

(No Model.)

2 Sheets—Sheet 1.

H. W. F. BÜTTNER.

ARTIFICIAL DENTURE.

No. 352,855.

Patented Nov. 16, 1886.

Fig. 1.

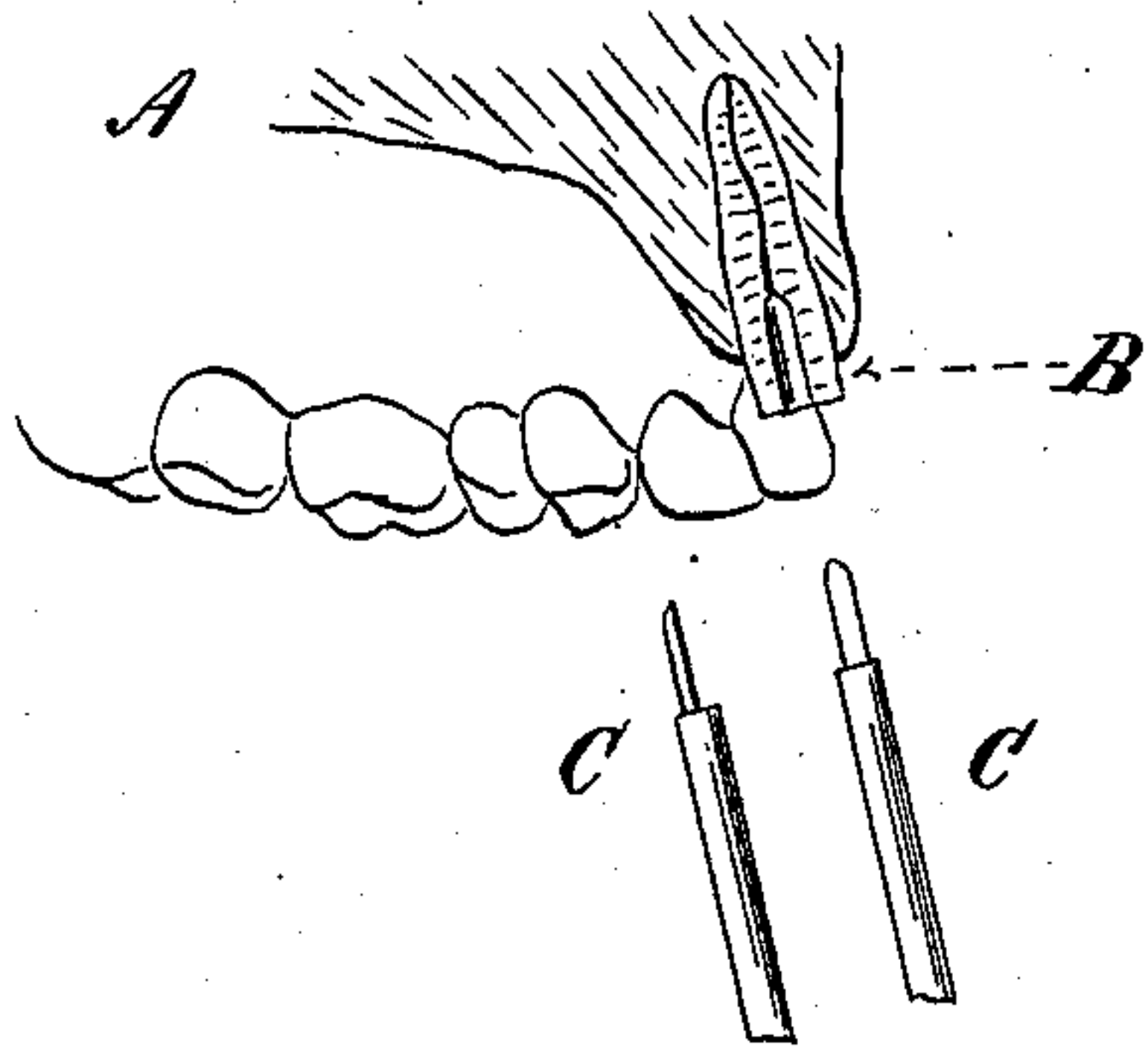


Fig. 2.

