

No. 770,066.

PATENTED SEPT. 13, 1904.

D. T. HILL.
DENTISTRY.

APPLICATION FILED APR. 13, 1904.

NO MODEL.

Fig. 1.

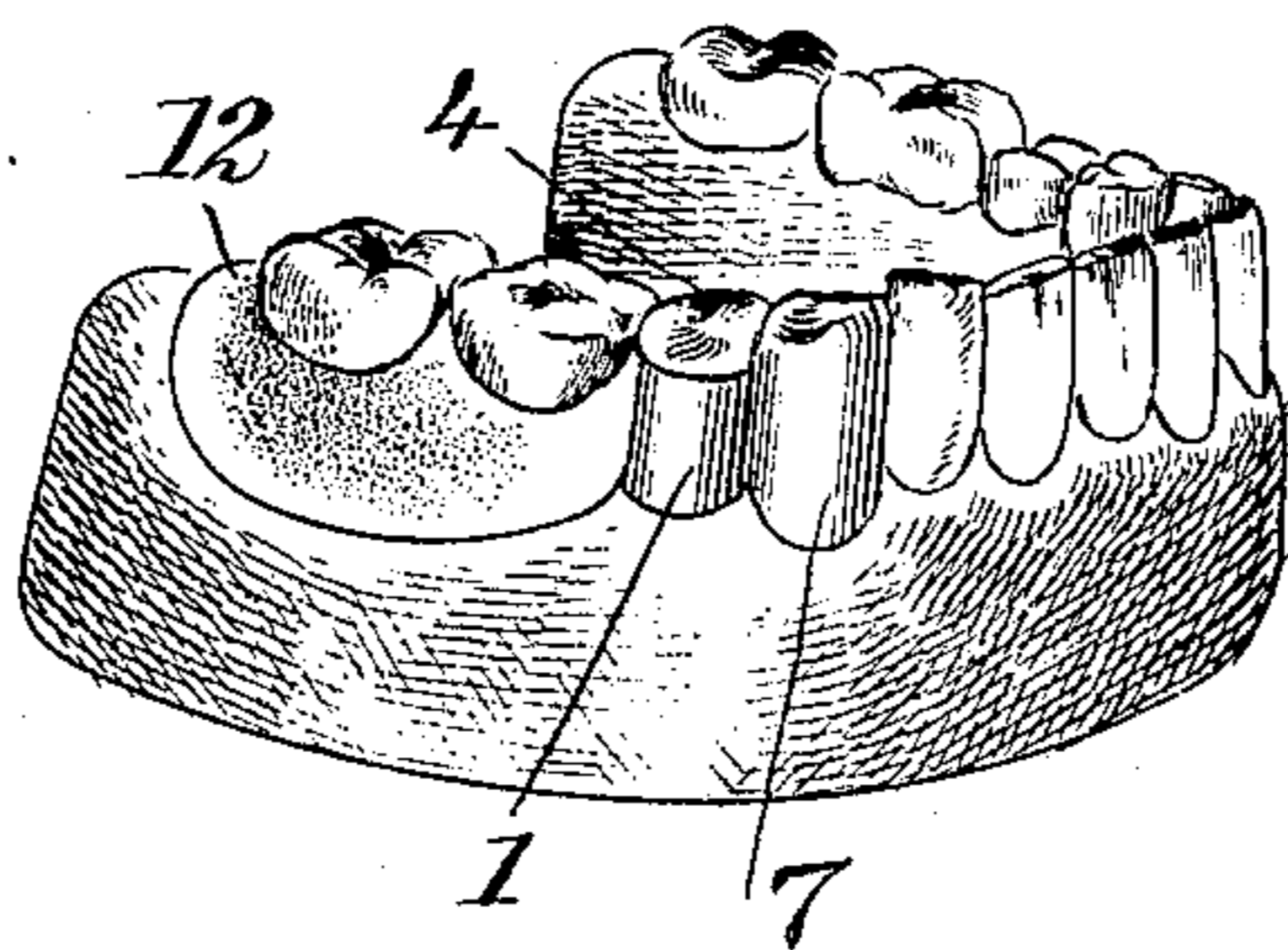
