(No Model.)

3 Sheets—Sheet 1.

D. R. EDEN.

APPARATUS FOR FILING TEETH.

No. 391,304. Patented Oct. 16, 1888.

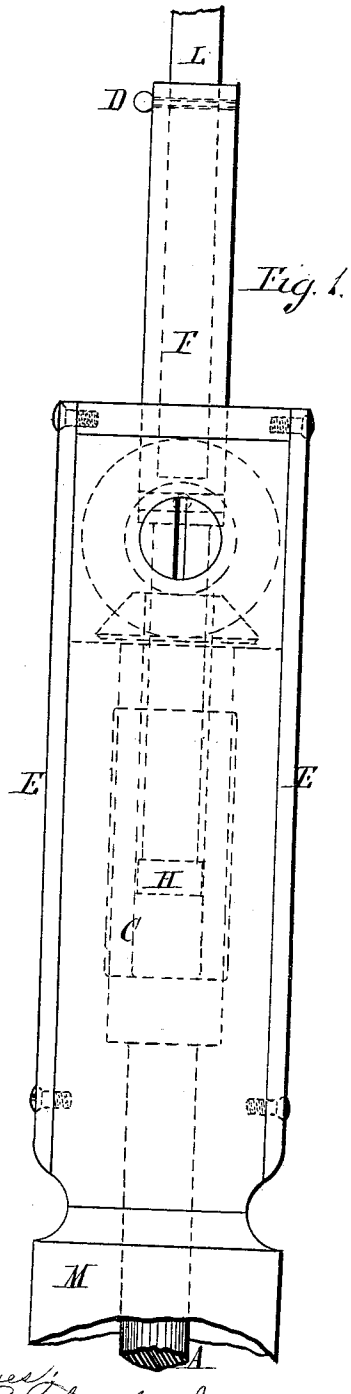

Fig. 1.

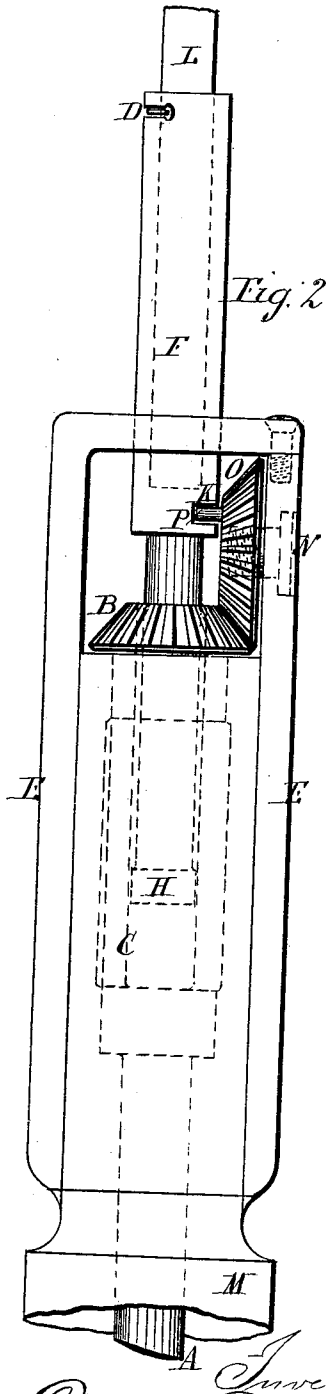

Fig. 2.

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Fig. 3.

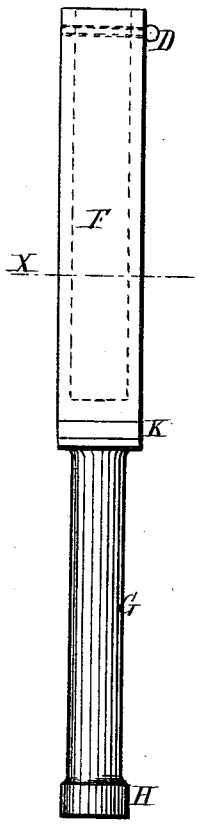


Fig. 4.

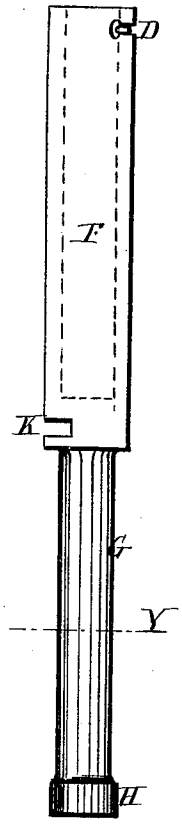


Fig. 7.

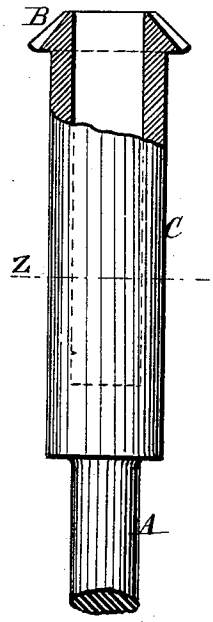


Fig. 5.

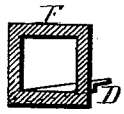
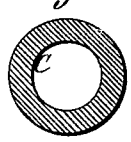


Fig. 6.

Fig. 8.



