May 7, 1946. C. SELTZER 2,399,834

DENTAL TOOL

Filed Dec. 13, 1944

Fig. 1.

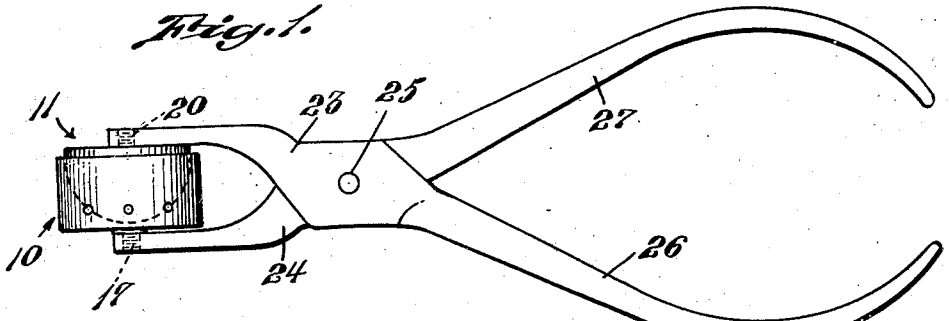


Fig. 2.

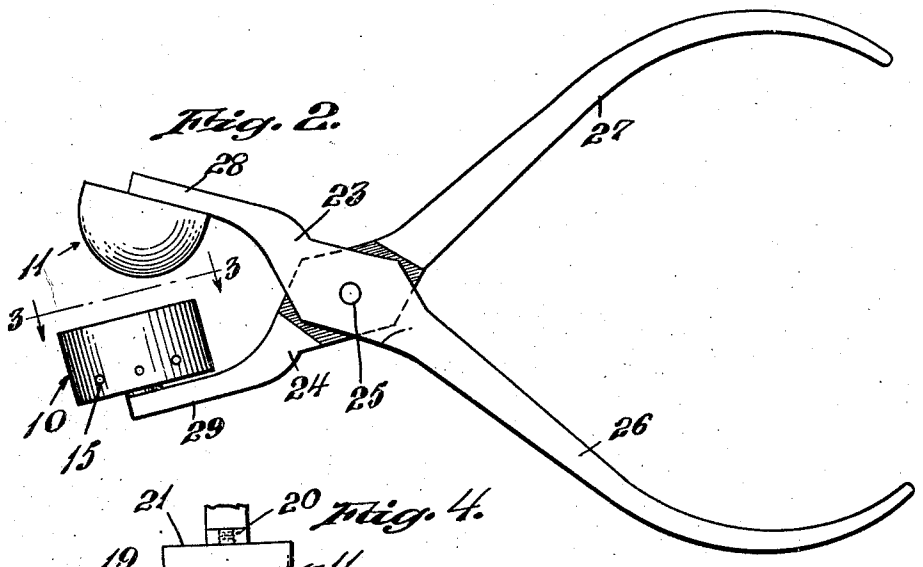


Fig. 4.

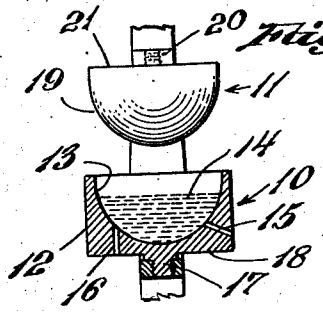


Fig. 3.

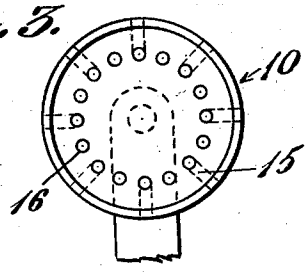
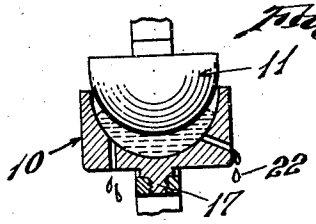


Fig. 5.



INVENTOR
Dr. Charles Seltzer
BY Barlow & Barlow
ATTORNEYS

Patented May 7, 1946

2,399,834

UNITED STATES PATENT OFFICE

2,399,834

DENTAL TOOL

Charles Seltzer, Providence, R. I.

Application December 13, 1944, Serial No. 567,905

2 Claims. (Cl. 32—40)

This invention relates to a dental tool particularly for the preparation of amalgam fillings for teeth.

Amalgam fillings for teeth are usually provided by mixing mercury with silver in a small cup with the use of a pestle for the expressing of the mercury from the silver so that the filling will not be too soft. This operation is rather slow and laborious. Various elaborate affairs have been provided in an attempt to overcome such simple hand methods.

