

(No Model.)

C. P. GROUT.
ARTIFICIAL TOOTH.

No. 336,230.

Patented Feb. 16, 1886.

Fig. 1.

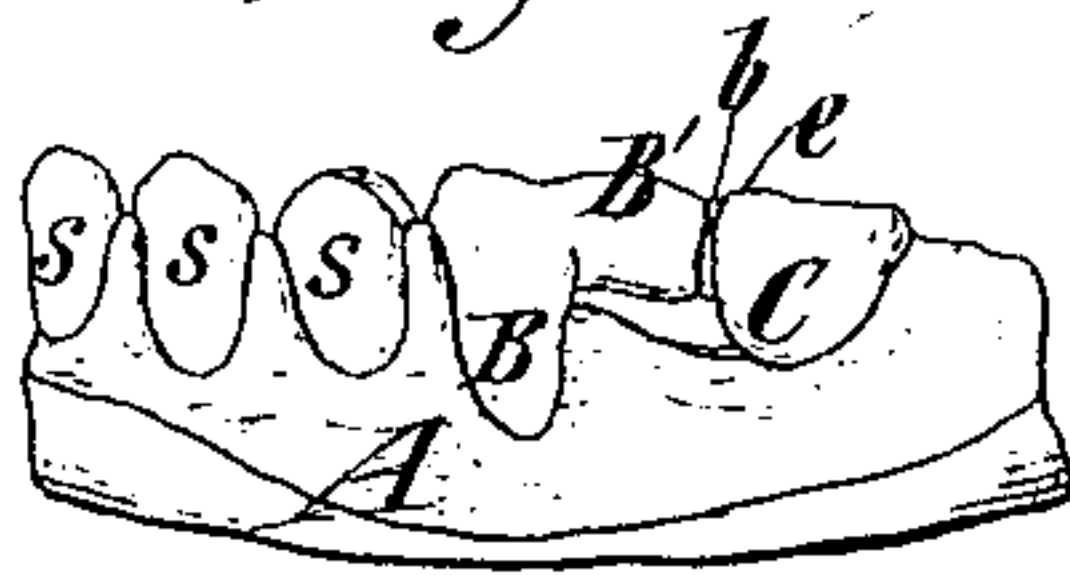


Fig. 2.

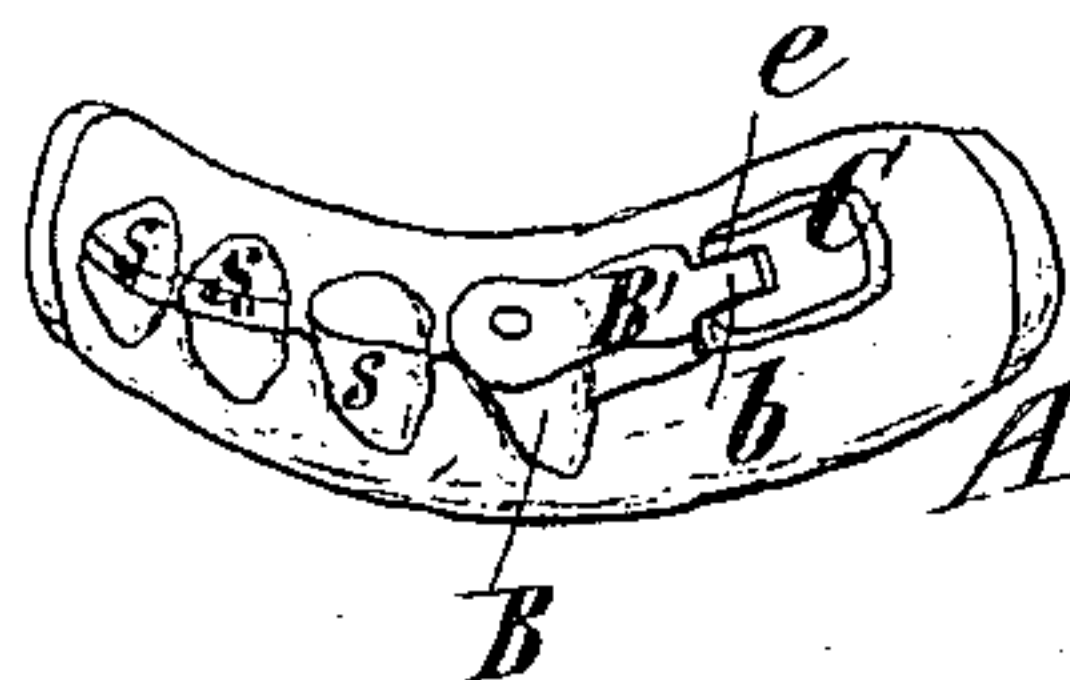
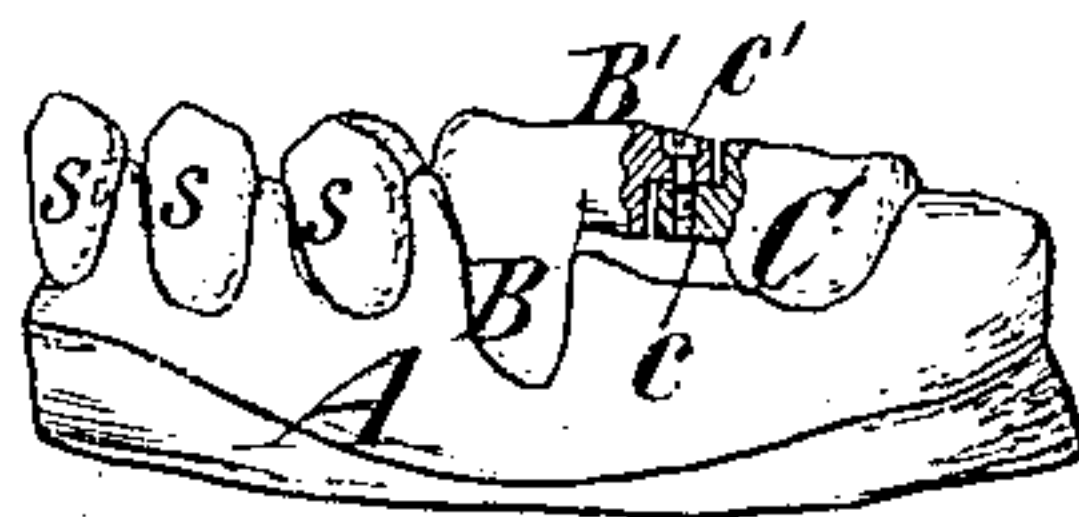


