

RESERVE COPY
PATENT SPECIFICATION

813,514



Date of Application and filing Complete

Specification: June 11, 1956.

No. 17948/56.

Complete Specification Published: May 21, 1959.

Index at acceptance:—Classes 28(1), H; 66, L(1:X); and 102(2), C2A.

International Classification:—A23I, B65d, F05b.

COMPLETE SPECIFICATION

Improvements in or relating to Devices for Dispensing Paste-like Materials

I, LEONARD LAWRENCE MARRAFFINO, a Citizen of the United States of America, of 231, East Fourth Street, Mount Vernon, Westchester County, New York, United States of America, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

My invention relates to a device for dispensing paste-like materials, and provides a means for dispensing together two or more paste-like materials of different character, for example different colour, in the form of a striped stream.

Accordingly my invention consists in a device for dispensing together at least two paste-like materials to form a striped stream, which comprises a dispensing container having a major central passage defining portion which extends a short distance into the interior of the dispensing container, the major central passage having a discharge orifice at its outer end and communicating at its inner end with the interior of the dispensing container, and at least one minor passage having a striping orifice at its outer end and communicating with the interior of the dispensing container at a point between the discharge orifice and the inner end of the major central passage, the discharge orifice of the minor passage being so positioned that when the materials are passed from the container through the two passages the materials come together to form a striped stream.

The striping orifice can be situated adjacent the discharge orifice, and preferably communicates with the major central passage.

Preferably, the dispensing container has a port and the major central passage defining portion is constituted by an insert in the form of an elongated hollow

tube the outside dimension of which is sized to fit into the port. The hollow tube extends from the port a short distance back into the interior of the container. The, or preferably a plurality of the minor passages are defined between the outer surface of the insert and the inner surface of the port.

The dispensing container is filled with the materials to be dispensed in the form of a striped stream by first charging into the dispensing container the material which is to form the stripes. This material is charged into the head end of the dispensing container around the major central passage defining portion in a quantity such that it does not fill the dispensing container beyond the inner end of the major central passage. The base material which is to form the body of the striped stream and to carry the stripes is then charged into the dispensing container to fill the balance of the container space.

When my device is used, the pressure applied to the dispensing container to dispense a stream of material forces the base material which forms the body of the dispensed stream through the major central passage and the discharge orifice. The pressure applied to the container and thereby to the base material is transmitted by the base material to the striping material which is packed within the head end of the dispensing container around the outside of the major central passage defining portion. As a consequence of this pressure the striping material is forced through the minor passages towards the outer (or head) end of the major central passage defining portion and thus to the striping orifices. The striping material is forced through the striping orifices, in the case where they communicate with the major central passage, transversely into the stream of

[Price 3/6]



base material passing through the major central passage. In this manner, the striping material is made part of a solid stream of both materials emerging from the discharge orifice of the dispensing container in the form of a striped stream.

In a particularly advantageous embodiment of my invention, where the major central passage defining portion is constituted by an insert in the form of a hollow tube, the hollow tube is provided with its own separate receptacle for the striping material so that the operation of filling the dispensing container is greatly simplified. In such an embodiment, the striping material receptacle may be a skirt through which the tail end of each minor passage extends and which is attached to the hollow tube at a point removed from the head end of the tube to allow a sufficient length of the tube to extend beyond the striping material receptacle so that the head end of the tube may be inserted into the port of the dispensing container. From the point of attachment, the striping material receptacle extends back towards the tail end of the tube and surrounds the tube for a portion of its length to provide space for the striping material. The striping material receptacle is filled with the striping material and the surface of the striping material may be covered with a protective coating, for example, wax, to prevent mixing of the striping material and the base material. The hollow tube and associated striping material receptacle assembly is then positioned in the dispensing container by placing the head end of the hollow tube in the port of the dispensing container. The base material is then charged into the dispensing container to fill the balance of the dispensing container space.

When employed in conjunction with conventional paste containers, such as collapsible aluminium tube dispensing containers, the receptacle for the striping material is advantageously formed from an aluminium blank in the same manner as the collapsible aluminium tube and shaped and sized to fit snugly within the head of the collapsible aluminium tube. When employed with other dispensing containers, the shape of the striping material receptacle should conform to the internal contour of the head end of the dispensing container with which it is to be used.

