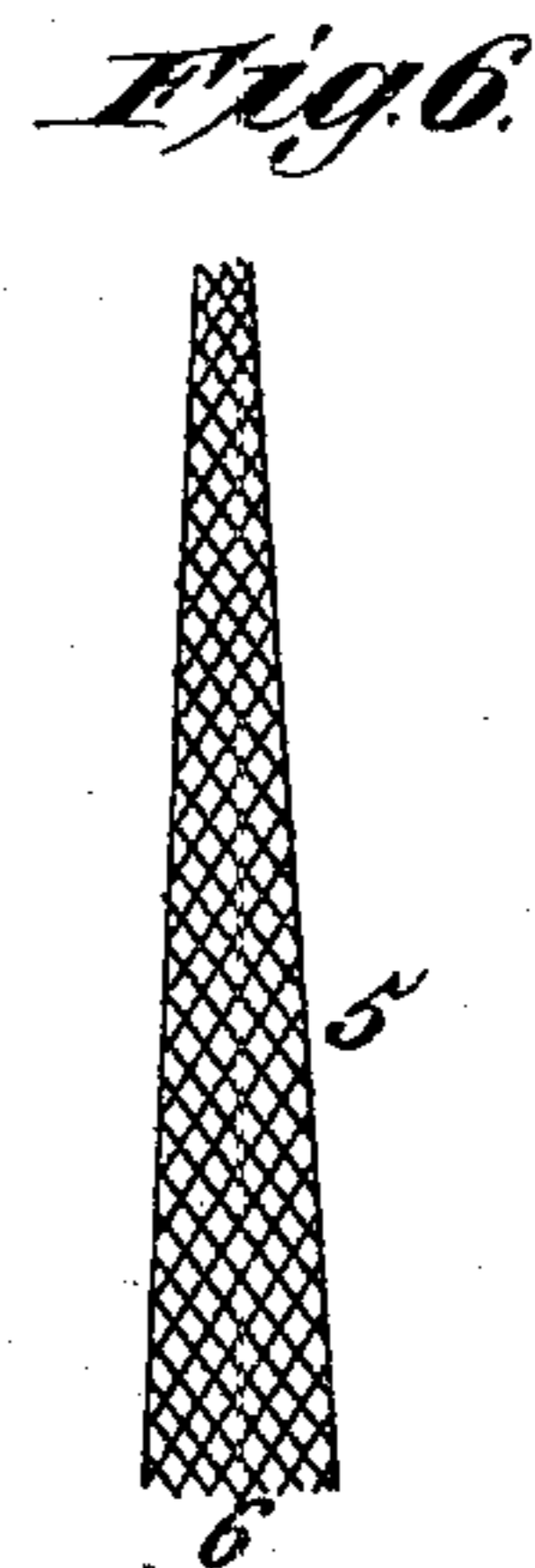
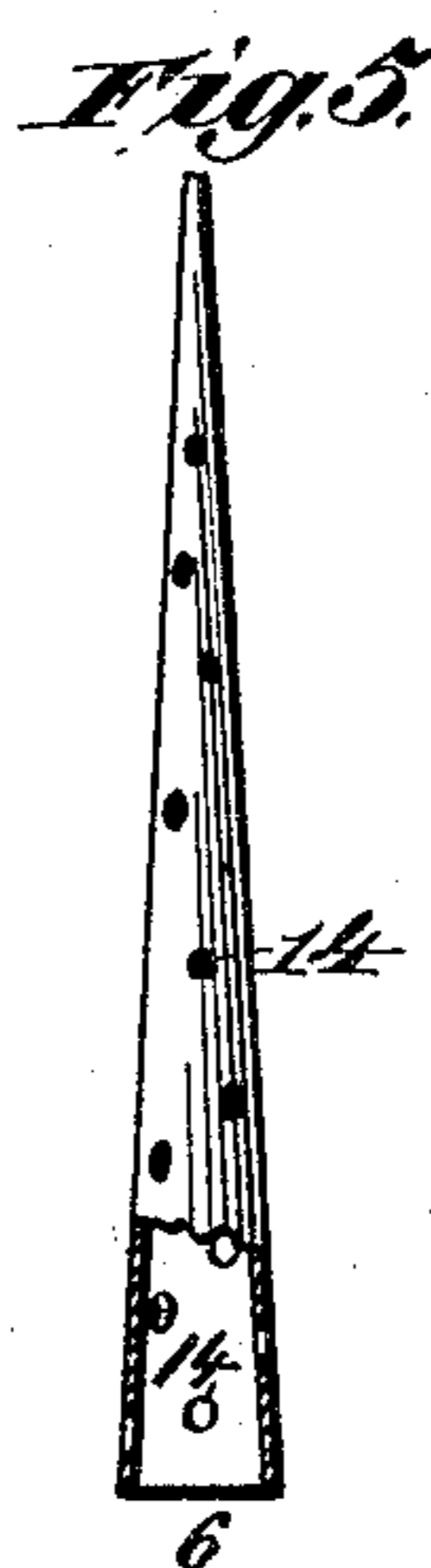
