No. 683,198. Patented Sept. 24, 1901.

J. G. BURCHELL.

MEANS FOR FASTENING ARTIFICIAL TEETH.

(Application filed Apr. 30, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

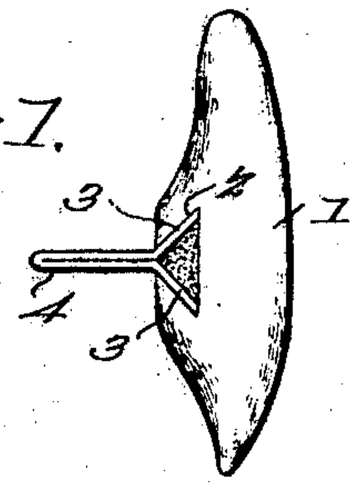


Fig. 2.

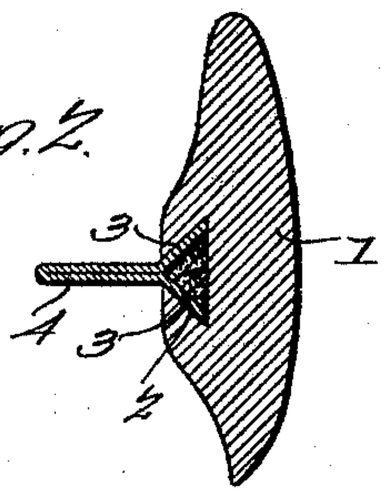


Fig. 3.

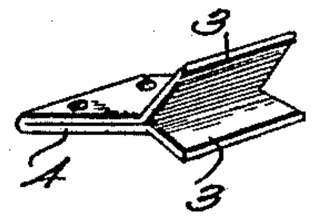


Fig. 4.

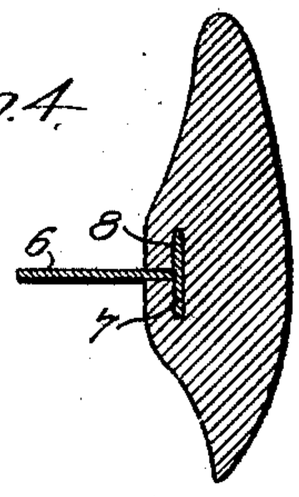
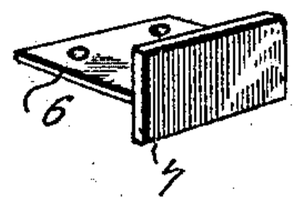


Fig. 5.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

Fig. 6.

Fig. 7.

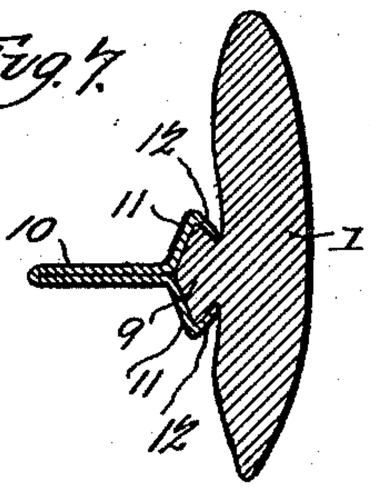
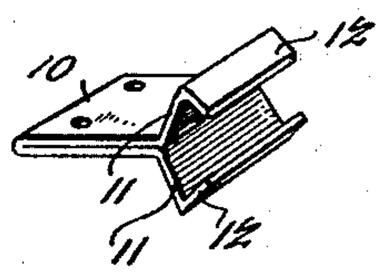


Fig. 8.



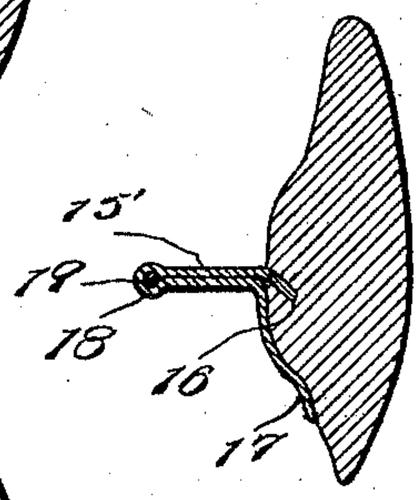


Fig. 11.

