No. 824,465. PATENTED JUNE 26, 1906.

D. N. BOOTH.

METALLIC SUPPORT FOR ARTIFICIAL TEETH.

APPLICATION FILED DEC. 27, 1904.

Fig. 5.

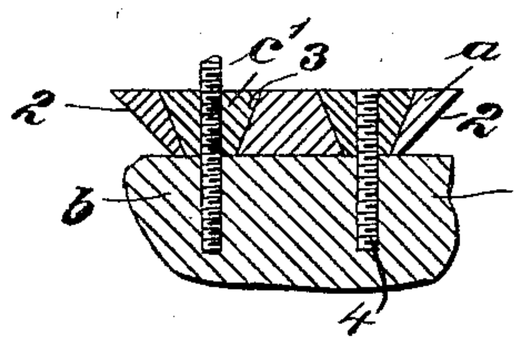


Fig. 4.

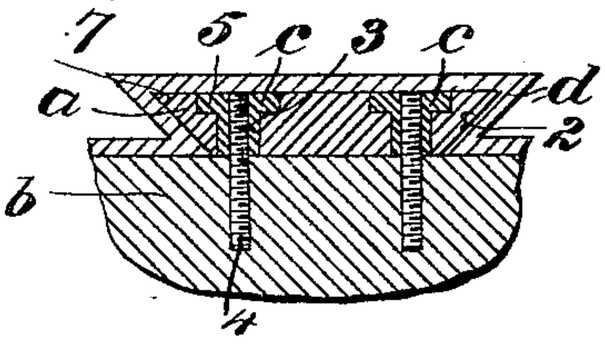


Fig. 3.

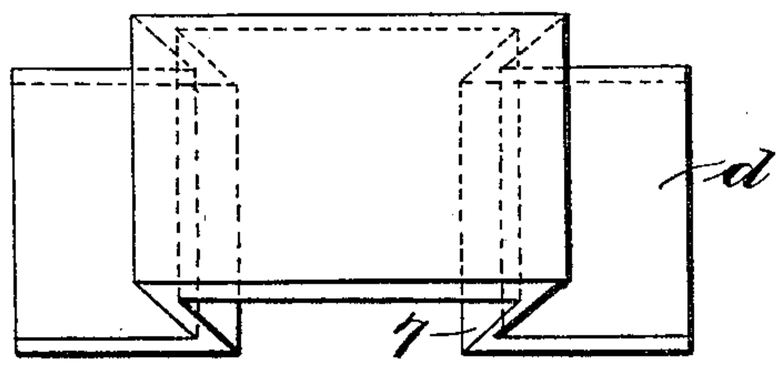


Fig. 1.

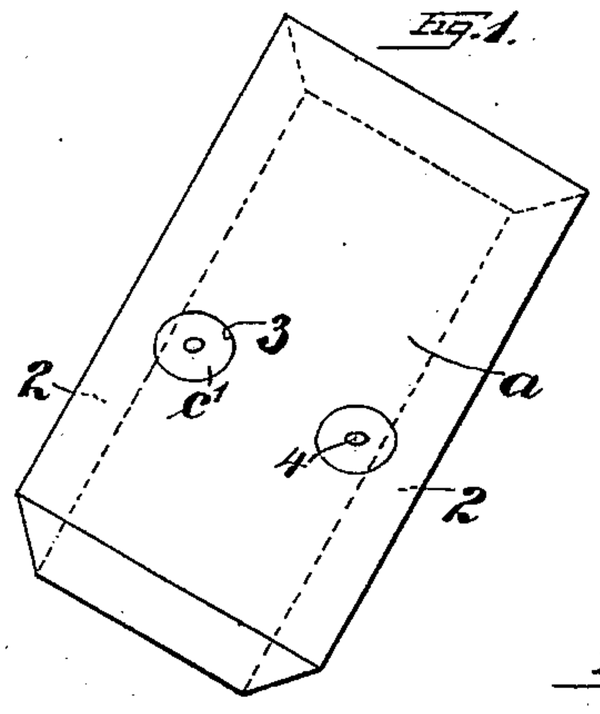


Fig. 2.

