March 13, 1951 J. L. LIVERMORE 2,545,091

RETRACTABLE BRUSH HEAD

Filed June 19, 1948

Fig. 1.

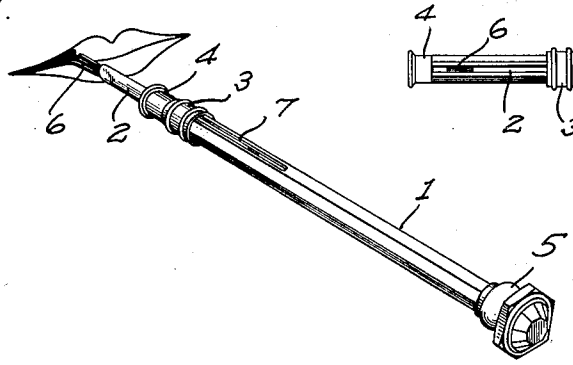


Fig. 2.

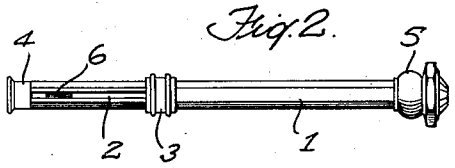


Fig. 3.

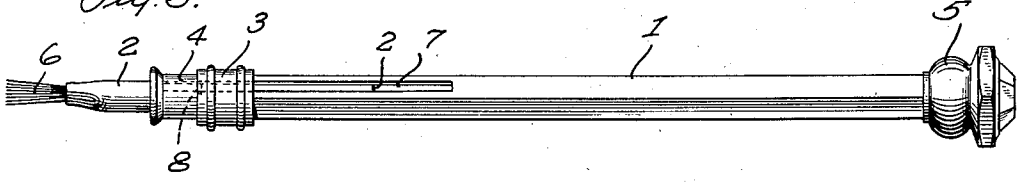
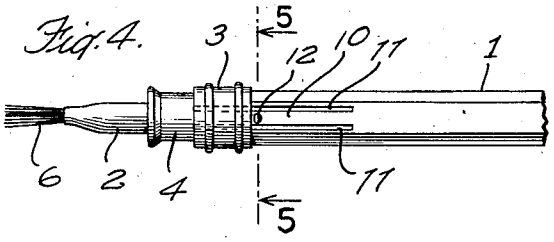


Fig. 4.



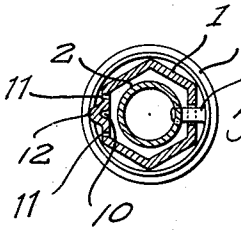


Fig. 5.

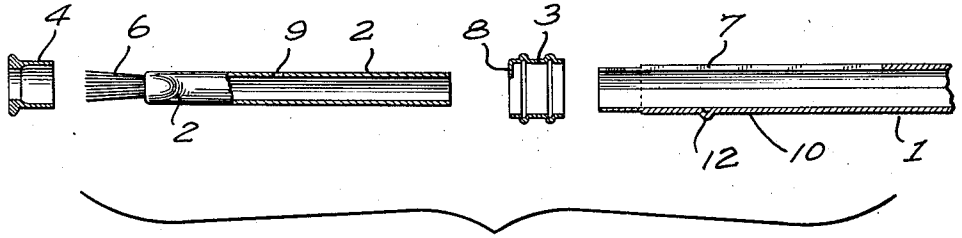


Fig. 6.

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RETRACTABLE BRUSH HEAD

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Application June 19, 1948, Serial No. 34,120

3 Claims. (Cl. 15—184)

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This invention relates to brushes of the type that form part of a woman's toilet kit to be used for the application of lip stick or nail enamel, for example. To enable such brushes to be carried in a hand bag, their size is limited and it is desirable that the brush be of the disappearing type, that is, that the brush be capable of being withdrawn into the handle and be exposed only when in use.

It is also desirable that the brush move in and out easily and yet that it withstand the pressure to which it is subjected in use without movement relative to the handle.

These objects are attained by the invention as well as other objects, including durability and simplicity of construction. The invention will best be understood by reference to an embodiment thereof illustrated in the drawings, which embodiment will now be described. In the drawings,

Fig. 1 is a perspective of a brush in operative condition and indicated as being used as a lip stick brush.

Fig. 2 is a side elevation showing the brush withdrawn into the handle.

Fig. 3 is an enlarged side elevation slightly angularly rotated from the position shown in Fig. 2 and with the brush out as in Fig. 1.

Fig. 4 is a fragmentary view similar to Fig. 3 with substantially the rear half of the handle broken away but showing the assembly rotated 180° from the position of Fig. 2 to show the rear or spring stop side of the device.

Fig. 5 is a transverse section on enlarged scale on the plane of line 5—5 of Fig. 4.

Fig. 6 is an exploded longitudinal section on the scale of Figs. 3 and 4 with the rear portion of the handle broken away.

The complete article is composed of a tubular handle 1, a brush holder 2, a ferrule 3 and a cap 4. The handle is an elongated, hexagonal, tubular member open at the brush exposing end and may be closed at the other end, as by an ornamental head 5, as shown. The open end of the handle is reduced in external diameter to provide a seat for the cap 4, the thickness of the cylindrical wall of the cap being such that its outer periphery is flush with the hexagonal corners of the handle. The cap has a circumferential bead at its outer end and is axially open at that end to permit of the movement of the brush holder and filaments through it.

