Nov. 24, 1959 L. L. MARRAFFINO 2,914,220

STRIPING DISPENSER

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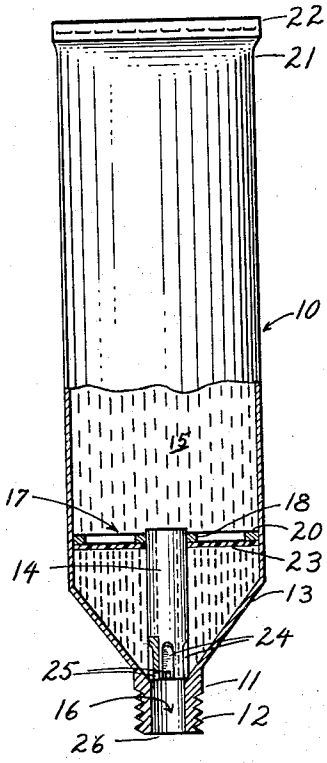


FIG. 1.

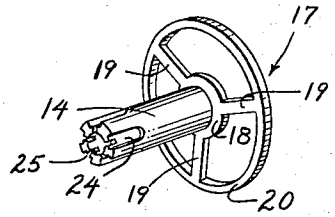


FIG. 2.

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STRIPING DISPENSER

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This invention, generally, relates to devices for dispensing fluent materials and, more particularly, to devices for dispensing two or more fluent materials of different character.

In one of its aspects, the present invention contemplates an improvement in the structure of a container designed for dispensing fluent or paste-like materials whereby certain advantages are realized. One of these advantages is the increased simplicity of assembly of striping dispensers. Another advantage of a structure of a form contemplated by this invention is that the simplicity and the arrangement of the parts permits increased economy in the production process.

Therefore, a principal object of the invention is to provide an improved dispensing device for dispensing a striped paste-like material.

It is also an important object of the invention to provide an improved dispensing device capable of increased ease in assembly and greater economy in production.

Generally, the invention provides a hollow tubular member which is slightly larger in outside diameter than the discharge or outlet passageway of the dispenser. The hollow tubular member when inserted into the dispenser, will be positioned automatically by the inner sloping surface of the forward end of the dispenser. No special recess need be formed at the inner end of the outlet passageway since the hollow tubular member merely rests against the sloping surface. The opposite end of the hollow tubular member from the outlet passageway is supported and maintained in a substantially aligned position by a suitable support member. In this manner, the connecting passageway formed by the hollow tubular member is maintained in communication with the outlet passageway of the dispenser.

A representative embodiment of the invention from which the above and other features and objects thereof will be readily understood from the description following having reference to the accompanying drawing, in which:

Figure 1 is a view partly in section of one form of the invention; and

Figure 2 is a perspective of the preferred construction for the support member of the invention.

For the purposes of this description, it will be assumed that the dispensing device is to be used to dispense tooth paste in a striped form, it being understood that the invention is not limited to tooth paste or to the characteristics of the paste materials described.

In carrying out the invention, a conventional disposable aluminum tube dispenser **10** is provided with a threaded head end **11** having a plurality of threads **12** for securing a cap (not shown). Positioned within the sloping forward end **13** of the dispenser **10** is a hollow tubular member **14**, which defines a connecting passageway between the chamber **15**, defined by the dispenser **10**, and the outlet passageway **16** within the head end **11**. The invention is concerned with maintaining the connecting passageway defined by the hollow tubular

member **14** in communication between the chamber **15** and the outlet passageway **16**.

To maintain the hollow tubular member **14** in position, a supporting bracket **17** is located about the inner end of the member **14** furthermost from the outlet passageway **16**. To show this supporting bracket **17** more clearly, reference is made to Figure 2 of the drawing, wherein a perspective view of a preferred embodiment of the supporting bracket **17** is shown.

A central ring **18** is formed with an inside diameter such that it fits snugly about the outer surface of the hollow tubular member **14**. Attached to the central ring **18** and extending radially therefrom is a plurality of spokes **19** which terminate at an outer ring **20**. The outer diameter of the ring **20** is such that it fits snugly within the chamber **15** as shown in Figure 1. The hollow tube **14**, and its supporting bracket **17**, form a fixture readily applicable to standard forms of dispensing tubes. With this construction, the support member **17** may be manufactured integrally with the hollow tubular member **14** or the support member **17** and the hollow tubular member **14** may be manufactured as separate units and assembled prior to insertion into the dispenser **10**. With the hollow tubular member **14** and the support member **17** assembled, the two are inserted into the dispenser **10** from the initially open end **21**, which end **21** is sealed along the edge **22** after the dispenser **10** is filled with the fluent material to be dispensed.

