Aug. 26, 1958 H. HEINRICH ET AL 2,849,009

FOUNTAIN TYPE DISPENSING COMB

Filed Jan. 17, 1957

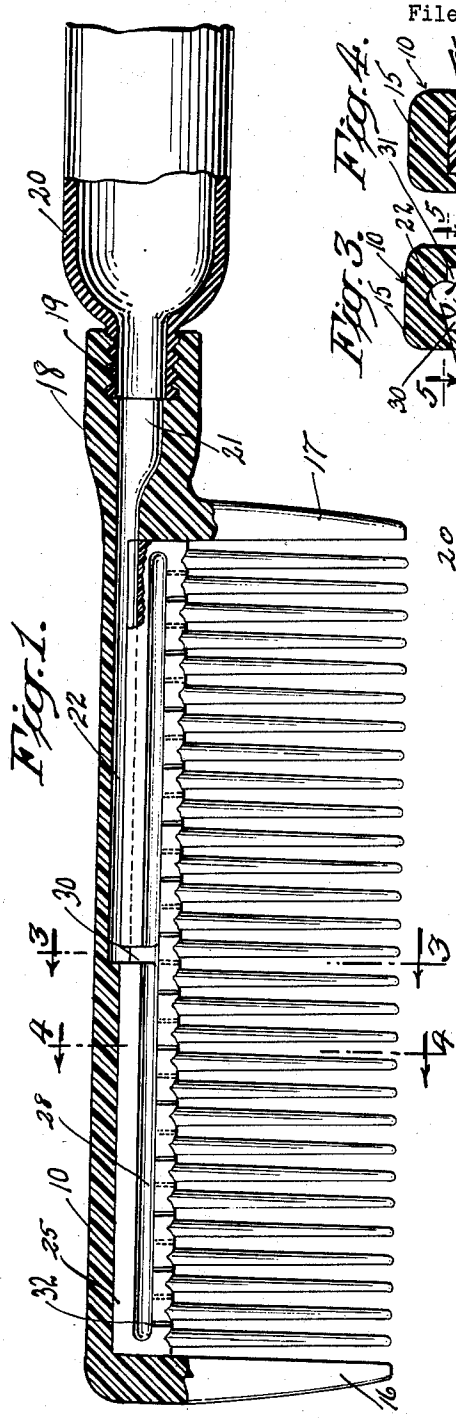

Fig. 1.

