

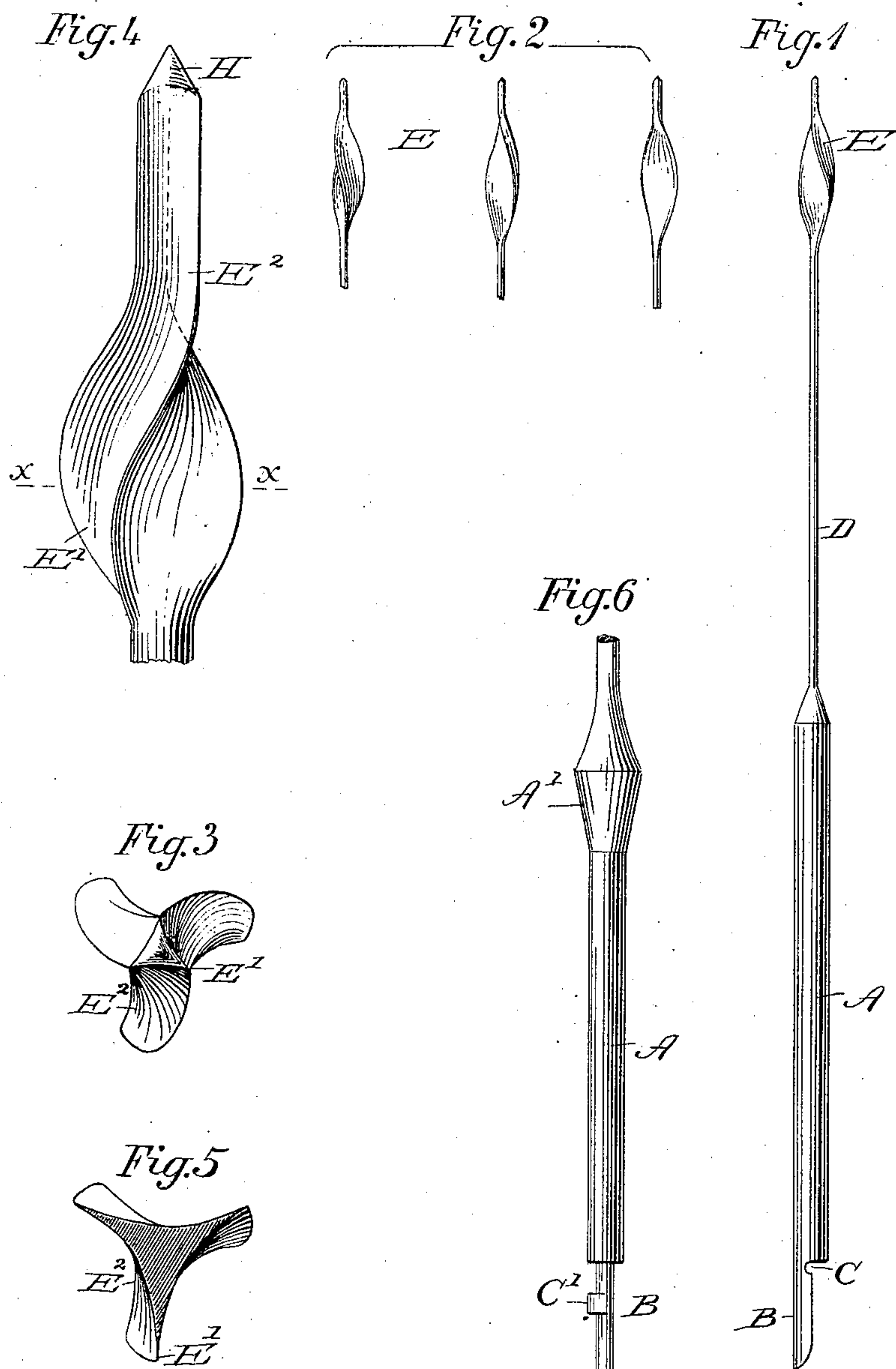
(Model.)

J. G. MOREY.

DENTAL TOOL.

No. 308,424.

Patented Nov. 25, 1884.



Witnesses:
M. C. Stevens
W. T. Hutchinson

Inventor:
J. Gardner Morey

UNITED STATES PATENT OFFICE.

J. GARDNER MOREY, OF NEW YORK, N. Y.

DENTAL TOOL.

SPECIFICATION forming part of Letters Patent No. 308,424, dated November 25, 1884.

Application filed May 10, 1883. (Model.)

To all whom it may concern:

Be it known that I, J. GARDNER MOREY, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Dental Excavating-Instruments; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in excavating-instruments for use in dental operations, whereby much valuable time is saved and more effective work is accomplished; and it consists, primarily, in the use of a cone-shaped excavating or scraping instrument provided with a series of spiral ridges or grooves, gradually becoming smaller as they approach the point, and terminating in an elongated triangular reamer, at the extremity of which is a non-cutting round cone-shaped point, and also in other minor particulars, the whole being constructed and adapted to operate in the manner hereinafter fully described.

