

(No Model.)

J. W. IVORY.
DENTAL MATRIX RETAINER.

No. 424,790.

Patented Apr. 1, 1890.

Fig. 1.

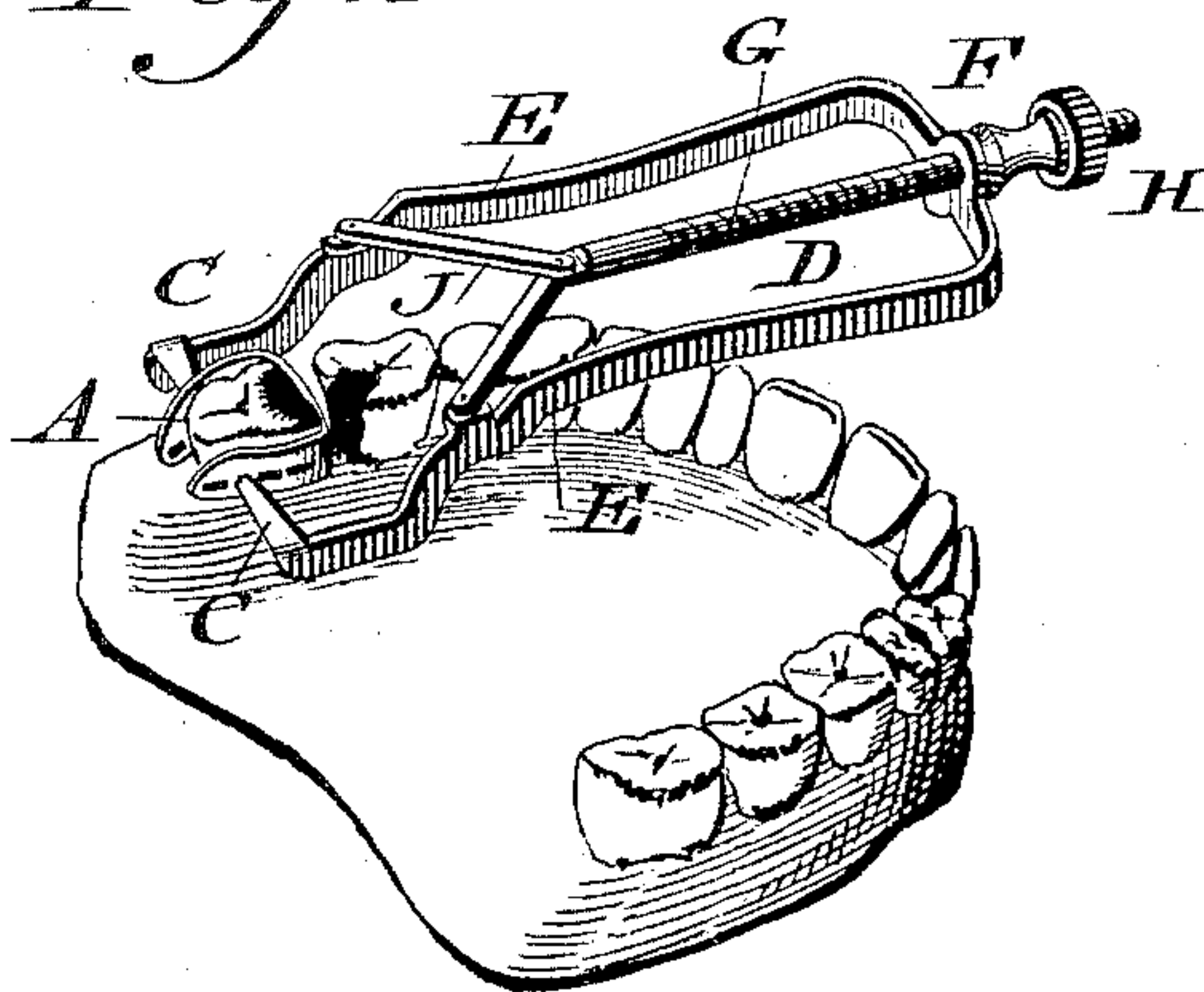


Fig. 2.

