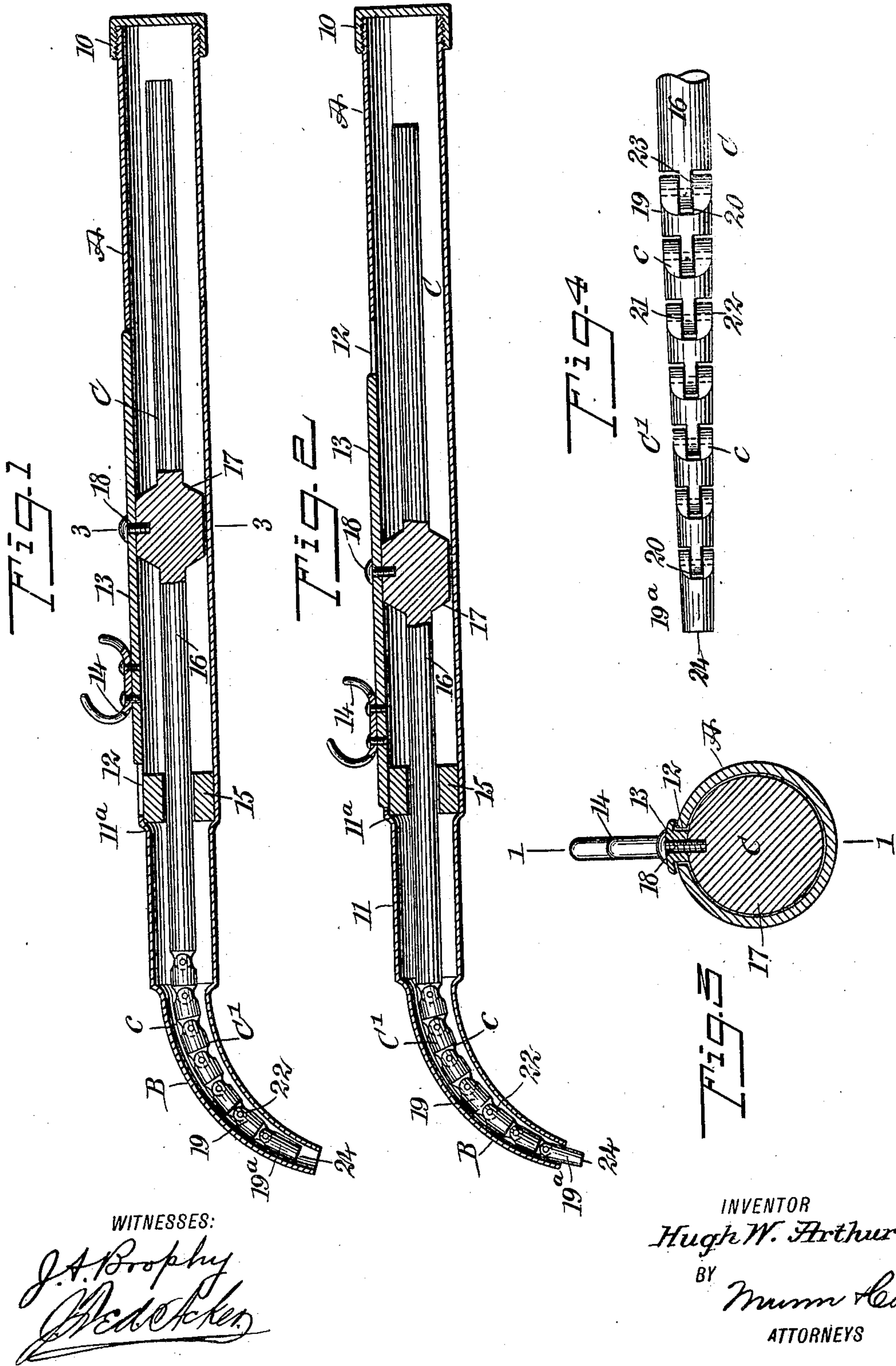


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PATENTED SEPT. 11, 1906.

H. W. ARTHUR.  
AMALGAM CARRIER AND PLUGGER.  
APPLICATION FILED JAN. 11, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HUGH W. ARTHUR, OF PITTSBURG, PENNSYLVANIA.

## AMALGAM CARRIER AND PLUGGER.

No. 830,872.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed January 11, 1906. Serial No. 295,587.

*To all whom it may concern:*

Be it known that I, HUGH W. ARTHUR, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Amalgam Carrier and Plugger, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a dental instrument which can be used as a conveyer of plastic filling material, such as amalgam, to a cavity in any part of the mouth and render the filling secure in the cavity by converting the instrument into a plugger.