In the application of the device of my invention to two or more materials differing in colour, the striped stream which is produced by my device presents the dispensed material to the consumer in a very appealing form. This is particularly true when my device is used to dispense a

consumer product such as toothpaste. The striping material may be simply base material to which colour has been added, or it may be an active ingredient in the resulting striped stream. For example, my device may be used to dispense a stream of white toothpaste carrying green stripes of chlorophyll. My device also can be used, for example in cake decorating, where the striping effect obtained adds substantial decorative value.

In addition to its use for the purpose of creating a decorative effect, my device may be used to deliver a stream of two or more materials differing in some character other than or in addition to colour. Since the stream of the materials is formed just as the materials emerge from the dispensing container, the device has particular applicability to use with materials which are or tend to be affected by prolonged contact with each other. In such a case, my device allows the incompatible materials to be packaged together, separated by a layer of an insert material such as wax, and dispensed together by the consumer but prevents any extensive contact of the materials from the time of packaging to the time of actual use.

My device also functions as a metering device, mixing the materials in proportions which are a function of the relative sizes of the cross-section of the major central passage, the minor passage or passages and of the discharge orifice and striping orifices, as well as by the number of minor passages. The cross-sectional sizes, as well as the number of minor passages may be varied to give the desired proportions of the materials in the dispensed stream.

The insert constituting the major central passage defining portion of my device may be manufactured from any material, such as plastic or metal, which will not be affected by contact with the materials to be dispensed. Tube stock of a suitable plastic, such as cellulose acetate or polyethylene, may be used and the necessary orifices and passages forced therein, or the insert may be moulded from a suitable plastic such as cellulose acetate or polyethylene. Where a striping material receptacle is used in association with an insert, such striping material receptacle may be formed of a suitable plastic by moulding or the like, or it may be formed from aluminium blanks in the same manner as conventional collapsible aluminium tube dispensing containers made, and then assembled with the insert by force fitting the two pieces together.

The structure of several embodiments according to my invention will be described with reference to the accom-

panying drawings in which:

Fig. 1 is a perspective view, partly broken away, of an insert in the form of a hollow tube and of an associated striping material receptacle assembly particularly adapted for use with a conventional collapsible aluminium tube dispensing container;

Fig. 2 is a side view, partly broken away, and in cross-section taken along line 2-2 of Fig. 3 of an insert in the form of a hollow tube and of an associated striping material receptacle assembly, such as is illustrated in Fig. 1 in place in a conventional collapsible aluminium tube dispensing container;

Fig. 3 is an end view in cross-section of the assembly illustrated in Fig. 2;

Fig. 4 is a side view, partly broken away, and in cross-section taken along line 4-4 of Fig. 5 of a conventional collapsible aluminium tube dispensing container having an insert in the form of a hollow tube in place in the port of the container;

Fig. 5 is an end view in cross-section of the assembly in Fig. 4;

Fig. 6 is a perspective view, partly broken away, of another form of insert having suitable means for holding the hollow tube within a conventional screw top collapsible aluminium tube dispensing container;

Fig. 7 is a perspective view of yet another insert in the form of a hollow tube;

Fig. 8 is a perspective view, partly in section, of an insert in the form of a hollow tube and of an associated striping material receptacle assembly, such as is illustrated in Fig. 1, in which the striping material receptacle is partitioned to provide for two separate striping materials;

Fig. 9 is a cross-sectional view of a conventional rigid tube dispensing container, such as is used for cake decorating, modified according to my invention;

Fig. 10 is a view of the assembly illustrated in Fig. 9 taken at line 10-10 in Fig. 9;

Fig. 11 is a perspective view of a portion of the assembly shown in Figs. 9 and 10;

Fig. 12 is a perspective view of an insert in the form of a hollow tube and of an associated striping material receptacle, such as that illustrated in Fig. 1, in which the hollow tube is constructed similarly to the tube shown in Figs. 9, 10 and 11;

Fig. 13 is a cross-sectional view of a collapsible aluminium dispensing container illustrating yet another arrangement according to my invention; and

Fig. 14 is a view of the assembly illustrated in Fig. 13 taken at line 14-14

in that figure.

