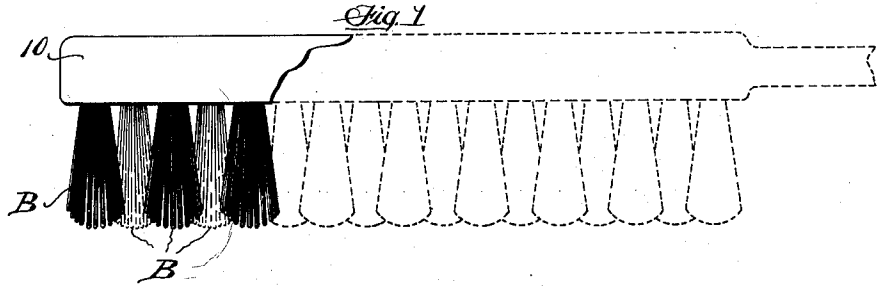
July 22, 1941. H. LARSON 2,250,112

HAIRBRUSH

Filed April 22, 1939

Fig. 1



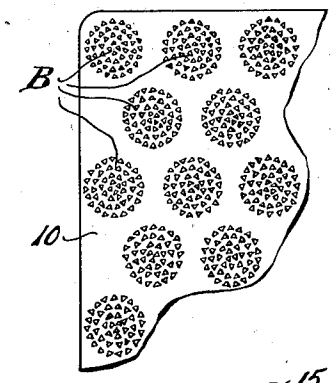


Fig. 2

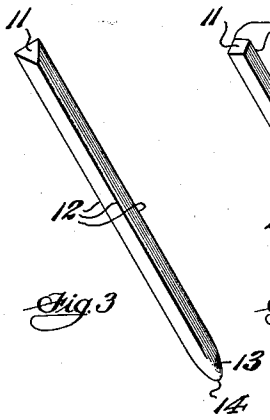


Fig. 3

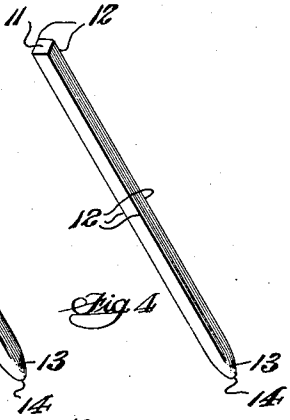


Fig. 4

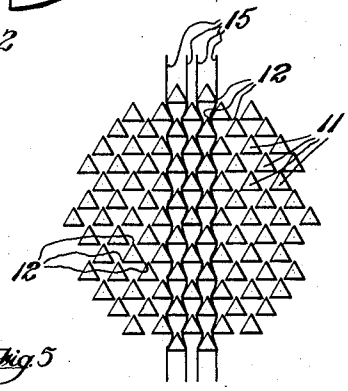


Fig. 5

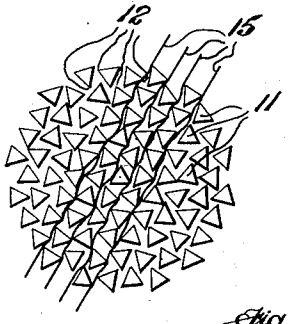


Fig. 6

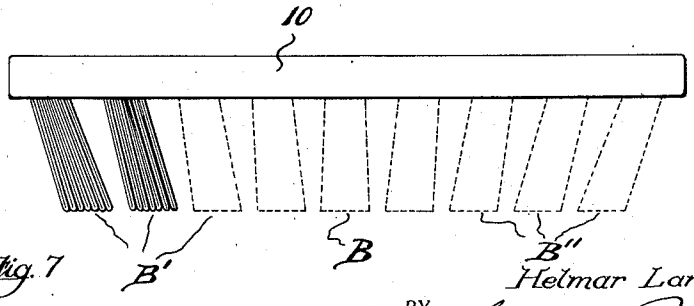


Fig. 7

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2,250,112

HAIRBRUSH

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2 Claims. (Cl. 15—159)

This invention relates to improvements in hairbrushes; and the invention has reference, more particularly, to a novel construction of brush having bristles of edged formation for effectively cleaning and flattening the hair to which the brush is applied in use.

This invention has for an object to provide a novel hairbrush comprising flexible bristles, said bristles being of such character (that is to say of harder characteristic than is human hair) as to provide, along the lengths thereof, a plurality of relatively sharp edges, whereby as such bristles are caused to penetrate and are moved through and along the hair to which the brush is applied in use, the bristle edges will move along the hair filaments with a scraping action which is highly effective both to remove adhering dirt particles or encrustations therefrom, as well as to exert a flattening effect upon the same, whereby a strong tendency to naturally wave is imparted thereto which renders the same more responsive to waving and other hair dressing operations as well as rendering the hair more effectively manageable generally.

