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R. V. POWELL
LIGHT FOR ELECTRIC RAZORS
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Fig. 1.

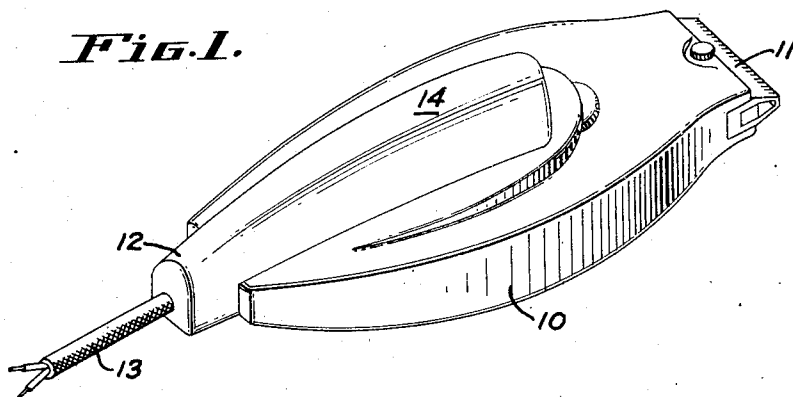


Fig. 2.

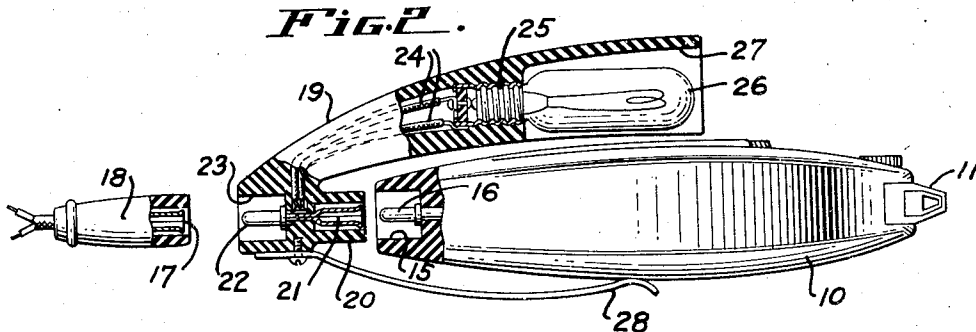
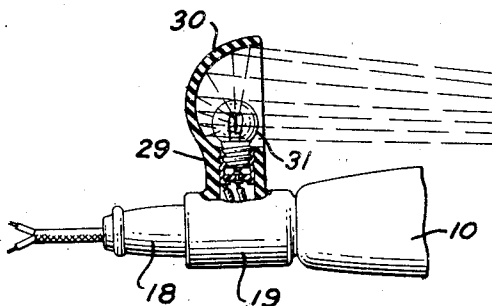
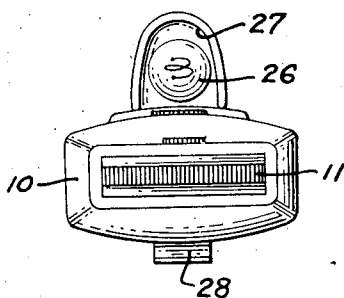


Fig. 4.

Fig. 3.



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LIGHT FOR ELECTRIC RAZORS

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11 Claims. (Cl. 240—2)

The present invention relates to a light for electrically operated tools, and more particularly to a light and support for an electric shaver of the clipper type, wherein the light is mounted upon the razor and connected in the service line in a novel manner without requiring any alteration in the razor or its service connection, as originally supplied and constitutes a refilling of my earlier application Serial No. 137,524, filed April 17, 1937, and entitled Light for electric razor.

An object of the invention is to provide a new and novel support and light for safety razors of the so-called "Schick" type, wherein the shaving operation is performed by a motor driven mechanism of the clipper type.

Another object of the invention is to provide a light for electrically operated tools of the type having a detachable service connection upon the tool, which can be interposed between the tool and its service connection, where it will be held in illuminating relation with the work performing end of the tool.

A further object of the invention is to provide a new and novel face illuminating light for an electric safety razor of the clipper type, which can be attached to the razor and connected into the razor circuit in a simple and practical manner.