Fig. 9.

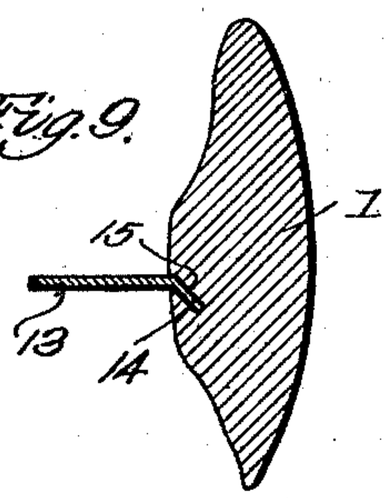
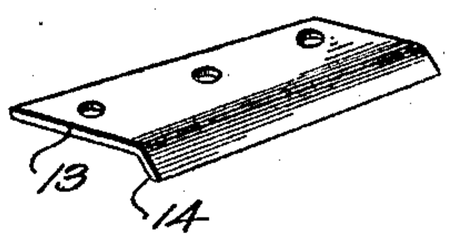


Fig. 10.



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UNITED STATES PATENT OFFICE.

JOHN G. BURCHELL, OF ATLANTIC CITY, NEW JERSEY.

MEANS FOR FASTENING ARTIFICIAL TEETH.

SPECIFICATION forming part of Letters Patent No. 683,198, dated September 24, 1901.

Application filed April 30, 1901. Serial No. 58,164. (No model.)

To all whom it may concern:

Be it known that I, JOHN GALE BURCHELL, a citizen of the United States, residing at Atlantic City, in the county of Atlantic, and State of New Jersey, have invented a new and useful Means for Fastening Artificial Teeth, of which the following is a specification.

This invention relates to artificial teeth, and has particular reference to means whereby teeth may be firmly secured to the supporting-plate therefor.

The object of the present invention is to provide simple, effective, durable, and inexpensive means for securing teeth to a plate and dispense with the use of platinum pins and other like costly devices without in the least detracting from the advantages of such means or in any wise departing from the harmless action of platinum, or produce a plate that will injure the mouth of the patient or person wearing the plate.

In the drawings, Figure 1 is a side elevation of a tooth, showing the improved attaching means applied thereto. Fig. 2 is a section through the device shown by Fig. 1. Fig. 3 is a detail perspective view of the attaching device shown by Figs. 1 and 2. Fig. 4 is a section through a tooth, showing a modified form of the attaching means. Fig. 5 is a detail perspective view of the attaching means shown by Fig. 4. Fig. 6 is a side elevation of a tooth, showing a further modification in the form of attaching means. Fig. 7 is a transverse section through the tooth shown by Fig. 6 and the modified fastening means therefor. Fig. 8 is a detail perspective view of the fastening means shown by Figs. 6 and 7. Fig. 9 is a section through a tooth, showing a further modification in the construction of the fastening means. Fig. 10 is a detail perspective view of the fastening means shown by Fig. 9. Fig. 11 is a section through a tooth, showing a still further modification.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1, Figs. 1, 2, 4, 6, 7, and 9, designates a tooth which may be of any of the different forms used in making up a set of teeth and corresponding to the natural teeth, as the improved fastening means in its various forms is applicable to any of such teeth. In Fig. 1 the tooth 1 has a dovetailed recess 2 cut or otherwise formed therein and extending entirely through the same from one side to the other in a horizontal plane, so that both extremities of said recess will open out on both sides of the tooth. Slipped endwise into the recess 2 from one of the sides of the tooth at which the recess terminates and snugly fitting therein are the upwardly and downwardly flared terminals 3 of a doubled metal plate 4, and when in position the said terminals firmly bear against the inner upwardly and downwardly inclined walls of the said recess, the space between the flared terminals and the outer vertical wall of the recess being filled with suitable cement or other material applicable for the purpose to provide a secure attachment. The doubled portion of the plate 4 is shown as straight and provided with apertures 5 to receive securing devices of any preferred nature or form, and though said plate is shown straight it is obvious that it may be bent at an angle, if desired, without departing from the principle involved.