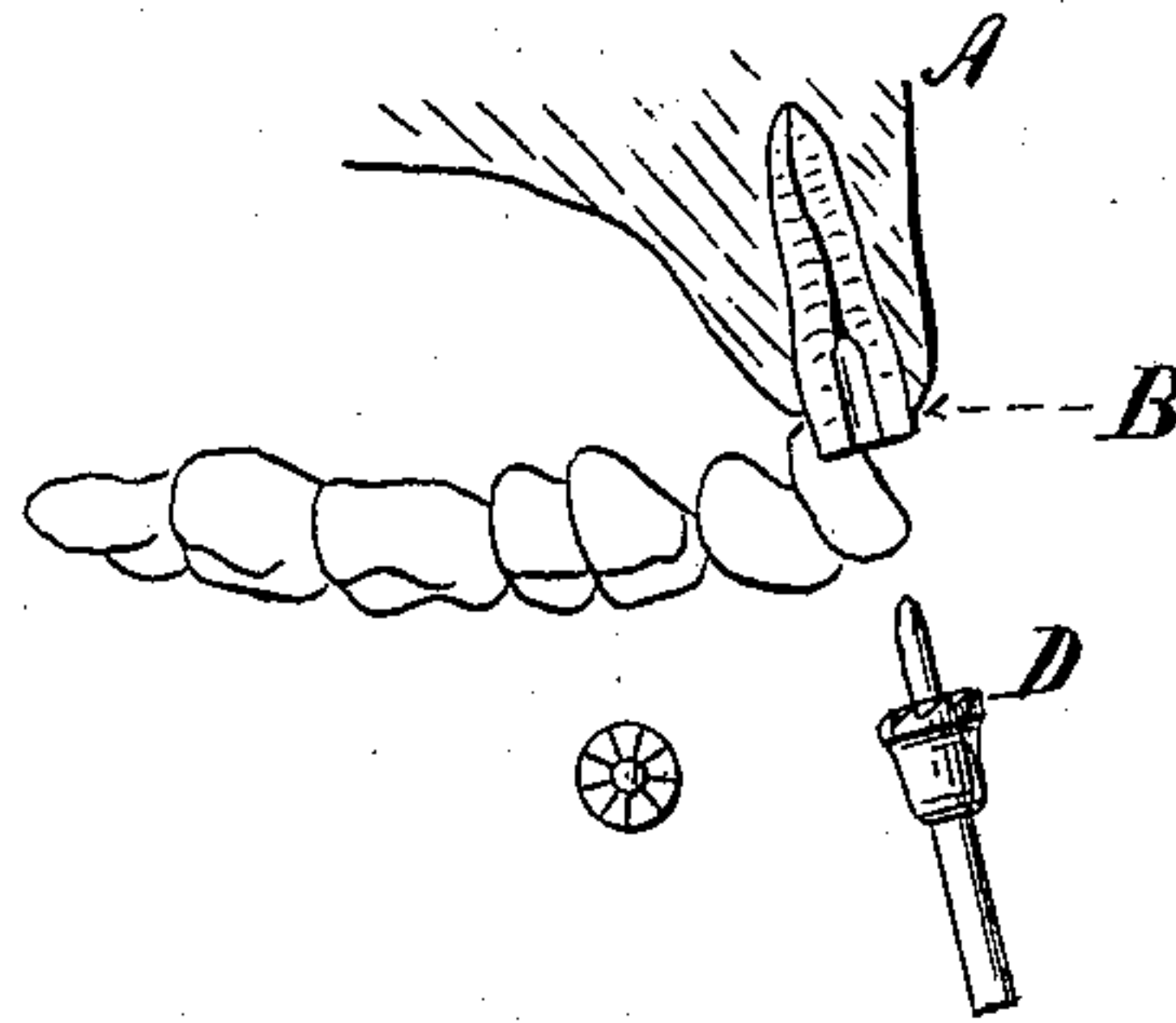


Fig. 3.

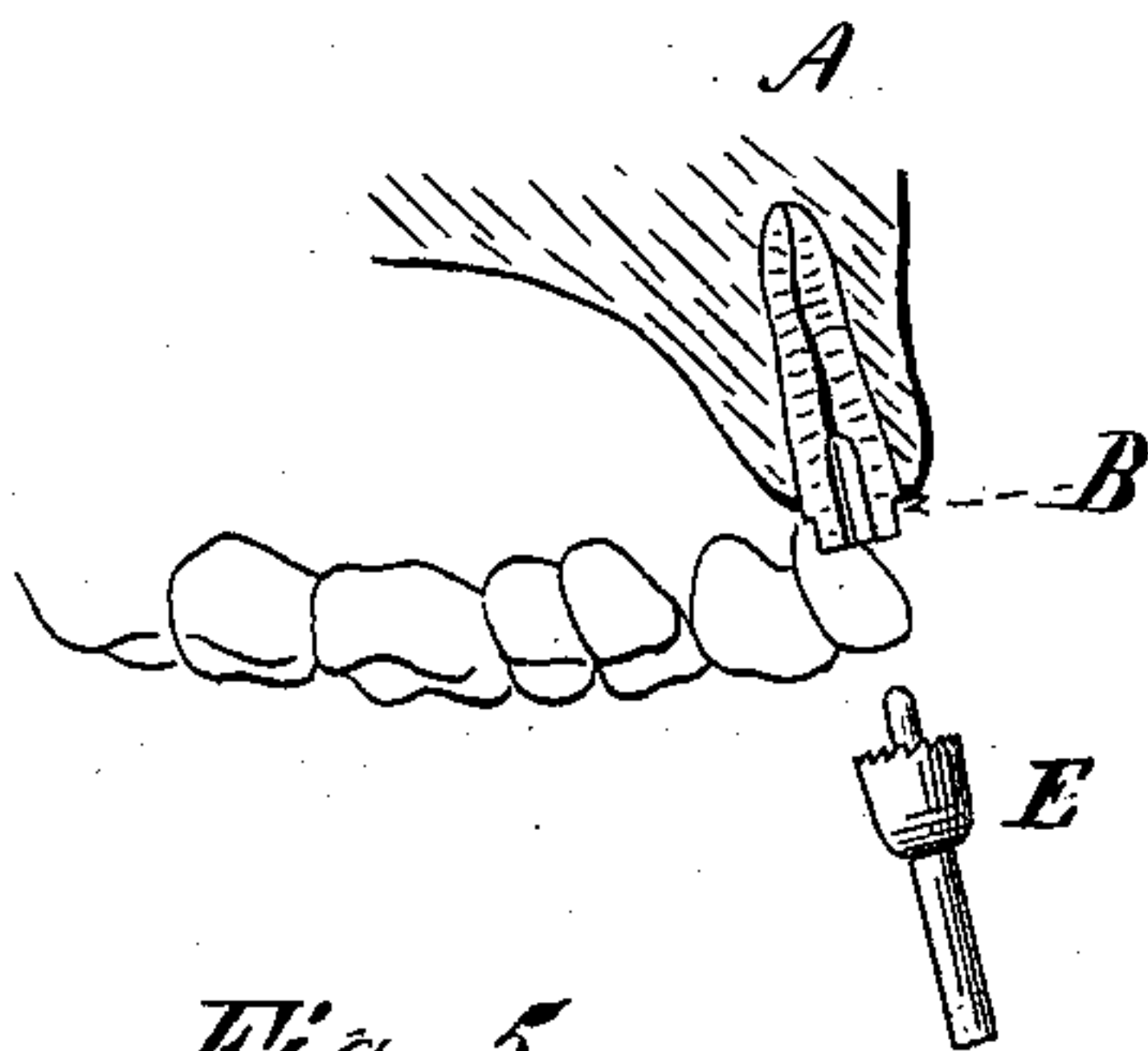


Fig. 4.

