G. W. TRIPP.

DENTAL ENGINE.

No. 189,526. Patented April 10, 1877.

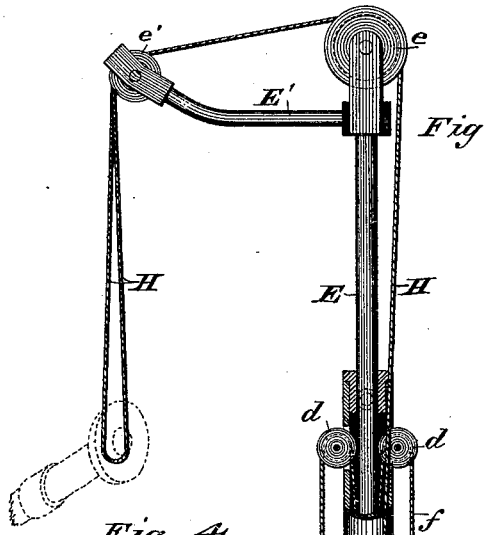

Fig 1

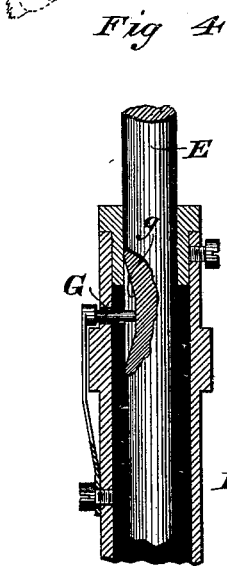

Fig 4

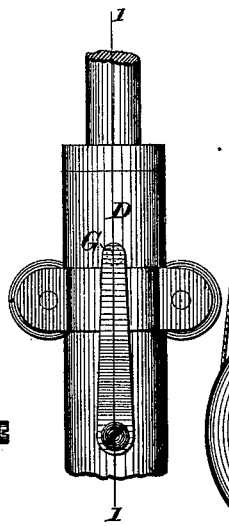

Fig 3

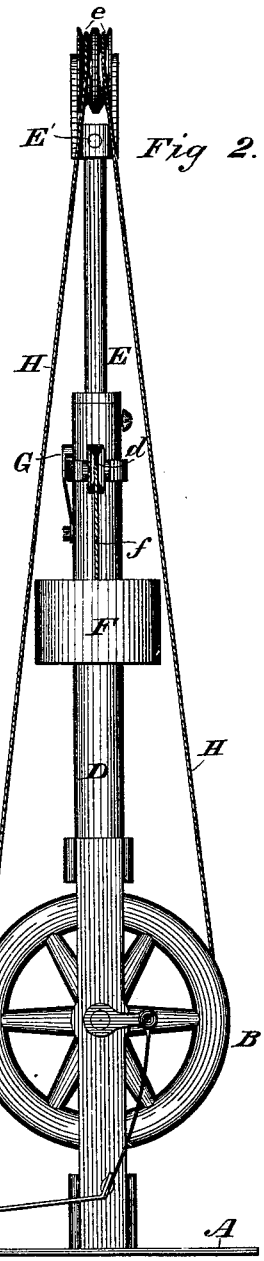

Fig 2.

WITNESSES

Wm A. Skinkle

F. Fish

INVENTOR

George. W. Tripp.

By his Attorneys.

Baldwin, Hopkins & Peyton.

UNITED STATES PATENT OFFICE.

GEORGE W. TRIPP, OF AUBURN, NEW YORK, ASSIGNOR TO SAMUEL S. WHITE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN DENTAL ENGINES.

Specification forming part of Letters Patent No. **189,526**, dated April 10, 1877; application filed March 22, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. TRIPP, of Auburn, in the county of Cayuga, and State of New York, have invented certain new and useful Improvements in Dental Engines, of which the following is a specification:

My invention relates to dental engines of that class in which belt-connections pass from a main driving-pulley over intermediate pulleys to and around a pulley carried by the hand-piece in which the operating-tool is mounted. Its objects are to impart a wide range of movement to the hand-piece without impairing its working capacity, and to improve the construction of this class of machines.

The subject-matter claimed hereinafter specifically will be designated.

In the accompanying drawings, Figure 1 represents a front elevation, partly in section, of my improved engine; Fig. 2, a side view thereof; Fig. 3, a view of the spring-catch for locking the hand-piece out of the way of the operator, and Fig. 4 a sectional view thereof on the line 1 1 of Fig. 3.

