F. H. NEWLIN.

RUBBER DAM CLAMP.

APPLICATION FILED APR. 20, 1915.

1,166,924. Patented Jan. 4, 1916.

Fig. 1.

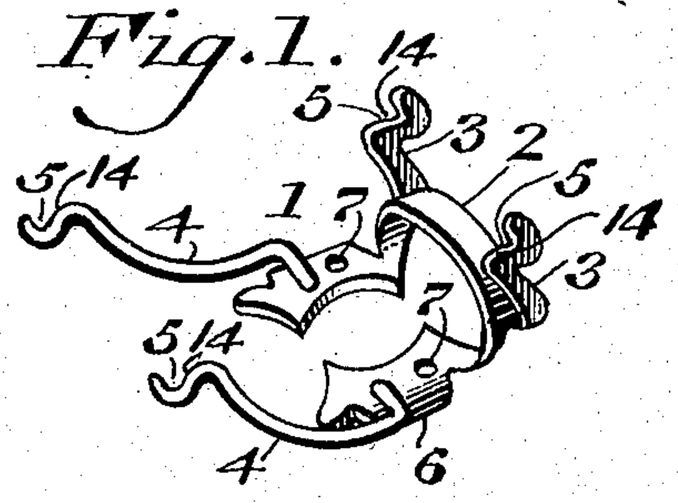


Fig. 4.

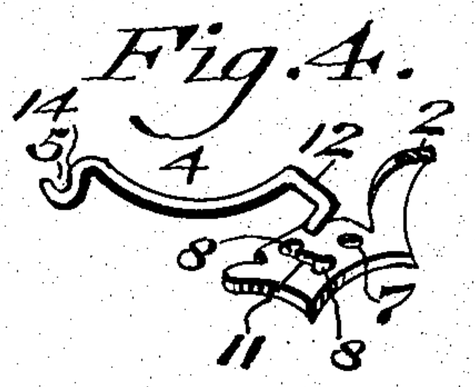


Fig. 5.

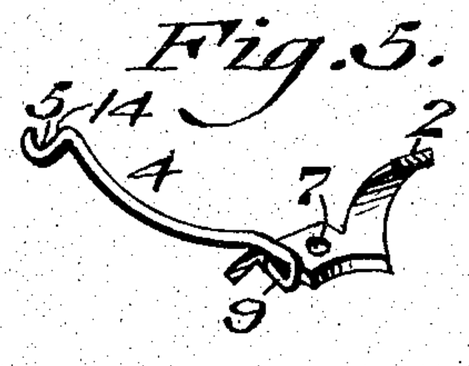


Fig. 2.

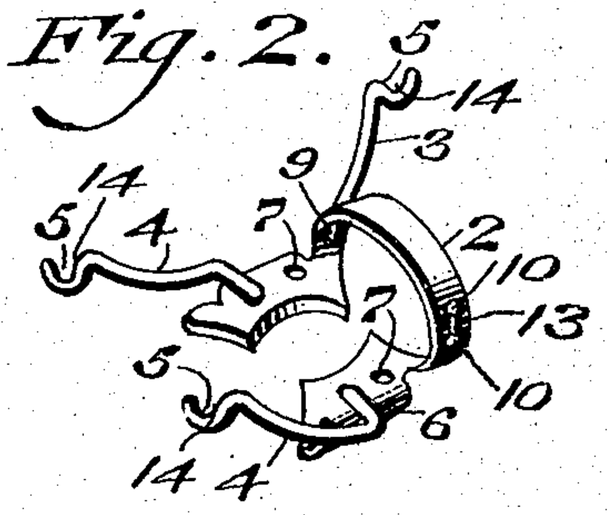


Fig. 3.

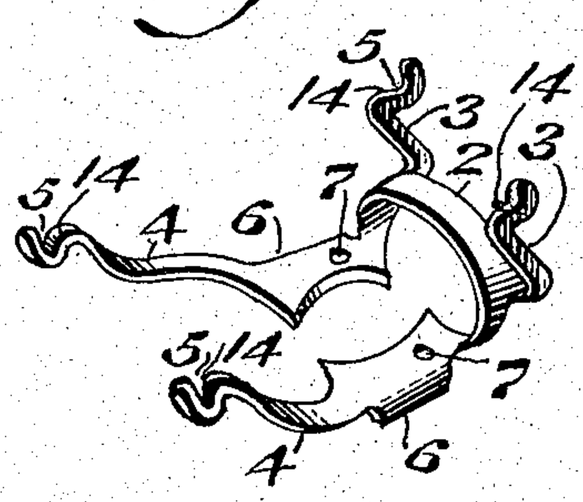
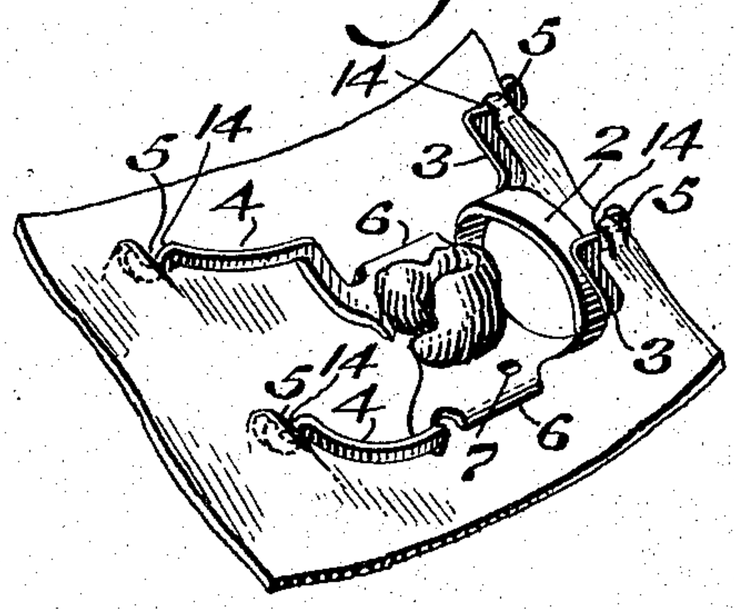


Fig. 6.