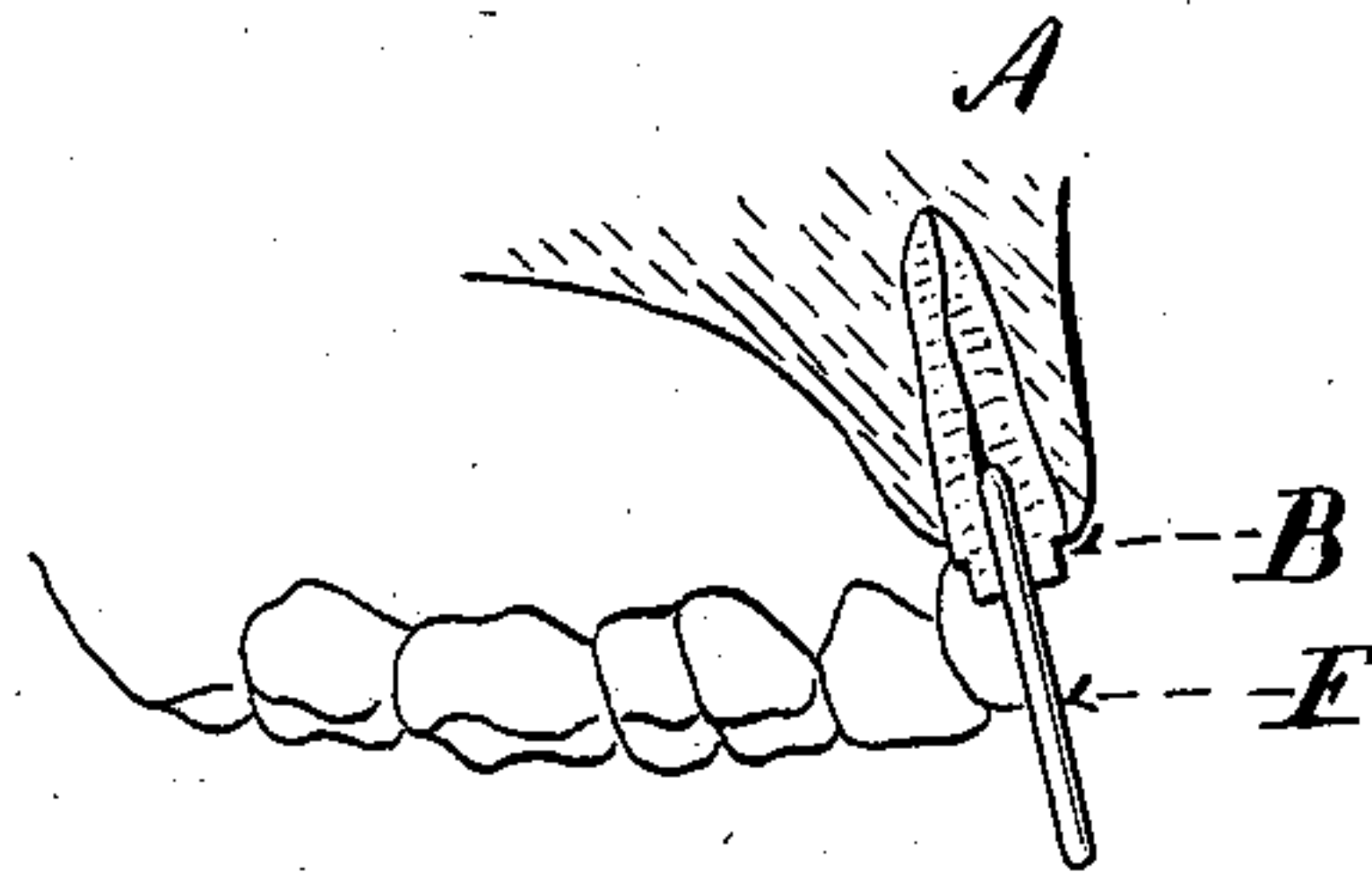


Fig. 5.

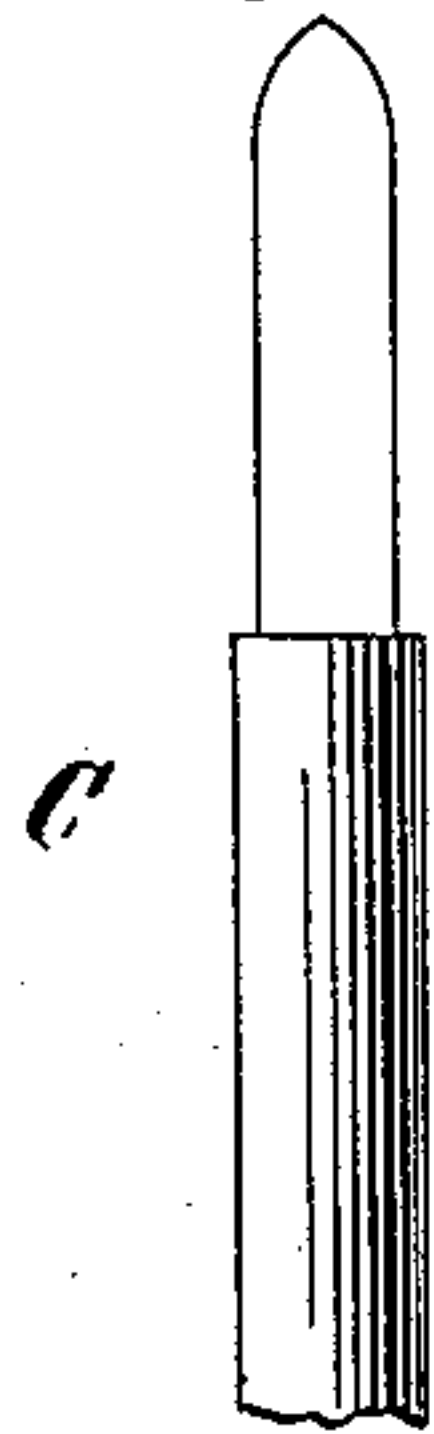


Fig. 6.

