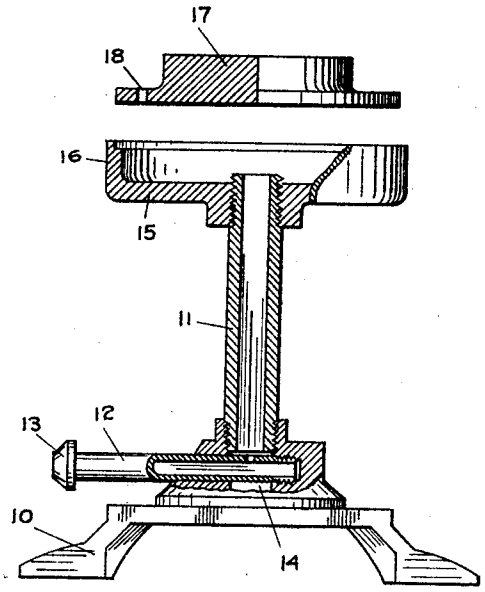
Aug. 27, 1929. E. A. DONALDSON 1,726,345

WAX ELIMINATOR

Filed May 9, 1927

Fig. 1



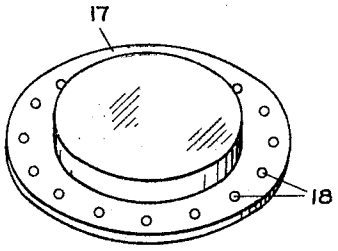


Fig. 2

E. A. Donaldson Inventor

By Emil F. Lange

Attorney

Patented Aug. 27, 1929.

1,726,345

UNITED STATES PATENT OFFICE.

EDWIN A. DONALDSON, OF LINCOLN, NEBRASKA.

WAX ELIMINATOR.

Application filed May 9, 1927. Serial No. 190,079.

My invention relates to burners and more specifically to burners of the kinds which are especially adapted for use in dental laboratories.

The primary object of my invention is the provision of a burner which will combine the utility of the burners of two or more kinds at present in use in dental laboratories.

Another important object of my invention is the provision of a burner which will expeditiously, uniformly and thoroughly eliminate wax from dental casting cases.

A third object of my invention is the provision of a device which may be used as an ordinary Bunsen burner for sterilizing instruments, soldering or any of the other various operations performed by the use of a Bunsen burner.

Having in view these objects and others which will be pointed out in the following description, I will now refer to the drawings, in which—

Figure 1 is a view, partly in median longitudinal section, of all of the parts of my burner.

Figure 2 is a view in perspective of the cap or plate constituting the part of my burner, the cap or plate being used when it is desired to eliminate wax from dental casting cases.

The Bunsen burner itself comprises a base 10, a vertical gas and air passage 11, a gas inlet 12 with a nipple 13 for convenience in attaching a rubber tube, and an air inlet 14. All of this construction is common to Bunsen burners.

In carrying out my invention I provide the upper end of the tube 11 with an external screw thread and secure thereto a pan 15. This pan has an upstanding peripheral flange 16 having an annular ledge at its upper and inner edge. It should be noted that the upper end of the tube 11 extends slightly above the inner bottom surface of the pan. The construction thus far described may be used as an ordinary Bunsen burner and the pan in this case will serve to catch wax drippings and the like and to evaporate them. Since the upper end of the tube 11 is above the bottom surface of the pan, the drippings are not allowed to enter the passageway in the tube 11 and to thus clog it up.

The cap 17 as shown in Figure 2 includes a disc-like portion which may be seated on the ledge of the flange 16 and includes also a raised central portion. This cap is provided with a plurality of apertures 18 in annular series surrounding the raised portion but spaced slightly therefrom. When the cap 17 is placed in position above the burner and the jets of gas from the apertures 18 are ignited, the burner may be used for driving out or eliminating wax and moisture from dental casting cases.

The burner may be used without the cap for sterilizing instruments, warming wax, and for any of the other numerous uses to which the open flame of the Bunsen burner is put in dental work. The pan 16 is warmed by the flame so that any drippings in the pan are immediately vaporized and driven off. Since the upper end of the tube 11 extends above the inner bottom surface of the pan, it is impossible for any drippings to enter the tube 11 to clog the pasasge of the gas.

The lid is designed primarily for use in eliminating wax from dental castings. In making these castings, a wax impression is first made of the cavity in the tooth and this wax impression is imbedded in wet plaster which is packed into a tubular metal case, there being a minute sprue hole leading to the wax impression. The wax is then removed from the plaster through the sprue hole after which the cavity is filled with gold or other suitable metal. If this work is properly done, the metal casting will be of the exact size and shape of the cavity in the tooth. The wax is usually removed from the plaster by heating it and thus driving off the wax through the sprue hole. In the usual processes of removing the wax, there has been more or less difficulty in securing an even flame and evenly distributed about the casting case with the result that tiny particles of wax have been left in the plaster with the result that the inlay is a poorly fitting inlay. This difficulty is avoided by the use of my wax eliminator. The lid is seated on the pan and the gas is ignited as it emerges through the orifices 18 and the casting case is placed on the raised portion 17 of the lid with its sprue hole directed downwardly. The jets of flame from the orifices 18 are drawn inwardly and this effect is accentuated by the vertical wall of the raised portion 17. The entire casting case is thus subjected to very evenly distributed heat on all of its vertical sides. The moisture in the plaster is quickly brought to the boiling point and the flame is then increased so that the steam generated within the plaster forces the wax out through the

sprue hole against the top surface of the raised portion 17. The entire lid is kept hot by the flame and any wax which flows out against the upper surface of the lid is instantly vaporized. The result is a plaster cast having a cavity from which the wax is thoroughly eliminated so that the cavity is an exact duplicate of the cavity in the tooth from which the wax impression has been made.

Having thus described my invention in such full, clear, and exact terms that its construction and operation will be readily understood by others skilled in the art to which it pertains, what I claim as new and desire to secure by Letters Patent of the United States is:

In a dental burner, a Bunsen burner, a pan surrounding said Bunsen burner at its upper extremity and concentric therewith, the upper edge of the vertical wall of said pan being stepped, and a removable lid seated in the upper edge of the vertical wall of said pan, said lid being provided with a centrally thickened portion having a vertical wall of cylindrical form and being also provided with a plurality of circularly arranged and vertically directed orifices spaced from the cylindrical wall of said thickened portion, the arrangement being such that the heat in the centrally thickened portion will induce a central upward draft to thereby cause the flame jets from all of the orifices to be deflected inwardly toward the center of the upper surface of said centrally thickened portion.

In testimony whereof I affix my signature.

EDWIN A. DONALDSON.