

No. 840,921.

PATENTED JAN. 8, 1907.

J. W. DICKEY.
DENTAL SWAGE.

APPLICATION FILED AUG. 21, 1906.

FIG. 1.

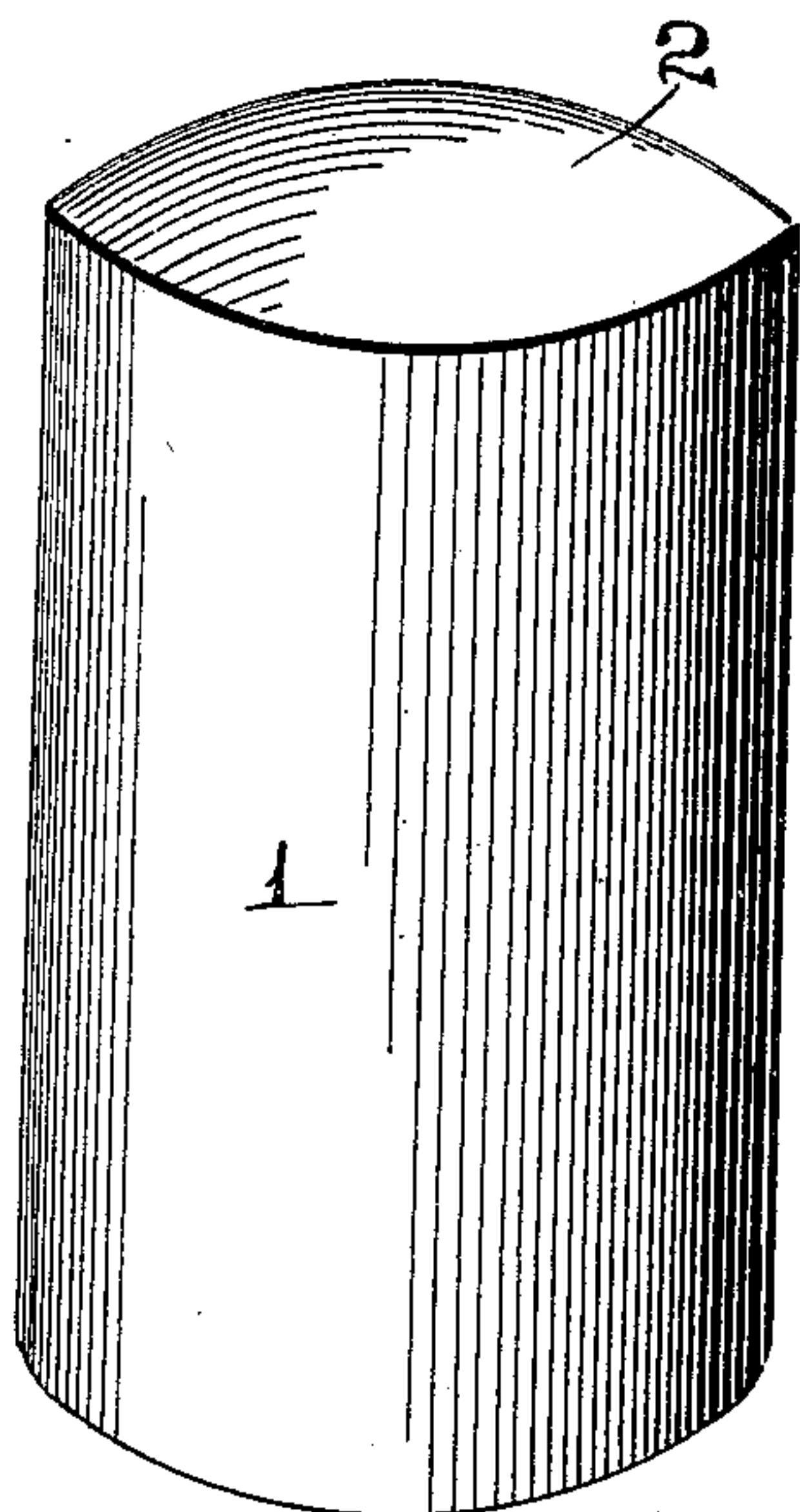


FIG. 3.

