No. 881,469. PATENTED MAR. 10, 1908.

C. W. HALE.

ATTACHMENT FOR DENTAL SYRINGES.

APPLICATION FILED JUNE 21, 1906.

Fig. 2.

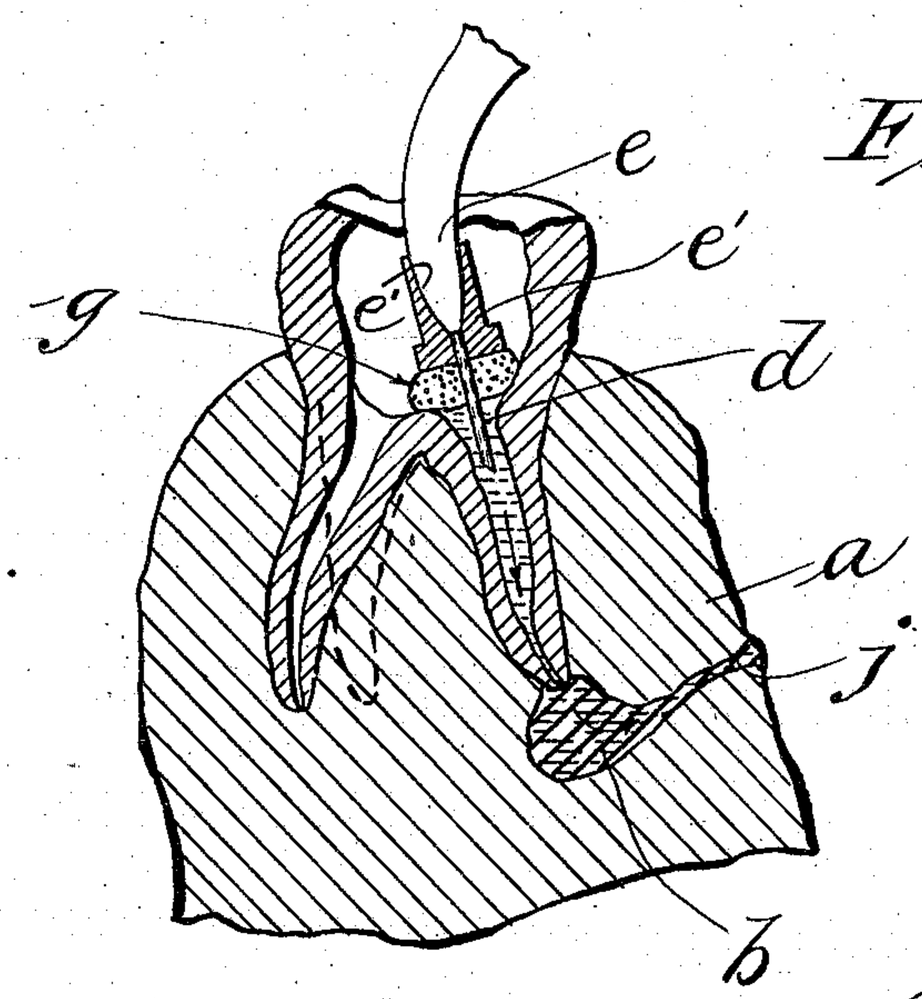

Fig. 1.

