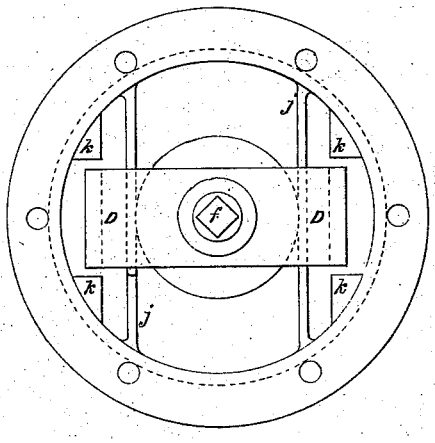
F. L. HEARSON & J. H. MOSELEY.

Apparatus for Forming Dental-Plates.

No. 161,033. Patented March 23, 1875.

Fig. 1



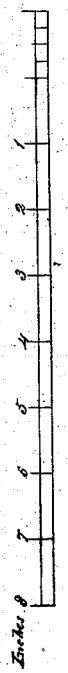
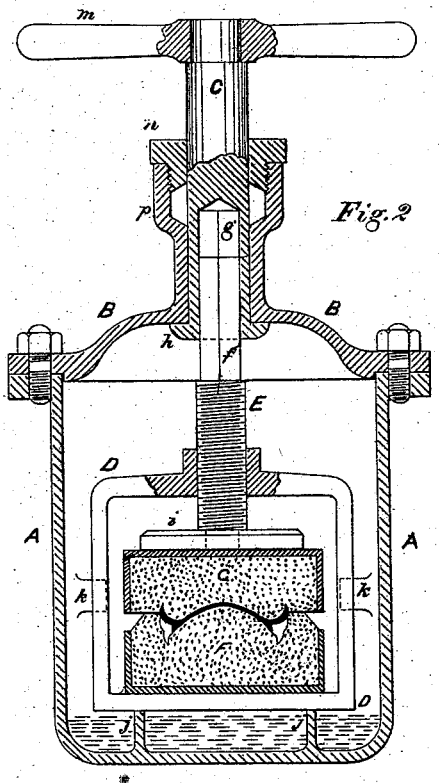


Fig. 2



WITNESSES.

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FREDERICK L. HEARSON AND JACOB H. MOSELEY, OF BROOKLYN, N. Y.

IMPROVEMENT IN APPARATUS FOR FORMING DENTAL PLATES.

Specification forming part of Letters Patent No. **161,033**, dated March 23, 1875; application filed February 27, 1875.

To all whom it may concern:

Be it known that we, FREDERICK L. HEARSON and JACOB H. MOSELEY, of the city of Brooklyn, county of Kings and State of New York, have invented certain Improvements in Apparatus used for Forming Dental Plates and other articles from celluloid or similar substances, of which the following is a specification:

This invention appertains to the boiler and molds, or apparatus, used in forming dental plates, &c., from celluloid or other like substances; and it consists in a novel arrangement of the boiler and molds, so that a mechanical pressure can be applied to the mold when it is secured within the boiler; and it also permits the removal of the mold from the boiler without relieving the mechanical pressure upon the mold.

In the annexed drawings, which form part of this specification, Figure 1 represents a plan of an apparatus embodying our invention, the lid or cover of which is removed so as to illustrate the internal arrangements of the boiler having the screw-press or mold-press within. Fig. 2 is a vertical central section, in part, representing the invention complete.

Similar letters of reference in the two figures represent like parts.

A represents the boiler, in which the mold is subjected to the action of the steam during the process of treating and forming the material into the desired shape. B is the boiler lid or cover, through the central part of which passes a revolving shaft, *c*. Upon the lower end of this shaft is a collar, *h*, and upon the upper end is a lever-handle, *m*. A stuffing-box, P, is made in the neck or central projection of the cover B, into which a nut or gland, *n*, is screwed. The lower part of the shaft *c* is made hollow, the inner surface of which is angular in form. This hollow or socket *g* receives the shaft of the screw E, which is made so as to fit into the hollow or socket *g*. D is a clamp-frame, which is intended to embrace and hold the molds F and G. The screw E operates through the upper part of the clamp-frame D upon a disk, *i*, for the purpose of forcing the molds F and G together. *k k* are projecting lugs upon the inner surface of the boiler A, and are intended to prevent the frame D from revolving in the boiler when the screw E is turned. *j j* are ribs or projections upon the bottom of the boiler for the purpose of strengthening the boiler at that place, and of supporting the frame D in a position above the water-line. If desired, a recess may be made in the ribs *j j*, so as to allow the bottom part of the frame D to enter, which will also prevent the said frame from turning when the screw E is revolved.

The operation of this invention is as follows: The material to be treated is placed within the mold, then the mold is placed within the clamp-frame, and the screw E is turned until disk *i* presses upon the mold with sufficient force to hold it in position. The frame and molds are then inserted in the boiler A, which contains the desired amount of water. The lid or cover B is then secured to the boiler A by means of screws, bolts, or in any other known manner. It is then subjected to heat, when the material in the molds gradually becomes softened. Then, by turning the shaft *c* by the lever-handle *m* the screw E is revolved, and presses upon the disk *i*, thus forcing the molds G and F together and the contained material into the desired shape. After the material has been subjected to the action of steam and pressure the desired time, the steam is reduced and the cover-lid B is removed; the clamp-frame and mold are withdrawn without reducing the mechanical pressure on the molds from the screw E. It is thus laid aside to be cooled, when a similar frame, screw, and mold may be placed in the boiler A, and the operation renewed as above. By the use of this invention the delay caused by waiting for the boiler with its contents to become cool, as is necessary in the apparatus now in general use, so that the pressure should not be reduced upon the molds until their contents are cold, is entirely avoided, and in a measure it dispenses with the sudden cooling of the boiler by immersing it in cold water, which often produces injurious effects by its unequal contraction, and the liability of springing the boiler from the pressure of the screw.

Having thus described the construction and operation of our invention, what we claim, and desire to secure by Letters Patent, is—

In a boiler for making dental plates, &c., the revolving hollow shaft *c* passing through the cover B, in combination with the screw E, from which it is detachable, and the mold-frame D, whereby pressure can be applied to the molds within the boiler, and the molds, frame, and screw can be withdrawn from the boiler and separated from the boiler-cover without reducing the pressure upon the molds, substantially as described.

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Witnesses:
SYLVESTER CHICHESTER,
GEORGE COCHRAN.