

No. 679,647.

Patented July 30, 1901.

J. S. THOMPSON.  
ARTIFICIAL TOOTH.

(Application filed Mar. 11, 1901.)

(No Model.)

FIG. 1.

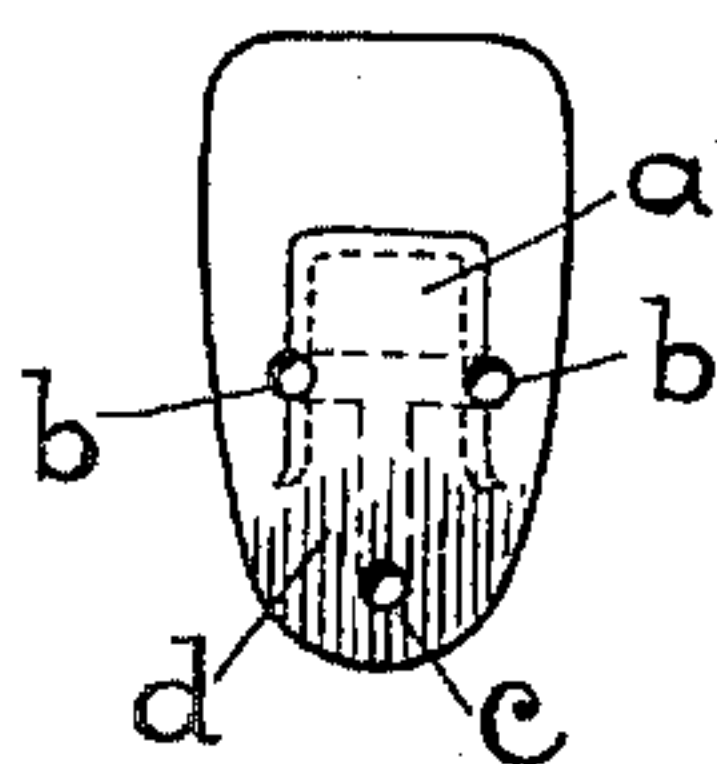


FIG. 2.

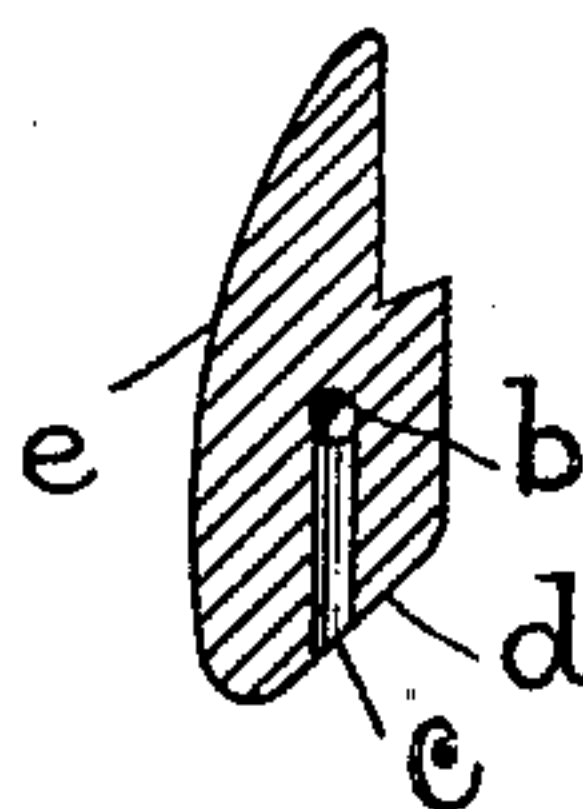


FIG. 4.