In the drawings, Fig. 1 is an illustration of an insert in the form of a hollow tube and of an associated striping material receptacle assembly in which the striping material receptacle is shaped to fit snugly within the head end of a conventional collapsible aluminium tube dispensing container commonly used for such paste-like materials as toothpastes. In this illustration, the hollow tube 10 is provided with grooves 11 which terminate close to the head end 10a of the hollow tube 10 in holes 12 which pass through the wall 13 of the tube 10 and so connect the grooves 11 and the inside of the tube 10, i.e., the major central passage. The striping material receptacle 14 is formed of a truncated conical portion 15 and a cylindrical portion 16. The small end of the truncated conical portion 15 is sized for a force fit over the hollow tube 10. The striping material receptacle 14 is positioned on the hollow tube 10 a sufficient distance from the head end 10a of the tube 10 so that the head end of the hollow tube 10 can be inserted into the port of a dispensing container. The striping material receptacle 14 should be sized to fit snugly into the head end of the dispensing container with which it is to be used both to aid in holding the tube 10 in place and to prevent the base material charged in to the dispensing container from leaking by the outside surface of the striping material receptacle 14 and contaminating the striping material passing to holes 12 through grooves 11.

When the hollow tube 10 and associated striping material receptacle 14 assembly are to be employed with a dispensing container, the striping material receptacle 14 is first filled with striping material, and a protective layer of, for example, wax may be applied over the surface of the striping material to prevent mixing of the striping material and base material within the dispensing container. The hollow tube 10 and associated striping material receptacle 14 assembly is then placed within the dispensing container with the head end 10a of the tube 10 extending into the port of the dispensing container. Base material is then charged to the dispensing container to fill the balance of the container space, and the dispensing container is ready to dispense a striped stream of material.

Figs. 2 and 3 show the hollow tube 10 and striping material receptacle 14 assembly of Fig. 1 in place in the head end of a conventional screw top collapsible aluminium tube dispensing container 17.

A hollow tube 10 without the associated striping material receptacle is shown in place in a conventional screw top collapsible

sible aluminium tube dispensing container 17 in Figs. 4 and 5. The hollow tube 10 is positioned by a force fit in the port formed by the inside surface of the cylindrical wall 18 of the dispensing container 17. The outside of the cylindrical wall 18 is provided with external threads 19. In this embodiment, the striping material is packed within the container 10 to fill the container space around the hollow tube 10, and the balance of the container is filled with base material.

An alternative means of positioning the hollow tube in the port of the dispensing container is illustrated in Fig. 6. In this illustration, the hollow tube 10 is provided with a cap 20 which is rigidly fastened to the head end of the hollow tube 10. The cap 20 is sized so that the cylindrical wall 20 which extends back over the tube 10 from its head end has an inside diameter greater than the outside diameter of the tube 10 by an amount sufficient to accommodate between the outside surface of the tube 10 and the inside surface of the cylindrical side of the cap 20 the wall forming the port of a dispensing container, for example, the cylindrical wall 18 of the dispensing container 17 illustrated in Fig. 4. The cylindrical wall of cap 20 is formed with internal threads 21 and external threads 22. In this form the hollow tube 10 is inserted into the port of a dispensing container provided with external threads on the wall forming the port, such as the threads 19 in the wall 18 of the dispensing container 17 illustrated in Fig. 4. The internal thread 21 of the cap 20 in combination with the external thread 19 of the dispensing container 17 hold the hollow tube 10 in place within the dispensing container. The external thread 22 of the cap 20 provides a means for holding an internally threaded cap (not shown) over the end of the discharge orifice of the dispensing container as a closure.

A slightly modified hollow tube 10 is illustrated in Fig. 7. In this illustration the tail end of the hollow tube 10 which, when the tube is in place in the port of an associated dispensing container, extends into the dispensing container is flared outwardly as shown at 23 to ease the flow of base material entering the hollow tube from the dispensing container as pressure is applied to the container to dispense a stream of material. In this hollow tube 10 the grooves 11, as shown, do not extend all the way to the tail end of the tube.