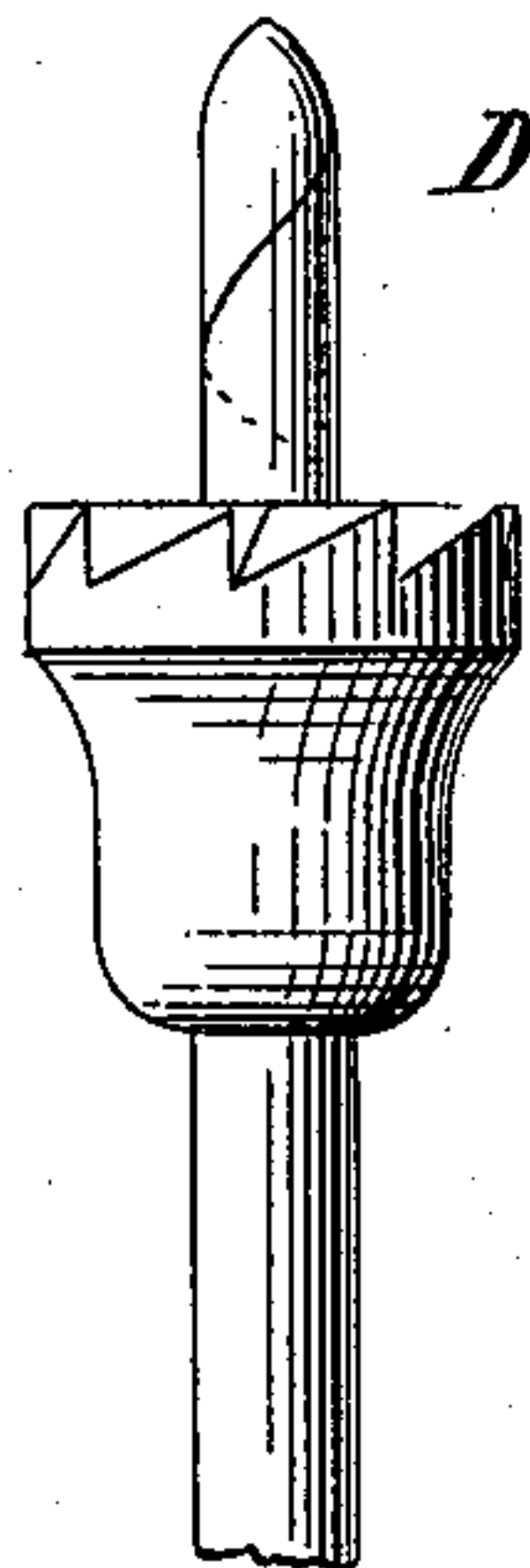
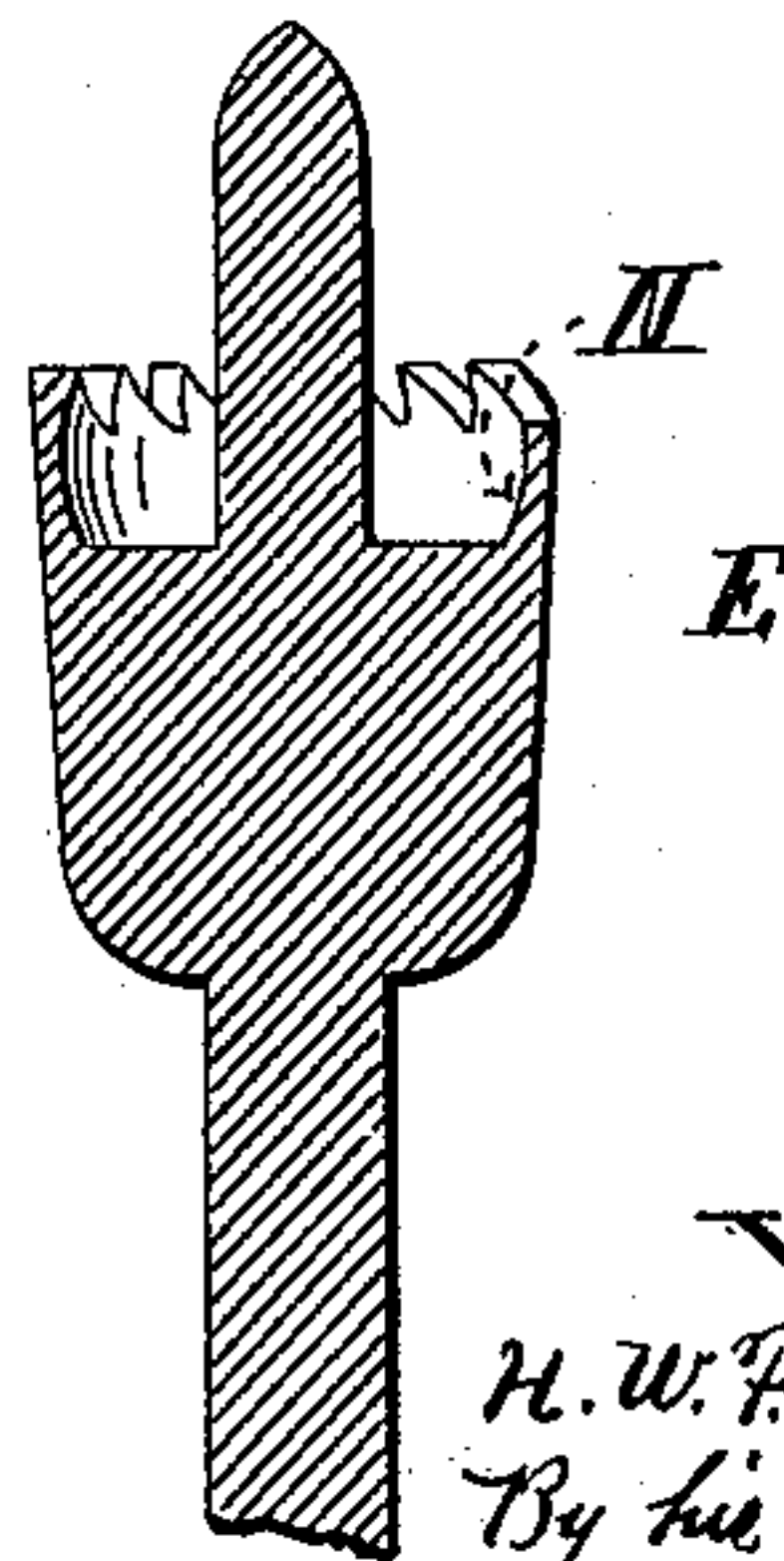


Fig. 7.



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Fig. 8.

