

(No Model.)

J. M. STROUT.

DENTAL MATRIX CARRIER AND RETAINER.

No. 574,012.

Patented Dec. 29, 1896.

FIG-1-

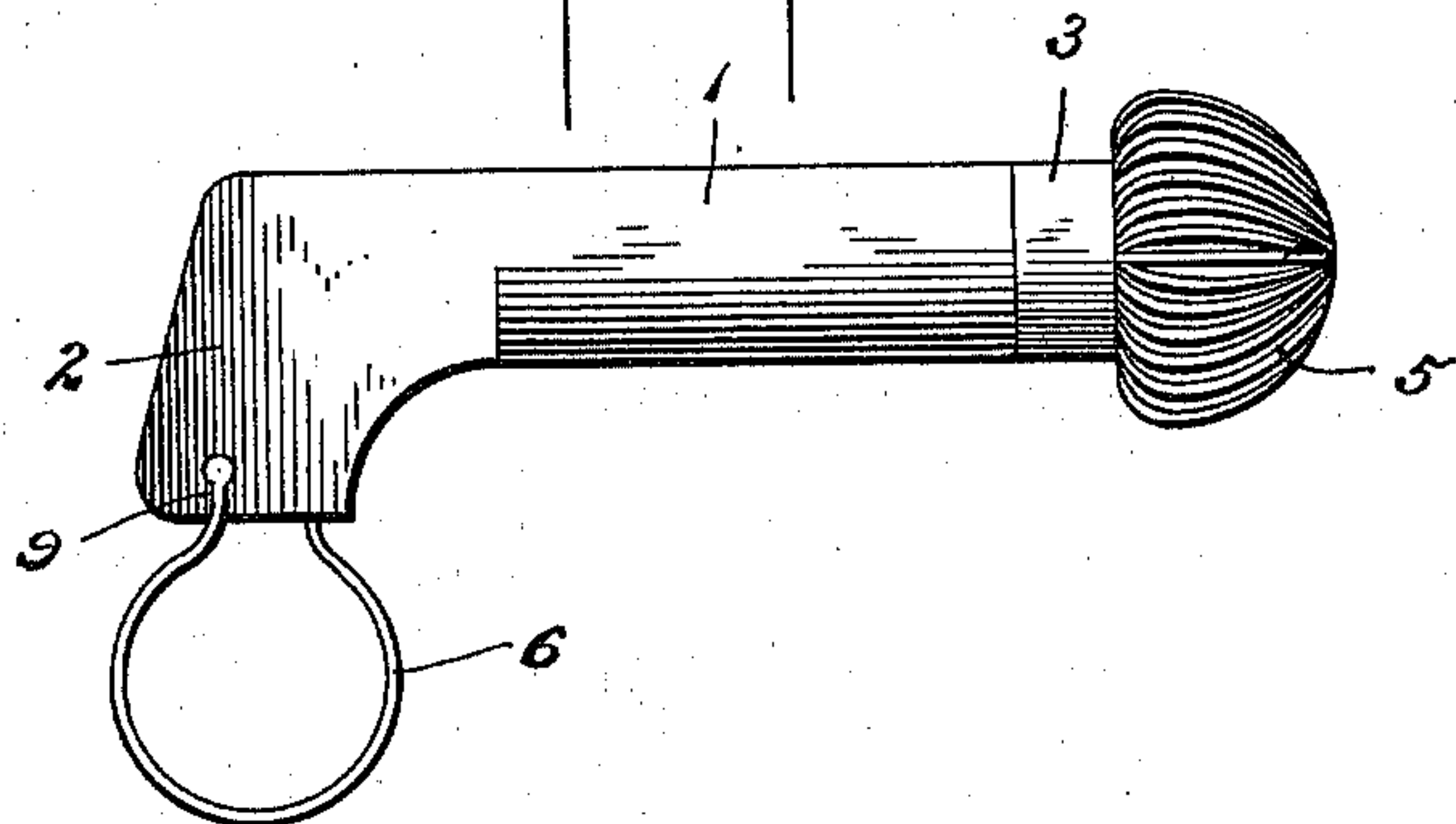


FIG-2-

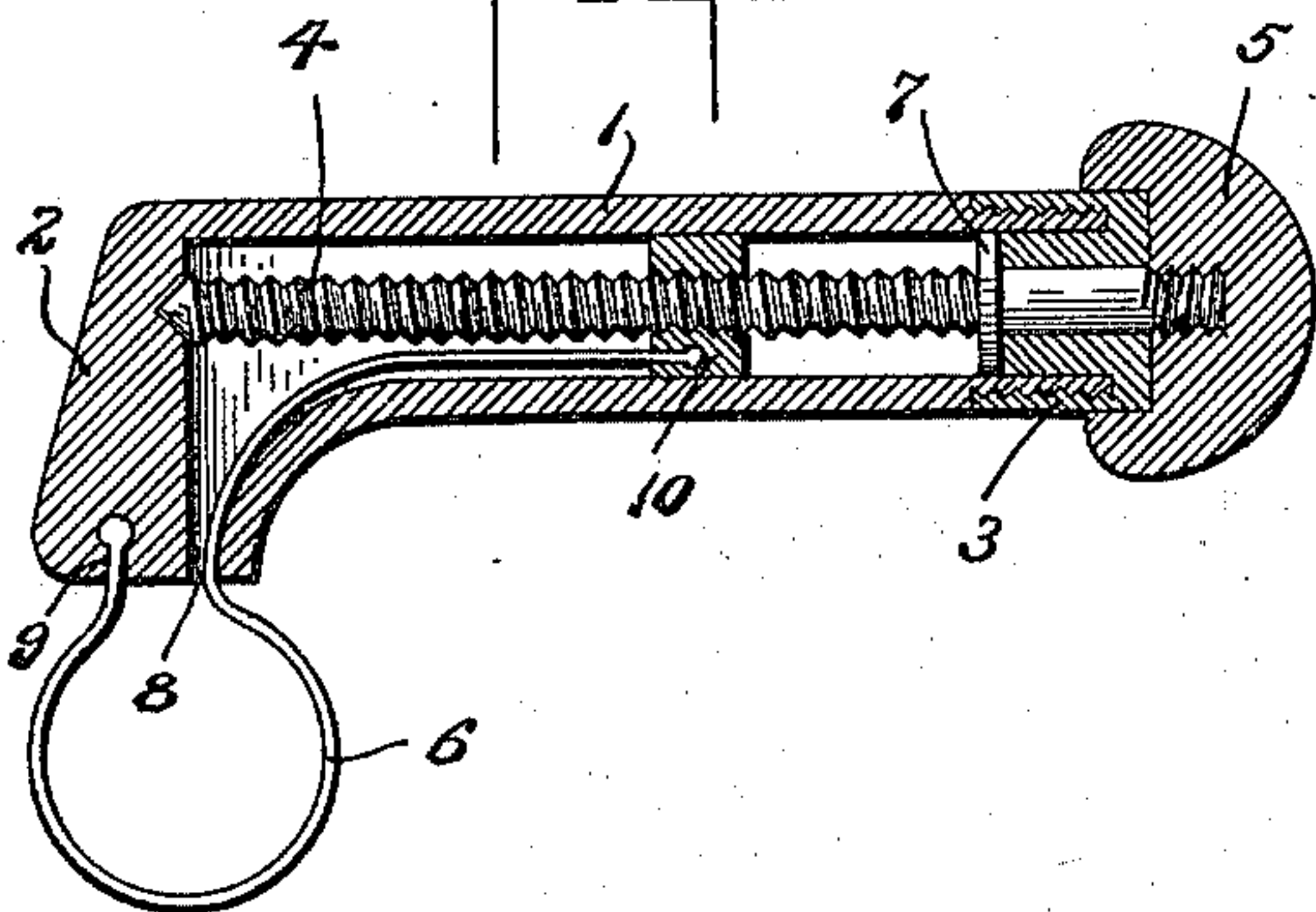