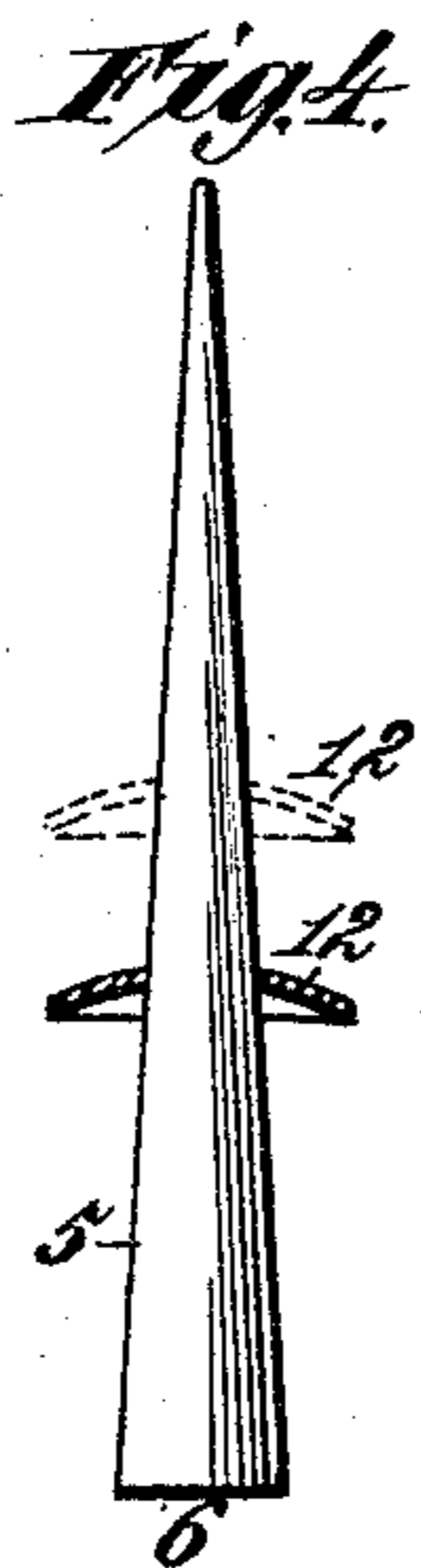
