

J. GARTRELL.
DENTAL APPLIANCE.
APPLICATION FILED OCT. 9, 1908.

Patented July 13, 1909.

927,850.

Fig. 1.

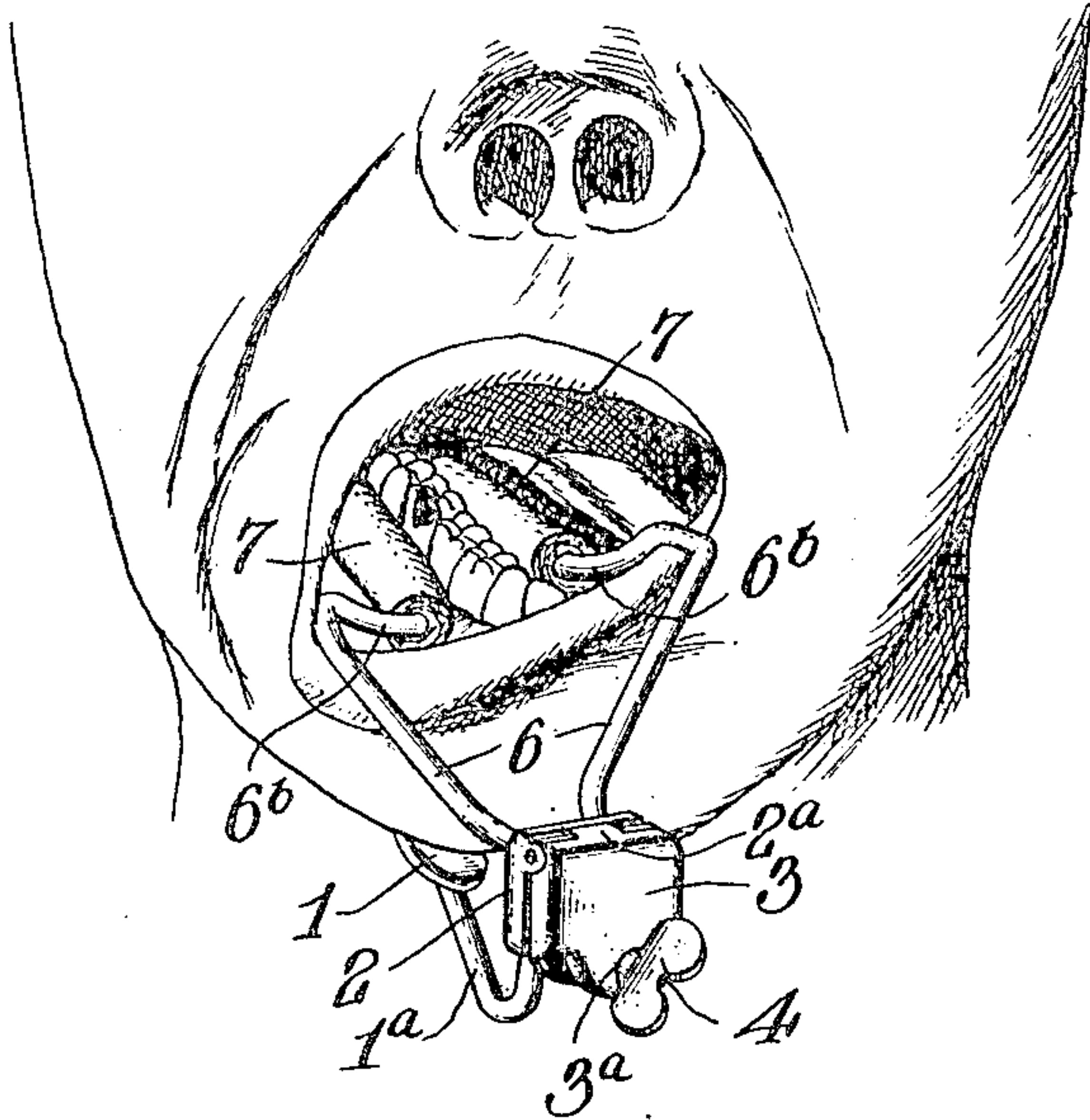


Fig. 2.

