

(No Model.)

P. B. BARNES.
DENTAL PLATE POLISHING TOOL.

No. 569,535.

Patented Oct. 13, 1896.

Fig. 1.

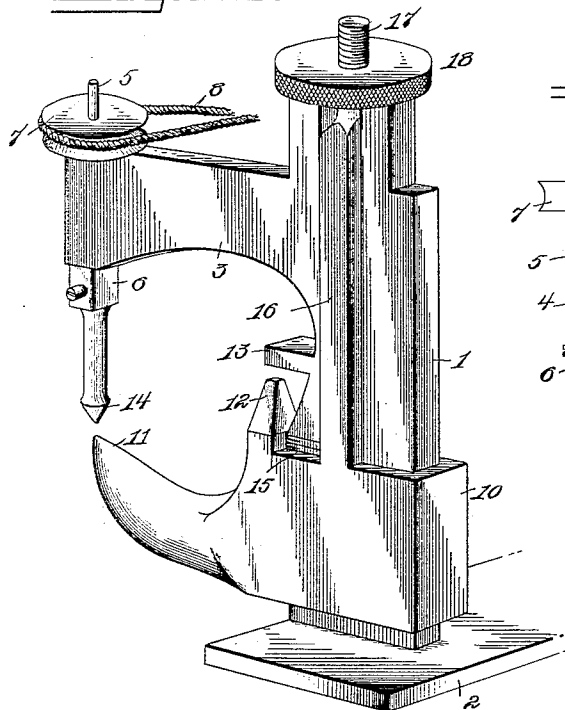


Fig. 2.

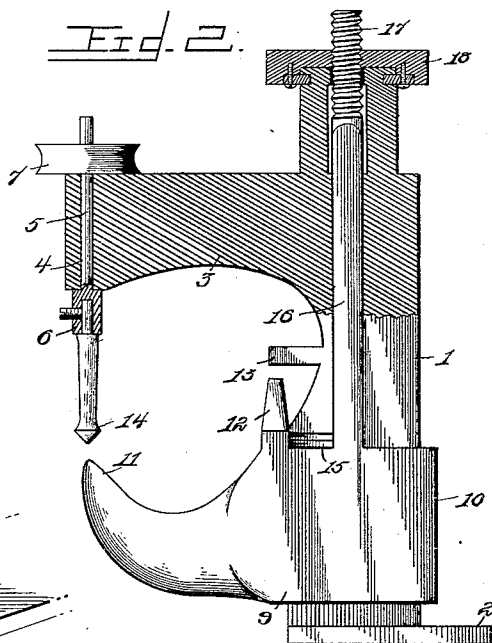
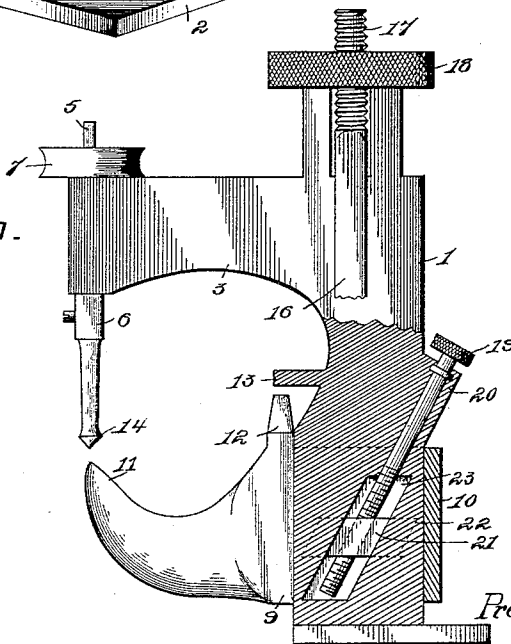


Fig. 3.



Inventor
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Witnesses

H. J. Leland
[Signature]

By his Attorneys,

Cash & Co.

UNITED STATES PATENT OFFICE.

PRESTON B. BARNES, OF HUBBARD CITY, TEXAS.

DENTAL-PLATE-POLISHING TOOL.

SPECIFICATION forming part of Letters Patent No. 569,535, dated October 13, 1896.

Application filed March 20, 1896. Serial No. 584,169. (No model.)

To all whom it may concern:

Be it known that I, PRESTON B. BARNES, a citizen of the United States, residing at Hubbard City, in the county of Hill and State of Texas, have invented a new and useful Dental-Plate-Polishing Tool, of which the following is a specification.

