

No. 793,682.

PATENTED JULY 4, 1905.

J. J. ROJO.  
RUBBER DAM HOLDER.  
APPLICATION FILED NOV. 15, 1904.

FIG. 3.

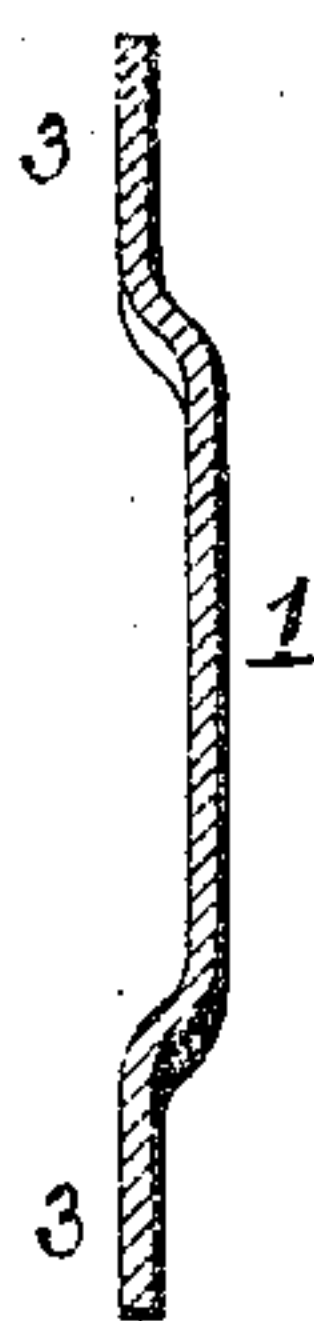


FIG. 2.