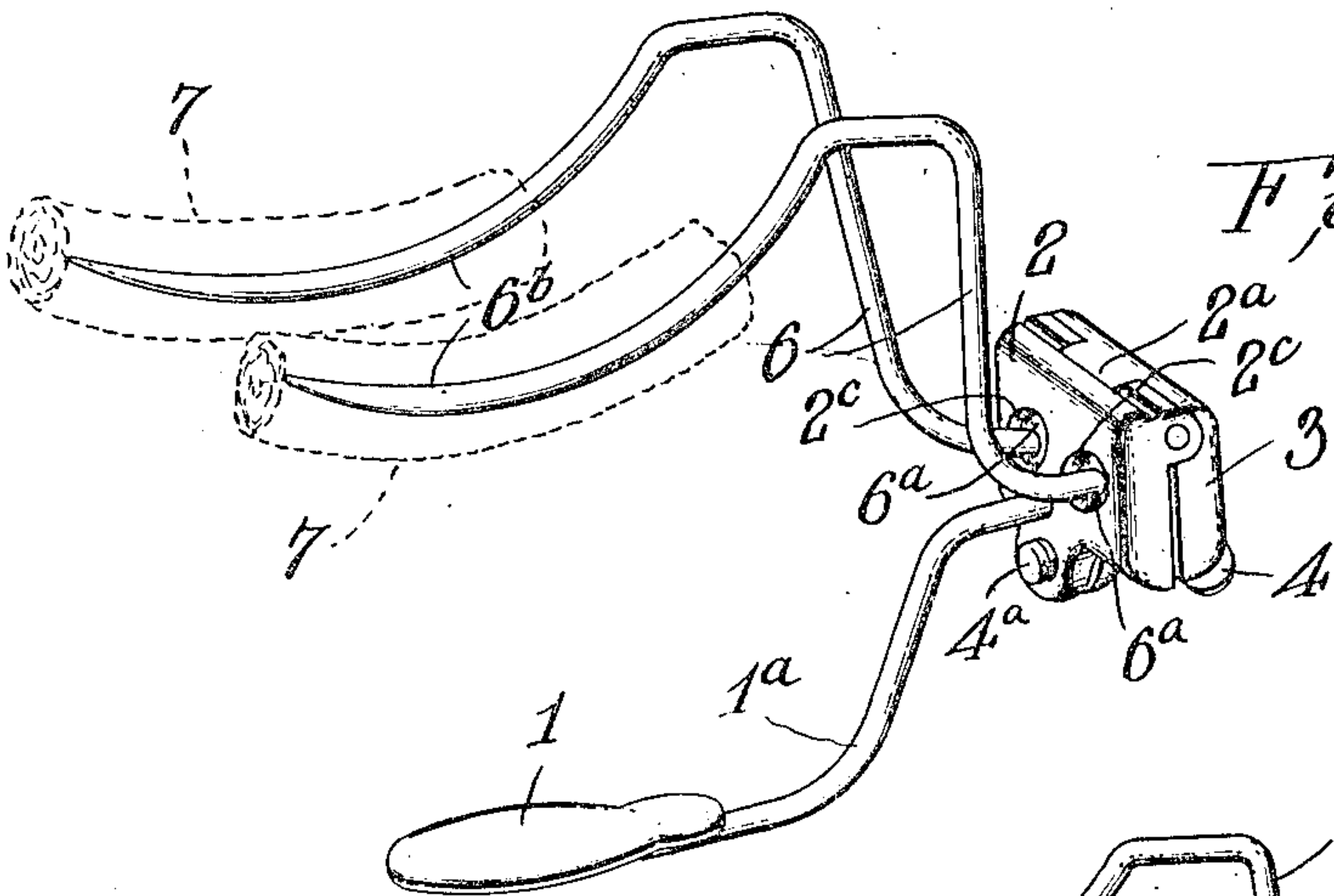
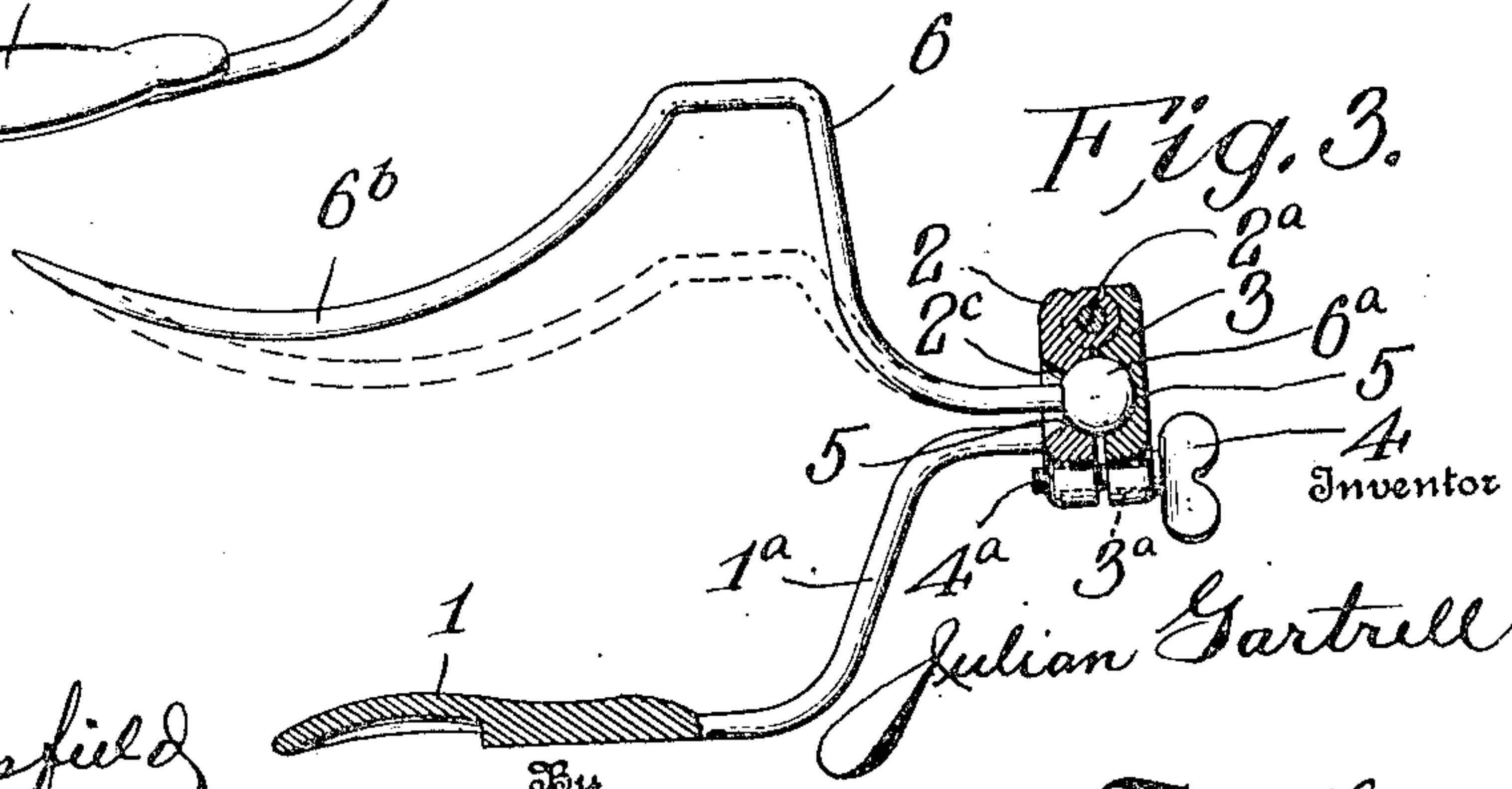