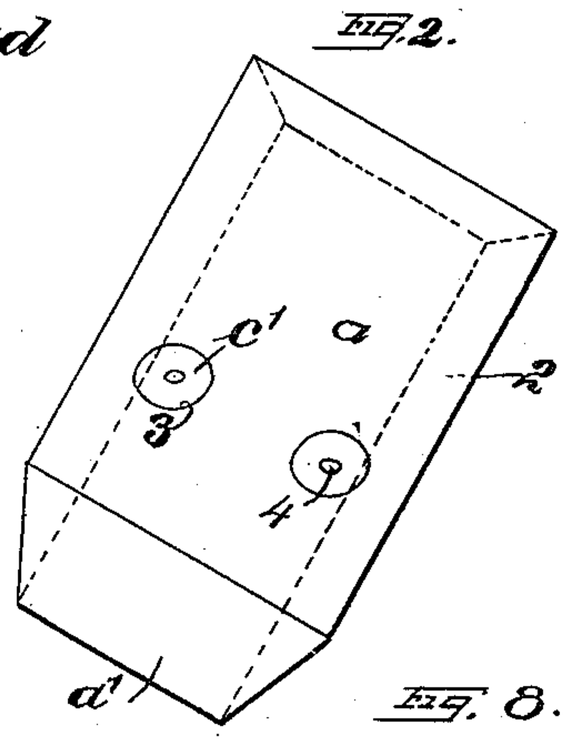


Fig. 8.

Fig. 6.

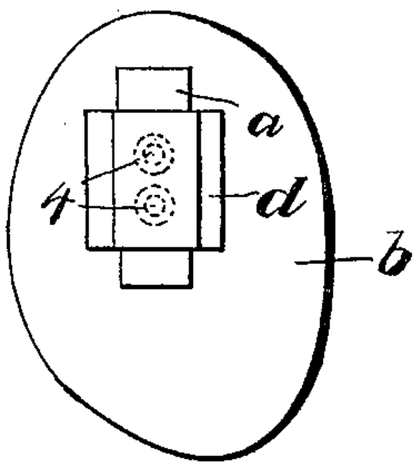
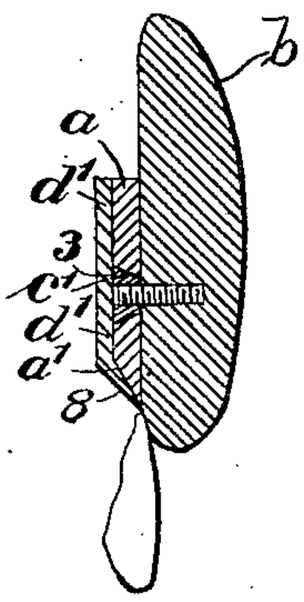
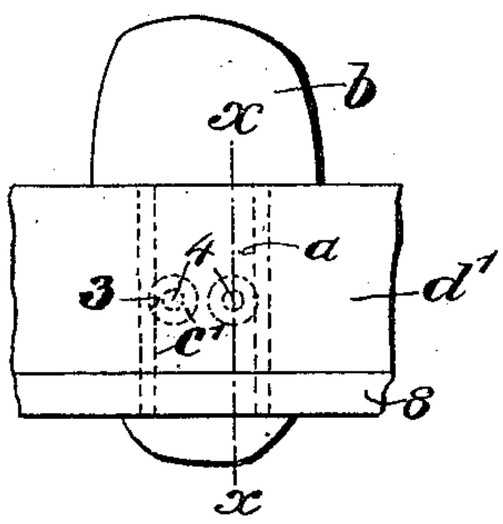


Fig. 7.





WITNESSES

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METALLIC SUPPORT FOR ARTIFICIAL TEETH.

No. 824,465. Specification of Letters Patent. Patented June 26, 1906.

Application filed December 27, 1904. Serial No. 238,402.

