L. D. DOBBINS.

Apparatus for Treating Celluloid Bases for Artificial Teeth.

No. 222,678. Patented Dec. 16, 1879.

Fig. 1.

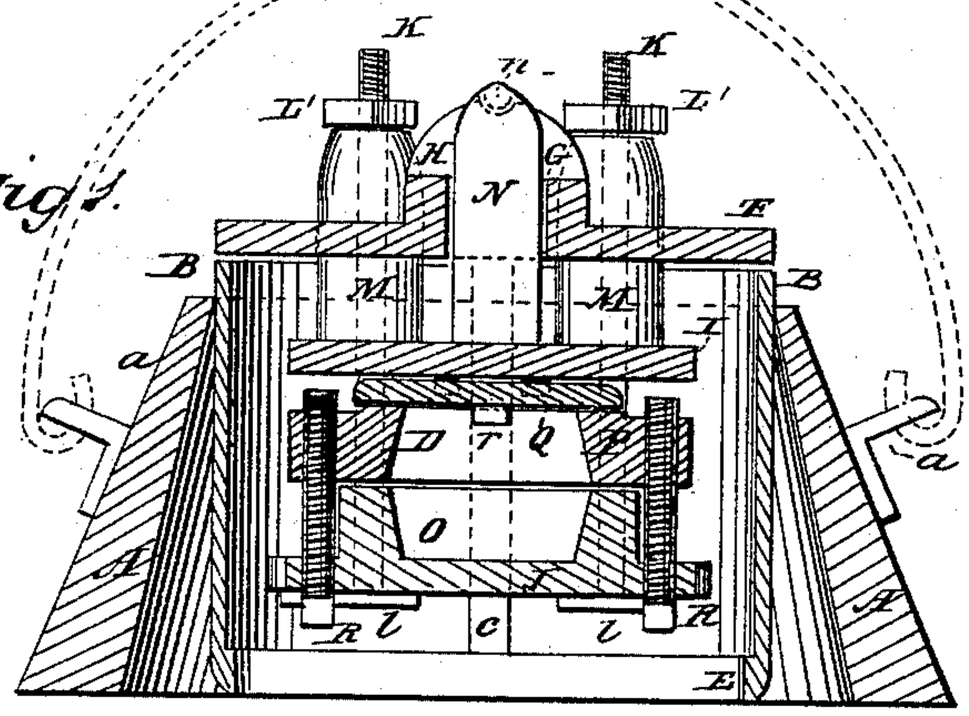


Fig. 7

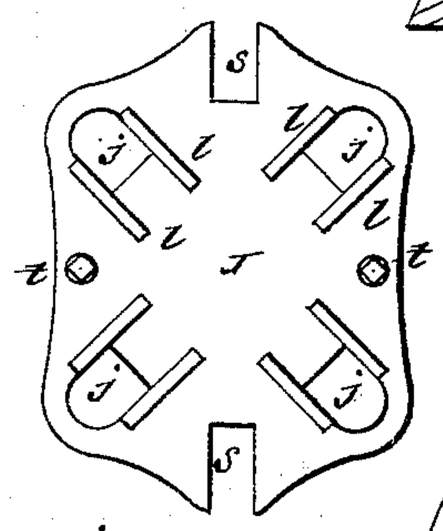


Fig. 9.