FIG-3-

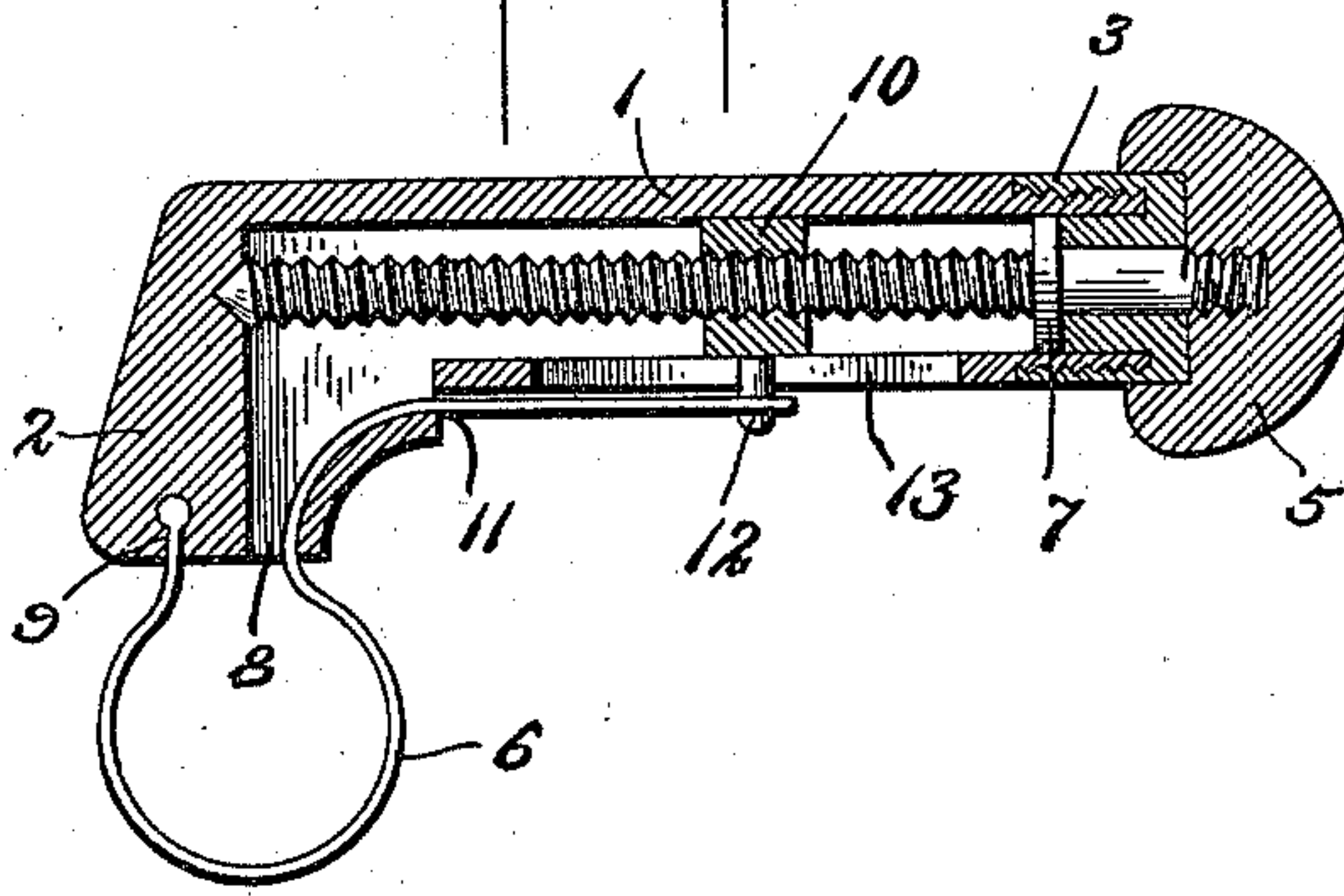
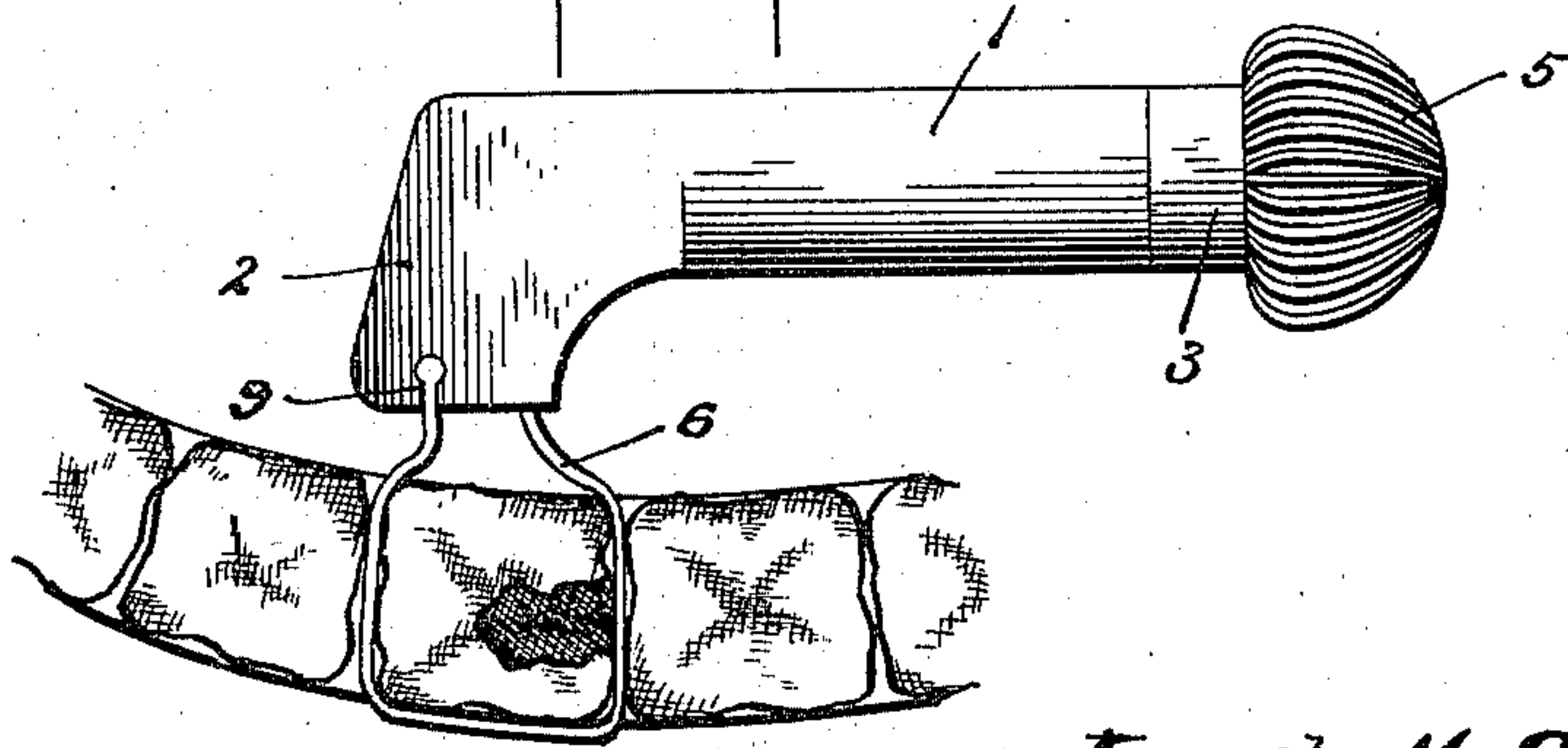


