Jan. 9, 1923.

1,441,678.

M. GOLDSBY.

HAIR TREATING DEVICE.

FILED NOV. 30, 1920.

FIG. 1.

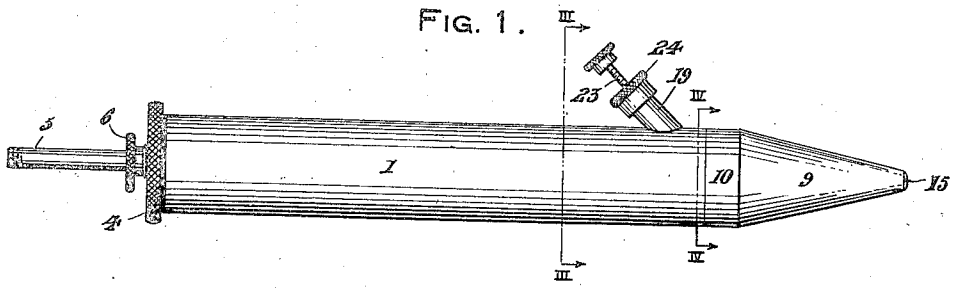


FIG. 2.

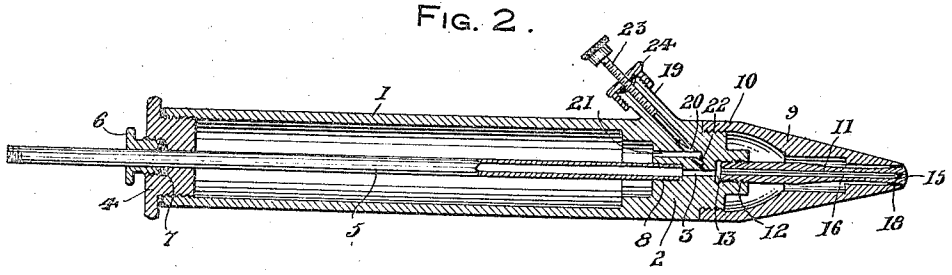


FIG. 3.

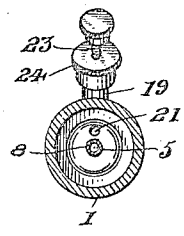


FIG. 4.

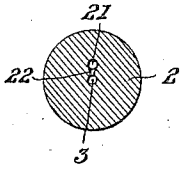


FIG. 5.

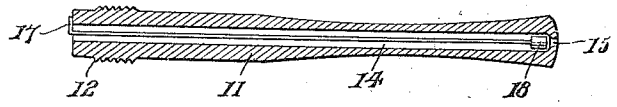
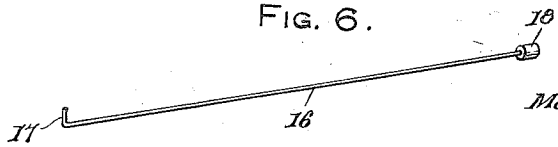


FIG. 6.



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Patented Jan. 9, 1923. 1,441,678

UNITED STATES PATENT OFFICE.

MARIE GOLDSBY, OF CHAMPAIGN, ILLINOIS.

HAIR-TREATING DEVICE.

Application filed November 30, 1920. Serial No. 427,272.

To all whom it may concern:

Be it known that MARIE GOLDSBY, citizen of the United States, residing at 205 West Eureka Street, Champaign, in the county of Champaign and State of Illinois, has invented certain new and useful Improvements in Hair-Treating Devices, of which the following is a specification.

This invention relates to certain new and useful improvements in spraying device.

The invention has for one of its objects to provide a spraying device capable of use in treating human hair, the same being in the form of a spray nozzle for intimately applying dye to the strands of the hair and embodies a dye receptacle with a restricted discharge opening combined with means for supplying heated air for forcing the dye through the discharge opening, and also for purposes of drying the hair.

Another object of the invention contemplates the idea of applying oil or other substances directly to the scalp in the treatment thereof, control devices being provided for regulating the discharge of material therefrom, the invention further contemplating the use thereof alone as a hair drying device wherein heated air is forced therethrough and directed onto the hair.

It is also intended the device be constructed for use of physicians in spraying and treating wounds and sores for sterilization. As a further use, the device may be constructed upon a larger scale for the purpose of burning oil for use in removing carbon from gas engines.

With the above and other objects in view, the present invention consists in the novel form, combination and arrangement of parts hereinafter more fully described in connection with the accompanying drawings, and in which like reference characters indicate similar parts throughout the several views.

In the drawings,

Figure 1 is a side elevational view of a spraying device constructed in accordance with the present invention,

Figure 2 is a longitudinal sectional view thereof showing the fluid chamber, the central air supply tube and the controlling means for regulating the flow of fluid from the chamber through the central air passage.