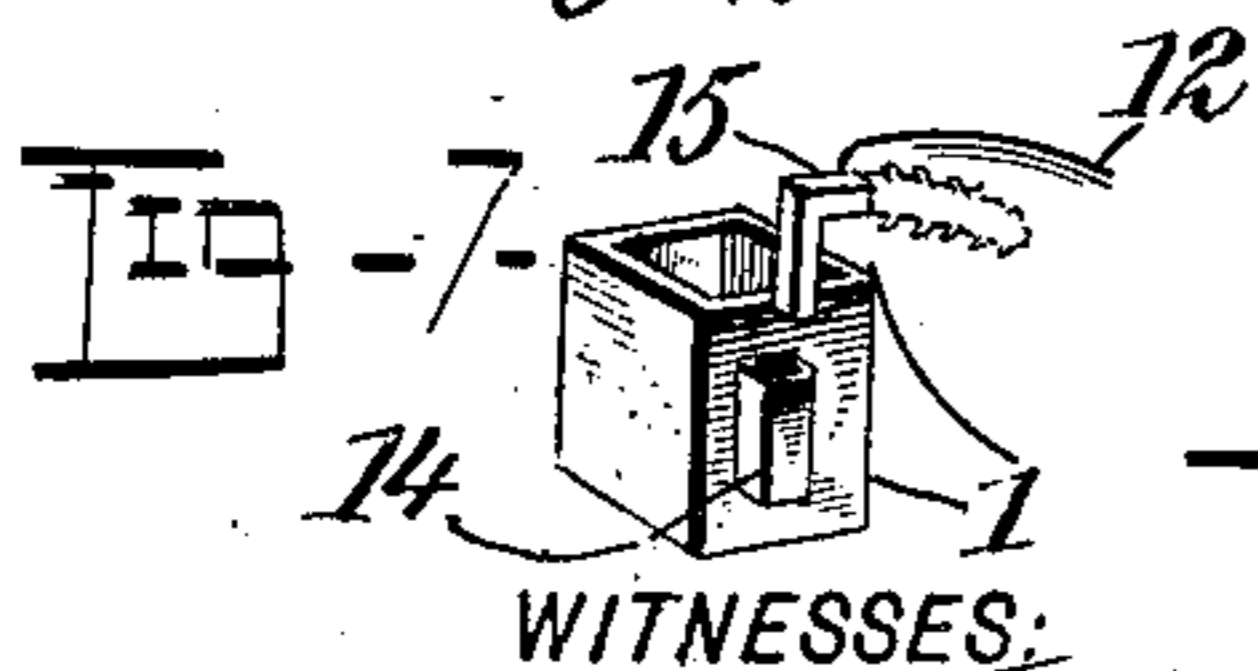