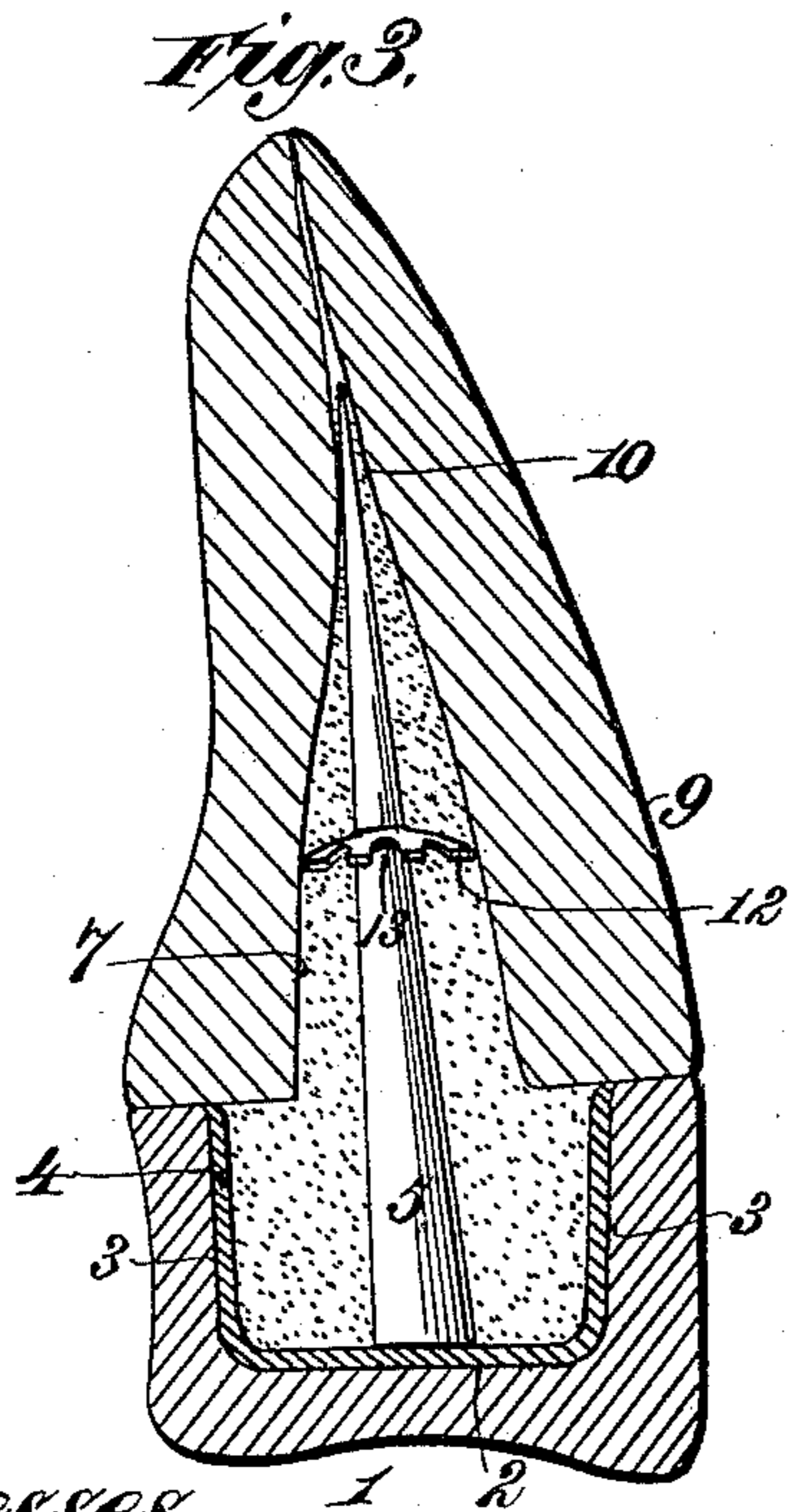
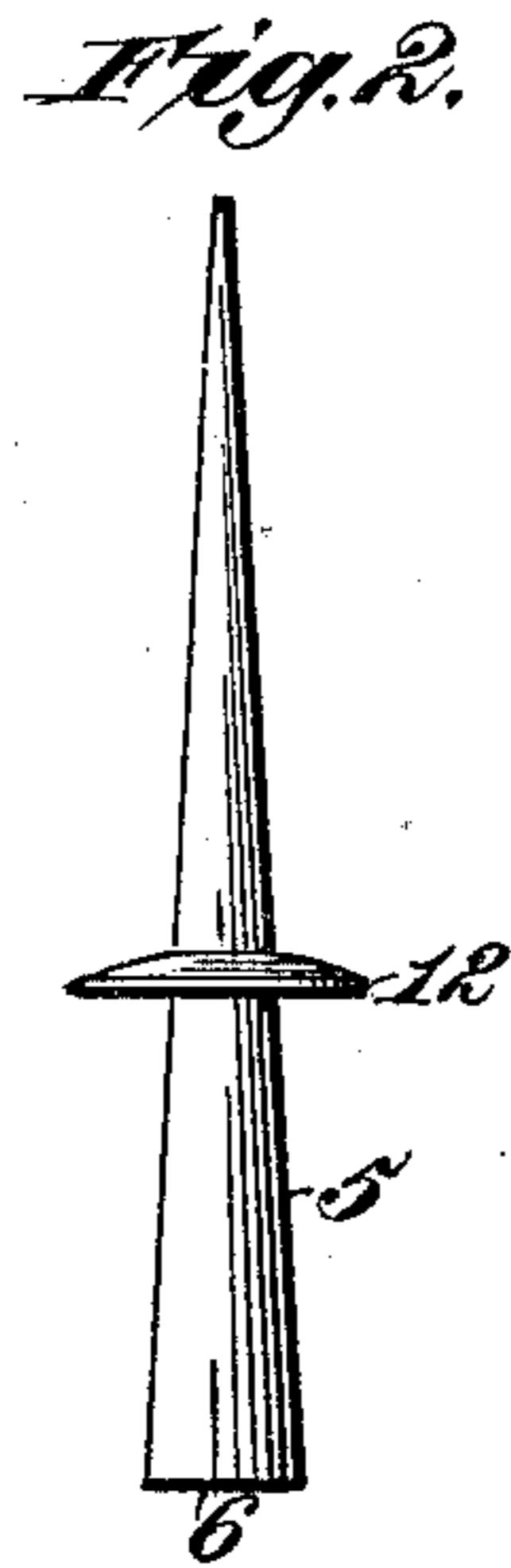
