

(No Model.)

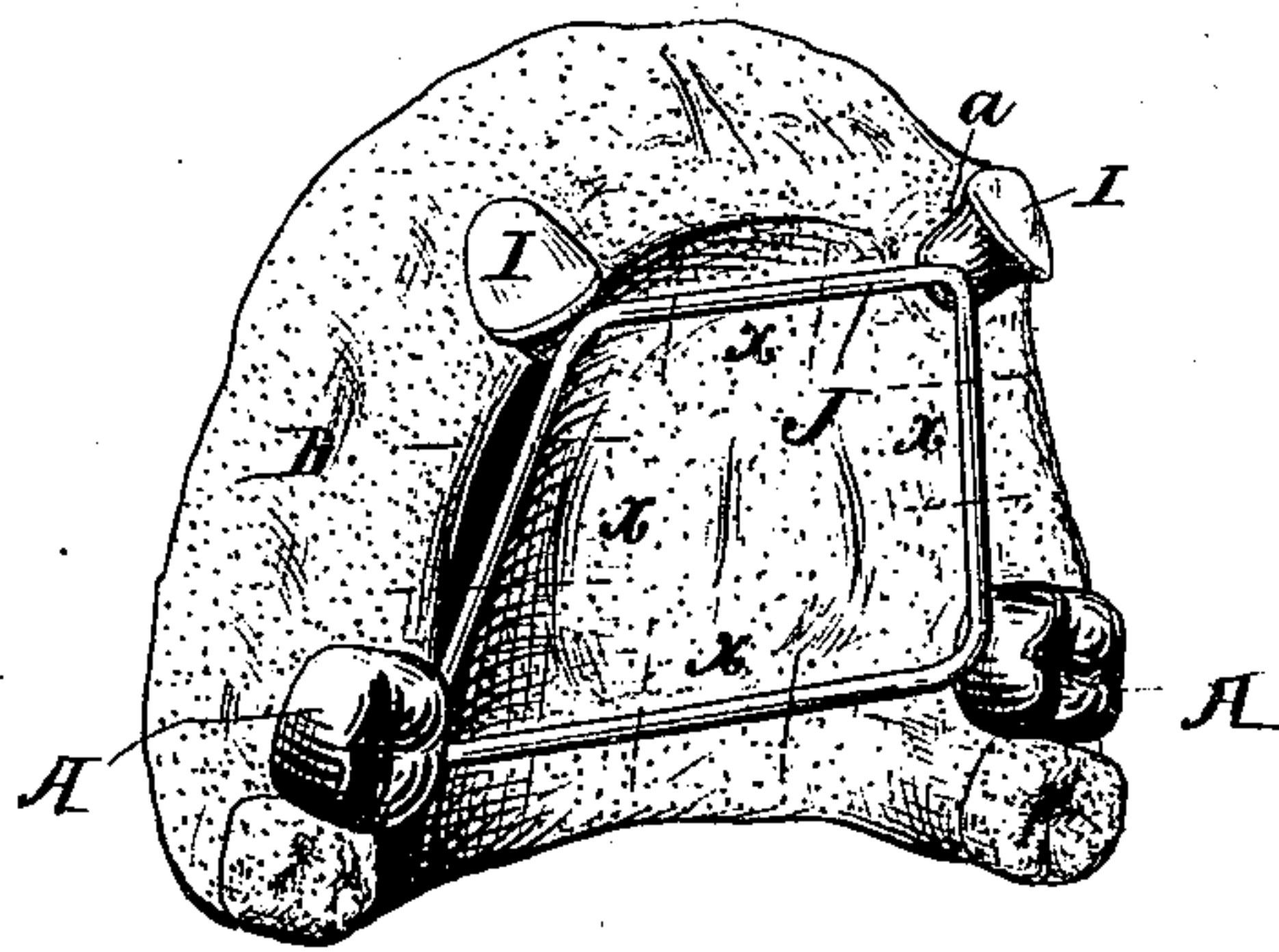
L. T. SHEFFIELD.

ARTIFICIAL DENTURE.