FIG-4-



Inventor

Joseph M. Strout,

Witnesses

A. M. Poynton -
U. B. Hillyard.

By his Attorneys,

Cashow & Co.

UNITED STATES PATENT OFFICE.

JOSEPH MILTON STROUT, OF PORTLAND, MAINE.

DENTAL MATRIX CARRIER AND RETAINER.

SPECIFICATION forming part of Letters Patent No. 574,012, dated December 29, 1896.

Application filed July 11, 1896. Serial No. 598,888. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MILTON STROUT, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Dental Matrix Carriers and Retainers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to matrix carriers and retainers for dental purposes.

An essential feature of the invention is a device of the character and for the purpose aforesaid which will protect the operating parts and reduce the discomfort and annoyance to the patient to a minimum, the exterior surface and exposed parts being smooth and of such formation as to cause no unpleasantness by contact of the tongue therewith when the device is in use.

The improvement consists of a barrel open at one end for the introduction and removal therefrom of the operating mechanism and closed at the opposite end and formed with a lateral extension to bear against the teeth to be treated, and to which one end of the matrix is secured, the other end portion of the matrix passing loosely through an opening or slot therein and having attachment with the tightening mechanism, the latter consisting of a feed-screw journaled within the barrel, a nut mounted upon the feed-screw and having the movable end of the matrix connected therewith, a cap closing the open end of the barrel and forming a bearing for the outer end of the feed-screw, and a crown attached to the projecting end of the feed-screw for turning the latter to draw or tighten the matrix about the tooth to be treated.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of a matrix-retainer for effecting the ends of this invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a view similar to Fig. 2, showing a different arrangement of the parts. Fig. 4 is a detail view showing the device applied.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by the same reference-characters.

