W. MacKELVEY.

BRUSH.

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1,091,228.

Patented Mar. 24, 1914.

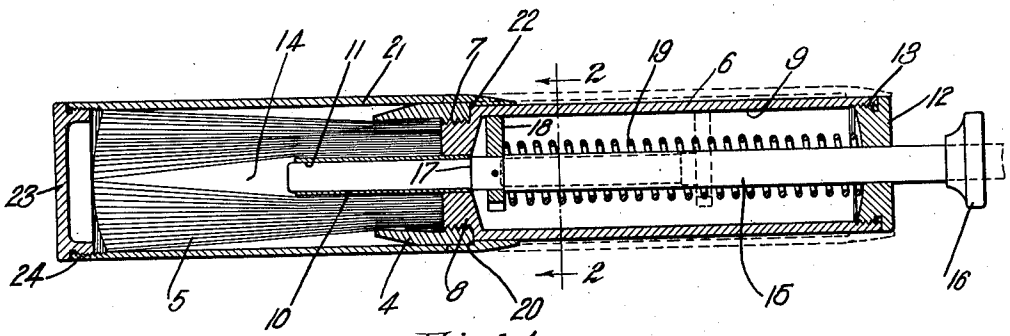


Fig. 1.

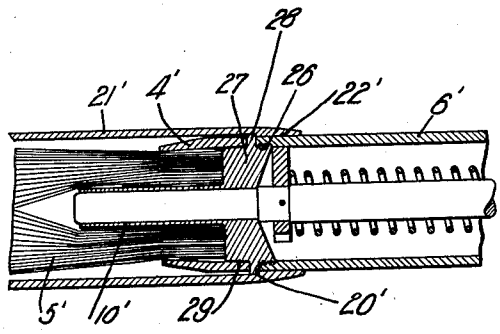


Fig. 3.

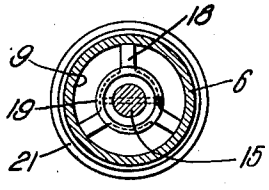


Fig. 2.

Witnesses:
Leonard A. Powell.
Franklin E. Low.

Inventor:
William Mac Kelvey.
by his attorney, Charles J. Goodwin.

UNITED STATES PATENT OFFICE.

WILLIAM MacKELVEY, OF WALTHAM, MASSACHUSETTS.

BRUSH.

1,091,228. Specification of Letters Patent. Patented Mar. 24, 1914.

Application filed July 5, 1913. Serial No. 777,518.

To all whom it may concern:

Be it known that I, WILLIAM MacKELVEY, a subject of the King of England, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Brushes, of which the following is a specification.

This invention relates to improvements in brushes and particularly to the type of brush known as the fountain brush in which the handle thereof is provided with a receptacle adapted to contain the substance which the brush is constructed to apply or spread.

The object of the invention is to provide a simple, inexpensive and durable device which is adapted to feed uniform quantities of matter to the interior of the bunch of bristles constituting the brush whereby during the spreading operation, said matter may be evenly distributed thereby.

The object of the invention is further to provide means adapted to entirely close the discharge end of said receptacle when said brush is in use to prevent moisture from gaining access to the material contained in the handle thereof.

The object of the invention is still further to provide a covering which is normally adapted to be retained upon the handle of said brush, but which may be slipped longitudinally thereof to entirely cover and protect the bristles of said brush when said brush is not in use and to prevent any moisture which may be carried by the bristles thereof from soiling or injuring articles which may come in contact therewith.

The invention consists in the combination and arrangement of parts whereby the above objects and certain other objects hereinafter appearing are attained, as set forth in the following specification and particularly pointed out in the claim.

Referring to the drawings: Figure 1 is a longitudinal sectional elevation of a fountain brush embodying my invention. Fig. 2 is a section taken on line 2—2 of Fig. 1. Fig. 3 is a longitudinal sectional elevation illustrating a modified form of brush, portions of the same being broken away.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 4 is a bristle holder and 5 a bunch of bristles which are secured within said holder. A handle 6 is detachably secured to the bristle holder 4, preferably by means of screw-threads 7 which are formed at the end of said handle about the periphery of a reduced portion 8 thereof.

The handle 6 is provided with a recess 9 which constitutes a receptacle or reservoir for the material which the brush is adapted to spread, such for instance, as soap powder. A feed tube 10 projects from the reduced end 8 of the handle 6 axially thereof into said bunch of bristles and terminates at a substantial distance from the outer free ends of said bristles, said tube having a passage 11 which communicates with the interior of said handle thus permitting the powder contained in the recess 9 to be fed or forced therefrom into the heart of the bunch of bristles 5. The outer end of the handle 6 is provided with a cap 12 which is preferably screw-threaded at 13 and engages correspondingly shaped threads upon the interior of the end of said handle 6, thus retaining the powder within said handle.

