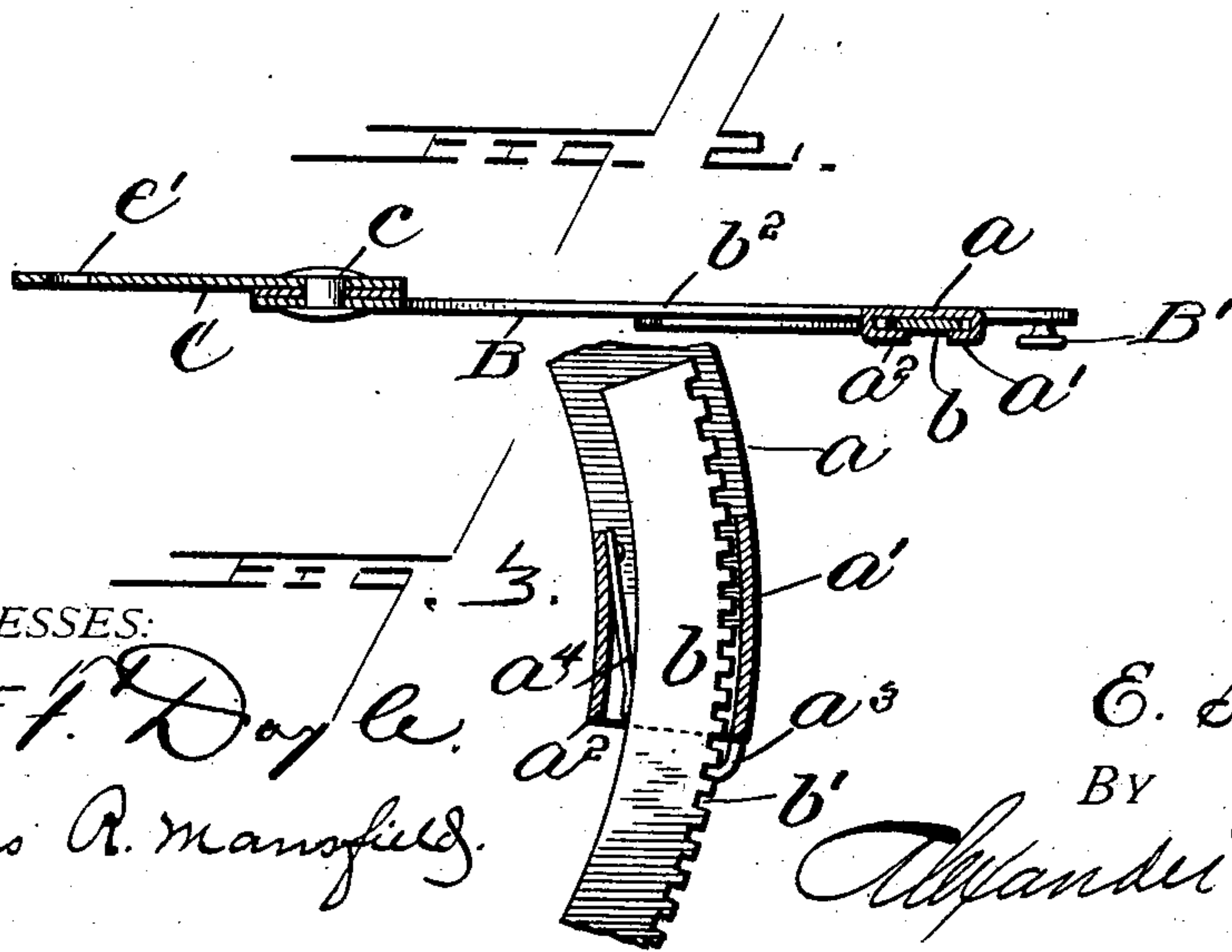
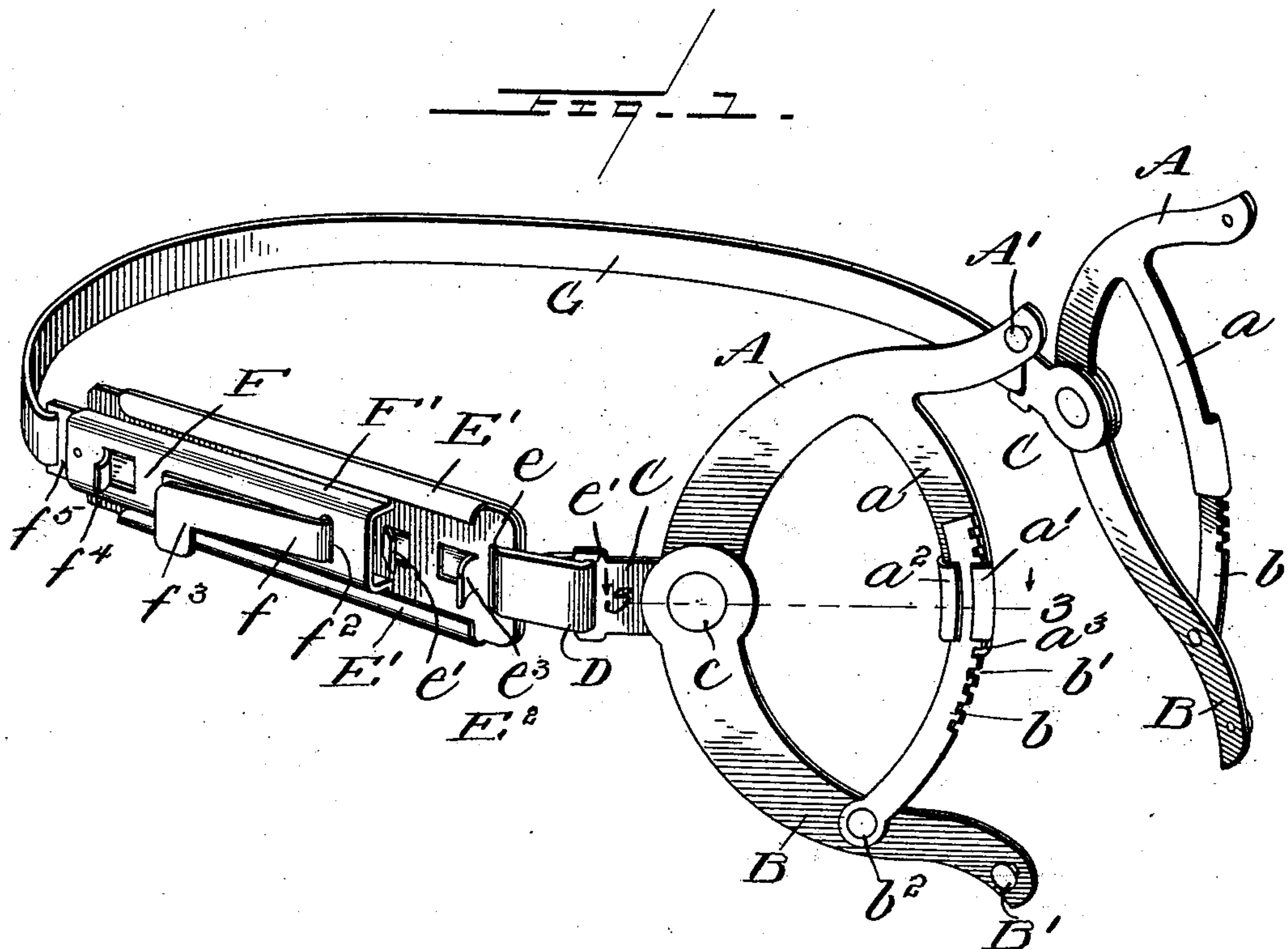


