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ELECTRIC HAIR DRIER

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Fig. 1.

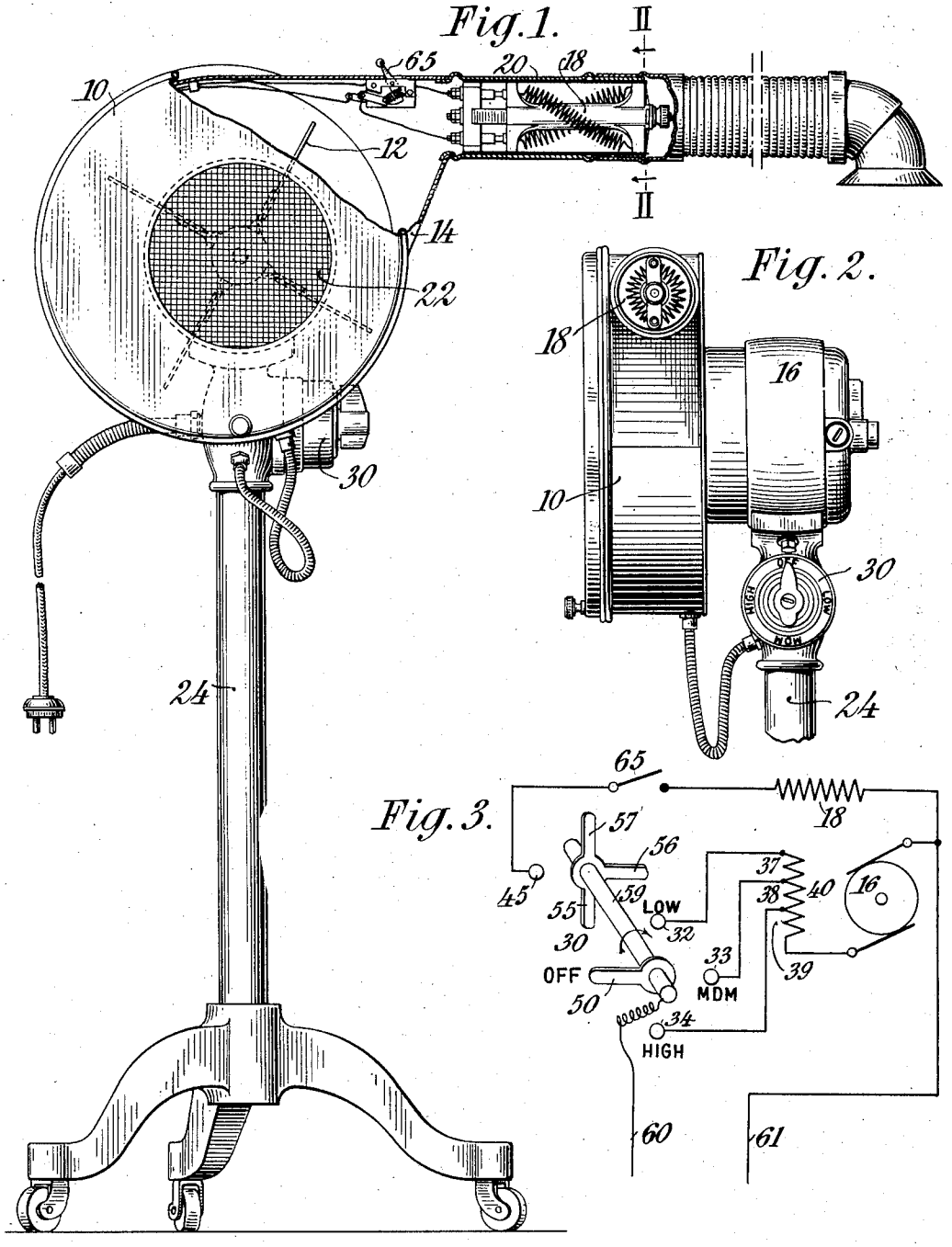


Fig. 2.

Fig. 3.

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ELECTRIC HAIR DRIER.

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This invention relates to hair driers of the type comprising an electric motor driven fan or blower and an electric heating unit for heating air delivered by said blower, and aims to provide improvements therein.

The invention provides an improved means whereby a wider range than heretofore in the quantity and degrees of heat of the air delivered by the device, may be obtained.

The invention further provides an arrangement whereby the heater may be under control of one switch also controlling the motor, and may also be under control of another switch which may be used in case of an emergency to disconnect the heater from the circuit more quickly than could be effected by operating the main control switch, which usually has to pass through a number of operating positions before the "off" position is reached.

An embodiment of the invention is illustrated in the accompanying drawings.

Fig. 1 is a view partly in front elevation and partly in section of said embodiment of the hair drier.

Fig. 2 is a view in side elevation of the device shown in Fig. 1, the parts to the left of the line II—II, Fig. 1, being omitted.

Fig. 3 is a diagrammatic view of the electrical arrangement.