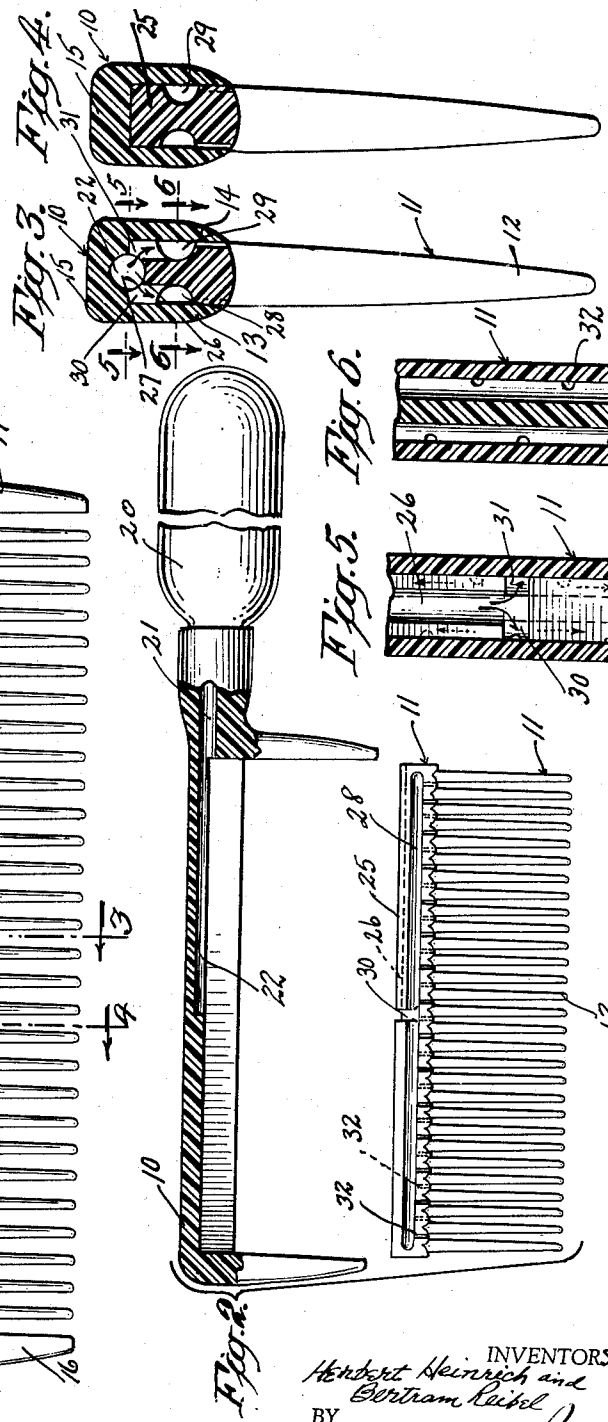

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

INVENTORS
Herbert Heinrich and
Bertram Reibel
BY
D. Stephen Baker
ATTORNEY

United States Patent Office 2,849,009 Patented Aug. 26, 1958

2,849,009

FOUNTAIN TYPE DISPENSING COMB

Herbert Heinrich, Ridgewood, N. J., and Bertram Reibel, New York, N. Y., assignors to Coty, Inc., New York, N. Y., a corporation of Delaware

Application January 17, 1957, Serial No. 634,685

5 Claims. (Cl. 132—116)

This invention relates to a fountain type dispensing comb. It is particularly useful in the application of dyes and tints to the hair but it is obviously capable of use in other environments.

One of the deterrents in producing a satisfactory dispensing comb is the difficulty in manufacturing it. A comb of this type should have liquid flowing from substantially every tooth so as to secure substantially uniform distribution. It is also desirable to feed the liquid to the hair at the upper portions of the teeth so as to discourage the direct application of the liquid to the scalp itself. These objectives are not, of themselves, new. However, prior comb construction has been such as to make their realization most difficult.

With the foregoing in mind, we have devised a dispensing comb which operates most effectively but which is of marked simplicity of construction rendering its manufacture most economical. The comb is capable of mass production, the major elements being produced on conventional molding machines and eliminating the necessity and difficulty of either molding elongated circular passages or subsequently boring such passages in a molded element.

The invention has other advantages which will be further understood from the following description and drawings in which:

Figure 1 is an elevational view, partly in section, of a dispensing comb made according to the instant invention;

Figure 2 is an exploded view of the two elements thereof, on a reduced scale;

Figure 3 is an enlarged cross-sectional view as taken along the line 3—3 of Figure 1;

Figure 4 is an enlarged cross-sectional view as taken along the line 4—4 of Figure 1;

Figure 5 is a fragmentary, cross-sectional view as taken along the line 5—5 of Figure 3; and

Figure 6 is a fragmentary, cross-sectional view as taken along the line 6—6 of Figure 3.

The comb with its dispensing passages is produced from two elements, these comprising the comb back **10**, and the comb body **11** which includes a series of teeth **12**. Referring first to the back **10**, its cross-sectional shape is in the form of an inverted U, the back being channel-shaped as shown in Figures 3 and 4. Thus, it comprises the depending sides **13** and **14** connected by the bridge **15**. The undersides of the side and bridge are substantially flat.

Integral with the back **10** are the first and last teeth **16** and **17** although it is obvious that they may be integral with the comb body **11**. Also integral with the back **10** is the intake nozzle **18** having internal threads **19** for receiving a container **20** of the liquid to be dispensed. Preferably, container **20** is a deformable plastic bottle which, when squeezed will direct a stream of liquid into the opening **21** of nozzle **18**. Of course, an elongated tube may be suspended from the neck of container **20** as is employed in conventional atomizer construction, the

liquid feeding from the container to the tube and into opening **21**. This is not illustrated since it is not considered part of this invention.

Communicating with opening **21** is a semi-circular concave groove **22** which extends to the center of the comb back **10**. As will be shown hereinafter, semi-circular groove **22** functions as one-half of a passage for distributing liquid along the upper portion of the comb body **11**.

Comb body **11** is formed with an upper portion or head **25** which has a substantially flat upper surface and flat sides as indicated in Figures 4–6. Along the upper surface, from the handle portion of the comb to about the center portion is formed a semi-circular groove **26** which mates with groove **22** in forming the main liquid passage **27**. Accordingly, passage **27** is circular, being formed from two mating semi-circular grooves.