The brush holder 2 is a metal tube pinched at one end to retain bristles 6 therein. This holder is of a diameter to pass through the opening in the cap 4 and to be contained in the handle 1. It is connected to the ferrule 3 by suitable means to cause it to slide longitudinally of the handle by the movement of the ferrule.

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In the construction shown, the handle 1 is provided with a slot 7 extending back a suitable distance from its open end, and the connecting means operate through this slot. The connecting means, as shown, consist of a radial finger 8 on the inner face of the ferrule of a size and length to enter a hole 9 in the wall of the brush holder 2.

To assemble the brush, the ferrule and brush holder are first coupled by entering the finger 8 into the hole 9, and those two parts are thus applied to the handle, the finger 8 entering the slot 7 as the ferrule engages over the handle and the brush holder enters into the handle. The cap 4 is then applied, which closes the outer end of the slot 7. The ferrule 3 will then slide upon the handle, rearwardly to retract the brush holder until the finger 8 hits the rear end of the slot, and forwardly to expose the brush until the finger 8 hits the cap 4. Obviously the ferrule can be reversed, which will give an outward movement to the brush greater by substantially the length of the ferrule, and a corresponding lesser inward movement. To remove the brush holder for renewal or other purpose, it is necessary to remove the cap 4.

Pressure on the brush in use tends to push the brush holder into the handle, and in the absence of some holding means, the user must place a finger or thumb against the ferrule to keep the ferrule from being forced back. To obviate the need for this, the invention contemplates a spring stop in the body of the handle which will yield radially under sufficient force and allow the ferrule to pass over it, but will oppose passage of the ferrule under the stress of such force as is usually exerted in the use of the brush.

Specifically, in the construction shown, a spring tongue 10 is formed in the body of the handle opposite the slot 7 by cutting two longitudinal slits 11 to define the tongue and of a length to afford the desired resiliency. In this tongue there is formed a raised round boss 12 substantially midway of the ends and at a location where it will be abutted by the rear edge of the ferrule when the ferrule is in its forward position, as shown in Fig. 4. The spring tongue is in a flat side of the handle, and the boss is of a height to protrude into the path of the ferrule. Because of its rounded shape, the boss acts to cam the spring inward when sufficient force

is applied to the ferrule, and so allow the ferrule to slide over it. Thus the boss constitutes a spring stop, holding the brush out for use, but allowing it to be retracted and stopping it from inadvertent protrusion when not in use.

It is obvious that the invention hereinafter claimed is not confined to the details of construction illustrated in the drawings and above particularly described, but may be otherwise embodied in equivalent forms which will readily occur to those skilled in the art.

I claim:

1. A brush assembly comprising a tubular handle having an axial slot therein extending from one end part way of its length, a brush element including a holder proportioned to telescope into the handle and having protruding brush filaments secured in one end thereof, a ferrule slidable upon the handle, connecting means between the holder and ferrule adapted to slide in the slot, a removable cap fitting on the handle over the open end of the slot, and a longitudinally extending spring strip formed in the wall portion of the handle body in the range of movement of the ferrule and having a raised boss disposed to engage the rear edge of the ferrule in its outer position.

2. A brush assembly comprising a tubular handle having one end closed and the other end open and having an axial slot therein extending from its open end part way of its length, a brush element including a holder proportioned to telescope into the handle and having protruding brush filaments secured in one end thereof, a ferrule slidable upon the handle having an inwardly extending finger on its inner periphery adapted to extend through the slot, the holder having a hole in its side into which the finger is adapted freely to enter, a removable cap having an opening therethrough proportioned to fit over the brush holder and fitting on the handle over the open end of the slot and limiting the outward movement of the ferrule and brush element, and a spring stop formed in the wall portion of the handle body disposed to engage

the rear edge of the ferrule in its outer position and adapted to yield radially under sufficient force to allow the ferrule to pass over the stop.

3. A brush assembly comprising a tubular handle having an axial slot therein extending from one end part way of its length, a brush element including a holder proportioned to telescope into the handle and having protruding brush filaments secured in one end thereof, a ferrule slidable upon the handle having an inwardly extending finger on its inner periphery adapted to extend through the slot, the holder having a hole in its side into which the finger is adapted to enter, a removable cap fitting on the handle over the open end of the slot and limiting the outward movement of the ferrule and brush element, the handle body having two longitudinal slits defining a narrow spring strip in the range of movement of the ferrule, and a raised boss on the spring strip disposed to engage the rear edge of the ferrule in its outer position and adapted to cause the spring strip to yield inwardly under pressure of the ferrule on the boss.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
428,415	Riley	May 20, 1890
595,498	Rugeley	Dec. 14, 1897
683,763	Holland	Oct. 1, 1901
866,148	Levingston	Sept. 17, 1907
1,689,376	Zilliox	Oct. 30, 1928
1,786,355	Markstein	Dec. 23, 1930
2,064,557	Lee	Dec. 15, 1936
2,129,777	McGrath	Sept. 13, 1938
2,463,345	Youngquist	Mar. 1, 1949

FOREIGN PATENTS

Number	Country	Date
260,512	Great Britain	Nov. 4, 1926