Sept. 3, 1963 T. E. KEEGAN ETAL 3,102,544

GROOMING DEVICE

Filed Jan. 18, 1961

Fig. 1.

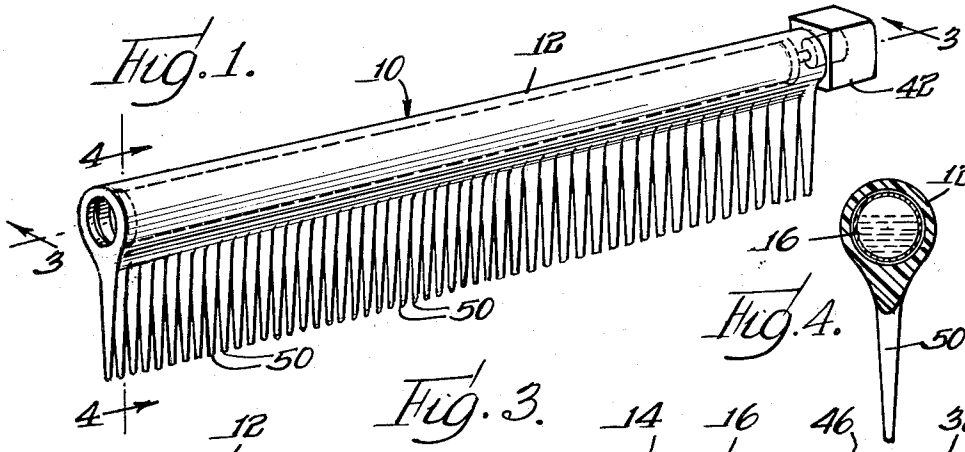


Fig. 4.

Fig. 3.

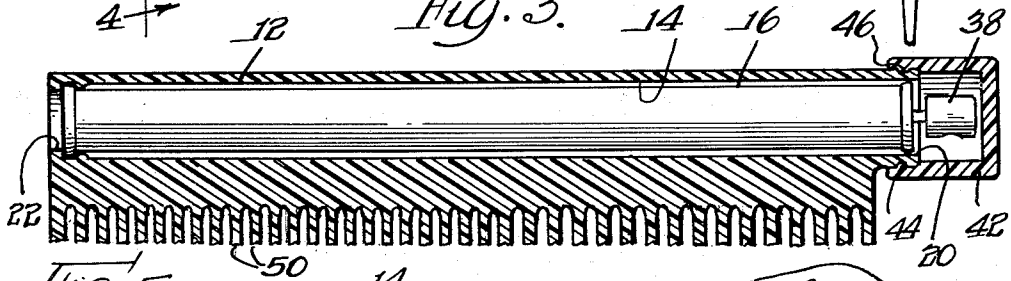


Fig. 5.

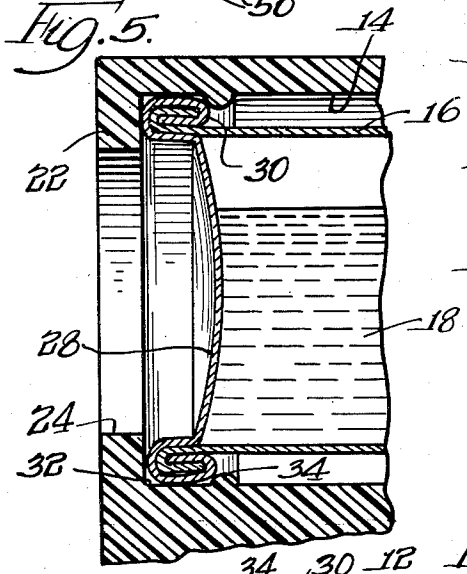


Fig. 2.