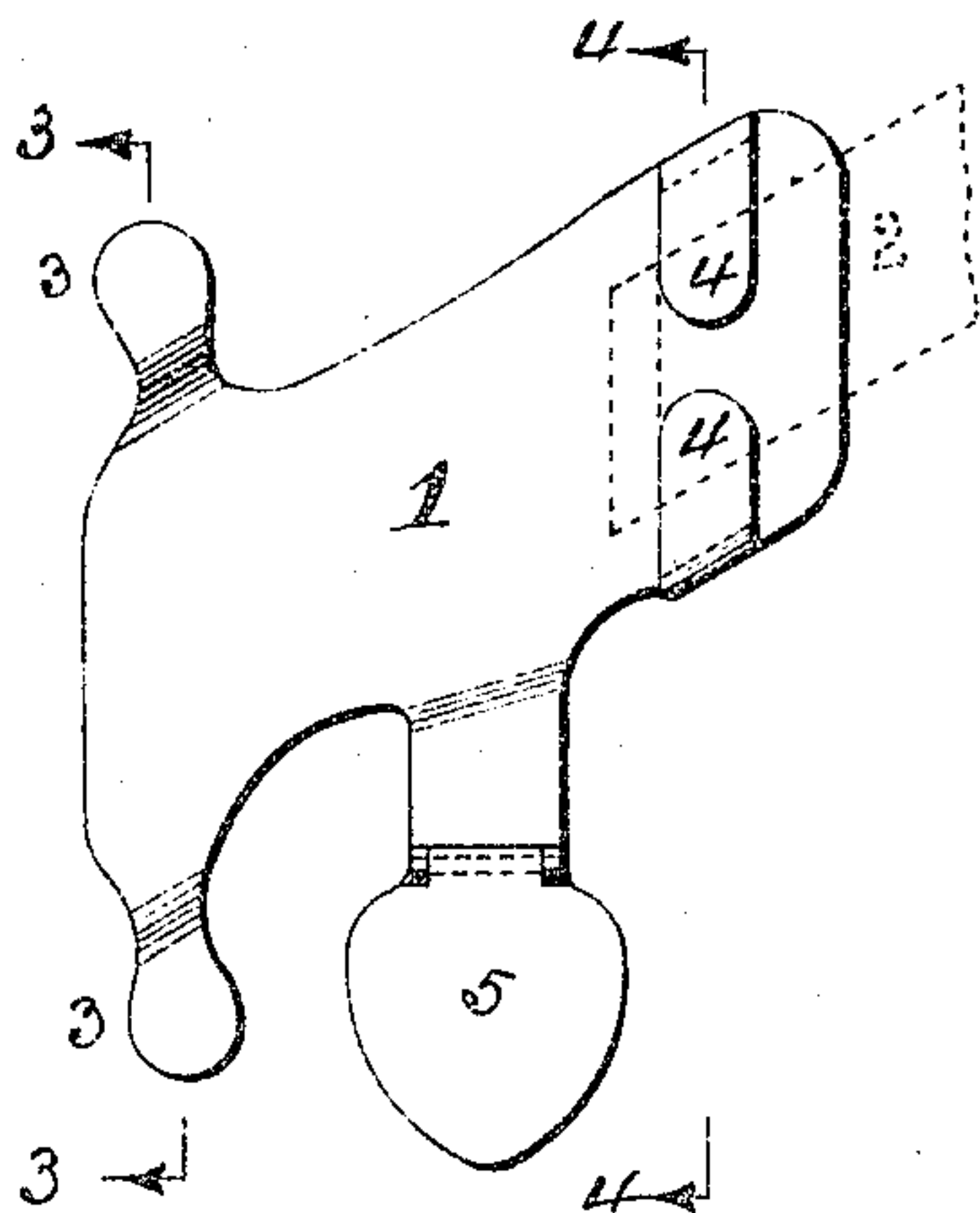


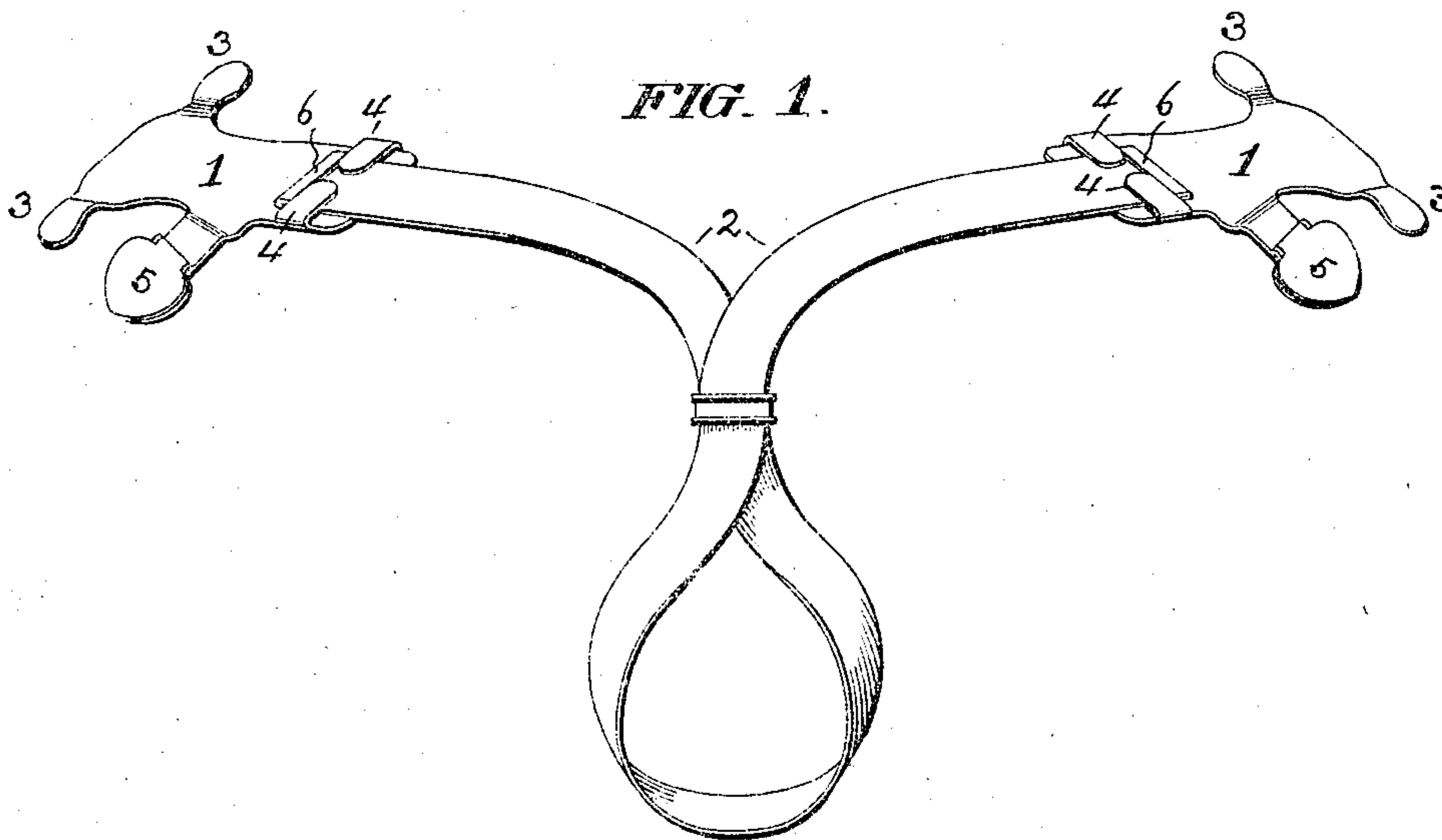
FIG. 4.



