

W. P. HALL.
ARTIFICIAL TEETH.

No. 178,143.

Patented May 30, 1876.

Fig. 1.

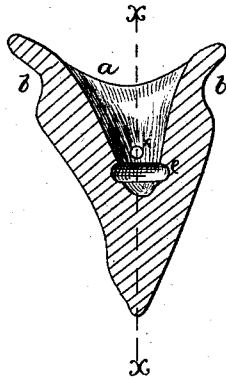


Fig. 2.

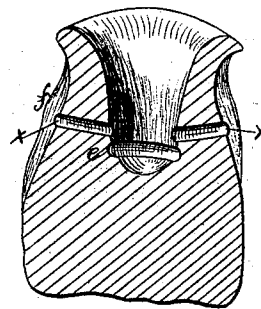


Fig. 3.

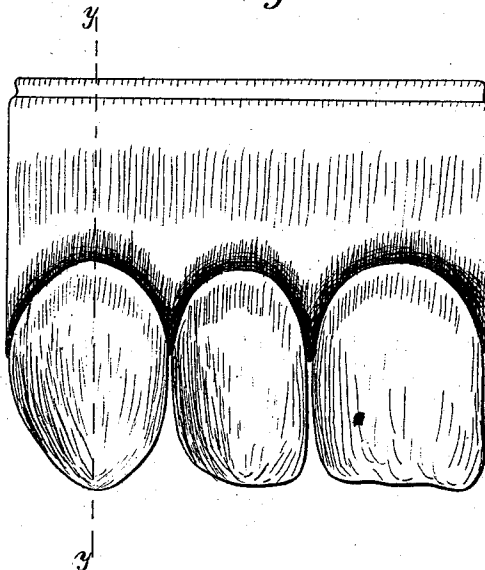
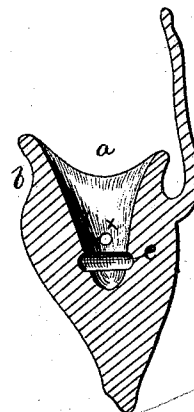


Fig. 4.



WITNESSES

Henry W. Miller
Frank L. Curand

INVENTOR

William P. Hall
By *Harold H. Mason*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM P. HALL, OF PIQUA, OHIO.

IMPROVEMENT IN ARTIFICIAL TEETH.

Specification forming part of Letters Patent No. 178,143, dated May 30, 1876; application filed April 15, 1876.

To all whom it may concern:

Be it known that I, WM. P. HALL, of Piqua, in the county of Miami, and in the State of Ohio, have invented certain new and useful Improvements in Artificial Teeth; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to the construction of pinless porcelain teeth, by which I obtain great strength and a firm union with the rubber or celluloid base, and at the same time preserve the natural length of crown on the lingual as well as labial face, and, therefore, conform in shape with the natural teeth.

Figure 1 is a sectional view of the superior right central incisor tooth (plain) divided through the center from the front to the inner face, showing the exterior and interior construction of the same.

The crown of the tooth at the base or neck is concave, as shown at *a*, so as to set closely to the maxillary ridge or gum. *b* is a groove or depression, by which the rubber or celluloid firmly embraces and holds the tooth, the same covering the entire surface of the crown, immediately above or below the base of the upper or lower teeth, respectively. This, in connection with the hollow space in the crown, slightly enlarged at the bottom, as at *c*, gives great strength and firm union to the plate. Near the bottom of this hollow space is a small orifice or air-duct, connecting with the depression on either side and the surfaces of the teeth, as shown at *x*.

Fig. 2 is a sectional view of the same tooth through the center from side to side, showing the exterior and interior conformation. Figs. 3 and 4 show the same construction of tooth with porcelain gums, made singly or in blocks of two or more, Fig. 4 being a section.

A depression is made at either side of the teeth, as shown at *f*, and into which the ducts *x* lead. The teeth are ground in and fitted to the model, and held in position by a wax plate

of the size and thickness that the rubber or celluloid is to be. The model, with the teeth so arranged, is placed into a flask which divides in the center, and said flask filled with plaster. After the plaster has hardened, the flask is separated, the wax removed, and the rubber or celluloid placed in position to take the place of the wax pattern. The flask is then put into a steam-tight apparatus, and brought up to a high degree of heat, which softens the rubber or celluloid, and, by means of a screw working a piston or plunger, the two parts of the flask are brought firmly together, and the plate is thus perfectly formed to the shape of the model and the teeth.

If there were no air-ducts in the teeth, the concavity within the crown would, when the softened material is brought against the mouth thereof, catch air or water, as the case might be, and prevent the rubber, celluloid, or other similar material used from flowing in and filling perfectly the concavities, which are slightly enlarged at the bottom; and by means of the depressions *f f* on either side of the tooth a firmer union of the teeth with the plate is effected, and also greater strength given to the plate.

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

1. A porcelain tooth having the concave *a*, annular depression *b*, conical space with enlargement at the bottom, air-duct *x*, and depressions *f* at either side of the approximate surfaces, as and for the purposes herein set forth.

2. The combination of porcelain teeth, of the form herein described, and porcelain gums, single or in blocks, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of March, 1876.

WILLIAM P. HALL.

Witnesses:

ABRAM C. VAN DERBILT,
JOHN P. JENNINGS.