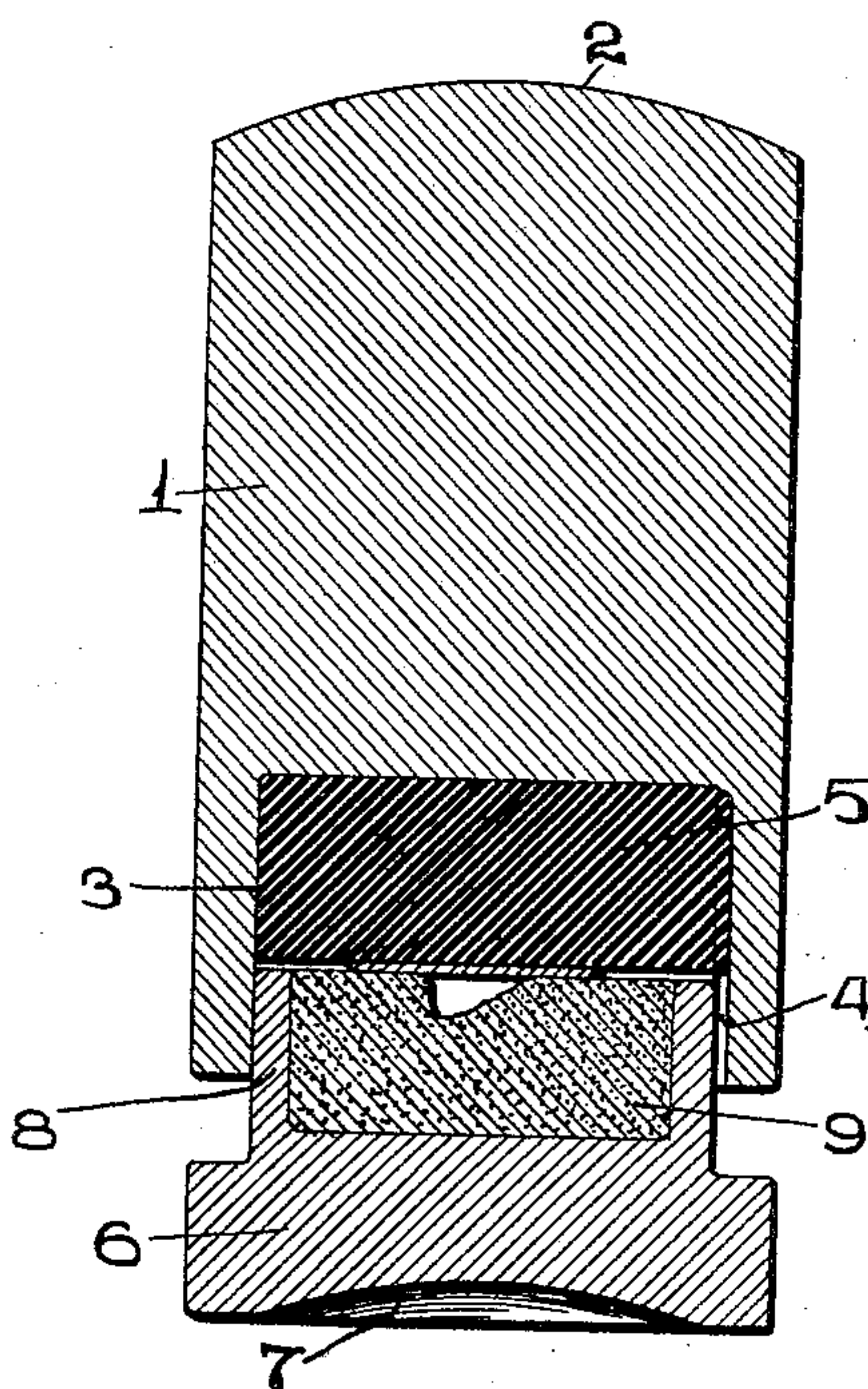


FIG. 2.