Referring to said drawings, numeral 10 designates a fan or blower, comprising a fan 12 and a casing 14, 16 an electric motor driving said fan 12, and 18 an electric heater, situated so as to heat air delivered by said fan or blower, and conveniently located in the outlet tube or spout 20 leading off from said casing. Air may enter the fan casing through a grilled opening 22 in the side of the fan casing. The parts are conveniently mounted on a rollered pedestal 24, and in general construction and arrangement are similar to a type of electrical hair driers at present in extensive use in hair-dressing establishments.

A switch 30 for controlling said motor 16 and also the supply of current to said heater 18 is provided, being conveniently mounted on the upper part of said pedestal 24, as indicated.

The switch 30 is usually of the "snap" type, and has a plurality of contacts 32, 33, 34 connected with tapped portions 37, 38, 39 of the field winding 40 of the motor 16 (here shown as a series wound motor) or other suitable means for controlling the speed of said motor. The tapped field portion 37 connected with contact 32, being in series with the other portions 38, 39 of the field winding 40, produces the lowest speed of the motor, when current is admitted through contact 32. The field portions 38, 39, being of successively less length than the field winding 37, produce progressively greater speeds of the motor 16, when current is supplied through contacts 33, 34, respectively. The positions of the contacts 32, 33 34 are conveniently designated low, medium, high, corresponding to the speeds of the motor when the circuit is established through the respective contacts. The switch 30 has another or fourth position, designated off, where no current is supplied through the switch to either the motor or heater. The switch 30 also has a contact 45 leading to the heater 18. Electrical connection is successively established with the contacts 32, 33, 34 leading to the motor by means of an arm 50, and connection is established with the contact 45 leading to the heater 18 when the arm 50 is in contact with each of the contacts 32, 33, 34, by suitable means as three suitably spaced arms 55, 56, 57. The contact arms 50, 55, 56, 57 are most conveniently parts of one movable element 59 of the switch 30, to which one lead 60 of the house circuit is connected. Another lead 61 connects to the motor 16 and heater 18.

Another or second switch 65, under the control of the switch 30, but acting to control the supply of current to said heater 18, is provided. The switch 65 is preferably of a quick-acting type, and is especially adapted to be used in an emergency to cut off the supply of current from the heater. If the supply of hot air to a bag, tied to a woman's head, and used in so-called water waving, for example, becomes too hot, the excessive heat can be instantly relieved by operating the switch 65 to cut off the heater 18, and as the motor 16 is not cut off by the operation of the switch 65, a supply of cold air (room temperature) delivered by the fan 10 quickly reduces the temperature of the air around the woman's head. As the switch 30 has several positions, in many instances in order to stop the delivery of air which may be excessively hot, it would be necessary to move the switch through more

than one position before the off position is reached, which operation would be relatively slow, as compared with the operation of the switch 65. Moreover, the operation of the switch 65 allows the motor to operate and to rapidly succeed the hot air by cold air, as heretofore explained, whereas the switch 30 in off position would also cut off the motor 16 and the supply of air.

Moreover, by turning the switch 65 to off or on position during the normal operation of the drier, a considerable range in the supply of both hot and cold air may be effected. With the switch 65 in off position, the switch 30 may be turned to the low, medium and high positions, and a corresponding supply of cold air obtained, while by turning the switch 65 to on position, and turning the switch 30 to low, medium and high positions, a corresponding supply of hot air may be obtained.

As the switch 30 in off position cuts off the supply of current to the heater 18, irrespective of the switch 65 being in its on or off position, current cannot continue to flow to the heater after the motor is cut off and the flow of air ceases, thus protecting the device and preventing comsumption of current through inattention.

The inventive ideas herein set forth may receive other embodiments than that herein specifically illustrated and described.

What I claim is:

1. A hair drier of the character described, comprising an electric motor, a fan or blower driven thereby, and an electric heater adapted to heat the air delivered by said drier, a switch having a plurality of control positions controlling said motor and heater, and a second switch adapted to control the supply of current to said heater while said motor is operating, said first named switch in the off position thereof being adapted to cut off the supply of current to said heater irrespective of the position of said second switch, said motor having a series field winding, said switch having contacts connected to different portions of said field winding, whereby the strength of the field and thereby the speed of said motor may be controlled by said switch making the circuit through said contacts.

2. A hair drier of the character described, comprising an electric motor, a fan or blower driven thereby, and an electric heater adapted to heat the air delivered by said drier, a switch having a plurality of control positions controlling said motor and heater, and a second switch adapted to control the supply of current to said heater while said motor is operating, said first named switch in the off position thereof being adapted to cut off the supply of current to said heater irrespective of the position of said second switch, said motor having a series field winding, said first named switch having contacts connected to different portions of said field widing, whereby the strength of the field and thereby the speed of said motor may be controlled by said switch making the circuit through said contacts, said first named switch also having means for establishing a circuit to said heater in each position thereof where said first named switch makes a circuit through the said field contacts thereof.

In witness whereof, I have hereunto signed my name.

WILLIAM G. SHELTON.