Upon sliding down the inside of the dispenser **10**, the assembled tubular member **14** and support member **17** are positioned such that the forward end of the member **14** rests against the inside sloping surface **13**, and seats against the inner edge of outlet passageway **16**. In this position, the hollow tubular member **14** is substantially rigid and the connecting passageway is maintained in communication with the outlet passageway **16**.

After the tubular member **14** and support member **17** are inserted, the dispenser is then charged with the material which is to form the stripes. This striping material fills the head end of the dispenser **10**, but not past the inner end of the tubular member **14**. Then, the balance of the dispenser **10** is filled with the material which is to form the body of the striped stream, as for example, white tooth paste. The end **21** of the dispenser **10** is then sealed in the usual manner.

In operation, pressure is applied to the dispenser **10** in the customary manner, which pressure is transmitted longitudinally in a forward direction to extrude the tooth paste through the tubular member **14** and outlet passageway **16**. At the same time, the tooth paste applies pressure on the striping material by pressing forward between the spaced apart spokes **19** to extrude stripes through the striping port **25**. The resultant product which emerges from the discharge port **26** is a striped tooth paste product.

It is important to note that alternative modifications suggest themselves such as, for example, the zone defined by the chamber **15** and the zone defined by the space between the sloping forward end **13** and the outer surface of the tubular member **14** may be kept in separation by a means such as a layer of wax **23**, or the like. It is not essential in all cases that a separation be used and it is not essential to the present invention. It is merely pointed out that a dispensing device in accordance with the present invention is susceptible to the use of a partition such as a wax layer. The wax layer **23** is illustrated in Figure 1 of the drawing to show its relative position with respect to the support member **17**, should the use of such a separation be desired.

Also, a further modification which suggests itself by the description of the present invention is that with the position of the hollow tubular member **14** at the inner end of the outlet passageway **16**, the grooves **24** may

not be essential in some cases. It is only necessary that the striping ports **25** be provided in order to communicate the space between the sloping forward end **13** and the hollow tubular member **14** with the outlet passageway **16**. Therefore, with this modification, the hollow tubular member **14** may be entirely cylindrical on its outer surface with the exception of the striping port **25**.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. One example would be a disc with a plurality of perforations substituted for the spokes described above, the essential characteristics of the support member being that sufficient space must be provided to permit pressure from the fluent material in the main portion of the dispenser to be transmitted to the fluent material positioned about the hollow tubular member. Since the present embodiments are therefore to be considered in all respects merely illustrative, and not as being restricted, the scope of the invention is indicated by the appended claims rather than by the foregoing description.

I claim:

1. A device for dispensing fluent materials which comprises a container defining a chamber, said chamber having an outlet passageway including a discharge port at one end opening externally of said chamber, a separate hollow tubular member having one end seated against the inner edge of said outlet passageway and extending back into said chamber, said hollow tubular member defining a connecting passageway between said chamber and said outlet passageway, and spoked support means within said chamber attached to and cooperating with the inner end of said hollow tubular member to maintain said connecting passageway in communication with said outlet passageway.

2. A device for dispensing fluent materials which comprises a container having a chamber, said chamber having an outlet passageway including a discharge port at one end opening externally of said chamber, a hollow tubular member positioned at the other end of said outlet passageway and extending back into said chamber, said hollow tubular member having its discharge end seated against the inner edge of said outlet passageway, to define a connecting passageway between said chamber and said outlet passageway, the discharge end of said hollow tubular member being provided with discharge ports, and a plurality of radially disposed spokes within said chamber attached to and cooperating with the inner end of said hollow tubular member to maintain said connecting passageway in communication with said outlet passageway.

3. A device for dispensing fluent materials which comprises a container defining a chamber, said chamber having an outlet passageway including a discharge port at one end opening externally of said chamber and a hollow tubular member positioned at the other end of said outlet passageway, said hollow tubular member defining a connecting passageway between said chamber and said outlet passageway, a first zone including that portion of said chamber disposed along said hollow tubular member and a second zone into which said connecting passageway terminates in open communication, a support means within said chamber to maintain said connecting passageway in communication with said outlet passageway, said support means comprising an inner circular member positioned about said hollow tubular member, an outer circular member positioned about the inner surface of said chamber, and a plurality of radially disposed spokes connecting said inner circular member with said outer circular member such that said connecting passageway is maintained in communication with said outlet passageway.

4. A device for dispensing fluent materials which comprises a container having a chamber having an outlet passageway terminating in a discharge port, and a fixture in said chamber comprising a hollow tube open at both ends, one end of said tube being seated against the inlet edge of said outlet passageway and being provided with discharge ports opening into said outlet passageway, the fixture further including a bracket attached to the inner, opposite end of said hollow tube and adapted to contact the inside wall of said chamber, for holding said bracket in operative position.

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