

**J. G. CANNON.**  
**Process and Apparatus for Treating Celluloid Bases**  
**for Artificial Teeth.**

No. 165,303.

Patented July 6, 1875.

FIG. I.

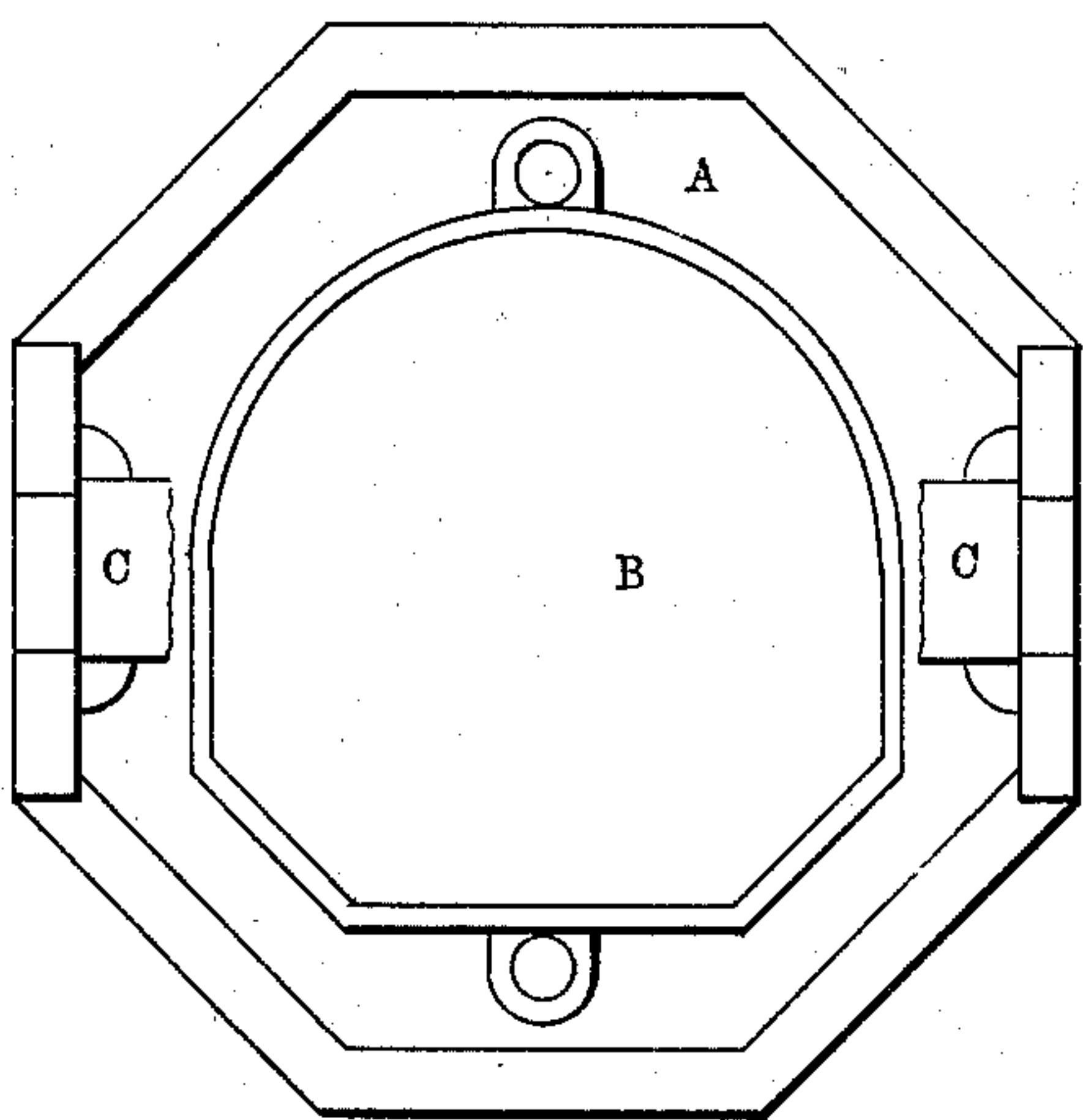


FIG. II.

