H. F. WAITE.

DENTAL FILM DEVELOPING APPARATUS.

APPLICATION FILED APR. 24, 1916.

1,208,244. Patented Dec. 12, 1916.

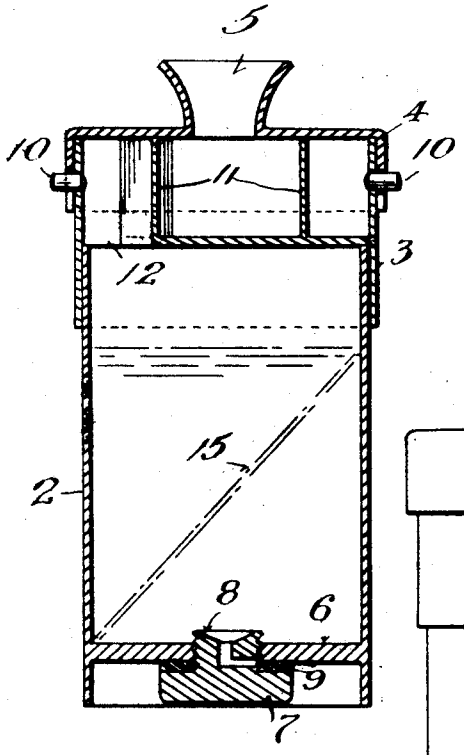


Fig 2

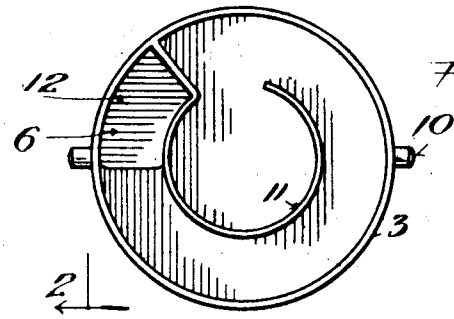


Fig. 3.

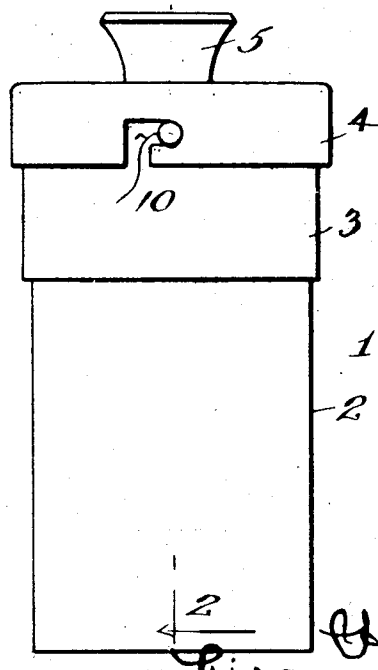


Fig. 1.

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UNITED STATES PATENT OFFICE.

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DENTAL-FILM-DEVELOPING APPARATUS.

1,208,244. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed April 24, 1916. Serial No. 93,347.

To all whom it may concern:

Be it known that I, HARRY F. WAITE, a citizen of the United States, and a resident of Whitestone Landing, county of Queens, and State of New York, have invented a new and useful Improvement in Dental-Film-Developing Apparatus, of which the following is a specification.

The object of my invention is to provide a device of this class in which any film, but preferably a dental film, may be developed in daylight without aid of a dark room, and a further object of my invention is to provide a device which may be readily cleansed, always kept in order, and always ready for use with a minimum of attention. These, and other objects, are accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which,

Figure 1 is a side elevation of my improved developing apparatus. Fig. 2 is a sectional view of the same, taken on the line 2—2 of Fig. 1; and Fig. 3 is a plan view of the lower portion of the cap of my device.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved developing apparatus 1 is composed of a cylindrical shell 2 which forms the lower portion, and a cap 3 which forms the upper portion. The cap 3 is also surmounted by a cover 4 which has a funnel 5 at its center through which liquid may be poured into or out of the apparatus. In the bottom 6 of the cylinder 2 is provided a light-proof vent 7 which preferably takes the form of a screw-plug 8 with a bent perforation and a suitable packing 9 between the head of this plug 8 and the bottom 6. Any other suitable and light-proof form of vent may be employed. The cap 3 fits the outer casing of the cylinder 2 with a sliding light-tight fit, and the cover 4 fits this cap 3 in the same manner, and with the addition of a bayonet joint 10 at each side, as shown.

To permit liquid to flow into or out of the chamber 2 and through the funnel 5 without admitting light to the interior of the chamber 2, a curved partition 11 is placed in the cap 3, and made so as to bear snug against the cover 4. This partition 11 first extends radially from the edge of the cap 3, and then in the form of an annulus through about 330 degrees, leaving a slight opening through which liquid can flow about the outside of this annulus through substantially 270 degrees, to a hole in the bottom of the cap 3. This hole is designated by the character 12.

When it is desired to use the apparatus the cap 3 is removed from the cylinder 2, and the film, after having its protecting envelop removed, is placed within the said cylinder. These operations are, of course, carried on in a dark-room or other light-proof chamber, in order that the film may not be fogged or otherwise spoiled, but after the film is placed within the cylinder 2, and the cap 3 replaced, the apparatus may be removed into the light if desired. A developing solution is then poured in through the funnel 5 and after this said developing liquid has done its work it is removed by pouring through the opening 12 about the partition 11 and out through the funnel 5. A washing solution or water may be then inserted and removed in the same way, and finally the fixing solution may be applied in a like manner and then removed, after which the film may be taken out of the apparatus by first removing the cap 3 and then the film 15. To facilitate the flow of liquid it is necessary to permit air to enter, but this is done by opening the vent by turning the plug 8, as above set forth. After the liquid has been removed from the apparatus the plug is always closed so as to prevent all leakage. After the apparatus has been used, as above described, it is readily taken apart and cleaned before being put away, so that it is always in suitable condition for use, and does not become befouled or injured by the liquids which are placed in it.

This apparatus may be used for any films which are suited to it, and may be made in many forms, all of which come within the scope of my invention, as set forth in the annexed claims.

What I claim is:

1. In a photographic developing apparatus the combination of a liquid holding receptacle provided with a vent; a closure for said receptacle comprising a cap having a perforation and a partition to provide a tortuous passage into and out of said receptacle; and a cover provided with an opening fitting said cap and forming with said per-

foration and partition, a tortuous light tight liquid passage into and out of said receptacle, substantially as described.

2. In a photographic developing apparatus the combination of a liquid holding receptacle adapted for use as a developing chamber; a cap having an orifice and a curved partition partially closing said receptacle providing a tortuous passage into and out of said receptacle; and a closure having a funnel opening into said cap to form with said orifice and partition, a tortuous light tight passage into and out of said receptacle, substantially as described.

3. In a device of the class described, a cap with a perforated bottom, a curved partition resting on said bottom and extending to one wall of the cap, and a cover adapted to rest on said cap and said partition, said cover having a suitable means for admitting liquid to said cap and about said partition.

HARRY F. WAITE.