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1,441,384.

J. A. THOMAS ET AL.
SANITARY SUCTION FOR ARTIFICIAL DENTURES.
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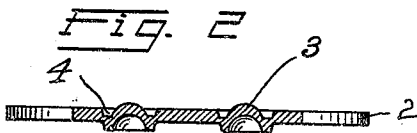
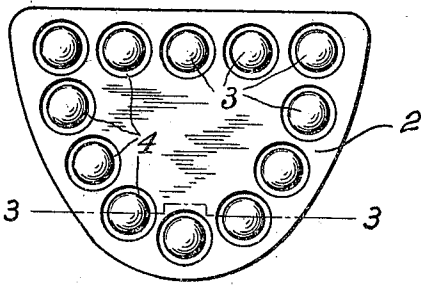


Fig. 3

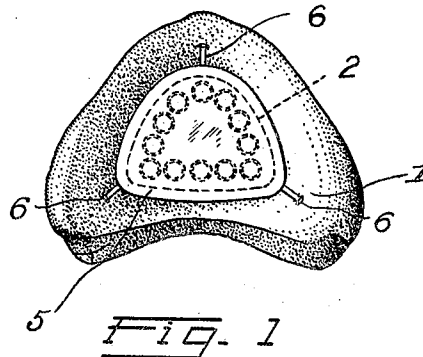


Fig. 1

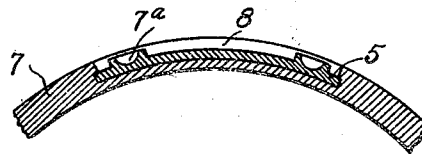


Fig. 5

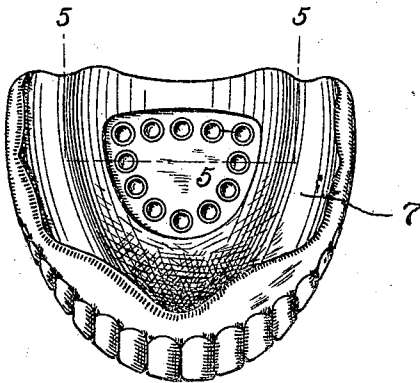


Fig. 4

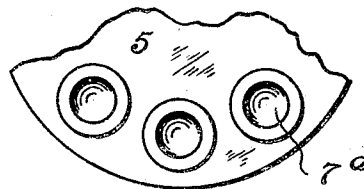


Fig. 6

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UNITED STATES PATENT OFFICE.

JACOB A. THOMAS AND ROBERT S. THOMAS, OF WASHINGTON, DISTRICT OF COLUMBIA.

SANITARY SUCTION FOR ARTIFICIAL DENTURES.

Application filed March 3, 1922. Serial No. 540,774.

To all whom it may concern:

Be it known that we, JACOB A. THOMAS and ROBERT S. THOMAS, citizens of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in a Sanitary Suction for Artificial Dentures, of which the following is a specification.

The object of our invention is the provision of a sanitary suction plate for artificial dentures whereby the same are more firmly and positively held in engagement with the palate or roof of the mouth. A further object of our invention is the provision of a sanitary suction plate provided with suction cups whereby artificial dentures are held more positively and firmly in engagement with the palate or roof of the mouth. A still further object of our invention is the provision of a sanitary suction plate provided with a depressed, flexible, non-vulcanizable insert provided with suction cups for the purpose set forth above. A still further object of our invention is a novel form of construction or building of artificial dentures having imbedded therein a soft rubber insert provided with suction cups adapted to contact with the palate or roof of the mouth thereby more positively and firmly holding the artificial denture in place.

