Nov. 27, 1956 F. H. PELOQUIN 2,771,625

BRUSH TUFT FASTENER

Filed April 5, 1954

Fig. 1.

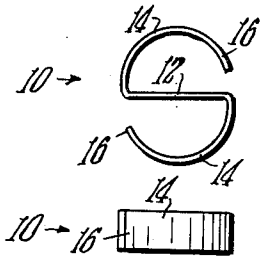



Fig. 2.

Fig. 3.

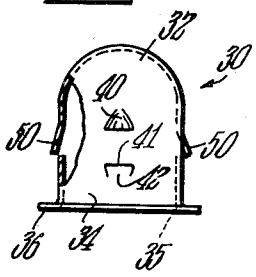
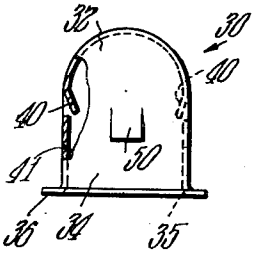



Fig. 4



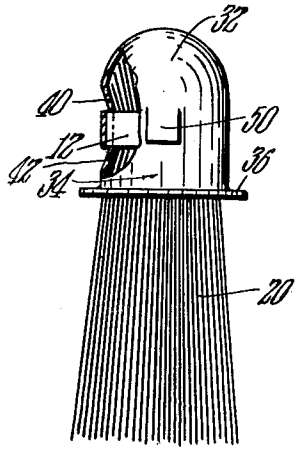




Fig. 6.

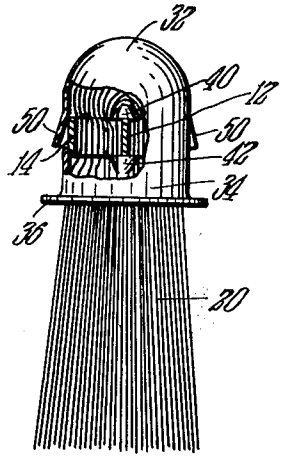



Fig. 5.

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2,771,625

# BRUSH TUFT FASTENER

Francis H. Peloquin, Rockville, Conn.

Application April 5, 1954, Serial No. 421,104

3 Claims. (Cl. 15—190)

My invention relates to new and useful improvements in a brush construction and is directed more particularly to the provision of a novel implement characterized by a cup or insert member which is arranged to receive a plurality of bristles and to retain same in a locked position therewithin and which is insertable into an appropriate opening in a backing, holder or the like so as to form a brush.

One of the primary purposes of my invention is to provide structural and operational improvements in devices of the class to which reference has been made, which improvements not only simplify the structure as such but also provide important distinct advantages in strength, durability, efficiency and the like.

With the above primary objects in view, it is another object of my invention to provide a construction of the above described character in which the number of operating parts is greatly reduced and which is compact in accordance with the demands and desires of manufacturers and purchasers alike and which is not only distinctive in its appearance and practical in its value but also reliable in its operation and efficient in its use.

It is a still further object to provide a device which is constructed of relatively simple parts which are adapted to be readily assembled and which when once assembled are posiitvely and securely retained in operative relationship and which cannot be readily and accidentally separated from each other.

Other prime objects of my invention include: first, the attainment of a higher speed of construction and assembly of the device due to its simplification of design and its unique composition of parts; second, the provision of an improved brush construction which may be made more economically and with fewer operations in the manufacture of its parts, as well as in the assembly of the same, than prior devices known in the art; and third, the provision of such other improvements in and relating to brushes of the type above referred to as are hereinafter described and claimed.

All of the above objects I accomplish by means of such structure and relative arrangements of parts thereof, as will fully appear by a perusal of the description below and by various specific features which will be hereinafter set forth.

To the above cited and other ends and with the foregoing and various other novel features and advantages and other objects of my invention as will become more readily apparent as the description proceeds, by invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claims hereunto annexed and more fully described and referred to in connection with the accompanying drawings wherein:

Fig. 1 is a top plan view of the lock ring of the invention;

Fig. 2 is an end elevational view of the lock ring shown in Fig. 1;



Fig. 3 is a side elevational view of the cup insert of the invention with parts broken away for the sake of clarity;

Fig. 4 is an end elevational view of the cup insert shown in Fig. 3;

Fig. 5 is a side elevational view of the cup insert in combination with bristles forming the brush insert of the invention; and

Fig. 6 is an end elevational view of the cup insert and bristles shown in Fig. 5.

In the accompanying drawing, I have illustrated a complete example of a physical embodiment of the invention in which the parts are combined and arranged in acocrdance with one mode which I have devised for the practical application of the principles of the invention.

It will, however, be understood that changes and alterations are contemplated and may be made in these exemplifying drawings and mechanical structures, within the scope of the claims, without departing from the principles of the invention.

In the following description and claims, various details will be identified by specific names for convenience. These names, however, are intended to be as generic in their application as the art will permit.

