E. W. GROVE.

COMB.

APPLICATION FILED JAN. 12, 1915.

1,169,028. Patented Jan. 18, 1916.

Fig. 1.

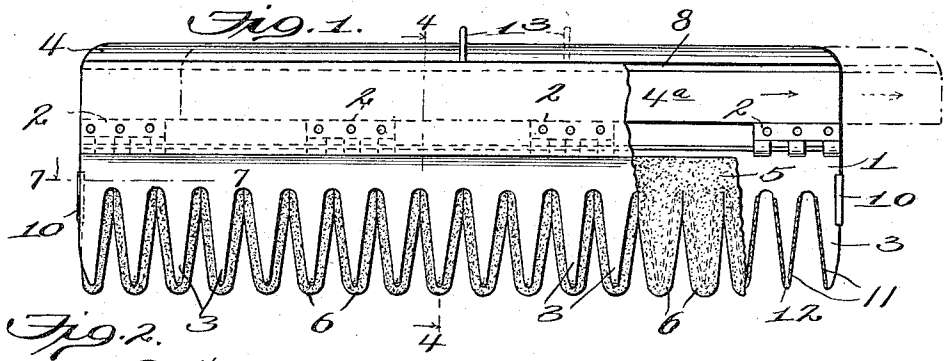


Fig. 2.

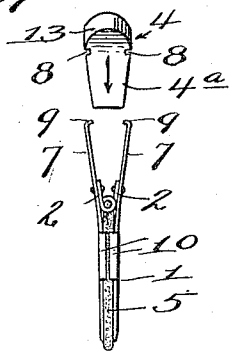


Fig. 3.

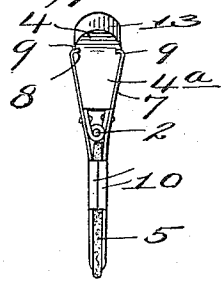


Fig. 4.

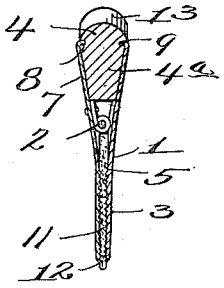


Fig. 5.

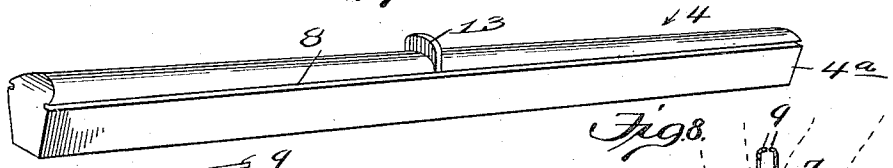


Fig. 6.

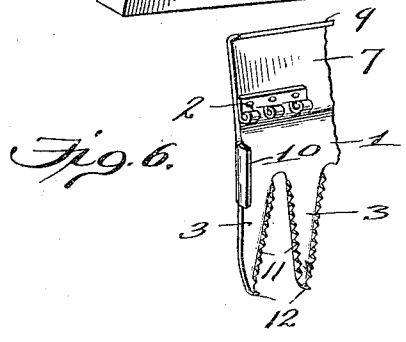


Fig. 7.

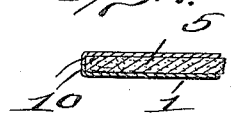
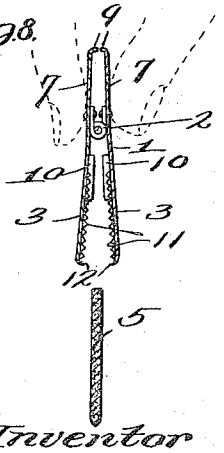


Fig. 8.



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UNITED STATES PATENT OFFICE.

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COMB.

1,169,028. Specification of Letters Patent. Patented Jan. 18, 1916.

Application filed January 12, 1915. Serial No. 1,816.

To all whom it may concern:

Be it known that I, EDWIN W. GROVE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented new and useful Improvements in Combs, of which the following is a specification.

This invention relates to improvements in combs, proposing a comb which, when used in the ordinary manner to straighten or smooth the hair, is also instrumental in cleaning the hair and the scalp. The scalp and hair cleaning function of the comb is discharged by an absorbent medium which is associated with the teeth and which takes up moisture and oily matter.

