

T. L. BUCKINGHAM, E. T. STARR, S. S. WHITE.

ATTACHMENTS FOR DENTAL-ENGINES.

No. 170,342.

Patented Nov. 23, 1875.

Fig 1

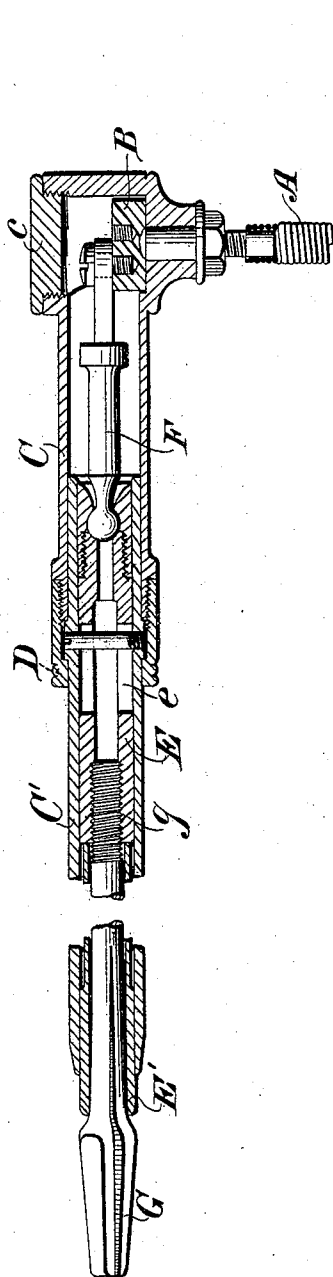
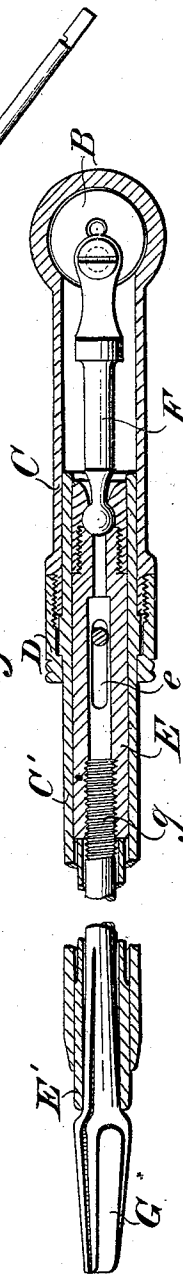


Fig. 2.



WITNESSES

Wm A Skinkle.
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INVENTOR

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Wm. Baldwin their Attorney.

UNITED STATES PATENT OFFICE.

THOMAS L. BUCKINGHAM, ELI T. STARR, AND SAMUEL S. WHITE, OF
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IMPROVEMENT IN ATTACHMENTS FOR DENTAL ENGINES.

Specification forming part of Letters Patent No. **170,342**, dated November 23, 1875; application filed
November 15, 1875.

To all whom it may concern:

Be it known that we, THOMAS L. BUCKINGHAM, ELI T. STARR, and SAMUEL STOCKTON WHITE, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and Improved Attachment for Dental Engines, of which the following is a specification:

Our invention relates to an improved file-holder and polishing attachment for dental engines, the construction of which is such as to allow of its easy attachment thereto and detachment therefrom when necessary in performing dental operations.

The subject-matter claimed is hereinafter specifically designated.

In the accompanying drawings, Figure 1 is a vertical longitudinal central section through our improved attachment; Fig. 2, a similar horizontal section.

In order to give a wide range of adaptability to the attachment for operation upon surfaces in any direction, motion is imparted to the mechanism through the medium of a flexible shaft, A, of well-known construction, driven from any suitable prime mover, preferably by the well-known S. S. White dental engine, it being applied to or connected with the chuck or tool-holder, in the hand-piece thereof, in any suitable manner.

The flexible shaft A is connected with a crank-shaft, B, turning in suitable bearings in a sectional casing or shelf, C C', the sections thereof being secured together by a screw-collar, D, the object of which will presently appear. Fitting snugly in section C' of the casing is a shaft, E, capable of an end-wise-reciprocating movement by being connected with the crank B. This connection, which constitutes one of the prime features of the invention, consists of a pitman, F, one end of which is connected to the crank-pin, and the other terminates in a ball, working in a socket formed for its reception in the end of shaft E.

By making the casing in sections, secured together by a screw-collar, as shown, the section C', and the reciprocating shaft carried thereby, by reason of the ball-joint or universal connection, may be turned or follow the movements of the hand in operating, without interfering with the driving mechanism.

A longitudinal slot, *e*, is formed in the reciprocating shaft E, through which a pin passes to form a guide for and connection between said shaft and the casing.

The crank-wheel is preferably provided with a series of holes at different distances from the center, whereby the throw or length of movement of the reciprocating shaft is rendered adjustable, access being had thereto by removing the screw-cap *c* of the casing. Obviously, however, this adjustment may be accomplished in other well-known ways.

The file or polishing-tool is placed between spring-clamping jaws G, extending backwardly through a tubular portion or sleeve, E', carried by and fitting snugly in section C' of the casing, which jaws terminate in a screw-shank, *g*, which enters a correspondingly-threaded socket formed for its reception in the end of shaft E, opposite that which carries the ball-joint.

It is obvious that by reason of the slope of the jaws where they enter the sleeve E', that if turned in the direction to screw up, the jaws will be clamped together, or upon the tool placed between them, and when loosened, by reason of their springing tendency, will open, as is well understood.

The tubular sleeve E' may be dispensed with, in which case, however, either the jaws or the casing would have to be made of an inconvenient size with respect to the other mechanism, and the operation of the instrument would not be so perfect.

We claim as of our invention—

The combination, substantially as hereinbefore set forth, of the sectional casing, the crank-shaft turning in bearings therein, the reciprocating shaft, the clamping-jaws carried by the shaft, and the pitman connected with the shaft by a ball-and-socket joint, whereby the tool is free to turn axially without interfering with the driving-connection, as set forth.

In testimony whereof we have hereunto subscribed our names.

THOMAS L. BUCKINGHAM.
ELI T. STARR.
SAMUEL STOCKTON WHITE.

Witnesses:

JOHN URIAN,
J. A. B. WILLIAMS.