We attain these objects by the construction illustrated in the accompanying drawings which form a part of this application and of which Fig. 1 is a perspective view of the mold having imbedded therein a semi-elliptical shaped suction cup forming plate shown in dotted lines and also showing a non-vulcanizable sheet of rubber superimposed thereon. Fig. 2 is an enlarged plan view of the suction cup forming plate. Fig. 3 is a transverse section taken on the plane of line 3—3 in Fig. 2, the cups intersected by said plane only being shown. Fig. 4 is a perspective view of the artificial denture in its completed state. Fig. 5 is an enlarged fragmental transverse sectional view taken substantially on the line 5—5 of Fig. 4, the cups intersected by said line only being shown. Fig. 6 is an enlarged fragmental plan view of the rubber insert, showing to advantage formation of the suction cups. Referring in detail to the drawing, the numeral 1 designates the mold customarily used in the formation of an artificial denture. The numeral 2 designates a soft metal

plate provided with a plurality of counter-sunk semi-spherical projections. The numeral 3 designates the said counter-sunk projections defining circular grooves, 4, therearound and projecting slightly beyond the surface of the plate, said projections and grooves being formed by pressing out the metal as clearly indicated in Fig. 3. The numeral 5 designates a non-vulcanizable sheet of rubber which in the process of forming the artificial denture is super-imposed on the plate 2 which has previously been pressed into the mold as indicated in Fig. 1. This rubber sheet is temporarily held in position by three obliquely deposed pins as indicated at 6.

The non-vulcanizable rubber sheet is of soft, flexible rubber and when placed on the plate 2 as indicated in Fig. 1, will upon pressure thereto be formed with suction cups of the conformation of the counter-sunk projections on plate 2 and as indicated on the inner side of Fig. 3. The mold 1 with the plate 2 and non-vulcanizable sheet 5 positioned thereon as indicated thereon in Fig. 1 is now in condition for the complete forming of the artificial denture in the usual manner. In the process, the vulcanizable rubber and porcelain teeth are placed in their respective positions on the mold according to accepted dental practice and when thus placed together with the non-vulcanizable rubber sheet 5 positioned over the plate 2 is subjected to vulcanization. After the process of vulcanization, the mold 1 with the attached plate 2 is removed, leaving the artificial denture as indicated at 7 in Fig. 4 of the usual form with the exception that it has imbedded therein a soft rubber sheet provided with a plurality of marginal suction cups, 7^a, which is the essence of our invention.

It is to be particularly noted that the plate 2 is not pressed in the mold 1 its full thickness but projects slightly above the surface thereof, the object of this being that in the finished denture the sheet 5 will be depressed below the general arched surface of the artificial denture on its upper or palate side thus providing a shallow suction recess 8. It is further to be particularly noted that in the completed denture the suction recess and suction cups are integral with the main body portion of the denture which obviates the possibility of unsanitary elements becoming lodged, which would be

the case if the suction cups were secured to the body portion by mechanical means.

We are aware that artificial dentures with suction recesses therein have heretofore been employed or at least proposed but said suction recesses were formed directly in the vulcanizable rubber and thus entirely lacked the advantageous features of our invention which provides a soft rubber sheet or insert provided with a plurality of suction cups adapted to firmly, uniformly and positively engage the roof of the mouth and thus avoid all possibility of the denture falling out. The above is one specific embodiment of our invention but it is to be understood that we are not limited thereto but reserve the right to such modifications as fall within the right of our claims as hereunto appended.

What we claim and desire to secure by United States Letters Patent is:

1. The method of making an artificial denture which consists in pressing a soft metal suction cup forming plate in a mold, placing a non-vulcanizable rubber sheet thereover and further building up the arti-

ficial denture over the mold and said sheet and subjecting the whole to vulcanization, thereafter removing the mold structure.

2. In combination with a mold for artificial dentures a soft metal plate located in the depressed portion thereof provided with counter-sunk projections adapted to form suction cups in the artificial denture in the process of manufacture thereof.

3. A mold for artificial dentures comprising a soft metal plate, semi-elliptical in shape and having suction cups forming projections in the margin thereof.

4. An artificial denture having a shallow recess therein provided with a plurality of suction cups in the base thereof, said recess, with plurality of suction cups, being integral with artificial denture upon completion of vulcanization and forming a fixed and permanent part of the artificial denture by reason of its construction.

In testimony whereof we affix our signatures.

JACOB A. THOMAS.
ROBERT S. THOMAS.