The objects of the invention are to provide a simple, durable and practical construction of comb of the type stated and to provide an improved relation between the permanent parts of the comb and the absorbent scalp and hair cleaning medium whereby the latter may be readily and quickly removed or replaced relative to said permanent parts, whenever the occasion may require.

An embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation, partly in longitudinal section, of a comb in which the features of the invention are incorporated; Fig. 2 is an end elevation of the comb showing certain parts thereof in disassembled relation; Fig. 3 is an end elevation of the comb with the parts thereof completely assembled; Fig. 4 is a cross-sectional view of the comb; Fig. 5 is a detail perspective view of an element which forms the back of the comb and is removable from the comb for a purpose which will appear as the description proceeds; Fig. 6 is a detail perspective view, looking at the inner side of an end portion of one of the halves or members of the comb body; Fig. 7 is a detail sectional view on the line 7—7 of Fig. 1; and Fig. 8 is a detail sectional view showing the two halves or members of the comb body with the comb back removed therefrom and in positions, relative to one another, to permit of the removal or insertion of the absorbent hair and scalp cleaning medium.

Similar characters of reference designate corresponding parts throughout the several views.

The improved comb includes a body of metal or other suitable material composed of two members or halves 1 connected by hinges 2 arranged at appropriate intervals lengthwise of the comb and having their leaves secured by rivets or otherwise to the inner faces of the halves 1. The members 1 are formed below the hinges 2 with teeth 3 similar in outline and arrangement to ordinary comb teeth. The comb is completed by a bar 4 which forms the comb back and an absorbent element 5, preferably composed of felt, which is fitted between and is securely clamped by the members 1. The absorbent element 5 is formed with teeth-like projections 6 which correspond in number and arrangement to the teeth 3 but are slightly wider and longer than said teeth in order to project beyond the edges and points of the teeth 3, as clearly shown in Fig. 1.

The members 1 are composed of suitable resilient material having the requisite strength for the purposes in view, spring steel being the material preferably employed. Those portions of the members 1 below the hinges 2 and which are formed with the teeth 3, have a nearly parallel, though very slightly tapering, relation, as clearly shown in Fig. 4, while the upper portions of the members 1, *i. e.*, the portions of said members above the hinges 2, have an upwardly flaring relation and are suitably extended to provide spring leaves 7 for engagement by the bar 4. The bar 4 has the portion 4^a thereof which is formed to engage between the leaves 7 of downwardly tapering cross section, as clearly shown in Fig. 2, and above its said engaging portion 4^a and at opposite sides thereof is provided with longitudinal grooves 8, the grooves 8 extending from end to end of said bar. The leaves 7 are provided at their upper edges with in-turned flanges 9 which engage in the grooves 8 when the bar 4 is assembled, as shown in Fig. 3 and serve to retain the bar 4 against upward displacement and to permit of sliding movements of said bar relative to the comb body for a purpose which will be presently explained.

The members 1 are provided at their ends

and below the hinges 2 with confronting in-turned flanges 10 which facilitate the assemblage of the absorbent element 5 and serve to center said element relatively to said members. The teeth 3 have a slightly channeled cross section, as shown in Fig. 6, and at their sides are provided with a relatively large number of small, somewhat sharply pointed, inwardly directed prongs 11. Said teeth are also provided at their apices with a single, somewhat sharply pointed, inwardly directed prong 12.

