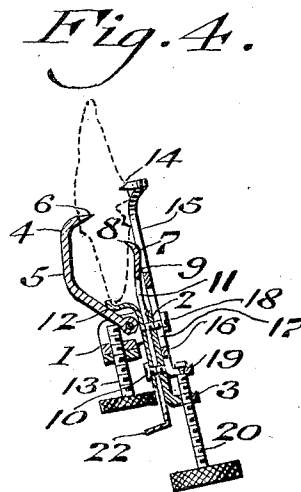
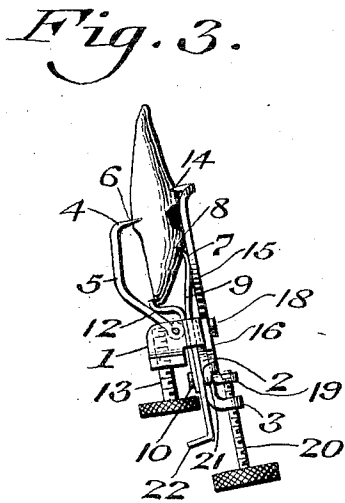
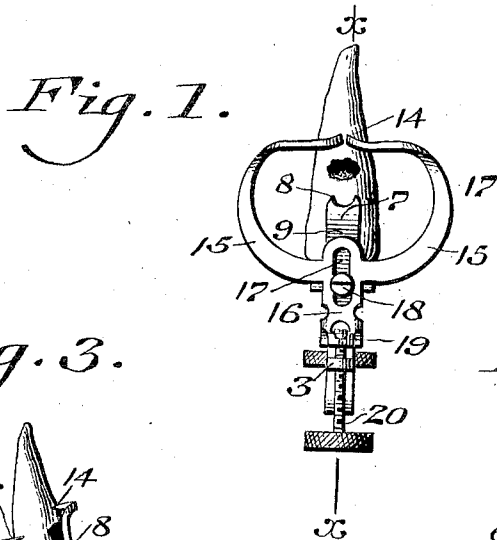


J. W. IVORY.
DENTAL CERVICAL MARGIN CLAMP.
APPLICATION FILED FEB. 10, 1912.

1,032,833.

Patented July 16, 1912.



WITNESSES

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JAMES W. IVORY, OF PHILADELPHIA, PENNSYLVANIA.

DENTAL CERVICAL-MARGIN CLAMP.

1,032,833.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed February 10, 1912. Serial No. 676,893.

To all whom it may concern:

Be it known that I, JAMES W. IVORY, a subject of the King of Great Britain, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Dental Cervical-Margin Clamp, of which the following is a specification.

My invention relates to a new and useful dental cervical margin clamp, and consists of engaging jaws with means situated entirely back of the plane of the front jaw for actuating one of said jaws, whereby a tooth may be tightly engaged between the jaws, means for adjusting the other jaw along the tooth, and an auxiliary jaw adapted to engage the tooth to assist in holding the device in position.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figures 1 and 2 represent views of opposite faces thereof. Fig. 3 represents a side elevation thereof. Fig. 4 represents a sectional view on line $x-x$, Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—1 designates a box frame of any suitable or desired construction, having an arm 2 extending rearwardly therefrom with an upwardly extending portion or ear 3 having a threaded opening therein. The two sides of the box frame hold the shank 5 which is pivotally mounted therebetween, preventing lateral movements. Pivotally mounted on said frame, is a jaw 4, in the present instance, carried on the shank 5, said jaw being preferably provided with a concave edge and suitably curved so as to present spurs or points 6 for positively and firmly engaging the neck of a tooth on the palatal or lingual side thereof, and preventing slipping therefrom.

7 designates an auxiliary jaw suitably concaved and curved and having the spurs or points 8 for positively and firmly engaging with the opposite or labial face of the tooth, said jaw 7, in the present instance, being mounted on or carried by a shank 9, which is adjustably mounted with respect to the frame 1. In the present instance, the shank 9 is provided with a slot 11 which is movable between the extension 2 and frame 1 guided by a screw or other suitable means 10, whereby it will be understood that the

jaw 7 can be adjusted with respect to the face of the tooth and with respect to the jaw 4, in order that the said jaw 7 may be suitably positioned with respect to the tooth.