To all whom it may concern:

Be it known that I, DAVID N. BOOTH, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented an Improvement in Metal Supports for Artificial Teeth, of which the following is a specification.

My invention relates to supports for artificial teeth, and particularly to supports comprising those parts produced in the device shown and described in Letters Patent No. 766,586, granted to me August 2, 1904, for apparatus for shaping metal parts of dental work and by the use of which artificial teeth technically known as "flat-back" or "long-pin" teeth may be detachably mounted.

The object of my invention is to so construct the gib and backing and removably secure the gib to the backing and connect the gib to the artificial tooth that if the tooth be broken the gib is not injured or lost, but may be used again.

In carrying out my invention I employ a gib having oppositely-beveled edges and preferably made of a suitable metal, means for securing the gib to the back of an artificial tooth and to a backing into which the gib is fitted and secured, all of which will be hereinafter more particularly described, together with the various ways in which the gib may be secured to the back of the tooth. The gib having oppositely-beveled edges and a lower inclined edge is received into a backing of dovetail form in cross-section with a lower edge inclined or tapered to prevent the interference of a tooth of the lower jaw. The pins fixed in the artificial teeth when made are secured to suitable tubular conical or offset members, which are seated in the gib in connecting the gib to the tooth.

In the drawings, Figure 1 is a perspective view of a gib employed in carrying out my present invention. Fig. 2 is a similar view showing a modified form of the gib. Fig. 3 is a perspective view of the backing. Figs. 4 and 5 are sectional plans illustrating the various manners in which the gib may be secured to the back of the tooth. Fig. 6 is a rear elevation of a tooth, showing a modified form of the gib and backing. Fig. 7 is a sectional elevation on the line *x x*, Fig. 6; and Fig. 8 is the rear elevation showing the openings in the gib placed one above the other.

a designates a gib, preferably made of a suitable metal and having its corresponding edges 2 oppositely beveled at any desired angle and with one end more or less beveled, as shown in Figs. 1 and 2, and the gib *a* is provided in any required positions with perforations or openings 3, which are made in the gib to correspond with the particular positions of the pins in the tooth to be employed, the teeth for which my improved supports are particularly applicable being manufactured with flat backs and having long pins set therein and protruding from the said flat backs thereof.

I employ the ordinary and usual flat back artificial tooth as found in the market, the pins of which are already secured in place and project from the back thereof. In my improved structure I prefer to employ conical or offset connecting members seated in the gib against coinciding surfaces, and each protruding pin of the tooth extends through and is secured to one of these conical or offset connecting members in securely connecting and holding the gib to the flat back of the tooth. After the pins are thus connected to the tubular, conical, or offset members any surplus portions of such pins or members of both of said parts projecting beyond the surface of the gib are cut off flush with the outer face of the gib.

Referring to the drawings, and particularly to Fig. 4, I may secure the gib to the tooth by screw-threading the protruding ends of the pins 4 of the tooth *b*, providing the gib with openings 3 appreciably greater in diameter than the pins 4, countersinking the said openings, and employing connecting members *c*, each having a longitudinally-screw-threaded opening of the same diameter as the pins 4, a head 5 adapted to enter and fit into the countersinks of the openings 3, or, as shown in Fig. 5, in which structure provision is made for that class of fittings wherein it is necessary to place the openings at or very close to the edges of the gib, I may make the openings 3 conical, screw-threading the ends of the pins 4, as in the former instance, and employing conical connecting members *c'*, each having a longitudinally central screw-threaded opening of the same diameter as that of the pins. These conical members *c'* may be screwed down on their

pins and into the openings in the gib which they are made to fit until their smaller ends are flush against the back of the tooth, the larger ends being made to come flush with the face of the gib. The conical members *c'* (shown in Fig. 5) and the offset members *c* (shown in Fig. 4) are equivalents for the performance of the same holding function of securing the gib to the tooth, and I do not limit myself to the precise form of these conical or offset members, as a member of this form and having this function comes within the spirit of my invention. It will also be apparent that by employing any of the various connecting members hereinbefore described the gib may be securely fixed to the back of the tooth in such a manner that should the tooth become broken or injured renewal would not in such an event necessitate the employment of a new gib, the gib being removably secured to the tooth.

d designates the backing, shaped as described in my hereinbefore-named patent and provided with dovetail recesses 7, into which the beveled edges 2 of the gib fit and are secured in any desired manner after the backing has been suitably anchored.