It will readily be appreciated that it is not necessary in any of the hollow tubes illustrated in the drawings that the grooves 11 extend to the tail end of the hollow tube. The only requirement is that

these grooves connect the body of paste-like striping material and the holes 12 through the wall of the tube 10 so as to allow striping material to join the stream of base material passing through the hollow tube. However, the hollow tubes are usually more easily manufactured with the grooves extending to the tail end of the tube 10 and this added length of these grooves is some aid in easing the flow of striping material to the holes 12.

A hollow tube 10 and associated striping material receptacle 14 assembly, modified from that shown in Fig. 1, is illustrated in Fig. 8 with the cylindrical portion 16 of the striping material receptacle 14 of Fig. 1 cut away to show more clearly the added partitions 24 and 25 which divide the the striping material receptacle 14 into two separate compartments. This form allows two different striping materials to be employed to produce a striped stream made up of a base material and two different striping materials. As illustrated in Fig. 8, two grooves 11 are positioned in each of the separate striping material compartments. The partitions 24 and 25 separating the striping material receptacle 14 into two compartments may be manufactured as part of the hollow tube 10 or as part of the striping material receptacle 14. If desired, more partitions may be provided to divide the striping material receptacle into a further number of compartments so that a greater number of striping materials may be used.

While the above description is directed for the most part to dispensing containers of the conventional collapsible aluminium tube type, it will be readily apparent that other types of dispensing containers for paste-like materials, such as cake decorators of the plunger type, can be suitably modified to dispense two or more materials in the form of a striped stream according to the present invention.

Referring to Figs. 9 and 10, a cake decorator 30 having an elongated cylindrical body 31 is shown. The tail end of body 31 is crimped to form threads 32 which engage a threaded cap 33. Cap 33 is provided with a central aperture 34 through which an elongated rod 35 freely extends. At its external end, rod 35 is bent to form a handle 36. The inner end of rod 35 is threaded and centrally supports a transversely positioned piston 37 which is affixed to rod 35 by a pair of nuts 38 which are threaded upon rod 35 one on each side of piston 37. Piston 37 slidably engages the inner walls of body 31 and is reciprocable in body 31 by means of rod 35 and handle 36. The head end of body 31 is crimped to form threads 39 which engage a similarly threaded portion of a

conical cap 40. The apex of cap 40 is provided with a cylindrical extension 41 in which is formed the port. The head end of extension 41 is provided with an internal annular flange 42 and is externally threaded at 43 to engage a shaping cap 44. Shaping cap 44 has a central bore 45 registering at its inner end with the central open portion of flange 42 and 10 tapering at its outer end to an orifice 46 of any desired shape to central the transverse dimensions of the extruded stream of decorating paste.

Internally extension 41 is slightly 15 tapered to permit internal sliding reception of plug 47, the details of which are seen more clearly in the enlarged perspective view in Fig. 11. Plug 47 is formed as an integral, moulded piece and includes 20 a hollow tubular portion 48 which extends the entire length of plug 47. Four bosses 49 spaced to define longitudinal slots 50 extend outwardly from and lengthwise along one half of hollow tube 48 at equal 25 arcuate intervals about such half. Tube 48 is grooved slightly at 51, the bottom of each slot 50, and is provided with a radial end slot 52 at the head end of each such groove 51. Plug 47 is internally received 30 in extension 41 with its end having slots 52 seated on flange 42. The outer surface of each boss 49 abuts the inner surface of extension 41 and the tail end of hollow tube 48 extends beyond bosses 49 and 35 extension 41 back into body 31.

Cake decorator 30 is employed similarly to the devices previously described. Cap 40 is removed from body 31. Plug 47 is then inserted into the port formed in 40 extension 41 of cap 40 and striping paste is packed into the space between cap 40 and hollow tube 48. Base material is then packed into the open end of body 31 and cap 40 is rethreaded over the open end of 45 body 31. A suitable shaping cap 44 is positioned on the head end of the decorator, and handle 36 is pushed in to force a main stream of base material through the passage including the open 50 centres of hollow tube 48, flange 42, bore 45 and orifice 46. At the same time striping material is forced through the passage between slot 50 and the inner wall of extension 41 towards the space between 55 slot 52 and flange 42 (said space constituting a striping orifice) through which the striping material transversely enters the stream of base material as it emerges from hollow tube 48 and passes through 60 flange 42.