One of the objects of this invention is to provide a simple tool by which mercury may be expressed from the silver quickly to provide the desired consistency of the mixture.

Another object of this invention is to provide a simple hand tool the parts of which may be interchanged that the desired size filling retainer may be had or that the parts may be readily cleaned.

Another object of this invention is to provide a rigid means whereby the hand pressure may be transmitted fully and with increased leverage for expressing mercury from the amalgam filling.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is an elevation illustrating the tool in closed position;

Fig. 2 is similar to Fig. 1 with the tool in open position;

Fig. 3 is a view taken substantially on line 3—3 of Fig. 2;

Fig. 4 is a sectional view of the retaining member for the filling, illustrating filling as placed therein;

Fig. 5 is a view similar to Fig. 4 but showing the second member as in engagement with the filling and causing an expressing or exuding of mercury through openings in the cup-shape retaining member.

In proceeding with this invention I provide a receptacle member for retaining the filling with small openings extending from the recess in the receptacle which retains the filling. A second member is provided to engage this member and apply pressure thereto so that the free uncombined mercury which is present in the filling and which causes the same to be soft will be exuded through the opening in the receptacle member so as to form the desired consistency of amalgam filling for use in filling the teeth of the human body.

With reference to the drawing, particularly Fig. 4, I provide a pair of members designated 10 and 11. The member 10 is generally cylindrical on its outer surface as at 12 and is provided with a recess 13 for holding filling amalgam 14 which is a mixture of silver and mercury. The shape of the outer surface 12 is, of course, unimportant so long as sufficient strength is provided. Openings 15 extend through the side wall of the member 10 and openings 16 extend through the bottom wall thereof. A threaded stud 17 is provided extending from the bottom wall 18 of the member.

The member 11 is solid and has a bulbous surface 19 which is of a shape substantially the shape of the surface 13 of the recess in the member 10 which receives the filling. This member is solid and rigid and is provided with a similar stud 20 which extends from its flat surface 21.

Some means are provided for mounting these members so that the member 11 may press upon the filling material 14 in the recess 13 so as to supply sufficient pressure to cause such free mercury as there is present in the amalgam filling to be exuded through the openings 15 and 16 in the forms of drops 22 as shown in Figs. 5. One such means is a pair of plier-like members, designated generally 23 and 24, which are pivoted as at 25 with handle members 26 and 27 and operating jaws 28 and 29. Each of these jaws 28 and 29 have threaded openings for the reception of the studs 17 and 20 of the members 10 and 11. Thus, these members may be screwed into the jaws 28 and 29 so as to be removably positioned thereon. This enables the members to be removed for cleaning which is at times desirable or members of a different size may be substituted in the jaws.

The filling material 14 is positioned in the receptacle or recess 13 of the member 10 and the member 11 is then moved into member 10 by means of pressure being applied upon the handle members 26 and 27 so that such free mercury as there is present in the amalgam filling causing too soft a filling, when first made up, will be expressed or extruded through the openings 15 and 16 which are of a size sufficiently small so that the amalgam filling will not pass therethrough but which will permit of the free mercury in liquid form to be passed through these openings. The size of these openings are approximately fifty-five thousandths of an inch.

By this arrangement a very rigid transmission of manual pressure is had from the handles to the filling material and extrusion through the openings takes place quickly to provide the desired consistency of the filling.

In the use of the dental tool a piece of cheesecloth may be placed so as to line the inside of the receptacle 10. The metal for the filling is then placed in the cloth lining. The member 11 may then be applied directly onto the metal within the cloth. When the mercury has been expressed from the filling material the same may be removed by lifting the cloth from the receptacle and is ready for use without any further manipulation by the operator. In this manner the filling material does not come into contact with the hands. The use of a cloth lining will prevent the material of the filling from clogging the openings in the receptacle.

I claim:

1. A dental tool for the preparation of amalgam comprising a plier-like instrument providing a pair of opposing jaws movable toward and from each other, a receptacle member detachably secured to one of said jaws and provided with an upwardly open hemispherical recess therein bounded by bottom and side walls each having openings therethrough generally radial of the recess, a rigid member detachably secured to the other of said jaws and provided with a hemispherical convex surface to enter said recess and express mercury through said openings in the preparation of amalgam.

2. A dental tool as set forth in claim 1 wherein each member is provided with a threaded stud and each jaw is provided with a threaded recess to receive said stud for providing the detachable connection between said jaw and member.

CHARLES SELTZER.