No. 836,001. PATENTED NOV. 13, 1906.

J. E. ARGUE.

DENTAL TOOL.

APPLICATION FILED AUG. 28, 1905.

Fig. 1.

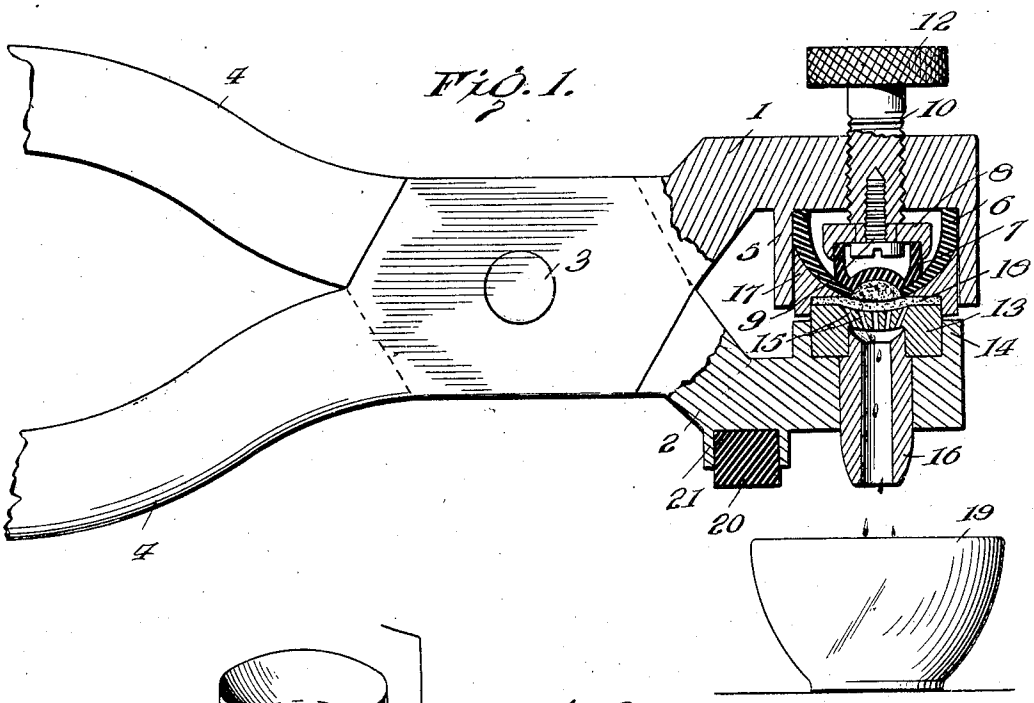


Fig. 2.

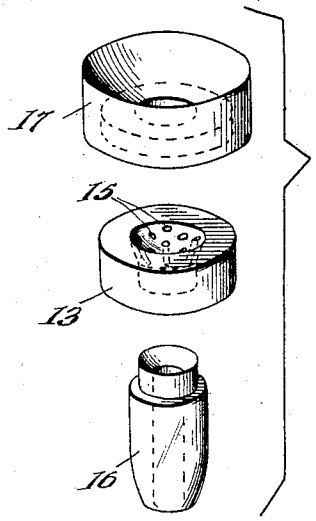


Fig. 3.

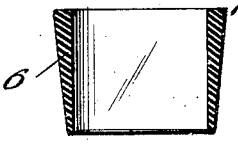
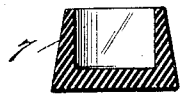


Fig. 4.



Witnesses

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DENTAL TOOL.

No. 836,001. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed August 28, 1905. Serial No. 276,108.

To all whom it may concern:

Be it known that I, JOHN E. ARGUE, of Red Lake Falls, in the county of Red Lake and State of Minnesota, have invented certain new and useful Improvements in Dental Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

It is well known that in the preparation of amalgam fillings for dental use a certain surplus of mercury is necessarily added in order to bring all the particles of the alloy in solution. In order to expel the surplus mercury and leave the amalgam in a proper chemical condition, it has long been the custom to place the mixture in a piece of chamois or heavy toweling and then by a wringing motion squeeze out the mercury. This is very unsatisfactory, owing to the great waste of the mercury consequent upon the small particles flying in many directions. Another objection to the use of pieces of chamois or toweling is that they frequently tear under the twisting action, causing the loss of time and frequently loss of the filling. Furthermore, it is essential to the attainment of best results that the parts be not liable to corrode or formed with sharp angles and also that the mercury when expelled be capable of further use without having to be refined.

The objects of my invention are, first, to prevent corrosion of the parts; second, to enable the mercury to be expelled in a condition which will enable it to be again used; third, to avoid all waste of the mercury, and, finally, to leave the pellet of amalgam in such shape that it may be readily applied as a filling.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view. Fig. 2 is a view of the ivory bodies detached. Figs. 3 and 4 show the two rubber bodies removed.

Referring to the drawings, 1 and 2 designate two arms pivotally connected together at 3 and having curved handles 4 after the form of pliers, so that as the handles are forced together so also are the jaws of the arms. The jaw end of arm 1 on its inner face is formed with a circular flange or ring 5, wherein is located a cup-like body 6, of rubber, wider at its upper end than at its lower end, such latter end having at its center an opening the area of which is decreased as external pressure is applied to the rubber body. Located centrally within this rubber body and above the opening therein is a second but smaller compression-body 7, also of rubber. This inner body 7 depends from a metallic cap-plate 8, which is held by a small screw 9 to an adjusting-screw 10, working in a threaded opening in arm 1, such adjusting-screw having a milled head 12, whereby it may be readily turned, so as to adjust body 7 according to the amount of amalgam to be used.

