(No Model.)

E. G. SMITH.

DENTAL BRIDGE WORK.

No. 533,023. Patented Jan. 22, 1895.

FIG. 1

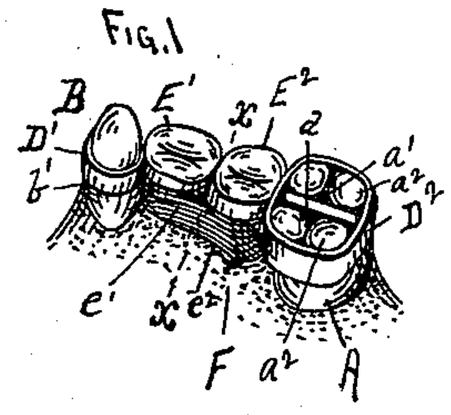


FIG. 2

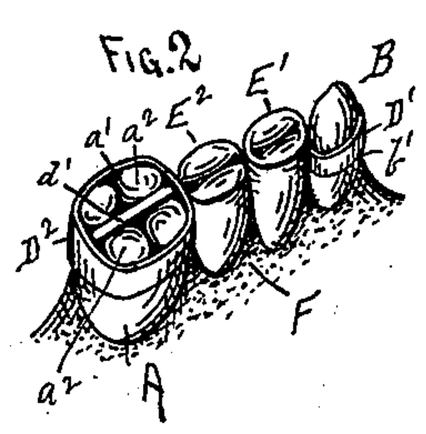


FIG. 3

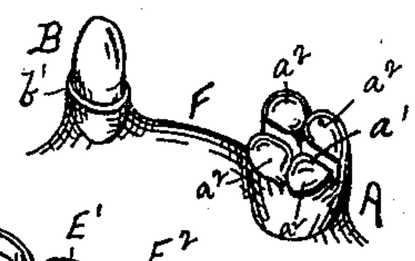


FIG. 4

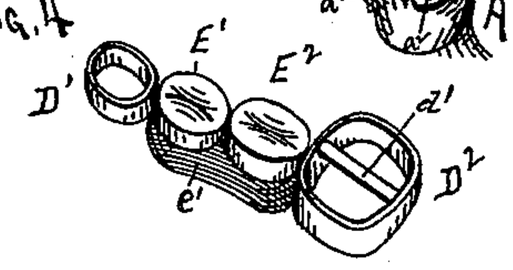


FIG. 6

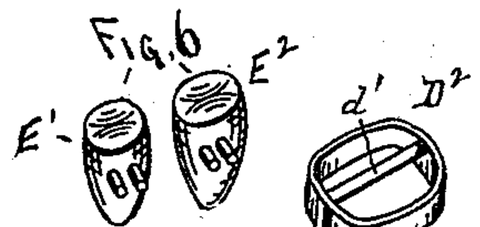


FIG. 5

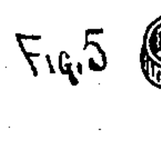
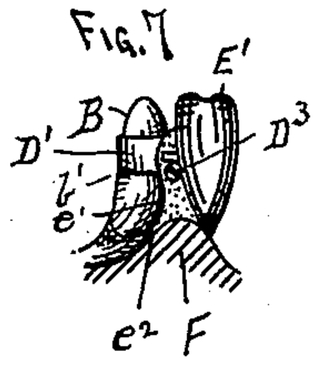


FIG. 7



WITNESSES.
J. V. Lamb.
H. S. Webster.

Edward G. Smith, INVENTOR,
By Charles N. Woodward,
Atty.

UNITED STATES PATENT OFFICE.

EDWARD G. SMITH, OF ST. PAUL, MINNESOTA.

DENTAL BRIDGEWORK.

SPECIFICATION forming part of Letters Patent No. 533,023, dated January 22, 1895.

Application filed March 26, 1894. Serial No. 505,052. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. SMITH, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Dental Bridges, of which the following is a specification.

This invention relates to that class of dental practice called "bridge work," and consists in the method of construction and arrangement of parts, as hereinafter shown and described, and specifically pointed out in the claim.