In connection with the use of electric razors of the clipper type it is necessary that the surface being shaved be well illuminated. Such an illumination, however, is difficult to obtain with the ordinary illumination without at the same time illuminating the mirror before which the operator usually shaves, and thus producing eye strain. It is therefore a further object of the invention to provide a small and compact surface illuminating means which may be mounted upon the razor where it will illuminate a small area upon the surface to which the razor is applied.

The greater need for a strong illumination for an electric razor of the clipper type, when compared with the illumination required for shaving with an ordinary razor, is explained by the fact with an ordinary razor the operator does not need to observe the growth of small hairs, but is merely required to observe the scraping away of the lather, and as a result where lather is used, the operator does not require the strong illumination that has been found desirable where the clipper type razor is used.

For a better understanding of the invention reference should be had to the accompanying drawing, wherein there is shown by way of il-

lustration and not of limitation, preferred embodiments of the invention.

In the drawing:

Figure 1 is a perspective view of an electric razor of the "Schick" type having a light and support which is adapted to be permanently connected to the electric power supplying cord of the razor,

Figure 2 is an exploded view of a modified and preferred form of the invention, wherein the light is carried by a support having circuit maintaining contacts, which is adapted to be interposed between the razor and its power supplying connector,

Figure 3 is an end view looking at the clipper end of the razor illustrated in Figure 2, and

Figure 4 shows a modified form of support of the type illustrated in Figure 2 of the drawing, with the light supported in a different position upon the razor.

While it is conceivable that the invention may find application to many electrically operated tools, it is contemplated that its greatest use will be in connection with electric razors of the clipper type, and therefore there is shown in the drawing, designated by the numeral 10, an electric razor of the so-called "Schick" type which, as is well known, has cooperating clipper forming elements 11 at one end which are adapted to be driven by an electric motor contained within the body thereof. At the opposite end of the razor 10 there is provided a recess, as will be hereinafter described, in which there is disposed circuit establishing contacts with which the contacts of a service connector are adapted to connect. In this embodiment of the drawing, the service connector designated by the numeral 12, is adapted to be attached permanently to a power lead 13 which is of sufficient length to connect with a convenient power outlet. Extending upwardly and along one side of the razor 10 the connector 12 also has a forwardly disposed light supporting housing 14 having a socket for a lamp which is connected with the power lead 13. The housing 14 is open at its forward end so that when the lamp therein is illuminated, the light therefrom will be directed toward the clipper elements 11, and at the same time prevent the light from being projected into the eyes of the user.

In the above described arrangement, with the light supporting housing 14 permanently connected to the power lead 13, it will be possible, if desired, to use the light independently of the razor.

In Figure 2 of the drawing there is shown an

embodiment of the lamp supporting means which is particularly adapted to razors as they are at present sold by the manufacturers. In this arrangement the lamp and its support can be conveniently mounted upon the razor 10 and connected into the power circuit in a simple manner without requiring any alterations in the razor or its service plug. As is clearly shown in this figure of the drawing, the razor 10 has a recess 15 at its rear end in which there is located two outwardly projecting contacts 16 upon which, at the present time, contacts 17 carried by a service plug 18 are adapted to engage. It is with this particular arrangement that the preferred form of the present invention will find its best application. As here shown, the lamp supporting member, designated by the numeral 19, has an outwardly projecting portion 20 which is adapted to extend into the recess 15 in the razor 10 and within the extension 20 there is a pair of contacts 21 which are adapted to connect with the contacts 16 carried by the razor. The contacts 21 extend through the supporting member 19 and connect with terminals 22 disposed in a recess 23 which is similar in every respect with the recess 15 of the razor 10. With this arrangement it will be seen that when the contacts 21 are projected into contact making engagement with the contacts 16 upon the razor, the contacts 22 will form an extension of the contacts 16 with which the contacts 17 carried by the service connector 18 may be connected, and as a result the circuit for the razor 10 will be continuous from the connector 18 to the razor. Extending upwardly from the circuits formed by the contacts 21 and 22 there is a pair of conductors 24 which connect in the usual manner with a lamp socket 25 that is adapted to support a lamp 26. While the lamp 26 is shown in this figure of the drawing as disposed along the top side of the razor 10, it will be understood that the housing 19 with its lamp might be turned about so as to locate the lamp 26 along the underside of the razor 10. At this point it should be noted that the lamp support 19 extends out over the lamp 26 so as to form a shade or shield 27 which will direct all of the light from the lamp 26 forward and upon a small area at the working end of the razor. In order to provide for a more secure attachment of the lamp support 19 to the razor 10 the lamp supporting member 19 may be equipped with a spring clip 28, as shown in this figure of the drawing. When the spring clip 28 is used with the support 19 it will be understood that the forwardly extending end 27 of the lamp support 19 will be held in close fitting engagement with the surface of the razor along which it extends. An additional advantage to be gained by the use of the spring clip 28 is that it will reduce the possibility of any breaking strain upon the moulded parts of the razor and support in which the recesses 15 and 23 are formed.

