

(No Model)

C. E. WILLIAMS.
DENTAL ENGINE Mallet.

No. 585,494.

Patented June 29, 1897.

Fig. 1.

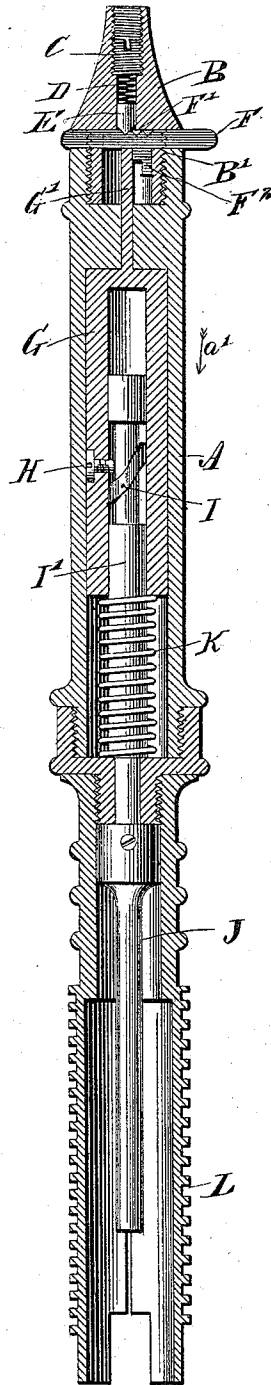


Fig. 2.



Fig. 5.

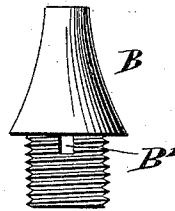


Fig. 6.

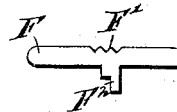


Fig. 3.

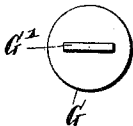
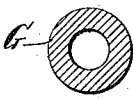


Fig. 4.



WITNESSES:

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CLYDE E. WILLIAMS, OF SPRINGFIELD, MISSOURI.

DENTAL-ENGINE Mallet.

SPECIFICATION forming part of Letters Patent No. 585,494, dated June 29, 1897.

Application filed June 30, 1896. Serial No. 597,569. (No model.)

To all whom it may concern:

Be it known that I, CLYDE E. WILLIAMS, of Springfield, in the county of Greene and State of Missouri, have invented a new and Improved Dental-Engine Mallet, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved dental-engine mallet which is simple and durable in construction, not liable to get out of order, and arranged so that the strokes of the hammer are direct and of uniform weight and a blow is delivered at any desired angle.

The invention consists principally of a stepped slide for regulating the stroke of the hammer and consequently the force of the blow.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional plan view of the improvements. Fig. 2 is a side elevation of the hammer. Fig. 3 is an end view of the same. Fig. 4 is a cross-section of the same. Fig. 5 is a side elevation of the socket for the plugging-point, and Fig. 6 is a side elevation of the stepped slide.

The improved mallet is provided with a suitably-constructed casing A, preferably made cylindrical in form, so that it can be taken hold of conveniently by the operator to manipulate the plugging-point in the desired manner. On the outer end of the casing A screws a socket B, adapted to receive the plugging-point, the latter screwing in the said socket against a screw-plug C, on the inner end of which rests a coiled spring D, pressing on a plug E, fitted to slide loosely in the bore of the socket B, the inner end of the said plug being V-shaped to engage one of a series of correspondingly-shaped notches F', formed in one edge of the slide F, fitted to slide transversely in a suitable bearing formed in the socket B and the casing A, as indicated in Figs. 1 and 5.

The slide F extends with its ends beyond the sides of the casing A to permit the oper-

ator to press with his thumb on the slide and move the same laterally to engage a different notch F' with the point of the plug E, for a purpose hereinafter more fully described.

On the inner face of the slide F are formed and arranged steps F², adapted to be engaged by the head G' of the hammer G, fitted to slide longitudinally in the casing A, the said head G' being preferably rectangular in cross-section to engage a correspondingly-shaped bearing in the casing, thereby preventing the hammer from turning, but permitting its free longitudinal movement.

Now it will be seen that by the arrangement described the operator on shifting this slide F, as described, can bring any one of the steps F² into alinement with the head G' of the hammer to regulate the length of the stroke of the hammer and consequently the force of the blow exerted by the hammer on the slide F and transmitted by the latter to the plugging-point screwed in the socket B.

In order to impart a sliding motion to the hammer G, I provide the following device: A set-screw or pin H is fitted in the hollow hammer, projecting into the cavity thereof. A spiral cam I upon the shaft I' and within the central hollow cavity in the hammer engages this pin to withdraw the hammer at each revolution of the shaft. The shaft I' at its outer end is connected to a dental engine or other suitable mechanism for rotating it. The cam I extends only partially about the shaft I'. When in its revolution it releases the pin H, the spring K, which is coiled about the rotating shaft I' and back of the hammer G, will return the hammer to deliver its blow. The force of this blow will depend, primarily, upon the strength of the spring, and, secondarily, upon the distance through which the hammer moves before striking its blow. In my device the force of the spring is constant; but the force of the blow is varied by interposing one or another of the steps of the slide F between the hammer and the plunger. This may be very quickly and readily done by the operator with the hand holding the tool and without removing the tool from the work or stopping it.

It will be seen that by the use of this instrument it is not necessary to press the plugging-point against the tooth, as the blow is

delivered to the point at the angles in which the instrument is held. The stroke is delivered whether the plug is touching the tooth or not, and the blow is as effective as that delivered by the usual hand-mallet, but many times more rapid.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

10 1. In a dental-engine mallet, the combination of a hammer, a spring engaging the same and furnishing the striking power, with means for withdrawing and releasing the same, and
15 a stepped slide adapted to be interposed to vary the length of the stroke of the hammer, substantially as shown and described.

20 2. In a dental-engine mallet, the combination of a hammer, a spring engaging the same and furnishing the striking force, with means for withdrawing and releasing the same, a
stepped slide having locking-notches corresponding with the steps and adapted to be interposed between the hammer and the plug-

ger, and a spring-held catch engaging said locking-notches, substantially as shown and described. 25

3. In a dental-engine mallet, the combination of a hammer, a spring engaging the hammer to force it in one direction, a rotating shaft and a cam and pin placed one upon the hammer and the other upon the rotating shaft, with a stepped slide adapted to be interposed between the hammer and the plugger to regulate the length of stroke of the hammer, substantially as shown and described. 30

4. A dental-engine mallet, provided with a stepped slide adapted to be engaged by the hammer-head, the said slide being provided with notches, and a spring-pressed plug engaging one of the said notches to hold the said slide in place, substantially as shown and described. 35 40

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Witnesses:

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