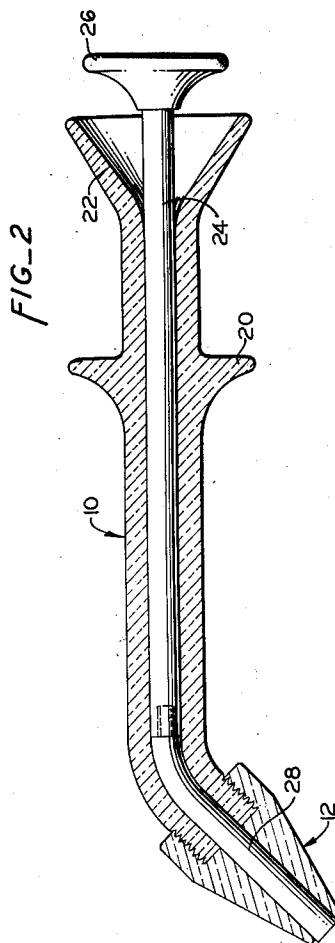
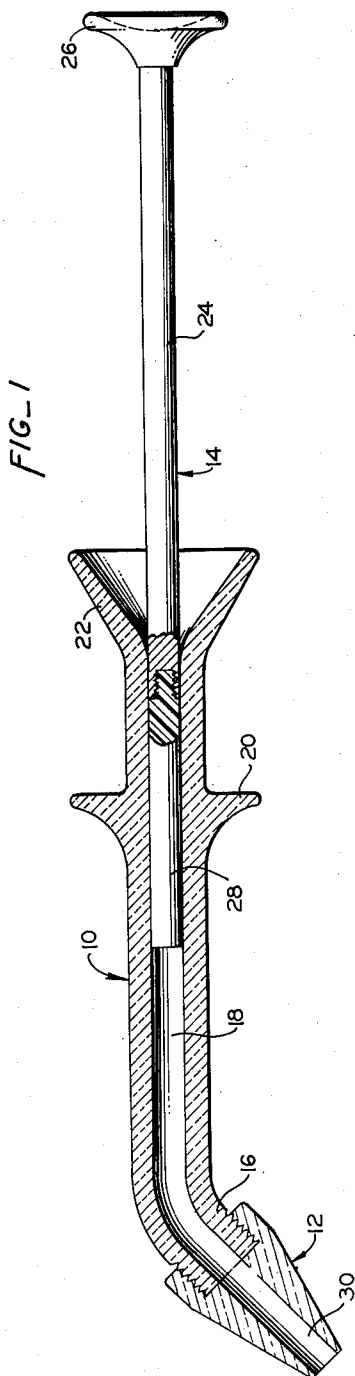


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AMALGAM CARRIER AND DISPENSER
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AMALGAM CARRIER AND DISPENSER

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4 Claims. (Cl. 32—60)

This invention relates to a dental tool, and more particularly to improvements in an amalgam carrier and dispenser, the same being employed to discharge an amalgam into a tooth cavity.

The presently available amalgam carriers and dispensers are made of metal. The silver-mercury amalgam dispensed therefrom causes corrosion of these dispensers, and as a consequence they have a useful life period of about a month and a half. If only one part of the dispenser becomes corroded to the point where it may no longer be satisfactorily used, it is necessary to purchase an entirely new instrument because it is not possible to obtain replacement parts for these presently available dispensers. Also, since the barrel of the dispenser is made of opaque material it is not possible to determine with any degree of accuracy how much amalgam still remains in the instrument. A further disadvantage of conventionally available instruments of this type is that it is not possible to fully discharge all of the amalgam which is introduced into the instrument.

An object of the present invention is to provide an amalgam dispenser with an amalgam-dispensing plunger having a flexible end portion adapted to extend into the conventionally offset discharge end portion of the instrument, whereby an entire charge of amalgam may be dispensed from the instrument.

A further object of the invention is to provide an amalgam dispenser with transparent barrel and tip portions, whereby the user may tell at a glance how much amalgam remains in the instrument.

Still a further object of the invention is to provide an amalgam dispenser which is not subject to corrosion by the silver-mercury amalgam employed therein.

These and other objects and advantages of the invention will be apparent from the following description taken in conjunction with the drawing forming part of this specification, and in which:

Figure 1 is a view in longitudinal cross section of the subject amalgam dispenser, showing the same before the amalgam is dispensed; and

Figure 2 is a view similar to that of Figure 1, but showing the dispenser after a full charge of amalgam has been dispensed.