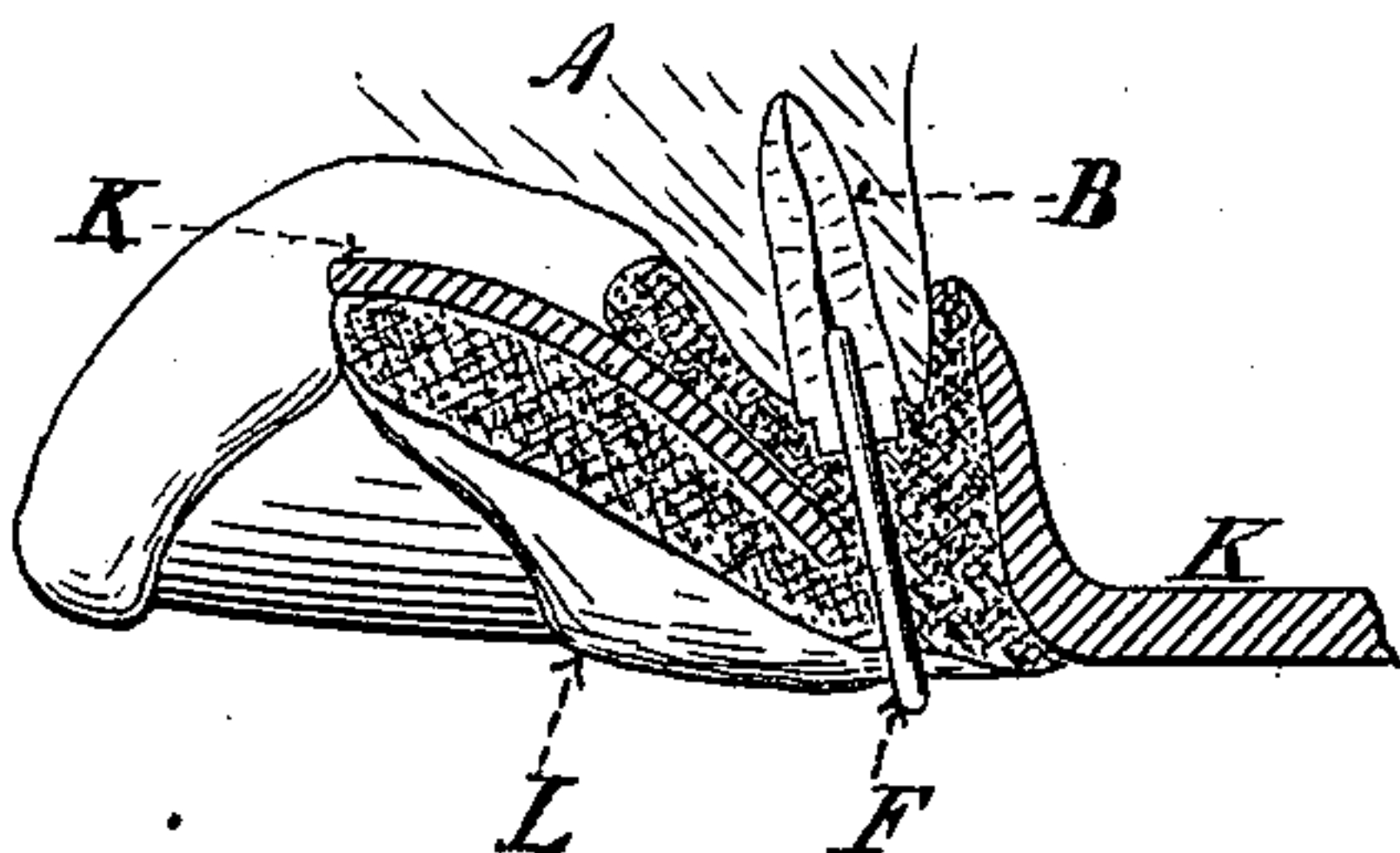


Fig. 9.

