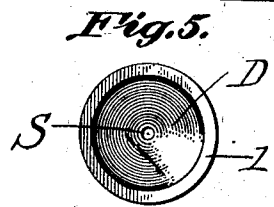
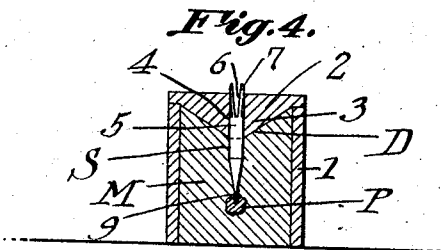
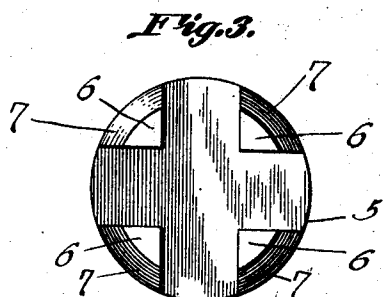
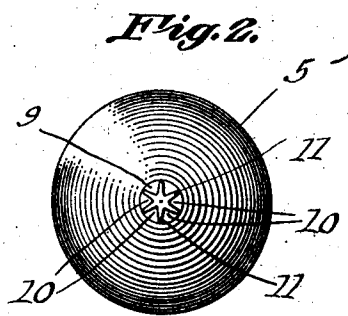
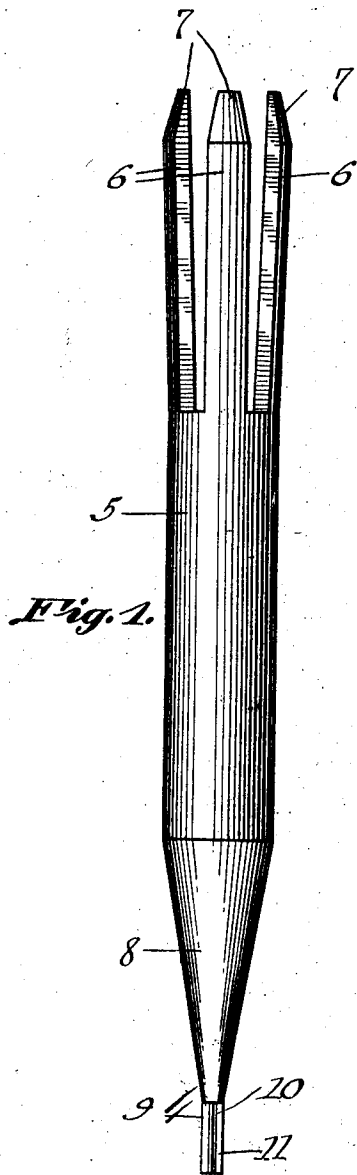


1,332,878.

E. BARD,  
DENTAL APPLIANCE.  
APPLICATION FILED JAN. 22, 1919.

Patented Mar. 9, 1920.



Everett Bard, Inventor

Witness  
*J. R. [Signature]*

By *C. A. Snow & Co.*  
Attorneys

# UNITED STATES PATENT OFFICE.

EVERETT BARD, OF WATER VALLEY, KENTUCKY.

## DENTAL APPLIANCE.

1,332,878.

Specification of Letters Patent.

Patented Mar. 9, 1920.

Application filed January 22, 1919. Serial No. 272,490.

*To all whom it may concern:*

Be it known that I, EVERETT BARD, a citizen of the United States, residing at Water Valley, in the county of Graves and State of Kentucky, have invented a new and useful Dental Appliance, of which the following is a specification.

This invention relates to dental appliances and has for an object the provision of novel means for casting metal inlays or tooth fillings.

A more specific object of this invention is to provide novel means for supporting the usual wax pattern within the investiture receptacle preparatory to the reception of the plastic investiture material, and to rigidly support this pattern during the hardening process of the investiture.

Another object of this invention is to provide novel means for removing the wax pattern from the cavity of the tooth to thereby obviate the distortion of the pattern in order to produce a perfect inlay.

A further object of this invention is to provide a dental appliance of generally improved construction, whereby the device will be simple, durable and inexpensive in construction, as well as convenient, practical, serviceable and efficient in its use.

The invention has been illustrated in the accompanying drawing, wherein:—

Figure 1 is an enlarged view of a sprue-pin.

Fig. 2 is an enlarged view of one end of this pin.

Fig. 3 is an enlarged view of the opposed end of the sprue-pin.

Fig. 4 is a vertical sectional view taken through the investiture receptacle; and

Fig. 5 is a top view of the investiture receptacle with the cover member removed and shows the investiture after it has hardened.

