No. 798,407. PATENTED AUG. 29, 1905.

P. L. FROST.

FOUNTAIN COMB.

APPLICATION FILED JULY 29, 1903.

Fig. 1.

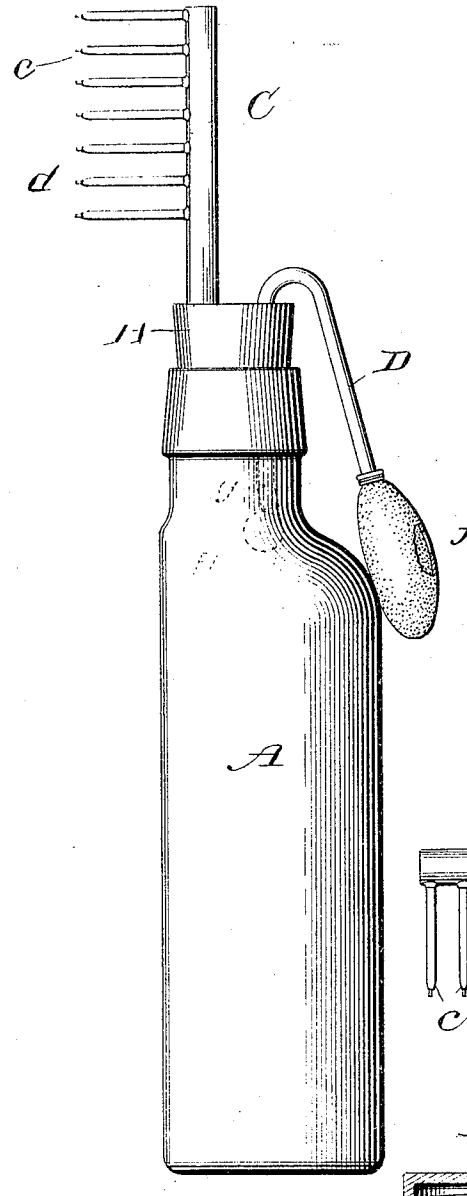


Fig. 2.

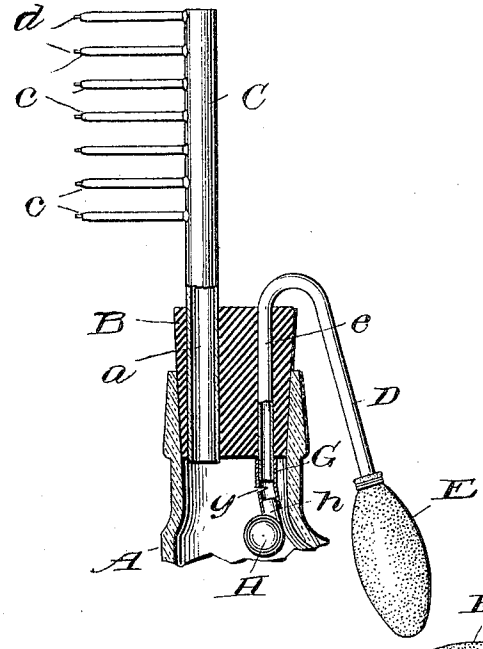


Fig. 3.

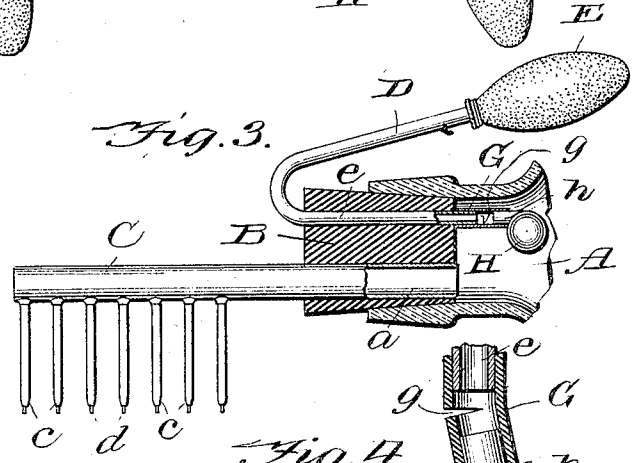


Fig. 4.

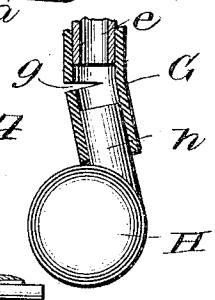
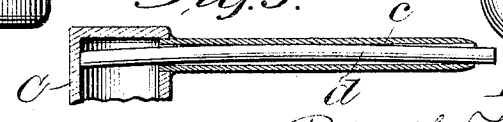


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

PETER L. FROST, OF CHICAGO, ILLINOIS.

FOUNTAIN-COMB.

No. 798,407. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed July 29, 1903. Serial No. 167,517.

To all whom it may concern:

Be it known that I, PETER L. FROST, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fountain-Combs, of which the following is a full, clear, and exact description.

It is often customary when applying liquids to the scalp or the roots of the hair to pour the same on the head and work it by more or less vigorous rubbing with the fingers through the hair to the scalp. This operation generally results in considerable loss of the liquid and a more or less defective application of the same to the scalp and skin.

The object of my invention is to provide a simple, effective, and economically constructed comb-like device, which can be connected with a suitable receptacle or reservoir and easily and conveniently manipulated to apply liquid of a medicinal or other character direct to the scalp or the roots of the hair without saturating the hair to such an extent as to result in a large expenditure of the liquid without deriving a corresponding benefit therefrom.

