May 10, 1932. W. C. GOSSE 1,857,538

DENTAL BRIDGE INVESTMENT SUPPORT

Filed June 15, 1931

Fig. 1.

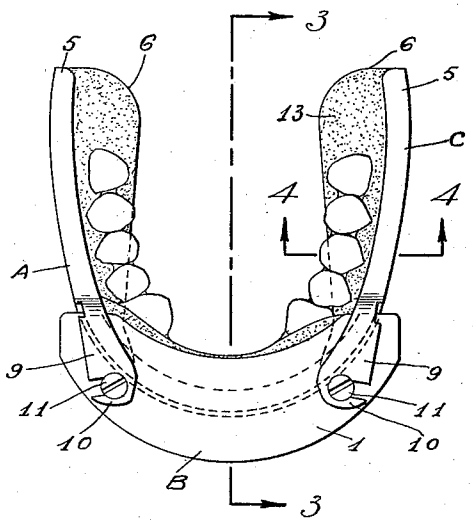
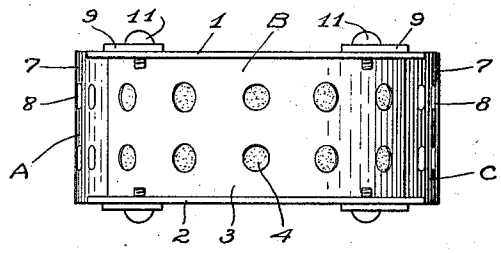


Fig. 2.



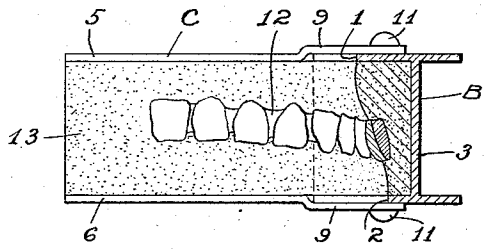


Fig. 3.

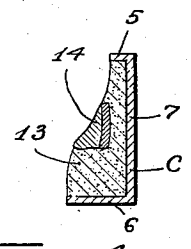


Fig. 4.

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DENTAL BRIDGE INVESTMENT SUPPORT

Application filed June 15, 1931. Serial No. 544,554.

My invention relates to improvements in dental bridge investment supports and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of my invention is to provide a dental bridge investment support which will hold the investment from breaking down during use and which will permit a less amount of investment to be used. The support is made up of sections so that different parts of it can be used for retaining smaller bridges. The support is also perforated to permit the ready drying of the investment. The parts are adjustable for accommodating bridges of different sizes and the flanges disposed at the top and bottom of the support are made large enough to support the investment without interfering with the soldering of the bridge.

A further object of my invention is to provide a device of the type described which is extremely simple in construction, and which is durable and efficient for the purpose intended.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming a part of this application, in which

Figure 1 is a top plan view of the support;

Figure 2 is a front elevation;

Figure 3 is a section along the line 3—3 of Figure 1; and

Figure 4 is a section along the line 4—4 of Figure 1.

In making a bridge it is first necessary to crown the teeth which are to be used for supporting the bridge. The bridge may be supported from abutments other than crowns, such as from inlays and Carmichael crowns. The patient then bites into a piece of plaster of Paris and when this is removed the abutments are removed with it. Artificial teeth are now formed and are set in their proper places and are secured to each other by wax.

The plaster of Paris is now removed from the bridge and the dentist is ready to make use of my invention. The investment support to be presently described has investment spread therein and then the bridge is forced down into the investment and as the investment sets that portion of the investment adjacent to the wax is removed.

Before proceeding further with the method of forming the bridge I will describe the particular type of investment support.

This support consists of three parts, A, B, and C. The part B forms the front of the investment support and it has a top flange 1 greater in size than the bottom flange 2 (see Figure 3). The flanges are separated from each other by a web 3 which is perforated as at 4 (see Figure 2). The central part, B, is curved and is designed to receive the investment for supporting the anterior teeth.

The side members A and C are identical except one is a right and the other is a left, and each has a narrow flange 5 at its top and a wide flange 6 at its base. The side wall 7 separating the flanges is perforated as at 8 (see Figure 2). This wall abuts the edge of the web 3.