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DENTAL APPLIANCE.

No. 927,850.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed October 9, 1908. Serial No. 456,977.

To all whom it may concern:

Be it known that I, JULIAN GARTRELL, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Dental Appliances; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

10 This invention is a novel appliance to be used by dentists while operating upon the lower teeth of a patient.

The object of the invention is to provide a very simple device which can be conveniently and comfortably positioned on the lower jaw of the patient, and by which absorbent cotton or like material, can be held in position adjacent the teeth to be operated upon so as to keep such teeth dry by excluding saliva therefrom, and at the same time the tongue and cheek will be kept out of contact with such teeth without discomfort to the patient, and without encumbering the mouth or interfering with the free operation of any instruments which the dentist may wish to use in the treatment of such teeth.

25 The whole appliance can be locked after adjustment by a single set screw; and all the parts of the appliance can be easily separated for the purpose of cleansing and sterilizing them after use.

The accompanying drawings illustrate the present preferred form of appliance embodying the invention, which I will describe with reference thereto, and from this specification and drawings any one skilled in the art will readily understand the method of applying the device to the patient and the utility thereof.

40 In said drawings—Figure 1 is a perspective view of the appliance in one position for use. Fig. 2 is a view thereof detached. Fig. 3 is a sectional view.

As shown the device comprises a chin piece 45 1, adapted to be placed under the lower jaw of the patient, attached to a rod 1^a, the other end of which is attached to a holder-plate 2, to which is connected a clamp-plate 3. The plates may be adjustably connected in any 50 desired or preferred manner within the scope of the invention. As shown, plate 3 is hinged to plate 2 at 2^a and can be locked to said plate by means of a thumb-screw 4 having a threaded portion 4^a passing through a slot or 55 perforation 3^a in plate 3, at the side opposite

the hinge 2^a, and engaging a threaded perforation in plate 2, see Fig. 3.