With reference to the drawing, the dispenser comprises a barrel portion 10, a tip portion 12, and a plunger portion 14. The barrel 10, which is formed in one piece from molded clear "Lucite," is further characterized by an offset end portion 16, a continuous centrally disposed passageway 18 adapted to snugly accommodate plunger 14, an annular portion 20 adapted to be gripped by the fingers of the user, and a funnel-shaped upper end portion 22. The plunger 14 is provided with an outer portion 24 terminating in an enlarged portion 26 adapted to be engaged by the thumb of the user and an inner portion 28 formed of suitable flexible material, such as "Teflon" or neoprene. Plunger portions 24 and 28 may be threadably secured together, as shown, or otherwise secured together, as by molding in case portion 28 is

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formed of neoprene and portion 24 is formed of "Lucite." Tip 12, also formed of molded clear "Lucite" and having a central passageway 30 in communication with passageway 18, is threadably engaged with the barrel 10 so that the tip, which is the part of the instrument most likely to become damaged, can be readily and economically replaced.

To ready the dispenser for use, the plunger 14 is first removed. With the barrel 10 being held in an upright position, the amalgam, which is in paste form, is introduced into the funnel-shaped end 22 of the barrel. The plunger 14 is then employed to tamp the amalgam down into the body proper of the barrel, and the plunger is then introduced into the barrel to force the amalgam down to the tip 12 and lower portion of the barrel. The dispenser is then inserted into a patient's mouth, and, with the fingers of the user being disposed in gripping relation with barrel portion 20, the user's thumb is pressed against the enlarged end portion 26 of the plunger, and the plunger is thus forced downwardly to discharge a desired amount of amalgam into the patient's tooth cavity.

It will be appreciated that since the flexible portion 28 of the plunger may travel fully around the bend of passageway 18, the entire charge of amalgam may be dispensed from the instrument. It will further be appreciated that since the barrel 10 and tip 12 are formed of transparent and non-corrosive material, the user may see at a glance how much amalgam remains in the instrument, and it will not be necessary for him to continually replace the instrument because of corrosion damage caused by the amalgam.

It will thus be seen that I have provided an amalgam dispensing instrument which realizes all of the objects initially set forth herein.

What is claimed is:

1. A device of the type described comprising an open-ended elongated barrel having a straight main portion and an end portion disposed at a substantial degree of angle with respect to said main portion, a centrally disposed passageway extending longitudinally of said barrel, and a plunger slidably disposed within said passageway, said plunger having a terminal portion fitted piston-like within said passageway and formed of flexible material whereby said terminal portion may travel through said straight main portion of said barrel and through said end portion of said barrel, said plunger, except for said terminal portion, being formed of relatively inflexible and stiff material.

2. A device of the type described comprising an open-ended elongated barrel having a straight main portion terminating at one end in a wide-mouthed outwardly divergent annular portion adapted to serve as a funnel for the input into said device of the amalgam material to be dispensed therefrom and terminating at the other end in a portion angularly disposed to said main portion, a centrally disposed passageway of uniform cross section extending longitudinally of said barrel through said main portion and said angularly disposed portions thereof, and a plunger fitted within said passageway and being complementary thereto, said plunger having an end portion formed of flexible material adapted to travel the full length of said passageway, said plunger being solely frictionally attached to said barrel, and said plunger end portion being sufficiently firm to tamp said amalgam material from said annular portion into said passageway.

3. An amalgam dispensing instrument comprising an elongated open-ended barrel having a centrally disposed and longitudinally extending passageway, said barrel having a lower end inclined at an angle with respect to the rest of said barrel, a plunger frictionally fitting within said passageway and being complementary thereto, said plunger having an upper portion of major length formed of relatively inflexible and stiff material and a lower por-

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tion of minor length formed of a flexible but relatively firm material, said lower portion being adapted to travel the full length of said barrel and being longer than the length of the lower end of said barrel, whereby it will be angularly deformed when it is commonly disposed within said lower end of said barrel and that portion of said barrel constituting the remainder thereof, thereby tending to yieldingly maintain the position of said plunger with respect to said barrel.

4. An amalgam dispensing instrument comprising an elongated open-ended barrel having a centrally disposed and longitudinally extending passageway, said barrel having an upper end in the form of a wide-mouthed outwardly divergent annular portion adapted to serve as a funnel for the input into said barrel of amalgam to be dispensed therefrom and having a lower end inclined at an angle with respect to the rest of said barrel, a plunger fitting within said passageway having an upper

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portion formed of relatively inflexible material and a lower portion formed of a material which is flexible but substantially incompressible in an axial direction while disposed within the confines of said passageway, said plunger being freely removable from and replaceable within said passageway by mere longitudinal movement relative to said passageway, whereby a charge of amalgam may be introduced into said upper end of said barrel and thereafter tamped downwardly into said passageway by means of the lower portion of said plunger.

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