13 designates an ivory block located within a ring or flange 14 on the jaw end of the lower arm 2, such block being concaved at its center and formed with holes or perforations 15, through which mercury as it is expelled from the amalgam is designed to pass. This block has an outlet-tube 16, also of ivory, located in and extended through an opening in arm 2. Surrounding the outer upper edge of the ivory block 13 is a compression-block 17, also of ivory, which fits around the protruding portion of said block and as the two jaws or arms are brought together will be telescoped by the ring 5 of arm 1. The inner face of block 17 is concaved, such concavity extending from the upper edge of the block to points surrounding the concaved portion of the block 13. By reason of this formation as the two jaws are forced together the concaved surface of the block 17 will force the lower concavo-convex portion of the rubber body 6 inwardly, thereby reducing the area of the small opening formed in such body and applying uniform lateral pressure against the amalgam. At the same time the inner smaller rubber body 7 is pressed downwardly against the amalgam, so as to expel all surplus mercury therefrom and cause the same to pass through the openings 15 of the ivory body 13.

To insure the passage of the mercury in a pure state, so as to be ready for immediate fur-

ther use, the upper surface of the ivory body 13 is covered by a section 18, of chamois, which is shown as being held in place by the wedging body 17. By this means in expelling the mercury from the amalgam I obtain all the advantages that arise from the means heretofore ordinarily employed of squeezing the mercury while incased in chamois, but I have this further advantage that I am enabled to recover the mercury without loss. Ordinarily the expulsion of the mercury is effected with the discharge-tube 16 located above a vessel 19. To insure the ready outflow of the mercury through the tube 16, I mount a rubber or other flexible buffer 20 in a hollow boss 21, depending from the under side of arm 2, so that by slightly striking this buffer against the edge of a glass vessel or the like the globules of mercury will readily fall from the device into such vessel.

In practice while the two jaws or arms are separated the amalgam is placed centrally upon the chamois—that is, over the concaved portion of the ivory body 13. Then by forcing the two jaws together the inner yielding body 7 will bear down upon the amalgam, while the wall of the outer yielding body 6 will be forced inwardly thereagainst, the pressure being sufficient to expel the amalgam, which will readily pass through the chamois and out through the outlet-tube 16 and collect in the vessel 19.

The advantages of my invention will be apparent to those skilled in the art. It will be seen that I have provided extremely simple means for effecting the ready expulsion of mercury from amalgam and providing for the collection thereof in such condition consequent upon its passing through the chamois as to enable it to be again employed without refining. Furthermore, it will be observed that the device, so far as the parts engaging the amalgam are concerned, are freed from all sharp corners or angles, so that instead of it being necessary for the amalgam to conform to the contour of the coacting compressing parts the latter will assume the shape given thereto by the pellet of amalgam. Then, too, it will be seen that all danger of corrosion is avoided, since the mercury cannot come in contact with any of the metallic parts.

I claim as my invention—

1. The herein-described dental tool comprising two coacting compressing members, movable one toward the other, one member having a non-yielding non-corrosive body formed with perforations for the outlet of mercury, and the other member having yielding or flexible bodies for surrounding and compressing the amalgam and expelling the mercury therefrom.

2. The herein-described dental tool comprising two coacting members, movable one toward the other, a body of ivory, or other non-corrosive material, mounted in one member and having an outlet for mercury, the other member having a rubber body formed with a central opening, and an inner rubber body above such opening, and means for compressing said first-mentioned body laterally against amalgam located in its central opening.

3. The herein-described dental tool comprising two coacting members, movable one toward the other, a body of ivory, or other non-corrosive material, mounted in one member and having an outlet for mercury, the other member having a rubber body formed with a central opening, and an inner rubber body above such opening, means for compressing said first-mentioned body laterally against amalgam located in its central opening, and chamois located between said rubber bodies and the ivory body.

4. The combination with the jaw having a non-corrosive body formed with perforations at its center and also a central outlet, chamois located over said body, and a wedging body extending from the first-mentioned body and having an inner concaved surface, of the second jaw having a cup-shaped rubber body formed with a central opening and designed to be compressed by said wedging body, a second rubber body located above the opening of the first-mentioned rubber body, and means for adjustably securing it to said second jaw.

5. The combination with the jaw having an opening, the block of non-corrosive material having a tubular portion extended through said opening, said block having perforations in its top opening into said tubular portion, chamois located over said perforations, and a wedging body extended beyond said block, of a second jaw, a cup-shaped flexible body having a central opening above said perforations, said latter body being designed to be compressed by said wedging body, an inner flexible body above said opening, and an adjustable screw upon which said inner body is mounted.

6. The combination with the jaw having a non-corrosive portion formed with outlets for mercury, of the second jaw having a cup-shaped body formed with a central opening above said outlets, means for compressing said body, an inner flexible body above said opening, a cap from which said latter body depends, and an adjusting-screw to which said cap is secured.

7. A dental implement comprising a pair of crossed and pivotally-connected handles terminating in jaws, the inner face of one jaw having a socket provided with an outlet-opening through the middle thereof, and the

other jaw having a yieldable cushion disposed to enter the socket and of greater diameter than the latter.

8. A dental tool comprising a pair of pivotally-connected jaws one of which is provided with a socket having an outlet-opening, and the other is provided with a pliable face to enter said socket.

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

JOHN E. ARGUE.

Witnesses:
THOS. GROMO,
FRED L. FARLEY.