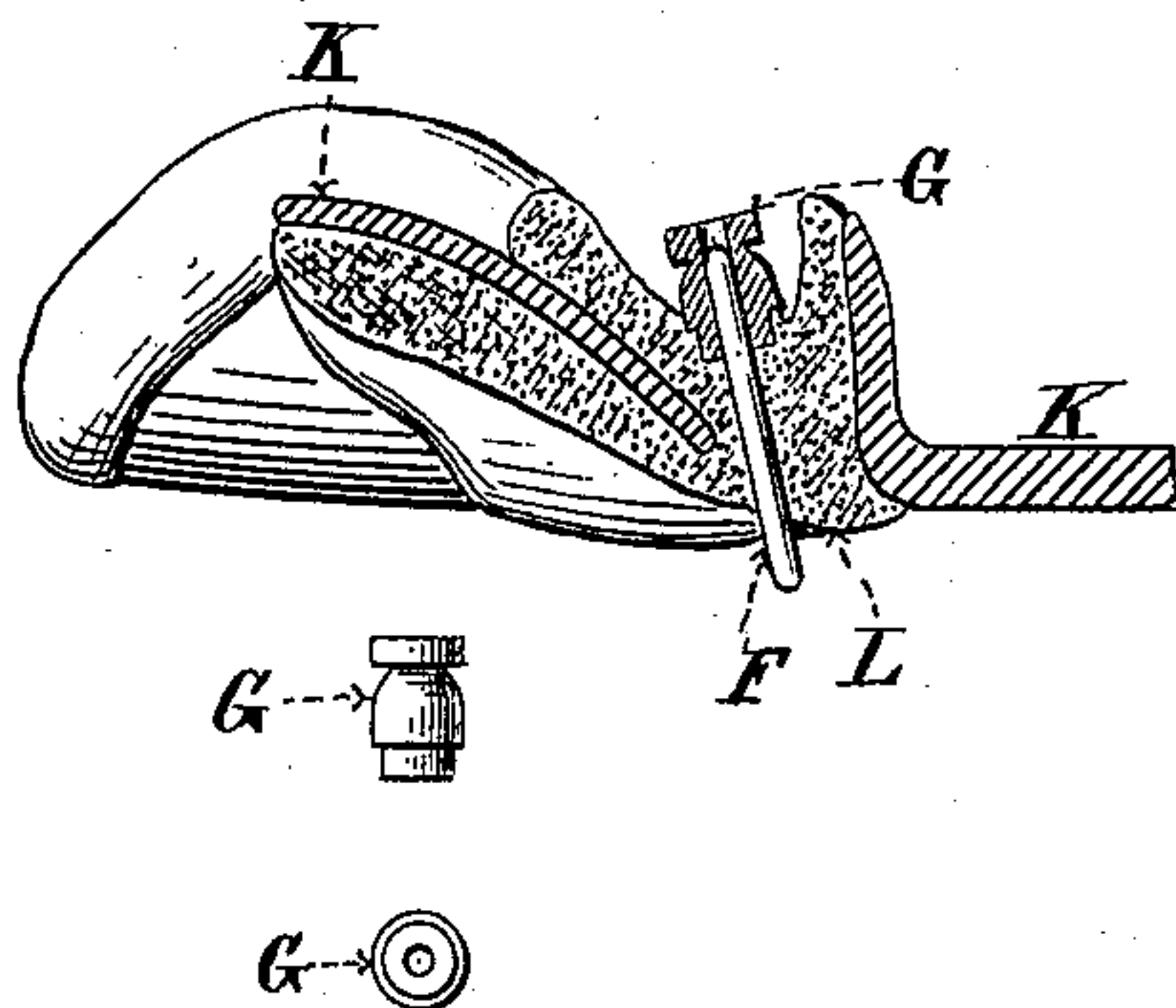


Fig. 10.

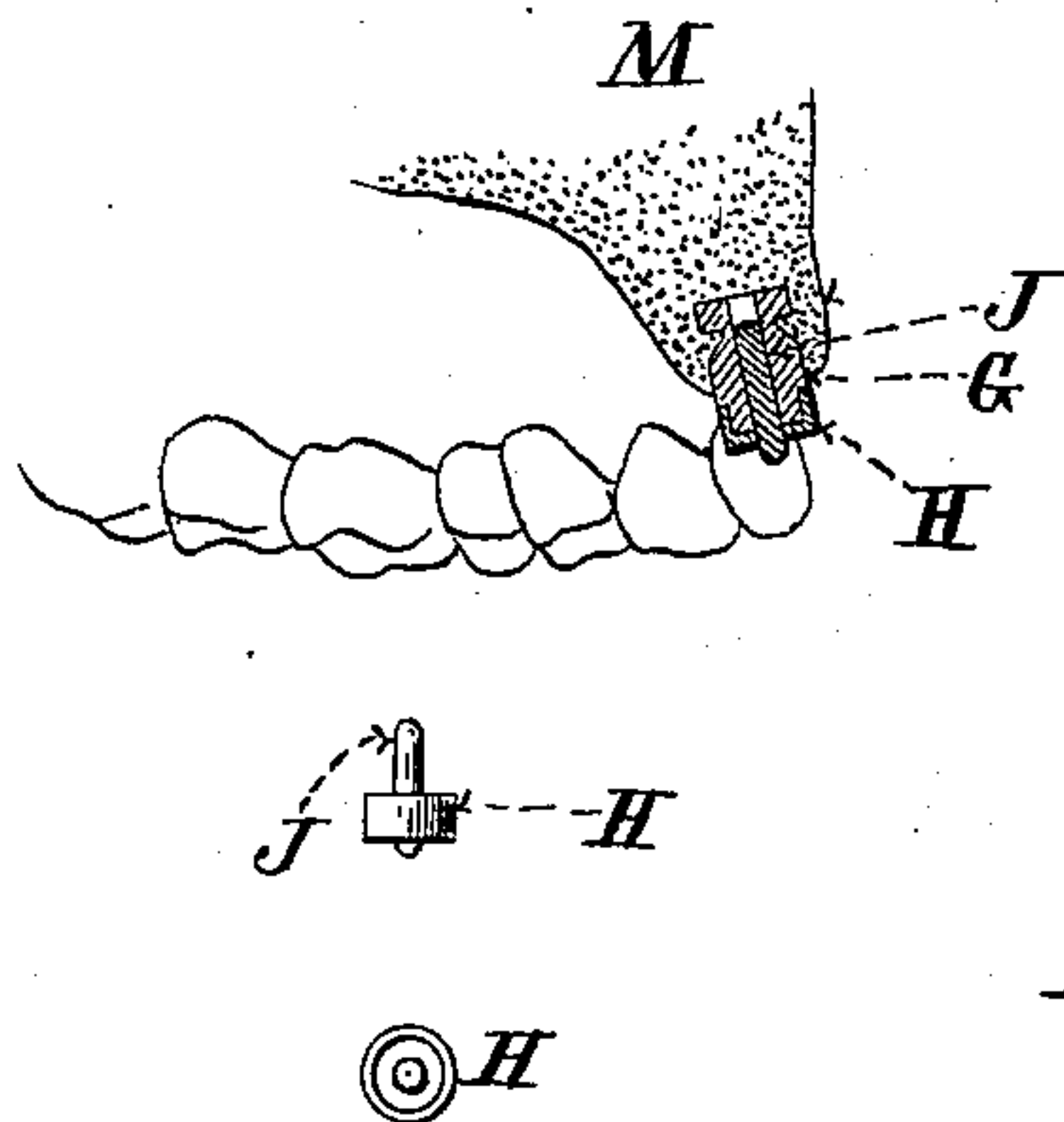


Fig. 11.