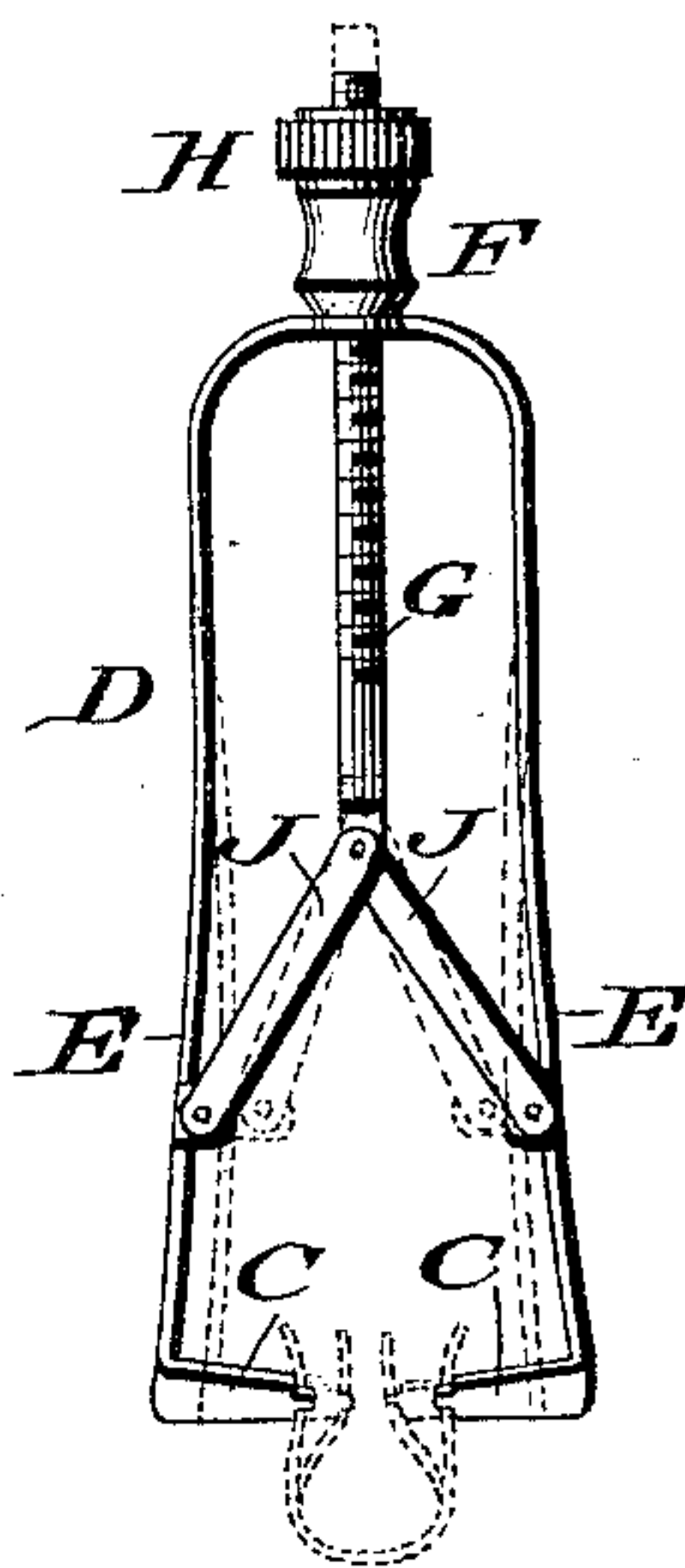


Fig. 3.

