No. 666,903. Patented Jan. 29, 1901.

R. M. MAYES.

DENTAL CLAMP.

(Application filed Dec. 4, 1900.)

(No Model.)

Fig. 1.

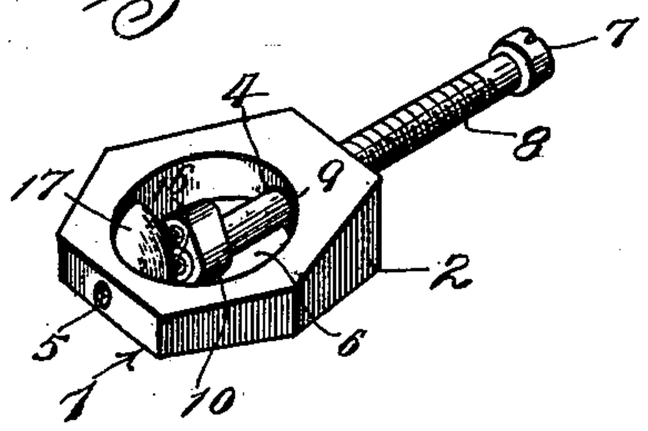
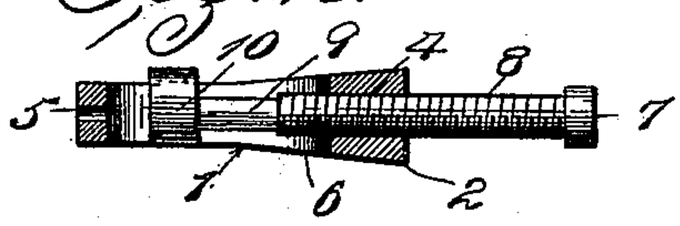


Fig. 2.



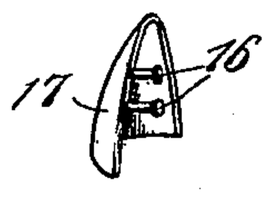
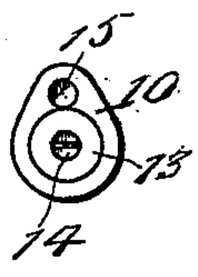


Fig. 5.

Fig. 4.



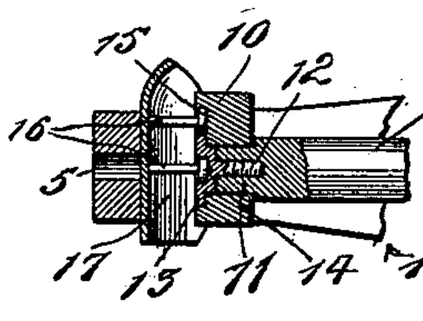


Fig. 3.

Witnesses
Olive M. Simpson.
Chas. S. Hoyer.

R. M. Mayes. Inventor
by Church & Co.
Attorneys

UNITED STATES PATENT OFFICE.

ROBERT MARTIN MAYES, OF SAN ANTONIO, TEXAS.

DENTAL CLAMP.

SPECIFICATION forming part of Letters Patent No. 666,903, dated January 29, 1901.

Application filed December 4, 1900. Serial No. 38,640. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MARTIN MAYES, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Dental Clamp, of which the following is a specification.

This invention relates to dental clamps for holding pins for securement to metallic cover-plates for fillings; and the object of the same is to provide simple and effective means for holding headed or other pins in proper relation against the inner side of a cover-plate while being soldered or otherwise attached in a positive and reliable manner, thereby avoiding the necessity of penetrating the plate or having the pins exposed therethrough and discernible from the exterior.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a clamp embodying the features of the invention and showing the pins held against a cover-plate therein. Fig. 2 is a longitudinal vertical section of the improved clamp. Fig. 3 is an enlarged sectional elevation of a portion of the clamp-frame and the clamping stem and head, together with a cover-plate and pins. Fig. 4 is a front end elevation of the clamp-head. Fig. 5 is a detail perspective view of the cover-plate with the pins applied thereto.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a clamp-frame of polygonal or other form and adapted to be held by any suitable means and having one extremity 2 thickened and formed with a screw-threaded aperture 4, extending longitudinally therethrough in a horizontal plane. The opposite extremity of the frame has a smooth opening 5 extending longitudinally therethrough in a horizontal plane and communicating with an inner circular opening 6, formed completely through the frame from top to bottom. The opening 5 is for the reception of a suitable holding tool or implement or for the insertion of the latter to disengage the plate held by the clamp in the event of adhesion thereof to the frame at the point of application.