The sides of the comb body **11**, at the head **25** thereof, is formed with elongated semi-circular grooves **28** and **29** respectively. Each such groove extends the complete length of the comb head **25** as illustrated in Figure 2. Although the composite passage **27** extends from the nozzle end of the comb to the center thereof, it does not communicate with either grooves **28** and **29** except at the extreme end of the composite groove **27** where liquid is fed into such grooves **28** and **29** through the centrally located perpendicular passage extensions **30** and **31** respectively. Accordingly, as will be observed in Figure 5, the liquid flows through passage **27** and branches off into two streams through extensions **30** and **31** respectively which constitute a transverse passageway.

Each of the grooves **28** and **29** serve to feed a series of branches **32** which are disposed between comb teeth. Each groove feeds every other tooth, groove **28** feeding alternate teeth as illustrated in Figure 2 while groove **29** feeds alternate teeth through opposite branches **32** on the other side of the comb body, the branches on one side being staggered in relation to the branches **32** on the other side.

The foregoing construction not only expedites production but provides a dispensing comb of superior performance. The comb back **10** including the nozzle **18** is molded in one piece while the body **11** is molded as a separate piece. The underside of the bridging section **15** and the inner walls being flat, the back **10** is cemented to the flat upper portion **25** of the comb back, the relationship being illustrated in Figure 4. By such simple assembly, the grooves **22** and **26** are caused to mate and form the main feeding passage **27** and at the same time communication to the side grooves **28** and **29** and thence to the alternate branches **32** is established. It will be observed that apart from the relatively large opening **21**, it is unnecessary to mold complete passages since the transmission of liquid is effected through groove elements. It will be evident that such groove elements are far easier to mold than are fully enclosed passages.

In operating the comb, the container **20** is used as a handle and is periodically squeezed in order to eject liquid therefrom. The liquid flows through the composite passage **27** directly to the centrally located passage extensions **30** and **31** as illustrated in Figure 5. From such passage extensions the liquid flows into the side grooves **28** and **29** where it is metered out to the branches **32** on either side of the comb body upper portion or head **25**. The result thereof is to provide a substantially uniform application of the liquid along the length of the comb body.

There has been shown what are now considered preferred embodiments of the invention but it is obvious that numerous changes and omissions may be made without departing from its spirit.

What is claimed is:

1. A dispensing comb comprising a channel-shaped back, a comb body having an elongated head embraced by said back, said comb body having comb teeth and being formed with branch passageways to individual teeth, said head being formed with a groove section and said back being formed with a groove section both of which mate to produce a liquid feeding groove when the comb body is embraced by said back, means to provide communication between said branch passageways and said groove, and a liquid input nozzle on said back, said means to provide communication comprising a pair of elongated semi-circular grooves formed along the length of the sides of said head, said semi-circular grooves being enclosed by the sides of said channel-shaped back, and a connecting transverse passageway formed between said liquid feeding groove and both of said semi-circular grooves.

2. A dispensing comb according to claim 1 and wherein said liquid input nozzle is formed at one end of said back and is threaded to receive a liquid reservoir container, said liquid feeding groove extending from the input nozzle end of said comb to approximately the center thereof, said transverse passageway being located across the center of the comb at the termination of said liquid feeding groove, said elongated, semi-circular grooves being formed from one end of said comb body head to the other, and said branch passageways being in a series which also extends from one end of the head to the other.

3. A dispensing comb according to claim 2 and wherein said back is of inverted U-shape with the undersides thereof substantially flat, said head having its sides as well as its top surface likewise flat and snugly embraced by and secured within said back, said semi-circular grooves being enclosed by the respective sides of the back and said branch passageways depending downwardly from said semi-circular grooves and being likewise enclosed by the sides of the back.

4. A dispensing comb according to claim 3 and wherein said branch passageways are formed in two series, one on each side of said head, each passageway of a series being staggered relative to the passageways of the other series and thereby feeding alternate teeth from opposite sides of said head.

5. A dispensing comb comprising a channel-shaped back, a comb body having an elongated head embraced by said back, a liquid input nozzle on said back, said comb body having comb teeth and being formed with branch passageways to individual teeth, said back being formed with a liquid feeding groove extending from said input nozzle to the center of the comb body, a connecting transverse passageway formed at the center of the comb body, at least one side of said comb body head being formed with elongated groove means extending substantially along the complete length of the comb body head and communicating with at least some of said branch passageways, said transverse passageway connecting said liquid feeding groove with said elongated groove means.

References Cited in the file of this patent

UNITED STATES PATENTS

1,204,230	Abbate	Nov. 7, 1916
2,062,376	Raymond	Dec. 1, 1936

FOREIGN PATENTS

149,570	Switzerland	Nov. 16, 1931