This invention relates to dispensing containers for tooth powder and the like, the object being to provide an improved article of this character which is simple in construction and inexpensive-ly produced, yet practical for the packaging and commercial distribution and the convenience of the user of powdered substances or preparations, more particularly tooth powder; to produce a sanitary container having means for delivering measured quantities of the contents and applying the powder to a brush so as to minimize waste; to peculiarly form the container so that minimum shelf or other storage space is required and the proper handling of the container in the delivery of the contents is facilitated; and to attain cer-tain other advantages as will hereinafter more fully appear.

The invention consists in the novel construc-tion, and in the parts and combinations and ar-rangements of parts hereinafter described and pointed out with particularity in the appended claims.

In the accompanying drawing, illustrating a practical adaptation of the invention.—

Fig. 1 is a view of the container, partly in side elevation and partly in longitudinal section, showing the delivery means in retracted and closed condition;

Fig. 2 is a similar view, showing the delivery means in extended and fully opened condition;

Fig. 3 is a section taken substantially on the line 3—3 of Fig. 1;

Fig. 4 is a perspective view, on an enlarged scale, of the delivery element detached;

Fig. 5 is a fragmentary view, on an enlarged scale, partly in end elevation and partly in sec-tion on the line 5—5 of Fig. 1;

Fig. 6 is a cross-section of the delivery element, taken on or about the line 6—6 of Fig. 2;

Fig. 7 is a longitudinal section of a modification of the reciprocatory delivery element;

Fig. 8 is a section on the line 8—8 of Fig. 7;

Fig. 9 is a section on the line 9—9 of Fig. 7;

and

Fig. 10 is an end view of an ordinary tooth brush and showing, in dotted lines, the core or body of powder applied thereto.

Referring now to the drawing, the numeral 10 designates generally the body member of the container which, as shown, is relatively flat and substantially rectangular in form, having the opposite side wall portions 11, 12, which merge with a flattened rectangular marginal wall 13, said side wall portions 11 and 12 extending substantially perpendicular or in square relation to said marginal wall 13 for a considerable portion of their width and thence converging slightly and merging in a rounded marginal wall 14 opposed to the wall 13. The body member 10 also has a flat end wall 15, the opposite end of the body being open and formed with an external bead 16 a slight distance inwardly from its margin and affording a stop for a closure mem-ber 16 which is formed at 16a as a counterpart of the external contours of the wall portions 11, 12, 13, and 14 of the body member. In practice the cap member is, of course, fitted tightly over the end portion of the body member and held in place by frictional engagement, or any approved method of fastening. In this connec-tion it is here noted that, in some cases, the portion of the container included in the cap mem-ber 16 may be formed integrally with the body portion 10 and have the end wall 15 applied after the container is filled. However, this may obviously be done in accordance with any ap-proved common practice. It is, therefore, deemed unnecessary to illustrate the same in the drawing.

The cap member 16 is formed with a reduced longitudinal end extension 17 at the side in the region of its portion which coincides with the rounded marginal wall 14 and adjacent side wall portions 11 and 12 of the body member 10, and a portion of said extension 17 being tapered round-ingly, as at 18, whereby to produce an inwardly flared hopper-like chamber 19 in which the con-tents of the body portion 10 are received when the container is stood on end to fill the delivery device, which will now be described.

In the end wall of the extension 17 is a semi-circular opening which is surrounded by a corre-spondingly formed external collar or neck flange 20, through which works a longitudinally slidable delivery element 21. This delivery element, as shown, is formed in general cross-section as a counterpart to fit rather snugly, though slidably, in said collar portion 20 whereby to effectively close the container in both the retracted or closed and extended or opened positions of the delivery element 21. As shown in Figs. 1 to 6, inclusive, of the drawing, the delivery element may be formed solidly and integrally, or, it may be made hollow and of sheet metal, as shown in Figs. 7 to 9, inclusive, and accomplished practically by die stamping and forming operations from a single piece of material.