Figure 3 is a cross sectional view taken on line III—III of Figure 1,

Figure 4 is a cross sectional view taken on line IV—IV of Figure 1 showing the oil passage communicating with the air passage,

Figure 5 is an enlarged detail sectional view of the spray nozzle detached from the spray device, and

Figure 6 is a perspective view of the fluid diffusing wire removed from the nozzle.

Briefly described, the present invention aims to provide a spraying device for various uses, as in the treatment of hair for applying oil or heated air to the hair and scalp of a person; the idea of applying a sterilization fluid or air to a wound or sore, and as a further object the idea of constructing a spray device, either capable of burning fuel or spraying fluid upon carbon-coated surfaces of gas engines for purposes of removing the carbon therefrom. Structurally, the device embodies a cylindrical fluid containing chamber having a tip upon one end thereof with an enclosed nozzle. A central air tube is arranged within the fluid chamber and communicates with the spray nozzle while a wire within the nozzle insures a diffusion or spraying of fluid ejected therefrom. A needle valve is associated with the fluid chamber and controls the passage of fluid therefrom to the central air passage.

Referring more in detail to the accompanying drawing, there is illustrated a spray device embodying a tubular chamber 1 having a head 2 at the outer end thereof with a reduced axial passage 3 therein. The other end of the tube 1 is internally threaded for the reception of a screw plug 4 having therein an axial opening through which an air pipe 5 freely extends, the connection between the air pipe 5 and screw plug 4 being sealed by the packing gland 6 threaded into a socket 7 in the outer face of the plug 4. As shown in Figure 2, the inner end of the air pipe 5 is threaded into the socket 8 formed in the head 2 and coaxial with the passage 3.

A tapered tip 9 is threaded onto the outer end of the head 8 as indicated by the numeral 10 and is provided with a longitudinal central opening accommodating the nozzle 11, the outer end of which lies substantially in the same plane as the outer end of the tip while the inner end of the nozzle as indicated in Figure 5 is provided with peripheral threads 12 received in the threaded opening

13 formed in the outer end of the head 2 so that the longitudinal passage 14 in the nozzle 11 is coaxial with the passage 3 and air pipe 5. The nozzle 11 has a reduced opening 15 in the outer end thereof and for purposes of spraying fluid directed through the nozzle, there is provided a wire element 16 having an inner band end 17 engaging the inner end of the nozzle as shown in Figure 5 so as to slightly space the head 18 carried by the outer end of the wire from the opening 15 in the nozzle 11.

Means is provided for regulating the flow of fluid from the tubular chamber 1 to the passage 3 in the head 2 and embodies the provision of a rearwardly inclined outwardly projecting boss 19 carried by said head and having a central passage 20 therein communicating with a longitudinal passage 21 foring communication with the interior of the tubular chamber 1. A port 22 forms communication between the passages 3 and 21 and said port is controlled by the needle valve 23 passing into the boss opening 20 and threaded through the cap nut 24 secured to the outer end of the boss.

In the operation of the device, assuming that fluid of a desired character is contained in the chamber 1 and it being desired to expel the same through the nozzle 11, air from a suitable source, heated or otherwise, is delivered to the air pipe 5 and directed through the passageway 3 in the head and into the passage 14 in the nozzle 11. The flow of fluid in the chamber 1 is under control of the needle valve 23 so that the quantity thereof delivered through the passage 21 and port 22 is readily controlled at will. The wire 16 within the nozzle 11 having the head 18 adjacent the opening 15 in the nozzle assures a proper spraying of the fluid and air ejected therefrom so that in the treatment of hair, all loose strands receive an equal coating of dye while air alone delivered through the nozzle is also properly diffused.

While there is herein shown and described what is believed to be the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made in the form, combination and arrangement of parts without departing from the spirit and scope of the invention as claimed.

What is claimed as new is:

1. In a spraying device, a tubular chamber, a head formed at one end of the chamber and having an axial opening therein, a nozzle secured to and extending longitudinally from said head, a tip surrounding said nozzle and threaded onto said head, said nozzle having an axial passage therein, communicating with a nozzle in the head, the latter of which passage communicates with said tubular chamber, an air pipe centrally supported within said chamber, and in open communication with said head and nozzle passages, a valve controlling means for the head and nozzle passages, and a liquid diffusing means located in the nozzle.

2. In a spraying device, a fluid chamber, a head formed at one end of said chamber and having an axial opening therein, a tapered tip threaded onto said head, a nozzle removably secured to said head and supported by said tip, said nozzle having a passage communicating with the chamber, said head provided with a passage establishing a communication between the chamber and nozzle, a valve controlling means for said passage in the head, and an air pipe centrally supported within said chamber and communicating with the passages of the head and nozzle.

In testimony whereof I affix my signature.

MARIE GOLDSBY.