Another object of the invention is to provide a hairbrush made up of a multiplicity of flexible bristles of polygonal cross sectional shape whereby comparatively sharp longitudinal edges are provided thereon; said bristles terminating in tapered free end portions to facilitate penetration thereof into the hair to which the brush is applied; said bristles being arranged in such related association as to be tensionally yieldable in relation one to another, whereby a strong gripping effect is exerted upon the hair filaments passing therebetween, which not only attains the desired scraping and flattening effects upon the hair, but which also exerts pulling effect upon the hair filaments which is transmitted to the hair roots and scalp so as to exercise the scalp and stimulate blood circulation therethrough whereby natural and healthy growth of the hair is promoted.

Another object of this invention is to provide in a hairbrush of the character above mentioned a novel arrangement of bristle mounting whereby the tensional grip of the bristles upon the hair filaments is progressively increased during the movement of the brush along the hair; this being attained by progressively increasing the angular pitch of successive rows of bristles which make up the brush body.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

Illustrative embodiments of this invention are shown in the accompanying drawing, in which:

Fig. 1 is a side elevation of a hairbrush according to the invention shown partly in full lines and partly by dotted representation; Fig. 2 is a fragmentary plan view of the bristle face of the brush; Fig. 3 is a perspective view of one form of bristle (greatly enlarged) adapted to provide along the length thereof a plurality of comparatively sharp edges; and Fig. 4 is a perspective view of another form of bristle (greatly enlarged) adapted to provide comparatively sharp longitudinally extending edges.

Fig. 5 is a schematic view showing a bunch of the novel bristles arranged in symmetrical relation, and diagrammatically illustrating the effect thereof when moved in and along hair filaments; Fig. 6 is a similar view, but showing the bristles in asymmetrical relation.

Fig. 7 is an end elevation of a brush according to this invention with the bristle rows respectively pitched at different angles to the plane of the brush face.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring to the drawing, the brush according to this invention comprises any suitably shaped brush back 10 in which are mounted, in any manner commonly practiced in the art, the bristle body, so that the latter projects from said back 10 and forms the bristle face of the brush.

The bristle body of the brush comprises flexible bristles 11 of polygonal cross sectional shape whereby the same are provided, along the length thereof, with comparatively sharp laterally projected edges. Illustrative of a preferred form of bristle 11 so characterized is one of triangular cross sectional shape, as shown in Fig. 3, whereby a plurality of longitudinally extending comparatively sharp laterally projected edges 12 are provided thereon. At its free end the bristle 11 so formed is provided with a tapered end portion 13 terminating in a preferably rounded extremity 14. Illustrative of another form of said bristle 11 is one of diamond-shaped cross section, as shown in Fig. 4, whereby a plurality of longitudinally extending comparatively sharp laterally projected edges 12' are provided thereon. The free end portion of the last mentioned bristle form is likewise provided with the tapered end portion 13 terminating in a preferably rounded extremity 14.

The edged bristles above described may be made by any suitable process of production, and of any suitable material of flexible but hard or unyielding character. In some cases, for example, the bristles could be made of metal, vegetable fibre of suitable characteristics or the like, but preferably the same would be made of any suitable plastic material such as heretofore used or such as could be used to produce an artificial bristle element by molding, extrusion or other available process. The production of the bristles by extrusion through dies of suitable shape affords a very practical method of obtaining the bristles, since such method lends itself especially well to the attainment of any desired polygonal cross sectional shape calculated to provide the laterally projecting longitudinally extending comparatively sharp and unyielding edges thereon as required under the principles of this invention.