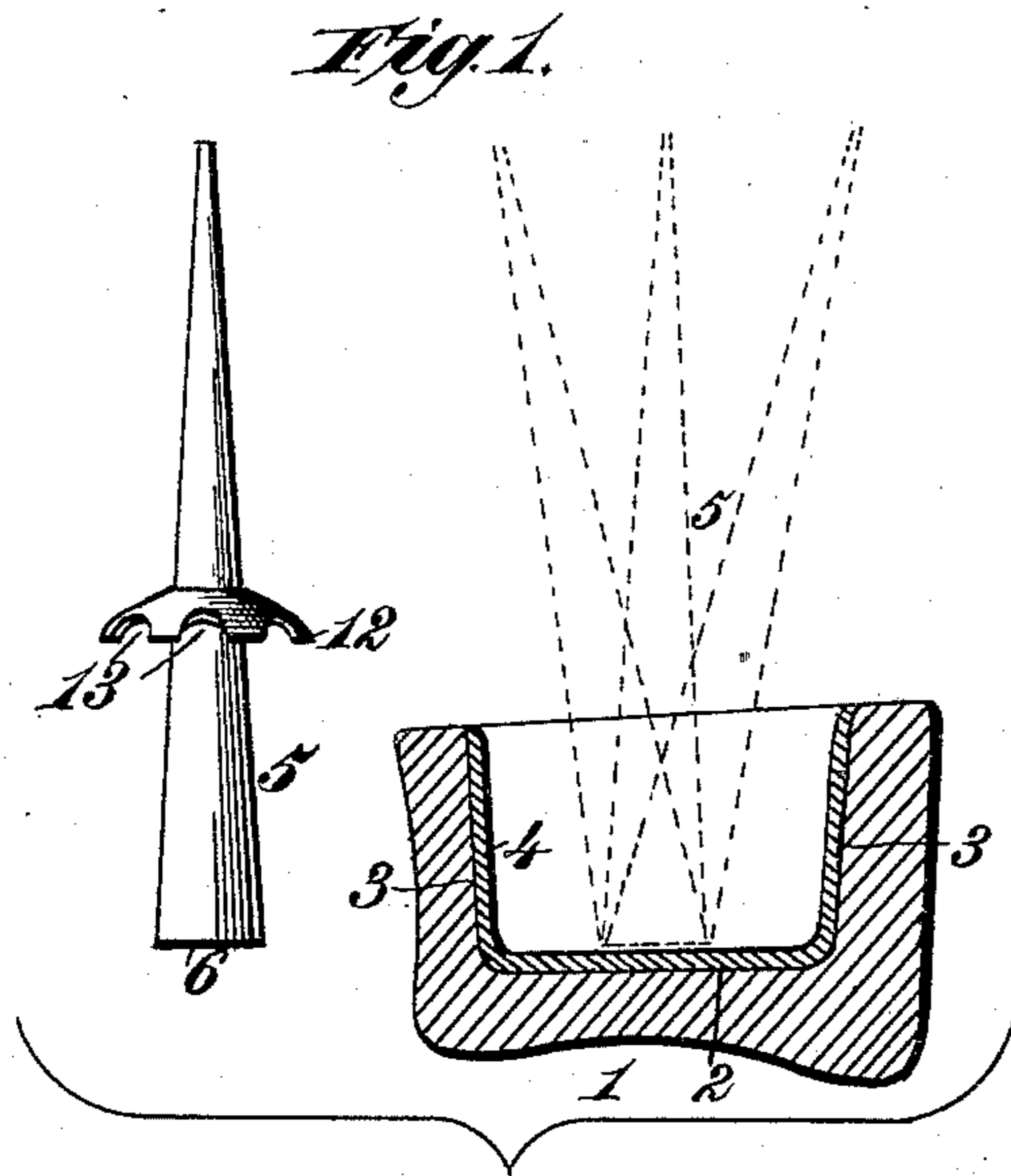