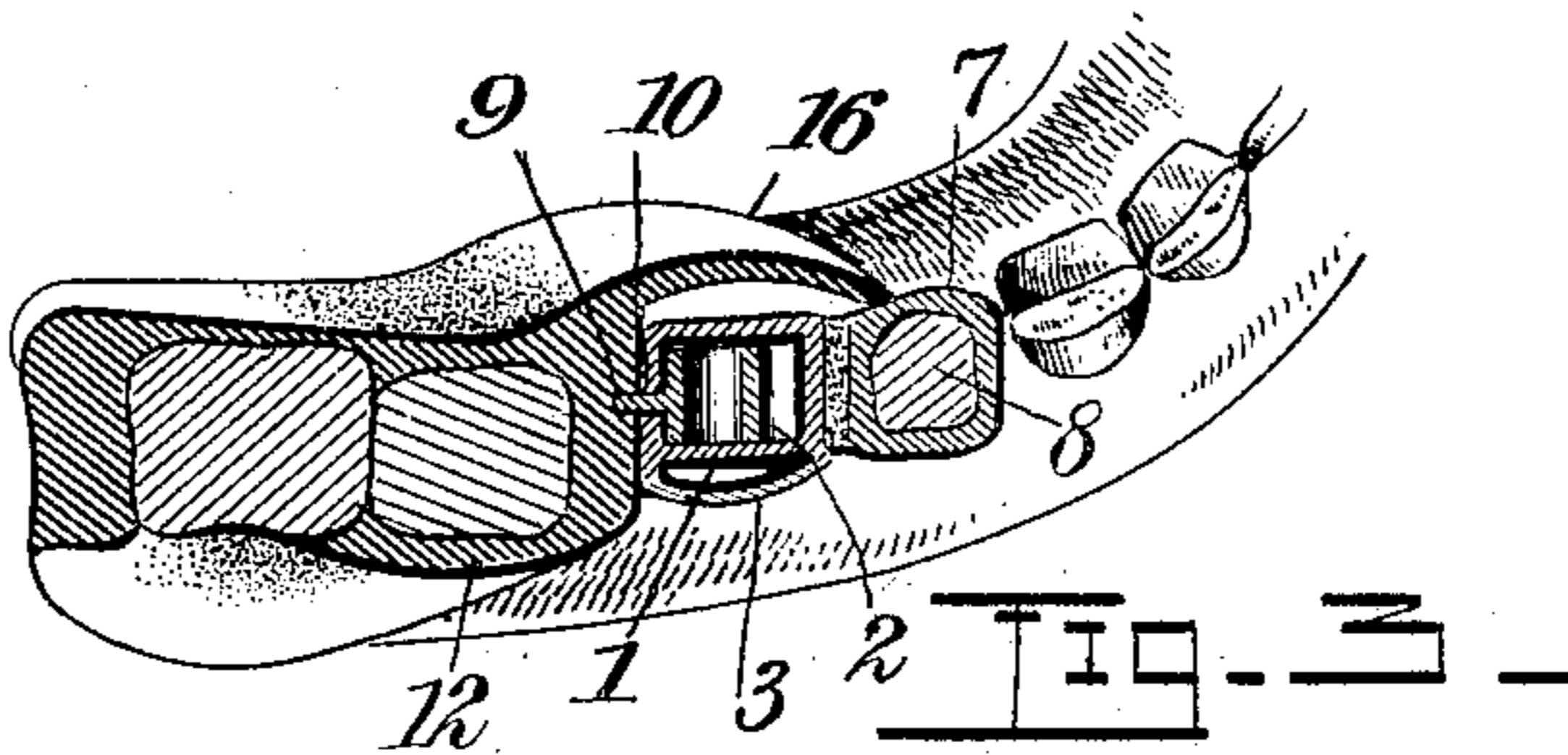
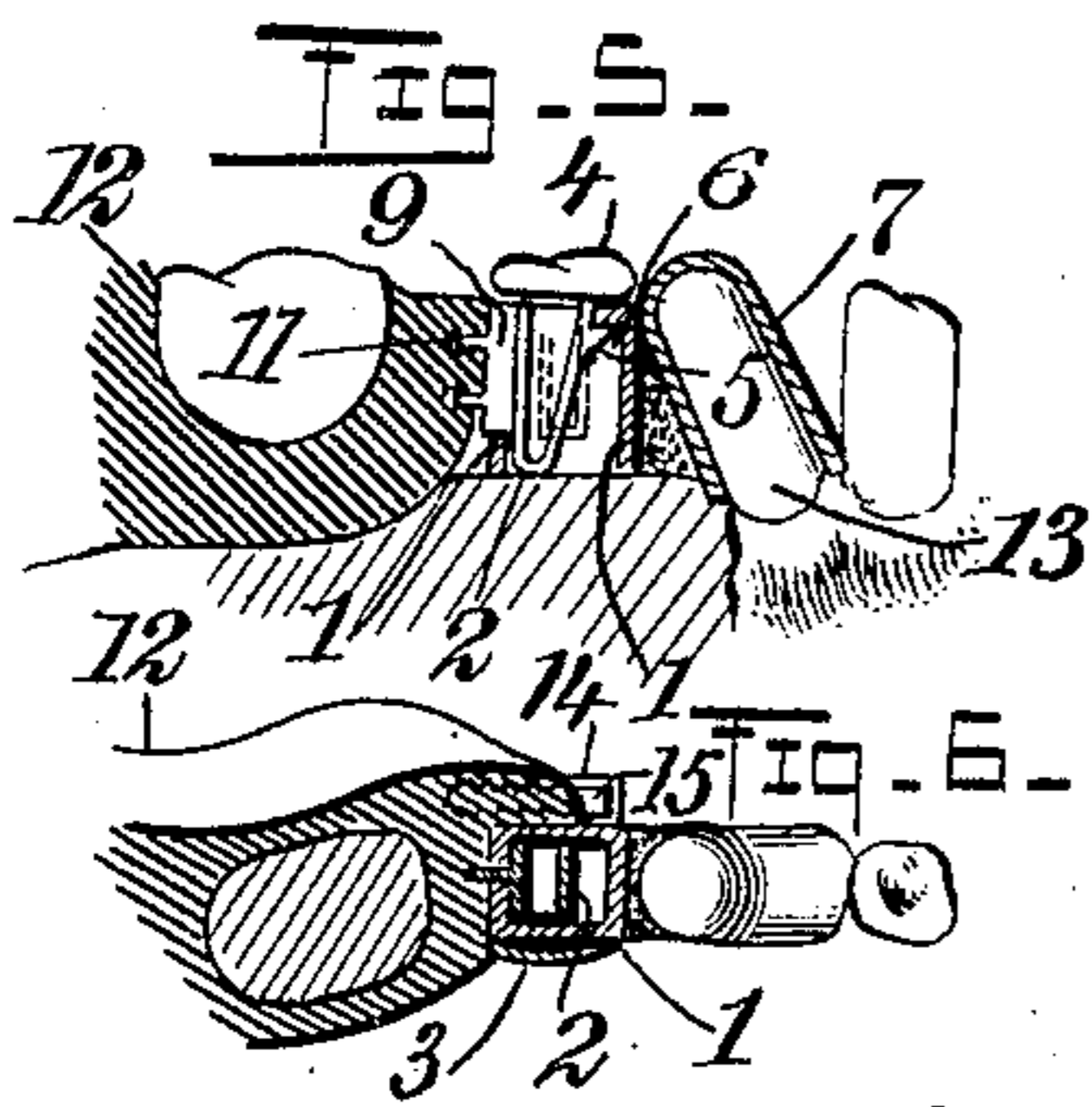
