

E. T. STARR.

ANGLE ATTACHMENT FOR DENTAL-ENGINE.

No. 175,626.

Patented April 4, 1876.

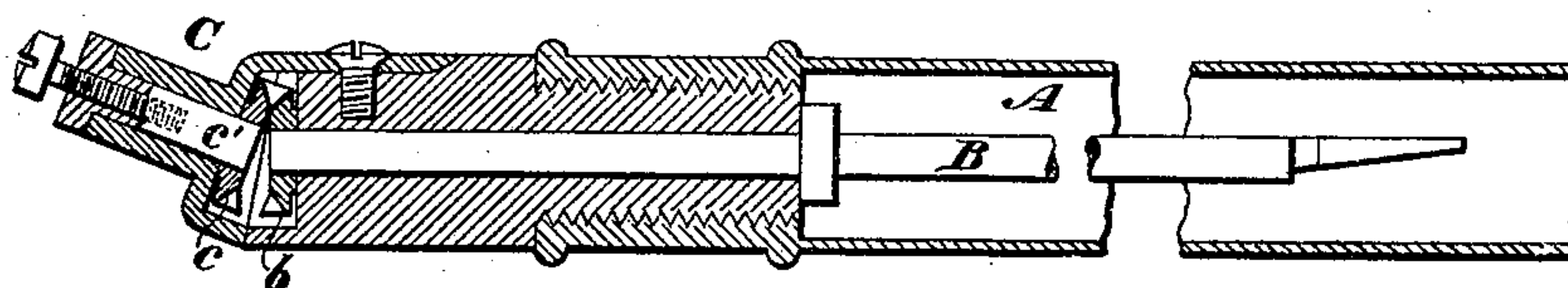
*Fig 1.*



*Fig 2.*



*Fig 3.*



WITNESSES

*Wm A Skinkle*  
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By *his* Attorney

INVENTOR

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# UNITED STATES PATENT OFFICE.

ELI T. STARR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO SAMUEL S. WHITE, OF SAME PLACE.

## IMPROVEMENT IN ANGLE ATTACHMENTS FOR DENTAL ENGINES.

Specification forming part of Letters Patent No. **175,626**, dated April 4, 1876; application filed March 22, 1876.

*To all whom it may concern:*

Be it known that I, ELI T. STARR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Angle Attachments for Dental Engines, of which the following is a specification:

My invention relates to that class of dental tools known as angle attachments; its object is to provide a simple, efficient, and compact angle attachment adapted for application to the hand-piece of a dental engine.

The subject-matter claimed will hereinafter be specified.

In the accompanying drawings, Figure 1 is a plan or top view of my improved instrument; Fig. 2, a side elevation thereof, and Fig. 3 a longitudinal central section there-through on the line *xx* of Fig. 1.

The barrel A of the attachment is slotted longitudinally, and constitutes a spring to embrace and clasp the hand-piece of a dental engine when slipped over its outer end. A shaft, B, turns in bearings in the barrel A, its rear end or shank being flattened, as shown, to adapt it to pass in the chuck or tool-holder of the hand-piece, and interlock with its driving-shaft by suitable connections. A bevel-wheel, *b*, on this shaft B gears into a corresponding wheel, *c*, on a shaft, *c'*, turning in bearings in a nose or angle-piece, C, secured permanently upon the barrel or frame. The barrel and angle-piece abut, so as to form a covering for the

gearing. The shaft *c'* is provided with a suitable socket for the reception of the shank of the tool or operating instrument. The angle-piece C is set at an angle or inclination of from five to ten degrees, relatively, to the axis of the hand-piece, and is well adapted for operating in the mouth.

Angle attachments have heretofore been made with a joint, permitting them to be set at various angles to the driving-shaft, and fixed angle-pieces have also been employed; but I am not aware of the employment in a dental instrument of an angle-piece set at an acute angle to the driving-shaft, and having its gearing protected.

The construction above described renders the instrument very compact at a point where economy of space is especially desirable, owing to the limited space in which it is required to operate.

I claim—

The improved angle attachment for the hand-piece of dental engines, hereinbefore described, consisting of the combination of the barrel, the driving-shaft mounted therein, the angle-piece, its driving-shaft, and the gearing inclosed by the barrel and angle-piece.

In testimony whereof I have hereunto subscribed my name.

ELI T. STARR.

Witnesses:

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