(No Model.)

D. GENESE.
ARTIFICIAL TOOTH CROWN.

No. 430,522.

Patented June 17, 1890.



Witnesses.
Phil Everett.
J. A. Ruthford

Inventor.
David Genese.
By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

DAVID GENESE, OF BALTIMORE, MARYLAND.

ARTIFICIAL TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 430,522, dated June 17, 1890.

Application filed November 13, 1889. Serial No. 330,214. (No model.)

To all whom it may concern:

Be it known that I, DAVID GENESE, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in the Art of Attaching Artificial Crowns to Natural Roots, of which the following is a specification.

This invention relates to pivot-teeth wherein an artificial crown is connected with a natural root by a pin or post.

The object of my invention is to provide a crown having a peculiar internal construction to which the post can be fitted, adjusted, and soldered at any angle that may be required by the nature or formation of the root-cavity and the pulp-canal.

The invention also has for its object to provide a novel post for attaching artificial crowns to roots, whereby the post is steadied by a collar resting against the inside of the walls of the root-cavity, and of such construction that the cement employed can pass by the collar into the root and crown.

The invention also has for its object to provide a post with a collar that can be adjusted to different positions thereupon and then be soldered in the desired position, as conditions of the natural root may require, so that the collar bears against the inner surface of the root-cavity and steadies the post to prevent rocking thereof and materially strengthen the pivot-connection of the artificial crown with the root.

The invention also has for its object to provide a novel and simple construction of parts whereby the post can be fitted to the root and to the crown before permanently fixing one part to the other.

To accomplish these objects my invention involves the peculiar features of construction, the combination or arrangement of parts, and the principles of operation hereinafter described, and specifically set forth in the claims, reference being made to the accompanying drawings, in which—

Figure 1 is an enlarged sectional view of the crown with the post in side elevation, showing by dotted lines different positions to which the post can be adjusted and then soldered; Fig. 2, a similar view showing a modified construction of post; Fig. 3, an enlarged

sectional view of a natural root with the post and crown in position; Fig. 4, a side view showing the post provided with an adjustable annular steadying-collar, and Figs. 5 and 6 enlarged side views of other posts to be used in connection with the peculiar crown shown.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates an artificial tooth-crown comprising a shell in which the cavity is bounded by a flattened bottom wall 2 and side walls 3, continuously lined with platina, as at 4, which material I employ, so that a pivot-post can be soldered to it after such crown is fitted by grinding to the natural root. The platina lining is ground away with the porcelain crown in fitting the latter, and the platina lining serves not only to permit soldering the pivot in place, but also to prevent the cement which is employed to fix the post in the crown from discoloring the latter, and, further, to relieve the crown itself from strain of the pin and to strengthen the side and flat bottom walls of the crown. The construction of the crown with the flat or flattened bottom to its bowl-like chamber is necessary to permit a pivot-post to be adjusted to different positions, as indicated by dotted lines, Fig. 1, as may be required to fit the crown to a natural root, wherein the pulp or nerve canal runs at an inclination to a perpendicular.

The pivot pin or post 5 is tapering to form an enlarged head 6 and conform, as nearly as possible, with the pulp or nerve canal of the root of a natural tooth. The collar 12 is annular, and is adapted to rest against the inner surface of the wall 7 of the decayed cavity 8 of a natural root 9, while that part of the pin above the collar enters the pulp-canal 10 in such manner that the pin or post is steadied, braced, and prevented from rocking. This construction is important, for if the pin simply entered the pulp-canal and there existed a decayed cavity or other enlarged hollow at the base of the cone-root there would be no support for that portion of the pin or post beyond the usual cement used to hold the pin in the root. In consequence of this the pin-

connection is weak, the pin rocks, and the crown becomes loose. By my construction the annular collar does not seat against the base of the cone-root to serve as an abutment for the crown, as has heretofore been proposed; but the collar is especially for the purpose of setting up within a root-cavity to bear against the internal surface of the walls of the root, thereby forming a stay-piece which braces the post against lateral movement in any direction, while the post itself can be made very narrow in diameter to enter and seat in the pulp-canal of the natural root.

