(No Model.)

R. S. REDMAN.

DENTAL LATHE.

No. 371,706. Patented Oct. 18, 1887.

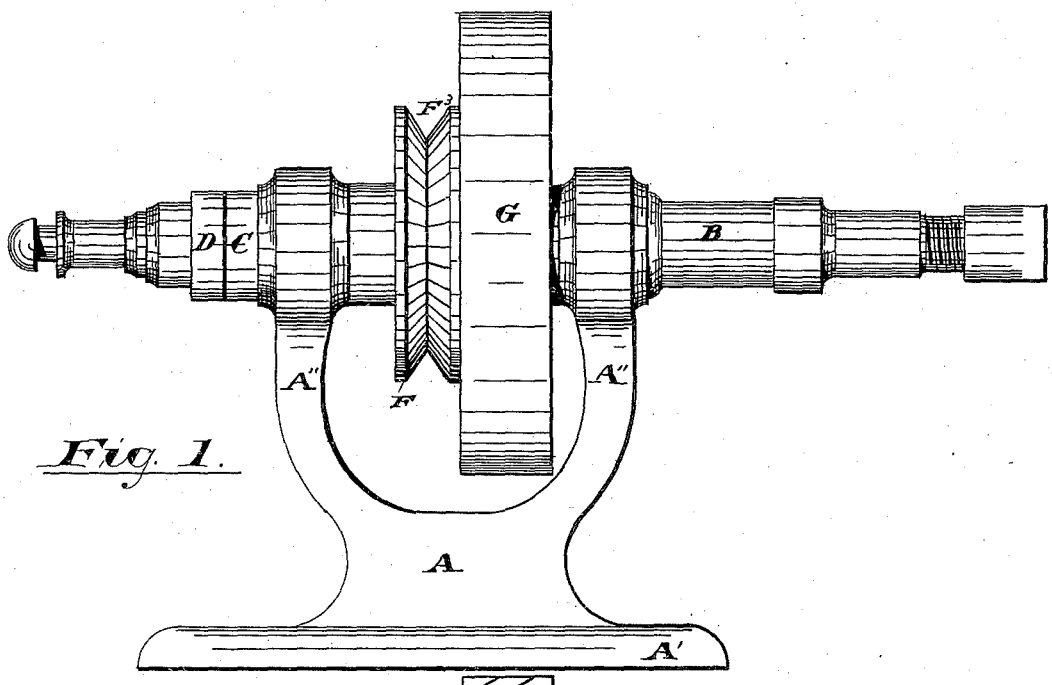

Fig. 1.

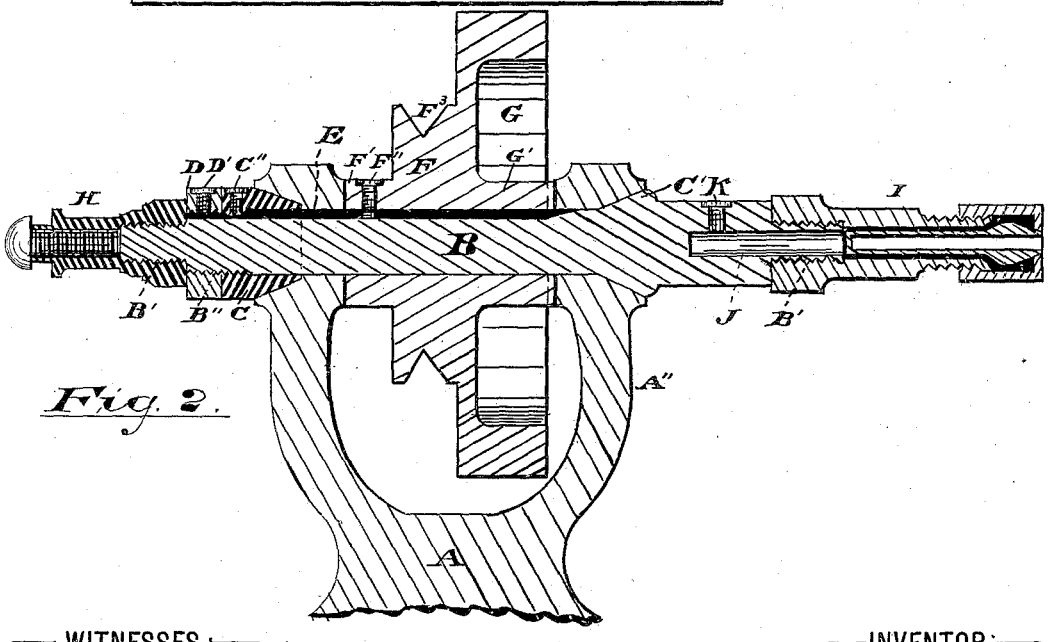

Fig. 2.

WITNESSES:

J. M. Lewis

Fred. Lewis

INVENTOR:

Robert S. Redman,

BY Drake & Co. ATT'YS.