It is generally known that the bite of many sets of teeth is uneven, due to the position of the jaws and of the location of the teeth in the gums—that is to say, the masticating ends of the teeth of the upper and lower jaws do not meet and strike squarely, the teeth of the lower jaw generally passing over and striking the upper teeth just inside and above their masticating ends, and in some instances this unevenness is sufficient to cause the under teeth to strike too forcibly the supports comprising my present invention if no construction were provided to prevent it. In order to overcome this difficulty and as shown in Figs. 6 and 7, the backing *d'* may be made from a suitable piece of metal having the bottom portion of its lower side beveled, as indicated at 8, to a point and in such a manner that the form of the tooth when the tooth is rounded is continued evenly and there is no abrupt edge against which the lower teeth can strike. In this structure the backing *d'* is provided with a dovetail recess, as hereinbefore described; but the lower portion of the face of this recess is also beveled, terminating in the lower edge of the face of the backing in the same line that the beveled portion 8 terminates, which structure also requires that the lower portion of the face of the gib *a* be beveled, as shown at *a'* in Figs. 2 and 7, to conform to and thereby fit the beveled portion at the lower edge of the face of the dovetail recess.

It will be understood that the backing may be shaped as shown in Figs. 3, 4, and 7, or a flat form of metal may be provided with the required recess, as shown in Figs. 6 and 7, in which latter instance the gib having a beveled end *a'* is employed. The perforations or openings in the gib may be placed one above the other, as shown in Fig. 8, or side by side, as illustrated in other figures of the drawings, or in any other required relation, and the supports herein described are applicable to all varieties of flat-back or long-pin teeth whether plain or provided with gum-sections. It may also be stated that "long back" and "flat pin" are terms applied by manufacturers and recognized by the profession as meaning one and the same class of teeth.

I claim as my invention—

1. A support for a detachable flat-back artificial tooth having pins projecting therefrom, comprising a gib having holes therein corresponding in position and substantial concentricity with that of the pins in the tooth and of appreciably greater diameter than that of said pins, means surrounding and engaging the said pins and filling the said openings in the gib to secure the gib to the tooth and a backing adapted to receive said gib and in which the same is to be secured.

2. A support for a detachable flat-back artificial tooth having pins projecting therefrom comprising a gib having opposite engaging edges and having conical holes therein corresponding in positions and substantial concentricity with the positions of the pins in the tooth and of appreciably greater diameter than that of said pins and means surrounding and engaging the said pins and filling the said conical openings in the gib to secure the gib to the tooth and a backing adapted to engage said edges.

3. A support for a detachable flat-back artificial tooth having pins projecting therefrom comprising a gib having its opposite edges oppositely beveled and having conical holes therein corresponding in positions with the positions of the pins in the tooth and of greater diameter than that of said pins, means surrounding and engaging the said pins and filling the said conical openings in the gib to secure the gib to the tooth, and a backing adapted to receive the said gib and in which the same is to be secured.

4. A support for artificial teeth comprising a gib having its opposite edges oppositely beveled, means for securing said gib to the back of a long-pin flat-back tooth and a backing having a dovetail recess adapted to receive said gib and provided with a beveled lower edge to accommodate the bite.

5. A support for artificial teeth comprising a gib having its opposite edges oppositely beveled and its lower end also beveled,

means for securing the said gib to the back of the flat-back long-pin tooth, and a backing having a dovetail recess whose lower portion is beveled to correspond to the bevel of the lower end of the gib, the said backing being also provided with a beveled lower edge to accommodate the bite.

Signed by me this 16th day of December, 1904.

DAVID N. BOOTH.

Witnesses:
GEO. T. PINCKNEY.
BERTHA M. ALLEN.