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(No Model.) 3 Sheets—Sheet 3.

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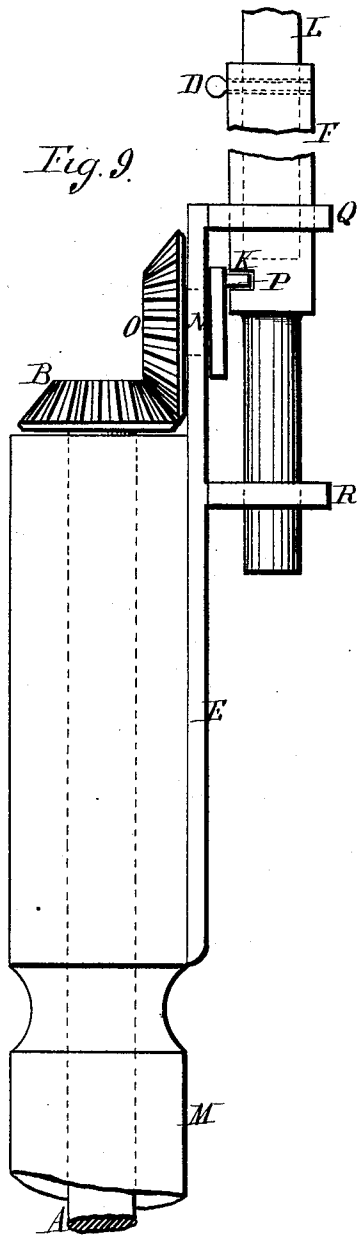
Fig. 9.



Witnessed:
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Inventor:
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UNITED STATES PATENT OFFICE.

DAVID R. EDEN, OF BREAKFAST CREEK ROAD, BRISBANE, QUEENSLAND.

APPARATUS FOR FILING TEETH.

SPECIFICATION forming part of Letters Patent No. 391,304, dated October 16, 1888.

Application filed January 26, 1888. Serial No. 262,033. (No model.) Patented in England January 6, 1888, No. 274.

To all whom it may concern:

Be it known that I, DAVID RALPH EDEN, surgeon dentist, a citizen of Queensland, residing at Breakfast Creek Road, Brisbane, in the Colony of Queensland, have invented a new and useful Apparatus for Filing Teeth, (for which I have obtained a patent in Great Britain, No. 274, dated January 6, 1888,) of which the following is a specification.

My invention relates to apparatus that can be held in the hand of a dentist, and is so arranged that rotary motion being communicated to a central spindle within the handle longitudinal reciprocation is given to a file which, projecting from the front end of the handle, can be applied to file the teeth of a patient.

In the accompanying drawings, Figures 1 and 2 are elevations on planes at right angles to each other, showing the front part of the handle with the gearing in position. Figs. 3 and 4 are similar views of the file-holder shown detached. Figs. 5 and 6 are sectional plans thereof at X and Y, respectively. Fig. 7 is an elevation, partly in longitudinal section, and Fig. 8 is a transverse section at Z of the revolving spindle. Fig. 9 is a side view of a modification.

The central spindle, A, is toward its front end made tubular to form a sleeve, C, at the end of which is a bevel or miter pinion, B. The file-holder is for part of its length, F, tubular and square in section, and for part, G, it is round, terminating in a round collar, H, which is fitted to work within the sleeve C. In the square part F there is near one end a cross-slot, K, and near the other end there is a cross-slot and spring catch, D, to hold in the stem of the file L, which is inserted in F. The handle M, part of which is shown in Figs. 1 and 2, has formed within it bearings for the rotating spindle A, and has attached to it a framing, E E, which has in its front a square hole to receive the square part F of the file-holder, and at its side a hole for the short spindle N of a bevel or miter pinion, O, that gears with B. From the face of this pinion O a crank-pin, P, projects into the slot K of the file-holder F. Rotation being communicated through a flexible shaft from a foot-lathe or other suitable motor to the spindle A, causing the miter-gearing B and O to revolve, the crank-pin P, working in the slot K, causes the file-holder F and the file L carried by it to reciprocate, while the fitting of F into the square guide hole at the front end of the handle prevents the file-holder from turning.

Instead of arranging the file-holder to reciprocate, as described, within the driving-spindle, it may be mounted outside the handle-frame, as shown by the side view, Fig. 9. In this case the crank-pin P projects from the face of the collar of the short spindle N, and the file-holder F works through guides Q and R, fixed on the frame, the guide Q being square to prevent the holder from turning.

Having thus described the nature of this invention and the best means I know for carrying the same into practical effect, I claim—

1. In an apparatus for filing teeth, the combination, with the handle and revolving spindle therein, of a bevel or miter pinion on the end of the spindle, a bevel or miter pinion meshing therewith, a file-holder fitted to reciprocate in guides and having a transverse slot, and a crank-pin working therein, substantially as described.

2. In an apparatus for filing teeth, the combination, with the handle and a revolving spindle therein and made tubular at one end, of a bevel or miter pinion on the end of said spindle, a bevel or miter pinion, O, meshing therewith, a file-holder reciprocating in the tubular end of the spindle, and a crank pin or pinion, O, working in a transverse slot in the file-holder, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 4th day of August, A. D. 1887.

D. R. EDEN.

Witnesses:
CHARLES E. BERNAYS,
N. I. BRU.