FIG. 5.



FIG. 1.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSÉ J. ROJO, OF MEXICO, MEXICO, ASSIGNOR TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## RUBBER-DAM HOLDER.

SPECIFICATION forming part of Letters Patent No. 793,682, dated July 4, 1905.

Application filed November 15, 1904. Serial No. 232,777.

*To all whom it may concern:*

Be it known that I, JOSÉ J. ROJO, a citizen of the Republic of Mexico, residing in the city of Mexico, Mexico, have invented certain new and useful Improvements in Rubber-Dam Holders; 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.

My invention relates to dental rubber-dam holders for holding rubber dam in position while performing certain dental operations.

The objects of the invention are to provide a pair of holder-plates with a configuration best adapting them to the purpose intended, to provide a readily-detachable connection between said plates and their connecting-tape, so that the plates may be thoroughly sterilized, and to provide means for holding a napkin in connection with the rubber dam.

To accomplish these objects, the invention consists of a rubber-dam holder, as indicated in the accompanying drawings and described in the following specification, the invention being defined in the claims at the conclusion of said specification.

In said drawings, Figure 1 is a perspective view of the holder as a whole. Fig. 2 is a plan view of the outer face of one of the holder-plates detached. Fig. 3 is a sectional view on the line 3 3 of Fig. 2. Fig. 4 is a sectional view on the line 4 4 of Fig. 2. Fig. 5 is an end view of said plate looking toward its front end.

The improved rubber-dam holder, as usual, comprises a pair of similar holder-plates 1 1, connected by a preferably elastic tape or band 2. These plates are each provided at their front ends with rubber-dam-engaging knobs 3 3 and at their rear ends with tape-engaging means 4 4. The manner of using rubber-dam holders of the class to which my invention belongs is to pass the tape behind the patient's head, place one plate on each cheek, and stretch the rubber dam over the four knobs of the two plates, the dam being secured to a tooth in the patient's mouth, as is well understood in the art. A slide 8 or equivalent

means is employed to take up the slack of the tape, which by virtue of its elasticity draws the plates apart, thus stretching the dam to the requisite degree.

