

(No Model.)

G. W. TRAPHAGEN.
DENTAL IMPRESSION TRAY.

No. 538,204.

Patented Apr. 23, 1895.

Fig. 1.

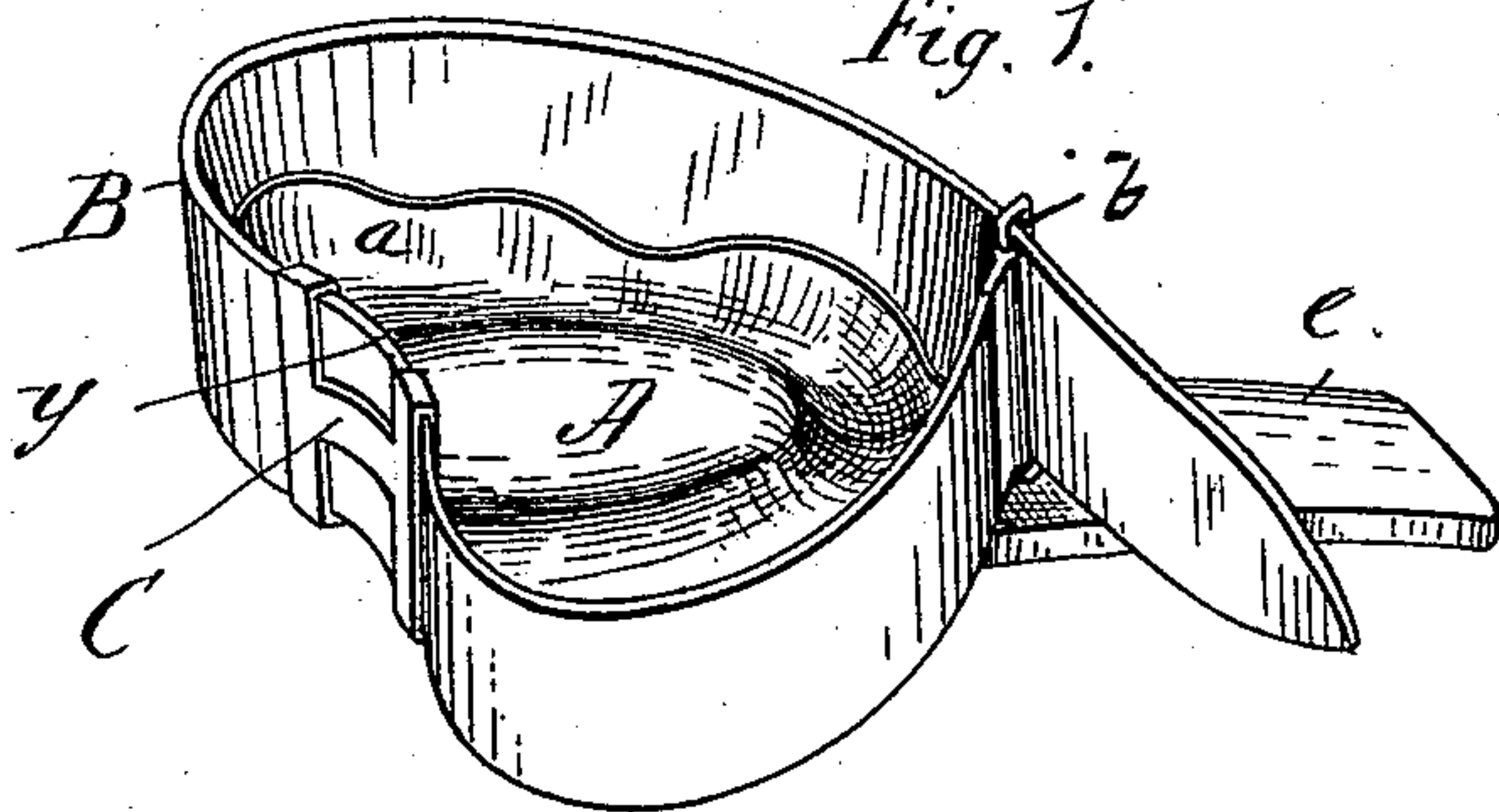


Fig. 2.

