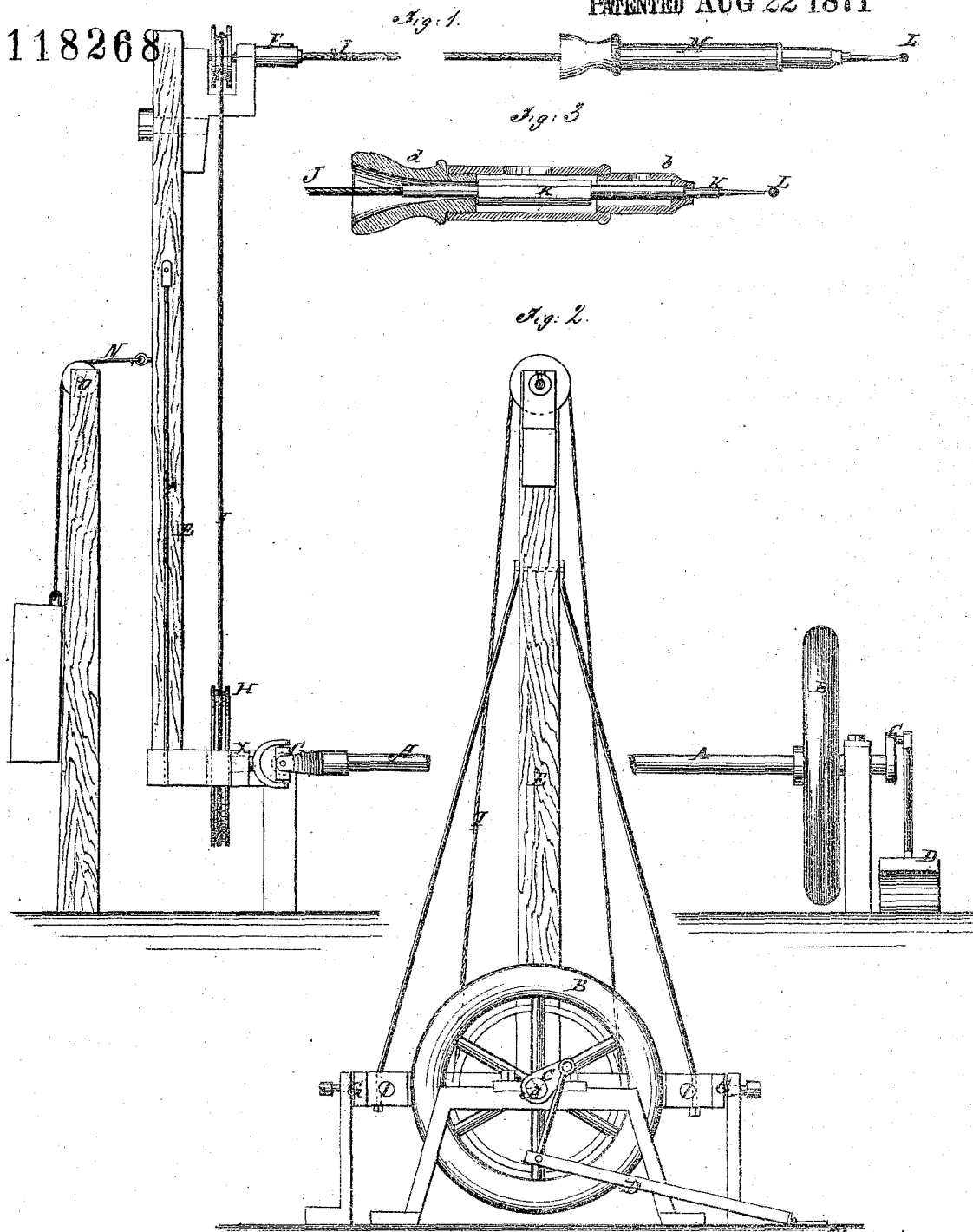


C. Poor's Dental Burr Lathe.

PATENTED AUG 22 1871

118268



Witnesses:
Chas. Nida.
Wm. H. C. Smith.

Inventor:
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 Attorneys

UNITED STATES PATENT OFFICE.

CHANDLER POOR, OF DUBUQUE, IOWA.

IMPROVEMENT IN DENTAL DRILLS.

Specification forming part of Letters Patent No. 118,268, dated August 22, 1871.

To all whom it may concern:

Be it known that I, CHANDLER POOR, of Dubuque, in the county of Dubuque and State of Iowa, have invented a new and Improved Dental Bur-Lathe; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to a new and improved apparatus for revolving the burring or milling-tools used by dentists for drilling and cleaning cavities in decayed teeth preparatory to filling, finishing off, and polishing the surface of the material used for filling or plugging, cutting, trimming, polishing, and finishing artificial teeth and plate of India rubber or metal.

My invention consists in improving dental bur-lathes, as hereinafter fully described and subsequently pointed out in the claims.

Figure 1 is a side elevation of my improved machine partly sectioned. Fig. 2 is a front elevation, and Fig. 3 is a longitudinal section of the holder for the bur-mandrel.

Similar letters of reference indicate corresponding parts.

A is a driving-shaft, with a balance-wheel, B, crank C, and foot-treadle D for generating motion for operating the bur-mandrel. This shaft is mounted in bearings suitably arranged either on the floor or a bed-plate to extend from the back of the operating-chair, where it is preferable to have the foot-treadle, to the front of said chair, where the stand E is to be for supporting the spindle F, which operates the bur-mandrel in front of the patient. This stand is pivoted at G so as to vibrate in the vertical plane of the shaft. Said shaft is connected in said axis G by a universal joint with a short shaft, X, mounted at the outer end in the lower part of stand E, and carrying a multiplying-pulley, H, from which the spindle F at the top is driven by a belt, I. This spindle is connected by a cord, J, of catgut, with the end of mandrel K opposite the one carrying the bur L, and said spindle is mounted in a tubular handle, M, by which it is held to the work by the operator while rotary motion is im-

parted to it. This tubular handle is preferably composed of the main tube *a* and the end pieces *b* and *d*, the said end pieces having small holes for the reduced portions of the mandrel, and screwing into part *a* against the shoulders of the mandrel so as to confine it against end motion. The part *d* is provided with a bell-mouth-shaped cavity extending beyond the end of the mandrel, which is intended to serve as a guide for controlling, to some extent, the flexible cord which assumes the form of a bow and swings around the axis of the mandrel when not drawn out taut by the operator. The stand E, being intended to swing toward or from the patient, is provided with a weighted cord, N, to pull it away from the patient, said cord working over a pulley, O. The movement of the stand toward the patient is effected by the operator pulling it by the handle M and cord J.

The driving-shaft may be arranged perpendicular to the position here represented, and in the axis G whereon the stand E vibrates, and be geared by bevel-wheels with the shaft of wheel H in such cases as may require it or make it preferable; for instance, when such chairs are used as will not admit of the shaft passing under them. In such an arrangement the universal joint by which said driving-shaft is connected to the shaft of wheel H will not be required. It will be seen that by this arrangement a very efficient means of working the bur is provided, which at the same time allows all the freedom needed for holding and directing the tool.

I am aware that ratan and corded wire have been used as a flexible connection, but these I claim as no part of my invention.

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

1. In combination with a bur-carrying mandrel, K, and rotating spindle F, the intermediate catgut J, applied as and for the purpose specified.

2. A swinging frame, E, to support the pulley mechanism, journaled in uprights, and counter-balanced by weighted cord N, as and for the purpose specified.

Witnesses:

CHANDLER POOR.

TIMOTHY MASON,
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