A further object of my invention is to so construct the same that it can be used in connection with a bottle and the ingress of air to the bottle while in use absolutely controlled by means that automatically operate to permit the ingress of air when it is in a standing position and prevents the ingress of air thereto when in a horizontal position, except as air is forced into the bottle to regulate the flow from the same by the operator.

A still further object is to prevent the filling and clogging up of the apertures of the teeth of the comb, while at the same time preventing said liquid escaping too rapidly therefrom. This I accomplish by the means hereinafter fully described, and as particularly pointed out in the claims.

In the drawings, Figure 1 is a side view of a suitable bottle, showing my invention applied thereto. Fig. 2 is a vertical central section of the upper portion of the bottle, having my improvements applied thereto while in a vertical position, showing the position of the valve for controlling the ingress of air. Fig. 3 is a similar view showing the same in horizontal position. Fig. 4 is a detail view showing a section of the flexible tubular weighted air-inlet, drawn to an enlarged scale. Fig. 5 is a detail view showing a section of a portion of the comb and several of the teeth thereof, drawn to an enlarged scale.

Referring to the drawings, A is a suitable bottle, which I prefer to be of such shape that one side thereof may be flattened, substantially as shown. This feature, while not absolutely necessary, greatly facilitates the flow of liquid from the bottle to and through the distributing member of my invention, as will hereinafter more fully appear. The mouth of the bottle is closed by a suitable cork or plug B, of rubber or other material, that has a longitudinal opening therethrouhg near one side, which when the plug is inserted in the bottle is placed nearest the flat side of the bottle. Inserted through this longitudinal opening in said cork is the shank or extension *a* of the tubular back of a fountain-comb C, the outer end of which is closed and has between the plug and its outer end a series of corresponding parallel hollow teeth projecting laterally therefrom in the direction of the flattened side of the bottle. When the bottle contains sufficient liquid and is placed in a horizontal position, the liquid will flow into said hollow back and out through the teeth *c*, provided sufficient air can enter the bottle. Ordinarily the flow of the liquid from the teeth of the comb would be too great unless some means were employed to restrain it. This is because it would cost too much to bore each tooth separately and because of the impossibility of getting the tubes of sufficiently small bore that would answer the purpose. I overcome this difficulty by inserting longitudinally into the bore of each of the teeth a wire plunger *d*, which is bent slightly mediate its ends, so as to prevent its becoming involuntarily dislodged when in operation. These plungers are of such length that when inserted as far as they will go into the teeth the outer ends thereof extend slightly beyond the mouths or openings in the points thereof and thus, besides reducing the capacity of the bore of the teeth to such extent that the free and uninterrupted flow of the liquid therethrough is obstructed, prevent the discharge-openings of the teeth from becoming clogged.

It is obvious that unless some means were provided for permitting the ingress of air into the bottle the liquid would soon cease to flow therefrom out through the comb. I

have therefore provided a U-shaped siphon D, one arm *e* of which extends longitudinally through the plug into the neck of the bottle and the other outside the neck thereof back to or near to the shoulder of the same, where its extremity is preferably provided with a suitable compressible rubber bulb E, that has an opening *f* in the side thereof farthest from the side of the bottle for the ingress of air. When the bottle is grasped in the hand, the thumb is placed over the bulb in such manner that when the bulb is compressed it closes opening *f* and thus forces the air inside the bulb through the siphon into the bottle. The extremity of the arm *e* of the siphon inside the bottle is provided with a short tubular extension G, of rubber or equivalent material, and just beyond the extremity of said arm this extension is provided on the side thereof corresponding to the side of the back of the comb from which the teeth project with a transverse slit *g*. Inserted into the lower end of the extension G is the shank *h* of a weight H, which is preferably spherical. The shank *h* projects, preferably, tangentially from one side of the weight, so that when the bottle is in a vertical position the disposition of the weight causes the lower flexible portion of the extension G to incline slightly to one side and opens the slit *g*, so that air can freely circulate therethrough. When, however, the bottle is moved to a horizontal position, the gravity of the weight moves the flexible portion of the extension G, so that the lower part thereof alines with the adjacent end of arm *e* of the siphon, and thus closes the slit. When, therefore, the bottle is in a horizontal position, the outside air can get into the bottle only when pumped through the siphon by the action of the thumb upon the bulb, as hereinbefore explained.

What I claim as new is—

1. A fountain-comb comprising a hollow back one end of which is extended to form a shank therefor and hollow teeth projecting from said back and provided with perforations, in combination with a suitable receptacle, a cork or plug therefor through which the shank of said comb extends, an automatic air-siphon one arm of which extends through said plug, and controlled by a gravity-valve and a collapsible bulb on the outer end thereof.

2. A fountain-comb comprising a hollow back one end of which is extended to form a shank therefor, and hollow teeth projecting from said back and provided with perforations, in combination with a suitable receptacle, a cork or plug therefor through which the shank of said comb extends, an air-siphon, one arm of which extends through said plug, a collapsible bulb on the outer end thereof, and a weighted flexible tubular extension on the extremity of the siphon within said receptacle which is provided with a transverse slit therein between the end of said siphon and said weight.

3. A fountain-comb comprising a hollow back one end of which is extended to form a shank therefor, and hollow teeth projecting from said back and provided with discharge-openings in their extremities, in combination with bowed plungers consisting of a wire of slightly less diameter than the bore of said teeth into each of which one is inserted longitudinally.

In testimony whereof I hereunto set my hand this 17th day of July, 1903.

PETER L. FROST.

Witnesses:
LOUIS F. MUELLER,
E. K. LUNDY.