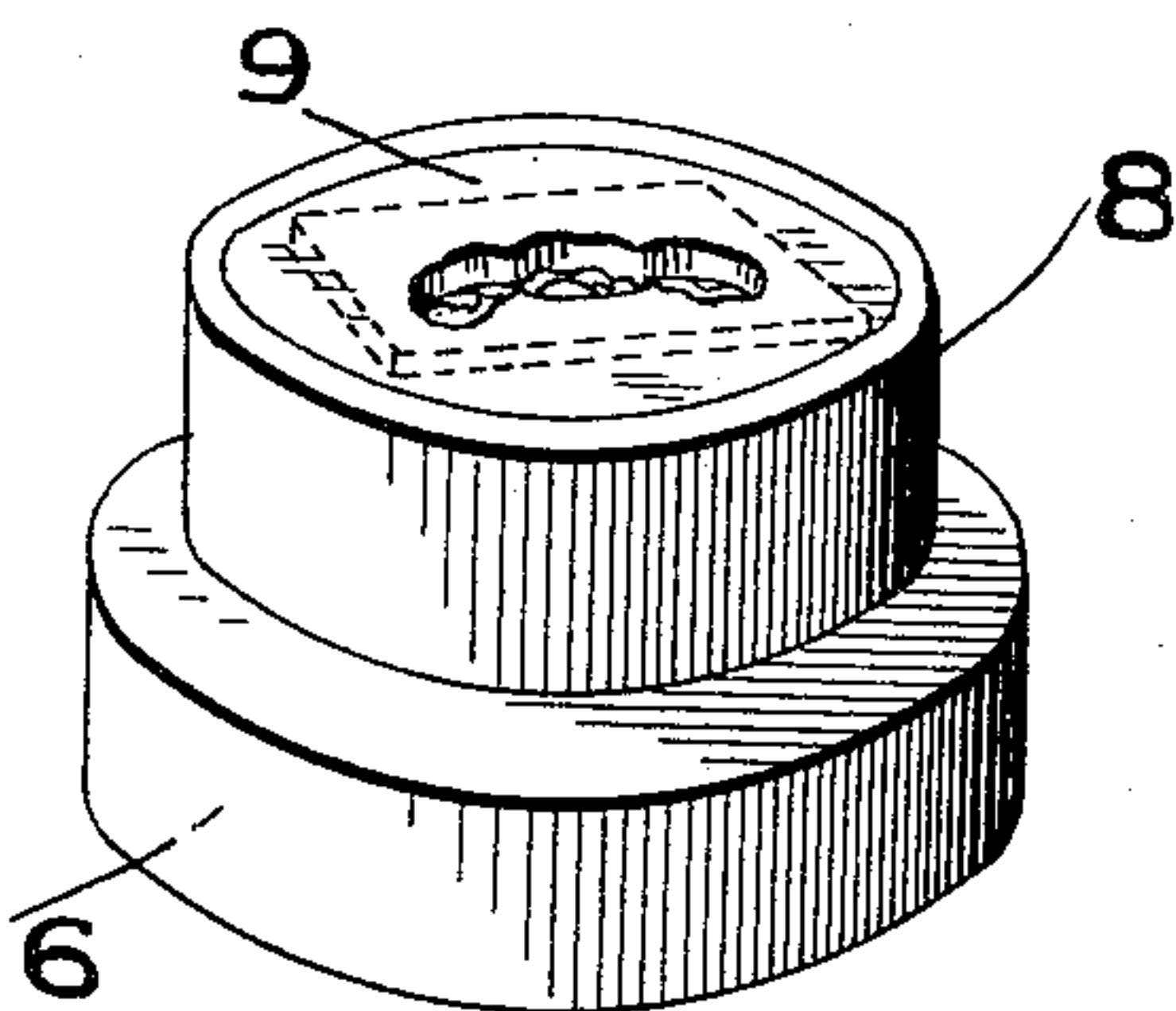


FIG. 4.

