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W. BROWN ET AL

2,258,844

DEVICE FOR STRAIGHTENING HAIR

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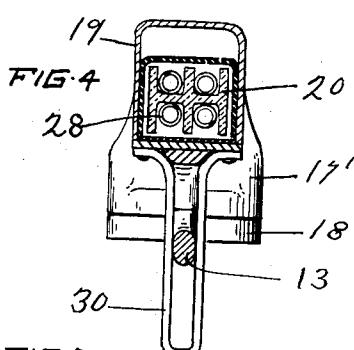
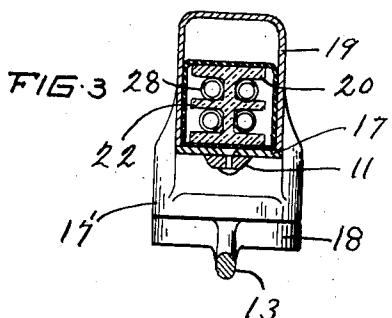
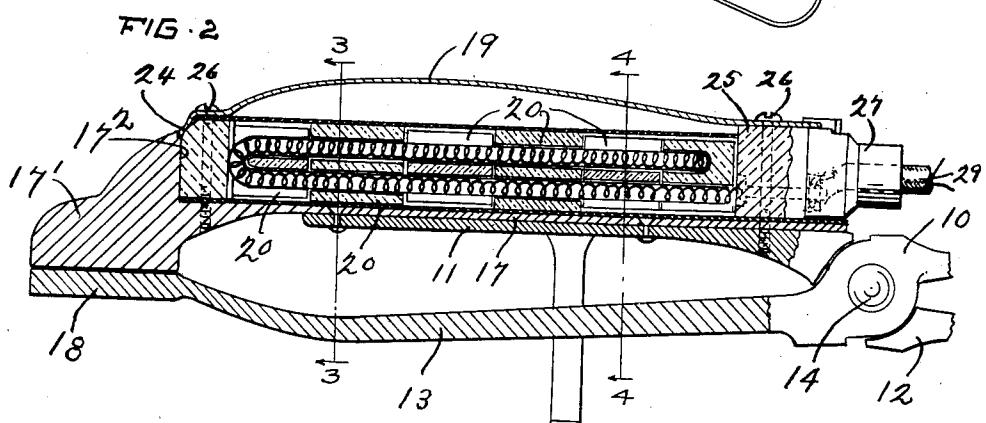
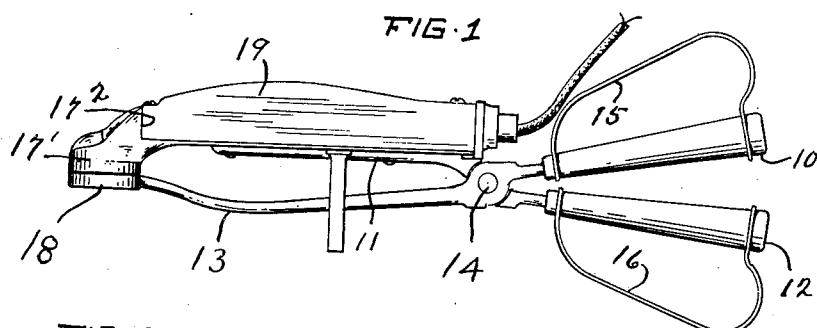


FIG. 5

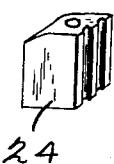


FIG. 6

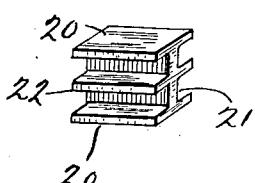


FIG. 7

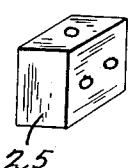
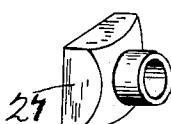


FIG. 8



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UNITED STATES PATENT OFFICE

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DEVICE FOR STRAIGHTENING HAIR

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2 Claims. (Cl. 219—24)

This invention relates to a new and improved device for straightening hair and more particularly to a device of this character having an electric heating unit to supply heat to the ironing element.

One object of the invention is to provide a device of this character which will be simple in construction, durable and easily operated.

Another object is to provide an electrically heated device which can be plugged into the outlets of regular house wiring, without danger of over-heating the ironing element or burning out the heating unit.

Another object of the invention is to eliminate any possibility of burning the scalp of the person whose hair is being straightened.

A further object of the invention is to provide a new and improved heating unit, which will supply a definite amount of heat to the ironing element and which has provision for the radiation of all excess heat.

The invention, therefore, consists of the features of construction and combination of parts hereinafter described in the specification, particularly pointed out in the claims and illustrated in the accompanying drawing.

