

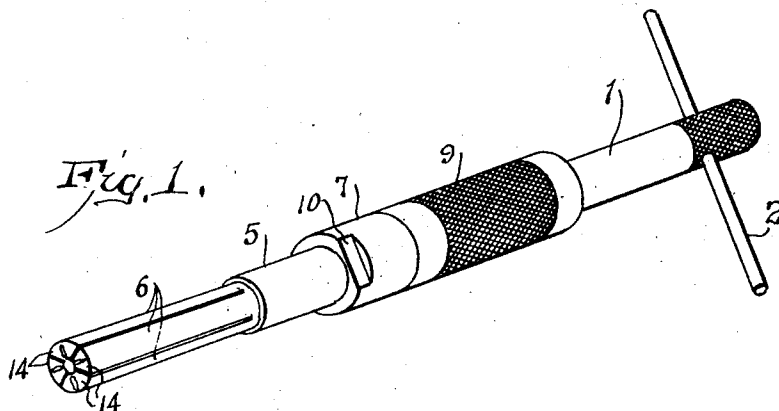
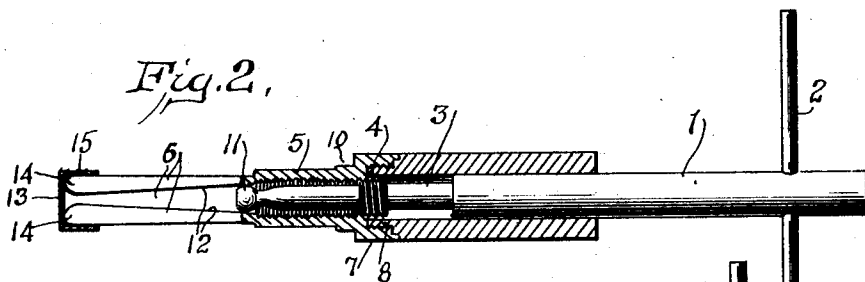
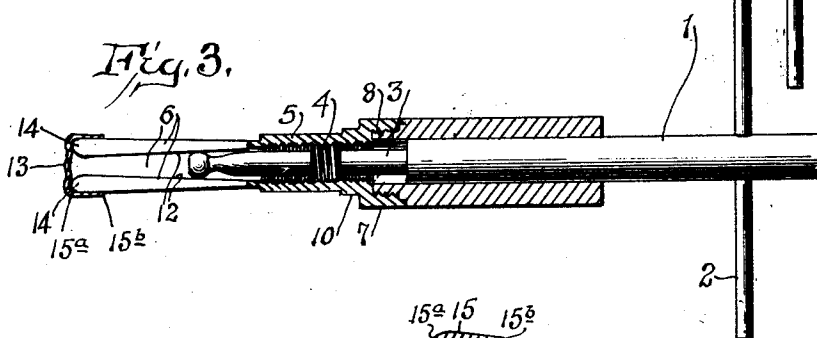
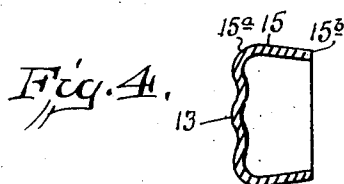
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B. A. MAYER

DENTAL TOOL

Filed August 17, 1925



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UNITED STATES PATENT OFFICE.

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DENTAL TOOL.

Application filed August 17, 1925. Serial No. 50,665.

My invention relates to dental tools, and in particular to a dental tool for forming a gold crown.

It is the object of my invention to provide a dental tool on which a gold crown may be formed with the desired configuration, and on which the crown may be given a wider dimension at its closed end than at its open end, in order to insure a proper fitting of the crown in the patient's mouth.

Heretofore, there has been nothing by which a dentist could give the proper configuration to the crown quickly without considerable time and labor, and nothing by which he could provide a narrow throat at the open end of the crown.

It is a further object to provide means for doing both things simultaneously.

It will be understood that the end of my collapsible tool has a configuration corresponding to the configuration of the tooth for which the crown is to be substituted, there being different configurations of the collapsible head of the tool for as many different kinds of teeth as crowns must be made for.

It is my further object to provide a tool which can have different forms of collapsible heads substituted one for the other.

Referring to the drawings:—

Figure 1 is a perspective view of my improved dental tool;

Figure 2 is a central longitudinal sectional view with the fingers in collapsed position and the crown shell in unformed condition;

Figure 3 is a central longitudinal sectional view with the fingers in expanded position and a crown formed in relation thereto;

Figure 4 is an enlarged detail view of a formed crown.

Referring to the drawings in detail, 1 is the actuating shaft of the tool which carries a cross member 2 for facilitating its rotation. This actuating shaft 1 carries an expanding shaft 3, preferably of smaller diameter than the shaft 1, on which is mounted a screw 4 working within the internally threaded sleeve 5 which carries the split tapered expanding fingers 6. This sleeve 5 carries an enlarged internally threaded head 7 in which is threaded the sleeve 8 carried by the actuating shaft and provided with a knurled surface 9 to facilitate locking of the tool by the operator. A cutaway portion 10 is provided on the

head 7 on either side thereof so that it may be clamped and the sleeve 8 turned relatively to the head, whereby these parts of the tool may be separated and fingers of different configuration substituted to form crowns of the desired shapes.

Returning to the expanding shaft 3, it will be noted that it is provided with a cylindrical head 11 which engages with the inner-tapered surface 12 of the fingers 6, expanding them progressively as the shaft 3 and the head 11 are moved outwardly by the screw 4 working within the threaded sleeve 5. 13 designates the surface of the crown, the under side of which rests upon the ends 14 of the fingers 6, which ends are provided with a configuration of the desired tooth. It will be noted that the side walls 15 of the crown are perpendicular initially, but after the heads 14 of the fingers 6 are expanded to a greater degree than their inner portions the side walls of the crowns are formed so that the upper portions, such as at 15^a, are farther from one another than the lower edge 15^b. This gives a tight fit at the bottom of the crown around the crown support insuring a permanent, non-leaking crown.

My invention, therefore, eliminates the present practice in many installations of having to split the crown and solder it together again to make it fit, which is both tedious and objectionable, because the solder sometimes discolors in some mouths. It is also a tedious task, and as time of essence in the profitable practice of the dental profession, a tool such as the present one is of particular value as it saves not less than two-thirds of the time in many installations.

It will be noted that all is necessary to do is to put the crown on top of the fingers, properly expand them to the diameter of the crown shell, hammer the crown into the desired configuration and the expanding fingers will give the proper bell-like shape to the crown to insure its proper fitting.

It will be understood that I desire to comprehend within my invention such modifications as may be necessary to adapt it to varying conditions and uses.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a crown forming tool, an actuating shaft having an expanding head and operating screw, a sleeve carrying a plurality of

expanding fingers in which said screw works, said expanding head engaging the interior of said expanding fingers to expand them, and the ends of the fingers formed as counterparts of the occlusal surface of the tooth for which the crown is intended. 15

2. In a crown forming tool, an actuating shaft having an expanding head and operating screw, a sleeve carrying a plurality of expanding fingers in which said screw works, said expanding head engaging the interior of said expanding fingers to ex- 20

pand them and a sleeve on said actuating shaft, detachably connected to the expanding sleeve, said fingers having internally-tapered surfaces progressively closer to one another towards their outer ends, and the end of each finger formed as a counterpart of a portion of the occlusal surface of the tooth for which the crown is intended.

In testimony whereof, I affix my signature.

BRUCE A. MAYER.