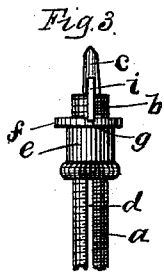
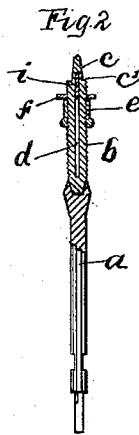
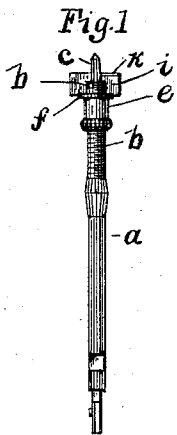


(No Model.)

A. M. HARRISON.  
DENTAL TOOL.

No. 474,011.

Patented May 3, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ALMER M. HARRISON, OF COLUMBUS, OHIO.

## DENTAL TOOL.

SPECIFICATION forming part of Letters Patent No. 474,011, dated May 3, 1892.

Application filed August 28, 1891. Serial No. 403,972. (No model.)

*To all whom it may concern:*

Be it known that I, ALMER M. HARRISON, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Dental Tools, of which the following is a specification.

My invention relates to the improvement of dental tools, and has particular relation to that class of tools which are supported and rotated by a suitable dental machine.

The objects of my invention are to provide an improved tool of this class particularly adapted for trimming or gradually cutting away the roots or other parts of a tooth, to so construct said tool as to admit of the cutting-blade being readily and easily detached from its support for the purpose of sharpening or substitution of blades having differently formed cutting-surfaces, and to produce said tool in a neat, simple, and inexpensive form and of a reliable and durable construction. These objects I accomplish in the same manner illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved tool. Fig. 2 is a central vertical section of the same; and Fig. 3 is an enlarged detail view in elevation of the outer portion of the tool, the point of view being at right angles with that shown in Fig. 1.

Similar letters refer to similar parts throughout the several views.

*a* represents the usual spindle-shaped shank, one end of which is adapted to be connected and supported by, in the usual or desired manner, the hand-piece of a dental machine. In or to the outer end of the shank *a* I cause to be rigidly connected one end of a screw-threaded extension *b*, upon which may be formed either right or left hand threads. The outer portion of this screw extension *b* terminates in a short pin or pivot-shaped projection or extension *c*, which is formed within the center of said screw, and is, as shown, of a less diameter than the body of the latter, resulting in the formation about the base of said pin extension of a circular shoulder *c'*. Formed in the center of the screw portion *b* and extending from a point from the lower portion thereof to a point in the base of the pin extension *c* is a longitudinal mortise or open slot

*d*, which is of a width adapted to receive or admit of the insertion therein of the desired thickness of cutting-blade. Upon the screw *b* is mounted a suitable form of internally-threaded thumb-nut *e*, the threads of which are adapted to engage with the external threads of said screw, as indicated in the drawings. Loosely surrounding the screw and resting upon the outer end of the thumb-nut *e* is a metallic washer *f*, which is of a greater circumference than said thumb-nut and which is provided on its outer face with a blade-receiving channel or groove *g*, which extends diametrically across said washer.

*i* represents the cutting-blade, which, as shown, is inserted within the outer portion of the mortise *d*, and the horizontal base edge of which is adapted to bear against the outer face of the washer *f* and within the groove *g* of the latter. The blade *i* is held firmly in its position in the mortise by turning outwardly the thumb-nut *e* until the pressure of the outer end of the latter results in clamping the longer edges of the blade *i* between the outer end of the mortise *d* and the outer face of the washer *f*. As indicated at *k*, the outer end of the blade *i* is sharpened in the manner desired on opposite sides of the pin *c*, thus resulting in a cutting-edge on said blade, which is at right angles with the axis of the tool stem or body.

In practice the tool-shank *a* is connected in the usual manner with the hand-piece of the tool-rotating machine, the pin *c* inserted in a previously-formed socket of the tooth until the cutting-edge of the blade is in contact with the surface of the tooth, and the rotating motion imparted to the tool in the usual manner. By this rotation of the tool it is obvious that the cutting-edge of the blade will serve to gradually cut away the surface of the tooth with which it is in contact, said cutting action being uniform and complete at each point of contact.

It is obvious that I may substitute for the straight cutting-blade shown at *i* a blade having other forms or contours of cutting-edges without departing from the spirit of my invention.

It will readily be seen that by the construction described the blade may be readily released and removed from its holder by turn-

ing inward the thumb-nut and drawing said blade from the mortise. In this manner it will be seen that not only may the blade be removed for the purpose of sharpening or repairing, but that new blades having different forms of cutting-edges may be substituted when desired. It will also be seen that the construction herein shown and described is neat and reliable and is without complication.

10 Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

15 1. In a dental tool, the combination of the shank *a*, the mortise *d*, and screw-threaded extension *b*, connected therewith, with a cutting-blade *i*, inserted within said mortise, and a thumb-nut *e* on its screw-threaded extension, said thumb-nut adapted to clamp said

cutting-blade in the outer end of the mortise, substantially as and for the purpose specified. 20

2. In a dental tool, the combination, with the shank *a*, screw-threaded extension *b*, central mortise *d* in the latter, and bearing extension *c*, formed with said screw-threaded extension, of a cutting-blade *i*, inserted, as described, 25 within said mortise, a washer *f*, a blade-bearing groove *g* in said washer, adapted to receive the base edge of the blade, as described, and a thumb-nut *e* on said screw-threaded extension and adapted to bear against said washer, 30 substantially as and for the purpose specified.

ALMER M. HARRISON.

In presence of—

HENRY A. WILLIAMS,  
C. C. SHEPHERD.