

M. J. MURRAY.
MOLD FOR FORMING ARTIFICIAL TEETH.

(Application filed Dec. 5, 1901.)

(No Model.)

Fig. 1.

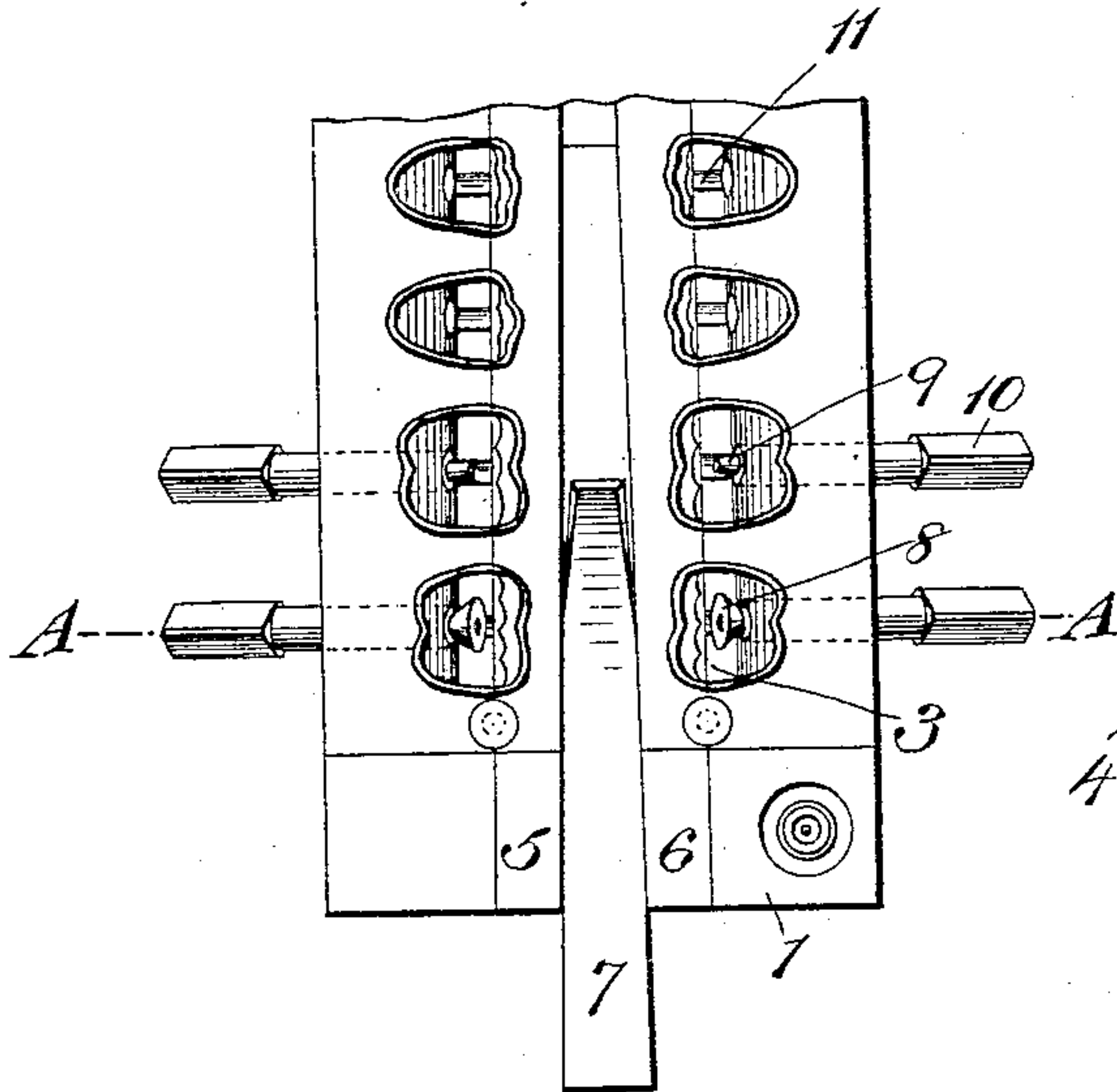


Fig. 2.