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES P. GROUT, OF NEW YORK, N. Y.

ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 336,230, dated February 16, 1886.

Application filed July 9, 1885. Serial No. 171,041. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. GROUT, of the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in Artificial Dentistry, of which the following is a specification.

My invention relates to that system of artificial dentistry which is commonly known as "bridge-work," and which is adopted in any situations where one or more natural tooth roots or stumps are absent. In carrying out this system of dentistry artificial caps or crowns are fitted to the tooth roots or stumps at the ends of the space which is to be bridged over, and extending between these caps or crowns is a bridge, which may be simply built up of metal, so as to form an occluding surface for the opposite denture, but which, in the case of front teeth, usually has attached to it porcelain faces representing the one or more missing teeth. In carrying out this system of dentistry, the bridge, when it is connected at its opposite ends with two tooth-crowns, has heretofore been formed in the same integral structure with such crowns, the bridge and crowns together forming one rigid and unyielding structure. This unyielding structure will of course expand or contract by heat or cold, and be subject to great variations in temperature, as when taking hot or ice-cold foods or liquids. Such expansion or contraction draws upon the roots or stumps which carry the bridge, and is often a source of pain and annoyance to the wearer, and may result in the loosening of the crowns on their roots or stumps. In some cases it is exceedingly difficult to place this single structure comprising two tooth-crowns and a bridge rigidly connecting them properly in position upon the tooth roots or stumps, because the roots or stumps may be slanting or inclined in different directions, and to enable such rigid structure to be placed in position it is sometimes necessary to trim or cut away a great deal more of one of the roots or stumps than would otherwise be necessary, in order that the prepared or trimmed roots or stumps may have the same or nearly the same inclination.

The object of my invention is to facilitate the placing in proper position in the mouth of two crowns and an interposed bridge connected with them at its opposite ends, and

also to avoid any painful or annoying effects resulting from expansion or contraction of metal bridges; and to this end I make the bridge and the cap or crown which is at one end thereof in one integral or rigid structure, and I provide a detachable connection between the other end of the bridge and the other cap or crown. This detachable connection may be formed by inserting a screw through the bridge, and thereby securing it fast to the cap or crown from which it is detachable; or I can construct the cap or crown, from which the bridge is detachable, with a slideway, which receives a tongue projecting from the free end of the bridge, and provides for the free movement of that end of the bridge as it expands or contracts.

