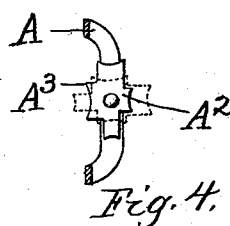
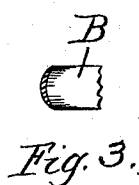
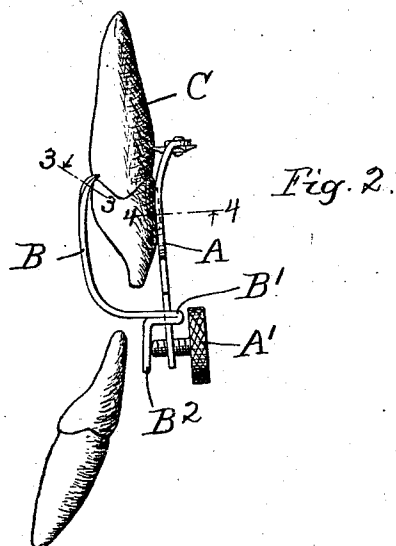
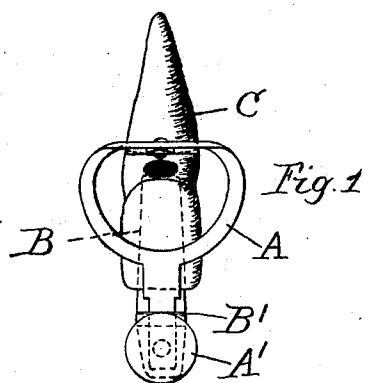


(No Model.)

J. A. DUNN.
DENTAL CLAMP.

No. 578,729.

Patented Mar. 16, 1897.



Witnesses.

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J. AUSTIN DUNN, OF CHICAGO, ILLINOIS.

DENTAL CLAMP.

SPECIFICATION forming part of Letters Patent No. 578,729, dated March 16, 1897.

Application filed January 15, 1896. Serial No. 575,637. (No model.)

To all whom it may concern:

Be it known that I, J. AUSTIN DUNN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dental Clamps, of which the following is a description.

My invention relates to dental clamps, and has for its object to provide a new and improved dental clamp for holding the rubber dam and gum out of the way while excavating and filling cavities about the necks of teeth, and is particularly adapted to be used upon incisor, cuspid, and bicuspid teeth.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a view of a clamp embodying my invention in position upon a tooth. Fig. 2 is a side view of the same. Fig. 3 is a section on line 3 3, Fig. 2, showing the shape of the inner jaw of the clamp at the point where it makes contact with the tooth. Fig. 4 is a section on line 4 4, Fig. 2.

Like letters refer to like parts throughout the several figures.

In filling front teeth, for example, it is necessary to provide a rubber dam, and to also provide means for holding the rubber dam in place, and also for holding the gum away from the cavity to be filled.

The object of my invention is to provide a clamp which may be easily and quickly applied to the tooth with a minimum amount of pain to the patient and which when placed in position will not be easily moved during the ordinary operation of excavating or filling the teeth.

My clamp consists of the outer or labial jaw A, adapted to engage the outer side of the tooth, and the inner jaw B, adapted to engage the lingual side of the tooth. The labial jaw A consists of a loop adapted to encircle the cavity, so that free access may be had thereto, and is provided with a projecting part or arm adapted to engage the inner jaw. The inner jaw B is doubled upon itself, so as to produce a loop B', the rear end B² being bent downwardly, so that when in position it is substantially parallel with the labial jaw. The projecting end of the labial jaw passes loosely through an opening in the loop B' and is pro-

vided with a screw-threaded opening, through which passes the screw A', adapted to engage the projection B² on the inner jaw. The inner jaw B has a peculiar curve, and the whole is so arranged that when placed, for example, upon an upper tooth C the outer or lower end containing the controlling device is in such a position that the opposed lower teeth do not come in contact with it when the teeth are closed, and hence will not engage it, so as to remove the clamp from the tooth or change its position, thus necessitating an adjustment and causing the patient needless pain.

