conical for valving cooperation with the seat 17 on the fitting 13 so that upon longitudinal adjustment of the heating tube within the magazine barrel, the passageway between the valve end and the seat can be regulated for the flow of wax.

The outer end of the heating tube receives the inner end of a handle 21, a ferrule 22 threading on the section 19 of the heating tube receiving the inner end of the handle and being secured thereto as by means of pins or screws 23, the handle being thus rigidly secured to the heating tube.

Extending through the heating tube E is the heat producing structure shown as comprising the ribbons 24 and 25 of resistant material separated by insulating material 26, the ribbons at their inner ends being electrically secured together as by a rivet 27 so that the ribbons may be connected serially in an electric circuit. At their outer ends the ribbons extend into a terminal base or plug 28 and connect with the terminal blades 29 and 30, the plug and blades being within the cylindrical space 31 formed in the handle, so that a circuit terminal member may be readily applied to the handle to receive the terminal blades of the heat producing element. The terminal arrangement shown is more or less diagrammatic, it being understood that any suitable arrangement may be provided in the handle for adapting the heat producing element with an electric current supply circuit.

The body element H may be constructed of wood, fiber, or some suitable heat resistant material, and comprises the sleeve part 32 and the grip extension 33 thereon. The sleeve 32 is of a diameter to receive the wax magazine barrel 10 and extends preferably from the barrel head 11 to within a distance from the nozzle end of the barrel. The sleeve 32 is, in greater part, separated from the barrel 10 by an air space 34 which will

shield the sleeve and grip part from the heat and keep it cool. To strengthen the sleeve, it is provided with metal ferrules 35 and 36 at its ends. The grip part 33 has the finger grooves G and the shoulder 37, the grooves permitting the grip to be conveniently held between the thumb and forefinger of the operator's hand and the shoulder then resting on top of the hand at the base of the thumb and finger. When thus easily and accurately gripped, the tool can be readily operated and manipulated to carry the nozzle end along the work to which the wax thread or stream is to be applied. The bottom 38 of the grip part 33 is flat to form a seat for the tool when not in use and to keep the hot barrel thereof well above the supporting surface.

When the tool is to be used, the heating element E is removed from the magazine or wax reservoir structure W and wax is then inserted into the tube 10 through the opening 12, the wax being preferably in the form of molded sticks. After insertion of a sufficient charge of wax, the heating element, which has been connected up with electric circuit and which has received a preliminary heating, is inserted through the opening 12 into the barrel 10 and the tube 18 will melt its way through the wax and then by turning of the handle 21 the tube 18 is rotated to bring its valve end 20 into closing engagement with the seat 17. After the wax has then been sufficiently heated and melted, the handle 21 is returned to open the passageway past the valve end 20 to the desired degree for the flow of the melted wax to and through the nozzle tube 16, the tool being guided to apply the wax thread or stream along the line defining the color or decorative areas on the work to be accomplished. In order to vent the barrel 10 for the flow of air to replace the discharged wax, a vent tube 39 is provided, such tube, as shown, being inserted through the head 11 of the barrel and outside of the outer ferrule 36 of the body member H.

Depending upon the fineness of work to be accomplished, nozzle structures of different bore may be applied to the wax barrel and the passageway past the valve end 20 adjusted accordingly so that there will be a uniform flow of melted wax from the nozzle and at a rate to meet the speed of operation of the operator. When through using, a slight turn of the handle 21 will close the valve passageway and prevent further flow of wax. The electrical heating of the wax insures a uniform and even temperature and the proper heating and consistency of the wax delivered from the nozzle.

My improved tool is very efficient and very fine and accurate work can be accomplished therewith. The tool is light so that it can be operated a long time without tiring the operator, while at the same time the wax magazine is of sufficient size to hold sufficient wax to last for a long time and for a considerable amount of work. Changes and modifications are possible which would still come within the scope and spirit of the invention, and I do not therefore desire to be limited to precisely what I have shown and described.

I claim as follows:—

1. In a wax applying tool, the combination of a wax container having a discharge outlet, and a heating element within said container mechanically adjustable to cooperate with said outlet to control the flow therethrough.

2. In a wax applying tool, the combination of a wax container barrel having a discharge outlet, a heating element extending into said barrel and forming a closure therefor, said heating element acting mechanically as a valve for controlling the flow through the discharge outlet.

3. In a wax applying tool, the combination of a wax container barrel having a discharge outlet, a heating element extending through said barrel for heating the wax therein, a valve seat surrounding said discharge opening, said heating element being adjustable in said barrel and its end being formed to act as a valve for cooperating with said seat to control the flow through said discharge outlet.

4. In a wax applying tool, the combination of a barrel for containing wax, said barrel having a discharge outlet, a heating element comprising a heating tube adapted to be inserted into said barrel to heat the wax therein, said tube being longitudinally adjustable in said barrel and its end being adapted to cooperate with said discharge outlet to control the flow therethrough.

5. In a wax applying tool, the combination of a barrel for containing wax and having a discharge outlet at one end, a heating element comprising a tube and an electric heat producing conductor therein, said tube extending into said barrel and having threaded engagement with the outer end thereof whereby to be longitudinally adjustable in said barrel, the inner end of said tube forming a valve for cooperating with said discharge outlet to control the flow of melted wax therethrough.

6. In a wax applying tool, the combination of a barrel for containing wax, said barrel having a discharge outlet at one end and a head at the other end, a heating element comprising a handle and a heating tube extending therefrom and an electrical resistance element in said tube, said tube being adapted to be extended through said barrel head and having threaded engagement therewith to be thereby longitudinally adjustable in said barrel, the inner end of said

tube forming a valve for controlling said discharge outlet.

7. A wax applying tool comprising a barrel member and a heating element, said barrel having a discharge outlet at one end and at its other end having a head provided with a threaded inlet, said heating element comprising a handle part, a tube extending therefrom, and an electric resistance conductor within said tube, said tube having a threaded section near its outer end for engaging the threaded inlet of said barrel, the inner end of said tube being shaped to act as a valve for controlling the flow through said discharge outlet.

8. In a wax applying tool, the combination of a wax container having a discharge outlet, an electric heating element comprising a tube having an electric heating conductor therein and extending into said container to heat the wax therein, said tube being adjustable within said container and adapted to act as a valve for controlling said discharge outlet, and a grip structure forming also a seating base for supporting said barrel above a supporting surface.

9. In a wax applying tool, the combination of a supporting body, a barrel supported in said body and having a discharge outlet at one end, an electric heating element comprising a tube and an electric heating conductor therein, said tube being adapted to be projected into said barrel from the other end thereof, the end of said tube being adapted to cooperate with said discharge outlet to control the flow therethrough, and a grip extension depending from said body part and acting also as a supporting base.

In witness whereof, I hereunto subscribe my name this 13th day of January, 1926.

HARRY LEE GIBSON.