Within the screw-threaded aperture 4 a stem 7 is adjustably mounted and has the greater portion thereof screw-threaded, as at 8, and has the front extremity 9 reduced and smooth or unscrew-threaded, the distance between the termination of the screw-threads adjacent the front extremity of the stem and a head 10, mounted on said stem, being slightly less than the thickened extremity of the frame, so that a portion of the screw-threads of the stem will be located in the aperture 4 when the stem is drawn back to its full extent and prevent loose sliding movement of the smooth extremity of the stem, and thus always maintain the latter in true-lined position for operation. The terminal of the smooth extremity of the stem is reduced, as at 11, to provide a bearing for the said head 10, the latter being thus retained in positive connection with the stem, and also has a free rotatable movement on the said bearing. The head is preferably made pear-shaped, and through an opening in the lower portion of the same the reduced terminal of the stem is inserted, the terminal being of less length than the opening, and the head is held on the said terminal by a small screw 12, having a shouldered head 13 to fill the opening in the head 10 between the stem-terminal and the front face of said latter head. The outer surface of screw-head 13 is flush with the front face of the head 10, and in the center of the said screw-head a seat-recess 14 is formed, and in the upper reduced portion of the head 10 another seat-recess 15 is also formed and arranged in vertical alinement with the recess 14. By making the head 10 in the shape set forth the pins can be more readily placed therein and exposed when brought up to the cover-plate for the securing operation. The freely-rotatable mounting of the head 10 permits the pins to be placed at any angle and be arranged in other positions relatively to the vertically-alined disposition of the same, as shown in the drawings, and also adapts them to be applied to the lower part of the inner surface of the plate to thereby accommodate the kind of plate and the manner in

which it is to be applied to the filling, and, if desired, only one pin can be used and set by the device.

In the operation of the improved device the stem 7 is drawn back far enough to permit the heads of pins 16 to be inserted in the recesses 14 and 15, and the gold or other metallic cover-plate 17 of the form desired is placed within the circular opening 6, with its outer side against the wall of said opening nearest the reduced extremity of the frame 1 and in longitudinal alinement with the head 10. The head 10 is then arranged at the angle desired and the stem rotated to move the said head 10 toward the inner surface of the cover-plate, which has been held in place during this operation. As soon as the free pin ends are caused to firmly contact with the inner side of the cover-plate the plate and pins will be firmly held in fixed position in the frame, and the soldering or other securing action or operation can then be pursued to firmly connect the pins to the plate. After the pins are secured to the plate the stem 7 is again retracted and the head 10 becomes disengaged from the pins, and the plate and pins can then be easily removed from the frame.

The securement of headed pins to the cover-plate and the particular construction of the head 10 for making this operation possible are materially important, as the heads of the pins when embedded in the soft cement or other plastic filling become firmly anchored and hold the cover-plate positively in place.

The improved clamp is of a strong and durable nature and will form a valuable acquisition to dental implements, and though the preferred device has been disclosed it is obviously apparent that changes in the form, size, proportions, and minor details may be resorted to without departing from the principle of the invention.

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

1. In a dental clamp of the character set forth, the combination of a frame with an opening therethrough, a stem longitudinally adjustable through the frame, and a head on the frame having pin seats or recesses therein.

2. In a dental clamp of the character set forth, the combination of a frame having an opening therethrough, a stem adjustably mounted in the frame, and a head freely rotatable on the front terminal of the stem and having pin-seat recesses in the front face thereof.

3. A dental clamp of the character set forth comprising a rotatable head with pin-seat recesses therein, and means for adjusting and holding the said head.

4. A dental clamp of the character set forth comprising a frame which is thickened at one end and provided with an opening therethrough, a stem adjustably mounted in the thickened end of the frame, a pin-holding head rotatably mounted on the front extremity of the said stem, and a screw fitted longitudinally into the stem for holding the said head in place, the screw-head and the pin-holding head each having a pin-seat recess therein.

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

ROBERT MARTIN MAYES.

Witnesses:
JNO. SEHORN,
R. I. CULBERSON.