I. STERN.

ARTIFICIAL TOOTH.

APPLICATION FILED AUG. 17, 1911.

1,008,569. Patented Nov. 14, 1911.

FIG. 1.

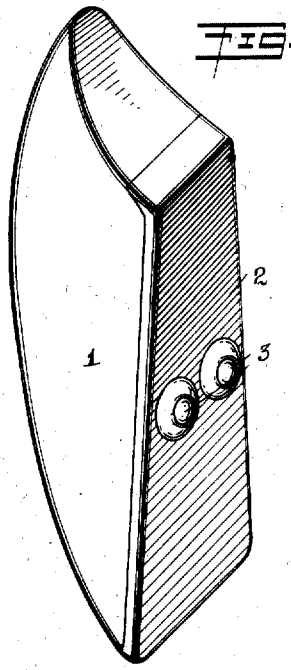
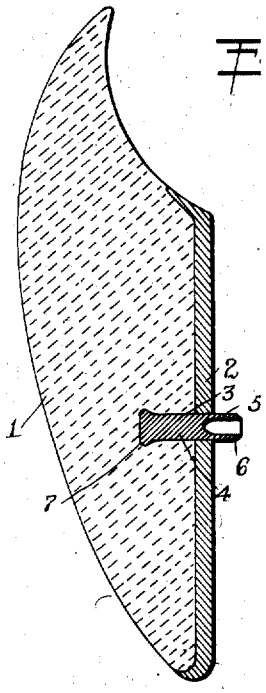


FIG. 2.



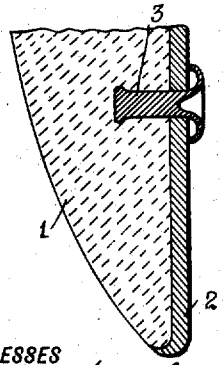


FIG. 3.

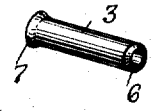


FIG. 4.

WITNESSES

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ARTIFICIAL TOOTH.

1,008,569. Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed August 17, 1911. Serial No. 644,669.

To all whom it may concern:

Be it known that I, ISIDORE STERN, of the city, county, and State of New York, have invented a new and useful Improvement in Artificial Teeth, of which the following is a specification.

This invention relates to artificial teeth. It is the practice to set a couple of pins transversely in the porcelain body of the tooth, for holding the porcelain and a suitable backing together. For good work the pins are of platinum, and are inserted in the porcelain while the latter is plastic, after which the porcelain is baked with the pins in it, so that the pins are firmly held. The pins are passed through the backing and are bent over at approximately a right angle against the same to hold it to the porcelain. It is very important that the backing and the porcelain be held together reliably, but sometimes the bent pins do not do this. Moreover, the bending of the pins is liable to break the porcelain, which is very brittle. This necessitates the making of a new tooth; or the crack or weakening may not be apparent at the time, but will make itself manifest after the tooth is in use.

It is the object of this invention to provide for a much better and stronger holding than is secured by the ordinary bent pins, to avoid the danger of breaking or weakening the porcelain, and incidentally to enable less metal to be used in the pins, which when platinum is used is a very important advantage. To these ends I unite the tooth body or porcelain facing and the backing in a novel manner, utilizing a novel form of pin.

In accordance with my invention, the projection of the pin beyond the porcelain is tubular, and of suitable length and structural strength to be upset against the backing and to hold the same securely. This operation of upsetting or riveting over the edge of the tubular pin is extremely simple and does not endanger the porcelain. Moreover, the backing is held to the porcelain more securely than heretofore, because the tubular pin is bent over at all sides, instead of being bent to one side only as with ordinary pins. These are important considerations, and there is also a great advantage in the material saving of metal occasioned by the use of my pins. In the first place the new pin is much shorter than the ordinary pins, because but a short length of tubular projection is needed for upsetting as compared with a considerable length for bending of a pin as a whole to one side. Furthermore, the upset portion is hollow, and not of solid metal. Preferably, the portion of the pin that is set in the porcelain is solid, while the portion that projects is hollow or tubular for upsetting. This combination gives the best results in the way of strength and security. Such a pin may be made in any suitable manner. It is preferably entirely of platinum, but it might be of other metal.

In the accompanying drawings illustrating the preferred embodiment of the invention: Figure 1 is a perspective view, showing a porcelain tooth with a backing united thereto by a couple of my pins upset against the backing; Fig. 2 is a longitudinal section through the tooth before upsetting the pins; Fig. 3 is a partial longitudinal section through the tooth, showing the tubular part of the pin upset or beaded over; and Fig. 4 is a perspective view of one of the pins.

In these views, 1 is the porcelain body or tooth proper; 2 is a customary gold backing pressed close against the back of the porcelain; and 3 designates the pins. These pins are preferably baked in the porcelain. The portions 4 which are embedded therein are shown solid, while the projecting portions 5 are tubular. These tubular projecting portions, which are comparatively short, are passed through openings in the backing. A simple operation now upsets them, as shown in Figs. 1 and 3. The edges of the tubular portions of the pins are preferably chamfered off, as indicated at 6. The ends of the portions embedded in the porcelain are preferably enlarged, as indicated at 7, to insure the retention of the pins therein. When the tubular portions of the pins are upset against the rear face of the backing, they hold the backing and the porcelain body together with great firmness, the clamping action being exerted at all sides of the pin.

It will be understood that the tubular portion of my pin is distinctly different from

a mere shell. It is in effect a rivet and has structural strength suitable for the purpose.

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

In an artificial tooth, a porcelain body, a backing, and a pin securing the backing to the body, said pin comprising a headed solid portion set in the body and a tubular portion projecting therefrom and adapted to be upset against the backing, substantially as described.

In witness whereof, I have hereunto set my hand this 31st day of July, 1911.

ISIDORE STERN.

In the presence of—
MAURICE HOTCHNER,
ARTHUR WATSON.