In order to fit the absorbent element 5 between the members 1, it is necessary that the bar 4 should be disengaged from said members 1. The assemblage of the absorbent element 5 is effected by moving the members 1 about their hinges 2 to spread their lower teeth-carrying portions, the flaring relation of the spring leaves 7 permitting such manipulation of the members 1. When the teeth-carrying portions of the members 1 have been sufficiently spread, the absorbent element 5 is introduced between said members, as shown in Fig. 8, the inner edge of said absorbent element ultimately engaging against the hinges 2 and the teeth-like projections 6 of said absorbent element engaging symmetrically between the teeth 3. Thereafter, the tooth-carrying portions of the members 1 are pressed together to engage their prongs 11 and 12 against the absorbent element 5, and while the manual pressure on the tooth-carrying portions of the members 1 is maintained, the bar 4 is assembled. To assemble the bar 4 it is first alined with the space between the leaves 7 and it is thereupon moved into said space, the wedge-like form of its engaging portion 4^a readily permitting of the introduction of the bar 4 between the leaves 7. The movement of the bar between the leaves 7 and toward the hinges 2, as indicated by the arrow in Fig. 2, is continued until the marginal flanges 9 of the leaves 7 engage in the grooves 8 consequent to the inwardly springing action of said leaves. This relation is shown in Fig. 3. When the bar 4 has been thus assembled between the upper portions of the comb body, its upward or outward displacement from said body is prevented by the engagement of the flanges 9 in the grooves 8, as will be obvious. During the insertion of the bar 4 between the leaves 7, the said leaves are sprung apart to some extent whereby an inward springing of the teeth 3 is effected, such inward springing of said teeth 3 causing the teeth to engage the projections 6 of the absorbent element 5 with secure clamping pressure, which clamping pressure is maintained so long as the bar 4 remains between the leaves 7. The maintenance of this clamping pressure during the period that the bar 4 remains between the leaves 7 is due to the fact that said bar keeps said leaves constantly under tension and spread apart to a somewhat greater extent than is normal, as will be apparent by a comparison of Figs. 2 and 3, Fig. 3 showing the leaves 7 with the bar 4 engaged therebetween and spread apart to a greater extent than in Fig. 2 which shows the relation of said leaves when the bar 4 is removed. In this connection it is to be observed that the flanges 10 while of sufficient depth to properly center the absorbent element 5 relatively to the comb body are sufficiently short to permit a slight inward springing of the teeth 3 consequent to the introduction of the bar 4 between the leaves 7.

When it is desired to remove the absorbent element from the comb body, it is necessary to remove the bar 4 from between the leaves 7. Such removal of the bar 4 is conveniently accomplished by sliding the bar longitudinally of the comb body, as shown by dotted lines in Fig. 1, the bar having for this purpose a suitably located finger piece 13. The flanges 9 by their engagement in the grooves 8 constitute guides for the bar 4 during its sliding movement to effect its disengagement from the comb body, but the leaves 7 and the flanges 9 engage said bar with sufficient friction to prevent any accidental displacement thereof. When the bar 4 has been removed from the comb body in the manner explained, the members 1 are manipulated into the position shown in Fig. 8 and the absorbent element 5 is thereupon removed from said members.

The comb is used in the same manner as any ordinary comb to smooth and straighten the hair, and when so used, the projecting portions of the absorbent element 5 absorb oily matter from the hair and scalp and take up particles of dust or dandruff and the like. The comb may, however, be applied to the scalp with greater pressure than an ordinary comb, owing to the softness of the engaging surfaces provided by the teeth-like projections 6 and thus it may be used not only to smooth, straighten and clean the hair, as above explained, but also to gently massage the scalp and in this way to stimulate and invigorate the same and to insure of a healthy and normal circulation. In this way, the regular use of the comb will insure of the scalp and hair being kept in a clean and healthy condition.

When the absorbent element 5, as a result of continued use, becomes so soiled that it is unfit or undesirable for further use, said element may be removed in the manner described and a new and clean one substituted. One advantage of the construction disclosed is that the absorbent element 5 may be made of felt having sufficient body to permit of its being readily cleaned by water or alcohol or any other suitable me-

dium. After a soiled felt has been cleaned, it is dried, and when dried, is ready for further use. In this way, the efficient life of the absorbent element 5 may be rendered indefinite.

The bar 4, apart from its coöperation with the members 1, in securing the absorbent element 5 in operative position, constitutes the back of the comb, as above stated, and in serving as the back of the comb, it has several advantages; in the first place, it gives the comb a neat and attractive appearance; in the second place, in combination with the leaves 7 it affords a convenient hand-grip by which the comb may be manipulated; in the third place, it insures of the requisite "balance" of the comb; and finally, it provides a reinforcement for the members 1 and prevents any denting or deformation of said members.

The prongs 11 and 12, while sufficiently long to insure the secure and reliable retention of the absorbent element 5 when the back 4 is assembled, are at the same time sufficiently short to be buried throughout substantially their whole depth in the soft material of the element 5 consequent to the clamping pressure exerted by the teeth 3. In this way, the spaces between said prongs are substantially closed by the absorbent element 5, and consequently there is no liability of the prongs catching against the strands of hair.

The construction described is highly efficient for the purposes in view, strong and durable, and at the same time is simply constructed and may be inexpensively manufactured.

Having fully described my invention, I claim:—

1. A comb comprising a comb body having companion halves articulated for movement toward and away from one another and each provided with teeth formed and arranged similarly to comb teeth, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and means for causing said companion halves of said comb body to exert a clamping action on said absorbent element.

