

APPLICATION FILED OCT. 17, 1910.

1,031,332.

Patented July 2, 1912.

Fig- 1-

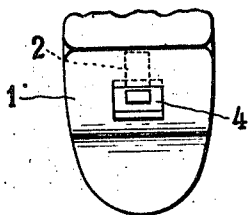


Fig- 2-

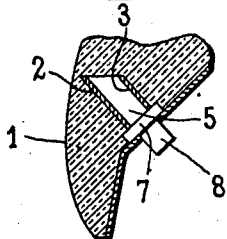


Fig. 3.

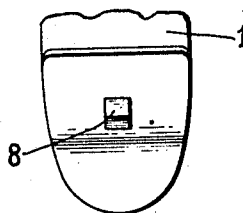


Fig. 4-

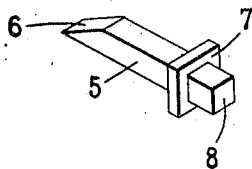


Fig. 5.

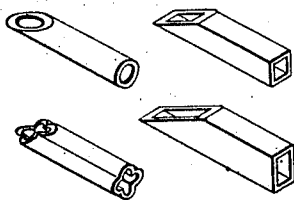


Fig. 6.



Fig- 7-

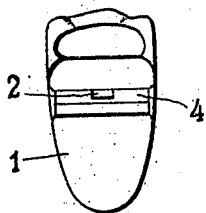


Fig- 8.

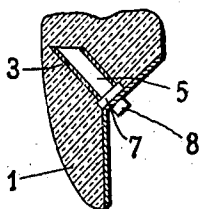


Fig. 9.

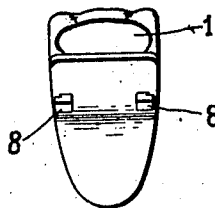


Fig- 10-

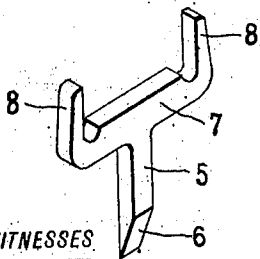


Fig- 11-

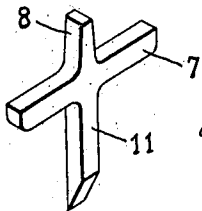


Fig- 12-



WITNESSES.

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UNITED STATES PATENT OFFICE.

LEO E. EVSLIN, OF NEW YORK, N. Y.

ARTIFICIAL TOOTH.

1,031,332.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed October 17, 1910. Serial No. 587,458.

To all whom it may concern:

Be it known that I, LEO E. EVSLIN, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Artificial Teeth, of which the following is a specification.

This invention relates to artificial teeth, particularly of the sort known as interchangeable or replaceable teeth. I have heretofore devised and patented certain improvements in this class of artificial teeth, characterized by the fact that pins are provided, which are adapted to be firmly engaged with artificial teeth which are provided with cavities correspondingly shaped for the purpose, and a backing has an opening therein which is adapted to be engaged over the projecting end of the pin, so that when the proper relation of the backing to the tooth has been determined, the backing may be permanently secured to the pin as by soldering.

Much difficulty has been experienced with teeth of the kind described, in the first place because the fixing of the relation between pin and tooth was not positively and easily accomplished, and the attachment between pin and tooth not so strong as desirable; and in the second place because in soldering the backing to the end of the pin projecting through it, it frequently happened that particles of solder found their way to the inner side of the backing and to the shank of the pin, so that when the latter was subsequently introduced into the cavity of the tooth, there would be likelihood of splitting the porcelain.

I provide an artificial tooth and appurtenant devices whose practical use is free from the objections above noted, and which attain desirable results other than those above noted as the aim of my present invention.

The invention accordingly consists in the features of construction, combinations of elements and arrangements of parts, which are exemplified in the construction hereinafter described, and the scope of the application of which will be indicated in the following claim.

Figure 1 is a rear elevation of a tooth, showing the opening of the pin cavity and the counter-sunk seat surrounding the same and indicating in dotted lines that part of the cavity which extends within the depth

of the tooth; Fig 2 is a central vertical section taken at right angles to the view shown in Fig. 1, and with the pin and backing in place; Fig. 3 is a rear elevation of Fig. 2; Fig. 4 is a perspective of one of the attaching pins, shown also in Fig. 2; Fig. 5 is a collective view in perspective of several different forms of boxings which are adapted to be inserted in, and which give shape to tooth cavities; Fig. 6 is an elevation of a backing such as I may apply; Fig. 7 is a view similar to Fig. 1, but showing a tooth provided with a differently disposed seat; Fig. 8 is a view similar to Fig. 2, of the subject-matter of Fig. 7; Fig. 9 is a view similar to Fig. 3, of a tooth like that shown in Fig. 7, to which has been attached a pin like that shown in Fig. 10, with which co-operates a backing such as shown in Fig. 12; Fig. 10 is a perspective of a form of pin adapted to be used in connection with the tooth shown in Fig. 7. Fig. 11 is a perspective of another form of pin adapted for use in connection with the tooth shown in Fig. 7; and Fig. 12 is an elevation of a form of backing which is adapted for use with the pin shown in Fig. 10.