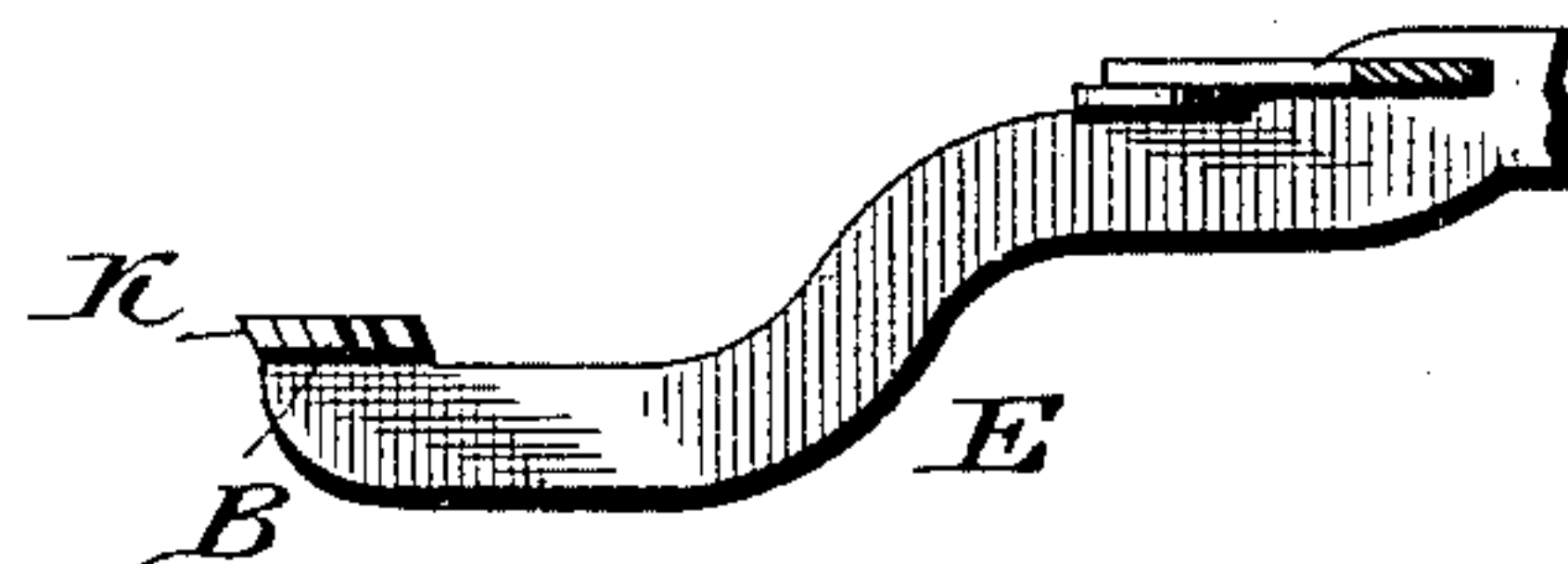


Fig. 4.

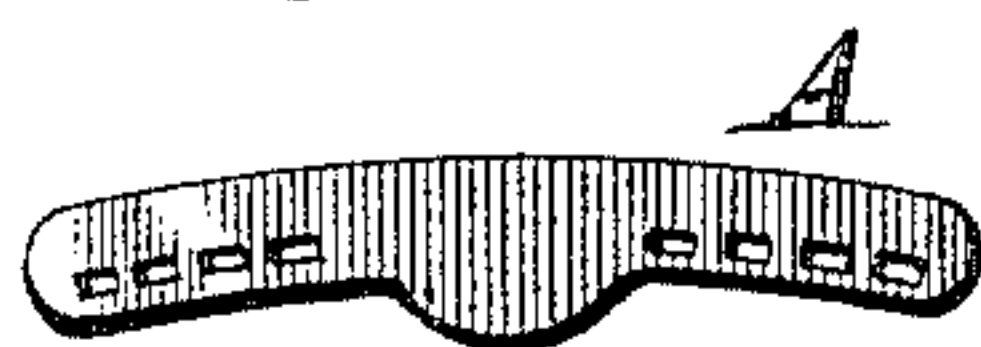
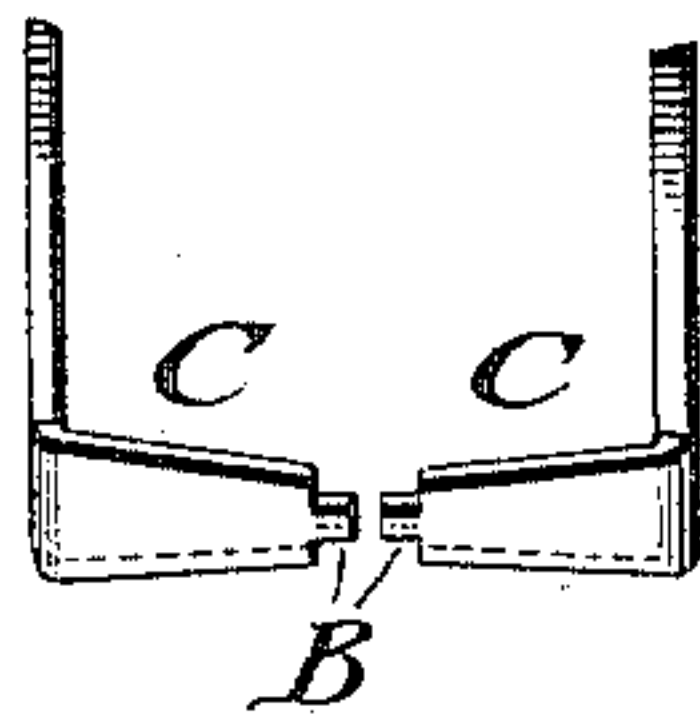