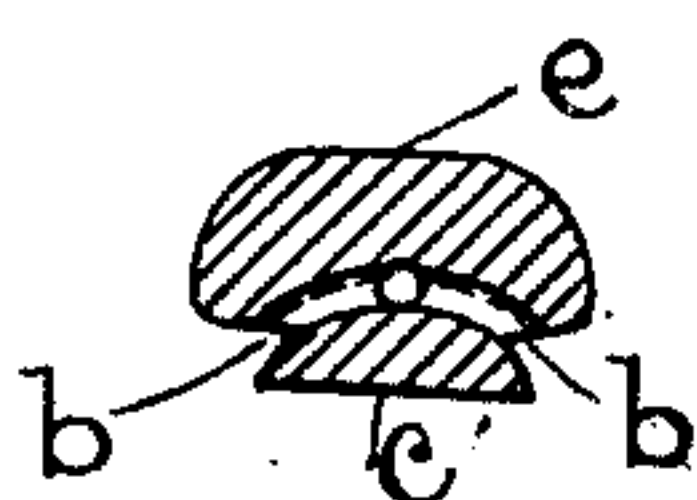
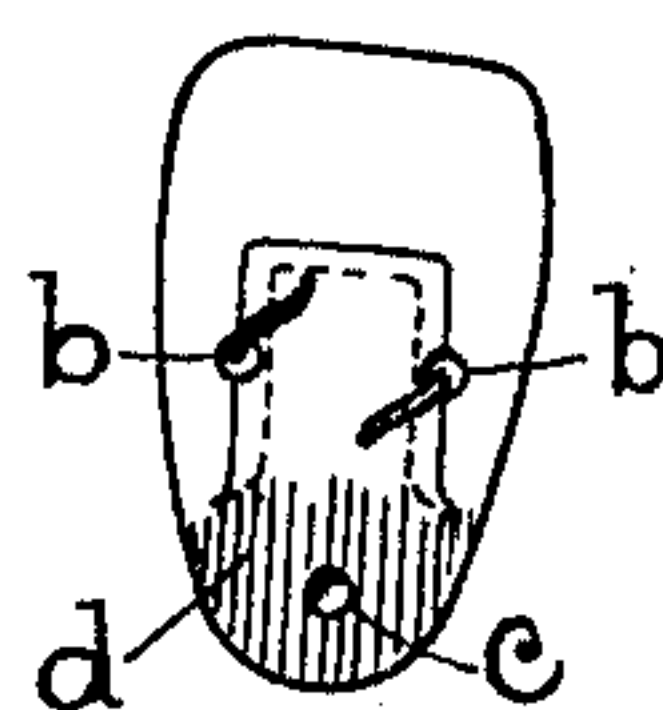


FIG. 3.

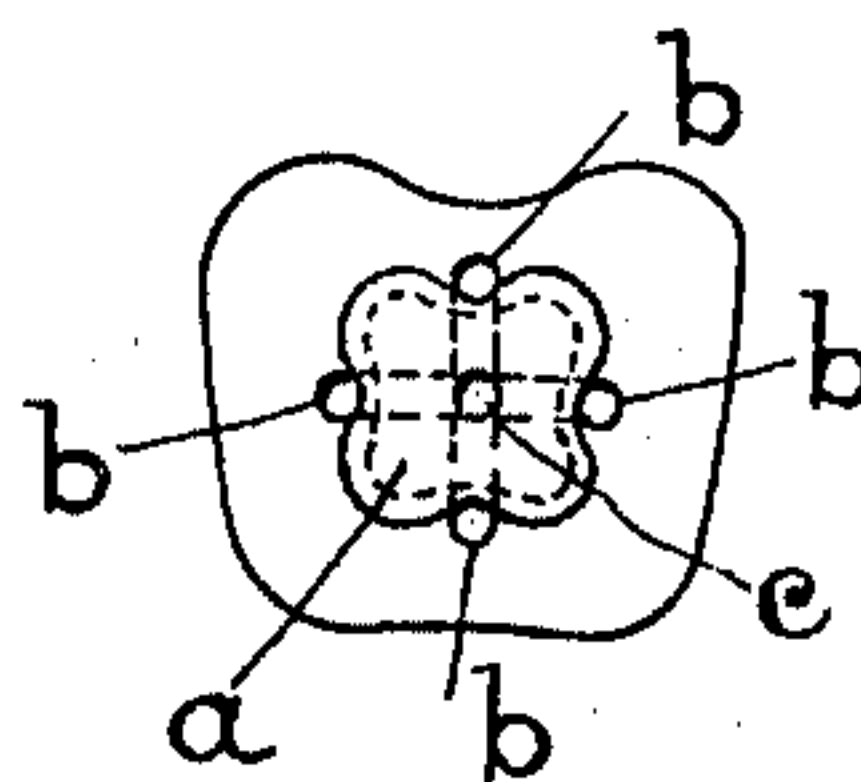


FIG. 5.

Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN S. THOMPSON, OF LIVERPOOL, ENGLAND.

## ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 679,647, dated July 30, 1901.

Application filed March 11, 1901. Serial No. 50,653. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SAMUEL THOMPSON, a subject of the King of Great Britain, residing in Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in Artificial Teeth, of which the following is a specification.