12 designates a spring, which, in the present instance, is mounted upon the projection 2 and which is adapted to bear upon a suitable part of the shank 5 carrying the jaw 4, said spring tending to force the jaw 4 away from engagement with the tooth.

13 designates a set screw carried by the lingual wall of the frame 1, and which is adapted to bear upon the shank 5 in order to force the jaw 4 thereof into engagement with the tooth, it being noticed that said set screw is longitudinal with respect to the plane of the tooth and engages with the back of the jaw member 4, whereby it will be seen that by the proper manipulation of the set screw 13, the jaw 4 is caused to engage with or release the tooth for connecting or releasing the clamp therefrom.

14 designates a second locking jaw for engaging with the tooth and which, in the present instance, is formed by the two arms or members 15, suitably curved and carried by a plate 16, which is movably mounted with respect to the frame 1. In the present instance, the plate 16 is provided with a slot 17, which is movable on a guide screw 18 carried by the extension arm 2 of the frame.

20 designates a set screw which is in threaded engagement with the ear 3 of the extension 2 of frame 1, and which screw 20 has a swivel portion engaging an ear 19 on the plate 16 so that by the proper rotation of the said set screw 20, the said jaw 14 can be adjusted in its position and, by the resistance of the arms 15 and the pressure from jaw 4, exerted by set screw 13 said jaw 14 is caused, when desired, to bear against the labial side of the tooth, while it pushes away the gum or rubber dam in order to move or shift the same and thus uncover or expose a cavity which may exist in the labial side of the tooth, said jaw engaging the gum in the position it occupies, while acting as one of the retaining jaws of the clamp. By mounting the set screw 13 in the lingual wall of the frame 1, it will be seen that it is situated entirely back of the front jaw 14, so that said set screw 13 does not project to interfere with the operator. By means of the set screw 20, the movement or adjust-

ment of the jaw 14 is steady and positive in its action, and can be adjusted to the exact position desired, and will be held in its adjusted position, without disturbing or interfering with its action, as one of the engaging jaws of the clamp.

As here shown, I have provided the guide members 21 on the frame 16, which are in engagement with the sides of the arm 2 of the frame 1, for evident purposes. I preferably desire to provide a finger piece 22 on the shank 9 for ease in operating the same, and it will be understood that said limb 9 and jaw 7 may be suitably adjusted in order that it will bear properly against the tooth intermediate the jaws 4 and 14 and so act as an additional support for the clamp for holding the same in position and preventing tilting.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character stated, engaging jaws, means longitudinal of the plane of the tooth and bearing against one of said jaws for actuating the same whereby a tooth may be tightly engaged between the jaws, and means for adjusting the other jaw whereby the same is moved along the tooth to press against the gum.

2. In a device of the character stated, engaging jaws, means situated entirely back of the plane of the front jaw for actuating the one of said jaws whereby a tooth may be tightly engaged between the said jaws, means for adjusting the other jaw along the tooth, and an auxiliary jaw adapted to engage the tooth to assist in holding the device in position.

3. In a device of the character stated, en-

gaging jaws, means for actuating one of said jaws whereby a tooth may be tightly engaged between the jaws, means for adjusting the other jaw along the tooth, and an auxiliary jaw adjustably mounted and independently movable of the other jaws and adapted to engage the tooth to assist in holding the device in position.

4. In a device of the character stated, engaging jaws, means situated back of the plane of the front jaw for actuating the rear jaw whereby a tooth may be tightly engaged between the said jaws, and means for actuating the front jaw and holding the same in its different positions.

5. In a device of the character stated, an engaging jaw pivotally mounted and adapted to engage one side of a tooth, means for actuating the free end of said jaw, a second engaging jaw adapted to engage the other side of the tooth and adapted to press against the gum, means for actuating said second jaw, means for guiding the same in its movement, and an auxiliary jaw adjustably mounted on the frame independently movable of the other jaws and adapted to engage the tooth to assist in holding the device in position.

6. In a device of the character stated, an engaging jaw pivotally mounted, a setscrew engaging said jaw for actuating the same, a second engaging jaw movably supported, a set screw for actuating said second jaw, and an auxiliary jaw adjustably supported and independently movable of the other jaws.

JAMES W. IVORY.

Witnesses:

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