No. 747,484.

PATENTED DEC. 22, 1903.

E. S. RINEHART.
DENTAL DAM HOLDER.
APPLICATION FILED APR. 7, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ERWIN S. RINEHART, OF ANACONDA, MONTANA.

DENTAL DAM-HOLDER.

SPECIFICATION forming part of Letters Patent No. 747,484, dated December 22, 1903.

Application filed April 7, 1903. Serial No. 151,510. (No model.)

To all whom it may concern:

Be it known that I, ERWIN S. RINEHART, of Anaconda, in the county of Deerlodge and State of Montana, have invented certain new and useful Improvements in Dental Dam-Holders; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in rubber-dam holders and adjusters for dentists, its object being to provide simple, convenient easily-adjustable holders for retaining the rubber sheets used by dentists in making gold fillings in position over the mouth and lower part of the face of a patient.

The invention therefore consists in the novel construction of the dam-holders and in the combination of such parts and connections, as will be hereinafter set forth in the claims.

The accompanying drawings illustrate a complete set of devices, and I will now describe the construction thereof in detail, referring to said drawings for illustration of the parts; but I do not restrict myself to the specific form, dimensions, or construction of parts shown in the drawings.

In said drawings, Figure 1 is a perspective view of the holding and adjusting devices complete. Fig. 2 is an enlarged transverse section through the holder on line 3 3, Fig. 1. Fig. 3 is an enlarged detail view of the dam-holder-adjusting devices, partly in section.