To facilitate the feeding of the powder from the receptacle or recess 9 through the passage 11 and tube 10 to the bristles and into the recess 14, formed by said bristles, a plunger 15 is provided which is arranged within said handle 6 to reciprocate in the cap 12, said plunger projecting through said cap to the exterior of said handle and provided with a handle 16 by means of which said plunger may be reciprocated longitudinally of said reservoir. The opposite or inner end of the plunger 15 is slightly reduced in diameter from the body portion thereof to telescopically fit the passage 11 of the feed tube 10, said reduced portion extending to the shoulder 17 which constitutes a stop to limit the movement of said plunger inwardly relatively to said reservoir. A spider 18 is secured to said plunger at a distance from said shoulder 17 and constitutes a support for the inner end of said

plunger by engaging the inner walls of the recess 9. Furthermore said spider constitutes an agitator by means of which the powder contained in said recess may be stirred and loosened to cause the same to pass freely from said reservoir into the passage 11 during the reciprocations of said plunger.

A spiral spring 19 is interposed between the spider 18 and the cap 12 encircling said plunger and is of a sufficient strength to return said plunger to its normal position after having been withdrawn or reciprocated, to discharge powder from said reservoir into the recess 7, said normal position being as indicated in Fig. 1 of the drawings.

The handle 6 of the brush is preferably cylindrical in shape and somewhat smaller in diameter than the bristle holder 4 thus providing an annular shoulder 20 thereon. A sleeve 21 is arranged to slide longitudinally of the exterior of said handle, said sleeve having an internal annular flange 22 adjacent to one end of said sleeve and constituting the bearing thereof which engages the handle 6. The inner end of said flange is arranged to engage the annular shoulder 20 when said sleeve is slid along said handle to the position shown in Fig. 1 and thus limit the movements of said sleeve in that direction and preventing said sleeve from being entirely removed from said handle. Furthermore the reduction of the internal diameter of said sleeve at this point prevents said sleeve, which may be removed from handle 6 in the opposite direction, from being slipped over said handle from the bristle end thereof which if so permitted would injure more or less of the bristles thereof. Furthermore the sleeve 21 is provided with a closure 23 which may be secured to said sleeve either by screw-threads 24 or other suitable means, thus completely inclosing the bristles of said brush.

When it is desired to use the brush the closure 23 is removed and the sleeve 21 slid along the handle 6 into the position indicated by the dotted lines Fig. 1. The handle 16 of the plunger 15 is then grasped and said plunger reciprocated longitudinally of said handle, toward the right of Fig. 1, until the end 24 thereof has been moved substantially to the position shown in dotted lines in said figure, which position is sufficient to permit a certain amount of powder contained in the receptacle 9 to enter the passage 11 of the feed tube 10. During the reciprocation of said plunger the agitator 9 loosens up the powder contained in said receptacle and causes the same to freely pass therefrom into said passage. During the movement of said plunger to the right, as stated, the spring 19 will be compressed and upon releasing said plunger said spring will cause the same to return to the position indicated by the full lines Fig. 1 or with its small end extending through the tube 10 thereby ejecting the powder from said tube into the recess 14. The end of the plunger from the shoulder 17 substantially fits the passage 11 and constitutes a valve which prevents any moisture from the bristles 5 from gaining access to the receptacle 9 and furthermore preventing any excess of powder from escaping into the recess 14 of said brush, thereby preventing clogging of the passage 11 and waste of the powder.

The shoulder 17 constitutes a stop for the plunger 15 and prevents the agitator 18 from engaging the concaved end 25 of the reservoir 9, thus preventing injury to said agitator.

In Fig. 3 I have illustrated a modified construction in which the handle 6′ is formed as a sleeve having internal screw-threads 26 at one end thereof which engage corresponding threads formed upon a union 27. An annular flange 28 is formed on said union against which the end of said sleeve 6′ is screwed, said flange being slightly larger in diameter than said sleeve 6′ and constituting a shoulder 20′ against which the flange 22′ of the sleeve 21′ is adapted to impinge. The opposite end of the union 27 is slightly tapered at 29 and upon said tapered end the bristle holder 4′ is adapted to fit thus permitting said holder with its bristles 5′ being quickly removed, when desired, for the purpose of cleaning the same, said tapered end being used in place of the screw threads 7 illustrated in Fig. 1, which of course would permit the holder being removed from the handle, but would be a little more expensive to manufacture. A feed tube 10′ is preferably formed integral with the union 27 and performs the same function as does the tube 10 illustrated in Fig. 1.

From the foregoing description it will be seen that simple and efficient means are provided for accomplishing the objects of the invention, but while the elements herein shown and described are well adapted to perform the functions set forth, it is obvious that various minor changes may be made in the proportions, shape and arrangement of the several parts, without departing from the spirit and scope of the invention as defined in the appended claim.

Having thus described my invention what I claim and desire by Letters Patent to secure is:

A brush having, in combination, a bristle holder, a bunch of bristles secured in said holder, a reservoir detachably secured to said holder and constituting a handle for said brush, a feed tube arranged at the end of said reservoir and extending into said bunch of bristles, a cap adapted to close the end of said reservoir, a plunger arranged in

said reservoir in reciprocatory engagement with said cap, the inner end of said plunger adapted to telescopically fit said tube, an agitator fast to said plunger within said reservoir and constituting a guide for said plunger, and means to normally retain said plunger in telescopic relation with said tube.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM MacKELVEY.

Witnesses:

SYDNEY E. TAFT,

MARGARET E. HORN.