Feb. 9, 1932. W. G. EDWARDS 1,844,215

SEMICOLLAPSIBLE METALLIC TUBE

Filed March 21, 1930

Fig. 1.

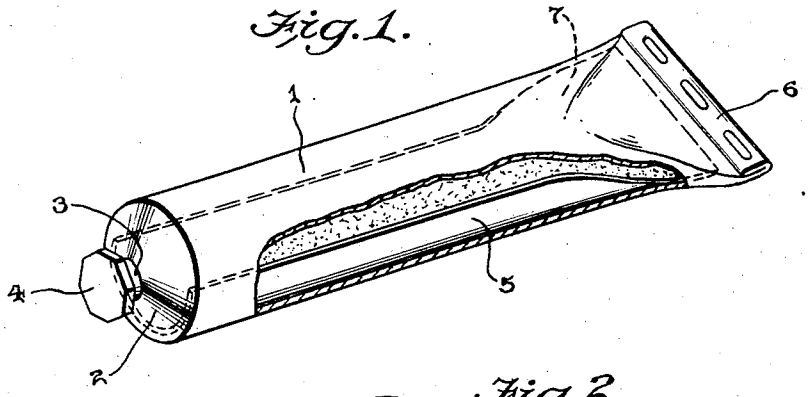


Fig. 2.

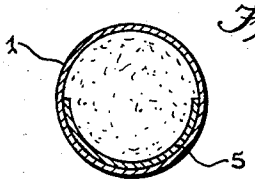
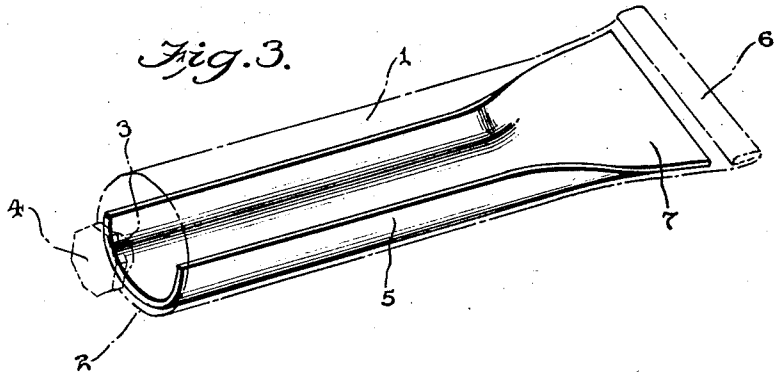


Fig. 3.



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UNITED STATES PATENT OFFICE

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SEMICOLLAPSIBLE METALLIC TUBE

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The invention relates to a semi-collapsible metallic tube.

The object of the present invention is to improve the construction of collapsible tubes for containing fluent material and to provide a simple, practical and efficient semi-collapsible metallic tube of strong, durable and comparatively inexpensive construction adapted to present exteriorly the appearance of an ordinary collapsible tube and having the walls of the tube throughout the entire length of the body of the tube at one side or face thereof of a solid material such as tin, lead or like non-collapsible material and the opposite half or face of thin collapsible material, which will permit the tube to be compressed or collapsed laterally on the stiff non-collapsible wall and allow a smooth and uniform discharge of the contents of the tube with a minimum distortion thereof.

Another object of the invention is to provide a semi-collapsible metallic tube of this character which will keep its longitudinal shape throughout its entire use until empty, and thereby provide the user with a neater and more sanitary tube than the ordinary collapsible tube and at the same time enable the entire contents of the tube to be used.

With the above and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and set forth in the claims hereto appended, it being understood that various changes in the form, proportion, and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawings:—

Figure 1 is a perspective view of a semi-collapsible tube constructed in accordance with this invention and partly broken away to show the wall stiffening member.

Fig. 2 is a transverse sectional view of the semi-collapsible tube.

Fig. 3 is a perspective view of the wall stiffening member, the tube being shown in dotted lines.

In the accompanying drawings in which are illustrated the preferred embodiment of the invention, 1 designates a metallic collapsible tube designed to contain tooth paste, shaving cream, or any other fluent material in the form of a liquid or paste. The collapsible tube 1, which is of the ordinary form in construction, is tapered at one end at 2 to a neck 3 which is threaded on the usual manner to receive a screw cap 4.