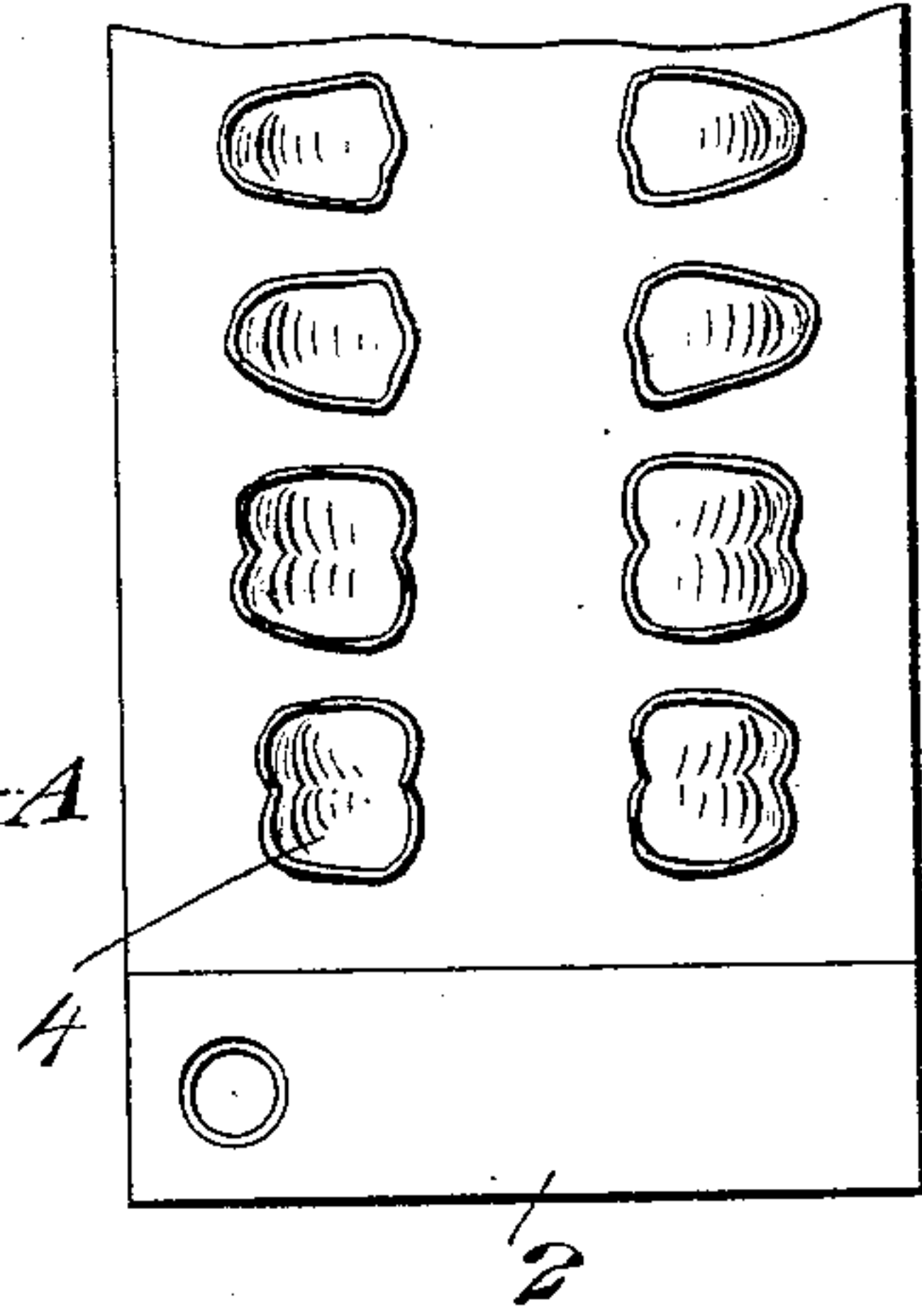


Fig. 3.