Referring now to the drawing more in detail, in which similar characters of reference indicate corresponding parts in the several figures and referring more particularly to the preferred form of my invention selected for illustrative purposes, I have shown a lock ring generally indicated by the numeral **10** which comprises a transverse cross-center beam portion **12** and yieldable semi-circular side arm portions **14** and **14** attached to opposite ends thereof. The opposite free ends **16** and **16** of the side arm portions **14** and **14** are compressible towards the transverse beam portion **12** so as to make contact therewith thereby closing the locking ring and providing a pair of closed openings.

Tuft material **20** such as elongated bristles or the like may be doubled over the transverse beam portion **12** and inside of the side arm portions **14** and **14** and by compressing the members **14** and **14** thereagainst the tuft material may be locked within the lock ring.

A circular cup insert generally indicated by **30** is provided having a rounded upper or top portion **32** and an open lower or bottom portion **34** terminating in an outwardly extending flange on all sides of the cup insert.

The cup insert is of a dimension so as to receive the lock ring therein in a press slip manner shortly to be described.

On opposite sides of the cup insert pairs of oppositely spaced lugs are provided including on each side an upper lug **40** and a lower lug **42**. The upper lugs **40** are upset inwardly by means of staking tools or the like.

In the early formative stage, and lower lug **42** consists only of a slit **41** as shown in Figs. 3 and 4.

Thereafter the lock ring **10** is inserted within the insert cup until the upper side of the transverse beam portion **12** abuts lower ends of the upper lugs **40** and **40**. The lugs function as anchors and the side arm portions **14** and **14** expand outwardly against the interior wall of the member **30** and are embraced thereby.

The lower lugs **42** and **42** are then upset inwardly after the insertion of the lock ring into the cup insert thereby locking the lock ring therewithin.

At the opposite ends of the cup insert **30**, an outwardly extending upset or prong **50** is provided in each side wall for purposes shortly to be observed.

The cup inserts, when tufted as above described, are pressed through holes or openings in any desired type of holder or backing member whereby a brush is formed.

The top side of the flange acts as a stop against the

entrance of the hole or opening in the holder or backing member and the prongs 50 act as locks on the opposite sides of the cup so as to retain said cup insert within the opening.

The inner wall of the insert is chamferred as at 35, as shown in Figs. 3 and 4 whereby the bristles 20 are protected against roughened or sharp edges whereby any undesired cutting action is obviated.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claims are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

1. Brush construction for insertion in the opening of a holder comprising, a bristle cup insert having a relatively thin circular and vertical side wall and closed and open upper and lower ends, a lock ring within said cup having a horizontal center beam disposed transversely thereof and semi-circular yieldable side arms extending clockwise from opposite ends of the beam and frictionally engaging opposite sides of the side wall of said cup and forming with the center beam vertical openings at opposite sides of said beam, elongate bristles having intermediate portions doubled over said center beam and opposite end portions thereof extending downwardly through said openings and downwardly and outwardly of said cup, and upper and lower portions of the side wall of the cup at opposite sides thereof being displaced inwardly as lugs at upper and lower sides of the lock ring restraining said ring against axial movement relative to said cup.

2. Brush construction for insertion in the opening of a holder comprising, a bristle cup insert having a relatively thin circular and vertical side wall and closed and open upper and lower ends, a lock ring within said cup having a horizontal center beam disposed transversely thereof and semi-circular yieldable side arms extending clockwise from opposite ends of the beam and frictionally engaging opposite sides of the side wall of said cup and forming with the center beam vertical openings at opposite sides of said beam, elongate bristles having intermediate portions doubled over said center beam and opposite end portions thereof extending downwardly through said openings and downwardly and outwardly of said cup, and upper and lower portions of the side wall of the cup at opposite sides thereof being displaced inwardly as lugs at upper and lower sides of the lock ring restraining said ring against axial movement relative to said cup, portions of the side wall of the cup spaced circumferentially from said lugs and being displaced outwardly and forming lock prongs for retaining said cup in an opening of a holder into which said cup is inserted.



3. Brush construction for insertion in an opening of a brush holder comprising, a circular thin walled inverted cup closed at its upper end by an end wall and having an elongated vertical side wall and being open at its lower end, a lock ring within said cup intermediate upper and lower ends of the side wall thereof having a horizontal cross beam extending transversely of the cup between opposite portions of the side wall thereof and provided with semi-circular arms extending clockwise from opposite ends thereof in frictional engagement with the said side walls, said cross beam and side arms providing vertical bristle openings therebetween, elongated bristles doubled intermediate their ends over said cross beam having opposite end portions depending downwardly through said bristle openings and out the open end of the cup, portions of the wall of the cup at opposite sides thereof above and below said lock ring being displaced inwardly to overlie upper and lower sides of said ring retaining it against displacement from the cup.

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