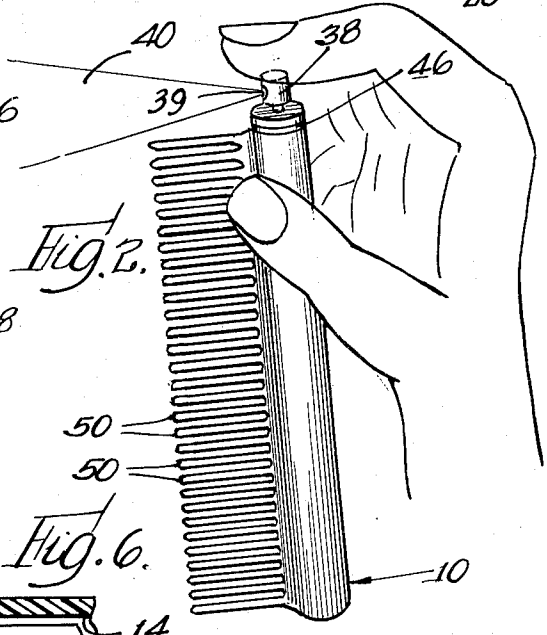
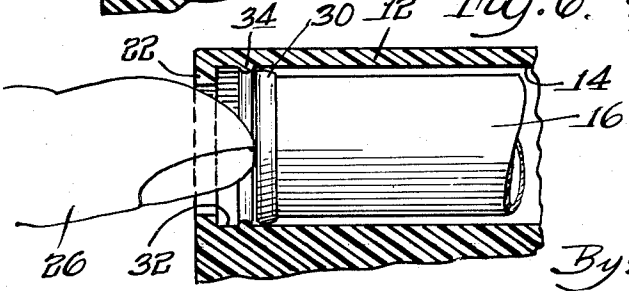


Fig. 6.



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GROOMING DEVICE

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The present invention relates to the grooming of hair and is concerned particularly with the combing of hair by a person who finds it desirable to use a hair dressing.

The advantages gained from using a hair dressing are maximized by applying the hair dressing in small amounts at relatively frequent intervals, thus avoiding an excessive application of hair dressing material at any time while achieving an optimum conditioning of the hair at all times through the frequent application of the hair dressing used. For this reason, the well groomed person who uses a hair dressing may find it desirable to apply a small amount of hair dressing as a "touch-up" to the previously applied dressing when the hair is being combed. This may be particularly desirable on occasions when the person is grooming for an appointment or the like.

However, the matter of applying hair dressing at frequent intervals, particularly on occasions when it may be most needed during the day for important occasions, is often difficult or inconvenient to do. In the first place, a person may not have his hair dressing available when it is most needed. Moreover, application of the hair dressing tends to be a somewhat inconvenient procedure in which the hands may be soiled. Where a washroom is not available a person may not undertake the application of a hair dressing, even though it is much needed.

One object of the present invention is to provide a novel hair grooming device which affords many worthwhile advantages to the user in maintaining proper grooming of the hair.

Another object is to provide a new and improved hair grooming device which can be carried and handled with the same ease and convenience as a conventional comb and which serves not only as a comb but also as a means for efficiently applying a hair dressing in any desired quantity without soiling the hands of the user.

Another object is to provide an improved hair grooming device, as recited, which can be handled and used as a single integral unit to apply a hair dressing in the form of an aerosol and to comb the hair as necessary to maintain optimum grooming.

Another object is to provide an improved hair grooming device of the character recited which is used as a one-piece unit to comb the hair and to apply hair dressing in an aerosol from a removable aerosol cartridge firmly supported in the integral unit in a manner which provides for easy removal and replacement of the cartridge.

A further object is to provide a hair grooming device of the character recited having an improved construction which maximizes the aerosol hair dressing storage capacity of an extremely compact hair grooming unit.

Another object is to provide a hair grooming device which achieves the above recited objects by means of an improved construction which is strikingly simple and inherently economical to manufacture on a mass production basis.

Other objects and advantages will become apparent from the following description of the exemplary embodiment of the invention illustrated in the drawings, in which:

FIGURE 1 is a perspective view of a hair grooming device forming the exemplary embodiment of the invention illustrated;

FIG. 2 is a perspective view illustrating the use of the grooming device to apply a hair dressing;

FIG. 3 is a fragmentary longitudinal sectional view of

the hair grooming device taken with reference to the line 3—3 of FIG. 1;

FIG. 4 is a transverse sectional view taken along the line 4—4 of FIG. 1;

FIG. 5 is an enlarged fragmentary sectional view of the grooming device as it appears in FIG. 3; and

FIG. 6 is a fragmentary sectional view generally similar to FIG. 5 but illustrating dislodgment of the aerosol cartridge by one finger of the user.

Referring to the drawings in greater detail, the hair grooming device 10 forming the exemplary embodiment of the invention illustrated has an over-all size and shape conforming generally to that of a conventional comb. The grooming device 10 is well suited to be carried in a purse or pocket in the same manner as a conventional comb and is held in one hand for use in the manner of a comb.

Structurally, the grooming device 10 comprises an elongated body or support member 12 extending the full length of the unit and defining an internal socket or chamber 14 of cylindrical shape extending substantially the full length of the body, as shown in FIG. 3.

