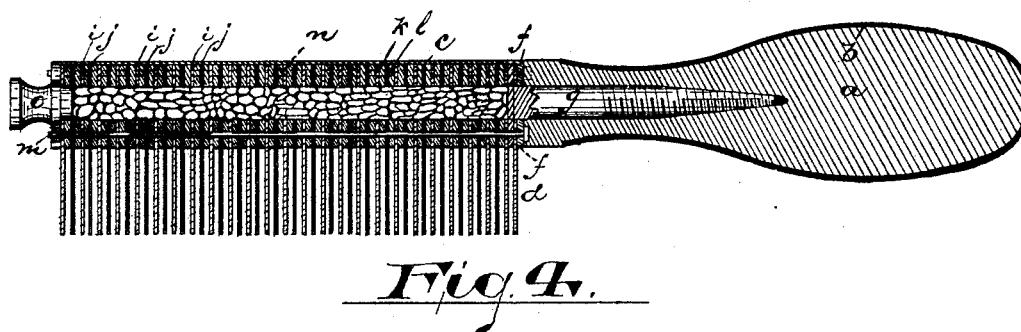
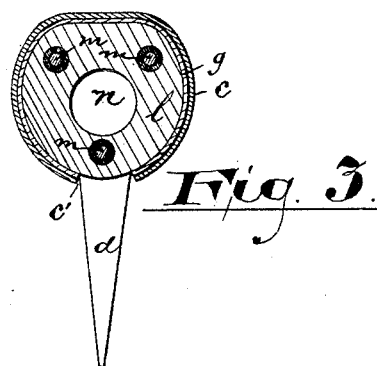
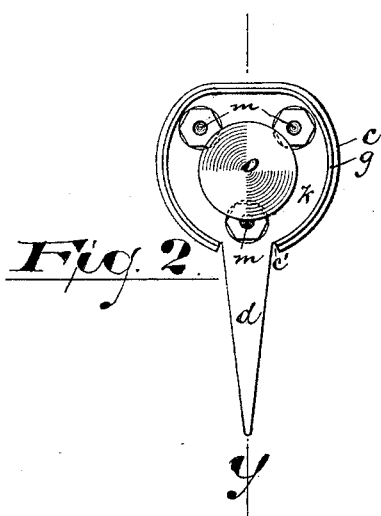
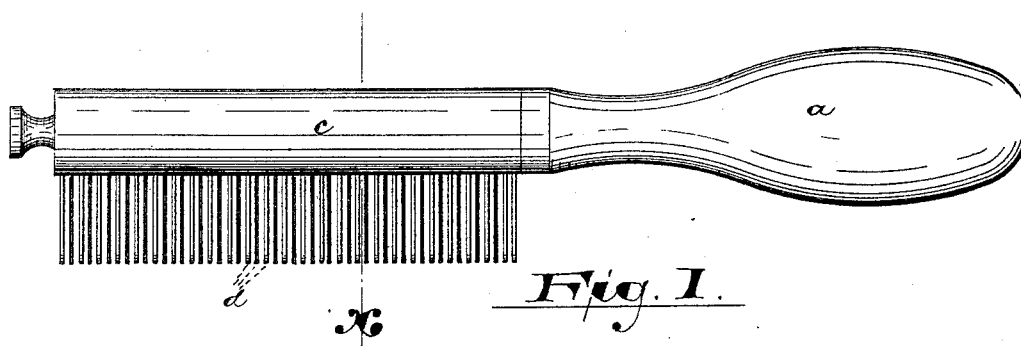


(No Model.)

J. M. RILEY.
ELECTRIC COMB.

No. 458,952.

Patented Sept. 1, 1891.



Witnesses

Inventor's

Oscar A. Michel
Chas. R. Michel

John M. Riley,

By Drake & Co. Attys.

UNITED STATES PATENT OFFICE.

JOHN M. RILEY, OF NEWARK, NEW JERSEY, ASSIGNOR TO MARGARET A. RILEY, OF SAME PLACE.

ELECTRIC COMB.

SPECIFICATION forming part of Letters Patent No. 458,952, dated September 1, 1891.

Application filed May 1, 1891. Serial No. 391,289. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. RILEY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Electric Combs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in electrical combs for use in giving vitality and strength to the hair and restoring gray hair to its original color, or the color of earlier manhood or womanhood, when employed in combing the hair in the ordinary manner in connection with toilet preparations.

The invention consists in the improved electrical comb and in the arrangements and combinations of parts thereof, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claims.

Referring to the accompanying drawings, in which like letters indicate corresponding parts in each of the views, Figure 1 is a side view of a comb having my improvements. Fig. 2 is an end view of the same; and Figs. 3 and 4 are sectional views taken, respectively, on lines *x* and *y* of Figs. 1 and 2.

In said drawings, *a* indicates a handle, which is preferably of non-conductive material—such as wood or rubber—and *b* is an ornamental metallic facing, which may be employed to cover the less ornamental core. On said handle is secured by suitable means a long receptacle *c*, which forms the back of the comb, one side of which receptacle is slotted or open longitudinally, as at *c'*, Figs. 2 and 3, to receive or admit of an outward extension of the teeth *d*, as will be understood upon reference to Fig. 2. At the inner extremity of the receptacle the same is closed or provided with an end plate *f*; Fig. 4, which is perforated to allow the passage of a screw *g* into the non-conductive handle, the said screw having a head, which may be one of the teeth or plates within the receptacle; or said screw may be soldered to the end plate, and in this event

the said end plate may be imperforate. The receptacle *c* may be secured to the handle by other means than those particularly described. Within the receptacle, the inner walls of which must be made non-conductive by the insertion of a non-conductive lining, as indicated in Figs. 2 and 3 at *g*, or the receptacle itself may be of non-conductive material, is arranged a voltaic pile of plates *i* and *j*, to which the teeth *d* are integrally connected, copper and zinc alternately being the metals preferably employed. Said plates have disk-like heads *k*, which lie within the chamber of the receptacle and are insulated from one another by non-conductive washers *l*, which are preferably of hard rubber. They are held in place within the receptacle by two or more bolts *m*, which are insulated when of metal by rubber tubing or other insulation, and extend longitudinally through the receptacle and receive nuts, which may be removed, and thus enable the parts to be separated at will. At the center of the plates or in other suitable parts thereof and in the insulating-washers are large perforations, which coincide and form a chamber *n* for a chemical substance or excitant of electricity—such as sal-ammoniac—and thus when said electrical excitant is in place I have a dry battery or series of batteries, a series of circuits being completed when the teeth are brought into contact with the head or hair, as will be apparent.

By the use of a dry excitant of electricity I avoid all danger of leakage and the trouble and annoyance which might be occasioned thereby. In the use of the word "dry" I do not intend to use it in an absolute sense, as the salt will absorb a certain amount of moisture from the air, or moisture may be added by the operator in limited quantities.

The chamber *n* is open at one end to allow the insertion of the said chemical substance, the opening being provided with a suitable plunger-stopper *o* of any desirable construction.

Having thus described the invention, what I claim as new is—

1. An electrical comb combining therein a series of electrically-different plates separated by an electrical non-conductor, a chamber for an excitant, and means for holding said plates

and insulators in a voltaic pile, substantially as set forth.

- 5 2. An electric comb the back of which provides a longitudinal receptacle, a series of toothed and electrically-different plates arranged within said receptacle, and means for insulating said plates and for exciting electrical action, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of 10 April, 1891.

JOHN M. RILEY.

Witnesses:

CHARLES H. PELL,
OSCAR A. MICHEL.