A. RUTAN.

CLAMP FOR DENTAL FLASKS.

APPLICATION FILED AUG. 10, 1914.

1,172,564. Patented Feb. 22, 1916.

FIG. 3.

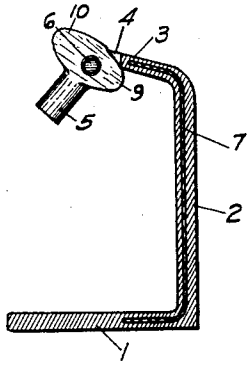


FIG. 1.

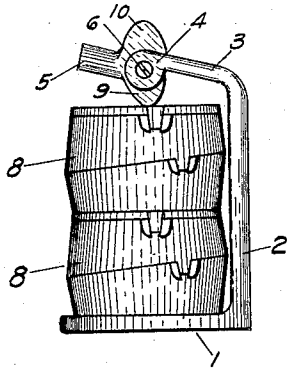


FIG. 5.

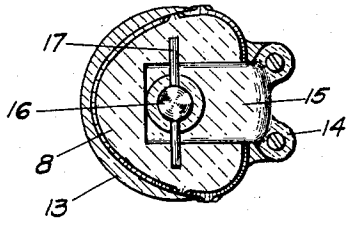


FIG. 2.

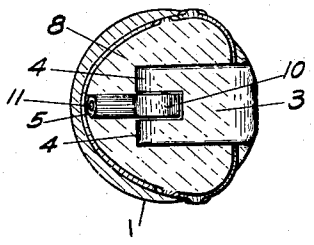


FIG. 4.

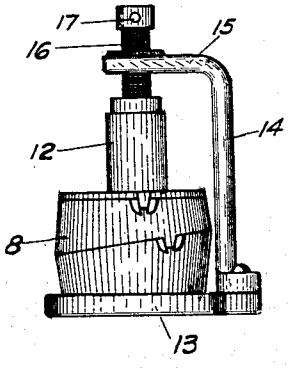


FIG. 7.

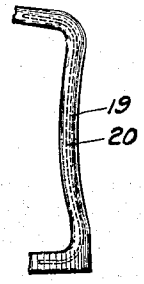
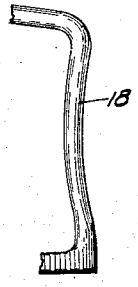


FIG. 6.



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CLAMP FOR DENTAL FLASKS.

1,172,564. Specification of Letters Patent. Patented Feb. 22, 1916.

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To all whom it may concern:

Be it known that I, ALEXANDER RUTAN, a citizen of the United States, residing at Blackington, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Clamps for Dental Flasks, of which the following is a specification.

My present invention relates to improvements in clamps for securing together the parts of dental flasks during the process of vulcanization. This process, in addition to causing the formation of some sulfurated hydrogen gas, which is extremely offensive to the operator, involves the rapid oxidation and destruction of the metal of the iron clamps in ordinary use. Moreover, the resulting oxid of iron works down through the joints of the flasks and discolors the gum.

Hence, one of the principal objects of the invention is the provision of a clamp constructed of a suitable metal or metallic composition, such as brass and phosphor-bronze, which is not injuriously affected by the action of sulfuric fumes and will not scale or flake off.

I am aware that the use of brass or bronze in the construction of devices of this character has been attempted heretofore, but the structural formation conceived for the purpose has proved insufficient in strength, simplicity and durability and, more especially, wanting in the superior resiliency which steel affords.

A further object, therefore of the present invention is the provision of a unitary structure constructed of non-flakable material reinforced with tempered steel and combining with these features strength, simplicity and durability in a superior degree.

Having referred to the general character and purpose of my invention, I will proceed to describe one or more specific useful forms of embodiment thereof, as shown in the accompanying drawings, wherein—

Figure 1 is a side elevation of my device shown in operative relation to a pair of dental flasks; Fig. 2, a top view of the same; Fig. 3, a vertical section of the clamp alone; Fig. 4, a side elevation of a modified form operatively applied to a dental flask; Fig. 5, a top view of the same; and Figs. 6 and 7, side elevations of further modifications of my device, portions of the top and base being cut away.

As shown in its preferred form, my device is a unitary structure comprising a base 1 of preferably circular formation having even top and bottom faces, an upright portion 2, and a top portion 3, forming an angular extension of the upright portion and overlying the base 1, the outer end of the top portion being constructed with jaws 4, 4, to receive a cam lever 5, pivotally secured thereto in detachable relation, preferably by a pin or screw 6, each of said parts or elements being constructed of non-flakable metal, such as brass or phosphor-bronze, the last named composition being preferred, owing to its superior spring properties.

The upright portion 2 of the clamp is preferably reinforced with a separate spring metal core or stiffener 7, of highly resilient and tempered metal, such as fine steel, which is wholly embedded in the body of the clamp and extends preferably centrally through the entire length of the upright portion 2 and into the top portion 3 and base 1, as shown in Fig. 3, the object thereof being to stiffen and strengthen the clamp and improve its resiliency.

The flasks 8, 8, for receiving the cast and rubber gum, are arranged separately or in superimposed relation on the base 1, the cams 9, 10, formed laterally on the lever 5, being adapted to compress the flasks tightly together under the yielding resistance of the upright portion 2 of the clamp, which is slightly reflexed during adjustment of the flasks prior to vulcanization, and tends to regain its true perpendicular or normal position during vulcanization when the rubber gum contracts, the members composing the flasks being usually slightly spaced by an excess of gum in anticipation of its subsequent contraction. A longitudinal opening or recess 11 (see Fig. 2) may be provided in the outer end of the lever 5 to receive an auxiliary lever attachment. Said cams 9, 10, are preferably constructed of different lengths to accommodate standard flasks of slight variation in height, the position of the lever 5 being reversed when desired by the removal of the screw 6. In event a single flask is used, an intermediate member or space-block 12, as shown in Fig. 4, is employed.

While I prefer to construct the upright portion 2 in true perpendicular relation to the base 1, I have found that the resiliency of a solid upright portion 18, constructed without the steel core, if compressed by

hammering and crowned centrally inward, as shown in Fig. 6, will be appreciably augmented. A further modification is shown in Fig. 7, in which the upright portion 19 combines with a crowned center construction, a steel core or stiffener 20.

In the modification shown in Figs. 4 and 5, I provide a base 13 separate from the upright and top portions 14, 15, which are secured thereto in detachable relation, the top portion being provided with the ordinary tightening device in common use, comprising a set-screw 16 and lever-pin 17.

I claim:—

1. In a device of the class described, the combination with a unitary structure comprising a base, an upright portion and a top portion, of a separate stiffening core of tempered metal embedded in said upright portion.

2. In a device of the class described, the combination with a unitary structure comprising a base, an upright portion and a top portion, of a separate stiffening core of tempered metal extending throughout the length of the upright portion and into the base and top portions.

3. A clamp for the purpose described, constructed of non-flakable metal and having top and bottom portions and a single upright portion connecting the top and bottom portions, and stiffening means for improving the resiliency of the upright portion and comprising a core of tempered steel embedded in the upright portion.

In testimony whereof I hereto affix my signature in presence of two witnesses.

ALEXANDER RUTAN.

Witnesses:
JNO. J. WHITTLESEY,
WILLIAM E. BAGG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."