

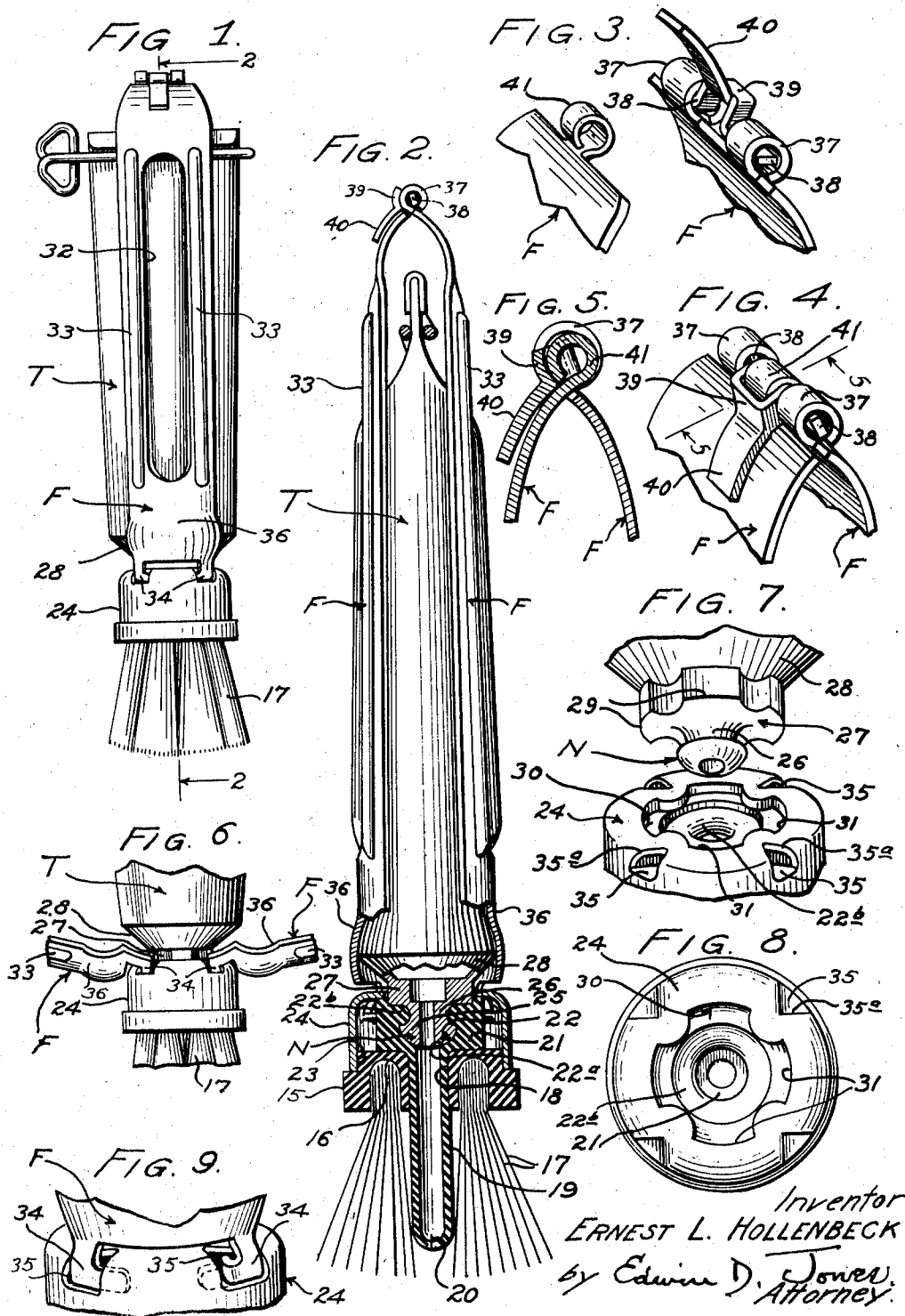
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FOUNTAIN BRUSH AND TUBE HOLDER

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FOUNTAIN BRUSH AND TUBE HOLDER

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4 Claims. (Cl. 15—135)

My invention relates to fountain brushes and collapsible tube holders of the character embodied in my co-pending application Serial No. 145,973, filed June 2, 1937.

It is a purpose of my present invention to provide in a fountain brush and collapsible tube holder, a simple, practical and novel means for quickly coupling the nozzle of the collapsible tube to the fountain brush so that when the tube is compressed the plastic material contained therein will be expressed into the brush and without the liability of leakage of the material from between the brush and tube.

It is also a purpose of my invention to provide an improved form of tube-holding frame which is characterized by having portions adapted to indent a collapsible tube so as to secure the tube against axial displacement from the brush.

A further purpose of my invention is the provision of a novel form of latch for securing the parts of the tube-holding frame in closed position, and yet permitting the quick release of the frame parts when required to allow them to be moved to open position for the removal or insertion of a tube.