The barrel 1, forming the body of the device, is closed at one end and provided with a lateral extension 2, and is open at the opposite end, which is closed by a cap 3, having screw-thread connection with the barrel and centrally apertured to provide for the passage therethrough of the outer end of the feed-screw 4, which is journaled within the barrel. A crown 5, milled or corrugated to enable the fingers to secure a firm grip thereon, is attached to the projecting end of the feed-screw 4 and provides a means for turning the latter when it is required to adjust the matrix 6 to the size of the tooth to be treated.

The inner end of the feed-screw 4 is made conical and obtains a bearing in a similarly-formed recess in the inner wall at the closed end of the barrel, and a shoulder 7 is provided near the outer end of the feed-screw to engage with the inner end of the cap 3 to prevent outward displacement or longitudinal movement of the feed-screw when the parts are assembled and the cap 3 is screwed home. If from any cause it be required to gain access to the interior of the barrel and the operating parts, the cap 3 is removed from the barrel and the inclosed parts removed through the open end thereof.

A slot or opening 8 extends through the bearing-face of the lateral extension 2 and communicates with the interior of the barrel and provides a passage for the movable or adjustable end portion of the matrix 6. A retaining-slot 9 is formed in the lateral extension 2 contiguous to the opening 8 and extends parallel with the latter and is adapted to receive the outer end of the matrix 6, which is secured therein in any convenient and substantial way, so as to admit of the matrix being readily removed to be substituted by a new one or for any required purpose. A nut 10 is located within the barrel

and mounted upon the feed-screw 4, and the movable end of the matrix is connected therewith, the outer portion of the matrix forming a loop to encircle the tooth to be treated, as clearly indicated in Fig. 4. By turning the feed-screw, which is effected by means of the crown 5, the nut 10 is caused to move within the barrel, so as to tighten or loosen the matrix, according to the direction in which the feed-screw is turned, thereby making provision for adapting the size of the matrix to the dimension of the tooth to be treated.

The construction illustrated in Fig. 3 is in all essential particulars substantially the same as that shown in the other figures, with the exception that the terminal portion of the matrix makes connection with the nut 10 exterior to the barrel and passes through an opening 11, formed at the juncture of the lateral extension 2 with the barrel, and the nut is formed with a projection 12, which operates in a longitudinal slot 13, formed in the inner side of the barrel. This construction admits of the matrix being detached from or secured to the nut 10 without necessitating the removal of these parts from the barrel. Hence the matrix can be removed or substituted by a new one in less time than required to make a similar change where it is required to remove the operating parts from the barrel. This form of matrix-retainer operates in precisely the same manner as that illustrated in the other views.

Having thus described the invention, what is claimed as new is—

1. A matrix-retainer comprising a barrel having a lateral extension formed with an opening and a retaining-slot, a feed-screw journaled within the barrel, a crown at one end of the barrel and having connection with the feed-screw for rotating the latter, a nut located within the barrel and mounted upon the feed-screw, and a matrix having one end secured in the aforesaid retaining-slot and

having its other end passing loosely through the opening in the lateral extension of the barrel and connected with the nut, substantially as set forth.

2. A matrix-retainer comprising a barrel open at one end and having its opposite end closed and provided with a lateral extension formed with an opening, a cap for closing the open end of the barrel, a feed-screw journaled within the barrel and having an end portion projecting through and beyond the cap and held against longitudinal movement, a crown secured to the projecting end of the feed-screw, a nut located within the barrel and mounted upon the feed-screw, and a matrix having one end secured to the lateral extension and having its opposite end passing loosely through the opening in the lateral extension and attached to the aforesaid nut, substantially as and for the purpose specified.

3. A matrix-retainer comprising a barrel having a lateral extension formed with an opening 8 in its bearing-face and an opening 11 at the juncture of the lateral extension with the barrel, a feed-screw journaled within the barrel and provided with means for rotating it, a nut mounted upon the feed-screw and having a projection operating in a longitudinal slot in the inner side of the barrel, and a matrix having one end secured to the aforesaid lateral extension and having its other end passing through the opening 8 in the bearing-face of the lateral extension and out through the opening 11 at the juncture of the said extension with the barrel, and secured to the projection of the nut, substantially in the manner and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH MILTON STROUT.

Witnesses:

CARROLL W. MORRILL,
GEORGE LIBBY.