In the drawings, Figure 1 represents a perspective view of two "anchor" or "pier" teeth, with one of my improved "bridges" and its attached artificial teeth, connected thereto, viewed from the inside of the mouth, and Fig. 2 is a similar view from the outside of the mouth. Fig. 3 is a perspective view of the two "pier" or "anchor" teeth with the "bridge" removed, and Fig. 4 is a perspective view of the "bridge" and its attached artificial teeth removed. Fig. 5 is a perspective view of the metal portion of the "bridge" detached, and Fig. 6 is a perspective view of the two artificial teeth belonging to the "bridge," detached. Fig. 7 is a cross sectional view on the line $x\ x$ of Fig. 1.

In that class of dentistry known as "bridging," two or more sound teeth are taken as "anchor" or "pier" teeth, and a metal bridge attached by its ends to the sound teeth, and the artificial teeth attached to the metal bridge between the "pier" or "anchor" teeth.

In practicing my invention, the anchor or pier teeth being selected, one of them, which is usually a molar A, (see Fig. 3,) has a small channel a' cut into its upper surface, preferably parallel with the jaw and along the line of the enamel union, or in the cavity between the "cusps" a^2. The other anchor tooth B, which in the illustration is one of the "canines," or "cuspids," has formed upon it a slight shoulder b', (see Fig. 3,) to support a band D′, preferably of gold, and prevent its being crowded down too far on the root by the pressure of mastication. The other anchor tooth A is likewise provided with a metal band D^2, preferably of gold, and with a cross bar or wire d' connecting the sides of the band and fitting down into the channel a', as shown. By this means the band is supported firmly in place upon the tooth.

The two bands D′ D^2 are connected by a bar or rod D^3, as shown in Fig. 5, and to which the artificial teeth E′ E^2 are secured by rubber or other plate e'. This plate e' is formed to fill the space between the upper surface of the maxillary ridge between the anchor or pier teeth and slightly overlap it in the inner or lingual side, as shown at e^2, to replace the maxillary ridge which has shrunken by the absorption of the "process" after the extraction of the natural teeth. This replacing of the lingual surface to its original size is an important feature of my invention, as it restores completely the articulation.

Another important advantage gained by forming the plate e', so as to inclasp the maxillary surface F is the fact that the masticating pressure is thereby borne by the jaw bones and the flesh covering them, and not wholly by the pier teeth and bridge plate.

With my simple arrangement, a mere wire of sufficient strength to support the artificial teeth is all that is required to form the metal portion D^3 of the bridge, the strains, as before stated, being borne very largely by the plate e' which presses upon a sufficient surface of the maxillary ridge between the anchor or pier teeth.

After the bridge work is in place and the bands cemented on, the space surrounding the cross bar d' inside of the band D^2 is "filled" or "plugged," and if preferred the tooth A and its attached band may be further protected by a gold cap or cup, but this is not a necessity, as the ordinary filling is sufficient for all practical purposes.

The plate e' will not extend beyond the hard portion of the maxillary ridge, so that it will not come in contact with the soft portion of the palate and lingual or "buccal" surfaces.

The maxillary ridge from which the teeth have been extracted becomes sufficiently hard to enable the plate e' to be fitted so closely thereon that animal or vegetable substance will not be liable to work in beneath the "saddle" of the plate.

Lodgments under the bridge will not under

ordinary conditions exceed the lodgments around the natural teeth, and the bridge work thus arranged requires no more care than for natural teeth. It restores perfectly the articulation, as the contour of the maxillary ridge and the teeth can be perfectly restored to their original form. The work can be done at a comparatively small expense exceeding but slightly the cost of ordinary plate work. There being no necessity to grind or cut the teeth to an extent sufficient to destroy the nerves or "kill" the pier or anchor teeth, their usefulness as teeth are not destroyed.

The "saddle" portion of the plate *e'* or the portion coming in contact with the flesh, may be lined with porcelain, gold, or any other substance differing in texture from the remainder of the plate, if preferred.

Having thus described my invention, what I claim as new is—

In artificial denture, a bridge comprising bands inclosing the anchor or pier teeth and connected by a bridge or bar to support the artificial teeth, said bands having a cross bar connecting their sides through a transverse cavity formed between the cusps of the anchor or pier teeth, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD G. SMITH.

Witnesses:
C. N. WOODWARD,
H. S. WEBSTER.