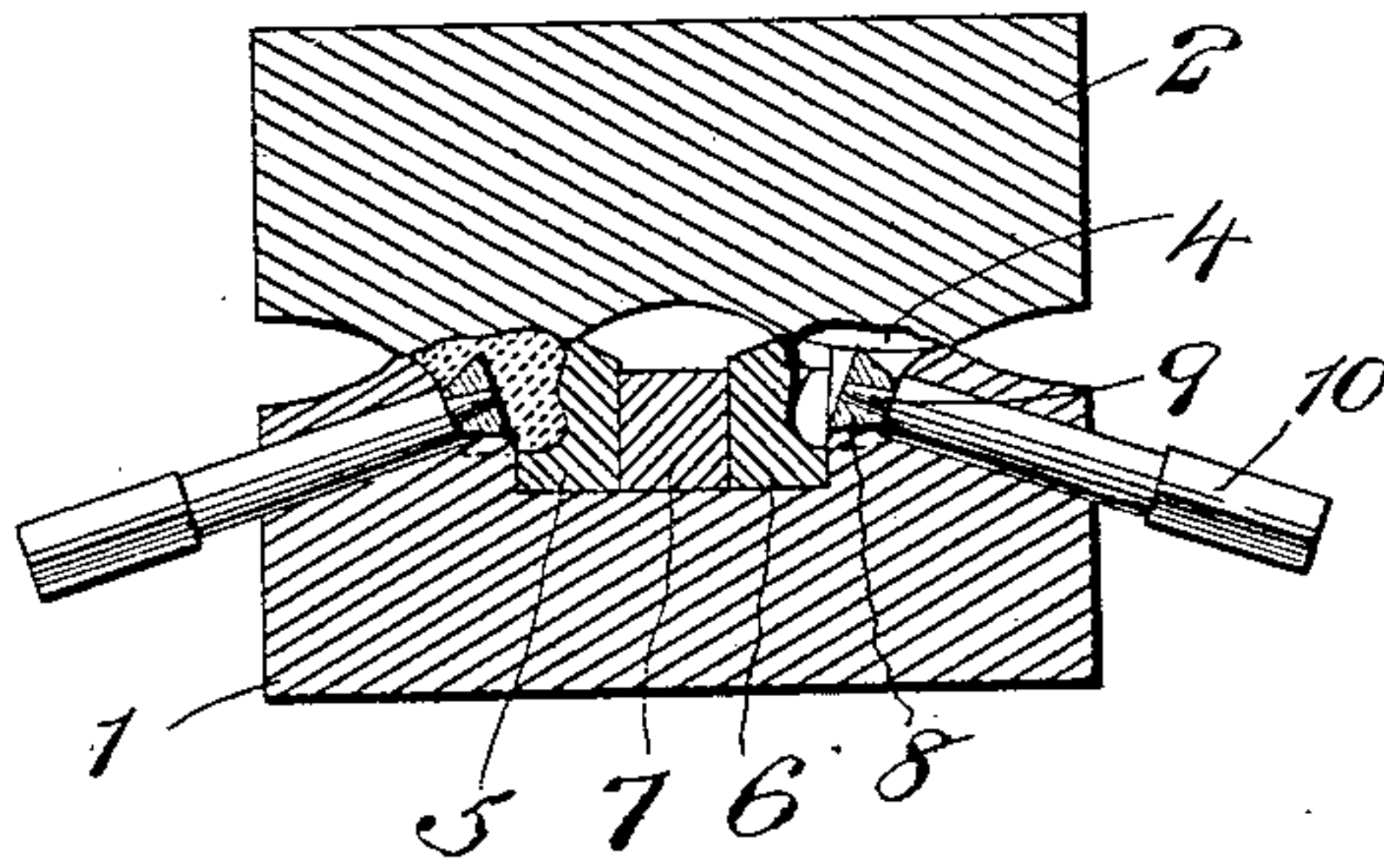


Fig. 4.



Fig. 5.



Fig. 6.

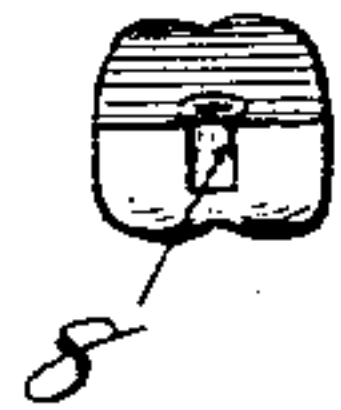


Fig. 7.



Fig. 8.

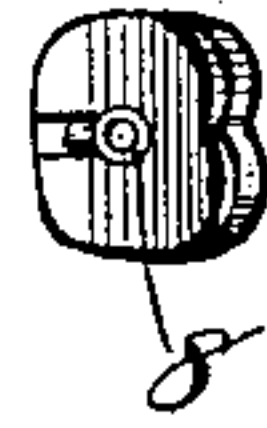


Fig. 9.



UNITED STATES PATENT OFFICE.

MICHAEL J. MURRAY, OF NEW YORK, N. Y., ASSIGNOR TO CONSOLIDATED DENTAL MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

MOLD FOR FORMING ARTIFICIAL TEETH.

SPECIFICATION forming part of Letters Patent No. 713,330, dated November 11, 1902.

Application filed December 5, 1901. Serial No. 84,736. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. MURRAY, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Molds for Forming Artificial Teeth, of which the following is a specification.

The object of my invention is to provide an improvement in a mold for forming artificial teeth in which the matrix is so formed as to produce a groove leading from the exterior of the tooth to the face of the combustible core therein after the tooth has been molded into shape in the mold, so that when the combustible core is consumed during the firing communication with the cavity within the tooth is established with the exterior along one side of the said cavity.