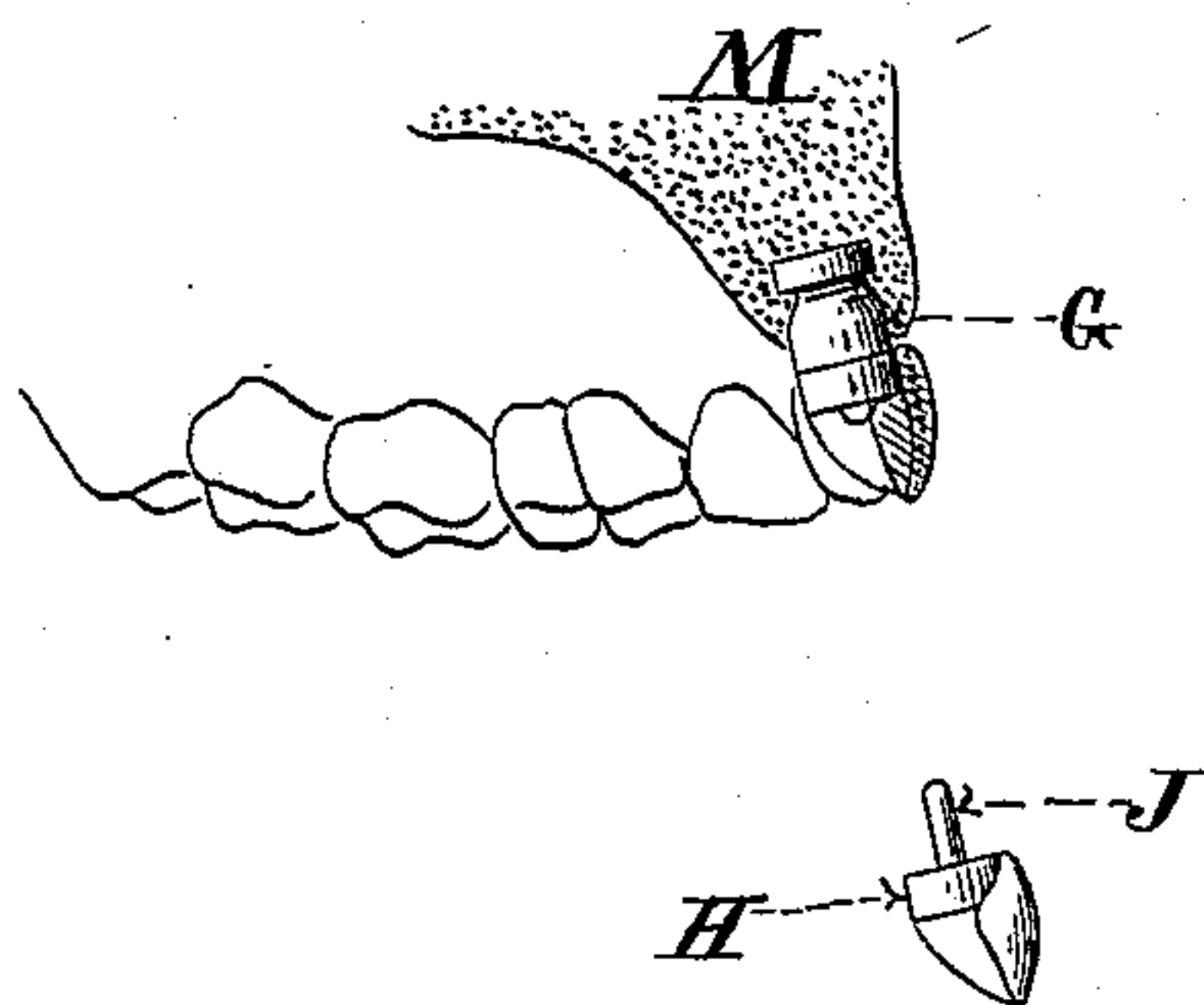
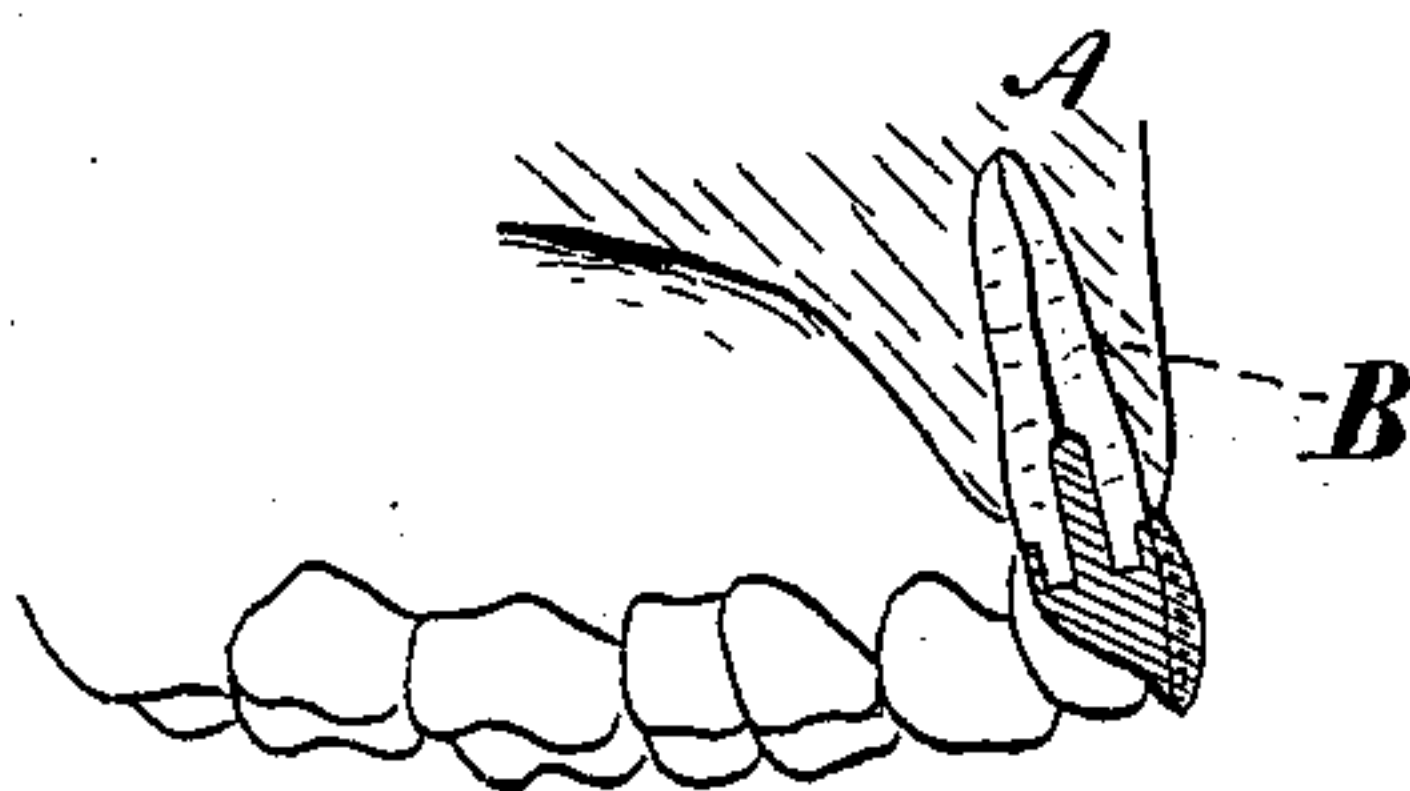


Fig. 12.



