

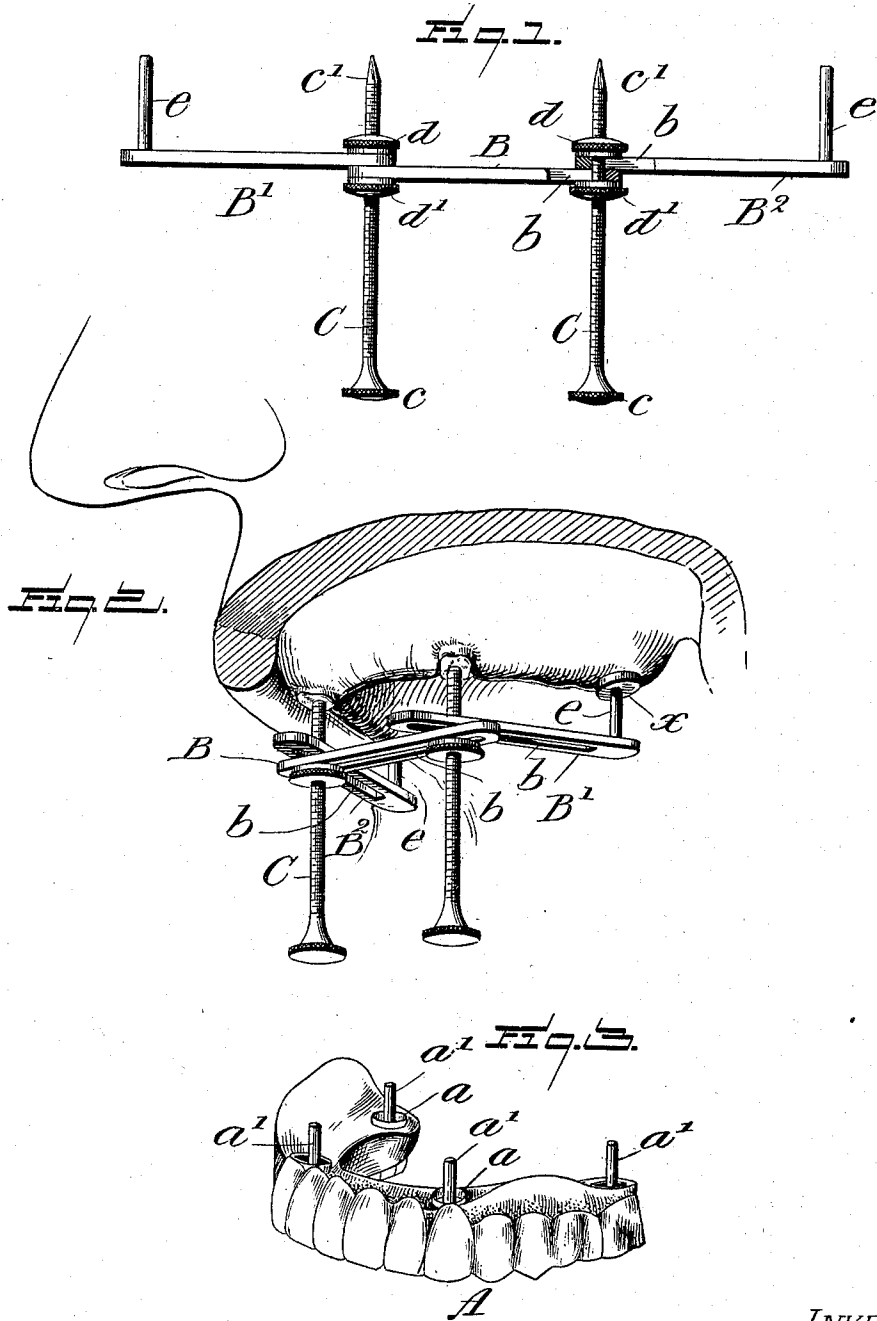
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Patented Aug. 14, 1900.

D. O. M. LE CRON.
DENTAL APPLIANCE.

(Application filed Feb. 26, 1900.)

(No Model.)



WITNESSES:

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DANIEL O. M. LE CRON, OF ST. LOUIS, MISSOURI.

DENTAL APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 655,933, dated August 14, 1900.

Application filed February 26, 1900. Serial No. 6,579. (No model.)

To all whom it may concern:

Be it known that I, DANIEL O. M. LE CRON, a citizen of the United States, residing at No. 401 Union Trust Building, St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Dental Appliances; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to dental appliances, and is directed to improvements in gages designed for use more especially in connection with the construction of artificial dentures, the object of the invention being the production of a gage by which artificial dentures and bridge-teeth may be readily and accurately fitted to and easily removed from natural roots.