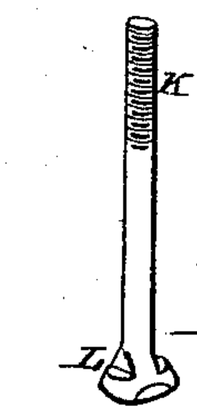


Fig. 8

Fig. 2

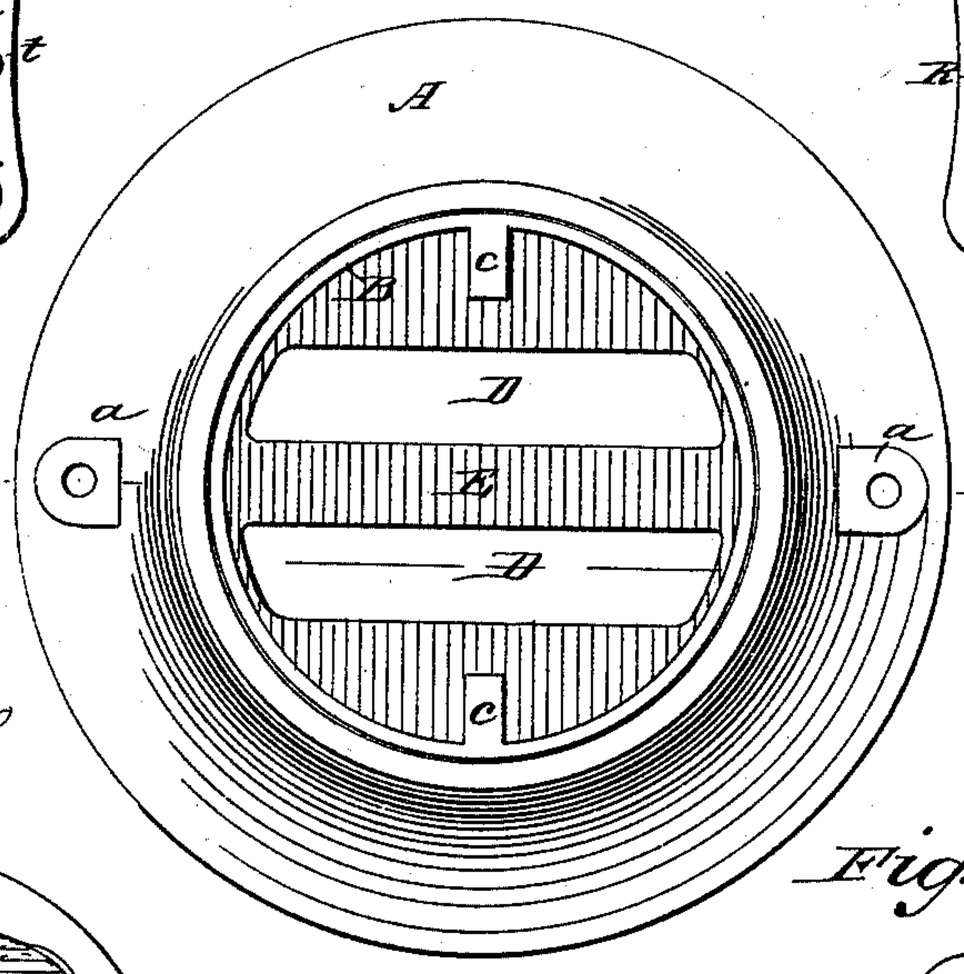


Fig. 4

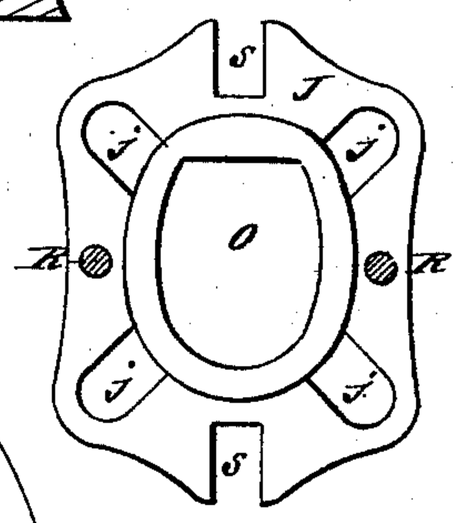


Fig. 5

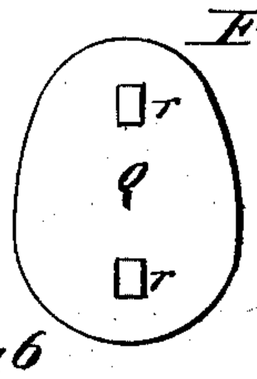


Fig. 6

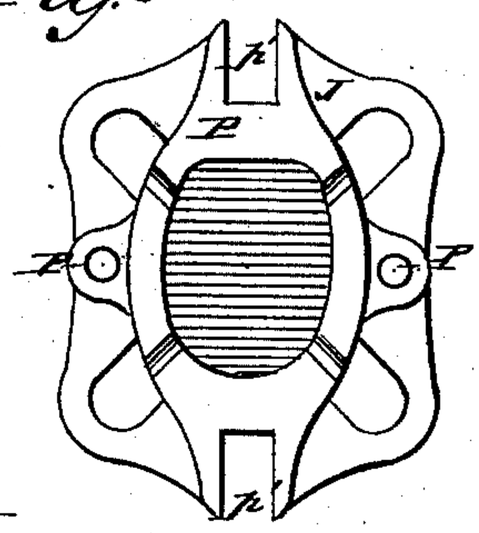
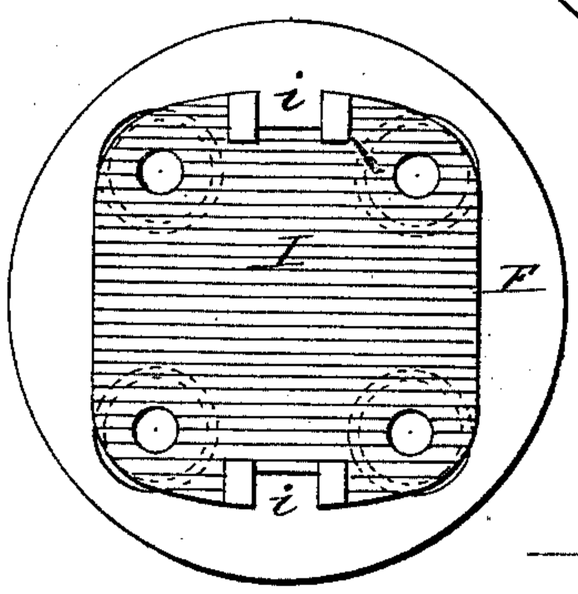
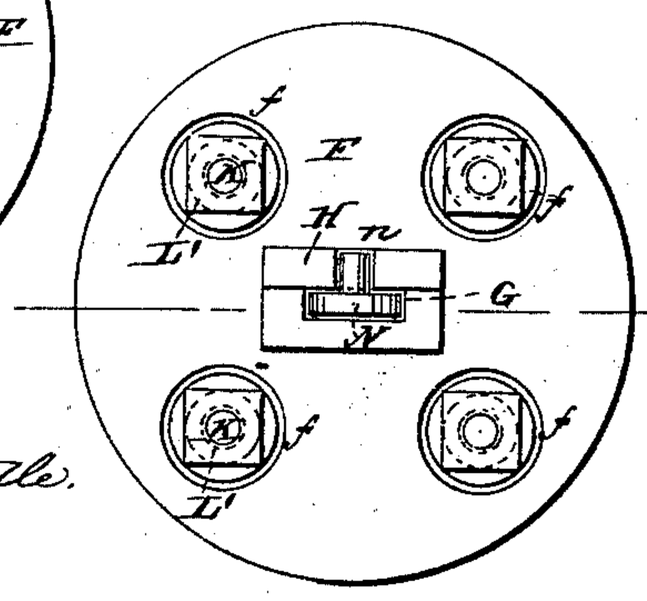


Fig. 3





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UNITED STATES PATENT OFFICE.

LEMUEL D. DOBBINS, OF CAMDEN, NEW JERSEY.

IMPROVEMENT IN APPARATUS FOR TREATING CELLULOID BASES FOR ARTIFICIAL TEETH.

Specification forming part of Letters Patent No. **222,678**, dated December 16, 1879; application filed October 11, 1879.

To all whom it may concern:

Be it known that I, LEMUEL DAVIS DOBBINS, of Camden, in the county of Camden and State of New Jersey, have invented a new and Improved Apparatus for Treating Celluloid Bases for Artificial Teeth, of which the following is a specification.

The invention consists in a top plate, from which the press and clamp are suspended by means of screw-bolts, which plate rests on the upper edge of the cylindrical chamber.

It further consists in an improved press and clamp, which are so arranged that the clamp can be readily removed from the press for cooling.

In the accompanying drawings, Figure 1 represents a vertical cross-sectional elevation of my improved apparatus on the line *x x*, Fig. 2. Fig. 2 is a top view of the conical base with the cylindrical chamber. Fig. 3 is a plan view of the top plate of the cylindrical chamber. Fig. 4 is a plan view of the clamp, showing the upper part of the same removed. Fig. 5 is a view of the under side of the top plate of the clamp. Fig. 6 is a plan view of the clamp, showing the upper part in place. Fig. 7 is a view of the under side of the bottom plate of the clamp. Fig. 8 is a view of the under side of the top plate of the press. Fig. 9 is a perspective view of one of the screw-bolts.

Similar letters of reference indicate corresponding parts.