A modification of plug 47 to provide an associated striping material receptacle is shown in Fig. 12. In this arrangement a conical skirt 53 is affixed about plug 47 65 over the half which is free of bosses 49.

The narrow end of skirt 53 is attached to the tail end of bosses 49, spaced outwardly from tube 48 so that slots 50 open into the space between skirt 53 and the tail end of tube 48. The wide end of skirt 53 carries 70 a short cylindrical portion 54 so that the outside shape of the receptacle conforms with the shape of the dispensing container.

The arrangement of Fig. 12 is used 75 similarly to that of Fig. 1, but is specifically employed where the port of the dispensing container has an internal flange rather than a straight-through bore.

Figs. 13 and 14 illustrate the dispensing 80 end of a collapsible dispensing container having such an internal flange rather than a straight-through bore. The body 61 of dispenser 60 is tapered at its dispensing end to a nozzle 62 formed as a hollow 85 cylindrical projection from the tapered end of body 61. The port is formed in the nozzle. Externally nozzle 62 is provided with threads 63 for receiving and engaging a conventional closure cap (not 90 shown). At its open outer end, nozzle 62 is turned inwardly to form an annular flange 65, the inner surface of which functions as a seat for a plug 67.

The inner surface of the nozzle 62, i.e., 95 the port, is tapered slightly inward toward flange 65 and is provided with four grooves 64 running lengthwise of the port which at their inner, that is tail, ends open into body 61 and which at their 100 outer, that is head, ends communicate with four corresponding radial grooves 66 in the inner surface of flange 65. The latter radial grooves open into the central aperture defined by annular flange 65. 105

Plug 67 is formed as an integral 110 moulded piece and includes a hollow tubular portion 68 which extends the entire length of plug 67 and which carries at one end an enlarged head 69 shaped 115 with a slight inward taper toward its outer (head) end such that plug 67 is tightly received at its outer end within the port. When so positioned, the end face of head 69 abuts the inner face of flange 65 120 and the curved surface of head 69 abuts the inner surface of the cylindrical portion of the port in nozzle 62. Tube 68 thus projects back from head 69 into body 61 of dispenser 60 to define a space for 125 receiving striping material around it.

In use the dispenser shown in Figs. 13 and 14 is filled in substantially the same manner as, for example, the dispenser shown in Figs. 4 and 5. Extrusion of a 130 striped stream of material occurs when body 61 is squeezed, since the grooves 64 and 66 form passages leading from the supply of striping material between the inner wall of the port and the outer 135

surface of head 69, which striping material is thus discharged into the main stream extruded through the major central passage of tube 68.

5 WHAT I CLAIM IS:—

1. A device for dispensing together at least two paste-like materials to form a striped stream, which comprises a dispensing container having a major central passage defining portion which extends a short distance into the interior of the dispensing container, the major central passage having a discharge orifice at its outer end and communicating at its inner end with the interior of the dispensing container, and at least one minor passage having a striping orifice at its outer end and communicating with the interior of the dispensing container at a point between the discharge orifice and the inner end of the major central passage, the discharge orifice of the minor passage being so positioned that when the materials are passed from the container through the two passages the materials come together to form a striped stream.

2. A device as claimed in Claim 1 in which the striping orifice is situated adjacent the discharge orifice.

3. A device as claimed in Claim 1 or 2 in which the striping orifice communicates with the major central passage.

4. A device as claimed in any one of the preceding claims in which the cross-section of the major central passage increases as it approaches the inner end of that passage.

5. A device as claimed in any one of the preceding claims in which the dispensing container has a port and the major central passage defining portion is constituted by an insert which is situated in the port.

6. A device as claimed in Claim 5 in which the or each minor passage is defined between the outer surface of the insert and the inner surface of the port.

7. A device as claimed in Claim 6 in which the insert has a plurality of longitudinal grooves in its outer surface, said grooves partially defining the minor passages, each groove terminating in a hole through the wall of the insert adjacent the head end of the insert, said hole constituting the striping orifice.