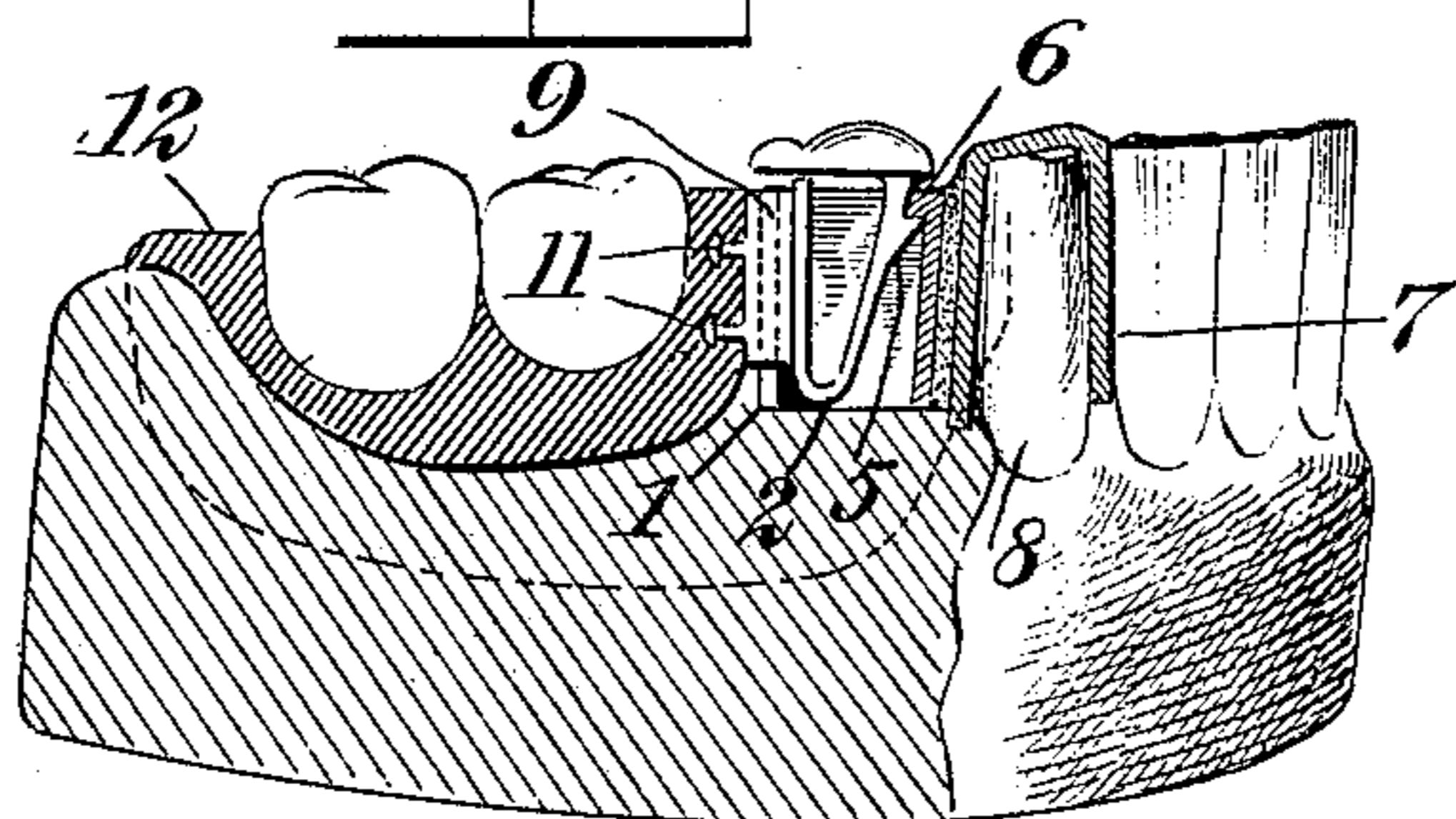
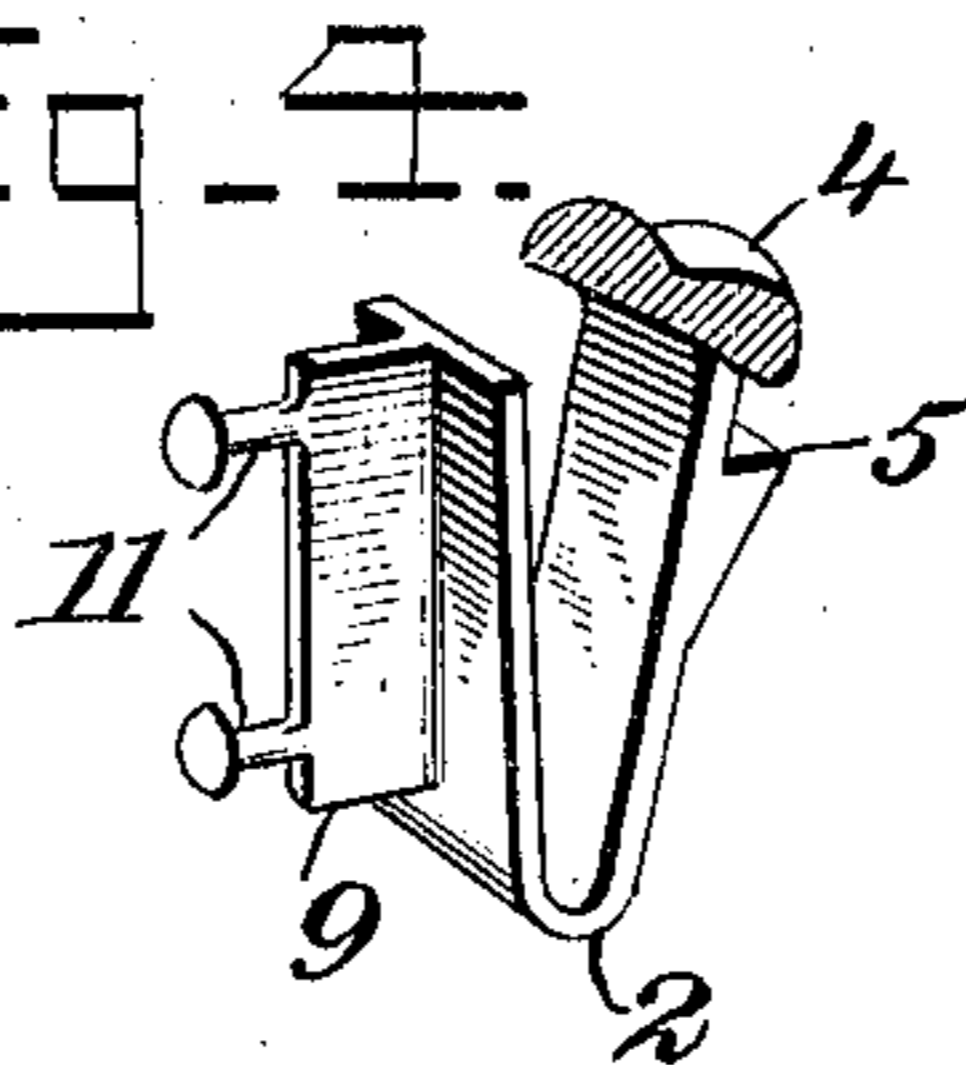