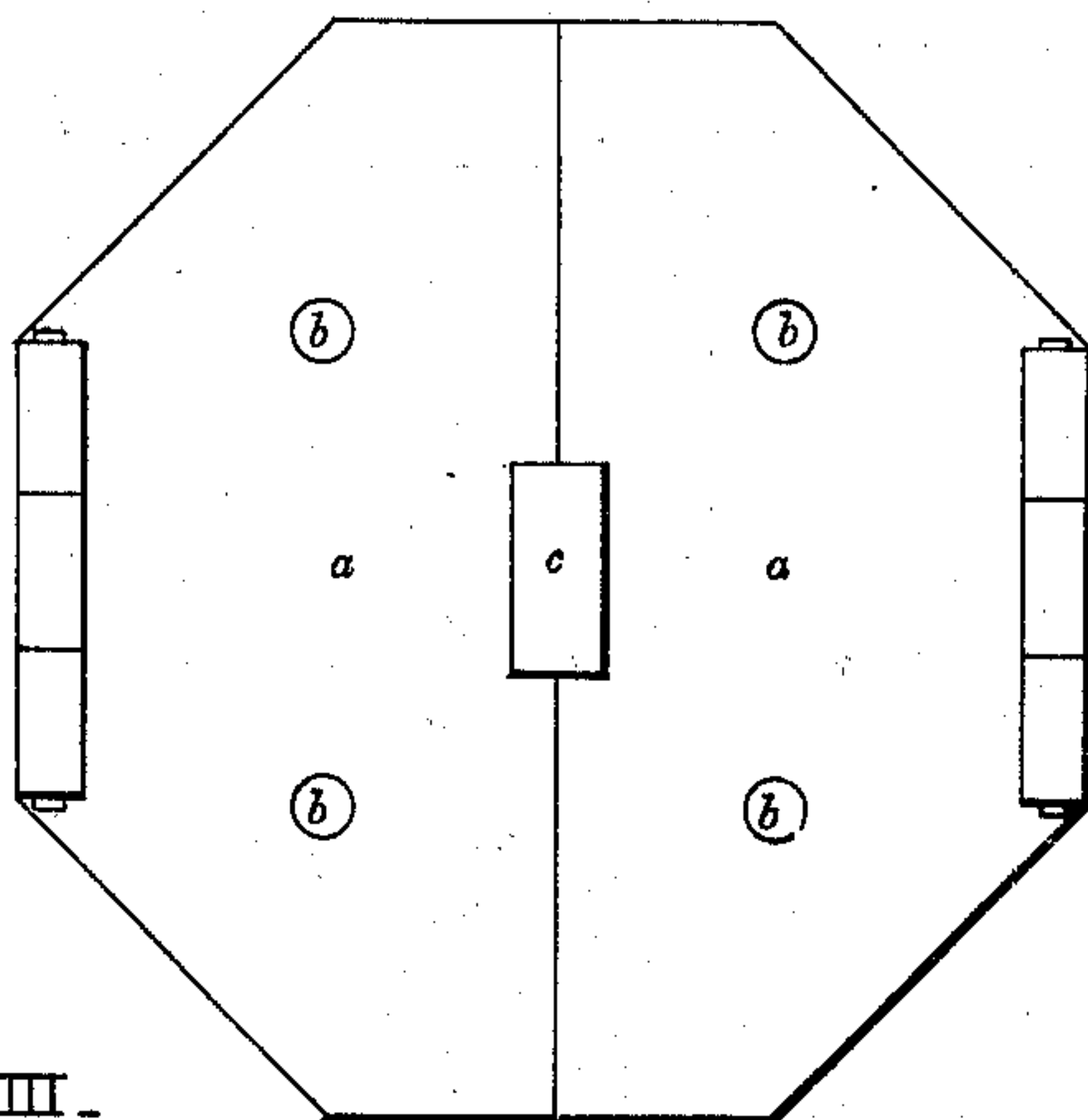


FIG. III.



FIG. IV.