The plates 1 1 are best made of metal, and the dam-engaging knobs 3 3 project beyond the opposite or upper and lower edges of the plate and extend obliquely to the body of the plate, or rather to said upper and lower edges thereof. Likewise the tape-engaging means at the rear of the plate, formed in this instance by ears 4 4, extend obliquely to the upper and lower edges of the plate and parallel with the dam-engaging knobs. For practical purposes the plate is preferably longer from front to rear than from its upper to its lower edge, although a shorter plate would serve the same purpose. The corners may be rounded and the lower edge curved, as shown. By means of this construction the plates may be placed obliquely one on each cheek of a patient, with the dam-engaging knobs of the respective plates substantially parallel and vertical. As the tape passes behind the patient's head above the ears, it necessarily pulls obliquely, and it will be seen that this arrangement properly provides for this pull. Thus when oblique traction is applied to the plates to draw them away from each other to stretch the dam the substantial parallelism of the knobs is preserved, and in consequence the dam is evenly stretched. Were the knobs not disposed obliquely to the plate, the lower knobs of the respective plates would be more widely separated than the upper knobs, with the effect of unevenly stretching the dam.

The ears 4 4 project from the upper and lower edges of the plate, the one directly above the other, and are bent over and above the plate toward each other. There is a space between the ears and the plate and also a space between the inner ends of the ears forming an opening 7. Because of this opening I term the tape-engaging means an "open loop." The connecting-tape 2 is enlarged at its extremities 6 6, and by slipping the tape edge-wise through the openings 7 between the ears 4 4 and pulling the enlarged extremities against the ears the tape is quickly and se-



curely connected to the plates and cannot become accidentally disconnected therefrom. The enlarged extremities 6 6 of the tape may be simply formed by folding and sewing the ends of the fabric, as shown in Fig. 1. This open-loop connection provides for the ready separation of the tape from the plates, which may be immersed in a sterilizing liquid without bringing the tape into contact with the liquid. The width of the tape relative to the ears should be such as to permit of sufficient lateral play of the tape therein in order to facilitate the insertion and removal of the tape when connecting and disconnecting it from the plates, and the opening 7 should of course be narrower than the width of the tape. In rubber-dam holders as at present constructed this separation of the holder-plates from the tape is not provided for, and when dipping the plates in the sterilizing liquid the ends of the tape adjacent to the plates become saturated with the liquid to a greater or less extent, according to the care observed, thereby discoloring and even rotting the tape.

Projecting from the lower edge of each plate at a point between the lower dam-engaging knob 3 and tape-engaging loop 4 is a napkin-engaging clasp or clamp 5. After the dam has been applied and secured in position by means of my improved holder, as before explained, a napkin may be quickly, conveniently, and comfortably secured in place by means of the clasps 5 5. Saliva-absorbing napkins are frequently employed by dentists in connection with the rubber dam and are usually secured in place by an independent attachment, the use of which is rendered unnecessary by my invention.

The rubber-dam holder indicated in the drawings and above described simply and effectively accomplishes the purposes of my in-

vention. It is to be understood, however, that my invention is not confined to this precise form, as other styles of napkin-clasps suitable for the purpose may be substituted for those illustrated. Other forms of dam-engaging knobs may be used, while the open loop for engaging the tape may be varied as occasion may require.

I claim as my invention—

1. A plate for a rubber-dam holder provided at its front end with dam-engaging knobs projecting beyond the upper and lower edges thereof, and provided at its rear end with tape-engaging means, the dam-engaging knobs and the tape-engaging means extending parallel with each other and obliquely to the said upper and lower edges of the plate, substantially as and for the purpose described.

2. A plate for a rubber-dam holder having dam-engaging means at its front end, and bent ears at its opposite end forming an open loop for detachably engaging a connecting-tape, substantially as described.

3. A rubber-dam-holder plate having dam-engaging knobs at its front end, connecting-tape-engaging means at its opposite end, and a napkin-clasp between said knobs and means, substantially as described.

4. In a rubber-dam holder, the combination of a pair of plates each having dam-engaging knobs and an open loop, and a connecting-tape having enlarged extremities adapted to be inserted into and removed from said loops by way of their openings, substantially as described.

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

JOSÉ J. ROJO.

Witnesses:

JULIO VATLETO,  
R. R. ROJO.