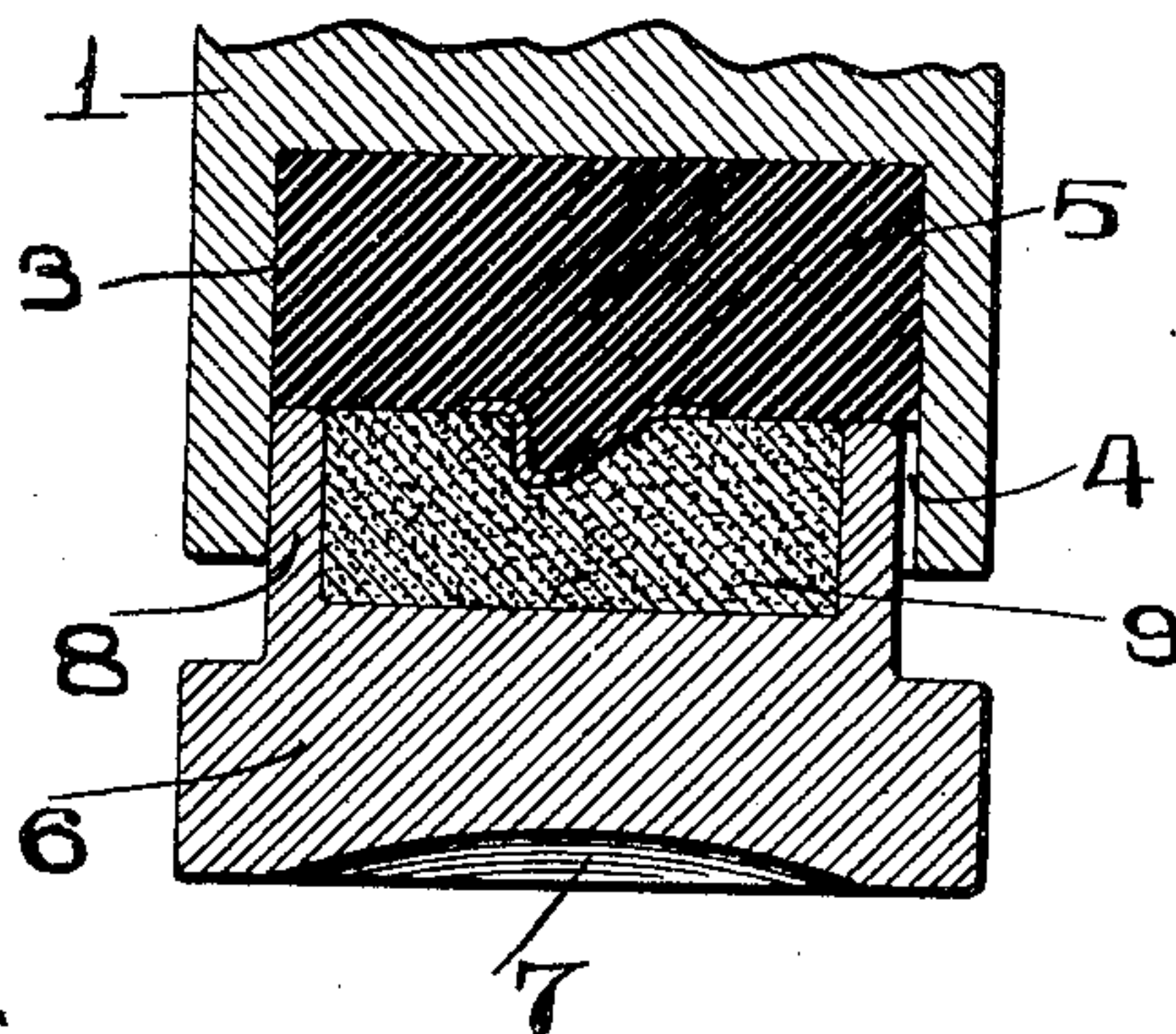