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UNITED STATES PATENT OFFICE.

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ARTIFICIAL DENTURE.

SPECIFICATION forming part of Letters Patent No. 352,855, dated November 16, 1886.

Application filed August 30, 1883. Serial No. 105,116. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. F. BÜTTNER, of the city, county, and State of New York, have invented an improved apparatus and process for preparing artificial dentures and new and useful improvement in apparatus for carrying the same into effect, of which the following is a specification.

This invention relates to an improvement upon a process and apparatus described by me in the patent granted to me on the 16th day of August, 1881, No. 245,782; and it consists in a new mode of preparing the artificial denture outside of the mouth of the patient.

The invention will be readily understood from the accompanying drawings, in which Figure 1 represents a section of a prepared tooth-root, showing likewise views of the preparing-tools; Fig. 2, a view of the subsequent process of grinding down the tooth-root and the tool for accomplishing that end; Fig. 3, a view of the tooth-root having a shoulder cut upon it and the tool for cutting the said shoulder; Fig. 4, a view of the tooth-root with a pin in position, the object of which will be presently explained; Fig. 5, an enlarged view of the cutting-tool shown in Fig. 1; Fig. 6, an enlarged view of the tool shown in Fig. 2; Fig. 7, an enlarged interior section of the tool shown in Fig. 3. Fig. 8 shows a process of taking an impression in the mouth with the guiding-pin in position; Fig. 9, a view of said impression removed from the mouth, with the addition of a root-model, and also an independent view of said root-model; Fig. 10, a view of the cap to be applied to the root inclosing said root-model, and also independent views of said cap; Fig. 11, a view of Fig. 10 with a porcelain tooth-crown waxed upon the supporting-cap, the wax occupying the position to be occupied by the solder when the denture is completed, and likewise an independent view of the cap and porcelain waxed together; Fig. 12, a view of the completed denture in the mouth.

In carrying out my process practically I proceed as follows: In the first place I drill a preferably central hole into the root, as shown at Fig. 1. Then, by means of the tool shown in Fig. 2 and somewhat enlarged in Fig. 6, I

cut down the surface of the root with a substantial plane. The pin which the cutting-tool surrounds is in this instance made somewhat larger than the cutting-tool shown in Fig. 1, and it may be provided with an additional cutting-edge, if desired, although in most cases this is not necessary. This pin serves to cause an enlargement of the cylindrical cavity within the root sufficient to enable it to receive the supporting-pin, hereinafter to be described. The preparation of the root is then completed by means of the tool shown in Fig. 7. This tool differs from the one previously described in my former patent, in that its interior sides do not form a true cylinder, but are cut away beneath the cutting-edges, so as to allow the ready withdrawal of the tool and to prevent the jamming or sticking of the same while in use. The root having been prepared as shown in Fig. 4, a guide-pin is inserted, which serves to support the root-model, as will be hereinafter explained.

In Fig. 8, the guide-pin being in position, an impression is taken of the mouth and said root in the well-known manner by means of an impression-cup, and said impression is removed, and before the impression is removed from the mouth the guide-pin is removed, and is afterward inserted again in the aperture left for it in the impression material. The pin having been inserted, a root-model corresponding in form to the prepared natural root is placed upon the pin. This model is made a trifle smaller in size than the end of the root prepared by the tool, as shown in Fig. 7. This root-model having been placed upon the pin, as shown in Fig. 9, a plaster-of-paris cast, M, is then taken of the impression, embracing the root-model, as shown in Fig. 10, and a cap which is to be permanently attached to the root is placed upon the end of the root-model. A suitable porcelain tooth is then selected adapted to conceal the pin of the permanent cap, and is attached thereto by wax or other suitable material. A cap, together with the crown attached thereto by wax, is removed, as shown in detail in Fig. 11, and the cap and tooth-crown having been suitably invested so as to support the cap and crown in position, the wax is replaced by a suitable solder, which

attaches itself to the pins of the tooth and to the cap. In most cases I prefer to back the tooth before soldering it, in the well-known manner. The artificial tooth-crown, being so prepared, is then driven home upon the prepared root.

By inserting the pin in the natural root and taking first the impression and then the cast with the pin in place, I secure a gage or guide to determine with extreme accuracy the proper position of the artificial tooth in regard to the attaching or supporting pin J finally used.

In my drawings, A represents the jaw with the root in position; B, the root; C, the cutting parts of tool for preparing a root; D, the cutting-tool for preparing the end of the root; E, the cutting-tool for preparing the shoulder upon the root; F, the supporting-pin for guiding the root-model; G, the root-model. K represents the impression-cup, and L the material carried by said cup.

M represents the plaster cast taken of the root-model, and N represents the cavity within the cutting-tool E.

H represents the permanent cap, and J the supporting-pin.

Instead of following the process hereinbefore described, I may prepare the cap H so as to fit closely but firmly around the prepared end of the root, and in this case the artificial porcelain cap waxed to the cap in the mouth, and, the cap being removed, the crown may be

soldered to it in the manner previously described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The mode of securing a gage or guide for setting an artificial tooth, consisting in inserting a guide-pin in a hole in the natural root, in taking an impression of the mouth while said pin is in place, and in making a cast from said impression with the pin in place, substantially as set forth.

2. The process of preparing artificial denture, which consists in suitably preparing the end of a root for the reception of an inclosing-cap and in inserting in a suitable longitudinal cavity previously prepared in said root a supporting-pin, in removing the impression from the mouth and in replacing the tooth-root by an artificial root-model of suitable size, in investing said root-model in a suitable material and in applying to the same a root-cap of suitable size, in attaching to said root-cap an artificial tooth-crown by a suitable attaching material, in removing the cap and crown together, and in replacing the attaching material by a suitable solder, and, finally, in placing the prepared denture upon the root, substantially as described.

HENRY W. F. BÜTTNER.

Witnesses:

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