No. 766,556. PATENTED AUG. 2, 1904.

J. A. SYMONDS.

COLLAPSIBLE TUBE.

APPLICATION FILED MAR. 28, 1904.

NO MODEL.

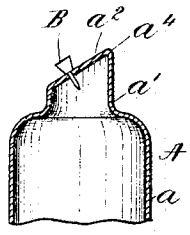

Fig. 2.

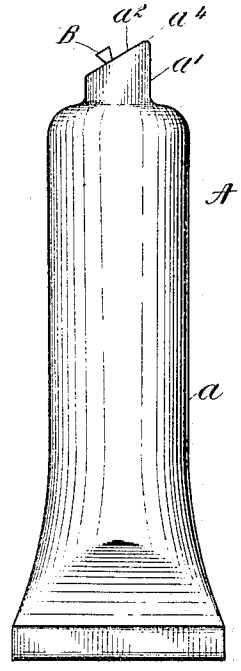

Fig. 1.

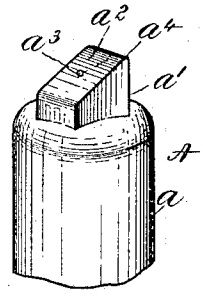

Fig. 3.

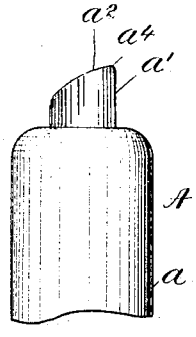

Fig. 5.

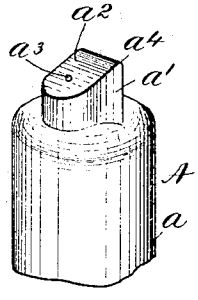

Fig. 4.

WITNESSES.

J. E. Q. Hayes

J. M. Dolan.

INVENTOR.

Joseph A. Symonds

by Clarke Raymond Bowles

his attys.

No. 766,556. Patented August 2, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH A. SYMONDS, OF NEWTON, MASSACHUSETTS.

COLLAPSIBLE TUBE.

SPECIFICATION forming part of Letters Patent No. 766,556, dated August 2, 1904.

Application filed March 28, 1904. Serial No. 200,324. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. SYMONDS, a citizen of the United States, and a resident of Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Collapsible Tubes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention relates to an improvement in collapsible tubes for containing paste or any substance destined to be spread.

It consists in forming the tube with a head having a flattened inclined spreading-surface with an aperture or outlet for the paste so disposed that upon inverting the tube and inclining it so that its inclined spreading-surface will be brought into conjunction with the surface to which the paste is to be applied then the paste may be spread by a single stroke of the arm with a smooth thin coating.

Referring to the drawings, Figure 1 shows the improved collapsible tube in elevation. Fig. 2 shows a portion of the same in cross vertical section. Fig. 3 shows a portion of the same in perspective. Fig. 4 shows in perspective a portion of a tube made in slightly-modified form. Fig. 5 shows in elevation a slight further modification, to which special reference will also be made.

In the drawings, A represents a collapsible tube having a body a and a head a'. The body of the tube is of common form and structure and adapted to contain paste or other matter destined to be spread over a surface. The head a' is made integral with the body of the tube, being formed with a flattened inclined spreading-surface a^2 with such inclination that when the tube is inverted and inclined it may be brought into conjunction with the surface or part over which the paste is to be spread. Within the spreading-surface a^2 is an aperture a^3, forming an outlet for the paste. This aperture or outlet, it is to be observed, preferably has such disposition that some considerable portion of the spreading-surface of the head comes or lies above it.