The form of the attaching means shown by Figs. 4 and 5 includes a single metal plate 6, with an angularly-disposed locking-strip 7 secured to one end by any suitable means and forming a T-plate. The tooth used in connection with this form of the attachment has a T-shaped slot 8 extending entirely therethrough from one side to the other, the extremity of the plate carrying the strip 7 being inserted endwise into said slot 8 from one side of the tooth and the horizontal plate portion of this form of the device being also suitably apertured to receive securing devices.

The form of the device shown by Figs. 6, 7, and 8 is somewhat similar to that shown by Figs. 1, 2, and 3, the tooth 1 in this instance having an inner dovetail projection 9 and the attaching-plate 10, provided with terminals, which are first formed with outward flares 11 and inwardly-converging ends 12 to form a socket of the same shape as the projection 9, and though the projection 9 and the socket to receive the same carried by the plate are of angular form it will be understood that they may be curved, so long as the

gripping action between the two parts is preserved. The plate 10 is doubled in this instance also, and the horizontal portion thereof, which at times may be angularly disposed, is formed with apertures to receive securing devices for holding the tooth in connection with a plate.

The form of attaching means shown by Figs. 9 and 10 embodies a single plate 13, with an angularly-bent terminal 14, which is fitted in a similar angularly-disposed slot 15, extending completely through the tooth 1 from one side to the other thereof. This plate 13 may have the terminal thereof directed upwardly instead of downwardly, as shown, and the slot correspondingly arranged, and, furthermore, this form of plate may be long or short and vary in width to suit the kind of tooth to which it is applied. The body of the plate projecting from the tooth in this form of the device is also apertured to receive securing elements. The metal in the construction of the several devices is sheet German silver, which is very much cheaper than platinum, as is well known, and forms a rigid means for securing or attaching a tooth to a plate. When the plates are of single form, they will at times be made of thicker sheet metal of the character set forth; but this will depend exclusively on the size of the tooth to be attached and the general strength required. To further insure the firm retention of the single plates and, in fact, all the forms of plates shown in connection with the teeth, they will be moistened with or have a thin coating of suitable cement applied thereto. The several forms of plates shown may also be combined with bridge strips or ties for holding teeth in place in proper relation to natural ones, and by the variations in the form of the device as shown it is intended to be understood that the same may be changed to suit any application demanded in special work of this class.

In Fig. 11 a still further modification is shown, and in this instance a doubled plate 15′ is employed, having one terminal 16 burned into the tooth and the other extremity extended downwardly, as at 17, to form a backing for the inner lower portion of the tooth. The doubled extremity of the plate is formed with a loop 18, in which a pin or similar device 19 may be inserted for attachment to the vulcanized plate. Platinum will be used in this form of the device, so as to stand the firing.

In all of the forms shown the several slots and the dovetail projection provide a seat extending transversely across the tooth fully from one side edge to the other of the latter, and the angular terminal portion of each plate is coextensive with the seat, so as to permit the said terminal to be applied from either side edge of the tooth when assembling the same and its plate and also to produce a strong attachment or joint.

Having thus described the invention, what is claimed as new is—

1. The combination of a tooth having a seat extending thereacross in a straight transverse direction from one side edge of the tooth fully to the opposite side edge thereof and disposed in a horizontal plane in relation to the tooth, and a plate having an angularly-bent terminal portion endwise applicable to the said seat from either side edge of the tooth, the said angularly-bent terminal portion being coextensive with the seat and the plate projecting inwardly from the tooth and of a width approximately equal to the transverse extent of the tooth whereby a more firm securement of the tooth can be obtained.

2. The combination of a tooth having a seat structure extending the full transverse width of one side of said tooth fully from one side edge of the latter to the other, and a doubled plate having the terminals reversely inclined to form an open space between them and endwise applicable to said seat structure from either side edge portion of the tooth, the said plate and terminal structure being coextensive in width or transverse extent with the seat structure.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

J. G. BURCHELL.

Witnesses:
ADOLF HESS,
HARRY E. MILLER.