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2,328,285

DENTAL FLASK

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Fig. 1.

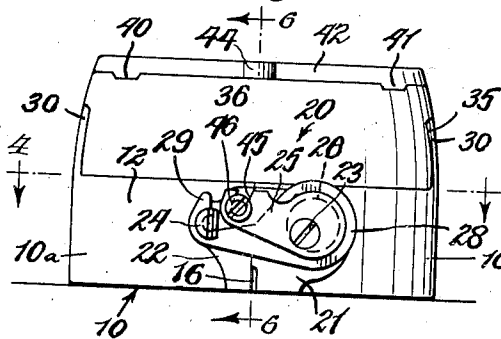


Fig. 2.

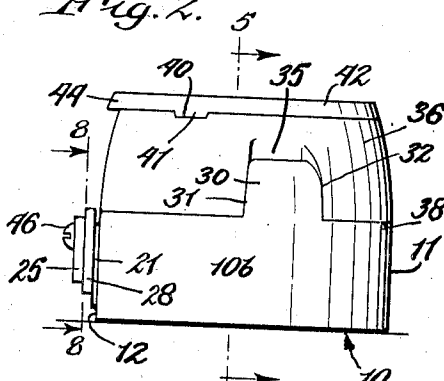


Fig. 6.

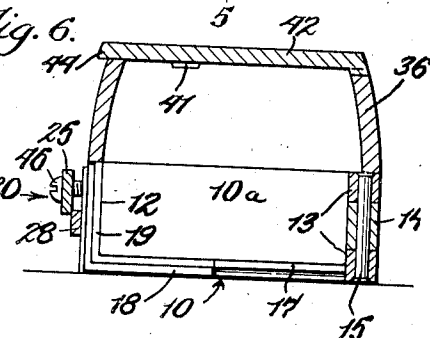


Fig. 3.

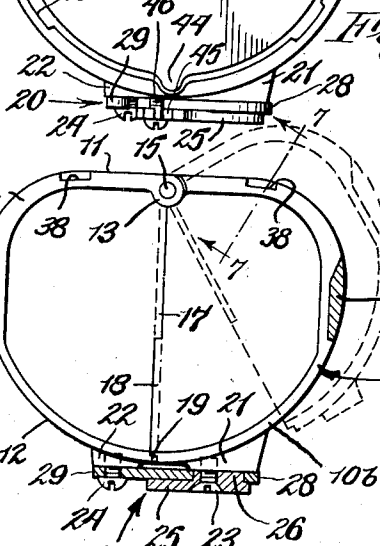


Fig. 4.

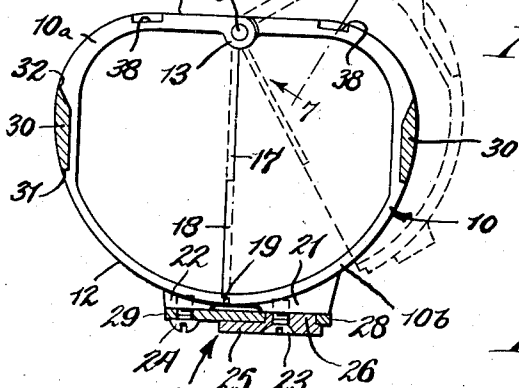


Fig. 5.

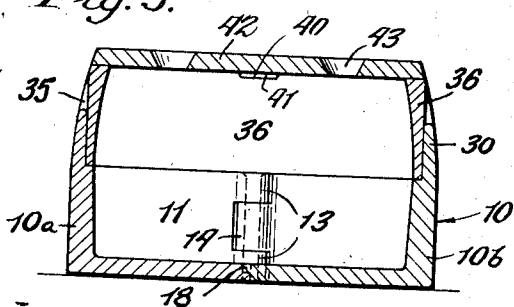


Fig. 7.