Apart from its inclined spreading-surface the head is formed substantially as shown, projecting abruptly from the body of the tube without any intervening neck or contraction in which the paste may dry or harden. It may be of a block formation, as shown in Fig. 3, or formed in part with a rounding side edge, as shown in Fig. 4. This latter construction is a good one, inasmuch as it provides a slightly-larger spreading-surface. In either event the head preferably is made so that a straight drawing edge a^4 will be provided at the upper end of its spreading-surface, or at least in some portion thereof, to lie above the paste-aperture therein. It is also to be observed that this edge of the portion of the spreading-surface is made slightly rounding, and, in fact, the entire flattened spreading-surface of the head may to advantage be formed slightly outwardly rounding or convex, as shown in Fig. 5. The head is also made hollow, providing by such formation a chamber for containing paste in which the paste cannot dry or harden. Moreover, with the head thus made hollow and formed integral with the body of the tube as it is the head may accordingly be stamped out from the same metal from which the body of the tube is spun.

B is a plug or stopper which closes the aperture in the spreading-surface of the head when not in use.

The operation of the inclined spreading-surface of the head is as follows: When the tube is inverted and turned down or inclined, so that its inclined spreading-surface will be brought into conjunction with the surface over which the paste is to be spread, (and which inclination of the tube, it may be observed, is the most natural way for holding it for applying the paste,) then by compressing the tube the paste will be forced out beneath the flat surface of the head upon the surface beneath. By then slightly turning or elevating the head, so that a portion only of its spreading-surface lying above the paste-outlet will be brought into contact with the surface over which the paste is to be spread, and then by drawing the tube forward, at the same time continuing to collapse it with a steady pressure, the paste may be spread by a single stroke of the arm over the surface beneath the

head with a thin smooth coating. By providing the spreading-surface with a straight upper edge this operation is facilitated, and the edge helps define the limit of the surface over which the paste is to be spread. Besides by making this edge rounding, or for that matter any portion of the flattened spreading-surface of the head which may come in contact with the surface beneath, danger of its being injured by the contact of the head in spreading the paste is eliminated.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A collapsible tube for containing paste or other substance, said tube formed with a flattened, inclined spreading-surface adapted to be brought into conjunction with the surface over which the paste is to be spread when said tube is held in an inverted, inclined position, and a paste outlet or aperture within said spreading-surface.

2. A collapsible tube for paste or other substance, said tube formed with a flattened, inclined spreading-surface and an outlet or aperture through which said paste is fed, a portion of which spreading-surface lies above said outlet.

3. A collapsible tube for paste or other substance, said tube having a head formed with a flattened, inclined spreading-surface, and a paste outlet or aperture therein, a portion of which spreading-surface above said outlet provides a flat drawing edge.

4. A collapsible tube for containing paste or other substance, said tube having a hollow, projecting head formed with an inclined spreading-surface with a paste outlet or aperture therein.

5. A collapsible tube for paste or other substance, said tube having a head the sides of which project straight up from the body of the tube, said head being formed with a flattened, inclined spreading-surface on the side thereof with a paste outlet or aperture therein.

6. A collapsible tube for paste or other substance having a head formed with a flattened, inclined spreading-surface and a paste outlet or aperture therein, a substantial portion of which spreading-surface lies above the paste-outlet therein and is convexed in part providing a flat drawing edge adapted to have a relatively wide bearing.

7. A collapsible tube for containing paste and other substance, said tube comprising a body portion and a head a' projecting therefrom, said head being formed with a flattened, inclined, spreading-surface a^2 and a paste outlet or aperture therein.

8. A collapsible tube for containing paste or other substance, said tube comprising a body portion and a head projecting therefrom and formed integral therewith, said head being made hollow and stamped out with a flattened, inclined, spreading-surface having a paste outlet or aperture therein.

9. A collapsible tube for containing paste or other substance, said tube comprising a body portion and a hollow head projecting therefrom, said head being formed with a flattened, inclined, spreading-surface made outwardly curved or convex, and a paste outlet or aperture in said spreading-surface.

10. A collapsible tube for containing paste or other substance, said tube comprising integral head and body portions, said head of the tube being made hollow and formed with a flattened, inclined, spreading-surface made outwardly curved or convex, and a paste outlet or aperture in said spreading-surface.

JOSEPH A. SYMONDS.

Witnesses:
J. E. R. HAYES,
J. M. DOLAN.