

(No Model.)

R. B. DONALDSON.
DENTAL INSTRUMENT.

No. 322,265.

Patented July 14, 1885.

FIG. 2.



FIG. 1.

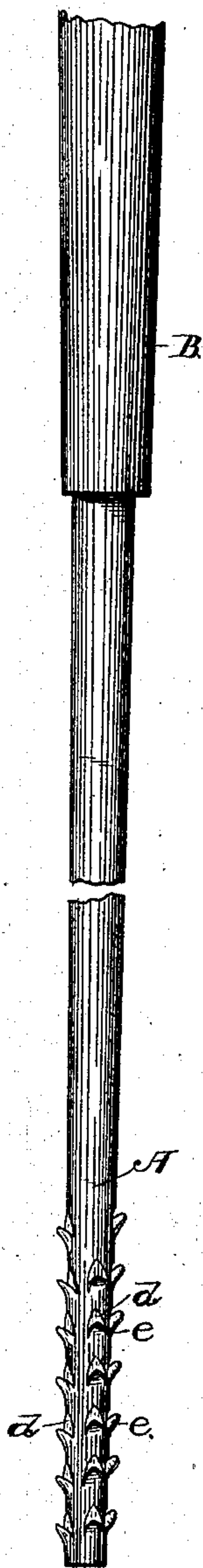
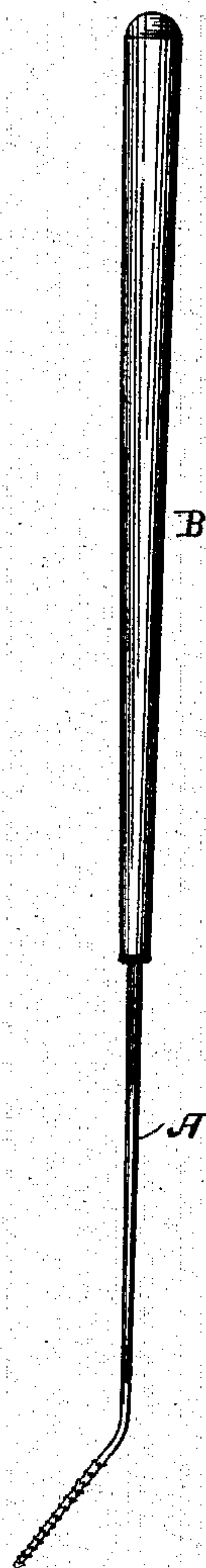


FIG. 3.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

ROBERT B. DONALDSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

DENTAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 322,265, dated July 14, 1885.

Application filed May 5, 1885. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BRUCE DONALDSON, of Washington, in the District of Columbia, have invented a new and useful Improvement in Dental Instruments; and I do declare that the following is a full and accurate description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of my instrument greatly enlarged. Fig. 2 represents the same operative size. Fig. 3 represents the same operative size bent to illustrate how it may be prepared for use.

My instrument relates to that class of delicate instruments employed in filling the nerve-canal to the apex of the root in cases where the nerve has been destroyed.

In treating the nerve-canal it is necessary to remove entirely the nerve substance and to thoroughly clean the wall of the canal without enlarging it any more than is absolutely necessary. For the removal of the nerve substance a slender instrument with one or more delicate barbs on one side at or near its point, has been employed, and the same or a similar instrument has been employed to scrape and cleanse the walls of the canal. These instruments are generally made by the dentist himself, the barbs being formed by a knife or fine file. The action of such an instrument is irregular and uncertain, and the barbs frequently break off in the canal and are difficult to remove. To remove as far as possible the liability of breaking, the instrument is generally made from untempered metal, and this detracts from the efficiency.

My invention consists of an instrument, which I prefer to make from piano-wire, reduced at the point to a requisite size to enter the nerve-canal, and provided at and near its point with a series of scraping-teeth, projecting in all directions, and preferably arranged in a spiral line around the shaft of the instrument.

In the drawings, A is the shaft of the instrument, about two and a half inches in length, and provided with a suitable handle, B. Piano-wire has a temper admirably adapted for instruments of this description. It is sufficiently hard for all purposes, yet is tough and flexible, and will bear repeated bendings. I therefore prefer to make the shaft from steel piano-wire of proper gage,

reduced toward its extremity to the proper degree of attenuation. I then make a series of cuts, *d*, inclined to the axis of the shaft A, which separate portions of the metal of said shaft and bend it outwardly, as shown; and each cut so made produces on the side of said shaft a scraping-edge, *e*, so that, in whatever direction said instrument may be pressed against the wall of the canal, a series of scraping-edges will go into action, and when the cuts *d* have been produced by a proper cutting-tool they will be uniformly efficient. By making them comparatively numerous their duty is divided, and one protects another from that accidentally too deep penetration which causes the barb of the ordinary instrument to be broken off.

I prefer to arrange the scrapers *e* in a spiral line around the shaft A, because I can then use it as a screw to withdraw the nerve substance from the cavity, because, having introduced the point of the instrument in said substance, a revolution of the shaft A will cause the instrument to embed itself, and thereby render the removal of the nerve substance comparatively easy.

Having described my invention, I claim as new—

1. A dental instrument for scraping and cleaning the nerve-canal in the root of a tooth, consisting of a substantially rigid shaft, A, provided on all sides with a series of inclined cuts, *d*, and projecting scrapers *e*, substantially as set forth.

2. A dental instrument for scraping and cleaning the nerve-canal in the root of a tooth, consisting of a substantially rigid shaft, A, provided with a series of cuts, *d*, and resultant scrapers *e*, inclined to the axis of said shaft and arranged on a spiral line around the same.

3. A dental instrument for scraping and cleaning the nerve-canal of a tooth, consisting of a substantially rigid shaft, A, of steel piano-wire, reduced to the desired attenuation toward the point, and provided with a series of inclined cuts, *d*, and projecting scrapers *e*, substantially as set forth.

ROBERT B. DONALDSON.

Witnesses:

JAMES P. STABLER,
ALBERT G. HALL.