Referring to the accompanying drawing, Fig. 1 is an elevational view of a hair straightener embodying our invention, Fig. 2 is a central longitudinal view, Fig. 3 is a section on line 3—3, Fig. 2, Fig. 4 is a section on line 4—4, Fig. 2, Figs. 5, 6, 7, and 8 are perspective views of the sections which together form the support for the heating wire.

The device, in general, comprises a body or frame portion which resembles a pair of tongs consisting of crossed members which are pivoted together in the usual manner. The members, respectively, comprise a handle portion 10 and an arm portion 11 and a handle portion 12 and an arm portion 13. The connecting pivot is shown at 14. The handle portions are provided with bails, 15 and 16, respectively, which enable the device to be held open to receive the hair.

The arm portion 11, of the upper member, has mounted thereon a relatively wide plate 17 which forms the bottom of the casing 19 for the heating unit. The forward end of the plate 17 carries a relatively large head portion 17', which we may term the ironing element. This ironing element 17' is made of a solid block of metal of sufficient size to prevent over-heating and has a smooth, flat bottom surface, which lies below the plane of the arm 11. The ironing element 17' 55

also has an upstanding shoulder portion 17" which forms the forward end wall of the casing for receiving the heating unit.

On the end of the arm 13 is formed a flat head 18, which constitutes the presser plate over which the hair may be laid or stretched out. The presser plate 18 is made relatively thin, so that the hair can be engaged close to the roots. The arrangement is such that when the arms 11 and 13 are brought together, the bottom surface of the ironing element and the upper surface of the presser element will clamp against each other.

The heat unit comprises a plurality of small sections or blocks made of non-conductive, refractory material. Each block comprises a pair of side plates 20, a centrally arranged web portion 21 and an intermediate partition 22. Each block, therefore, provides four open sided channels for the reception of the resistance wire.

These sections are arranged on the plate 17 end to end and in placing them the sections are alternately reversed, that is the section nearest the ironing element has the channels facing toward the top of the casing and toward the bottom of the casing and the next section has the channels facing toward the sides of the casing, and so on alternately.

The assembled sections form the core of the heating unit and it will be understood that when the sections are assembled, the four short channels of the respective blocks together form four long channels extending the full length of the core, which taken together form one continuous conduit for the reception of the resistance wire. It will be noted that due to the method of assembling the sections, what we may term the outer faces of the conduit will have open spaces and closed spaces. These open spaces permit direct radiation of heat from the resistance wire and as they face upwardly and downwardly and sidewise the heat is distributed over the entire surface of the enclosing casing of the heating unit. This eliminates any danger of the operator receiving a burn from contact with an excessively hot part of the casing. The closed spaces, that is where the walls of the sections intervene between the open radiating spaces, provide bars which lock the resistance wire in the conduit and prevent it from buckling, thereby increasing the life of the element.

The resistance wire, shown at 28, is fed in at the rear end of the core and is carried forward and backward on one side of the core, then through the core and forward and backward on the opposite side of the core. The ends of the

resistance wire are connected to the service wires 29, in the terminal block 27. Clamping blocks 24 and 25 are arranged at the ends of the core to hold the core sections together and are held in place by screws 26.

The employment of our device will be understood readily.

The ironing element due to its relatively large size and the construction of the heating unit will not readily get over-heated and if desired the electricity may be shut off and the ironing element will remain sufficiently hot for some time. The presser plate while being used will only receive heat through its contact with the ironing element and will seldom become appreciably heated, and therefore can be placed close to the scalp at the roots of the hair. The hair is drawn over the presser plate and the presser plate and ironing element are pressed closely together and movement is imparted to the device so as to iron the hair from the roots to the outer ends thereof.

What we claim:

1. A device for straightening hair, comprising a pair of crossed members pivoted together, each member consisting of a handle portion and an arm portion, the arm portion of one member carrying a flat head forming a presser plate, and

the arm portion of the other member carrying a large head forming an ironing element, an electric heating unit comprising a plurality of sections, each section having four open channels, the sections being arranged end to end and alternately reversed and together providing a continuous conduit for the resistance wire and resistance wire arranged in said conduit.

2. A device for straightening hair, comprising a pair of crossed members pivoted together, each member consisting of a handle portion and an arm portion, the arm portion of one member carrying a flat head forming a presser plate and the arm of the other member carrying a large head forming an ironing element and an electric heating unit comprising a casing and a core arranged in said casing, said core having a conduit extending along both sides thereof, said conduit having open spaces for direct heat radiation and closed spaces to prevent buckling of the resistance wire and resistance wire arranged in said conduit, the conduit being sectional, each section having open channels with alternate sections rotated, so as to hold a resistor against displacement.

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