The invention will be hereinafter described more in detail, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents an elevation of a bridge and crowns embodying my invention, the free end of the bridge being fitted to a slideway in one of the caps or crowns. Fig. 2 represents a plan of the parts shown in Fig. 1, and Fig. 3 represents a partly-sectional view similar to Fig. 1, showing the bridge and crowns, the free end of the bridge being connected by a screw with a lug or ear projecting from one of the crowns.

Similar letters of reference indicate corresponding parts in all the figures.

In carrying out my invention I prefer to fit the metallic tooth caps or crowns upon a metal fac-simile of the mouth or tooth-roots, such fac-simile being described in my Letters Patent No. 319,238, dated June 2, 1885.

In the drawings I have shown such fac-simile, A, having projections s, which represent natural good teeth, and to which my invention does not in any way relate.

B is a metallic cap or crown. B' is a bridge extending therefrom, and C is a metallic cap or crown with which the other end of the bridge is detachably connected.

The caps or crowns B C may be constructed in the ordinary way, each having a band portion, which is fitted upon the prepared or trimmed tooth root or stump, and they may each be secured by cementing them upon the roots or stumps and by means of pins or screws inserted downward through their closed tops

and into holes or sockets formed in the roots or stumps.

My invention does not in any way relate to the means of securing the crowns B C upon the tooth roots or stumps, and hence I do not illustrate such means.

As before stated, the bridge B' is formed in the same integral structure with only one crown, B, and is detachably connected at its other end with the other crown, C.

In the example of my invention shown in Figs. 1 and 2 the crown C has in its top a slideway, *e*, to which is fitted a projection or tongue, *b*, on the free end of the bridge. This connection is best shown in Fig. 2. The slideway *e* in the crown C affords ample support to the free end of the bridge, and at the same time allows that end to move slightly in and out of the slideway as the bridge may contract or expand. It will therefore be seen that the expansion or contraction of the bridge has no effect upon the tooth roots or stumps to which the crowns B C are attached, and is not painful to the person wearing the teeth, nor is it likely to produce the loosening of the crowns B C from their roots or stumps.

The construction of one crown, C, with a slideway, *e*, receiving a tongue or projection on the free end of the bridge, not only provides for the free expansion and contraction of the bridge, but it also enables the bridge and one crown, B, to be placed in position on one root or stump or removed therefrom independently of the other crown, C; hence it will be seen that even if the roots or stumps to which the crowns B C are applied slant or are inclined in different directions, there will be no difficulty in placing the bridge and crowns upon them or removing the bridge and crowns from them, because each crown may, in applying or removing it, be moved in a direction suited to the inclination of the root or stump for which it is intended.

The connection shown in Fig. 3 admits of the two crowns B C being separately placed on and removed from their roots or stumps; but it does not provide for the free expansion or contraction of the bridge.

In Fig. 3 I have represented the crown C as

having a small lug or ear, *c*, projecting therefrom, and the end of the bridge B' is secured by a screw, *c'*, to this lug or ear.

In placing the caps or crowns B C shown in Fig. 3 in position, the crown C is first placed upon its roots or stumps, and the crown B and bridge B' are then placed in position, and, finally, the screw *c'* is inserted to secure the free end of the bridge to the cap or crown C in such manner as to enable it to be readily detached therefrom.

If desired, the hole in the bridge through which the screw *c'* passes may be slotted slightly, to permit the self-adjustment of the bridge.

In lieu of the bridge resting upon the top of the lug or ear *c*, I may construct it to bear against the side of a lug or ear projecting from the crown C, and insert a screw laterally through the bridge and into the lug or ear.

It will be seen that in the examples of my invention shown there are two tooth-crowns, B and C, adapted to fit two tooth roots or stumps, and a detachable connection between them. In Figs. 1 and 2 the sliding and self-adjustable connection which the one end of the bridge has with the crown C constitutes such detachable connection, and in Fig. 3 the screw *c'* constitutes such detachable connection.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of two metal tooth-crowns adapted to be secured to two tooth roots or stumps, and a detachable connection between the crowns to provide for separately placing them on and removing them from their roots or stumps, substantially as herein described.

2. The combination, with a dental bridge and a tooth-crown at one end thereof, both forming one integral structure, of another tooth-crown, upon which the other or free end of the bridge is supported and capable of self-adjustment as the bridge expands or contracts, substantially as herein described.

CHAS. P. GROUT.

Witnesses:

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