As shown in Figure 3 of the drawing, the lamp housing 27 is of a substantially semi-cylindrical configuration, and is so proportioned that it will prevent the escape of light at the sides thereof.

In Figure 4 of the drawing, there is shown an embodiment of the invention which is substantially similar in every respect to the arrangement described in connection with Figure 2 of the drawing, except that the interposable light supporting member 19 has a vertically extending portion 29 with a reflector type of shield 30 extending about a lamp 31 which is located immediately above the rear end of the razor. With this arrangement the shield 30 is shaped so as to focus the light rays from the lamp 31 upon the surface adjacent the clipping end of the razor.

While I have, for the sake of clearness and in order to disclose the invention so that the same can be readily understood, described and illustrated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed, but may be embodied in other ways that will suggest themselves to persons skilled in the art. It is believed that this invention is new and it is desired to claim it so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a device of the character described, the combination of an electric razor having contacts at its rear end with which corresponding contacts of a detachable connector cooperate, a detachable connector adapted to engage said contacts and be supported thereby at the rear end of said electric razor, said detachable connector having means including a current conducting lead for connection with a service outlet, a lamp supporting means carried by said detachable connector and extending forwardly along one side of the razor, and an electric lamp at the forward end of said lamp supporting means arranged and adapted to illuminate an area adjacent the working end of the electric razor when in use.

2. In a device of the character described, the combination of an electric razor having spaced contacts at its rear end with which corresponding contacts of a detachable connector cooperate, a detachable connector adapted to engage said contacts and be held upon the electric razor thereby, said detachable connector having a current conducting lead extending therefrom for connection with a service outlet, a lamp supporting means including a reflector forming portion carried by said detachable connector and extending forwardly along one side of the razor, and an electric lamp at the forward end of said lamp supporting means arranged and adapted to illuminate an area adjacent the working end of the electric razor without interference from the hand of the user.

3. In a device of the character described, the combination of an electric razor having a recess formed by overhanging portions at the rear end of the razor body, a pair of spaced contacts arranged within said recess, a detachable connector having contacts adapted to engage the contacts within the recess at the rear end of the razor body, an extension upon said detachable connector surrounding the contacts thereof adapted to project into the recess at the rear of said razor body when the razor contacts and the detachable connector contacts are in engagement, a lamp supporting means also carried by said detachable connector extending forwardly thereof and along one side of the razor body, and an electric lamp carried by said lamp supporting means having circuit connections with the contacts of said detachable connector and adaptable to illuminate an area adjacent the working end of the razor.

4. A work illuminating attachment for a portable electrically operated razor of the type hav-

ing contacts with which the contacts of a power connector detachably cooperate, comprising a lamp supporting member having a lamp circuit with circuit making contacts at its ends respectively complementary to the contacts of the razor and its power connector adapted to be interposed between said razor and its power connector to form a razor and lamp circuit, an overhanging reflector forming shield supported solely by said member and extending forward along one side of said razor, and an electric lamp carried by said shield having electrical connection with said contacts adapted to illuminate the working zone of said razor.

5. A work lighting means for a portable electrically operated razor having contacts providing for a detachable connection with a power lead, comprising a member having complementary circuit making contacts adapted to connect with and be supported upon the contacts of said razor and also provide contacts for a power lead, a flexible power lead extending from said member adapted to connect said complementary contacts with a service outlet, a light reflecting shield carried and supported solely by said member and extending along one side of said razor, and an electric lamp mounted within said shield and connected to a circuit formed by said complementary contacts adapted to illuminate the working zone of said razor when the razor is connected to the service outlet.