Fig. 2.



WITNESSES:

G. P. Kingbury
C. R. Ferguson



INVENTOR.

Daniel T. Hill

BY

Wm. M. Munn
ATTORNEYS

UNITED STATES PATENT OFFICE.

DANIEL T. HILL, OF SYRACUSE, NEBRASKA.

DENTISTRY.

SPECIFICATION forming part of Letters Patent No. 770,066, dated September 13, 1904.

Application filed April 13, 1904. Serial No. 202,893. (No model.)

To all whom it may concern:

Be it known that I, DANIEL T. HILL, a citizen of the United States, and a resident of Syracuse, in the county of Otoe and State of Nebraska, have invented certain new and useful Improvements in Dentistry, of which the following is a full, clear, and exact description.

This invention relates to improvements in mechanical dentistry, an object being to provide a simple means for securing artificial molars and bicuspid in position in such manner that the denture cannot be accidentally displaced, but may be readily removed when desired.

Other objects of the invention will appear in the general description.

I will describe the improvements in dentistry embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a denture embodying my invention. Fig. 2 is a vertical section thereof. Fig. 3 is a horizontal section. Fig. 4 is a perspective view of a locking device employed. Fig. 5 is a sectional elevation showing a slight modification. Fig. 6 is a horizontal section thereof, and Fig. 7 is a detail perspective view showing a means for engaging the rubber plate with the box-section of the locking device under certain conditions.

The locking device comprises a box-like or rectangular member 1 and a V-shaped spring member 2, designed to engage in the box-like member. On the outer side of the member 1 is a plate or facing 3 of suitable material to give the appearance of a gold crown or a natural tooth, and on the upper end of the forward member of the spring is a gold cusp 4. The front member of the spring is provided with a lug 5, designed to engage the under side of a lug 6, formed on the inner side of the front wall of the locking member 1. It will be noted that the under side of the lug 5 is beveled or inclined, so that the spring member may be readily forced into the box-

like member. The box-like member is designed to be soldered to a crown 7, which engages over a natural tooth 8. On the rear side of the spring member is a web 9, designed to slide in a channel 10, formed vertically in the rear wall of the box-like member, and on this web are headed pins 11 for anchoring the box-like member to a rubber plate 12, in which a tooth is to be placed in the usual manner or a plurality of teeth may be arranged therein.