The longitudinal chamber 14 houses a thin cylindrical aerosol cartridge 16 containing a suitable hair dressing material 18 in liquid form, FIG. 5. It will be understood that the liquid within the cartridge 16 is maintained under pressure by a suitable propellant loaded into the cartridge in accordance with conventional practice in the production of aerosol containers. The cartridge 16 is socketed in the longitudinal chamber 14 where it is securely retained until the supply of aerosol liquid within the cartridge is depleted and the cartridge is replaced by a new cartridge.

The cartridge 16 is initially assembled into the support member 12 by moving the cartridge longitudinally through an open end 20 of the longitudinal socket or chamber 14. The cartridge is firmly held in its fully assembled position within the support member 12 by extremely simple retaining structure which effects a firm retention of the cartridge in its assembled position, while at the same time providing for convenient removal and replacement of the cartridge after it has been depleted.

Preferably, the chambered longitudinal support or barrel 12 is formed of a suitable plastic material. As shown, the cartridge chamber 14 and the cartridge 16 extend nearly through the full length of the support body or barrel 12 from the open end 20 of the chamber. The effective bottom of the chamber 14 is defined by an annular flange or ledge 22 formed integrally with the end of the body 12 opposite from the chamber opening 20 and being turned radially inward, as shown in FIGS. 3, 5 and 6. The inner periphery of the ledge 22 defines an opening 24 into the adjacent end of the chamber 14 which is sufficiently large to permit entry of one finger 26, FIG. 6, of the user to dislodge the cartridge 16 for replacement, as will presently appear.

The cartridge 16 has a thin cylindrical shape and has a construction which, in itself, conforms to conventional practice in the fabrication of aerosol containers. Hence, the aerosol cartridge 16 is inherently economical to manufacture.

As illustrated best in FIGS. 5 and 6, the end of the cartridge 16 which is first inserted through the socket opening 20 for movement down into the socket or chamber 14 is closed by a cover 28 secured to the cylindrical wall of the cartridge in a conventional manner which forms at the adjacent end of the cartridge an annular bead 30 protruding radially outward beyond the cylindrical wall of the cartridge.

Bottoming or socketing of the cartridge 16 in the chamber 14 forces the annular bead 30 on the bottom end

of the cartridge into a receiver 32 defined in the bottom or left-hand end of the chamber 14, with reference to FIGS. 3, 5 and 6. This receiver 32 is located immediately adjacent the inwardly turned ledge 32 previously mentioned and is defined by the ledge 22 and an annular protuberance 34 formed on the inner wall of the chamber 14 and projecting a very short distance radially inward in axially spaced relation to the ledge 22, as shown in FIG. 5. The axial spacing of the protuberance or constricting element 34 from the ledge or flange 22 is just sufficient to accommodate the axial length of the cartridge bead 30. The degree to which the annular protuberance 34 projects inwardly is somewhat exaggerated in FIG. 5 for clearness in illustration.

The structural material of the barrel 12 is somewhat elastic. Hence, moderate longitudinal force on the cartridge will move the cartridge bead 30 past the constricting protuberance 34 to enter the receiver 32 where it is firmly held throughout all normal use of the grooming device.

A valve controlled atomizing head 38 of conventional construction is mounted in the end of the cartridge 16 opposite from the receiver 32 and projects somewhat beyond the adjacent end of the support barrel 12, as shown in FIGS. 2 and 3. The atomizing head 38 is movable and is designed to respond to axially applied finger pressure to discharge an atomized spray 40, FIG. 2, of hair dressing material through an atomizing nozzle 39, FIG. 2, forming a part of the head. Normally, the head 38 is covered by a squared plastic cap 42 pressed over the adjacent end of the barrel 12, as illustrated in FIGS. 1 and 3. An inwardly projecting annular protuberance 44 on the barrel end of the cap 42 fits into an annular depression 46 in the external surface of the barrel, FIGS. 2 and 3, to releasably retain the cap in place.

A linear series of comb teeth 50 is integrally formed on the support barrel 12 to project from the barrel in a straight line, as illustrated in FIGS. 1 to 3. Preferably, the series of comb teeth 50 extends along substantially the full length of the barrel 12.

By virtue of its small diameter and its relatively great length, which extends substantially the full length of the grooming device 10, the cartridge 16 provides a generous supply of a hair dressing aerosol liquid 18 within a grooming unit which is generally comparable in size with a conventional comb having a similar number and size of teeth.