A further object is to provide a mold of the above character in which the combustible core is formed of such shape that when it is consumed during the firing of the tooth a dovetailed cavity will be formed in the tooth for permitting the tooth to be anchored to the artificial gum without the use of platinum pins, as has hitherto been usual.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a face view of a portion of one section of a mold for forming artificial teeth, the conical cores of combustible material being shown held in position upon their supporting-pins within two of their matrices, the next two matrices showing the removable pins in position without the cores therein and the remaining matrices having the pins removed therefrom. Fig. 2 is a face view of a portion of the other section of the mold shown in Fig. 1. Fig. 3 is a transverse vertical section through the mold in the plane of the line A A of Fig. 1, one of the completed matrices being filled with the body composition of the tooth to show the method of embedding the combustible core therein. Fig. 4 is a side view of the tooth-blank as it comes from the mold. Fig. 5 is a side view of the combustible core. Fig. 6 is a back view of

the tooth-blank as it comes from the mold. Fig. 7 is a vertical central section from front to rear therethrough. Fig. 8 is a top plan view of the same; and Figs. 9, 10, 11, and 12 represent the completed tooth in back elevation, side elevation, central vertical section, and top plan, respectively.

The mold for forming the tooth-blanks comprises two sections 1 and 2, which when united will form a series of completed matrices, one portion 3 of each matrix being located in the section 1 and the other portion 4 of the said matrix being located in the section 2 of the mold.

The different matrices in the mold are shaped to form the different teeth in a set, as is usual. The section 1 of the mold is provided with the usual two removable pieces 5 and 6, with the intermediate locking-key 7 for facilitating the removal of the tooth-blank after it has been dried. The combustible core for forming a dovetailed recess in the tooth is denoted by 8 and is made of some suitable material—such, for instance, as wood.

By the use of the term “combustible” I intend to embrace any substance which will retain its shape within the tooth-blank under the relatively low temperatures used in molding and drying the same, but which will be caused to vanish when the blank is subjected to the high temperatures used for firing the same to complete the teeth. The core is shown of hollow conical form and is removably secured upon the inner end 9 of a core-supporting pin 10, which extends inwardly through the mold-section 1 into the interior of the matrix 3 therein.

A projecting rib 11 is formed in the bottom of the matrix 3 in position to engage one wall of the combustible core 8 from its base to its top, so as to form a groove 13, connecting the dovetailed recess 12, formed by the core, with the exterior of the tooth for facilitating the attachment of the tooth to its artificial gum by providing an air-vent for permitting the escape of the air within the recess as the material which forms the artificial gum is forced into the said recess.

In operation the core-supporting pin 10 is inserted through the section 1 of the mold until its end 9 projects into the matrix 3. One of the combustible cores 8 is then inserted into position upon the end 9 of the said supporting-pin, the core being thus held in position within the matrix. The matrices 3 and 4, which together form a completed tooth, are then filled with the body composition of the tooth in its plastic state. The two mold-sections are then closed and subjected to pressure and heat sufficient to dry the tooth-blank, as is usual. After the tooth-blank has been sufficiently dried the core-supporting pin 10 is withdrawn from the core, and the two sections 1 and 2 of the mold are removed from engagement with each other. The key 7 and the pieces 5 and 6 are then removed to permit the tooth-blank to be withdrawn from the mold. The tooth-blank, with its core therein, is then inserted into the firing-furnace in the usual manner and left there for the required time to completely fire the tooth. The combustible core 8 is consumed during the firing process, thus leaving the dovetailed recess 12 therein, together with the groove 13, leading from one side of the recess to the exterior of the tooth.

It is evident that changes might be resorted to in the construction, form, and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

1. A mold having a matrix for forming an artificial-tooth blank therein, a core-supporting pin extending into the matrix and a tapered combustible core seated on the core-support within the matrix for forming a dovetailed recess in the tooth-blank open through the wall of the blank, substantially as set forth. 35 40

2. A mold having a matrix for forming an artificial-tooth blank therein, a core for forming a recess in the tooth-blank and a support for the core, the said matrix having a rib in engagement with the core for forming a vent-groove leading from the said recess to the exterior of the tooth-blank, substantially as set forth. 45 50

3. A mold having a matrix for forming an artificial-tooth blank therein, a tapered core for forming a dovetailed recess in the tooth-blank open through the wall of the blank, and a support for the core, the said matrix having a rib in engagement with one face of the tapered core for forming a vent-groove leading from the said recess to the exterior of the tooth-blank, substantially as set forth. 55 60

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 30th day of November, 1901.

MICHAEL J. MURRAY.

Witnesses:

FREDK. HAYNES,
C. S. SUNDGREN.