If the lower teeth engage any part of the clamp, they engage the inner jaw B, and hence if the clamp is moved at all it will not be moved in such a direction as to change its position with relation to the cavity, so that a new adjustment will be necessary. The end of the jaw B that engages the lingual side of the tooth is of a peculiar construction, as shown in Fig. 3, being concave on its inner side, so as to conform to the linguo-gingival ridge of the tooth. When the end of the jaw or beak is constructed in this manner, it conforms to the shape of the tooth and when in position will not tend to draw or pull the clamp out of place when the thumb-screw is tightened. This construction also allows the clamp to be placed in different positions on the tooth, as the beak will fit the linguo-gingival ridge even when moved around to the side of the tooth. The contact end of the inner jaw B instead of being bent so as to be substantially at right angles with the jaw, as is the ordinary custom in these clamps, is given a gentle curve, as shown, which allows it to be slipped under the gum without giving the patient unnecessary pain. The labial jaw is provided with the adjustable beak A². This beak is provided with four bearing-surfaces of unequal size, so that it may conform to any-sized tooth, each bearing-surface being preferably curved, as shown. The beak is pivoted to the jaw, so that any one of these bearing-surfaces may be used when desired. Since the beak is pivoted to the jaw, it moves with relation thereto, and hence when in engagement with the tooth will conform to the shape of the tooth and allow a firm grip of the tooth without throwing the clamp out of position, which is

the natural consequence when the beak is rigid with the jaw.

In attaching the clamp to the tooth the jaws are separated by loosening the thumb-screw and are slipped in position on each side of the tooth. When the clamp is thus placed in position, the labial jaw may be moved with relation to the inner jaw until it is in the desired position. The thumb-screw A' is then tightened, and the jaws are firmly clamped upon the tooth. It will be seen that by moving the labial jaw it may be made to accommodate any desired reach or length. The adjustable pivoted beak when in position also rests upon the two outer points, (indicated at A³ in Fig. 4,) and hence always accommodates itself to any irregularity of tooth-surface, thus allowing the clamp to be used at the side of the tooth as well as at the center. This beak always firmly engages the tooth whatever the shape of the surface may be, and hence when the set-screw is tightened the clamp is stable and there is no tendency for it to move to a different position. This result cannot be obtained when the beak is rigid with the jaw.

It will be seen that I have here a simple and efficient dental clamp which performs the function for which such a clamp is used in an entirely satisfactory manner and at the same time with no unnecessary pain to the patient.

I claim—

1. A dental clamp comprising an outer or labial jaw, an inner jaw provided with an opening through which the labial jaw loosely passes, a thumb-screw working in a threaded hole in said labial jaw, and bearing against the end of said inner jaw, said thumb-screw adapted when operated to move the jaws so as to clamp them to, or unclamp them from the tooth.

2. A dental clamp comprising an inner jaw, a labial jaw connected therewith, a beak adapted to come in contact with the tooth, and pivotally connected with one of said jaws, at the end thereof, said beak interposed between the jaw to which it is pivoted at substantially right angles thereto and the tooth, and adapted to adjust itself to the shape of the tooth when engaging the same, and a con-

trolling mechanism by which said jaws are moved with relation to each other.

3. A dental clamp comprising a labial jaw, an inner jaw, having the inner surface of the end engaging the tooth-concave so as to conform to the linguo-gingival ridge, said inner jaw being curved so as to pass beneath the tooth, and provided with a loop through which said labial jaw passes, a set-screw passing through said labial jaw and engaging the inner jaw, said set-screw adapted when operated to move the two jaws with relation to each other, a beak pivotally connected with said labial jaw, and adapted to conform to the shape of the tooth substantially as described.

4. A dental clamp comprising an inner jaw, a labial jaw connected therewith, having a beak pivotally connected thereto and adapted to adjust itself to the shape of the tooth when engaging the same, said beak provided with a series of engaging surfaces of different dimensions so as to accommodate itself to different-sized teeth, and a controlling mechanism by which said jaws are moved with relation to each other.

5. A dental clamp comprising an inner jaw, the tooth-engaging end of which is curved slightly upward and is concave on the inner side so as to conform to the linguo-gingival ridge of the tooth, said inner jaw being bent outwardly so as to pass beneath the tooth and bent back upon itself so as to form a loop, a labial jaw provided with a beak pivotally connected therewith, said beak having a series of engaging surfaces so as to adapt itself to teeth of different sizes, said labial jaw projecting loosely through an opening in the loop of the inner jaw, the end of said inner jaw projecting in a line substantially parallel with the labial jaw and a thumb-screw passing through said labial jaw and engaging the projecting end of said inner jaw, said thumb-screw adapted when operated to move the jaws with relation to each other.

J. AUSTIN DUNN.

Witnesses:

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