My invention relates to a plate reducing or polishing tool, and has for its object to provide a simple and inexpensive machine for dressing or reducing dental plates uniformly without the risk of puncturing or otherwise weakening the same; furthermore, to provide means whereby the plate may be dressed to any desired thickness and may be gradually thickened toward the front or toward the teeth, and, furthermore, to provide permanently-exposed means for indicating the thickness to which the plate is being reduced.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a tool constructed in accordance with my invention. Fig. 2 is a partial vertical section of the same. Fig. 3 is a side view, partly in section, of a slightly-modified form of the tool, showing different means for adjusting the rest.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The frame of the tool consists of a standard 1, rising from the base 2 and terminating at its upper end in a forwardly-extending arm 3, and mounted in a bearing 4 at the extremity of this arm is a bit-spindle 5, terminating at its lower end in a bit-socket 6. Secured to the bit-spindle above the plane of the arm 3 is a pulley 7, traversed by a motioncommunicating belt 8 or its equivalent.

Mounted to slide upon the standard 1 is a rest 9, the rear portion of which is constructed to form a slide 10, while the front portion is reduced to form a bearing-point 11, in contact with which the top or roof side of a plate is adapted to be arranged. The rest preferably carries an indicator 12, which coöperates with a stop 13 on the standard, said indicator being adapted to come in contact with

the stop before the bit 14 reaches the bearing-point 11, to prevent puncturing the plate. In connection with said indicating device I also employ a gage 15, arranged upon the standard and adapted to be traversed by an edge of the rest to indicate in fractional parts of an inch the exact interval between the bit and the point of the rest to show the thickness to which the plate is being dressed.

Various means for adjusting the rest may be employed, that shown in Figs. 1 and 2 including side arms 16, carrying an adjusting-screw or stem 17, which is engaged by a thumb-nut or wheel 18 at the upper end of the standard.

In Fig. 3 I have shown a slightly-modified form of adjusting means, including a thumb-screw 19, mounted in a bearing 20 at the rear side of the standard and engaging a nut 21, which operates in a horizontal slot 22 in the rest, and an upwardly and rearwardly inclined guide-slot 23 in the standard, said slot 23 corresponding in inclination with the thumb-screw.

In operation the upper or roof side of the plate is rested upon the bearing-point 11, and any preferred form of bit is employed to dress the inner surface thereof, the advantage of the peculiar construction of rest described and shown residing in the fact that the reduced bearing-point follows all of the irregularities or inequalities of the surface of the plate, and hence causes an absolutely uniform reduction of the plate without affecting the suction thereof when applied and without weakening the same in any part. The plate is adapted to be held between the thumb and index-finger of the left hand, while the adjusting devices for the rest are manipulated by the right hand. When it is desired to increase the thickness of the plate, as at points contiguous to the teeth, it may be done by lowering the rest.

A further advantage of the construction above described resides in the fact that the wax model may be reduced to approximately or exactly the desired thickness for the plate without injury or without destroying the contour of the top or roof side thereof, and hence after the formation and vulcanization of the rubber plate very little, if any, dressing thereof is necessary. It is well known that the

most durable and efficient plates are those which receive the least dressing after vulcanization, for the reason that the character of the rubber at the surface and contiguous thereto is better suited for the purpose than that which is near the interior of the plate at the time of vulcanizing.

The means which I have provided for uniformly reducing the thickness of a dental plate, irrespective of the inequalities or irregularities of its upper surface, have a further advantage in that after completion there are no lines of unequal tension in the plate, and hence the flexibility or resilience thereof is uniform and the liability of breakage by jar is reduced to the minimum.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A tool for dressing dental plates having a bit and means for communicating rotary motion thereto, and a rest for contact with the roof side of the plate provided with a reduced bearing-point to follow inequalities in the surface of said plate, substantially as specified.

2. A tool for dressing dental plates having a bit and means for communicating rotary motion thereto, an adjustable rest having a reduced bearing-point arranged in alinement with the bit and adapted to follow inequalities in the surface of the dental-plate, and means for adjusting the rest to vary the interval between its bearing-point and the bit, substantially as specified.

3. A tool for dressing dental plates having

a bit and means for communicating rotary motion thereto, an adjustable rest having a bearing-point arranged in alinement with and adapted to be moved toward and from the extremity of the bit, means for adjusting the rest, and a stop to limit the movement of the rest before the bearing-point comes in contact with the extremity of the bit, substantially as specified.

4. A tool for dressing dental plates having a bit, and means for communicating motion thereto, an adjustable rest having a reduced bearing-point arranged in alinement with the bit, means for communicating motion to the rest to vary the interval between its bearing-point and the extremity of the bit, an indicator carried by the rest and arranged in operative relation with a fixed stop, and a gage for designating the interval between the bearing-point and the extremity of the bit, substantially as specified.

5. A tool for dressing dental plates having a frame, a bit having its spindle mounted upon the frame, means for communicating motion to the bit-spindle, a rest mounted upon the frame and having a reduced bearing-point arranged in alinement with the bit, an adjusting-screw carried by the rest, and a thumb nut or wheel threaded upon the adjusting-screw and adapted to be manipulated to vary the interval between the bearing-point and the extremity of the bit, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PRESTON B. BARNES.

Witnesses:

J. C. MECKLIN,

B. L. DEAN.