A further purpose of the invention is to curve and taper the receiving-nozzle of the instrument, enabling it to be conveniently used in connection with any possible cavity in any tooth and to provide a combined discharge and plugging member which will have uninterrupted and smooth action in said nozzle.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section through the instrument, showing the position of the combined discharge and plugging member when filling is to be placed in the nozzle of the instrument, the section being taken substantially on the line 1 1 of Fig. 3. Fig. 2 is a view similar to Fig. 1, but showing the combined discharge and plugging member in the position it occupies after discharging the filling and when it is employed for plugging purposes. Fig. 3 is an enlarged transverse section through the instrument, the section being taken substantially on the line 3 3 of Fig. 1; and Fig. 4 is an enlarged plan view of the working or jointed end portion of the combined discharge and plugging member of the instrument.

A represents the body of the instrument, which is in the form of a barrel and is provided with a removable cap 10 at its rear end. The forward portion of the barrel-body A is more or less reduced in diameter

to produce an interior shoulder 11<sup>a</sup>, as is illustrated in Figs. 1 and 2. A longitudinal slot 12 is made in the top of the barrel-body A, extending practically to the shoulder 11<sup>a</sup>, and in this slot a slide 13 is mounted for end movement, and said slide at its forward end is provided with an attached finger-piece 14, which is preferably in the form of an open loop, as illustrated. Within the said barrel-body A an apertured guide-block 15 is located having bearing against the shoulder 11<sup>a</sup>.

At the forward or outer end of the barrel-body A a downwardly-curved tapering nozzle B is formed, the interior of which is smooth, and the lower end of the said nozzle is its contracted end. A combined discharge and plugging member C is mounted for movement in the barrel-body A and in the nozzle B. The body portion of this member is in the form of a rod 16, which extends from a point near the inner end of the barrel through the aperture in the guide-block 15 to a point near the inner end of the nozzle B, and about centrally between the ends of the body 16 of said member C a circular extension 17 is formed of such size as to be capable of movement in the barrel, but not to have much lateral play. The slide 13, heretofore mentioned, is secured to this extension 17 by means of a screw 18 or the equivalent of the same. A jointed section C' is located at the outer end of the body-section 16 of the said combined discharge and plugging member C. This section C' is best shown in Fig. 4, and it consists of a series of blocks 19 of circular formation, each block being provided with a slot 20 in its rear end and an apertured tongue 22 extending from its forward end. The said lowermost or outer block 19<sup>a</sup> of the series of blocks is provided with a slot 20 only at its inner end. The blocks are pivotally connected by passing the tongue 21 of one block into the slot 20 of the next block and then passing pins 22 through the slotted portions of the block and the entering tongues at such portions. The rearmost block 19 receives in its slot 20 a tongue 23, formed at the outer or forward end of the body-bar 16. Each block 19 is provided at the top and at the bottom of its slotted end with a tapering surface *c*, the tapering surfaces being in opposite directions, so that the said blocks will readily con-



form to a curved passage-way and will have smooth movement in the curved nozzle B when movement is imparted to the body-bar 16 of the said combined discharge and plugging member C. In the further construction of the jointed section C' of said discharge and plugging member the blocks are made tapering, decreasing in diameter in direction of the lowermost block, which lowermost block is practically the plugger and is provided with a flat outer end 24.

In the operation of the implement when filling is to be placed in the nozzle B the combined discharge and plugging member C is carried far enough into the barrel to provide a suitable space between the outer end of the nozzle B and the outer end of the plugger-block 19<sup>a</sup>, as is shown in Fig. 1, and in such space the filling to be used is packed. The instrument is now placed in the mouth of the patient, and the delivery end of the nozzle B is brought over the cavity to be filled. The operator then presses the slide 13 forward by means of the finger-piece 14, whereupon the plugger-block 19<sup>a</sup> will force the filling from the nozzle B of the instrument into the cavity and will initially pack the filling therein, and at such time a portion of the plugger-block 19<sup>a</sup> will extend beyond the nozzle, as is shown in Fig. 2, and it may be held in such position and used as a hammer to further pack the filling, or the nozzle may be placed over the filling and the slide 13 be worked back and forth so as to conveniently land successive blows on the filling. Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. A dental instrument comprising a barrel-body terminating in a hollow nozzle for receiving amalgam, a plugger slidably mounted in the nozzle, a rod movable longitudinally in the body, and a flexible connection between the plugger and the rod.

2. A dental instrument comprising a barrel-body terminating in a hollow nozzle for receiving amalgam, a plugger slidably mounted in the nozzle, a rod movable longitudinally in the body, and a flexible connection between the plugger and the rod, said connection comprising a series of cylindrical blocks pivotally connected.

3. A dental instrument comprising a barrel-body terminating in a hollow nozzle for receiving amalgam, a plugger slidably mounted in the nozzle, a rod movable longitudinally in the body, and a flexible connection between the plugger and the rod, said connection comprising a series of pivotally-connected blocks, said blocks being circular in cross-section and diminishing in diameter in the direction of the plugger, each block at its inner end portion being beveled at its top and at its bottom surface.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HUGH W. ARTHUR.

Witnesses:

E. W. ARTHUR,  
A. C. WAY.