The collar can be moved along the length of the post to vary its distance from the apex of the cone-root, as in Fig. 4, in order to adapt the post and collar to the conditions required by the depth or size of the decayed or other hollow and enlarged part of the base of the root, and after the correct position is obtained the collar is soldered to the post. The collar that I prefer is one of dish form or made concavo-convex, formed with radial slots or otherwise provided with openings to permit the cement to flow or pass by the collar when the post is inserted into the root and forced into position, so that the cement will completely fill the root-cavity and crown.

By my peculiar construction of crown with its bowl-like cavity bounded by the flat bottom wall and continuously lined with a sheet of platina pressed thereinto I am enabled to grind the crown and upper edge of the lining to accurately fit the base of the root and then solder the post into the crown against the flat bottom wall, with ample space surrounding the post and between the latter and the side wall of the crown for the cement. In practice I first grind the crown to accurately fit the root and fit the post and collar to the root. I then place wax in the crown and press it on the end of the post which projects from the root, whereby the correct relative position of the root, post, and crown is obtained. I then withdraw the crown with the post therein, and by then soldering the post in place it is in proper relative position to be cemented in the root, thereby insuring a perfect joint with no possibility of displacement and without unsightly gold bands being visible at the necks of the teeth.

By my peculiar crown lined with platina a dentist can with a short post replace a broken crown on the root that retains the pivot-pin of the broken crown without disturbing the cement, thus avoiding the possibility of inflammation, which is so common where the old broken pivot is disturbed.

As regards the adjustment of the collar and the setting of the post at different inclinations in the crown, the annular collar may or may not be perforated. The purpose of the collar is to rest uniformly against the internal surface of the root-cavity at a point above the base of the root to form a continuous stay-piece entirely around the post to

prevent lateral movement of the post in one direction, and this in connection with the formation of the peculiar flat-bottomed cavity and platina lining of the bowl give a wide range of adjustment for the pivot without bending any part of the post.

The shape of the platina lining in my construction permits the post to stand at any angle and still be made flat on its lower end for soldering to the flat wall of the crown, while providing a surrounding space between the lower end portion of the post and the side walls of the platina lining and crown for the proper reception of the cement.

In Figs. 5 and 6 I show tubular or hollow posts, which are perforated or made foraminous, so that the cement can form or pass into the crown when the post is forced into the cement in the root. The post shown in Fig. 5 can be made from a very thin piece of metal—such as gold—cut to a triangular form and rolled on a tapering pivot or mandrel. This flexible post easily enters a root, and by rotating a suitable instrument inside the hollow post the latter can be pressed toward the walls of the root, and thereby caused to accurately fit the cavity. It is then soldered to the platina lining of the crown, and when pressed into the cement in the root the perforations permit the cement to pass from the root into the crown, so that the root and crown are correctly filled with the cement. The post shown in Fig. 6 is composed of perforated plate or piece of very small gage wire-gauze made of gold or pure platina. It is preferably tapering, but not necessarily so, and it can be applied and manipulated, as described, with reference to the post shown in Fig. 5, or otherwise.

The requisite strength is given to the posts described by the soldering process, and by this part of my invention frail roots are not subjected to the strain incident to a solid pivot, while irregularities in the root-cavity or pulp-canal are met without strain.

The post having some part perforated, as in Fig. 1 or Figs. 5 and 6, can be correctly applied without danger of working loose from continued friction, this result being attained by providing for the flow or passage of the cement, as hereinbefore explained.

Having thus described my invention, what I claim is—

1. The artificial crown described herein, having a bowl-shaped cavity lined with platina, in combination with a post having its end soldered to said platina lining, substantially as described.

2. The herein-described artificial tooth-crown, having a bowl-like cavity bounded by a flattened bottom wall and side walls and continuously lined with platina, as and for the purposes set forth.

3. The artificial crown herein described, having a bowl-shaped cavity bounded by a flattened bottom and side walls, and having a con-

tinuous lining of platina, in combination with a post soldered at one end to said lining, and provided with a collar which is set up into the root-cavity and bearing against the interior thereof, substantially as described.

5 4. A tooth-crown post having an annular perforated collar to enter a root-cavity and bear against the inside thereof, said collar by its perforated part permitting the cement to
10 pass and fill the root-cavity, substantially as described.

5. A tooth-crown post having an annular collar adjustable to different positions along the post for entering and bearing against the

inside of a root-cavity, substantially as described. 15

6. A tooth-crown post, a part of which is provided with perforations to permit the cement to pass therethrough from a natural root to an artificial crown, substantially as described. 20

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

DAVID GENESE.

Witnesses:

G. EVERETT REARDON,
J. EDWARD BENNETT.