No. 610,987. Patented Sept. 20, 1898.

L. E. HENDRICKSON & C. H. READ.

DENTAL TOOL.

(Application filed Jan. 22, 1898.)

(No Model.)

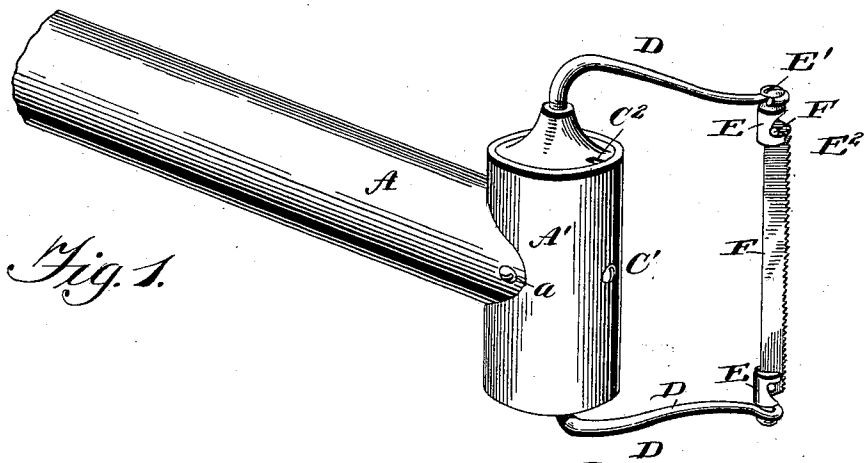


Fig. 1.

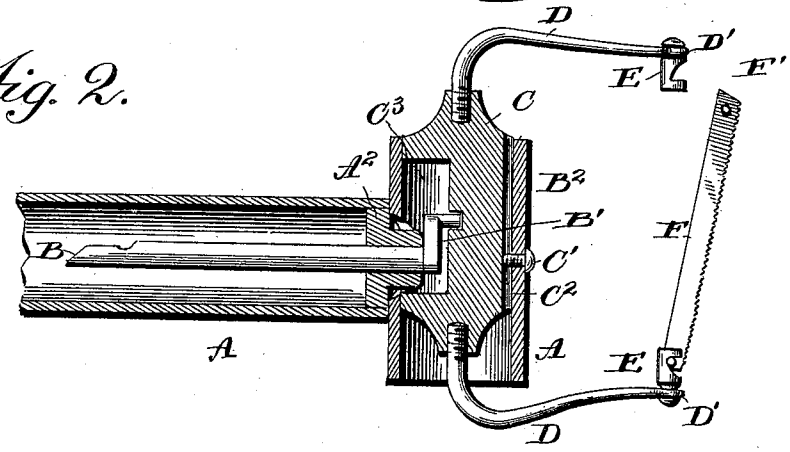


Fig. 2.

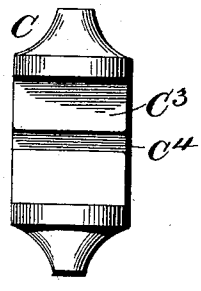


Fig. 3.

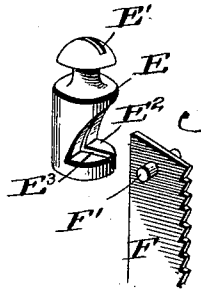


Fig. 4.

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UNITED STATES PATENT OFFICE.

LOREN E. HENDRICKSON AND CHARLES H. READ, OF OGDEN, IOWA, ASSIGNORS TO SAID READ, CLARENCE L. THOMAS, AND ORRIN L. STURTEVANT, OF SAME PLACE.

DENTAL TOOL.

SPECIFICATION forming part of Letters Patent No. 610,987, dated September 20, 1898.

Application filed January 22, 1898. Serial No. 667,619. (No model.)

To all whom it may concern:

Be it known that we, LOREN E. HENDRICKSON and CHARLES H. READ, citizens of the United States, residing at Ogden, in the county of Boone, State of Iowa, have invented certain new and useful Improvements in Dental-Engine Attachments, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to dental-engine attachments particularly adapted for the application of a reciprocating tool, such as a saw or file.

The invention has for its object to provide a novel construction of tool-holder, from which the tool can be readily removed and adjusted at any desired angle in relation to the holder.

It has for a further object to simplify the structural details by which the adjustment and holding of the tool are performed, so that the operation of the device may be improved.