Referring to the numerals on the drawings, 1 indicates an artificial tooth of porcelain, or the like, which is provided with a cavity 2, running in the case of bicuspid and molars toward the buccal cusp, and in the case of the six anterior teeth running toward the cutting edge of the tooth. This cavity is preferably somewhat constricted toward its inner end, in the case of bicuspid and molars toward the lingual surface or cusp, and in the case of anterior teeth toward the labial surface. The shape of the cavity is defined by a boxing 3, which may be of platinum, that is baked in the tooth at the time of manufacture. Aside from the fact that I prefer to have the boxing tapered at one end, as shown in Fig. 5, the cross-section thereof may be varied at will, except that for obvious reasons I prefer that its cross-section shall be other than circular, for instance, rectangular, square, elliptical, cruciform, etc. The boxing 3 does not extend flush with the outer surface of the tooth surrounding the cavity which it defines, but there is provided a counter-sunk seat 4, surrounding the opening of the cavity. This seat may extend on all sides of the cavity opening, or on two opposite sides thereof, or otherwise. A pin 5 is provided having a

shank shaped appropriately to the cavity in the tooth, and adapted to be inserted thereinto. That is to say, the shank may be of any desired cross-section, to correspond with various cavities already referred to, and should also preferably have a tapered end 6, corresponding with the tapered portion of the cavity. At the other end of the shank is provided an integral lateral projection 7, of a thickness so that when the pin is positioned as shown in Figs. 2 and 8, said lateral projection will fit snugly within its correspondingly shaped counter-sunk seat 4 in the tooth, and the outer surface of the lateral projection will be flush with the rear surface of the tooth. As has been suggested, the lateral projection referred to may be of various shape and disposition; in Fig. 4 it is shown as a rectangular collar. In Figs. 10 and 11 it takes the form of the horizontal bar in a T. These are merely illustrations, and the only requisite is that the lateral projection must correspond with the counter-sunk seat in the tooth surface. Obviously, if the seat and the projection are other than circular, there can be no relative lateral movement. I prefer also that the projection shall be in the nature of a collar, for reasons which will presently appear.

Extending beyond the lateral projection 7 of the pin, is an attaching portion 8, whose cross-section is immaterial. In Fig. 4 I show the attaching portion 8 alined with the shank of the pin, also in Fig. 11; and in Fig. 10 there are two members 8, one at each end of the lateral projection 7. When a pin like that shown in Fig. 4 has been introduced into a correspondingly shaped cavity of a tooth, as in Fig. 2, and the member 7 seated upon the seat 4, the attaching portion 8 of the pin will project beyond the surface of the tooth. A perforated backing such as shown in Fig. 6 is now placed over the projecting part 8 of the pin, and when the backing has been permanently secured to the part 8 it becomes a permanent backing to which may be secured in the ordinary way any tooth, which is provided with a cavity that is shaped in correspondence with the inner end of the pin. In soldering the backing on to the part 8, the collar 7 prevents the passage of solder to the shank, as will be obvious. Where such a pin is used as is shown in Fig. 10, of course, with a tooth having a correspondingly arranged seat 5, the backing will have to be provided with two perforations, as seen in Fig. 12. In this case access of solder to the shank is prevented because the shank is out of aline-

ment with the attaching portions 8. Where a pin 11 is used the danger of entrance of solder to the shank is minimized, although it is not entirely eliminated as in the case of the other forms.

It will thus be seen that I have provided a device attaining the objects referred to, among others, and which, while easier of practical application, and resulting in a very strong and durable structure, is yet very economical to manufacture, for it will be evident that the counter-sunk seat may be provided in the tooth as part of the operation of providing the cavity proper; while the provision of the lateral projections on the pin is a very simple matter, and involves but little additional material.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claim is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention, which as a matter of language, might be said to fall therebetween.

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

In a device of the kind described, in combination, a tooth having a cavity therein whose cross-section is nowhere greater than at its mouth, there being a countersunk seat formed in the tooth surface about the cavity opening, the perimeter of said seat being other than circular, a pin snugly fitting in said cavity and having a collar intermediate its ends, said collar exactly fitting said seat and having its outer surface flush with the adjacent surface of the tooth when in place upon the seat, and a perforated backing engaged over the outer end of the pin beyond the collar, said backing contacting with the flush surfaces of the tooth and collar.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

LEO E. EVSLIN.

Witnesses:

FRANK J. KENT,
M. A. BUSCHER.