2. A comb comprising a comb body having companion halves articulated for movement toward and away from one another and each provided with teeth formed and arranged similarly to comb teeth, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and means for causing said companion halves of said comb body to exert a clamping action on said absorbent element, said teeth being provided with inwardly projecting prongs to grip and secure said absorbent element.

3. A comb comprising a comb body having companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and means removably associated with said spring leaves for springing the same and thereby causing said teeth to exert clamping pressure upon said absorbent element.

4. A comb comprising a comb body having companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a bar removably fitted between said spring leaves and forming the back of the comb, said bar when fitted between said leaves springing the same and thereby causing said teeth to exert clamping pressure upon said absorbent element.

5. A comb comprising a comb body having companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a bar having a wedge-shaped cross-section and having a conformable wedge fit between said leaves, said bar when fitted between said leaves forming the back of the comb, and springing said leaves to thereby cause said teeth to exert clamping pressure upon said absorbent element.

6. A comb comprising a comb body hav-

ing companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a bar having a wedge-shaped cross-section and having a conformable wedge fit between said leaves, said bar when fitted between said leaves forming the back of the comb, and springing said leaves to thereby cause said teeth to exert clamping pressure upon said absorbent element, said leaves having inturned flanges along their longitudinal edges and said bar having longitudinal grooves extending from end to end thereof and in which said flanges engage.

7. A comb comprising a comb body having companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and means removably associated with said spring leaves for springing the same and thereby causing said teeth to exert clamping pressure upon said absorbent element, said teeth being provided with inwardly projecting prongs to grip and secure said absorbent element.

8. A comb comprising a comb body having companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a bar removably fitted between said spring leaves and forming the back of the comb, said bar when fitted between said leaves springing the same and thereby causing said teeth to exert clamping pressure upon said absorbent element, said teeth being provided with inwardly projecting prongs to grip and secure said absorbent element.

9. A comb comprising a comb body having companion halves articulated for movement toward and away from one another and each provided with teeth formed and arranged similarly to comb teeth, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a comb back removably associated with said halves and operative to cause said halves to exert a clamping action on said absorbent element.

10. A comb comprising a comb body having companion halves articulated for movement toward and away from one another and each provided with teeth formed and arranged similarly to comb teeth, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a comb back removably associated with said halves and operative to cause said halves to exert a clamping action on said absorbent element, said teeth being provided with inwardly projecting prongs to grip and secure said absorbent element.

11. A comb comprising a comb body having companion halves articulated for movement toward and away from one another and each provided with teeth formed and arranged similarly to comb teeth, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and means for causing said companion halves of said comb body to exert a clamping action on said absorbent element, said halves having inturned flanges at their ends to center said absorbent element relatively to said comb body.

12. As an element of a comb having an exposed absorbent element, a holder for said absorbent element comprising a comb body having companion halves, hinges connecting said halves and arranged between the inner faces and substantially below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves and a bar having a wedge-shaped cross-section and having a conformable wedge fit between said leaves, said bar when fitted between said leaves forming the back

of the comb and springing said leaves to thereby cause said teeth to exert clamping pressure upon said absorbent element.

13. As an element of a comb having an exposed absorbent element, a holder for said absorbent element comprising a comb body having companion halves articulated for movement toward and away from one another and each provided with teeth formed and arranged similarly to comb teeth, and a comb back removably associated with said halves and operative to cause said halves to exert a clamping action on said absorbent element.

14. A comb comprising a comb body having companion halves, hinges connecting said halves and arranged parallel to and below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, an absorbent element proportioned to be fitted between the halves of the comb body and having teeth-like projections corresponding in number and arrangement to said teeth but of slightly greater area whereby to project slightly beyond said teeth, and a comb back removably associated with said spring leaves and operative to spring said leaves and thereby cause said teeth to exert clamping pressure upon said absorbent element.

15. As an element of a comb having an exposed absorbent element, a holder for said absorbent element comprising a comb body having companion halves, hinges connecting said halves and arranged parallel to and below the back edges thereof, each of said companion halves being provided with teeth formed and arranged similarly to comb teeth, the portions of said halves above said hinges providing spring leaves, and a comb back removably associated with said spring leaves and operative to spring said leaves and thereby cause said teeth to exert clamping pressure upon said absorbent element.

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

EDWIN W. GROVE.

Witnesses:
W. V. CURRAN,
F. N. HAMMER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."