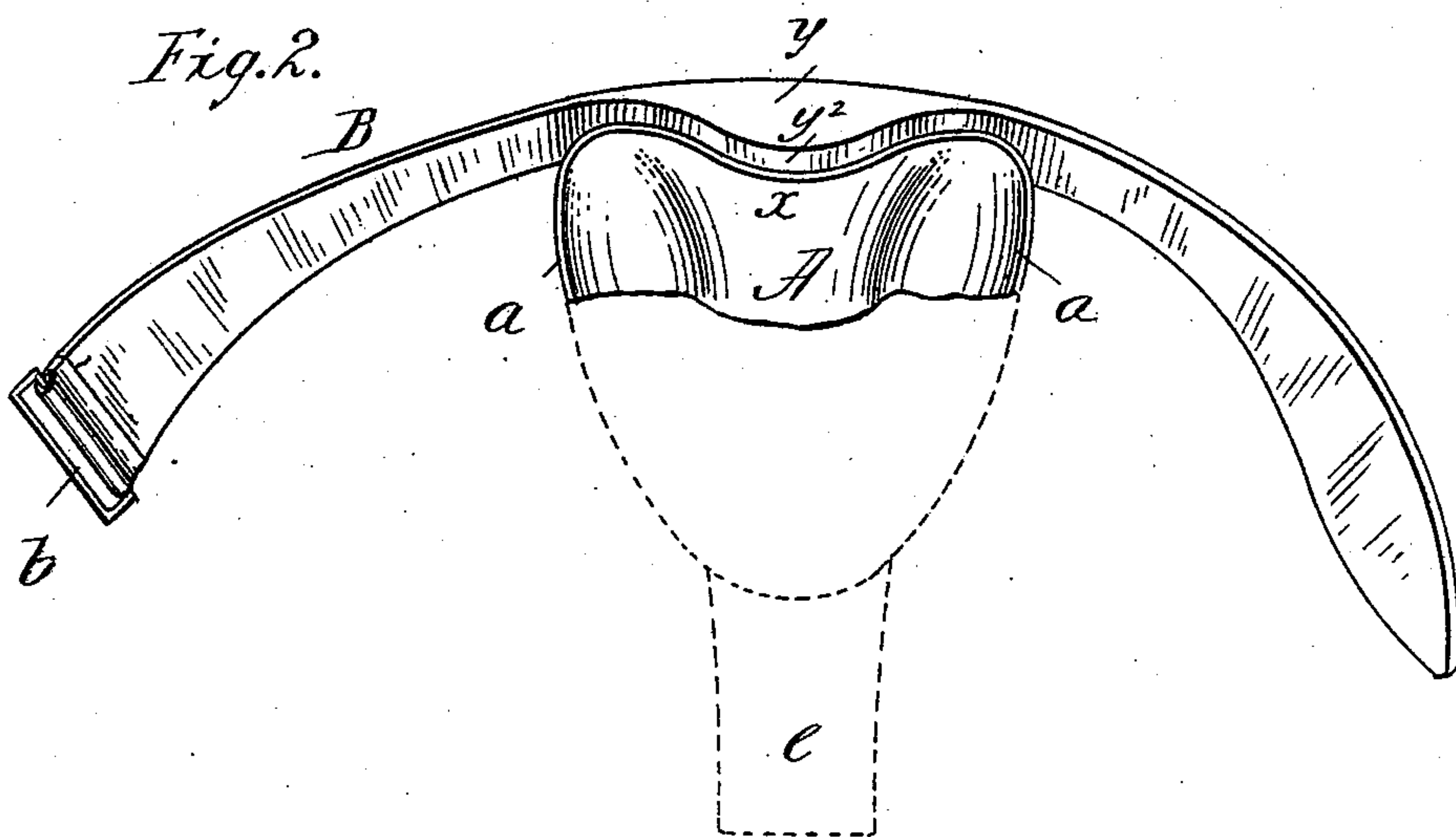


Fig. 3.

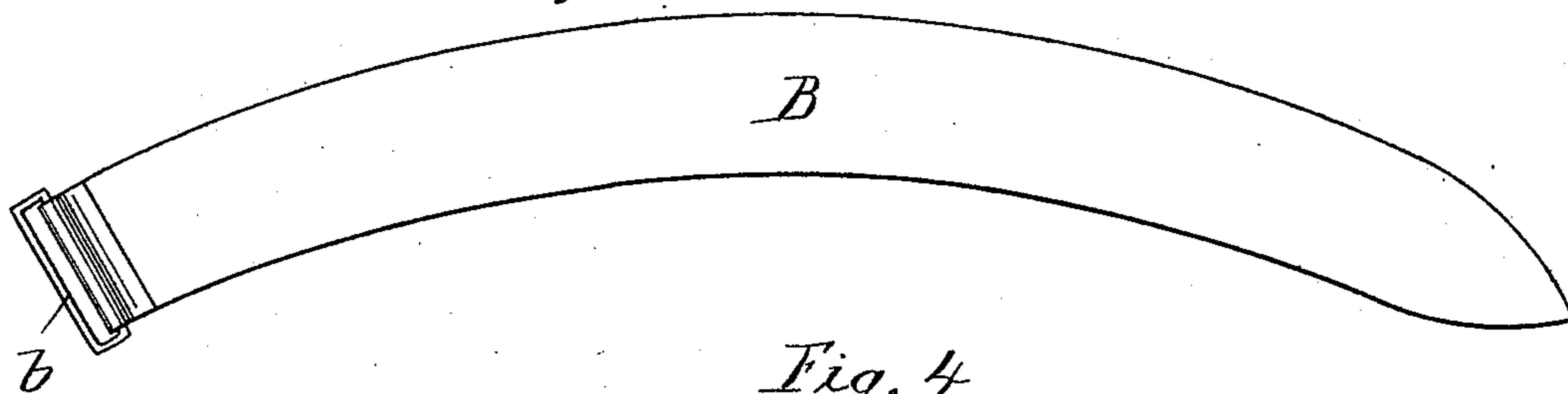
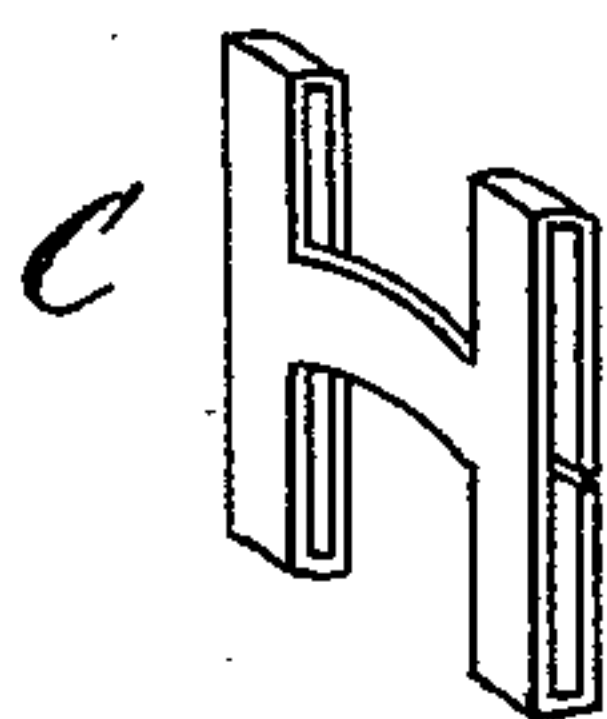