A represents a cast-metal conical annular base, provided with ears *a a*, into which the ends of a bail are hooked for transportation, &c. A cylindrical cast-metal chamber, B, of the same outside diameter as the inside diameter of the top of A, and which is slightly beveled toward the top, and is provided with two feathers or guides, C C, on the sides, and two slots, D D, in the bottom E, fits into the opening in the base A, and as the top is wider than the bottom it will be supported in this base. A plate, F, provided with a slot, G, in the center, and adjoining this slot with an upright plate, H, having a small notch, *h*, in its upper edge, and with four apertures, *f f f*, for the screw-bolts, rests upon the upper edge of B.

The press has a top plate, I, and a bottom plate, J, which, at the same time, is the bottom plate of the clamp. These two plates contain between them the other parts of the clamp, and are pressed together by four or any suitable number of screw-bolts, K, provided with heads L and nuts L′.

The top plate, I, of the press is provided with four tubes, M, passing up through the apertures *f f* in the plate F, and through which tubes the screw-bolts pass, and have their nuts resting upon the upper edge of these tubes. The plate I is also provided with a standard, N, which passes through the slot G in F, and has a small right-angled projection, *n*, fitting into the notch *h* in H.

The bottom plate, J, is provided with a cavity, O, which forms part of the clamp, into which the plaster mold and the celluloid are placed, and with four holes, *j j j*, having ridges *l l l* onto sides to prevent the bolt-heads from turning. A ring-shaped plate, P, provided with perforated ears *p p* and with recessed projections *p′ p′*, rests upon J. A plate, Q, provided with projections *r r* on its under side, rests upon P and is covered by I. The projections *r r* are to prevent this lid Q from sliding off of the opening in P. The feathers or guides C C pass into the recesses *i i* in I, *p′ p′* in P, and *s s* in J, and prevent the clamp and press from turning. Two screws, R R, pass through the screw-holes *t t* in J and into the screw-holes in the ears *p p* of P, and hold P and J together independently of the other parts of the press.

The apparatus operates as follows: The moist plaster molds and the celluloid plates are placed into the clamp, the parts P and J are united by the screws R, and the lid Q is placed on top of the clamp. The screw-heads then rest on the bottom E of B. The press top plate, I, with the tubes M M and the top F, are united, as shown in Fig. 1, and passed into the chamber B, so that feathers C pass into the recesses in the different parts. The chamber B with contents is then placed into the base A, and the latter is placed onto an ordinary stove or onto the hot coals. By the action of the heat the celluloid will begin to swell and camphor is liberated, which is carried off by the current of air passing up

through the slots D D in the bottom E. As soon as all the camphor has escaped the plate I will begin to drop, and as soon as the projection *n* rests in the notch *h* the screw-bolts must be drawn up tight.

The base A retains the heat for a long time, and as it gets warm gradually the plates are not in danger of being damaged by a sudden effect of the heat.

As soon as the base is molded the press is taken out of the chamber B, the nuts are loosened, the bolts are drawn out, and the clamp consisting of the parts P and J can be removed from the press, can be laid aside for cooling, and a fresh clamp can be placed into the press as long as the parts are warm, thus saving heat. As the parts P and J are united by the screws R R, the molded base cannot warp when the clamp is removed from the press, but is firmly held between the plaster mold until it is cold. The apparatus works so rapidly that the plates are molded before the plaster molds are dry.

If celluloid is placed between moist plaster molds, it is not damaged by heat.

I am aware that it is not new to use a chamber surrounded by a conical sheet-metal jacket; but

What I claim as new and of my invention is—

1. The combination of the base A with the cylindrical chamber B, provided with feathers C C on the sides, and the slots E E in the bottom, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the top plate, F, provided with a slot, G, and vertical projection H, with the top press-plate, I, provided with a standard, N, and bolt-tubes M M, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the bottom clamp-plate, J, the intermediate part, P, and the press-plate I, and the tubes M M, with the screws K K, substantially as shown and described, and for the purpose set forth.

4. The combination of the chamber B, provided with the feathers C C, with the plate I, having recesses *i i*, the part P, having recesses *p p*, and the bottom plate, J, having recesses *s s*, substantially as herein shown and described, and for the purpose set forth.

LEMUEL DAVIS DOBBINS.

Witnesses:

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AARON ELLIS.