6. In a device of the character described, the combination of an electric razor having a recess at its rear end with circuit establishing contacts disposed therein, a lamp supporting member having a reflector forming portion extending toward the working end of said razor and a projecting portion adapted to telescope into the recess at the rear end of said razor, circuit establishing contacts carried by said projecting end adapted to cooperate with the contacts in the recess at the rear end of the razor and thus secure said lamp supporting member upon the razor, said member also having a recess and circuit establishing contacts arranged similarly to the recess and contacts at the rear end of said razor into which a power service connecting plug may be inserted to connect the razor to a service outlet, and an electric lamp carried by said member having circuit connections with the contacts of said member adapted to illuminate the area adjacent the working end of the razor when the razor is connected to a service outlet.

7. In a device of the character described, the combination of an electric razor having a recess at its rear end with circuit establishing contacts disposed therein, a lamp supporting member having a projecting end adapted to telescope into the recess at the rear end of said razor, circuit establishing contacts carried by the projecting end of said member adapted to cooperate with the contacts in the recess at the rear end of the razor, said member also having a recess and circuit establishing contacts arranged similarly to the recess and contacts at the rear end of said razor, a power service lead having a connecting plug adapted to be inserted in the recess of said member to connect the razor to a service outlet, and an electric lamp carried by said member having circuit connections with the contacts of said member adapted to illuminate the area adjacent the working end of the razor when the razor is connected to a service outlet.

8. In a device of the character described, the combination of an electric razor having a recess with spaced contacts at its rear end with which corresponding contacts of a detachable plug cooperate, a lead having a connector with contacts adapted to normally engage the spaced contacts in the recess of said razor, a lamp supporting member having a reflector forming extension at one end with an electric lamp disposed therein, said light supporting member having spaced double ended contacts with which said lamp is connected, said double ended contacts having oppositely projecting ends adapted to respectively cooperate with aligned contacts upon said razor and upon said connector when interposed between said razor and said connector, and an extension upon said light supporting member projecting over the razor contact engaging ends of said spaced double ended contacts, adapted to project into the recess at the rear of said razor and cooperate with the razor contacts to secure said lamp supporting member upon either side of said razor with the lamp and reflector forming extension of the lamp supporting member in a position to illuminate an area adjacent the working end of the razor when said detachable plug is connected to the other ends of said spaced double ended contacts.

9. In a device of the character described, the combination of an electrically operated razor having circuit forming contacts for detachable connection with a power lead, a power lead having contacts arranged complementary to the contacts of said razor, a lamp carrying member having a forward portion adapted to extend closely along one side of the razor body and support a lamp adjacent the working end thereof and having another portion with circuit forming conductors adapted when interposed between to form a circuit from the contacts of the power lead to the contacts of the razor, said circuit forming conductors having contacts at their opposite ends respectively complementary to the contacts of the power lead and the contacts of the razor, whereby a circuit will be established from the power lead through said lamp carrying member to the razor when said member is interposed between the power lead and the razor, and an electric lamp supported solely by said lamp carrying member and connected to said circuit forming conductors adapted to illuminate an area adjacent the working end of the razor when the razor is in operation.

10. In a device of the character described, the combination of an electric razor having circuit establishing contacts at its rear end with which a detachable power service connecting plug is adapted to connect, a reflector forming member having circuit establishing contacts at one end adapted to engage and cooperate with the contacts of the razor to secure said reflector forming member in a position extending along one side of the razor body and terminating at a point adjacent the working end of the razor, said reflector forming member also having a second set of circuit establishing contacts arranged similarly to the contacts upon the razor with which the detachable power service connecting plug connects when the razor is in use, and an electric lamp carried by said reflector forming member having circuit connections with the contacts of said member adapted to cooperate with said reflector forming member and

illuminate a surface upon which the working end of the razor is placed.

11. In combination with a shaving device having a cutter and electrical means for driving the cutter including a pair of pins extending from one end of the device for connection to a source of power and connected to said electrical means, lighting means comprising a body for connection to said device formed with a socket

5 adjacent the cutter to receive a lamp or the like for illuminating an area adjacent the cutter, said body having at one end a pair of sockets to receive said pins and projecting pins connected to said sockets for connection to a source of power, and connections in said body from said first named socket to said last named sockets and pins.

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