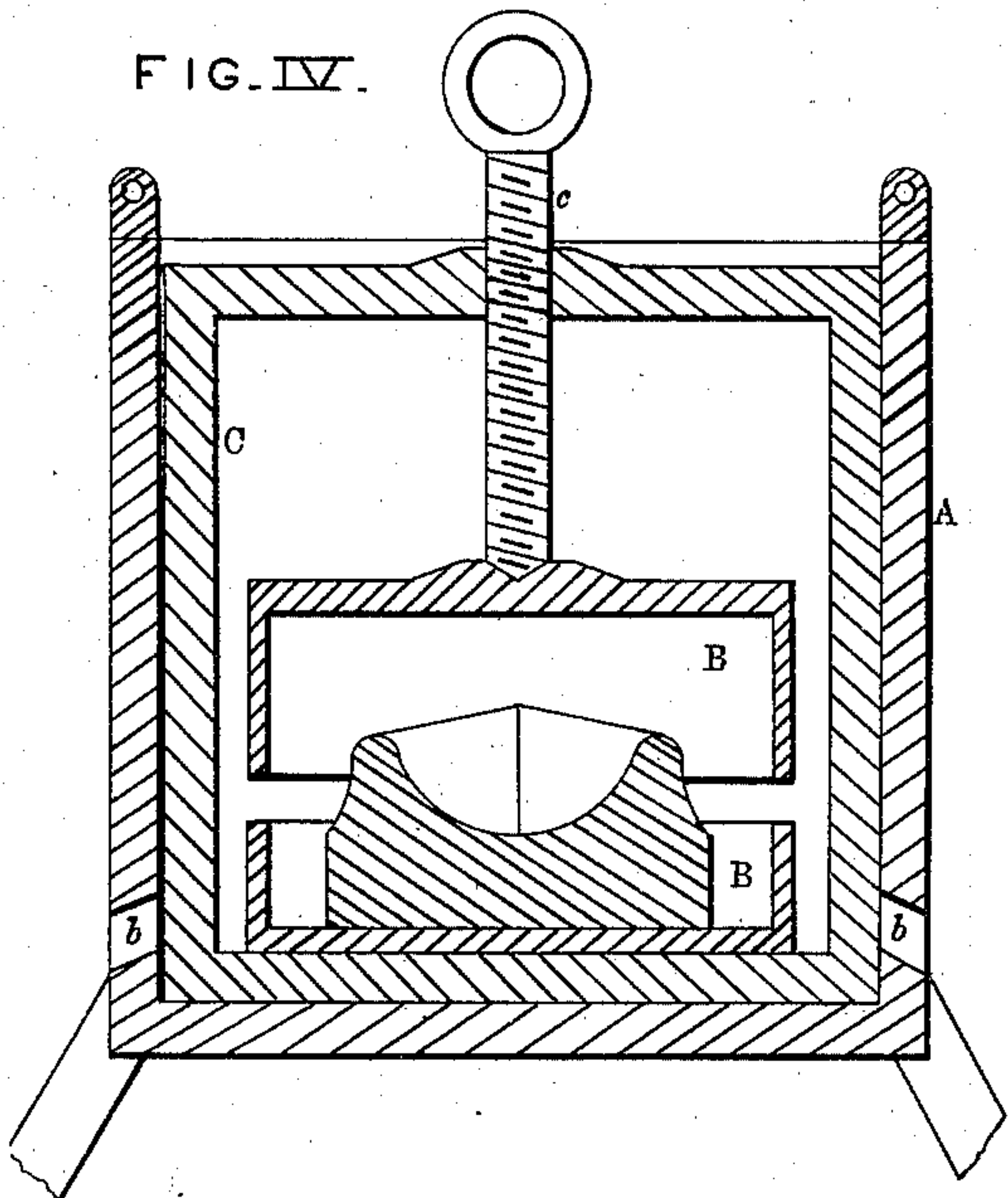