In the drawings, Figure 1 is a perspective of the invention. Fig. 2 is a vertical cross-section. Fig. 3 is a detail elevation of one face of the tool-holder, and Fig. 4 is a detail perspective of the hook by which the tool is adjusted in the holder.

Like letters refer to like parts throughout the several figures of the drawings.

The letter A designates a main cylindrical casing provided at one end with an extension A′ at right angles thereto and secured to the casing A by means of screws *a* or other securing means. The lower end of the casing A is provided with a journal-block A^2, through which extends a driving-shaft B, adapted at one end to be connected with any suitable driving mechanism actuated by a dental engine or other source of power. This shaft B has at its lower end a crank-arm B′, from the outer end of which a pin B^2 extends.

Within the casing A a tool-holder C reciprocates, and the same is held against rotary movement by means of a pin or screw C′, extending through the casing and traveling in a groove C^2, formed in one face of the tool-holder. The opposite face of the tool-holder is provided with an enlarged recess C^3, within which the crank B′ may rotate, and substantially central of this recess with a transverse slot C^4, in which the pin B^2 upon the crank-arm B′ will lie and operate.

At opposite ends of the tool-holder are arms D, which may be of spring or other yielding material and which are rigidly connected to the holder C. The outer ends of these arms are provided with eyes or sockets D′, within which the adjustable hooks E are located. These hooks are provided with slotted heads E′, by which they may be rotated to adjust the angle of the saw relative to the arms, and the inner ends of these hooks are provided with seats E^2, centrally slotted, as at E^3, for the reception of a saw-blade F or other suitable tool to be used with the device. The blade F is provided with projecting pins F′, which lie against the straight wall of the seat E^2, and thus hold the saw in position. It is obvious that the structure of these seats may be altered to adapt the same for use with different classes of tools and different methods of attachment.

When it is desired to apply the saw or other tool to the holder, the arms D are sprung or pressed toward each other and the pins F′ upon the blade F seated in the seats of the hooks D, and when the pressure is released from the arms the same will expand and securely hold the tool in position. By the application of any suitable tool to the slotted head E the angle of the saw may be changed relatively to the arms. By the use of the slotted way C^2, formed in the tool-holder, and the projection from the casing located therein all rotary movement of the holder is prevented, while the recess upon the opposite face thereof and the transverse slot, in connection with the crank arm and pin, form a permanent and rigid connection of the parts, so that the reciprocation of the tool-holder is positively regulated in both directions, and any unusual movement thereof which would be dangerous and objectionable in the delicate operations to which a tool of this character is applied is prevented. It will be obvious that the rotation of the driving-shaft B will impart a rapid reciprocatory movement to the tool-holder C, which carries the saw or other tool desired for use in connection with the invention.

It is obvious that changes may be made in the details of construction and configuration of the several parts without departing from the spirit of the invention as defined by the appended claims.

Having described our invention and set forth its merits, what we claim, and desire to secure by Letters Patent, is—

1. The combination with a casing, of a reciprocating tool-holder, means to reciprocate the same, arms extending from opposite ends of said holder, and a tool pivotally carried by said arms; substantially as specified.

2. The combination with a casing, of the reciprocating tool-holder, means to reciprocate the same, spring-arms extending from opposite ends of said holder, and a tool mounted to be rotatably adjusted within said arms; substantially as specified.

3. The combination with a casing, of a reciprocating tool-holder, means for reciprocating the same, arms extending from opposite ends of said holder, pivotally-mounted hooks carried by said arms, and a tool detachably connected to said hooks; substantially as specified.

4. The combination with a casing, of a reciprocating tool-holder, means to reciprocate the same, spring-arms located at opposite ends thereof, hooks formed with a slotted head and a seat and pivoted in said arms, and a tool detachably connected to said hooks; substantially as specified.

5. The combination with a casing, of a cylindrical reciprocating tool-holder provided upon one face with a slot adapted to receive a projection from the casing and upon its opposite face with a recess and a transverse slot, arms extending from the opposite ends of said tool-holder, and a tool removably and rotatably mounted upon the outer ends of said arms; substantially as specified.

6. The combination with a casing, of a reciprocating tool-holder, means to reciprocate the same, spring-arms extending from opposite ends of said tool-holder and provided at their outer ends with eyes or sockets, hooks provided with a pivoting-neck adapted to rotate in said sockets and provided at their inner ends with slotted seats, and a tool-blade having thereon projections adapted to rest in said seats; substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

LOREN E. HENDRICKSON.
CHAS. H. READ.

Witnesses:
JULIUS KROUST,
EDWARD B. SUCHER.