UNITED STATES PATENT OFFICE.

ROBERT S. REDMAN, OF NEWARK, NEW JERSEY.

DENTAL LATHE.

SPECIFICATION forming part of Letters Patent No. 371,706, dated October 18, 1887.

Application filed March 3, 1887. Serial No. 229,591. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. REDMAN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dental Lathes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to reduce the cost of construction and to secure a serviceable and efficient lathe peculiarly adapted for dental purposes; and it consists in the peculiar arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally be embodied in the clauses of the claims.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a front elevation of the improved lathe; and Fig. 2 is a central vertical section of the same, showing the construction and arrangements of its parts more clearly.

In said drawings, A is a frame or bed flanged at the bottom, as at A′, to provide a broad base to enable the device to be firmly secured to the table, and above said flanged portion provided with upwardly-extending arms A″ A″, which are perforated horizontally at their upper ends to receive a spindle, B, the outer sides of said arms being reamed out around said perforations to provide for certain conical bearings on said spindle. The spindle B is provided with threads at its opposite ends, as at B′ B′, to receive appropriate dental tools, and at B″ to receive a conical bearing-collar, C, corresponding with a conical peripheral ridge, C′, formed integral with the spindle. The conical collar C, after being screwed into place so as to draw the bearing C′ into proper relation with its arm, is rigidly set in place by a set-screw, C″, and a lock-nut, D, which is also provided with a set-screw, D′, so that there can be no possibility of disarrangement. The spindle is preferably grooved longitudinally, as shown at E, to receive the set-screws and prevent slipping.

Between the arms A″ A″ is arranged a fly-wheel, G, and belt pulley or pulleys F. These are integrally formed, as shown in Fig. 2, and extend, or at least their hubs F′ G′ extend, from the inner face of one arm to that of the other, so that a material longitudinal movement of the said wheels on said spindle is prevented, and a simple set-screw, as F″, is sufficient to hold the said wheels in place. The pulley-wheel is provided with a V-shaped groove, F^3, with which a round belt may be employed to gain the greatest efficiency of power consistent with simplicity and neatness. The fly-wheel portion of the casting projects considerably beyond the pulley-wheel, and is of sufficient weight to secure great regularity of movement.

The collar C, instead of being screwed and set in place on the spindle, may be simply pushed into position and the nut D be depended on to hold the parts firmly together; or, further, the fly-wheel and pulley-wheel being set in place between the arms, as above described, may alone be depended on to hold the spindle in position in its bearings.

By having the spindle threaded at its opposite ends, as described, a plurality of chucks may be employed by the dentist at one time, as will be understood upon reference to Fig. 2, where H illustrates a chuck for a polishing-wheel, and I a drill-chuck. By the use of these the dentist may employ the polishing-wheel and drill alternately without any care or trouble of adjustment.

Oftentimes the dentist wishes to secure his drill to the spindle without the trouble of screwing his chuck in place, and to enable him to do so I have formed a drill-hole, J, in one end of the spindle, into which the drill may be inserted, and provided a set-screw, K, by means of which said drill may be fastened in place.

Having thus described the invention, what I claim as new is—

1. The improved dental lathe herein shown, combining therein a frame, A, having arms A″ A″, a spindle arranged in perforations in said arms and provided with a conical bear-

ing, C′, and a co-operating conical collar, C, and having at its opposite ends, as at B′ B′, threads to receive dental tools, and a belt-wheel and fly-wheel combined integrally and arranged between said arms, substantially as set forth.

2. The improved dental lathe herein shown and described, combining therein a frame provided with arms A″ A″, providing bearings for a spindle, B, said spindle being provided with threads at its opposite ends, a collar, C, to hold said spindle to said shaft, and a fly-wheel and belt-pulley arranged between the arms of said frame, all said parts being arranged and adapted to operate substantially as and for the purposes set forth.

3. The improved dental lathe herein shown, combining the frame with arms A″ A″, a spindle, B, adapted to receive chucks at its opposite ends, and a belt pulley-wheel and a fly-wheel both arranged between said arms, all said parts being arranged and combined substantially as and for the purposes set forth.

4. In combination with the frame A, a spindle, a fly-wheel, a belt-wheel, threads at the ends of said spindle, and a hole, J, in said spindle to receive a drill, said parts being arranged and adapted to operate as an improved dental lathe, substantially as set forth.

5. The improved dental lathe combining a frame, A, perforated and reamed arms A″ A″, a spindle having chucks H I, removably secured at its opposite ends, and having a conical bearing, C′, a conical collar, C, and a lock-nut, D, and a fly-wheel, G, and a pulley-wheel, F, provided with peripheral belt-grooves F^3, said wheels being arranged between the arms A″, all said parts being arranged and adapted to operate substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of March, 1887.

ROBERT S. REDMAN.

Witnesses:
CHARLES H. PELL,
OSCAR A. MICHEL.