F. H. BROWN.

DENTAL FLASK.

APPLICATION FILED SEPT. 26, 1919.

1,347,205. **Patented July 20, 1920.**

Fig. 1.

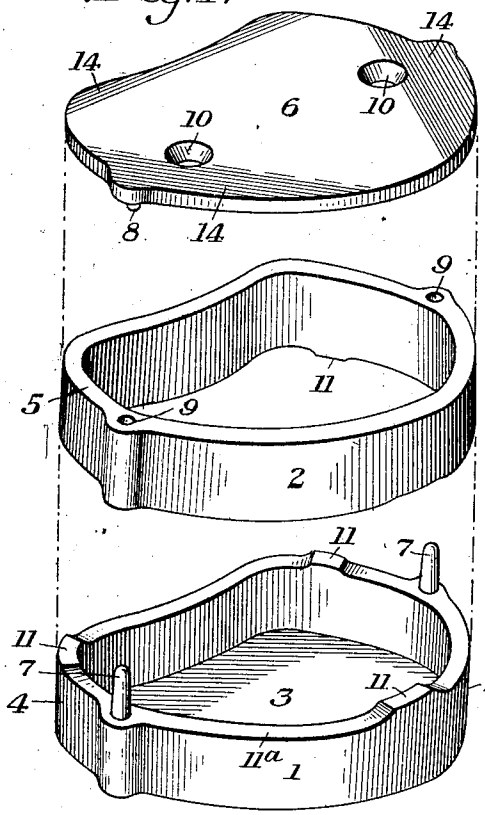


Fig. 3.

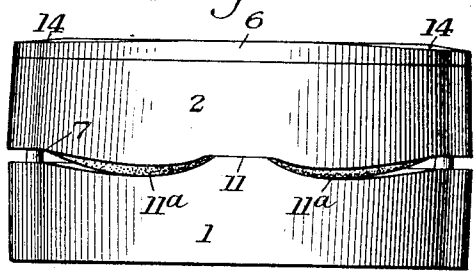


Fig. 4.

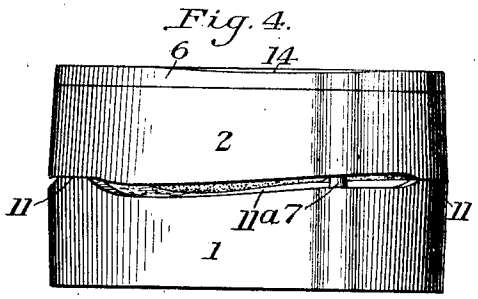


Fig. 2.

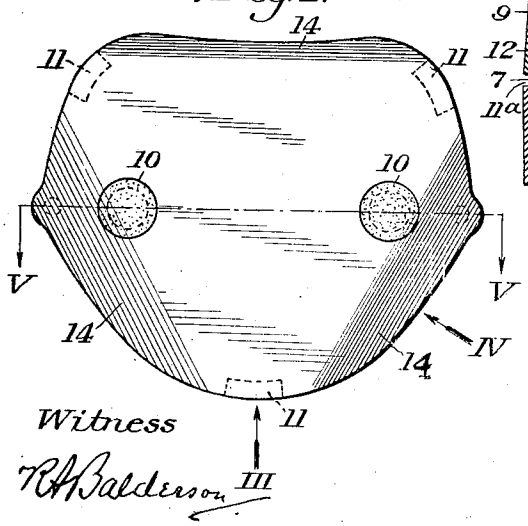
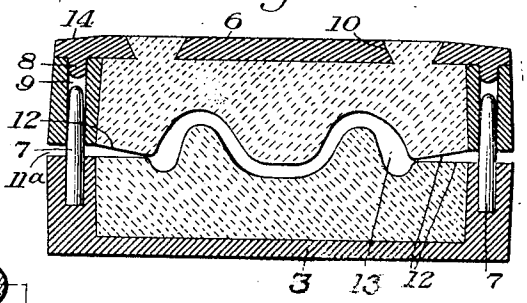


Fig. 5.



Witness

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UNITED STATES PATENT OFFICE.

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DENTAL FLASK.

1,347,205. Specification of Letters Patent. Patented July 20, 1920.

Application filed September 26, 1919. Serial No. 326,463.

To all whom it may concern:

Be it known that I, FREDERIC H. BROWN, a citizen of the United States, residing at Lebanon, in the county of Grafton and State of New Hampshire, have invented a new and useful Improvement in Dental Flasks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to an improvement in dental flasks employed by dentists in making dental plates for artificial teeth. In making such plates, the dentists make a "case," that is, a wax mold, of the dental plate mounted on a plaster of Paris form. This case is invested in the dental flask as follows: The lower half or base of the flask is filled with freshly mixed plaster of Paris of about the consistency of thick cream, and the case is set down into the plaster up to the moist wax. The overflow of plaster is removed, and the plaster is allowed to set, after which the surface of the plaster is soaped or varnished to facilitate the opening of the flask later. The ring of the flask is then put in place and filled up with freshly mixed plaster of Paris, and the cap put on. The plaster is then allowed to set, after which the flask and its contents are warmed and the flask is opened. The wax is then boiled out, leaving a plate or mold cavity of the shape in which the dental plate is to be made. The artificial teeth remain in the plaster and their roots or bases extend into the mold cavity. The dentist then packs into the mold cavity the material from which the plate is to be made, generally soft rubber. The two halves of the flask are then put together and clamped in a cage and put in a vulcanizer in which the flask with its contained rubber plate is subjected to a vulcanizing heat for some time. This converts the soft rubber into a hard rubber or vulcanite plate. The flask is then opened and the plate removed and finished. In my improved dental flask, three points of contact are provided between the lower half or base and the upper half or ring, so as to insure a correct positioning of the two halves of the flask when clamped. Between the points of contact, the edges of the base and ring are cut away to provide relief vents for any surplus rubber. The surface of one or both of the flat ends of the flask beyond the outline of the triangle found by the three points of contact is beveled or cut away, so that when two or more flasks are put into a clamping cage, the possibility of tilting on the bearings or contact points between the halves of the flask is prevented.

In the drawings in which is illustrated the preferred embodiment of my invention:

Figure 1 is a perspective view showing the three parts of the flask separated;

Fig. 2 is a top plan view of the flask;

Fig. 3 is a side elevation taken in the direction of the arrow III of Fig. 2;

Fig. 4 is a side elevation taken in the direction of the arrow IV of Fig. 2; and

Fig. 5 is a vertical section along the line V—V of Fig. 2.

Referring to the illustrated embodiment of the invention, the flask consists of upper and lower halves indicated generally by the reference numerals 1 and 2. The lower half or base 1 is shaped like a shallow cup having a flat bottom or end portion 3 and vertical sides 4. As is usual in dental flasks, the bottom 3 and sides 4 are made integral. The upper half of the flask consists of the ring 5 which forms the sides of the upper portion and a flat top or cap 6.

The parts of the flask are held in alinement by dowel pins 7 on the base and dowel pins 8 on the top plate, which fit into dowel pin holes 9 in the ring. Dowel pins or guides may be used as shown or may be on the outside of the flask as commonly used. The cap 6 is provided with the usual relief openings or vents 10, for the escape of the excess plaster of Paris. The parts of the flask are made of metal, preferably brass. The upper edge of the base 4 and the lower edge of the ring 5 have three bearing points 11. The edges between the bearing points 11 are cut away to leave relief vents or slits 11^a, through which surplus rubber may escape during vulcanization. The slits 11^a also prevent the base and ring from being brought into contact between the bearing points 11, thus insuring a seating of the base and ring at the three points 11, even though plaster or other foreign substances lie between the edges of the base and ring along the portions intermediate the bearing points 11. The three bearing points insure the correct posi-

tioning of the two halves of the flasks when closed, even though the flask should become bent or warped in use.

In forming the plaster mold inside of the flask, I cut or bevel away the edge of the plaster at 12 beyond the mold or plate cavity 13, in which the plate is formed. In beveling away this portion, I form a V-shaped vent, the point of the V being at the edge of the plate cavity 13, and the wide part of the V extending out to the edge of the relief vent 11^a. Any surplus rubber is permitted to escape through this beveled relief vent 12.

One or both of the top or bottom plates 6 is preferably beveled or cut away beyond the outline of the triangle formed by the three bearing or contact points 11. In the drawings, I have illustrated the top plate or cap 6 as being beveled or cut away at the three places 14 beyond the outline of the triangle formed by the three bearing points 11. When two or more flasks are put into a press or clamp for vulcanizing, this cutting away beyond the outline of the triangle prevents contact between the adjacent flasks at points which are sufficiently beyond the outline of the triangle to cause relative tilting of the two halves of the flask about two bearing points 11. The pressure between adjacent flasks will be exerted within the triangle 11, and because of the three-point contacts will insure a firm non-tilting engagement between the two halves of the flask.

While I have specifically illustrated and described the preferred embodiment of my invention, it is to be understood that the invention is not limited to its preferred embodiment, but it may be otherwise employed in dental flasks within the scope of the following claims.

I claim:

1. A dental flask comprising freely separable upper and lower portions having three projecting points of contact, whereby they may always be evenly seated against each other when clamped, substantially as described.

2. A dental flask comprising a cup-like base portion and an upper portion having a ring fitting against the top of the base portion and having three projecting points of contact therewith, substantially as described.

3. A dental flask having upper and lower portions and having the abutting edges of said portions cut away on all sides so as to leave only three projecting points of contact with openings between them, substantially as described.

4. A dental flask comprising a freely separable cup-like base portion and a ring having their abutting edges cut away to form three projecting points of contact separated by openings, whereby the base and ring may be always evenly seated against each other when clamped, substantially as described.

5. A dental flask having upper and lower portions provided with a three-point contact and having end plates, one at least of said end plates being cut away beyond the outline of the triangle formed by the three contact points, substantially as described.

In testimony whereof, I have hereunto set my hand.

FREDERIC H. BROWN.