8. A device as claimed in Claim 6 in which the insert has a plurality of longitudinal grooves in its outer surface, said grooves partially defining the minor

passages, each groove having at its head end a transverse slot which partially defines the striping orifice.

9. A device as claimed in any one of the Claims 5-8 in which the head end of the port has an internal annular flange in contact with the head end of the insert.

10. A device as claimed in any one of the Claims 5-9 in which a striping material receptacle is attached to the insert.

11. A device as claimed in any one of the preceding claims in which the dispensing container is a collapsible tube.

12. A device as claimed in Claim 11 in which the space surrounding the central passage defining portion is filled with toothpaste of one colour, said space not extending beyond the inner end of the central passage, the remainder of the interior of the collapsible tube being filled with toothpaste of another colour.

13. A device as claimed in Claim 12 in which the toothpastes are separated by a layer of inert material.

14. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 1-3 of the accompanying drawings.

15. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 4 and 5 of the accompanying drawings.

16. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 6, 7 or 8 of the accompanying drawings.

17. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 9-11 of the accompanying drawings.

18. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Fig. 12 of the accompanying drawings.

19. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 13 and 14 of the accompanying drawings.

R. JONAS,
Agent for the Applicant.

ERRATUM

SPECIFICATION NO. 813,514

Page 1, line 31, after "container" delete ",,".



surface of head 69, which striping material is thus discharged into the main stream extruded through the major central passage of tube 68.

5 WHAT I CLAIM IS:—

1. A device for dispensing together at least two paste-like materials to form a striped stream, which comprises a dispensing container having a major central passage defining portion which extends a short distance into the interior of the dispensing container, the major central passage having a discharge orifice at its outer end and communicating at its inner end with the interior of the dispensing container, and at least one minor passage having a striping orifice at its outer end and communicating with the interior of the dispensing container at a point between the discharge orifice and the inner end of the major central passage, the discharge orifice of the minor passage being so positioned that when the materials are passed from the container through the two passages the materials come together to form a striped stream.

2. A device as claimed in Claim 1 in which the striping orifice is situated adjacent the discharge orifice.

3. A device as claimed in Claim 1 or 2 in which the striping orifice communicates with the major central passage.

4. A device as claimed in any one of the preceding claims in which the cross-section of the major central passage increases as it approaches the inner end of that passage.

5. A device as claimed in any one of the preceding claims in which the dispensing container has a port and the major central passage defining portion is constituted by an insert which is situated in the port.

6. A device as claimed in Claim 5 in which the or each minor passage is defined between the outer surface of the insert and the inner surface of the port.

7. A device as claimed in Claim 6 in which the insert has a plurality of longitudinal grooves in its outer surface, said grooves partially defining the minor passages, each groove terminating in a hole through the wall of the insert adjacent the head end of the insert, said hole constituting the striping orifice.

8. A device as claimed in Claim 6 in which the insert has a plurality of longitudinal grooves in its outer surface, said grooves partially defining the minor

passages, each groove having at its head end a transverse slot which partially defines the striping orifice.

9. A device as claimed in any one of the Claims 5-8 in which the head end of the port has an internal annular flange in contact with the head end of the insert.

10. A device as claimed in any one of the Claims 5-9 in which a striping material receptacle is attached to the insert.

11. A device as claimed in any one of the preceding claims in which the dispensing container is a collapsible tube.

12. A device as claimed in Claim 11 in which the space surrounding the central passage defining portion is filled with toothpaste of one colour, said space not extending beyond the inner end of the central passage, the remainder of the interior of the collapsible tube being filled with toothpaste of another colour.

13. A device as claimed in Claim 12 in which the toothpastes are separated by a layer of inert material.

14. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 1-3 of the accompanying drawings.

15. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 4 and 5 of the accompanying drawings.

16. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 6, 7 or 8 of the accompanying drawings.

17. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 9-11 of the accompanying drawings.

18. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Fig. 12 of the accompanying drawings.

19. A device for dispensing together at least two paste-like materials to form a striped stream substantially as herein described with reference to Figs. 13 and 14 of the accompanying drawings.

R. JONAS,
Agent for the Applicant.

ERRATUM

SPECIFICATION NO. 813,514

Page 1, line 31, after "container" delete ",,".