In the accompanying drawings, Figure 1 represents a side view of my improved instrument. Fig. 2 represents views of my excavator held in different positions. Fig. 3 is an end view of the same. Fig. 4 is an enlarged side view of my instrument; Fig. 5, a cross-section on the line *x x* of Fig. 4, and Fig. 6 a view of a modification of my invention.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the stock or body of the excavator, which is provided at its rear end with a shank, B, which may be adapted for use in any of the ordinary hand-piece attachments of dental engines, and to that end it may be varied in construction in order to fit the same, and may be either provided with a groove, C, as shown in Fig. 1, or with a lip, C', as in Fig. 6, or, if desired, the cylindrical stock or body A may also be provided with a cone-shaped bearing, as A' in Fig. 6, for a similar purpose. An elongated neck or stem, D, extending from the stock A,

is (preferably) smaller in diameter, and is spring-tempered, so as to readily follow any deviation of the bore or pulp-canal to be scraped.

At the extremity of the neck D is placed the head E—the scraper proper—which is of a cone shape, and consists of a number of spirally-formed ridges, lips, or leaves, E', provided with sharp scraping-edges, between which are placed the spiral concave flutings or grooves E². By reason of the peculiarly-formed cone-shaped head E the spiral grooves E² and leaves E' grow gradually smaller, and assume a longitudinal direction as they approach the point H' (although they are still formed in identically the same manner and preserve the same relation to each other) until they terminate at H', at which point the triangular reamer extending from H' to H is placed, which reamer terminates at H in a non-cutting round cone-shaped point.

The scraping-edges of the head formed by the spiral grooves E² and leaves E' (clearly shown in Figs. 4 and 5) are adapted not only to scrape out an enlarged smooth opening in the passage or canal to be operated upon, but also to work and force the cuttings or particles out of the bore. For this purpose I prefer for practical use in dental operations a scraper consisting of three leaves, E', and three corresponding grooves, E², as shown in the drawings; but for other purposes it may be constructed with four or more leaves and grooves formed in a manner similar to those described.

It will be observed that my instrument, being provided with sharp scraping-edges and an elongated reamer terminating in a non-cutting round cone-shaped point, is not adapted to penetrate or work itself into a foreign body unless undue force is applied thereto, which is apt to break the instrument as well as to defeat the object for which it is used, but is applicable solely for the purpose of enlarging a passage already existing, the point H and reamer from H to H' following the deviations of the canal, and the spiral leaves E' commencing to scrape and gradually enlarge the passage according to the pressure applied, only after the point H has penetrated some distance into the nerve-canal.

Whenever the point H of my instrument

passes during a dental operation through the aperture at the end of a root and pricks the membrane of the patient, the operator may be warned to stop drilling in time to prevent any danger of drilling entirely through the root into the jaw, which would be fatal to the operation, and which is a constant source of danger with the instruments heretofore used. My instrument works slowly, and when the point pricks the membrane the excavation or scraping is, on account of the elongated reamer, at a distance from the point. Thus there is no danger of boring into the bone any deeper than the cavity already existing.

Heretofore the instruments used in dental operations—such as burrs and flat and triangular drills—have either reamed out the canal, in doing which they become clogged and have to be frequently removed for cleaning purposes, and thus several operations are required to prepare one cavity, much valuable time being consumed thereby, or they have cut out a hole which, as the operator has no means of knowing how deep he is drilling, is as liable as not to be cut right through the tooth and root. Besides, the instruments named are apt to heat, clog, and, if forced, to split the tooth, whereas by my improvement the scraper penetrates steadily into the canal, making a smooth bore, which can be graduated at the will of the operator, and also lifts up and discharges from the cavity the débris as fast as it is made, not allowing it to accumulate and obstruct the operation of the tool, thus rendering it apparent that with the use of my scraper greater rapidity and ease and certainty in dental operations will be gained.

What I claim is—

1. In a dental instrument, the combination of a cone-shaped scraper, E, consisting of a series of spiral leaves, E', provided with sharp scraping-edges, and grooves E², which gradually become smaller and assume a longitudinal

direction as they approach the end of the head E, and are adapted to smoothly scrape out and enlarge a canal already existing, and which terminate in an elongated reamer, H' H, at the extremity of which is the non-cutting point H, of smooth round cone shape, adapted to follow the deviation of the said canal, with a stock or body, A, substantially as described.

2. In a dental instrument, the combination of a cone-shaped scraper, E, consisting of a series of spiral leaves, E', provided with sharp scraping-edges, and grooves E², which gradually become smaller and assume a longitudinal direction as they approach the end of the head E, and are adapted to smoothly scrape out and enlarge a canal already existing, and which terminate in an elongated reamer, H' H, at the extremity of which is the non-cutting point H, of smooth round cone shape, adapted to follow the deviation of the said canal, with a flexible neck or stem, D, and a stock, A, substantially as set forth.

3. In a dental instrument, the combination of a cone-shaped scraper, E, consisting of a series of spiral leaves, E', provided with sharp scraping-edges, and grooves E², which gradually become smaller and assume a longitudinal direction as they approach the end of the head E, and are adapted to smoothly scrape out and enlarge a canal already existing, and which terminate in an elongated reamer, H' H, at the extremity of which is the non-cutting point H, of smooth round cone shape, adapted to follow the deviation of the said canal, and of a flexible neck or stem, D, with a stock or body, A, provided with a shank, B, substantially as and for the purpose set forth.

J. GARDNER MOREY.

Witnesses:

J. ODELL FOWLER, Jr.,
RICHARD S. TREACY.