Moreover, the entire hair grooming assembly by virtue of its highly simplified construction is well suited for economical manufacture on a mass production basis. As previously intimated, the hair grooming device 10 is carried and used in the same manner as a conventional comb to comb the hair. If application of hair dressing is desired, the user has merely to remove the cap 42, hold the device in one hand, as illustrated in FIG. 2, and apply finger pressure to the atomizing head 38. The user directs the atomized mist of hair dressing toward his hair to apply any amount of hair dressing desired. This may be only a minute quantity of hair dressing material for "touch-up" purposes. The user's hands do not come in contact with the hair dressing and are not soiled in this simple procedure which can be easily and unobstrusively carried out under any circumstances in which combing of the hair would be acceptable. The cap 42 is replaced after use.

To replace a spent cartridge 16, the user inserts one finger 26 through the barrel opening 24 to apply axial force to the cartridge dislodging it from the receiver 32 for removal and replacement with a new cartridge.

The invention is claimed as follows:

1. A personal grooming device comprising, in combination, an elongated generally straight comb body, a linear series of comb teeth formed on said body and projecting therefrom in a straight line, said series of comb

teeth having a common central plane and extending along substantially the full length of said body, said comb body being shaped so that the transverse dimension of the body perpendicular to said central plane of the comb teeth is very narrow in relation to the length of the body, said body defining therein a generally cylindrical chamber extending longitudinally through the body and opening outwardly through opposite ends thereof, a thin elongated aerosol cartridge of generally cylindrical shape containing liquid under pressure provided by a propellant fluid in the cartridge, said aerosol cartridge being removably fitted into said chamber and being nearly coextensive in length with said body so that the cartridge is fully received within said chamber and extends through nearly the full length of the chamber, said body defining on one end thereof an annular ledge extending radially inward with respect to said chamber to constrict the adjacent end of the chamber while at the same time defining a finger opening into the adjacent end of said chamber for access to the adjacent end of said cartridge, said body defining thereon a cartridge retaining protuberance extending into said chamber to a dimensional degree limited to a fraction of the diameter of the chamber, said protuberance being located along the axis of said chamber somewhat inwardly of said ledge to define therebetween a receiver, said cartridge having a radially projecting bead thereon extending into said receiver where it is restrained by said ledge and said protuberance against displacement axially along said chamber; said protuberance being shaped and limited in size to limit its resistance to forced displacement of said cartridge bead past the protuberance and to effect, in response to forced movement of said cartridge bead past the protuberance, camming of the protuberance without damage out of interfering relation to movement of the bead longitudinally within said chamber; a movable atomizing head mounted on one end of said cartridge and projecting beyond the adjacent end of said comb body for manual control movement to release fluid under pressure from said cartridge through the head, and said head including an atomizing nozzle disposed beyond said comb body to project an atomized spray of fluid outwardly from said body in response to fluid releasing movement of the head.

2. A personal grooming device comprising, in combination, an elongated generally straight comb body formed of a somewhat elastic material, a linear series of comb teeth formed on said body and projecting therefrom in a straight line, said series of comb teeth having a common central plane and extending along substantially the full length of said body, said comb body being shaped so that the transverse dimension of the body perpendicular to said central plane of the comb teeth is very narrow in relation to the length of the body, said body defining therein a generally cylindrical chamber extending longitudinally through the body and opening outwardly through opposite ends thereof, a thin elongated aerosol cartridge of generally cylindrical shape containing liquid under pressure provided by a propellant fluid in the cartridge, said aerosol cartridge being removably fitted into said chamber and being nearly coextensive in length with said body so that the cartridge is fully received within said chamber and extends through nearly the full length of the chamber, said body defining thereon a first cartridge retaining protuberance extending radially inward with respect to said chamber to a dimensional degree limited to a fraction of the diameter of the chamber, said body defining thereon a second cartridge retaining protuberance spaced axially along said chamber from said first protuberance and extending radially inward with respect to said chamber to a dimensional degree limited to a fraction of the diameter of the chamber, said first and second protuberances extending into radially overlapping relation to two axially spaced portions of said cartridge to restrain the cartridge against

longitudinal displacement relative to said comb body; one of said protuberances being shaped and limited in size to limit its resistance to longitudinal displacement of said cartridge and to effect, in response to forced longitudinal movement of said cartridge past said one protuberance, camming of said one protuberance without damage out of radially overlapping relation to the cartridge; a movable atomizing head mounted on one end of said cartridge and projecting beyond the adjacent end of said comb body for manual control movement to release fluid under pressure from said cartridge through the head, and

said head including an atomizing nozzle disposed beyond said comb body to project an atomized spray of fluid outwardly from said body in response to fluid releasing movement of the head.

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