In the application of artificial dentures of the kind specified a plurality of natural roots serve as the means by which the denture is removably secured in place, the roots being drilled to receive pins on the denture. To insure ready insertion and removal of the denture, the pin holes or sockets in the roots must be parallel to each other and approximately at right angles to the inner side of the denture. Otherwise a slight deflection of even one of the sockets will prevent the insertion of all of the pins, or, the pins being inserted, will, owing to the binding action of the deflected socket on its respective pin, prevent the ready removal of the denture. My improved appliance is designed to remedy this difficulty, which is frequently met with in dental operations of the class referred to, the appliance or gage serving as an efficient means for ascertaining from time to time during the drilling operation the direction of the holes or sockets and for determining the correction necessary in the event that the direction is out of the proper line.

The details of construction of my improved gage are set forth in the following description, which is to be read in connection with the accompanying drawings.

In the drawings, Figure 1 is a view in ele-

vation, partly in section, of a dental gage embodying my invention. Fig. 2 is a perspective view illustrating the application of the gage. Fig. 3 is a perspective view of a full upper denture, showing the means for attachment to natural roots.

Although my invention is adapted for application in the construction of both partial and complete upper and lower dentures and bridgework, I have for the purpose of illustration shown and will describe the gage adjusted for use in connection with the construction of a full upper denture to be secured to four natural roots. The roots are shown as trimmed to receive metallic caps, which are provided with apertures registering with the root-sockets. One of the roots is shown with such a cap, the same being lettered *x*. The artificial denture is lettered *A*. At its upper side are recesses *aa*, conforming to the capped roots, and centrally of the recesses are pins *a'a'*, which enter the root-sockets and serve, with the latter, to hold the denture in place. To insure ready insertion and removal of the denture, the sockets, as before stated, must be at right angles to the denture. This is made possible by the use of my improved gage, the construction and operation of which I will now describe.

The gage is preferably constructed, as shown, in sections *B*, *B'*, and *B²*, one of which, *B'* or *B²*, may be dispensed with where but three roots serve as the means by which the denture is held to place. The sections are each provided with a slot *b*, extending longitudinally preferably nearly the entire length of the section. The ends of the middle section *B* lap the inner ends of the outer sections *B'* *B²*, and threaded pins *C* *C* are passed through the slots of such lapped ends and serve, with binding-nuts *d d'* at each side of the sections, to secure the parts in assembled condition and relatively-adjusted position. The upper end of each pin *C* is provided with a suitable handhold in the shape of a head *c*, and its lower end *c'* is without threads, being preferably slightly reduced in diameter. The outer sections *B'* *B²* are each provided near their outer end with a depending pin *e*, formed rigid therewith.

In practice a suitable drill is employed to form the pin-sockets in the roots, and from

time to time during the drilling operation the drill is withdrawn and my improved gage brought into use to ascertain the direction which the drill has taken. This is accomplished by so adjusting the sections as to bring the pins *e* and the pin ends *c'* in line approximately with the root-centers and then by forcing a pin or pins into the respective partially-drilled socket or sockets, the diameter of the pins being such as will cause them to fit the sockets rather closely. Should one or more of the sockets be out of line, the deflection is made apparent as soon as the gage is applied, and the degree of inclination being likewise ascertained it becomes an easy matter to determine to what extent the drill must be employed to straighten the deflected socket or sockets. This application of the gage is repeated until the proper depth of socket is reached, after which the roots are capped and the necessary impression is made from which to construct the denture.

The construction of the gage renders it universal so far as the range of adjustment is concerned, the slotted section permitting movement to vary the relative angles of the sections and also the distance of the pins from each other to accommodate the gage to differently-located roots.

The gage may, as previously stated, be employed regardless of the number of roots to which the denture is to be secured, though

there must be a plurality of such roots. The pins are parallel to each other and at right angles to the sections, and by the use of the gage exact conformation of the sockets to such pins may be produced.

The gage is very simple in construction, may be cheaply made, is very efficient in operation, and is not liable to disorder.

I claim as my invention—

1. A dental gage for the purpose specified, comprising a frame made up of adjustable jointed sections, and gage-pins on the frame certain of the pins forming the means for securing the sections together.

2. A dental gage for the purpose specified, comprising a frame made up of detachable jointed sections, gage-pins on the frame certain of the pins forming with binding-nuts the means for securing the sections together.

3. A dental gage for the purpose specified, comprising a frame made up of slotted sections or members, fixed pins on certain of the sections, screw-threaded pins passed through lapped ends of the sections, and binding-nuts on the pins at each side of the sections.

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

DANIEL O. M. LE CRON.

Witnesses:

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