At the outer end of the delivery element 21 is a flange 22 which constitutes a knob or handle for
convenience in manipulating the delivery element 21, the adjacent body portion 23 closing the opening through the collar 29 when the delivery element is in rotated or closed position. Likewise, the inner end portion 24 of the delivery element 21 closes said opening when said element is in extended or opened position. Between said end portions 23 and 24 the delivery element is provided with a longitudinally elongated depression or pocket 25, as shown, is rounded in cross-section, and whose end walls 26 and 27 are preferably somewhat upwardly flared to permit the ready dumping of powder from the pocket.

Rotation of the delivery element 21 is prevented by the counterpart semi-cylindrical cross-sectional form of the collar 29 through which said element 21 reciprocates longitudinally, and by fitting the element 21 relatively tight in the collar not only does the friction normally prevent accidental movement of the element 21, but further guiding and steadying means are unnecessary. However, if desired, the adjacent wall portions of the container extension 17 may be formed or provided with supplemental guide means, as by crimping the side walls or in any other approved way, which, being quite obvious, is not illustrated in the drawing.

Preferably, the inner end portion of the delivery element 21 is beveled, as at 28, whereby to operate with a plough-like cutting and displacing effect through the body of powder in the hopper chamber 19 during the inward movement of said element 21. The advantage of this is the breaking of lump particles and prevention of undue packing of the powder in the hopper, as well as deflecting the flow of powder so that it readily enters the pocket 25 of the delivery element. Any suitable means may be employed for limiting the outward movement of the delivery element 21. As shown in Figs. 1, 2, and 4 of the drawing, a pin or stud 29 is provided on the upper side of the inner end portion of the element 21, while in the modification illustrated in Fig. 7 a shoulder 30 is formed integrally on the element in the same location as said pin or stud 29, except that said shoulder extends substantially the entire width of the element (see Fig. 8). In either case, the stop member abuts the end wall of the extension 17 of the container adjacent the top of the opening through which the element 21 slides.

When the container is placed for storage upon a shelf within a medicine or toilet cabinet or other support it may be conveniently stood on the flat end portion 19, in which position but little supporting surface is taken up, or, obliquely, in some cases, it may be stood on the flat marginal wall 13 or laid flatwise on one of the sides 11 or 12, which is of material advantage, but the peculiar shape of the container is of further and important advantage in the handling of the container in use, as the rounding of the marginal wall 14 and tapering of the adjacent portions of the side walls 11 and 12 provides for the convenient grasping of the article in the hand of the user, and the peculiar formation of the reduced extension 17 and hopper portion of the cap member 16 further facilitates the handling of the container in the manipulation of the delivery element 21.

Normally, the delivery element 21 is in retracted or closed position, as shown in Fig. 1 of the drawing, and when it is desired to deliver some of the powder from the container it is held with the cap portion 25 downward, whereupon the powder is received in the hopper chamber 19 and the pocket 25 of the retracted delivery element 21 becomes filled. Prior to withdrawing the delivery element 21 the container is held in the hand or placed on a convenient support, such as a washtub or the like, in position with the marginal wall 13 downward, and while in this position the delivery element 21 is withdrawn by the operator grasping the flange or collar portion 22 and pulling thereon.

Upon withdrawal of the delivery element 21 the pocket portion 25 will be filled with the powder even with the edges of its sides, the powder being leveled flatwise by the scraper edge of the flat upper edge of the opening in the end wall of the extension 17 as the delivery element 21 moves outwardly. As the delivery element 21 is non-rotative, the powder is dumped from the pocket 25 by turning the container bodily to bring the rounded marginal wall portion 14 downwardly, whereupon the core of powder drops flatwise downward from the pocket 25 of the delivery element 21, it being obvious that a tooth brush may be conveniently held in a position with its bristles aligned below the delivery element 21, in which relation the powder from the pocket 25 is deposited directly onto the brush. Even should the powder for any reason have a tendency to stick within the pocket 25, it is readily dislodged by slightly tapping the extended and inverted delivery element 21, or otherwise causing vibration, as by shaking the container. The application of the delivered core or body of powder to the tooth brush is illustrated conventionally in Fig. 10 of the drawing wherein the brush is shown in end elevation and positioned with its bristles disposed upwardly, as at 31, and the applied powder is indicated by the semicircular dotted line 32.