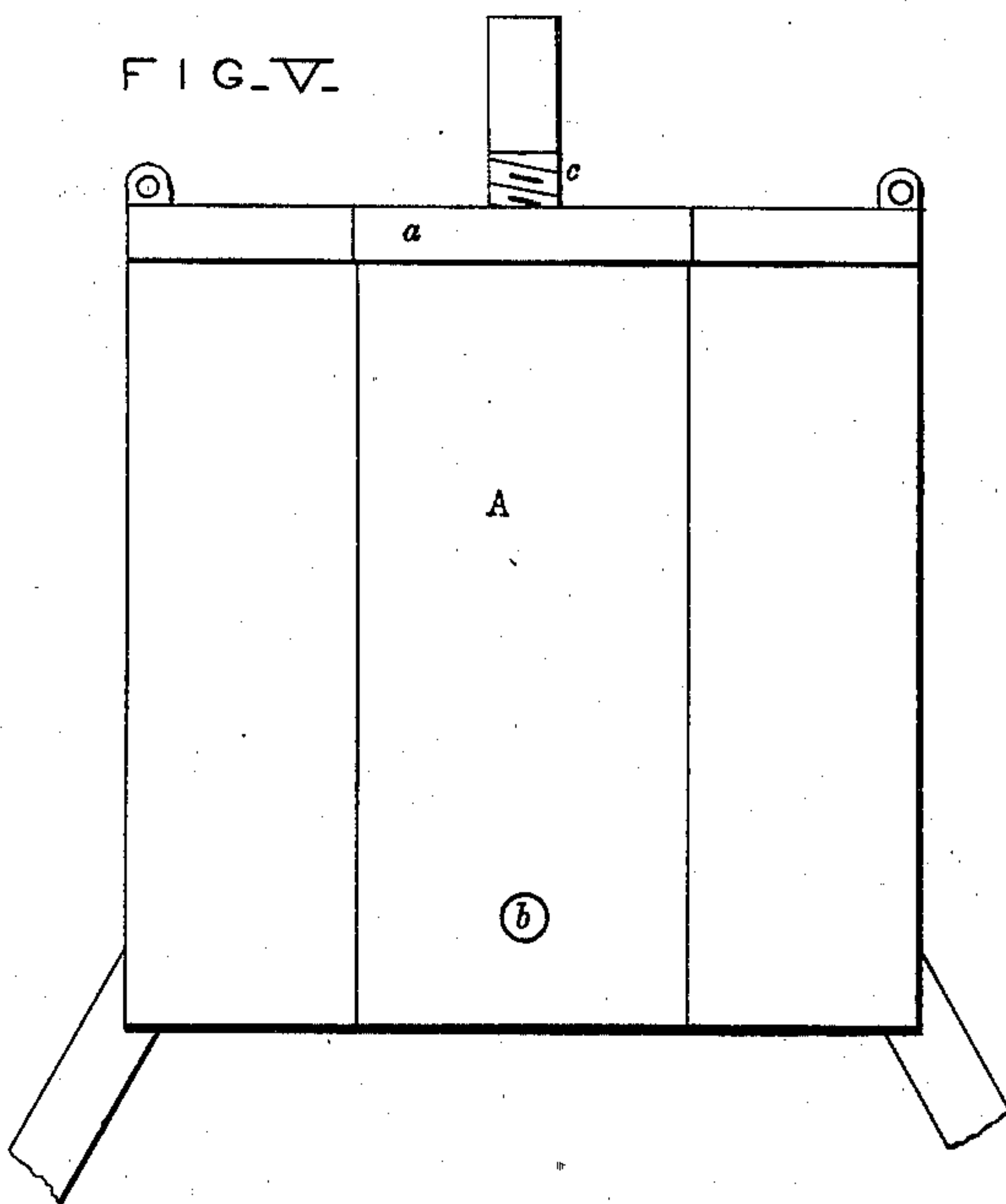