In the manufacture of artificial teeth platinum pins have usually been fused into the teeth for the purpose of holding them to the artificial gum or plate. The price of platinum has rendered it advisable to provide a substitute for these pins. Diatoric teeth, or teeth with cavities in which the vulcanite of the plate is secured, are already known; but in all the examples with which I am acquainted the teeth are either too bulky or very apt to become loose. This is especially the case with the incisors, as the fastening is not secure enough to prevent their being wrenched off the plate after more or less wear and tear. Now the present invention is designed to avoid this defect and also to provide a tooth which will be strong, light, and thoroughly reliable, which will be cheaper than those provided with platinum pins fused into the tooth, and which will provide adequate means for attaching the teeth to the plate.

In the accompanying drawings, Figure 1 is a rear elevation of an incisor-tooth; Fig. 2, a vertical section of same; Fig. 3, a cross-section; Fig. 4, a rear elevation of an incisor-tooth provided with an interlocking wire; Fig. 5, a plan of the under side of an artificial crown.

I form my tooth of any suitable material, as hitherto; but instead of using platinum pins such as have hitherto been applied to diatoric teeth I dispense with them altogether and form a part of the lingual surface of the tooth with a heel or thickened piece *a*, as shown in Figs. 1, 2, and 3. This heel *a* is approximately about half the length and width of the tooth and is located at about the middle of the lingual surface, so as to leave a margin all around. Its top and side edges are by preference undercut. Horizontally through the tooth, between the lingual and labial surfaces, I form a hole or holes *b*, the entrances to which at each end are at the opposite sides or edges of the heel *a*. I also form in the tooth a vertical hole *c*, extending from or from near the basal

surface *d* toward or in the direction of the cutting edge of the tooth. This hole opens into or joins at one end the transverse hole or holes *c* aforesaid, while the entrance at the opposite end of this hole is in the basal surface of the tooth. The entrance at the basal surface is in the same plane as the entrances to the horizontal hole. The application of the heel-piece *a* greatly strengthens the tooth, and it admits of these holes being made therein without adding materially to its bulk, as if this heel were not provided the holes would weaken the tooth so much as to render it impossible to use this form of fastening. The transverse hole or holes may be slightly curved or deflected outward toward the labial surface *e* of the tooth from the edges of the heel *a* to the point where they intersect with the vertical hole; also, they may be curved upward toward the cutting edge.

The teeth are secured and attached to the vulcanite or other material comprising the plate by embedding the contact-surface of the teeth in the material of which the plate is composed, and the vulcanite or other material entering the holes in the teeth in the usual manner causes said material to interlock with the contact-surface of the teeth. When this is effected, a separation of the teeth from the plate is practically impossible, as the holes aforesaid in the teeth form a T-shaped anchorage for the vulcanite to engage with. With an anchorage, therefore, of this shape it is physically impossible to separate a tooth from the plate without actual fracture or breaking of the material of which the parts are composed. If desired, the entrance to the vertical hole at the basal surface of the tooth and also the entrances to the other holes may be slightly larger than at the other parts, so as to admit of the vulcanite more easily entering. This, however, is not essential. The invention is applicable to incisors, cuspids, molars, and, in fact, all the different species of teeth in the mouth and can be applied also to artificial crowns or masticatory surfaces. In this latter case the crown, as shown in Fig. 5, is formed with a heel *a* on its under surface, in the edges of which are holes or cavities *b* at right angles to each other, and, if desired, a vertical hole *c*, opening into or joining at one end of the



above holes *b*, so as to form an anchorage for the cement, vulcanite, or other material. The edges of the heel may be undercut.

If desired as a further security, a piece of  
5 non-oxidizable wire can be passed through the horizontal hole in the tooth, as shown in Fig. 4. This wire is formed with clawed ends or otherwise so arranged as to further assist in holding the teeth to their plate, while being  
10 so much smaller than the hole as to allow the vulcanite to enter the holes when suitable pressure is applied. This wire can be of any desired metal, provided it be non-oxidizable, as the wire not being fused into the tooth  
15 need not be of such material as platinum, which has to withstand the fusing process.

I declare that what I claim is—

An artificial tooth provided at its point of contact with the plate, with a flat heel, having a flat margin for holding against the plate, 20 and with undercut edges at the top and sides, the body of the tooth in front of the heel being provided with vertical and horizontal holes deflected toward the labial surface of the tooth, to bring their entrances into the 25 same vertical plane near the edges of the heel; substantially as described.

In witness whereof I have hereunto signed my name, this 1st day of March, 1901, in the presence of two subscribing witnesses.

J. S. THOMPSON.

Witnesses:

G. C. DYMOND,

JOHN McLACHLAN.