Fig. 5.



WITNESSES:

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DENTAL-MATRIX RETAINER.

SPECIFICATION forming part of Letters Patent No. 424,790, dated April 1, 1890.

Application filed April 11, 1889. Serial No. 306,861. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. IVORY, a subject of the Queen of Great Britain, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Dental-Matrix Retainers, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in dental-matrix retainers; and it consists of mechanism, substantially as described and claimed, for both operating and retaining the jaws in engagement with the matrix.

It further consists in providing the jaws with shouldered ends and the matrix with perforations adapted to receive said shouldered ends, whereby slipping of the matrix on the tooth is prevented.

It also consists of the combination of parts herein set forth and claimed.

Figure 1 represents a perspective view of a dental matrix and clamping device embodying my invention. Fig. 2 represents a plan view thereof. Fig. 3 represents a longitudinal section of a portion on an enlarged scale. Fig. 4 represents a face view of a matrix. Fig. 5 represents a view of the jaws of the clamping device on an enlarged scale.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a matrix, which is formed of suitable ductile metal or other material adapted to be bent around a tooth to be operated upon, as will be seen in Fig. 1, said matrix having a series of holes to receive the ends B of the jaws C of a clamp D, said jaws being attached to arms E, which are connected and form a spring or elastic bow F, to the crown of which is freely fitted a screw G, the outer end whereof carries a nut H, and the inner end thereof has pivoted to it a toggle-lever J, the ends of which opposite to the screw G being pivoted to the arms E, it being seen that when the nut is turned in one direction the screw is moved in such manner as to close the toggle-lever, whereby the arms E, and consequently the jaws C, approach, and when the nut is turned in the opposite direction the arms spring apart, thus opening the toggle-lever, drawing in the screw, and separating the jaws.

It will be seen that when the matrix is lo-

cated and the ends B are fitted in the proper openings of said matrix the nut H is operated, whereby the free ends of the matrix is bent around the tooth, and thus connected therewith. The operation may now be performed, and when the same is accomplished the clamp is loosened, and the matrix may be removed.

The edges of the jaws C are beveled, as at K, so as to bear against the matrix in such manner as to press the latter more forcibly against the tooth, and thus prevent it from slipping. The shouldered ends B limit the degree of penetration of the jaws into the matrix A, and also serve to prevent the too easy separation of the said matrix. It will also be seen that the jaws C are simultaneous in their operation, both in their opening and closing movements, and thus the action is uniform and rapid and the matrix is evenly drawn around and held against the tooth.

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

1. A retainer for a dental matrix, consisting of jaws which are adapted to engage with said matrix and a screw and lever connected therewith, whereby the jaws may close the matrix, substantially as described.

2. A retainer for a dental matrix, consisting of jaws which are adapted to close the matrix, a lever connected with said jaws, a screw mounted on the jaws and attached to said lever, and an operating-nut, said parts being combined substantially as described.

3. A dental-matrix retainer having jaws with shouldered ends and means, substantially as described, for operating said jaws, in combination with a matrix consisting of a plate having perforations adapted to receive said shouldered ends, substantially as described.

4. A retainer for a dental matrix, consisting of jaws and a spring-bow carrying the same, a toggle-lever having its ends pivotally secured to the arms of said bow, a screw secured to said toggle-lever and freely passing through an opening in the crown of said bow, and a nut on said screw, said parts being combined substantially as described.

JAMES W. IVORY.

Witnesses:

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JAMES F. KELLY.