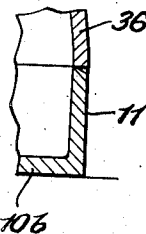
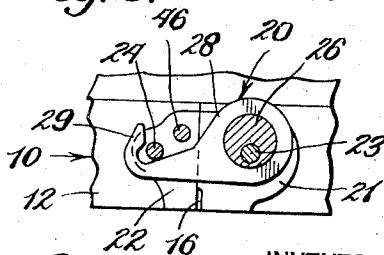


Fig. 8.



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## UNITED STATES PATENT OFFICE

2,328,285

## DENTAL FLASK

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7 Claims. (Cl. 18—33)

This invention relates to a dental flask and more particularly to such a dental flask for molding and vulcanizing artificial dentures.

One of the principal objects of the invention is to obtain an absolutely true and accurate reproduction, in rubber or other plastic, of the wax model of the denture.

Another object of the invention is to provide such a dental flask which can be readily and gently opened without danger of injury to the teeth or plate of the artificial denture, especially the danger of breaking anterior teeth with long bites, or fragile plates.

Another object is to provide such a flask which will save the time of the operator in removing the plaster investment.

Another purpose is to provide such a flask which will accommodate all the large and varied sizes of artificial dentures and in which all of the different plastic materials employed in denture work can be treated.

Another object is to provide a flask having a readily operable latch for holding the parts of the flask in a closed position.

Another object is to provide such a latch which can be locked in its closed position to prevent accidental opening or loosening of the latch and flask parts.

In the accompanying drawing:

Fig. 1 is a front elevation of a flask embodying my invention.

Fig. 2 is a side view thereof.

Fig. 3 is a top plan view.

Fig. 4 is a horizontal section, taken on line 4—4, Fig. 1.

Figs. 5 and 6 are vertical sections, taken on the correspondingly numbered lines on Figs. 2 and 1, respectively.

Fig. 7 is a fragmentary vertical section, taken on line 7—7, Fig. 4.

Fig. 8 is a fragmentary section, taken on line 8—8, Fig. 2.

In general the flask is shown as comprising a multipart flask comprising a bottom portion, an intermediate portion and a top or cover portion, the bottom portion being made of two halves pivoted together at the back of the flask to swing apart horizontally and held closed by a quickly releasable latch which also serves to draw the two halves tightly together; the intermediate portion being in the form of an integral one piece rim fitted over the rim of the bottom portion to form an upward continuation thereof and being provided with external vertical recesses which receive upright centering fingers of the

bottom portion and the top or cover portion being provided with lugs on the underside of its margin which interfit with other centering recesses in the rim of the intermediate portion. The flask portions are adapted to be filled with plaster of Paris, or other solidifying plastic and the wax model with the teeth in position is placed in the plaster of Paris, suitable provision being made to permit of parting of the plaster investment. After the plaster of Paris has set, the wax is boiled out and rubber or other plastic is substituted for the wax and the flask placed in a vulcanizer to vulcanize the rubber. The plaster investment is then removed from the flask and the completed denture removed from the plaster.

The dental flask forming the subject of my invention as shown in the drawing, comprises a bottom portion 10 of cup-like form having, in plan, a horizontally straight back wall 11 and a rounding front wall 12. The inner faces of these walls are preferably vertical, as best shown in Figs. 5 and 6. This bottom portion is made of two sections 10a and 10b, the rear wall of the section 10a being made to provide a pair of hinge eyes 13 at its inner edge and the rear wall of the section 10b being formed to provide a single hinge eye 14 which fits between the hinge eyes 13. A vertical pintle 15 connects the hinge eyes 13 and 14 so that the two parts of the bottom portion 10 are opened by separating the front ends of the sections, the location of the hinge connection in the rear walls of these sections facilitating the freeing of the sections from the plaster investment since the location of this hinge connection, for example, in the front wall of the bottom portion would render it impossible to separate the two sections without breaking the plaster core. To further facilitate the separation of the two halves of the lower portion 10, a vertical screw driver slot 16 can be provided in the lower front corner of the bottom portion 10 between the two sections 10a and 10b and into which a screw driver can be inserted to force the two sections apart, if necessary.