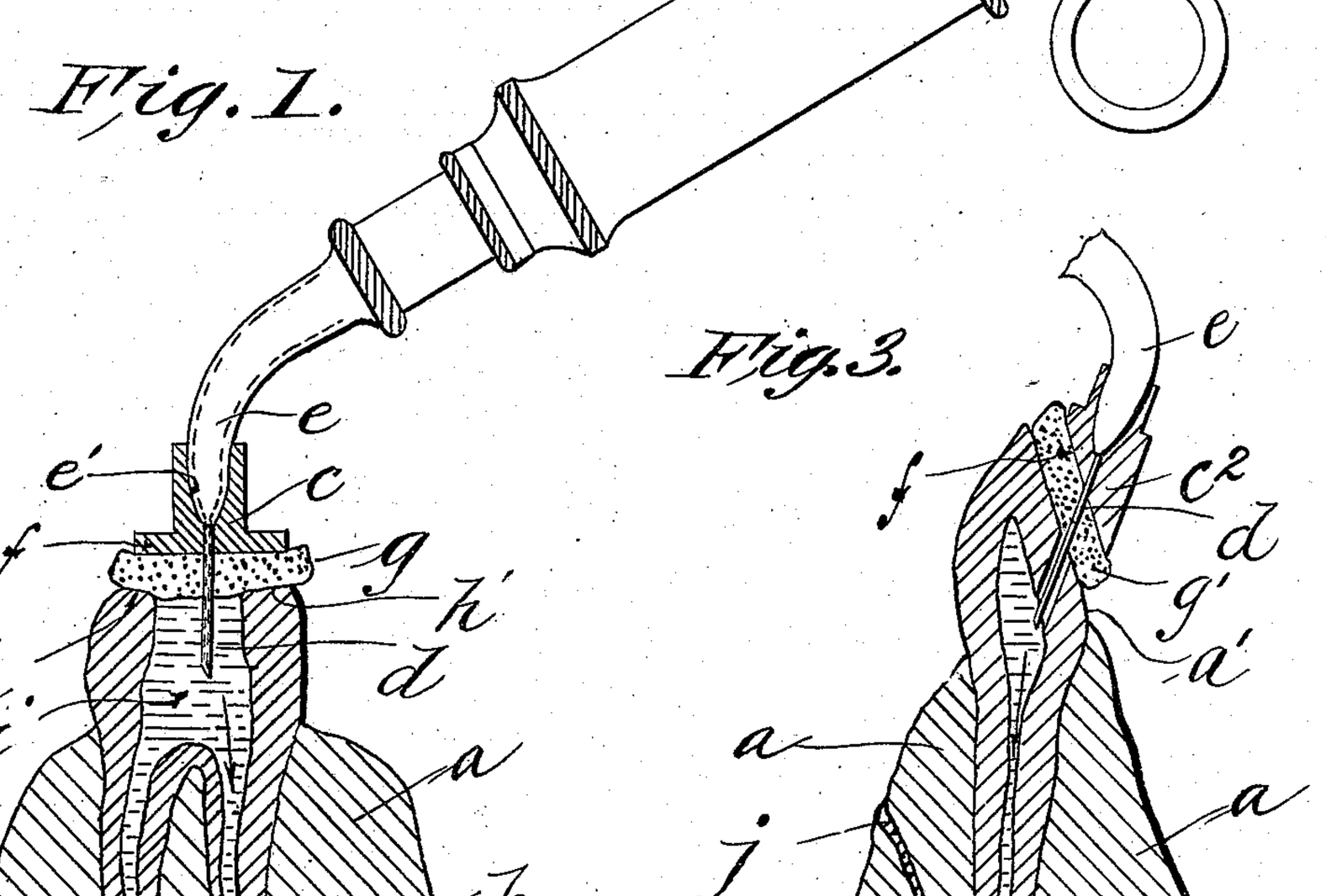

Fig. 3.

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ATTACHMENT FOR DENTAL SYRINGES.

No. 881,469. Specification of Letters Patent. Patented March 10, 1908.

Application filed June 21, 1906. Serial No. 322,792.

To all whom it may concern:

Be it known that I, CHARLES WESLEY HALE, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful improvements in Attachments for Dental Syringes, of which the following is a specification.

This invention relates to improvements in dental syringes and more particularly to a removable attachment which surrounds the hypodermic needle to protect the same against leakage and which is used in conjunction with a rubber cushioning mat to form a liquid tight closure for the cavity of the tooth during the treatment of the latter.

In the drawings forming part of this application,—Figure 1 shows the improvement as used in the treatment of the abscessed parts through the root canal of a lower molar. Fig. 2 is a modification of my improvement and shows the treatment of an abscess through the palatal canal of an upper molar. Fig. 3 shows a modification of my improvement in the treatment of tissues through a lower cuspid.

Referring to the drawings, *a* designates the gum or tooth socket; *b* designates the abscessed or diseased area at the root portion of the tooth requiring treatment; *c* designates that part of my improvement which I term the "adapter" as applied to the cavity of the tooth, as shown in Fig. 1. This part is cylindrical in form and has an opening therethrough to receive the needle-tube *d* of a syringe and formed with a recess e^1 for affording a firm support on the tubular end *e* of the syringe. The outer portion of the adapter is provided with a shoulder or enlarged portion *f* against which rests an elastic, rubber, or cushion piece *g* that is pierced by the needle-tube *d*, as shown, when put in place on the needle-tube and against the shoulder portion *f*.

By a compression of the elastic piece *g* a liquid tight joint is effectively formed between the margins of the cavity of the tooth, as designated at h^1 and h^1, and the needle-tube *d*, through which the liquid medicament is introduced into the cavity *i* and from thence to the abscessed area *b*. The elastic piece *g* is pressed firmly enough by the operator against the marginal portions h^1 and h^1 of the cavity to prevent the liquid from escaping or being forced back into the mouth as readily understood. The medicament is therefore driven through the cavity and canal of the tooth into the abscessed area *b* from which it escapes by the usual outlet or fistulous opening of the abscess *j*, as indicated by the arrows.

In Fig. 2, the adapter is shown in use within a cavity of an upper molar, the cushion portion being in contact with the marginal surface of the canal in the root of the tooth, the liquid medicament being forced down the same into the abscessed area *b*.

In using my adapter, as shown in Fig. 2, the same is made much smaller than that employed in Fig. 1. In this figure, the adapter and its cushion piece *g* are placed within the cavity itself, the tube of the syringe being inserted into the individual canal in one of the roots. This plan of using my adapter is preferred where the cavity is large or of irregular shape as it is much easier to form a tight joint between the individual canal and the syringe, than between the entrance to the large cavity and the syringe.

In Fig. 1, the adapter and cushion part are applied to a simple cavity, in the crown of a lower molar, the medicament being forced down the canal through one of the roots into the abscessed area, as before.

Fig. 3 is one of the obvious modifications of the adapter *c*, as shown at c^2, for use in connection with an incisor or a cuspid tooth, or others where the entrance to the root canal is through an oblique surface, as shown. g^1 designates the cushion or rubber portion used in this modification, the needle-tube being passed through the same as in the other figures. In this modification, the adapter c^2 is placed over the portion *e* of the syringe seating itself on this part as before. The shoulder portion of this modification, instead of being at right angles to the needle-tube *d*, is inclined, as shown at f^1, and when in use is substantially parallel to the face portion a^1 of the tooth, thus keeping the needle-tube *d* in the same general direction as the root canal of the tooth. The cushion or rubber portion g^1 therefore has a firm and even bearing, as before, upon all points between the inclined part a^1 of the tooth and the inclined portion f^1 of the adapter c^2. The liquid medicament is thus prevented from escaping from the margins of the cavity, as in the other forms of my adapter.

What I claim, is:—

In combination with the nozzle and portion of a syringe having a hypodermic needle forwardly projecting therebeyond, an adapter comprising a cylindrical body having a conical socket flaring towards one end of said body, to conformably receive the said nozzle end portion, said body also having a reduced opening extending to the other end thereof axially from said socket, said opening surrounding said needle, said body being frictionally and detachably engaged with the said nozzle end portion and having its face to which said reduced opening extends adapted to rest upon a cushioning mat surrounding said needle.

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Witnesses:

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