Each part A and C has legs 9 that straddle the center part B and have hooks 10 for removably receiving fastening screws 11. The hooks are so fashioned that the sides A and C can be swung angularly through small arcs for accommodating bridges of different sizes. After the sides A and C have been adjusted the screws 11 may be tightened.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

I have already described how the bridge is formed, up to the point where the artificial teeth are held to each other and to the abutments by means of wax. The investment is now applied to the interior of the parts A, B and C, and the bridge is forced down into the investment so that the cusps of the posterior teeth face toward the wide flanges 6. The anterior teeth have been positioned directly above the inner edge of the flange 1 at the moment of forcing the bridge into the investment and then the operator, while in the act of inserting the bridge in the investment, moves the bridge forwardly a slight

distance with respect to the support, so that the bridge will assume the position shown in Figure 3.

After the investment hardens portions of it are removed so as to expose the interior surface of the bridge and to further expose all of the wax portions that connect the teeth together. Care must be taken not to place any of the teeth in the bridge next to any parts of the metal holder. In order to get the correct adjustment of the support prior to placing the bridge in position, the sides A and C are swung so that the narrow flanges 5 just clear each side of the bridge at the widest point of the bridge. The bridge in being inserted in the investment is held so that the biting surfaces of the bridge will be the first to enter the investment.

After the surplus investment is cut away so as to expose the wax on the inside, this wax is boiled out with boiling water. The support or case is now placed over a low flame and the investment is gradually heated until it is thoroughly dry.

The device is now removed to the soldering block and gold solder is applied with the aid of a blow torch so that this solder will flow into the spaces formerly occupied by the wax. The gold solder quickly sets and the bridge is now allowed to cool, after which it is removed from the holder or case. The bridge is then trimmed and polished and fitted into the patient's mouth.

The investment slopes away from the inner surfaces of the teeth so as to expose all of the portions to be soldered. The inner edges of the flanges 1, 2, 5 and 6 terminate flush with the investment so that they will not interfere with the torch when used in flowing the gold solder into place. For this reason the flange 2 is of less width than the flange 1 and the flanges 5 of less width than the flanges 6. I have indicated in Figure 3, by the reference numeral 12 the wax which holds adjacent teeth together. This wax, of course, is boiled out and gold solder takes its place and the purpose of the investment is to hold the teeth in proper position while receiving the gold solder.

The flange 6 is made wide because it supports the investment 13, which in turn supports the occlusal surfaces of the posterior teeth 14. The posterior teeth have their inner surfaces cut away at an angle and the flange 5 is made small enough so as not to interfere with the gingival portions of these teeth.

The support or case provides a compact device which will permit a small quantity of investment to be used and which will keep this investment intact and the case may be moved readily into any position for soldering. When the three parts A, B, and C of the device are used an entire bridge may be supported. If smaller bridges are to be supported one or more of the parts may be used.

Although I have shown and described one embodiment of my invention it is to be understood that the same is susceptible of various changes and I reserve the right to employ such changes as may come within the scope of the claims hereto annexed.

I claim:

1. A dental bridge investment support comprising a central curved perforated member having inwardly extending flanges at its top and bottom, the upper flange being larger than the lower one, side perforated members hinged to the ends of the central member and having small flanges on top and wide ones at the bottom.

2. A dental bridge investment support comprising a central curved perforated member having inwardly extending flanges at its top and bottom, the upper flange being larger than the lower one, side perforated members hinged to the ends of the central member and having small flanges on top and wide ones at the bottom, the hinges comprising hooks fashioned in the side members, and screws in the central member for receiving the hooks, said screws when tightened locking the side members to the central one.

3. A dental bridge investment support comprising a central curved portion and side hinged portions, all of said portions having inwardly extending flanges.

4. A dental bridge investment support comprising a central curved portion and side hinged portions, all of said portions having inwardly extending flanges, said flanges being disposed at the top and bottom of the portions, the top flange of the center portion and the bottom flanges of the side portions being greater than the opposing flanges carried by the same portions.

5. A dental bridge investment support comprising a central curved portion and side hinged portions, all of said portions being perforated and having inwardly extending flanges.

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