FIG. V.



WITNESSES

*Edmund Howard*  
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INVENTOR

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*by G. H. W. Howard*  
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# UNITED STATES PATENT OFFICE.

JOHN G. CANNON, OF YORK, PENNSYLVANIA.

## IMPROVEMENT IN PROCESSES AND APPARATUS FOR TREATING CELLULOID BASES FOR ARTIFICIAL TEETH.

Specification forming part of Letters Patent No. **165,303**, dated July 6, 1875; application filed April 14, 1875.

*To all whom it may concern :*

Be it known that I, JOHN G. CANNON, of York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Process and Apparatus for Treating Celluloid Bases for Artificial Teeth, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates, first, to an improved process for rendering the celluloid base for artificial teeth sufficiently plastic to admit of its attachment to the teeth, and of its conformation to the shape of the plaster model or cast of the mouth, to which the said teeth are affixed; and for vaporizing and carrying off the camphor which is a constituent of the celluloid base, while the said base is in the plastic state aforesaid. My invention relates, secondly, to an improved apparatus in which the model or cast, and the celluloid base, are placed during the process above alluded to, and in which the same are operated upon by mechanical means hereinafter fully described. My improved process consists in subjecting the celluloid base, and the teeth to which it is to be attached, to the action of heated atmospheric air, which is admitted to the chamber in which the said base and teeth are secured, and allowed to escape therefrom after becoming impregnated with the vapor of camphor arising from the base while in its plastic condition, and during its attachment to the teeth, as aforesaid.

In the description of my improved apparatus, which follows, due reference must be had to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a top view of my improved apparatus with the upper portion or lids removed. Fig. 2 is a plan of the lids. Fig. 3 is a cross section of the said lids. Fig. 4 is a cross-section of Fig. 1; and Fig. 5 an exterior view of the invention.

Similar letters of reference indicate similar parts in all the figures.

A is a hot-air and ventilating chamber fit-

ted with hinged lids *a*, and constructed to rest upon suitable legs or stands. The hot-air chamber is provided with the inlet and outlet apertures *b* for the hot air, which is supplied to the apparatus by means of any of the well-known methods of heating and drying atmospheric air. B is a flask in two parts, adapted to rest within the chamber A, and is formed of such size and shape as to allow of the insertion therein of the models or casts of the mouth to which the base is to conform in shape. C is a clamp held within grooves in the sides of the chamber A, and fitted with the screw *c* by means of which the tension of the upper cast upon the base and the lower cast is regulated. The operation of forming the base to the conformation of the casts by means of the parts above described is as follows: The upper and lower casts being placed within the flask with the rough or crude celluloid base confined between them, the apparatus is brought into communication with the heated air, and as the base is gradually softened and rendered pliable power is applied to the screw *c*, which forces the material into the depressions between the teeth, and causes it to conform to the peculiar contour of the upper and lower casts. The celluloid base, while undergoing this operation is brought into contact with a current of dry air heated to a certain temperature, which carries off the vapor of camphor arising from it. The flasks B are not brought together until the process herein described is finished; hence the current of heated air, which mixes and becomes moistened by its union with the vapor evolved from the bases, is admitted to direct contact with the celluloid. The process and apparatus herein set forth are thus seen to differ from the process and apparatus wherein a current of dry air is passed around a close chamber containing the celluloid. In the ordinary method of attaching artificial teeth to celluloid bases in close vessels the camphor is not removed during the operation; consequently, it is gradually dissipated after the teeth have been fitted to the mouth of the wearer. This removal of one of the constituents of the bases causes them to warp out of shape and produce an imperfect fit. The taste



of camphor is in many cases very objectionable to the wearers of artificial teeth mounted upon a celluloid base, and frequently causes their abandonment.

I am aware of the patent granted to R. F. Hunt on the 21st July, 1874, for an apparatus in which dry heat is used; but such is not my invention, and is not claimed by me, my invention being as herein set forth.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The process of rendering celluloid bases plastic to admit of their attachment to artificial teeth, and by causing the bases to conform to the contour of the mouth casts, by

subjecting the plastic bases to a current of heated air through the medium of a ventilated chamber surrounding the said bases, substantially as herein set forth.

2. The combination of the ventilating-chamber A, clamp C sliding in grooves, screw e, and perforated hinged lids a, all substantially as and for the purposes herein specified.

In testimony whereof I have hereunto subscribed my name this 24th day of March, in the year of our Lord 1875.

JOHN G. CANNON.

Witnesses:

WM. T. HOWARD,  
JNO. T. MADDOX.