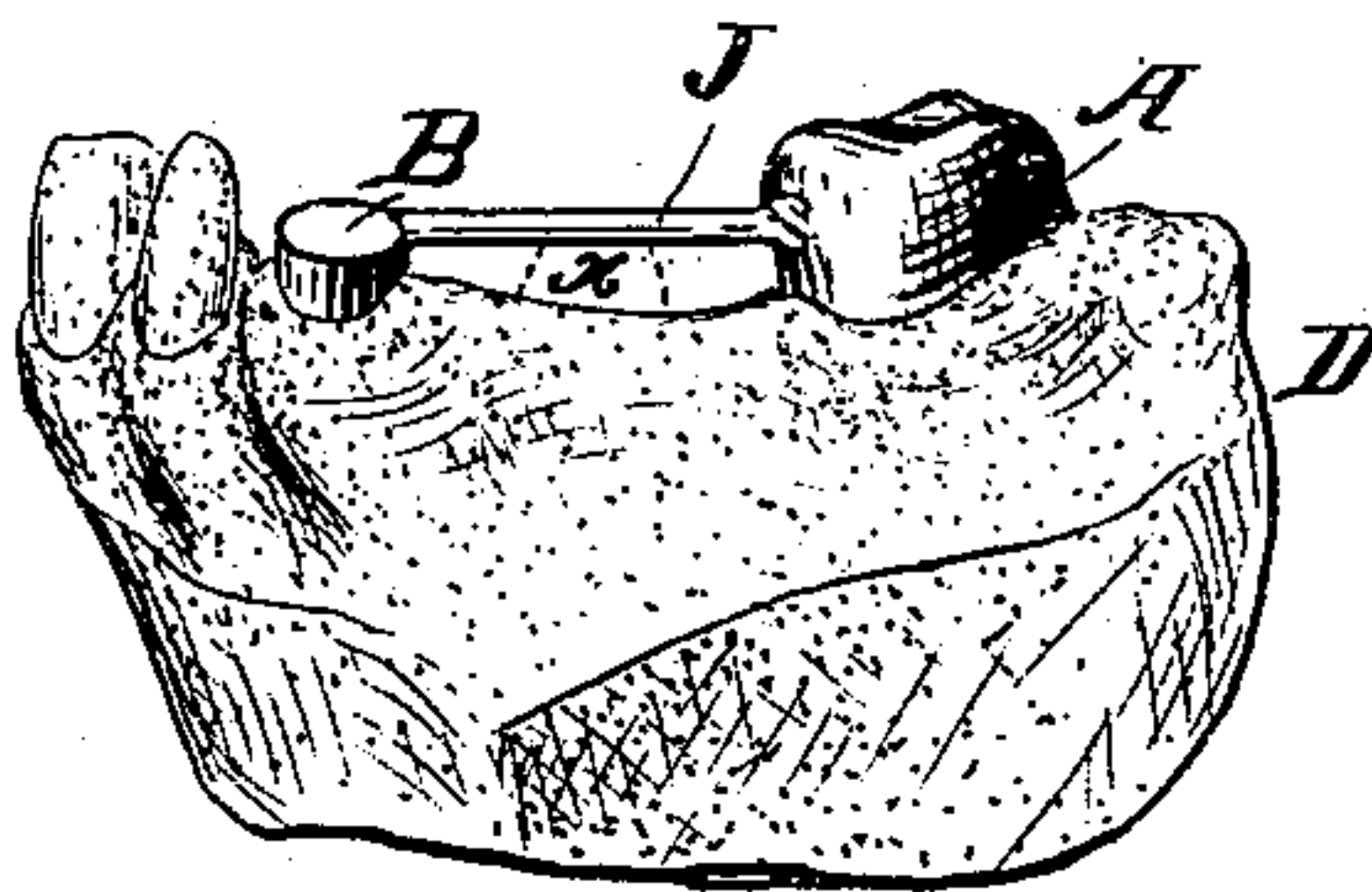
No. 352,784.

Patented Nov. 16, 1886.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LUCIUS T. SHEFFIELD, OF NEW YORK, N. Y.

## ARTIFICIAL DENTURE.

SPECIFICATION forming part of Letters Patent No. 352,784, dated November 16, 1886.

Application filed August 12, 1884. Serial No. 140,357. (No model.)

*To all whom it may concern:*

Be it known that I, LUCIUS T. SHEFFIELD, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in the Manufacture of Artificial Dentures, of which the following is a specification.

My invention has for its object to prevent the displacement of the supporting teeth and crowns of an artificial denture which results, in the ordinary modes of manufacture, from the shrinking of the structure in the process of securing the teeth in position; and this object I effect by applying a brace to hold the teeth and crowns in position during the time that the structure is heated and cooling, and in removing that portion of the brace which is not embedded in the structure in the act of securing the teeth in place.

In the drawings, Figure 1 is a perspective view showing the cast of a mouth with the supporting crowns and teeth in position and a brace applied thereto. Fig. 2 is a side view of a cast, showing a single supporting-crown and supporting-tooth and intermediate brace.