In building up the device the gold crown 7 is placed over the natural tooth in the usual way and an impression taken as for ordinary bridgework, and after the cast is made and the articulation taken with the teeth which are to articulate with the artificial ones the box 1 after inserting the spring is to be secured or waxed to the gold crown 7, and then after removal of the box and crown they are to be soldered together, after which the gold crown is returned to the cast or mold and the spring inserted and locked. The artificial teeth are then ground in position in the usual way for rubber-work and the cast flaked and vulcanized. When placed in the mouth completed, the gold crown is set in the usual way. Then the rubber plate, with the spring attached, is passed into the box and pressed into place, when the rubber plate strikes firmly on the jaw. In some instances the natural tooth is inclined rearward, and therefore the locking mechanism must be devised somewhat different from that shown in Fig. 2. In this case the crown 7 on the inclined tooth 13 has a wedge-shaped plate arranged between it and the box member 1 and firmly soldered, as clearly indicated in Fig. 5. By this arrangement the locking device would extend in a perpendicular line. One side of the box in this example of my improvement is provided with a rectangular socket member 14, which receives the correspondingly-shaped end of a gold or other suitable hook 15, having a roughened shank portion vulcanized in the rubber, as clearly indicated in Fig. 7.

Some of the advantages of my fastening device may be stated as follows: The locking device is positive and allows the denture to be depressed freely as far as the gum tissue may

flatten under pressure without bringing any strain upon the natural tooth. The plate cannot move outward because the rubber is brought solidly against the back of the box 5 1, and it cannot move inward because the plate fits snugly against the inner side of the gold crown 7, as indicated at 16, and this lateral movement is further prevented owing to the fact that the box member is rectangular 10 and the spring extends entirely across the same and engages against the opposite walls, and the arrangement of the spring is such that the end of the spring to which the crown 4 is attached must be moved directly backward to 15 unlock the spring from the box. This is not likely to happen during mastication unless some hard substance should strike the front of the crown and force it directly backward, in which case it would immediately lock itself 20 on pressure of the opposing teeth, forcing the denture down on the alveolar ridge.

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

1. A means for securing an artificial tooth in 25 place, comprising a crown adapted to fit over a natural tooth, a locking device comprising a box-like member secured to the crown, a V-shaped spring adapted for locking engagement in said box-like member, the rear wall of said 30 box-like member having a vertical slot, a web on the spring member for passing through said slot, and adapted to be anchored to a tooth-carrying plate, and a crown on a member of said spring member.

35 2. A means for securing an artificial tooth in place comprising a crown adapted for engagement with a natural tooth, a locking device consisting of a rectangular box-like member having a lug, a spring having a lug on its front 40 portion for engagement with said first-named lug, a crown on the upper end of said upper portion of the spring member, the said box-like member having a vertical slot in its rear

wall, a web on the rear portion of the spring member adapted to slide in said slot, and an- 45 choring-pins on said web.

3. A means for securing artificial teeth in place comprising a crown for engaging over a natural tooth, a locking device consisting of a rectangular box-like member secured to the 50 crown and having a vertical slot in its rear wall, a V-shaped spring member adapted for locking engagement in the box member, a crown secured to the upper end of the front portion of the spring member, a web secured 55 to the rear portion of the spring member and adapted to slide in said slot, and a tooth-carrying plate anchored to said web and having an inner portion extended for engagement 60 with the crown.

4. A means for securing artificial teeth in position, comprising a crown adapted to engage a natural tooth, a locking device consisting of a rectangular box-like member secured to the 65 crown, a V-shaped spring member arranged for locking engagement within the box-like member, the said box-like member having a vertical slot in its rear wall, a web on the spring member for passing through said slot, a socket member secured to the outer side of 70 the inner wall of the box-like member, a tooth-carrying plate, and a hook portion secured in said plate and adapted to engage in said socket member.

5. The combination with a tooth-carrying 75 plate, of a substantially V-shaped spring attached thereto, a boxing in which the spring is designed to lock, and a crown secured to a wall of said boxing.

In testimony whereof I have signed my name 80 to this specification in the presence of two subscribing witnesses.

DANIEL T. HILL.

Witnesses:

D. P. WEST,
CHAS. P. SCHNEIDER.