In the use of the container it is noted that the delivery element 21 always delivers a measured quantity of the powder and, of course, undue waste is thereby avoided, particularly due to the flattened side of the powder core which effectively overcomes any tendency for the core to roll off the brush as might otherwise occur, should, for example, the core be substantially cylindrical or other than flat faced. At the same time the powder remaining in the container is preserved from undue deterioration, as the container is effectively closed in both the retracted or closed and extended or opened positions of the delivery element; and, aside from the advantage in the peculiar form of the container whereby the proper positioning of the delivery element 21 in use is governed, there is a further advantage of complete sanitation.

An essential feature of the invention is delivery of a flat faced core or body of powder, but not absolutely limited to a semi-cylindrical cross-section, for while such cross-section is ideal both as to practicality in form of core and means of producing it, the same result may be attained through polygonal cross-sectioning approximating the semi-cylindrical, or the equivalent thereof.

The structure illustrated in the drawing is for demonstrating a practical adaptation of the invention and, obviously, many changes and modifications may be made without in the least departing from the spirit and scope of the invention as set forth in the appended claims. The invention, therefore, is not limited to the specific construction and arrangement shown.

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

1. A dispensing container for tooth powder and the like comprising a shell provided with an out-
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Jet, and a delivery member mounted in said shell and adapted to reciprocate in said outlet, said shell being provided with a flat side to position the shell properly for the delivery movement of the delivery member.

2. A dispensing container for tooth powder and the like, comprising a relatively flat body shell formed at one end and one right marginal side for the supporting of the shell, the opposite right marginal side being rounded, said container having a longitudinal extension from its end opposite its supporting end and in the region of its rounded marginal right side, said extension having a delivery opening at its outer end, and a reciprocatory delivery element operable through said delivery opening, said delivery element having inner and outer end portions respectively adapted to form a closure for said opening, and having a pocket intermediate its ends adapted to deliver a measured quantity of the contents of the container when said delivery element is moved outwardly.

3. The herein described dispensing container for tooth powder and the like, comprising a relatively flat container shell, one end of which is closed, the opposite end being open, said closed end and one right marginal side being adapted to support the container, the opposite right marginal side of the shell being rounded, a cap for the open end of said body shell having a hopper chamber in free communication with the body shell and a longitudinal extension in the region of the rounded right side of the shell, said extension having a non-circular flanged opening at its outer end, and a reciprocatory delivery element fitted to slide longitudinally through said flanged opening, the outer and inner end portions of said delivery element being substantially counterpart and respectively adapted to close said opening, said delivery element having a longitudinally elongated pocket intermediate its ends for the reception and delivery of a measured quantity of the contents of the container.

4. In a dispensing container of the character described, a relatively flat body shell closed at one end and open at its opposite end, the closed right marginal side being flattened whereby to support the container in corresponding perpendicular positions, the opposite right marginal side of the container being rounded, a cap member for the open end of said body shell, said cap member being formed with opposite sides and flat and rounded side marginal walls in counterpart of the corresponding walls of the body shell, said cap member having a longitudinal extension at one side in the region of the rounded right side of the body shell, said cap member having a curved tapering wall merging with the cap extension and the flat right marginal wall, said extension having a non-circular flanged opening at its outer end, and a delivery element formed and adapted to slide longitudinally through said flanged opening but without rotative movement therein, the inner and outer end portions of said delivery element being substantially counterpart and respectively affording a closure for said flanged opening, said delivery element intermediate its ends being formed with a depression to constitute a longitudinally elongated pocket for receiving and delivering a measured quantity of the contents of the container.

5. In a device of the character described, a container shell having a semi-circular opening therein with its flat chordal side uppermost, a counterpart supporting and guiding collar surrounding said opening, and a reciprocatory delivery element of counterpart transverse circumferential form fitted to slide longitudinally through said opening and collar, the inner and outer end portions of said element affording a closure for the container, and said delivery element having a longitudinal pocket in its flat side between its end portions.

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