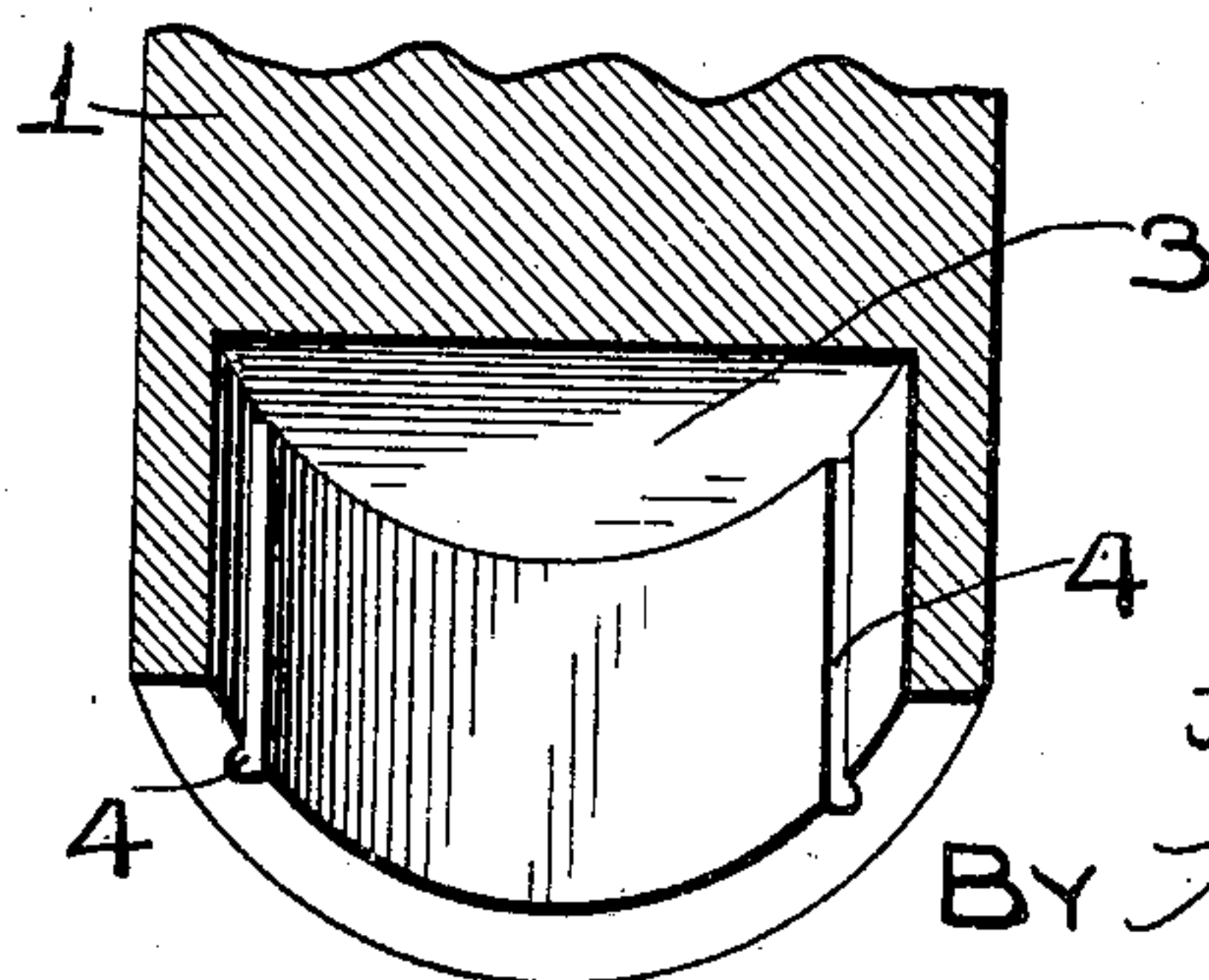