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. TRAPHAGEN, OF NORTHAMPTON, MASSACHUSETTS, ASSIGNOR
OF ONE-HALF TO CECIL S. CUTLER, OF SAME PLACE.

DENTAL IMPRESSION-TRAY.

SPECIFICATION forming part of Letters Patent No. 538,204, dated April 23, 1895.

Application filed March 8, 1895. Serial No. 540,944. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. TRAPHAGEN, a citizen of the United States of America, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Reverse-Cast Bands for Dental Impression-Trays, of which the following is a specification.

10 This invention relates to improvements in the means employed for making the reverse casts used in the production of dental plates, and the same relates more particularly to flexible devices combined and coacting with the impression tray for forming a marginal and entirely surrounding dam for the tray; and the invention consists in the combination with the dental tray of a band of flexible material adapted to be set about and to entirely and closely surround the tray and to form an upturned rim or dam of the height sufficient to more or less nearly correspond to the height of the cast to be produced; and in other matters for improvement of the device all substantially as will hereinafter fully appear and be set forth in the claims.

Reference is to be had to the accompanying drawings, in which Figure 1 is a perspective view of the tray and applied dam or band. Fig. 2 is a plan view showing the band of a slightly modified construction. Fig. 3 is a face view of the band or dam distended. Fig. 4 is a perspective view of a clasp or frame employed in conjunction with the band to be hereinafter referred to.

In the drawings, A represents the tray which is usually formed of metal and which has the ordinary conformation and contour and the upturned border, *a*, for receiving therein the impression taken from the upper jaw; and this tray has, as usual, at its rear the depression or re-entrant formation as indicated at *x*. The tray also has at its base the extension or handle-lug, *e*.

45 B represents the band which is susceptible of being placed closely around the tray to form an encircling dam for the retention of the plastic material which is run into the mold for producing the reverse cast. This dam is preferably constructed in the form of a band

of suitably flexible material such for instance as india rubber in any of its compounds, whereby its flexibility is not impaired; and this band has at one end a clasp, *b*, for receiving the other end of the band which may be slipped through it and by tension retained thereby.

In order that the band, while encircling the tray, may conform closely to the rear portion which is re-entrant as aforementioned, and as shown, the same has essentially as to its inner surface a prominence, *y*, as variously seen in both Figs. 1 and 2. In Fig. 1 this is constituted by a frame or clasp, C, which encircles the band and which has a longitudinally curved shape whereby it renders the dam when the band has its ends brought together and engaged, approximately heart-shaped. This frame or clasp is preferably of an annealed or non-elastic or non-springing, although flexible, metal, so that it may remain set in any curvature desired. This may advantageously consist of sheet copper, annealed iron, or lead.

In Fig. 2 the prominence on the internal side of the dam or band is constituted by a thickening of the rubber or material from which the band is made, as seen at *y*².

The band with the inwardly protruding formation produced substantially as described is much to be preferred, but a band constructed or equipped with means whereby it may surround and produce a marginal dam for the tray may be constituted without especially providing, by pre-arrangement, the internal surface prominence, its adherence to the depression at the rear of the tray being imparted by the fingers of the manipulator. Manifestly, the bands substantially as described in their combination with trays of various sizes and of somewhat varying forms may be readily made conformable to such trays by the means or susceptibilities with which they are provided or produced.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a dental tray of a marginal dam for the reverse cast consisting of a separable flexible band adapted to com-

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pletely encircle the tray to stand above, and to closely adhere to the marginal contour of, the entire tray, substantially as described.

2. A reverse-cast band for dental impression trays of flexible material, having a surface-prominence produced thereon entering the depression in the rear border of the tray,

and forming a tight dam entirely around said tray, substantially as set forth.

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Witnesses:

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