The dam-holders, of which two are used, are approximately U-shaped. Each consists of two similar but oppositely-curved members A B, which are pivoted at c to a link C, so that they may be adjusted toward or from each other, and they may be provided on their outer free ends with hooks or buttons A' B' or other suitable means for attaching them to the sheet of rubber forming the dam. (Not shown.) Member A is provided with an arm a , extending toward and lapping past an inwardly-extending arm b on member B, said arms being curved on arcs having pivot c as a center. The arm a is provided with inwardly-bent flanges a' a^2 near its outer end, forming guides for the arm b , which passes therebetween and is pressed upwardly to-

ward flange a' by means of a spring a^4 in flange a^2 . The upper or outer edge of arm b is serrated, as at b' , and adapted to engage with a tooth a^3 on arm a , so as to lock the members A B apart at any distance to which they are adjusted. The arm b may be pivoted to member B, as to b^2 , so that its free end may be more easily depressed, so as to disengage its ratchet-teeth b' from tooth a^3 when it is desired to adjust the outer ends of members A B closer together.

The described means of adjusting and locking the members A B relatively apart I now consider the simplest and preferred form; but nevertheless I do not desire to restrict myself thereto, as other means for adjustably connecting arms a b can be readily devised and used.

The link C is provided with a slot e' , in which is secured one end of a band D of flexible or elastic material, the other end of said band being connected to a slot e in the end of the inner or base plate E of the take-up device, which is composed of inner plate E and outer slide F. On slide F is a catch f , the tooth of which projects through a slot f^2 in the top of the slide in position to engage with tooth on part E and prevent the withdrawal of part F. The catch f is provided with a finger-piece f^3 , which when depressed will elevate the tooth f^2 , so that the slide F can be moved back and forth on plate E freely. Slide F has a slot f^5 in its rear end, by which it is attached to one end of a band G, of suitable fabric, which is connected at its other end to the link C of the companion holder A B at the other side of the head.

I do not herein claim the take-up device, as it forms the subject-matter of another application, filed by me June 11, 1903, Serial No. 161,099.

The metallic parts of the apparatus can be finished in any desired manner, and the operation is briefly as follows: After the dentist has secured the rubber sheet or dam (not shown) over the tooth or teeth to be treated in the usual manner he attaches the holders to the opposite ends of the sheet, (one beside each cheek of the wearer,) passing band G around or over the head of the patient and taking up slack therein by moving slide F inward over plate E. The sheet is spread

out by opening the holders A B, which are held distended by the lock connection between arms *a b*. By means of these devices the rubber dam can be quickly placed and
 5 adjusted properly with less discomfort to the patient and can also be readily removed.

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

10 1. In a dental dam-holder, the combination of opposite members pivoted together to rest upon the cheek, and provided with arms extending toward each other, and means for adjustably fastening said arms together and
 15 to the head-band, substantially as described.

2. In a dental dam-holder, the combination of opposite curved members pivoted together, and provided with curved arms extending toward and overlapping each other, and means
 20 for fastening said arms together to hold the members apart, substantially as described.

3. In a dental rubber-dam holder, the combination of the opposite holders, each comprising two members pivoted together, adjustable means for securing the members in
 25 distended positions and a flexible connection between the opposite holders, substantially as described.

4. In a dental rubber-dam holder, the combination of the opposite holders, each comprising two members pivoted together extending arms on the members overlapping each
 30 other, means for locking the arms together, and a flexible connection between the opposite holders, substantially as described.

5. In a dental rubber-dam holder, the combination of opposite holders each consisting of two members pivoted together at one end, said members being provided with inwardly-
 40 extending overlapping arms, and means for locking the arms to keep the holder distended, a take-up interposed between the holders and flexible connections between the take-up and said holders, substantially as described.

6. In a dental rubber-dam holder the combination of the opposite holders each consisting of two members pivoted together at one end, said members being provided with oppositely inwardly extending overlapping
 50 arms, one of said arms being serrated and adapted to be engaged by a tooth on the other arm to keep the holder distended, a take-up interposed between the holders and flexible connections between the take-up and said
 55 holders, substantially as described.

7. A dental dam-holder comprising a pair of opposite holders each consisting of two members pivoted together capable of being
 60 distended more or less, and adapted to be engaged with the dam at their outer ends, and a connection between the opposite holders, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ERWIN S. RINEHART.

Witnesses:

JOHN W. JAMES,
 LEON E. BEAUDRY.