The mouth is first prepared to receive the crowns A, which cover the molar teeth, and the caps B, which cover the ends of the roots, and the crowns and caps are then applied properly in position upon a cast, D, which constitutes an exact copy of the natural mouth.

In order to insure the proper position of the crowns and caps upon the cast, I prefer to apply the said crowns and caps to the teeth and roots in the mouth, and to then take an impression of the mouth, with which impression the crowns and caps are removed, and to then form the cast D by pouring the plastic material into the impression and allowing it to harden therein. I then apply the artificial teeth I to the caps, securing them in any suitable manner, and extend a wire or rod, J, between the crowns and teeth, in the manner illustrated in the drawings, so that part of said wire shall be in contact with each crown and with a metallic backing, *a*, of each artificial tooth. Plaster investment material is then applied at the points *x*, so as to secure the bar in proper position and hold it upon the cast, but so as to leave exposed those portions of the wire adjacent to the teeth and crowns, to which the wire is then soldered,

thus holding the teeth and crowns rigidly in their relations to each other. The supporting-crowns and bracing-bars are now removed from the model and placed in position in the mouth, an impression taken, after which the structure is removed from the mouth and another model of investment material formed. The artificial teeth are now secured in proper position in relation to the crowns and teeth I upon the bracing-bars and supports extending between the teeth I and the crowns by means of wax or any suitable material. For instance, the supports are first soldered to the teeth and crowns, and then the remaining artificial teeth are soldered or otherwise secured to the said supports, after which any portions of the rod J which may be exposed, or which have not been embedded in the solder, are cut away, so that the denture consists solely of the crowns, the supporting-teeth I, with the bars or bridges between these teeth, and the artificial teeth mounted upon said bridges.

By the preliminary application of the rod J, as described, the supporting teeth and crowns are held in rigid and unyielding relation to each other, so that upon the application of heat in soldering the bridges in place or the teeth to the bridges, and upon the subsequent cooling of the parts, the rod J will act as a brace to prevent the shrinkage of the heated portions from drawing the supporting crowns and teeth toward each other and out of position upon their supports, so that when the denture is completed the crowns and caps will be in position to fit accurately the natural teeth and stumps in the mouth.

Heretofore the bridges have been applied and soldered to the crowns and supporting-pieces without the use of the above-described brace, the result being that the heated portions in cooling shrink and draw the crowns and supporting-teeth together, so that when the denture is applied to the mouth the supports will not be in the proper position—a difficulty which is obviated by the use of the bracing-rod, as above described.

The rod should of course be of platina or other refractory material. In some instances the wire J will constitute a part of the bridge to which the teeth are soldered, in which case it will be necessary only to cut away the cross portion between the crowns upon the opposite



sides of the mouth, the remaining portions being embedded in the solder which secures the teeth, and forming therewith the bridge.

Although I have referred to a rod as being  
5 used as a brace between the supporting parts of the structure, it will be apparent that a flat plate adapted to be soldered to each of said supports may be used instead of said rod, it being necessary in such case to cut away all that  
10 part of the brace-plate not embedded in the supporting structure of the denture.

It will be apparent that the form and arrangement of the brace will be varied to a greater or less extent, according to the arrangement of the supporting teeth or crowns.  
15

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The within-described improvement in the  
20 manufacture of artificial dentures, the same consisting in first applying supporting crowns and teeth in proper position upon a cast of the mouth; in then connecting the said supporting-crowns to a brace extending partly across  
25 the structure from side to side, whereby they are held rigidly in their positions in relation to each other; in fitting the crowns in the mouth, and in then applying and securing the artificial teeth to the bridges or supports between said supporting teeth and crowns, substantially as set forth.  
30

2. The improvement in the manufacture of artificial dentures, consisting in connecting together the supports for a denture by means of a supplemental brace, a part of which crosses  
35 from side to side, and then applying and securing the artificial teeth between the supports, and in then removing the exposed portions of the brace, substantially as described.

3. In the manufacture of artificial dentures,  
40 preparing the roots and applying the supporting-teeth in position thereon, applying metallic crowns to the supporting natural teeth, then taking an impression of the mouth and removing the crowns and supporting-teeth  
45 therewith, then connecting the opposite sides of the structure by a supplemental brace, connecting the crowns and supporting-teeth by the usual bridge, and then securing the intermediate artificial teeth between the support-  
50 ing teeth and crowns and removing the exposed portions of the brace, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.  
55

LUCIUS T. SHEFFIELD.

Witnesses:

GEO. H. EVANS;  
F. L. FREEMAN.