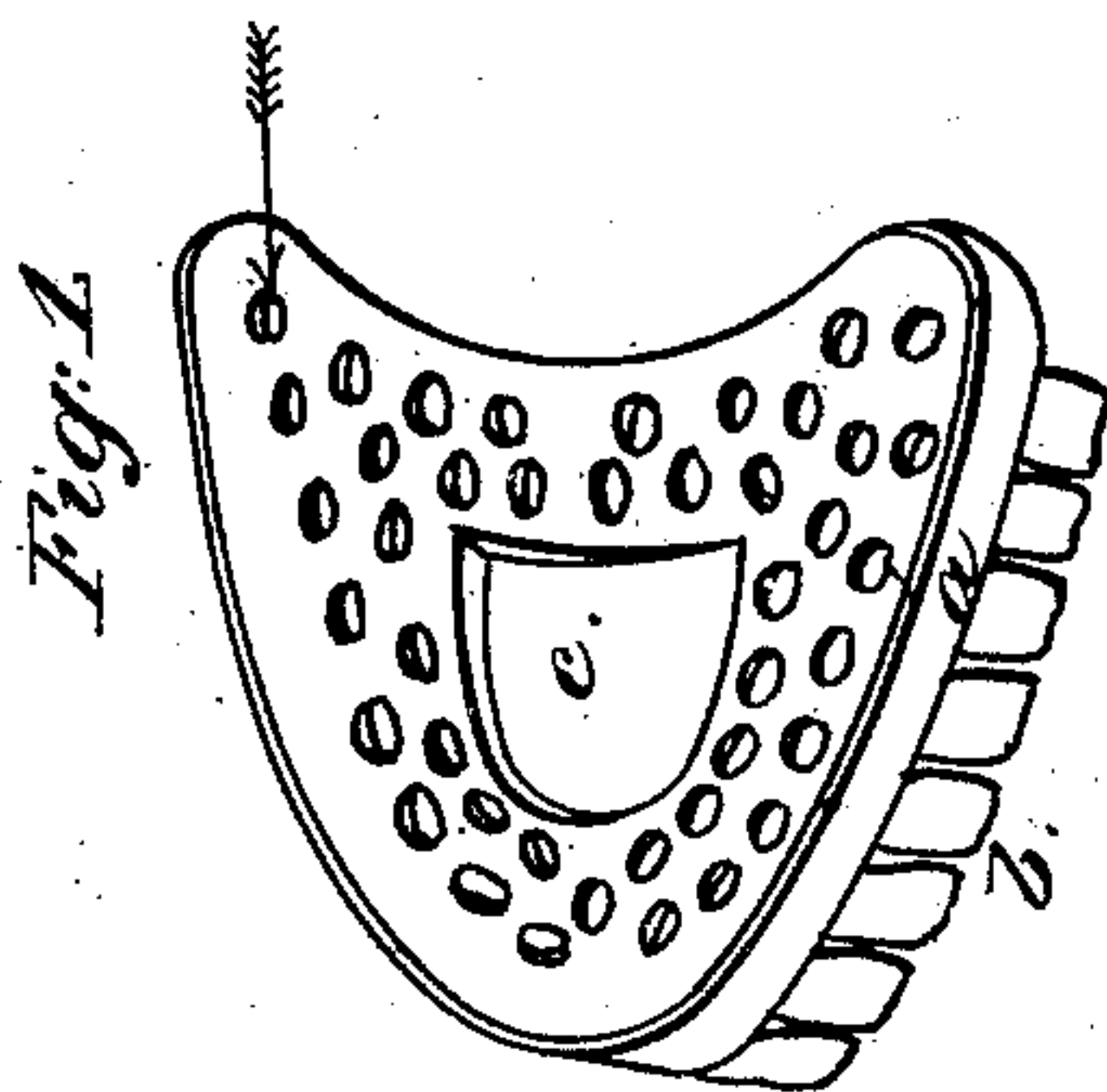
