(No Model.)

A. E. WORTHEN.

DENTAL JAW BRACE.

No. 480,357. Patented Aug. 9, 1892.

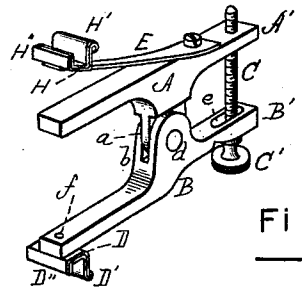

Fig. 1.

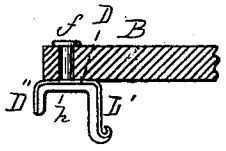

Fig. 3.

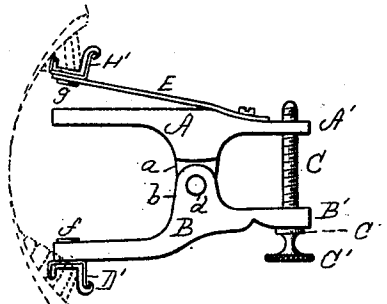

Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR E. WORTHEN, OF MELROSE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO CHARLES L. SPRAGUE, OF SAME PLACE.

DENTAL JAW-BRACE.

SPECIFICATION forming part of Letters Patent No. 480,357, dated August 9, 1892.

Application filed April 12, 1892. Serial No. 428,840. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. WORTHEN, a citizen of the United States, residing at Melrose, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Mouth-Prop for Use in Dental Operations, of which the following is a specification.

In many dental operations, and especially in extracting, when nitrous-oxide gas, ether, or other anæsthetic is employed, it is found necessary to spread the jaws of the patient and to hold them apart during the operation. This has often been done by inserting a plug between the jaws at their rear portions. This is objectionable, as the power exerted by the patient in attempting to close the jaws has a tendency to dislocate them, and not unfrequently does actually produce dislocation. My improved device obviates this difficulty, inasmuch as it is placed between the front teeth of the upper and lower jaws, where the leverage is the least, and by means of its construction it swings readily out of the way of the operator, cannot possibly be ejected, and is adjustable to the mouths of different sizes.

The nature of the invention is fully described below, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved mouth-prop. Fig. 2 is a side elevation of the same in position, the mouth being shown in broken lines. Fig. 3 is a longitudinal vertical section of a portion of one of the jaws of the device.

Similar letters of reference indicate like parts.

A represents the stationary jaw of my device, and B the movable jaw. The jaw A is provided with an extension or lip *a*, which extends between the bifurcated extension *b*, projecting from the jaw B. A screw or pivot *d* extends through said lip *a* and extension *b*, as shown, and constitutes a fulcrum on which said jaws or levers turn. The front end B′ of the jaw B is provided with a long slot *e*, and the front end A′ of the jaw A is provided with a threaded perforation. A screw C, furnished with a suitable thumb-piece C′, extends through the slot *e* and engages the screw-thread in the perforation in the front end A′ of the stationary jaw. By means of the elongated slot *e* the movable jaw B may be operated without danger of the screw C binding, and thus interfering with its movement. An additional office of the thumb-piece is to limit the spread of the front ends of the jaws A B by means of the shoulder C″. The rear end of the jaw B has permanently pivoted to it at *f* a trough D, one side D′ of which is decidedly higher than the opposite side D″. The stationary jaw A has rigidly secured at one end to its upper side a spring E, whose free end is normally raised, as shown in the drawings. The free end of this spring has permanently pivoted to it at *g* a trough H, exactly similar to the trough D, and whose side H′ is decidedly higher than its opposite side H″. Both of these troughs have their inner surfaces lined with gutta-percha *h*, or other suitable soft material.

In practical operation the device is first adjusted, approximately by means of the screw C, to the size of the mouth, and is then inserted between the teeth, as shown in Fig. 2, when, if necessary, it can be still further adjusted to the spread of the jaws of the patient. It will be noticed that the teeth rest in the troughs D H. These troughs being permanently pivoted allow the mouth-prop to swing freely in either direction, according to the needs of the operator. It will be noticed, further, that the higher sides H′ D′ of the troughs are outside—*i. e.*, next the outer surfaces of the teeth. The teeth necessarily, when the jaws are spread, point outward, and hence have a tendency to slip over those sides of the troughs which are against their outer surfaces. Hence these sides are made higher, as above described, in order that the teeth cannot possibly slip or work over. Moreover, this construction of the troughs is exceedingly efficient in retaining projecting teeth and teeth in irregularly-placed jaws. The spring E, by extending up from the jaw A, causes the trough H to rest against the teeth even if the spread of the mouth is considerably in excess of the spread of the rear portions of the jaws A B.

While the mouth-prop will probably be generally used in the position shown, there is

nothing in its construction, which prevents its being placed between the side teeth of the jaws as well as the front teeth.

Although this device is especially useful in connection with extracting when an anæsthetic is employed, it can be used when no anæsthetic is administered, or in connection with other dental operations.

This device is often useful, also, when examinations and operations are performed in relation to the mouth and throat.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A mouth-prop for dental operations, comprising a pair of pivotally-connected jaws, as A B, an adjusting-screw C, and troughs, as D H, permanently pivotally secured to said jaws, substantially as set forth.

2. The hereinbefore-described mouth-prop for dental operations, consisting, essentially, of the pivotally-connected jaws A B, adjusting-screws C C′ C″, spring E, and troughs H D, permanently pivoted, respectively, to said spring and the jaw B, substantially as set forth.

ARTHUR E. WORTHEN.

Witnesses:
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