A base or stand, A, is provided with standards A′, in which is journaled a pulley, B, of comparatively large diameter, driven by a crank and-pitman connection with a treadle, C, in usual well-known ways. A hollow tubular shaft, D, rises from the standards A′, and is provided with a rod, E, telescoping and turning freely therein, which rod carries upon its upper end a pair of pulleys, *e*, mounted upon the same axis, but turning independently of each other, and at right angles from this end of the rod projects an arm, E′, carrying upon its outer end a set of pulleys, *e′*. A weight, F, fits snugly, and slides freely up and down, upon the outside of the tubular shaft, being suspended by a cord, *f*, passing from an eye in the lower end of the telescoping-rod, the ends of the cord being carried up over pulleys *d d*, journaled in slots in the walls of the shaft near its top, and fastened at opposite sides to the weight, as clearly shown in Fig. 1.

A spring-catch or detent, G, mounted upon the tubular shaft, is adapted to enter a tapering recess, *g*, in the telescoping-rod when said rod is turned in its bearings to carry the suspended hand-piece out of the way of the operator, whereby the shaft and rod are locked together until released by a pull on the hand-piece, which causes the detent to ride out of the recess and permit the rod to be turned to bring the hand-piece in proper position to operate with advantage.

A driving-belt, H, passes from the main pulley B up over the pulleys on the end of the telescoping-rod, thence over the pulleys on the end of the projecting arm, and from thence to the pulley carried by the hand-piece, which is thus suspended by the driving-belt from the overhanging arm of the engine.

The hand-piece may be of any improved or well-known construction adapted to this class of engines, but I prefer the one shown, described, and claimed in an application for Letters Patent filed by me of even date herewith.

By the organization and construction of parts above described, the hand-piece of the engine, which is suspended by its driving-belt, is free to be moved in any direction desired, and may be extended a greater or less distance from the prime mover by drawing upon the hand-piece when a greater range of movement is required, which causes the telescoping-rod to descend in its shaft and increase the length of the belt from the rod to the hand-piece, the downward movement of the rod correspondingly raising the sliding weight, which weight, in whatever position it may be in between the limits of its range of movement, balances the hand-piece, keeps the telescoping-rod in its adjusted position, and preserves the requisite tension upon the driving-belt, but when the hand-piece is lifted to relieve the belt of its weight the balance-weight, overcoming the weight of the telescoping-rod alone, moves downward, correspondingly elevating the telescoping-rod, which takes up the belt and shortens the range of movement of the hand-piece.

I am aware that a telescoping-rod, over which the driving-belt passes, to vary the range of movement of the hand-piece, has heretofore been suggested, but such rod is

acted upon by a spring, which always keeps the rod elevated except when pressure is being exerted upon the hand-piece, and does not balance the hand-piece and allow it to remain in any position to which it might be adjusted.

By running the belt over pulleys on a projecting arm of the telescoping and turning rod, the hand-piece is suspended in a perpendicular direction without interfering with the engine, the belt is carried out of the way of the operator, and the rod is relieved of lateral friction, rendering its reciprocation free and easy.

The advantages of my improvements will be obvious without further description.

I claim as of my own invention—

1. The combination, substantially as hereinbefore set forth, of a base or stand, a shaft rising therefrom, a rod telescoping and turning in said shaft, and a balance-weight acting upon said rod, for the purposes set forth.

2. The combination, substantially as hereinbefore set forth, of the tubular shaft, the telescoping-rod, its arm projecting at right angles therefrom, the pulleys, carried by the rod and arm, and the balance-weight, for the purposes set forth.

3. The combination, substantially as hereinbefore set forth, of the tubular shaft, its telescoping and turning rod, and a spring detent to lock the shaft and rod together.

4. The combination, substantially as hereinbefore set forth, of the base or stand, the driving-pulley, the shaft, the telescoping-rod, its projecting arm, the pulleys carried by the rod and arm, the balancing-weight, the belt-connections, and a hand-piece, these members being constructed to operate in combination, for the purposes set forth.

In testimony whereof I have hereunto subscribed my name.

GEORGE W. TRIPP.

Witnesses:

HORACE T. COOK,

JOHN T. PINGREE.