To prevent the leakage of fluid plaster from between the two sections 10a and 10b of the bottom portion of the flask, the bottom of the section 10a is recessed on its underside and along its inner edge adjacent the hinge connection to provide a tongue 17 which fits into a corresponding groove provided in the other section 10b. This tongue 17 extends to the center of the lower portion 10 of the flask at which point the relation of the tongues and grooves of the two sections is reversed, the section 10a being recessed

in the upper side of its bottom along its inner edge to receive a corresponding tongue 18 provided in the section 10b. This tongue 18 extends to the front wall of the section 10b which front wall is recessed in its outer front corner to receive a vertical tongue 19 in the front wall of the section 10a.

The two halves of the bottom portion 10 of the flask are drawn together and locked in a closed condition by a latch on the front wall, this latch 10 being indicated generally at 20. For this latch, the front wall of the section 10b is provided with a boss 21 and the front wall of the section 10a is provided with a boss 22, the front faces of these bosses being flat to provide a coplanar vertical face 15 at the front of the flask. A screw 23 projects horizontally forward from the boss 21 and a screw 24 projects horizontally forward from the boss 22.

The latch includes a fingerpiece 25 which is formed with a rearwardly projecting tubular hub 26 which is fitted over the screw 23. The opening through this tubular hub is eccentric with reference to its outer cylindrical face, so that when the fingerpiece 25 is turned around the screw 23 as an axis, the tubular hub acts as an eccentric. On this eccentric hub is journaled a flat latch member 28 which is free to swing around the eccentric hub and is arranged against the flat faces of the bosses 21 and 22. The free end of this latch member 28 is formed to provide a hook 29 which is shaped to catch the screw 24. It will therefore be seen that after the sections 10a and 10b of the bottom portion of the flask are closed, the hook 29 can be swung over the screw 24 and the fingerpiece 25 rotated so that its eccentrically mounted hub is caused to draw the latch member 28 to the right, as viewed in Figs. 1 and 8, and thereby draws the sections 10a and 10b tightly together.

Each of these sections 10a and 10b is provided with an upstanding centering finger 30, these fingers projecting up from the rims of these sections at the outer sides of the rims. These fingers are preferably provided with an abrupt vertical front corner 31 and a tapering rear edge 32 and are received in correspondingly shaped recesses 35 provided in an intermediate flask portion 36. This intermediate portion of the flask is a single casting in the form of an open rim which is formed to rest on and provide an upward continuation of the rims of the sections 10a and 10b of the bottom portion of the flask and the centering fingers 35 insure the accurate register of this intermediate section. It will be seen that the shape of these centering fingers 35 and their recesses permit the two sections 10a and 10b of the bottom portion of the flask to be opened and closed while in engagement with the intermediate portion 36. The inner face of the intermediate portion flares outwardly toward the bottom of the intermediate portion so as to facilitate its ready vertical removal from the plaster investment and this inner face forms a smooth continuation of the inner face of the side walls 11 and 12 of the bottom flask portion 10.

To facilitate the separation of the portions 10 and 36 of the flask, the back wall 17 of the bottom portion is preferably provided at its upper edge with screw driver slots 38 into which a screw driver can be inserted for prying the flask portions apart to release the plaster investment.

The intermediate flask portion 36 is provided in its upper part with a plurality of spaced recesses 40 which are formed to fit centering lugs 41 provided on the underside of the top portion

or cover plate 42 of the flask. This cover is of generally flat form and is provided with vent openings 43. This cover may also be provided with a horizontally extending lip 44 at one side which may be tapped to free it from the intermediate flask portion 36 and the plaster investment being released.

In order to prevent the latch 20 from accidentally loosening after it has been closed, the fingerpiece 25 is shown as provided at its upper edge with a notch 45 which, in the closed position of the latch, embraces a locking screw 46. After the latch 20 has been closed, the locking screw 46 is tightened down so as to hold the parts of the latch in the closed position until this locking screw is loosened.