The semi-collapsible tube may be formed either by thickening one of the walls of the tube to stiffen the same and render such wall non-collapsible, or the non-collapsible wall may be stiffened by a wall stiffening member 5 of suitable metal. In Figs. 1 to 3 inclusive of the drawings, the non-collapsible wall is formed by the stiffening member 5 which conforms to the configuration of one half of the body of the tube 1 and which is fitted preferably against the inner face of the front wall of the tube 1, but the wall stiffening member which is arranged interiorly of the tube to enable the same to present a smooth unbroken exterior, may, of course, be fitted against and suitably secured to the rear wall of the tube to enable the tube to be collapsed from the front instead of the back. The tube 1 is closed at the lower end 6 remote from the top or cap in the ordinary manner by folding the material of the tube on itself and securing the fold in any desired manner to prevent leakage or escape of the contents of the tube. The wall stiffening member 5 is semi-circular in cross section throughout the major portion of its length and the lower end 7 is slightly flattened and thereby spread to conform to the configuration of the lower portion of the tube adjacent the closed end 6 thereof.

The wall stiffening member 5 may simply be placed against the inner face of either the front or rear wall of the tube and it will be retained against the wall by the contents of the tube when the tube is filled. Also, any positive means may be employed for securing the wall stiffening member to either the front or rear wall of the tube and the flattening and spreading of the lower end of

the wall stiffening member will also serve to retain the wall stiffening member in proper position as such spreading of the lower end by conforming to the configuration of the tube will tend to prevent any displacement of the tube.

What is claimed is:—

1. A semi-collapsible metallic tube of the ordinary form presenting a smooth unbroken exterior and comprising a thin collapsible tube, and a wall stiffening member arranged interiorly of the said tube contiguous to one of the walls thereof and being substantially semi-circular throughout the major portion of its length, one end portion of the said member being flattened and spread to conform to the configuration of the adjacent portion of the tube, said member stiffening the contiguous wall of the tube and rendering the same non-collapsible to permit the opposite wall of the tube to be collapsed against it.

2. A semi-collapsible metallic tube presenting a smooth unbroken exterior and comprising a tube of thin material, and a wall stiffening member arranged interiorly of the tube and conforming to the configuration of one of the walls to permit the opposite wall of the tube to collapse against the same without collapsing the stiffened wall.

3. A semi-collapsible metallic tube presenting a smooth unbroken exterior and comprising a tube of thin material, and a wall stiffening member substantially semi-circular in cross section and arranged interiorly of the tube and conforming to the configuration of one of the walls to permit the opposite wall of the tube to collapse against the same without collapsing the stiffened wall.

4. A semi-collapsible metallic tube presenting a smooth unbroken exterior and comprising a tube of thin material, and a wall stiffening member having a widened lower portion and arranged interiorly of the tube and conforming to the configuration of one of the walls to permit the opposite wall of the tube to collapse against the same without collapsing the stiffened wall.

5. A semi-collapsible metallic tube presenting a smooth unbroken exterior and comprising a tube of thin material, and a wall stiffening member arranged interiorly of the tube contiguous to one of the walls thereof and curved in cross section to fit the same and having a flattened and widened lower end.

6. A semi-collapsible metallic tube presenting a smooth unbroken exterior and comprising a tube of thin material, and a wall stiffening member arranged interiorly of the tube contiguous to one of the walls thereof and curved in cross section to fit the same and having a flattened and widened lower end, the flattened and widened lower end being secured within the closed end of the tube.

7. A semi-collapsible metallic tube of the ordinary form presenting a smooth unbroken exterior and closed at one end and having a tapered portion at the opposite end, and comprising walls of thin collapsible material, and a wall stiffening member arranged interiorly of the tube contiguous to one of the walls and extending from the said tapered portion of the tube to the opposite end thereof, said stiffening member being curved in cross section to conform to the configuration of the contiguous wall of the tube and being flattened and widened at one end to fit the closed end of the tube.

In testimony whereof I have hereunto set my hand.

WILLIAM GEORGE EDWARDS.