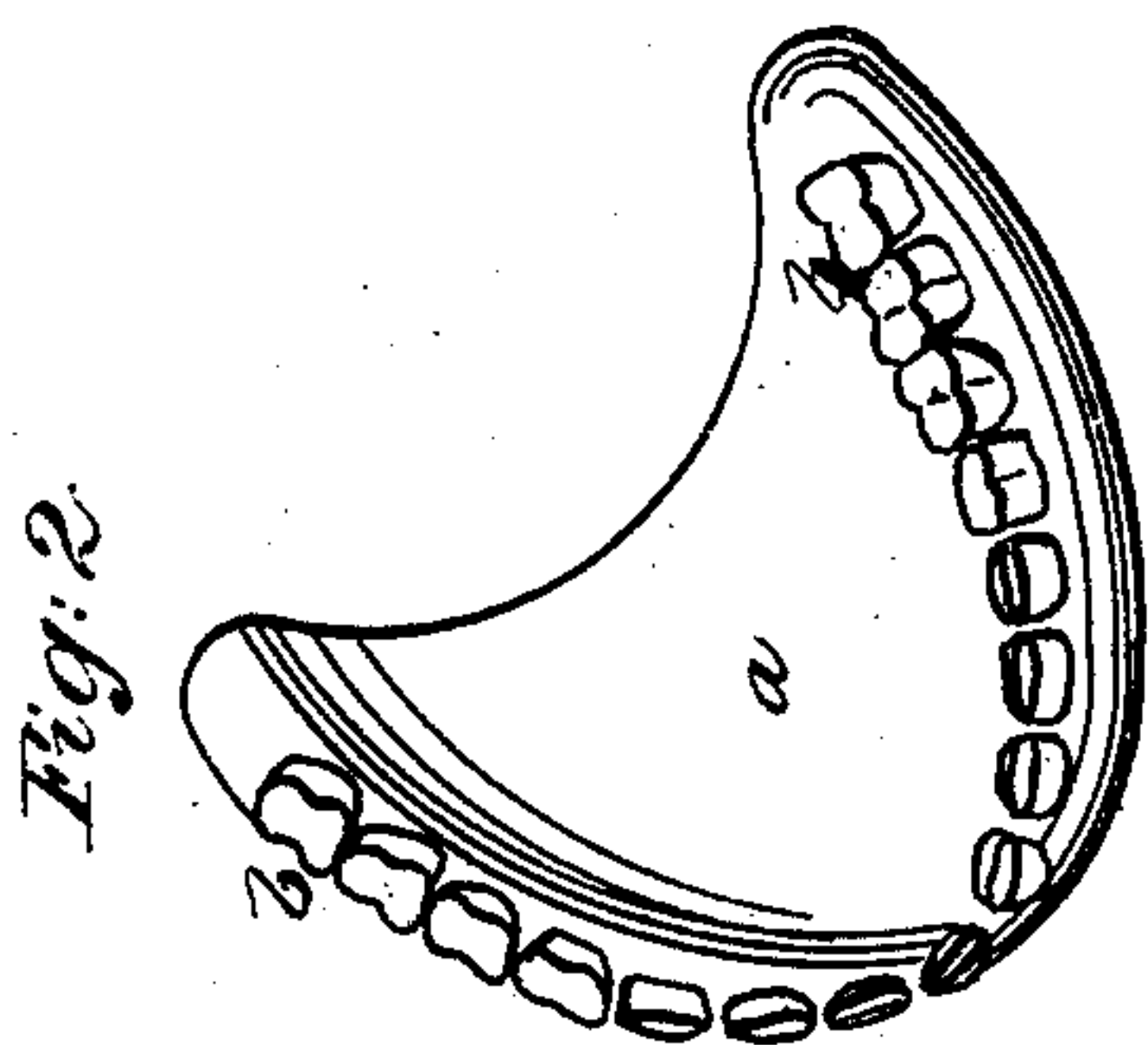