In the opposed faces of the plates 2 and 3 are formed two globular sockets 5, half of each socket being formed in each plate; and 60 in these sockets are confined balls 6^a to each of which is attached a curved finger 6, the fingers passing through reamed holes 2^c in the plate 2. These balls may be formed on or attached to the fingers as preferred by the 65 constructor. This construction forms a ball and socket joint between the fingers 6 and the holder plate, and obviously permits the fingers 6 to be adjusted to any desired position relative to each other and to the chin- 70 piece when the thumb-bolt 4 is loosened. The fingers can be fixed in any adjusted position by simply tightening the bolt 4 thereby causing plate 3 to cramp the balls 6^a tightly in the socket 5. In this very simple 75 manner the fingers 6 are rendered capable of a great variety of adjustments.

To facilitate adjustment of the fingers they are preferably formed with long return bends 6^b intermediate their length, which enables 80 the free ends of the fingers to be introduced into the mouth and below the teeth, and also serve as convenient handles for turning and adjusting the fingers. These bends 6^b not only facilitate positioning of the points of the 85 fingers but they also serve, when desired, as guards to keep the tongue and the lips and cheek of the patient away from the teeth being operated upon. The free ends of the fingers are preferably pointed as shown so 90 that rolls 7 of absorbent material can be easily slipped on the parts of the fingers beyond the bends.

Each finger is independently adjustable, and can be rotated on its own axis in any po- 95 sition to which they are adjusted, so that the points of the fingers can be entered in the patient's mouth and adjusted to and held in any desired position therein, so as to keep the absorbent material exactly and firmly where 100 desired by the operator.

The device is very simple; it is capable of easy adjustment so as to hold the absorbent material in any position desired against the 105 lower teeth; it is very light and comfortable to the patient; and hygienic. In use the chin-piece and fingers practically take the same positions that would be taken by the thumb and fingers of a dentist's hand when operating in the usual manner; but this ap- 110

pliance is far more comfortable and less repulsive to the patient, and leaves the dentist free to use both hands in operating on the teeth.

5 When the appliance is in use as indicated in Fig. 1 it is held in position vertically by the slight clamping of the jaw between the chin-piece and the fingers; and it is kept from shifting laterally by the contact of the ab-
10 sorbent material on the ends of the fingers with the opposite sides of the gum or teeth.

One of the advantageous features of the present appliance is its capability of use on either side of the jaw without any transposition of parts or change in the manner of attaching or securing them; this adaptability
15 increases the utility and convenience of the appliance.

While particularly designed for use in
20 dental operations the appliance is also useful in oral surgery and in treatment of the mouth and tongue.

After an operation the appliance can be easily taken all apart by simply removing the
25 one screw, and each piece can be separately sterilized and cleansed, so that all danger of contagion or infection is obviated.

Having described my invention what I claim as new and desire to secure by Letters
30 Patent thereon is:

1. In combination a holder plate, a chin-piece connected therewith, and fingers adjustably connected to the holder plate by ball and socket joints.

35 2. In a dental appliance the combination of a pair of plates having recesses in their opposed faces, means for clamping the plates, balls confined in the recesses, and fingers connected to said balls.

40 3. In a dental appliance the combination of a pair of plates having recesses in their opposed faces, balls in the recesses, adjustable fingers connected to said balls, a chin-piece connected with said plate, and means
45 for causing the plates to cramp the balls to lock the fingers in adjusted position.

4. A dental appliance comprising a pair of holder plates having globular recesses on their opposed faces, a chin-piece connected

to one of said plates and balls confined in
50 said recesses, fingers connected to said balls and projecting through apertures in one of the plates, and means for causing the plates to cramp the balls to hold the fingers in adjusted position.

55 5. The combination of a holder plate, a chin-piece connected therewith, a clamp-plate connected to the holder plate, and a pair of adjustable fingers connected with said plates said fingers having cheek distending return bends intermediate their length. 60

6. The combination of a holder plate, a chin-piece connected therewith, a clamping plate connected to the holder plate, balls confined in recesses between said plates, and
65 adjustable fingers connected with said balls, substantially as described.

7. In a dental appliance the combination of a holder plate, a pair of similar fingers connected thereto by universal joints and adapted to engage opposite sides of a tooth, and
70 means for clamping the fingers in any adjusted position.

8. In combination a holder plate, a chin-piece connected therewith, a pair of similar
75 curved fingers connected to said plate by universal joints and adapted to be adjusted on opposite sides of a tooth, and means for locking the fingers when adjusted.

9. In a dental appliance the combination
80 of a recessed holder plate, a chin-piece and a pair of adjustable fingers confined in the recesses of said plate, said fingers having cheek-distending return bends intermediate their length. 85

10. In a dental appliance the combination of a holder plate, a chin-piece, and fingers adjustably connected with said plate, said fingers having return bends intermediate their length to distend the cheeks, and means
90 for clamping the fingers.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

JULIAN GARTRELL.

Witnesses:

JOHN L. FLETCHER,
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