From the foregoing it will be seen that the present invention provides a dental flask which is of simple and strong construction and which is readily assembled and filled with the necessary materials for producing artificial dentures and can be readily opened to release the plaster investment without danger of breaking or distorting the denture.

I claim as my invention:

1. A dental flask of the character described, comprising a cup-shaped bottom portion having a bottom wall and a rim, an intermediate portion interfitting with the rim of said bottom portion and a cover fitting over said intermediate portion and enclosing the flask, said bottom portion being made of two side sections fitted together along a central substantially straight parting line extending through said bottom wall and the opposite sides of said rim, a hinge having a vertical pintle connecting said sections at one side of said flask and a latch connecting said sections at the other side of said flask.

2. A dental flask of the character described, comprising a cup-shaped bottom portion having a bottom wall and a rim forming, in plan, a horizontally straight rear wall and rounding side and end walls connecting the ends of said straight rear wall, an intermediate portion in the form of a rim interfitting with said rim of said bottom portion, a cover fitting over said intermediate portion and enclosing said flask, said bottom portion being made of two side sections fitted together along a parting line extending centrally through said straight rear wall, said bottom wall and said rounding front wall, an external hinge having a vertical pintle connecting said sections at said straight rear wall and a latch connecting said sections at the front side of the flask.

3. A dental flask of the character described, comprising a cup-shaped bottom portion, an intermediate portion in the form of a rim and interfitting with the rim of said bottom portion, and a cover fitted over said intermediate portion and enclosing said flask, said bottom portion being made of two sections formed on their opposing edges with interfitting tongues and grooves, a hinge having a vertical pintle connecting said sections at one side of the flask and a latch connecting the sections at the other side of the flask.

4. A dental flask of the character described, comprising a cup-shaped bottom portion having a rim with a vertical inner face, an intermediate portion in the form of a one-piece rim, the inner face of which forms a continuation of said vertical inner face of said rim of said bottom portion, and tapers inwardly from its line of juncture with said vertical inner face of said rim of said bottom portion to a smaller opening in the top of said intermediate portion, and a cover fitting

over said intermediate portion and enclosing the flask, said bottom portion being made of two sections fitted together, a hinge having a vertical pintle connecting said sections at one side of said flask and a latch connecting said sections at the other side of said flask.

5 5. A dental flask of the character described, comprising a cup-shaped bottom portion, an intermediate portion in the form of a one piece rim arranged on the rim of said bottom portion and forming an upward continuation thereof, a cover fitting over said intermediate portion and enclosing the flask said bottom portion being made of two sections fitted together, a hinge having a vertical pintle connecting said sections at one side of said flask and a latch connecting said sections at the other side of said flask, the rim of said bottom portion being formed to provide upwardly projecting centering fingers and said intermediate portion being externally formed to provide recesses receiving said fingers.

6. A dental flask of the character described, comprising a cup-shaped bottom portion, an intermediate portion in the form of a one piece rim arranged on the rim of said bottom portion and forming an upward continuation thereof, a cover fitting over said intermediate portion and enclosing the flask said bottom portion being made of two sections fitted together, a hinge

having a vertical pintle connecting said sections at one side of said flask and a latch connecting said sections at the other side of said flask, the rim of said bottom portion being formed to provide upwardly projecting centering fingers and said intermediate portion being externally formed to provide recesses receiving said fingers, said bottom portions to be opened and closed while engaged with said intermediate portion.

7. A dental flask of the character described, comprising a cup-shaped bottom portion, an intermediate portion in the form of a one piece rim arranged on the rim of said bottom portion and forming an upward continuation thereof, a cover fitting over said intermediate portion and enclosing the flask said bottom portion being made of two sections fitted together, a hinge having a vertical pintle connecting said sections at one side of said flask and a latch connecting said sections at the other side of said flask, the rim of said bottom portion being formed to provide upwardly projecting centering fingers and said intermediate portion being externally formed to provide recesses receiving said fingers, said intermediate portion and cover being provided with interfitting lugs and recesses to center the same with reference to each other.

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