A still further purpose of my invention is the provision of a novel means for pivotally mounting the frame parts on the fountain brush, such means reducing the cost of manufacture of the frame parts and brush and facilitating assembly thereof.

Another purpose of my invention is the provision in a combined fountain brush and tube holder, of an elastic socket on the brush and a headed nozzle on the tube, the two being constructed to cause locking of the nozzle in the socket when once forced thereinto, and yet permitting the quick removal of the nozzle from the socket when and as required.

Another purpose of my invention is the provision in a combined fountain brush and tube holder as set forth in the preceding paragraph, wherein coacting means are provided on the brush and tube which prevents the insertion into the socket of a threaded tube-nozzle, thus requiring the use of a tube having my particular means thereon in order to properly fit a nozzle in the socket.

I will describe only one form of fountain brush, collapsible tube, and tube holder, each embodying my invention and will then point out the novel features in claims.

In the accompanying drawing:

Figure 1 is a view showing in side elevation

one form of fountain brush, collapsible tube, and tube holder, each embodying my invention, with a tube in place within the brush and holder.

Fig. 2 is an enlarged longitudinal sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary view showing the latch for the frame parts in open position.

Fig. 4 is a view similar to Fig. 3 showing the latch in closed position.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 4.

Fig. 6 is a fragmentary view similar to Fig. 1 showing the frame parts in open position.

Fig. 7 is an enlarged fragmentary perspective view showing the coupling elements of the collapsible tube and brush by which the tube is connected to the brush.

Fig. 8 is a plan view of the brush, cap and feed tube socket shown in Fig. 7.

Fig. 9 is an enlarged fragmentary view showing the manner of mounting one of the frame parts on the brush cap.

Referring specifically to the drawing, my invention in its present embodiment comprises a fountain brush including a head 15, preferably formed of hard rubber, and provided with an annular groove 16 in which bristles 17 are permanently secured by cement, glue or the like. The head is formed with a central opening 18 through which extends a paste feed tube 19 which extends centrally within the bristles 17 where it is formed with a slit 20 through which paste is adapted to be discharged between the bristles. This tube is preferably formed of elastic rubber and its upper end is provided with a base 21 which abuts the upper side of the head 15 and is formed centrally with a socket 22 which communicates with the tube.

The head 15 is formed with a portion of reduced diameter to provide a plug 23 on which a cup-shape metal cap 24 is tightly fitted. This cap houses the base 21 and provides a mounting for a collapsible tube holding frame, as will be described hereinafter.

My invention also includes a collapsible tube T adapted to contain shoe paste, and having a special form of nozzle N which is adapted to be inserted into the socket for coupling the collapsible tube to the brush and placing the tube in interior communication with the feed tube 19 so that when the collapsible tube is compressed paste will be expressed therefrom through the nozzle and into the feed tube where it is de-

livered between the bristles of the brush. Not only is the tube nozzle N of special form, but also the socket 22, so that one coacts with the other in providing a paste sealing coupling between brush and collapsible tube which prevents accidental displacement of the tube from the brush, and yet permits manual disconnection of the two when it is desired to replace an empty tube with a filled tube.

The socket has a rounded portion 22a above which is an annular bead 22b, while the nozzle N is formed with a rounded head 25 adapted to fit within the socket and a neck 26 in which the bead 22b is adapted to be received. The nozzle N being formed of metal and the base 21 of elastic rubber, it will be clear that to insert the nozzle into the base such manual force is required to cause the head to pass through the bead 22b when the latter contracts to grip the neck above the head thereby securely holding the nozzle within the socket, and sealing the two against leakage of paste around the nozzle.

The nozzle is formed on a base 27 and the latter is made integral with the conical rigid head 28 of the collapsible tube T. This base 27 is of special form, and likewise the cap 24 so that the base can be inserted into the cap for a distance to permit the nozzle N to be properly seated within the socket 22. Such a construction of base and cap is provided for the purpose of preventing collapsible tubes having conventional forms of nozzle from being inserted into the socket and thus placed in communication with the feed tube 19. In other words the special form of base and cap limits the use of the fountain brush to my particular form of collapsible tube.

The tube base is formed with peripheral projections 29, while the upper side of the cap 24 is provided with an opening 30, the wall of which is formed with recesses 31. The circumferential spacing of the projects 29 and the recesses 31 are the same so that when the base 21 is positioned circumferentially to cause the projections to register with the recesses, the base can be inserted into the head a distance sufficient to allow the nozzle to be properly seated within the socket. Manifestly, any collapsible tube having a conventional form of nozzle and head is prevented from being inserted into the cap by reason of the projections formed between the intervening recesses of the cap.

My invention also embodies a novel form of frame for holding the collapsible tube in axial alignment with the brush, and a novel means of mounting the frame parts on the cap and latching the frame parts in tube-holding position. The frame comprises two parts F, F, constructed of sheet metal and provided with longitudinal slots 32, in the opposite sides of which are reinforcing beads 33. Each frame part is formed at one end with a pair of trunnions 34 adapted to engage within a pair of sockets 35 formed in the cap 24 so as to hingedly support the frame part on the cap.

