May 10, 1932. K. G. STRÖHER 1,857,677

HAIR CURLER

Filed Jan. 3, 1930

Fig. 1.

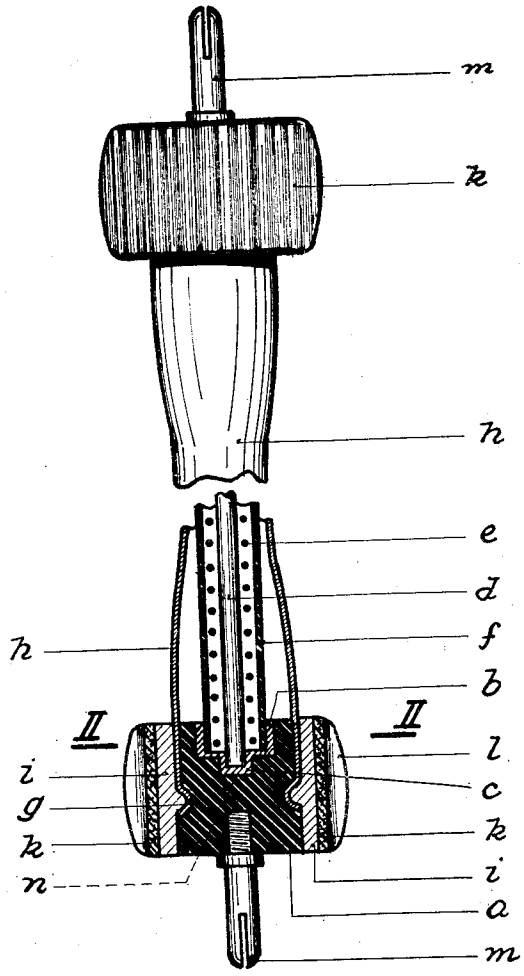
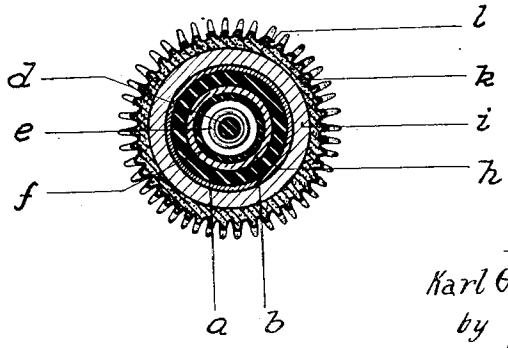


Fig. 2.



Inventor:
Karl Georg Ströher
by Kenichaller
Atty.

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UNITED STATES PATENT OFFICE

KARL GEORG STRÖHER, OF ROTHENKIRCHEN IN VOGTLAND, GERMANY

HAIR CURLER

Application filed January 3, 1930, Serial No. 418,258, and in Germany July 22, 1929.

My invention relates to hair curlers, more especially of the kind heated by electricity, which are used in the production of the so-called permanent waves, and the like.

It is an object of my invention to provide a device of this kind which is simpler and more reliable than other devices heretofore designed, and which will stand rough handling.

To this end I provide a heating coil on a core of insulating material which is surrounded by a casing of insulating material, a support of insulating material at one end, or at each end, of this heating unit and a hollow shaft and a heat-insulated handle secured on the support or supports.

In similar devices as heretofore designed the heating coil was arranged in a glass tube, its ends being connected with contact plugs and embedded in cement, glue, glass or the like, in order to connect it with the metal shaft, and to insulate it therefrom. This type of curler is not satisfactory as it soon gets out of order.

The drawbacks inherent in the devices referred to are eliminated according to this invention by the selection and the arrangements of parts.

In a preferred embodiment of my invention I secure the heating coil on a rod or core of highly insulating material, for instance steatite, and protect it on the outside by a tube of the same or a similar insulating material. The coil is thus perfectly insulated. The ends of the heating unit are secured in supports of insulating material by being fitted or cemented therein, the recess in each support being preferably shouldered for the separate accommodation of the outer tube and the rod or core which projects from the tube. A contact plug is inserted in each support and is connected with the heating coil through the medium of a conductor inserted in a passage of the support. The hollow shaft on which the hair is wound, is secured on the two supports and fixed in position by means of a bead or croze formed in the shaft and penetrating into the corresponding support, so that the two supports, with the heating unit, are held in spaced relation by the hollow shaft. Handles are secured on the ends of the shaft and on the supports, and heat-insulating means are inserted between the handle and the shaft. The handles may be sleeves of rubber, cork, or the like, and may be grooved on the outside to facilitate handling.

In the drawings affixed to this specification and forming part thereof a hair curler embodying my invention is illustrated diagrammatically by way of example, drawn to a magnified scale.

In the drawings

Fig. 1 is a partly sectional elevation of the curler, and

Fig. 2 is a section on the line II—II in Fig. 1.

Referring now to the drawings, *a* is one of the supports, the other support being exactly like it. The supports may be of steatite or other insulating material. Each support on its inner face has a circular recess *b* to which is connected a coaxial extension *c* of smaller diameter, so that the two recesses form a shoulder. *d* is a rod or core of insulating material, steatite in the present instance, the ends of which are fitted into the smaller recesses *c* in both supports, or cemented therein, as shown. *e* is a heating coil which is mounted on the core *d*, and *f* is a tubular casing of insulating material (steatite), which is fitted or, as shown, cemented, into the larger recesses *b* in the supports in such manner as to surround and to protect the heating coil.

The two supports *a* with the heating unit *d*, *e*, *f* constitute a rigid structure on which the hollow shaft *h* may now be secured. Each support is provided with a circular groove and a croze *g* is formed in the ends of the hollow shaft *h* to fit the groove so that the shaft is held against axial displacement on the supports. Obviously any other means might be provided for making a connection between the supports and the shaft which holds the supports and the shaft against relative axial displacement.

i is a sleeve of insulating material, for instance, asbestos, which is placed on the outer ends of the hollow shaft *h* and on the ends

of the supports which project from the shaft, and *k* is a handle in the form of a sleeve of cork or rubber which is secured on the insulator *i* and preferably grooved longitudinally at *l*, so that the handling of the curler is facilitated.

Current is supplied to the heating coil *e* through the medium of contact plugs *m* which are screwed or otherwise inserted into the outer faces of the supports *a*, and *n* is a wire in a bore or passage of each support which connects the corresponding plug *m* with one end of the coil *e*.

In order to facilitate the heat transfer from the heating unit to the shaft *h*, the diameter of the shaft is reduced in its central portion so as to reduce the distance between the heating unit and the shaft to a minimum.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to a person skilled in the art.

In the claim affixed to this specification no selection of any particular modification of the invention is intended to the exclusion of other modifications thereof and the right to subsequently make claim to any modification not covered by this claim is expressly reserved.

I claim:

A hair curler comprising a heating unit including a core of insulating material, a heating coil on said core, and a casing of insulating material surrounding said coil, a support of insulating material attached to the end of said heating unit, a hollow shaft secured on said support with its inside diameter reduced toward the centre of its unsupported portion, and current-conducting means on said support connected with said coil.

In testimony whereof I affix my signature.

KARL GEORG STRÖHER.