Referring to the drawing there is shown a cylindrical casing 1, having its opposed ends open. A cover member or closure 2 is provided and is adapted to seat upon the upper end of the casing, and a conical extension 3 is formed on the inner face of this cover member. The cover member 2 has an axial opening 4 extending therethrough for the reception of a sprue-pin 5. This pin is provided with a cylindrical portion, and at one end of the cylindrical portion a plurality of resilient fingers 6 are formed. The fingers 6 project longitudinally from the cy-

lindrical portion, and normally flare or extend laterally beyond the periphery of the cylindrical portion of the pin; and the free ends of the fingers 6 have their outer surfaces beveled or tapered, as indicated at 7. Extending axially from the opposed terminal of the cylindrical portion of the sprue-pin 5 is a tapered portion 8, and a reduced portion 9 extends axially from the outer end of the tapered portion 8. Longitudinal grooves 10 are formed or cut in the reduced portion 9, which grooves define a plurality of longitudinally disposed, radial ribs 11.

In use, after the wax pattern P has been shaped to conform to the contour of the cavity within the tooth, this pattern may then be removed from the cavity by inserting the reduced portion 9 of the sprue-pin 5, which has been heated to the required temperature, into the wax pattern. The heated reduced portion 9 immediately melts the wax, and the displaced wax, now being in a molten state, will flow up into the grooves 10, by capillary attraction, thereby preventing the molten displaced wax from being deposited upon the formed wax pattern. As the reduced portion 9 of the sprue-pin 5 cools the wax hardens and adheres to the reduced portion 9. By providing the radial ribs 11 and grooves 10, an increased surface is provided for heating and cooling the reduced portion 9, thereby facilitating this operation. After the wax pattern adheres to the sprue-pin 5 it may be removed from the tooth, and the sprue-pin 5 is then secured to the cover member 2 by inserting the beveled ends 7 of the resilient fingers 6 into the inner end of the axial opening 4. The fingers 6 are then forced farther into the opening 4, as shown in Fig. 5, where the fingers 6 resiliently engage the wall of the opening 4, and consequently detachably secure the sprue-pin 5 to the cover member 2. After the casing 1, which has its lower end closed by supporting the casing on any smooth surface, has been filled with the usual plastic investiture material, the cover member 2 is then positioned upon the casing 1, and any excess investiture material that may be in the casing 1 is forced over the upper end of this casing by the conical extension 3 as it is being positioned upon the casing 1. Now the wax pattern is supported by the sprue-pin 5 within the investiture receptacle, and when the investiture material or composition M has hardened the cover member 2

and sprue-pin 5 are removed, which leaves a conical depression D in the upper surface of the investiture and an opening or sprue S in the body of the investiture. The wax pattern is then removed by heating it until it melts and then pouring it from the hardened investiture, after which the inlay may be cast within the investiture by pouring the molten metal through the conical depression D and sprue S which has been formed in the investiture and lead to the recess or mold formed by the wax pattern.

Having thus described my invention, what is claimed as new is:—

1. A device of the class described including an investiture casing, a cover member for the casing, said cover member having an axial opening formed therein, a sprue-pin, resilient fingers extending from the sprue-pin and adapted to extend into the said opening to support the sprue-pin within the said casing, and a reduced portion extending from the sprue-pin and adapted to engage and support a wax pattern within the investiture casing.

2. A device of the class described including a casing, an investiture within the casing, a cover member having an axial opening formed therein, a conical extension formed on the cover member, a sprue-pin, resilient arms extending from the sprue-pin and adapted to extend into the said axial opening to support the sprue-pin within the casing and investiture, and a reduced portion extending from the sprue-pin and adapted to engage and support a wax pattern within the casing and investiture.

3. A device of the class described including a casing, an investiture within the cas-

ing, a cover member having an axial opening formed therein, a sprue-pin, resilient arms extending from the sprue-pin and adapted to extend into the axial opening to support the sprue-pin within the casing and investiture, a reduced portion extending from the sprue-pin, radial ribs formed on the said reduced portion, and a conical extension formed on the cover member and adapted to form a conical depression in the said investiture.

4. A device of the class described including a casing, an investiture within the casing, a cover member having an axial opening formed therein, a sprue-pin, resilient fingers extending from one terminal of the sprue-pin and adapted to extend into and engage the wall of the opening of the cover member thereby detachably supporting the sprue-pin within the casing and investiture, said resilient fingers having their outer ends tapered to guide the resilient fingers into the said opening, a reduced portion extending axially from the opposed terminal of the sprue-pin and adapted to be attached to a wax pattern to support the pattern within the casing and investiture, said reduced portion having longitudinal grooves formed therein and adapted to receive the wax that is displaced by attaching the reduced portion to the wax pattern.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EVERETT BARD.

Witnesses:

F. A. HUDGINS,  
M. G. MANEY.