FIG. 5.



ATTEST.
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JOSEPH W. DICKEY, OF ST. LOUIS, MISSOURI.

DENTAL SWAGE.

No. 840,921.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed August 21, 1906. Serial No. 331,531.

To all whom it may concern:

Be it known that I, JOSEPH W. DICKEY, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Dental Swages, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a dental swage; and the object of my invention is to provide a simple strong tool to be used for swaging or shaping sheet-metal plates which are used in the construction of dental crowns and bridges.

A further object of my invention is to so construct a swaging-tool that the air may have a free outlet from between the male and female parts of the tool, while the upper member is being hammered to force the thin metallic plate into the mold.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the upper member of the swage. Fig. 2 is a perspective view of the base of the swage. Fig. 3 is a vertical section taken through the center of my improved swage and showing a piece of sheet metal therein before it is forced downwardly into the form in the base. Fig. 4 is a section similar to Fig. 3 and showing the sheet-metal plate forced downwardly into the form. Fig. 5 is a detail section in perspective, showing the air-vents formed in the lower end of the upper member of the swage.

Referring by numerals to the accompanying drawings, 1 designates the upper member of the swage, which is in the form of a cylindrical block of sufficient length to give it proper weight provided with a convex upper end 2 and in its lower end with a circular recess 3, in the surface of which is formed a series of vertically-disposed grooves 4, which lead from the upper end of said recess to the lower end of the block 1. Located in the upper end of the recess 3 is a body 5 of unvulcanized rubber or analogous elastic material.

6 designates the base of the tool, which is in the form of a cylindrical block having the concave bottom 7 and provided with an up-

wardly-projecting annular flange 8, which is of such a diameter as that it will readily receive the lower end of the block 1. The space within the annular flange 8 is filled with a suitable hard wax 9 or analogous material, which will become softened when heated to the proper degree, and the top surface of this wax lies flush with the top surface of the flange 8.

In the use of my improved swaging-tool the form for the crown or bridge to be constructed is pressed into the surface of the wax 9 while the same is in a soft condition, due to the application of heat to the base and said wax. The form, after being pressed or indented in the surface of the wax, is removed and said wax allowed to harden. A thin sheet of gold or other metal from which the crown or bridge is to be constructed is now placed on the surface of the hardened wax directly over the matrix therein, and the upper member 1 is now engaged on top of the base around the flange 8 thereof. After the base 6 has been seated on a solid structure, such as an anvil, the convex upper end 2 of the member 1 is hammered with sufficient force to cause the thin sheet of metal to be forced downwardly into the matrix in the top of the wax 9, which result is obtained owing to the elasticity of the body of unvulcanized rubber in the lower end of the block 1. During this swaging operation the air from the space in the matrix will be forced outwardly between the body of wax 9 and the body of rubber 5 and will finally be discharged through the vents 4. After the metal sheet has been thoroughly forced into the matrix, as seen in Fig. 4, the upper member 1 is withdrawn from the base 6, after which the sheet of metal, which is now in proper form, is removed from position and trimmed down and fitted as desired.

The bottoms of the recess 3 and the space within the flange 8 are perfectly flat, which construction provides for a more perfect distribution of the pressure of the rubber and wax while the upper member is being forced onto the base thereof.

My improved swaging-tool is simple, strong, and durable, is readily fitted together, and by its use crowns and bridges may be quickly and accurately formed, and said crowns and bridges have the advantage of being seamless and being constructed without the use of solder or analogous material.

I claim—

The herein-described dental swage, comprising a base provided with a recess in its upper end, a filler of plastic material for said
5 recess, the top surface of which filler lies flush with the upper edge of the base, an upper member provided with a recess in its lower end, and adapted to slide closely down over the upper end of the base; grooves
10 formed in the inner face of the recess in the upper member, which grooves extend the

entire length of said recess and a body of plastic material partially filling the recess in the upper member; substantially as specified.

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

JOSEPH W. DICKEY.

Witnesses:

M. P. SMITH,
E. L. WALLACE.