The pair of sockets are formed by first cutting the cap along the vertical lines 35a and then in striking the metal adjacent the cuts so that the trunnions can be extended into the sockets with their free ends disposed to the inner side of the cap, as best illustrated in Fig. 9. As so applied the trunnions are rotatable in the sockets to allow the necessary swinging movement of the frame part, and yet they cannot be displaced from the sockets.

In order to apply the trunnions to the sockets it is first necessary to bend the free end of one of the trunnions to a right angle position, as illustrated in Fig. 9. This permits the other trunnion to be extended into the respective socket with its free end to the inside of the cap. After this the bent trunnion is straightened, by the use of a suitable tool, so that its free end is likewise disposed to the inner side of the cap.

Each frame part, at the trunnion end thereof, has an arcuate portion 36 which passes around the tube head 28 and indents the tube at a point above the head, that is when the frame part is in closed or tube-holding position. Manifestly, with both frame parts in closed position as illustrated in Fig. 2, the arcuate portions 36 indent the tube as described for a major portion of its circumference, and in so doing serve to secure the tube against axial displacement from the brush. However, it is to be understood that when employing the head and socket connection described herein the arcuate portions are not necessary to secure the tube nozzle within the brush socket. Nevertheless, the arcuate portions are desirable as providing an additional securing means, and also they may be employed where a brush head and threaded tube nozzle, such as shown in my copending application hereinbefore referred to are used.

My invention also includes a simple and novel form of latch for securing the frame parts in closed or tube-holding position. This latch comprises a pair of tubular ears 37 formed on one of the frame parts and in which a pair of pintles 38 are rotatably mounted. These pintles form the ends of a strip of metal bent at its medial portion in the form of a U to provide a yoke 39 having a curved underside, as best shown in Fig. 5. Extending from and formed integral with the yoke is a curved arm 40, by which the yoke can be rotated to engage or disengage a keeper 41, in the form of a tubular ear, formed on the corresponding end of the other frame part.

In the closed position of the frame parts the keeper 41 is extended between the ears 37 so as to be axially aligned therewith. By now swinging the arm downwardly from the position shown in Fig. 3 to that shown in Fig. 4, the yoke 39 is moved to engage the keeper 41 at the base thereof and thus hold the keeper between the ears. The manner in which the yoke engages the keeper is best illustrated in Fig. 5, and it will be manifest that through the coaction of these two elements any tendency for the frame parts to separate is resisted so that the frame parts are securely latched in closed position.

In practice, paste may be expelled from the collapsible tube through compression of the tube by winding a key K thereon, the expelled paste discharging from the nozzle N into the feed tube 19 and finally between the bristles of the brush. The head and socket coupling between the nozzle and brush base 21 prevents any possible leakage of paste at this point so that all paste expressed from the tube is discharged into the feed tube. Once the collapsible tube has been emptied of all paste and a new tube is desired to be inserted, it will be clear that by unlatching the frame parts they may be swung to open position to allow the empty tube to be pulled from the brush and a new tube inserted.

Although I have herein shown and described only one form of fountain brush, collapsible tube and tube holder, each embodying my invention, it is to be understood that various changes and

modifications may be made herein without departing from the spirit of my invention and the spirit and scope of the appended claims.

I claim:

1. In combination, a fountain brush having an elastic socket, and a cap provided with an opening through which entrance to the socket may be had, the wall of said opening being formed with circumferentially spaced recesses; a collapsible tube having a base, a nozzle on the base adapted to fit and be retained in said socket by the elasticity thereof, said base having circumferentially spaced projections which when extended into the said recesses permits the nozzle to be inserted into the socket.

2. In combination, a fountain brush having a head, a feed tube extending through the head, a base on the head of elastic material, a socket in the base, a cap on the head housing the base and having an opening therein through which entrance to the socket may be had; a tube having a nozzle for extension into said socket, and a base from which the nozzle extends; and coacting means on the cap and tube base permitting extension of the said base into the cap only when the two are in predetermined circumferential po-

sitions and for a distance sufficient to allow the nozzle to be seated in the socket and gripped by the material of which it is formed.

3. In combination, a cap for fountain brushes having portions cut and intruded to provide sockets arranged in pairs with the sockets of each pair opening at their confronting sides to the inner side of the cap; and a two-part tube holding frame, each part having a pair of trunnions extended into the respective pair of sockets and into the inner side of the cap.

4. In combination; a tube holding frame for fountain brushes comprising two parts mounted for pivotal movement to occupy open and closed positions; and means for securing said parts in closed position, comprising a keeper on one of said parts, and a latch pivoted on the other part to rotate about an axis paralleling the plane of said part, said latch having a yoke and an arm extending therefrom for moving said yoke around said keeper to a position in which it engages the latter adjacent its point of connection with the respective part and at the outer side thereof, whereby said keeper and said yoke coact to secure said parts in closed position.

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