A multiplicity of the novel edged bristles 11 may be assembled together in bunches, rows, or any other desired relation, and, as so assembled, thereon mounted on the brush back 10 to provide the operative bristle face of the brush. Preferably, however, the bristles 11 are arranged in bunches B, as shown in Figs. 1 and 2, with the butt end portions of said bunches constricted together and inserted into and thereupon suitably anchored to the brush back 10. The bristle bunches so provided preferably have the bristle elements 11 disposed therein that the same are relatively divergent toward the free end of each bunch. Such arrangement tends to separate or slightly space apart the tapered free end portions 13 of the bristle elements, thus facilitating the penetration of the hair thereby, as the brush is applied to hair in use, so that hair filaments 15 will tend to separate and pass between the bristles. Since, as thus arranged, the bristles of the bunches B converge inwardly one upon another, as the hair filaments enter therebetween and move into the interior of the bristle bunches, a frictional engagement of the hair filaments by the edges 12 of laterally opposed bristles is assured, such condition being further assured by the flexible resiliency of bristles which in parting will be placed under lateral tension, calculated to further assure continuous contact of their edges with the hair filaments, as the bristles are moved or stroked along the hair. It will be obvious that the hair filaments 15 will pass in a more or less wavy or zig-zag line between adjacent bristles, and in somewhat snubbed relation to the latter as indicated in Figs. 5 and 6, and consequently, the bristle edges will be drawn along the hair filaments with a strong frictional contact therewith, whereby said filaments will not only be thoroughly scraped, so as to assure efficient removal of dirt particles and encrustations therefrom, but also so as to be subjected to a flattening action. Since the hair filaments are tensionally and frictionally gripped between adjacent bristles, it will be obvious that a pulling action will also be exerted upon the same, with resultant exercising effect upon the scalp and upon the hair roots.

The bristles 11 may be associated in assembled condition so as to assume a symmetrical relation, as shown in Fig. 5, or they may be assembled in a symmetrical relation as shown in Fig. 6. In either case, comparatively sharp edges of the bristles will be presented so as to engage hair filaments passing between adjacent bristles.

The action of the brush as composed of the novel edged bristles is not harsh and yet is sufficiently strong to exert the desired flattening effect upon the hair filaments. The flattening of said hair filaments, especially when the hair is naturally straight with little or no tendency to wave, is highly desirable, since it is known that in naturally wavy hair the hair filaments are of flattened characteristic, whereas straight hair is round. By the consistent use of the novel brush upon straight hair, the round hair filaments composing the latter, will be gradually reduced to a flattened condition, with tendency to acquire a naturally wavy character. Habitual use of the novel brush will not only keep the hair clean and with tendency to wave, but will render the hair more easily manageable for ordinary dressing, for finger waving and like treatments, as well as more susceptible to best results when professionally dressed.

It is in some cases desirable, once the novel edged bristles are caused to penetrate the hair, and as the hair is thereupon stroked with the edged bristles, that the tensional grip of the bristles upon the hair be allowed to increase as the stroke continues. To attain this end the longitudinal rows of bristles 11 or bristle bunches B may be successively pitched at increasing angles from the perpendicular, so that outlying bristles or bristle bunches increasingly incline in opposition to the direction of movement of hair filaments therebetween when the hair is stroked by the brush. Such increasing angular pitch tends to increase the tensional reaction of the edged bristles in contact with the hair so as to increase the frictional effect of the former upon the latter. This is shown in Fig. 7, wherein the middle row of bristles is perpendicular to the face of the brush, while outlying rows are successively pitched at progressively increased angles. If the brush is drawn through the hair from left to right, the outlying bristle rows B′ will exert the increasing tensional and frictional effect, whereas if the brush is drawn through the hair from right to left, the outlying bristle rows B″ will exert said increasing tensional and frictional effect. The brush form shown in Fig. 7 may be used equally well when moved in either direction, or when operated by either left or right hand manipulation. If desired, the brush so characterized may be made for right hand operation and effective movement from left to right, by making the outermost or right hand row perpendicular and then successively increasing the angular pitch of succeeding rows in the manner shown by the bristle rows B′. To provide a brush for left hand manipulation, the reverse of this arangement would be utilized, wherein the outermost left hand row of bristles would be perpendicular, and the succeeding rows angularly pitched from right to left as are the bristle rows B″. By making the brush back concavo-convex, a similar progressively angularly pitched arrangement of the bristle rows can be obtained.

I am aware that many changes could be made in the above described constructions, and many apparently widely different embodiments of this invention could be made without departing from the scope thereof as defined in the following claims. It is therefore intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A hairbrush comprising a brush back, bristle bunches affixed to said back for projection there-

from to form the bristle face of the brush, the bristles of each bunch being disposed in relatively divergent extension from the bunch root toward their free extremities, and the bristles forming said bunches being of smooth, firm but flexible character and of polygonal cross sectional shape whereby the same are provided with laterally projecting sharp edges along the length thereof.

2. In a hairbrush, a bristle face comprising a multiplicity of closely disposed bristles composed of unyielding material of smooth, firm but flexible character, said bristles being of polygonal cross-sectional shape whereby the same are provided with a plurality of laterally and radially projected sharp unyielding edges along the lengths thereof, thereby to scrapingly grip hair filaments passing between adjacent bristles during use of the brush.

HELMAR LARSON.