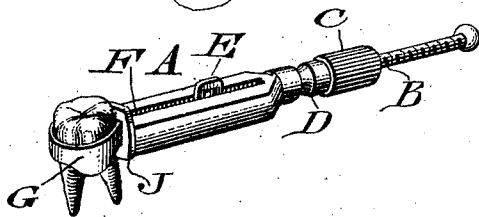


J. W. IVORY.  
DENTAL MATRIX RETAINER.  
APPLICATION FILED JULY 19, 1910.

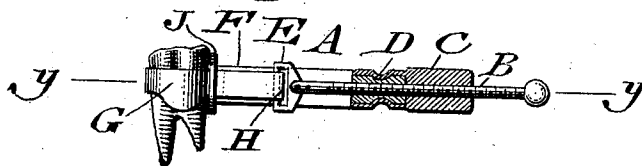
980,529.

Patented Jan. 3, 1911.

*Fig. 1.*



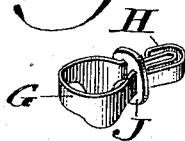
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES W. IVORY, OF PHILADELPHIA, PENNSYLVANIA.

## DENTAL MATRIX-RETAINER.

980,529.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed July 19, 1910. Serial No. 572,699.

*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 Matrix-Retainer, of which the following is a specification.

My invention consists of a dental matrix holder provided with novel means for closing and tightening the matrix and operating the same, and details of construction, as will be hereinafter set forth and pointed out in the claims.

For the purpose of explaining the invention, the accompanying drawing illustrates a satisfactory reduction of the same to practice, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific arrangement and organization shown and described.

Figure 1 represents a perspective view of a dental matrix holder embodying my invention. Fig. 2 represents a longitudinal section thereof on line *x-x*, Fig. 3. Fig. 3 represents a longitudinal section thereof on line *y-y*, Fig. 2. Fig. 4 represents a perspective view of a form of matrix that may be employed.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings:—A designates a tubular stock, in the bore of which is freely fitted the slidable stem B, one end of which is screw-threaded and engaged by the interiorly-threaded sleeve C, which is swiveled on said stock as at D, whereby by the rotation of said sleeve, said stem B may be moved in opposite directions. To the forward end of said stem is secured the eye E, which is adapted to enter the longitudinally extending slot or passage F in the stock A, which passage communicates with the bore of the stock A, whereby said eye may be moved in opposite directions by the stem B, which freely occupies said bore, as has been stated, it being noticed that said eye E is flattened and guided in its movements by the walls of the passage F, whereby its rotation and subsequent twisting of the matrix are prevented.

G designates a matrix which in general respects is of usual construction. On the terminals of the legs of the same, in Figs. 1, 2, and 3, are bent lips or hooks H. In Fig. 4, only one of said legs is formed with

a hook, the same being turned over the terminal of the other leg. In either case, the eye E is fitted on said hooks or hook thus connecting the matrix with the stem B. When said lips H are hooked on the eye E, the former are prevented from disengaging from the latter owing to the walls of the passage F freely embracing said lips, while permitting the latter and the eye E to slide in opposite directions in the bore of the stock, said eye also partly occupying the passage F, and slidable therein without ability to rotate as above stated.

On the legs of the matrix G adjacent to the body thereof, is the buckle or slide J, the same consisting of a plate having slots through which said legs pass, the plate resting upon the end of the stock A as a seat, and serving to bring said legs toward each other and prevent spreading of the same and binding on the end of the stock.

The operation is as follows:—The matrix is located in position and the stem B rotated in the proper direction, when the legs or end portions of the matrix are drawn inwardly in the passage F and thus the body of the matrix is contracted and tightened on the tooth and retained thereon. When the stem is rotated in reverse order, the legs or end portions of the matrix are moved outwardly and the body of the matrix is expanded or opened, and so may be readily removed from the tooth.

The passage F is open at the forward end of the stock so that the ends of the matrix may be readily inserted therein, so as to be fitted in the opening of the eye E, and also permit their ready disconnection from the same.

The forward ends of the members of the stock, which form a bifurcation owing to the passage F, are inwardly beveled or rounded as at K, so that in the tightening motion of the matrix the contiguous portion of the legs of the latter may freely ride on said ends, whereby the matrix may be closed gradually on the tooth without abruptness and severity, the legs of the matrix moving freely through the buckle or slide J, as they are drawn back by the action of the screw stem B, the terminals of said body thus being brought more positively toward each other, whereby the body is contracted and effectively tightened on the tooth as is evident.

Having thus described my invention, what

I claim as new and desire to secure by Letters Patent, is:—

1. A matrix-retainer composed of a stock, a stem slidable in the same, means for operating said stem, an eye on the inner terminal of said stem and a hook on the terminal of the matrix, said hook and eye being connectible.

2. A matrix-retainer composed of a stock having a longitudinally extending bore and a slot, a stem slidable in the same, means for operating said stem, an eye on said stem and a hook on the terminal of the matrix, said eye serving as means in connection with said slot to prevent turning of the former and twisting of the matrix.

3. A matrix-retainer composed of a stock having therein a longitudinally-extending bore and slot, a stem in said bore, means for operating said stem, an eye on said stem freely occupying said bore and slot and a

matrix having a hook on an end thereof, said hook and eye being adapted to be connected, the eye being held against turning and the hook against twisting.

4. In a dental matrix holder, a stock, an operating stem therein, a matrix, and means for connecting said stem with the legs of said matrix in combination with a slotted piece adapted to freely receive said legs and to be seated on the forward end of said stock.

5. In a dental matrix-retainer, a stock, slotted longitudinally and having an axial bore, a slidable stem in said bore, an eye on one end of said stem and connectible with means on the matrix, the said eye being guided by the walls of the bore and slot and thereby holding the matrix against twisting.

JAMES W. IVORY.

Witnesses:

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