WITNESSES

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RUBBER-DAM CLAMP.

1,166,924. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed April 20, 1915. Serial No. 22,555.

To all whom it may concern:

Be it known that I, FREEMAN H. NEWLIN, a citizen of the United States, residing in the city and county of Huntingdon, State of Pennsylvania, have invented a new and useful Rubber-Dam Clamp, of which the following is a specification.

My invention consists of a rubber dam clamp in which provision is made for holding the dam firmly on said clamp while it forms a wall which efficiently closes around a tooth on which an operation is to be performed.

The invention is satisfactorily illustrated in the accompanying drawings, but the important instrumentalities thereof may be varied, as long as they are included in the scope of the claim.

Figures 1, 2 and 3 represent perspective views of rubber dam clamps embodying my invention. Figs. 4 and 5 represent perspective views of portions of rubber dam clamps showing other embodiments of my invention. Fig. 6 represents a perspective view of a rubber dam clamp showing another embodiment of my invention including a rubber dam in operative position thereon.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the jaws of the clamp, and 2 designates a resilient bridge or bow connecting the same, said members *per se* being known in the art. Connected with said bridge are the arms 3, which in Figs. 1, 3 and 6 are formed of the metal or material of said bridge integral therewith.

In Fig. 2, the bridge is adapted to have arms formed of wire attached thereto, one of said arms being omitted. Connected with the jaws 1 are the arms 4 which in Figs. 1, 2, 4, and 5 are formed of wire, and in Figs. 3 and 6 said arms are formed of sheet metal or the material of said jaws integral therewith.

It will be noticed that the arms 3 and 4 comprise comparatively the corners of the clamps and on the ends of said arms are the salient pointed hooks 5, formed by suitably bending or otherwise shaping the metal or material of the arms at said ends.

On the outer sides of the jaws of the clamps are the tongues 6 which extend at an angle from said sides, the same being adapted to have a rubber dam attached thereto by being stretched over the same, it being also stretched over and upon the hooks 5. A proper implement such as forceps is engaged in the openings 7 in the jaws and the latter are spread apart by the same and carried on a tooth, the dam owing to the opening previously made therein passing over the tooth it having been previously drawn at the proper place over the pointed hook. Then the dam is stripped from the tongues 6 when it contracts and closes around the neck of the tooth and the dam is firmly held in position for the purpose of an operation on the tooth.

In Fig. 4 I show the jaw provided with a plurality of openings 8 in either of which the inner end of the arm may be received and adjusted on the clamp according to requirements, said end after passing through the desired opening being bent on the clamp as at 9 and so held in position tightly thereon.

In Fig. 2, I show the bridge 2 as provided with a plurality of openings 10 for connection therewith of the arms 3, similar to the connection of the arms 4 with the jaws as in Fig. 4.

Referring to Fig. 4, the face of the clamp between the openings 8 are sunken forming the recess 11, in which is seated the right lined portion 12 of the arm 4, whereby the walls of said recess embrace said portion 12, the terminal of the arm being bent and adapted to enter either of said openings and so form a firm connection of said arm with said clamp, especially when said portion is brazed or soldered to said clamp. This is true also of the openings 10 in the bridge or bow 2 where a recess 13 is formed on the face of the latter between said openings to receive a portion of the arm 3, similar to the portion 12, and hold said latter firmly on the bridge or bow, this being assisted by brazing or soldering said portion to the bridge as in the previous case.

Attention is directed particularly to the fact that in each arm a wall rises from the base of the hook 5 forming the shoulder 14 whereby when the rubber dam is seated on said hooks, said walls or shoulders 14 prevent the dam from disengagement from said hooks and slipping down on the arms toward the body of the clamp.

Owing to the shoulders 14 on the backs of the hooks, I avoid connecting the exterior

of the arms with cross bars, said shoulders assisting admirably in retaining the rubber dam on the hooks since the bases of the hooks and shoulders form deep seated depressions into which the material of the rubber dam descends in reaching its place of occupation and so cannot slide outwardly over the hooks, nor inwardly over the shoulders, at what may be termed each corner of the device, it being evident that when the dam is in position on the clamp it is tightly stretched on the arms owing to the flaring nature of the latter.

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

1. In a rubber dam clamp, a tooth clamping jaw, and an arm extending outwardly from the terminal of said jaw, said arm having on its outer end a downwardly-extending shoulder, and an upwardly extending hook, which latter extends from the base of said shoulder with a depression between said shoulder and hook, the base of said depression being adapted to receive the relative portion of the dam.

2. In a rubber dam clamp, a jaw member thereof having an opening therein, and an arm adapted to extend from said member and have its inner terminal enter said opening, the face of said member having a recess therein extending from said opening adapting a portion of said arm to be seated therein, and a terminal thereof to occupy said opening.

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Witnesses:
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