

R. KERN.
WIRE BRUSH.
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1,408,951.

Patented Mar. 7, 1922.

Fig. 1.

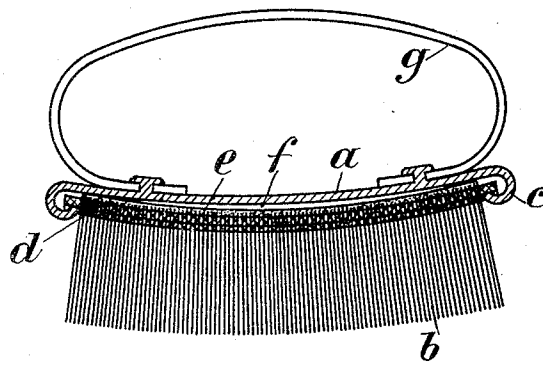
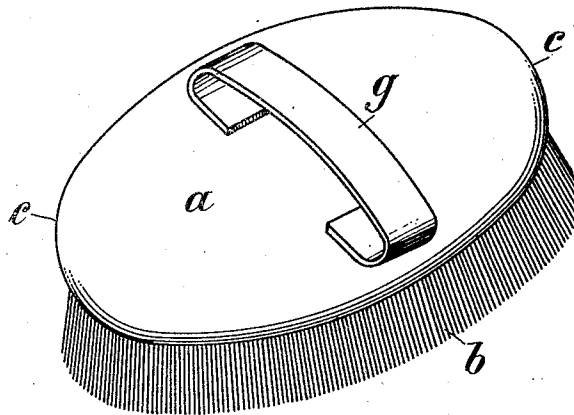


Fig. 2.



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WIRE BRUSH.

1,408,951.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RUDOLF KERN, a citizen of the German Republic, and resident of Aachen, Germany, have invented certain new and useful Improvements in and Relating to Wire Brushes, of which the following is a specification.

My present invention has for its object to provide an improved wire-brush made entirely from metal. The characteristic feature of the invention resides in the fact that an oval slightly arched metal plate has a downturned edge to embrace a wire carrying sheet made of compound rubber-cloth and supplied or fitted mechanically in oval form with fine wires. The two-armed U shaped wires bear with their base portion against a layer of felt, secured to the back of the sheet of rubber-cloth and preventing said wires from passing therethrough, said layer of felt together with the metal plate forming a narrow air cushion which provide for the cushioning of the bottom of the brush. Said air cushion will be re-formed after each depression of the brush, owing to the fact that the double U-shaped wires, the arms of which slightly diverge towards the points thereof, cause the upper side of the rubber sheet to be tensioned and arched.

My present wire-brush which may first be used as a brush, a curry-comb, or a hair-brush as well as for other purposes is illustrated in one form of embodiment (curry-comb) in the accompanying drawing, wherein:

Fig. 1 is a vertical section and

Fig. 2 a perspective view of the improved brush.

The oval metal plate *a* is preferably formed of a light and durable aluminium alloy and slightly arched towards the center thereof, the convex face of the plate being turned towards the wires *b*. The peripheral edge of said plate is curved on an arc of circle *c* and said curved edge embraces the peripheral edge of the wire carrying sheet *d* to secure the same in place. Said wire carrying sheet is formed of thin rubber-cloth and fitted mechanically in oval form with fine compact wires. The double wires bent in a well-known way in the shape of U, bear with their base portion against a layer of felt *e* applied to the back of the rubber-cloth and preventing the wires from passing therethrough. Provided between said layer

of felt and the metal plate *a* is an air space *f* which gives the bottom of the brush a yielding elastic nature. Said air space is not provided as for instance in a pneumatic motion by inflation by means of a pump— which has already been proposed previously for hair brushes—but said air cushion will be immediately re-formed after each depression of the brush in use, owing to the fact that the U-shaped wires, the arms of which slightly diverge towards the points thereof, act to subject the upper side of the rubber cloth to tension and arch the same. At the same time the layer of rubber prevents dirt from impregnating the layers of cloth of the bottom of the brush. In order to facilitate the manipulation of the brush serving as a curry-comb, the upper face of the metal plate is provided with a strap *g*. In hair-brushes a suitable handle is substituted for said strap.

In hair-brushes the strands or wires are arranged at right angles to the bottom of the brush, whilst in combined brushes and curry-combs said wires are preferably inclined at an angle to the elastic bottom, whereby the same brush may be used for currying coarse and fine haired horses, the brush being either passed against the hair (coarser and harder) or in the direction of the hair (finer and softer). The brush may also be used primarily for currying purposes, that is for the removal of heavy dirt and the combing of hair sticking together. To this end the outer face of the metal plate *a* may be provided with suitable words such as "hard" and "soft" as with arrows to indicate the kind and direction of cleaning in every case.

A hair brush or curry-comb of the kind described is distinguished by its very little weight and an extraordinary superior grooming action. Said brush completely avoids the use of a curry-comb proper. In contradistinction to the latter, it does not pull out implanted hair from horses and it will perfectly remove dirt and pellicles from the skin and hair. After a short time the latter will be quite brilliant and have a velvet-like softness.

The strain that is necessary for grooming horses is much lighter than with the use of ordinary curry-combs, because the yieldingly supported wires of the brush are adapted to pass more easily than rigid bristles onto the skin or scalp. The time

that is necessary for thoroughly grooming a horse is—according to practical experiments—about a quarter of the time that is necessary with the use of an ordinary curry-comb or brush.

Hair-brushes may be made according to the same principle with some suitable modifications and may be advantageously used according to experiments made heretofore.

10 With a brush of this kind the thickest and most entangled woman's hair may be disentangled and combed without any appreciable strain, so that the usual hair-comb may be dispensed with, except for the dressing

15 proper of the hair. As hair-brushes in contradistinction to brushes or curry-combs are subjected to strains in the direction of their transverse axis, the wires of said brushes will not be inclined but arranged at right

20 angles to the bottom of the brushes as already stated. In contradistinction to the usual comb, my improved wire-brush avoids nearly completely the pulling out of well implanted hair. This advantage which is in-

25 valuable for the preservation of well cared woman's hair proceeds on one hand from the great elasticity of the fine wire and on the other hand from the perfect cushioning of the bottom of the brush owing to the use

30 of rubber material in conjunction with the intermediate air space. At the places where the hair is too strongly entangled, the smooth yielding wire simply glides over the same, whilst the rigid comb pulls the hair out with

the root thereof. My brush also prevents the hair from being broken.

Of course hair-brushes of the kind described, as well as brushes or curry combs, may have any desired degree of hardness to accommodate all requirements. The durability of these wire-brushes if conveniently manipulated, will be undoubtedly longer than any other brush heretofore used.

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

A brush having an elongated back member formed of sheet material arched transversely thereof and having the edge portion turned downwardly and inwardly to form a bead, a wire carrying sheet having wire bristles secured therein perpendicular to its surface, said sheet having its edge portion extended into the bead of the back portion and retained therein, a felt pad between the back member and the sheet to provide an abutment for the wires in the sheet, and a handle secured to the back member whereby the arched back member will retain the wire carrying sheet in arched shape to cause the wire bristles to diverge toward the outer ends.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

RUDOLF KERN.

Witnesses:

LOUIS STRICK,
JOS. STRICK.