W. Ballard,

Plate for Artificial Teeth.

N^o 51,001.

Patented Nov. 21, 1865.



Witnesses:

R. S. Rowley
C. L. Rambo

Inventor:

W. Ballard

UNITED STATES PATENT OFFICE.

WILLIAM BALLARD, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN ARTIFICIAL TEETH.

Specification forming part of Letters Patent No. 51,001, dated November 21, 1865.

To all whom it may concern:

Be it known that I, WILLIAM BALLARD, of Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Hard-Rubber or Vulcanite Plates for Sets of Artificial Teeth; and I do hereby declare the following to be a full description of the same.

The object of my invention is to obtain a more perfect atmospheric pressure in the plate than has heretofore been obtained by the means usually resorted to by dentists to cause the plate to adhere to the roof of the mouth. By the usual method adopted by dentists to obtain atmospheric pressure plates a heart-shaped depression is made in the center of the plate. To a limited extent this answers the purpose intended, but from an experience derived at the expense of a large outlay of money and great suffering and privations for more than two years last past in trying sets of artificial teeth made by the most eminent dentists of the country, I became satisfied of the utter insufficiency of such a device to retain the set of artificial teeth firmly in the mouth as a rule, though exceptional instances might be found, and indeed was so informed by one of the most trustworthy dentists in the country, who had made three sets of teeth for me without affording any satisfactory results, except that I "must persevere to force nature to adapt itself to the artificial plate." Therefore, to overcome this unnatural method of adapting the artificial set of teeth to the mouth is the impelling cause that has led me to this invention, the nature of which consists in making a great number of air-chambers in the upper surface of the artificial plate, extending from the ridge of the gum quite up to and around the heart-shaped air-chamber, and thus give to the ridge of the gum an "atmospheric-pressure suction," as it may be called, as well as to the roof of the mouth. By this means it will be obvious that the plate cannot tilt or "bite down" when masticating food on one side of the mouth, as would be the case when the atmospheric traction is confined to a single point at the middle of the plate.

To describe my invention more particularly,

I will refer to the accompanying drawings, forming a part of the specification, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a perspective view of an upper set of artificial teeth, showing the auxiliary air-chambers. Fig. 2 is a lower-side perspective view of a set of artificial teeth.

Letter *a* is a representation of a hard-rubber or vulcanite plate for an upper set of artificial teeth, and *b* represents the teeth secured to the same by any of the usual and well-known means for such purposes. In the upper surface of the plate or that surface which comes in contact with the roof of the mouth is formed a large central air-chamber, *c*. As this is the common and well-known device for making atmospheric-pressure sets of artificial teeth I make no claim to it, though do not consider a very large central air-chamber productive of the most satisfactory results, and therefore the failure of so many dentists in trying to get atmospheric pressure, under the mistaken theory that the larger the single central air-chamber the greater the traction of the plate to the roof of the mouth. My experience, therefore, has led me to make the central air-chamber not as large as dentists commonly make it. But to obtain the requisite amount of atmospheric-pressure traction I diffuse it over the surface of the plate by a series of auxiliary air-chambers, *d*, extending from the gum-ridge up to and around the central air-chamber. These auxiliary air-chambers are not less than about an eighth of an inch in diameter, and having as much depth as the thickness of the plate will permit.

It will be obvious that the area of these auxiliary air-chambers is of material consequence, because very small perforations would not act in the roof of the mouth to preserve atmospheric traction, it being necessary to have a certain area, less than which the muscles of the mouth can not fill the air-chambers. It is this peculiarity that gives value to my invention, and which has enabled me to sustain a weight of at least twenty-five pounds before the plate could be displaced from my mouth, when the three previous plates made by the same den-

tist, by the use of the single central air-chamber, failed to keep their places on the least effort to masticate food on either side of the jaw.

Having now described my invention, I will proceed to set forth what I claim and desire to secure by Letters Patent of the United States—

The new manufacture of hard-rubber or vulcanite plates for sets of artificial teeth, having auxiliary air-chambers in the upper sur-

face thereof, from the gum-ridge up to and surrounding a central air-chamber, in the manner and form substantially as hereinbefore set forth.

WM. BALLARD,

Witnesses:

R. S. ROWLEY,
C. L. BARRITT.