

C. WIETHOFF.
DENTAL INSTRUMENT SHARPENER.
APPLICATION FILED JAN. 11, 1909.

939,365.

Patented Nov. 9, 1909.

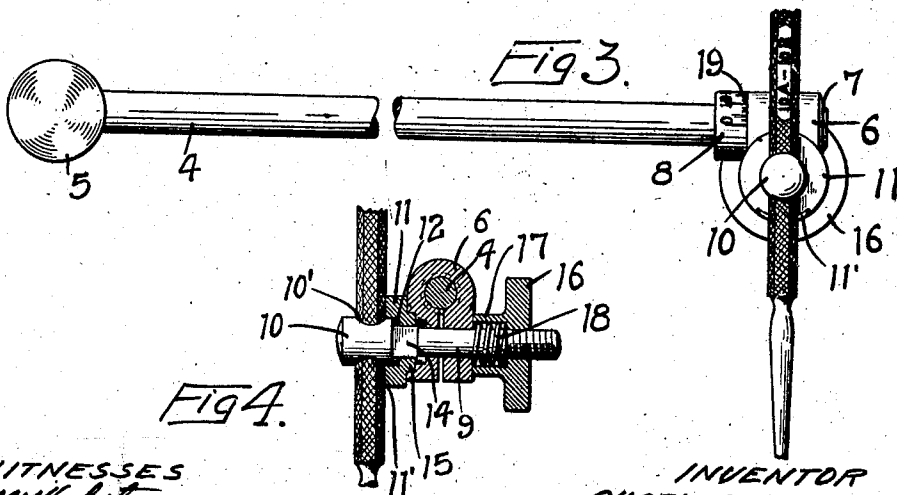
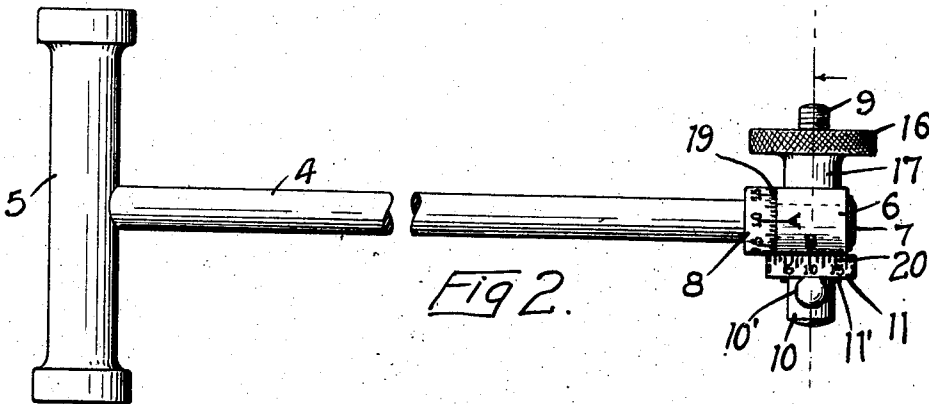
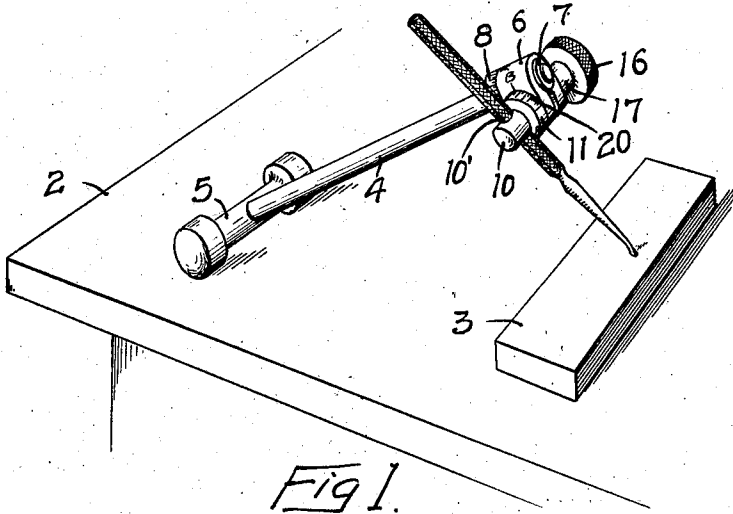
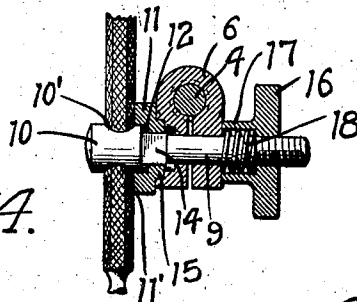


Fig. 4.



WITNESSES
Julius B. Berington

INVENTOR
CHARLES WIETHOFF
BY *Paul & Paul*
HIS ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES WIETHOFF, OF MINNEAPOLIS, MINNESOTA.

DENTAL-INSTRUMENT SHARPENER.

939,365.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed January 11, 1909. Serial No. 471,552.

To all whom it may concern:

Be it known that I, CHARLES WIETHOFF, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful
5 Improvements in Dental-Instrument Sharpeners, of which the following is a specification.

The object of my invention is to provide means for supporting a dental tool on an
10 oil stone and insure the accurate and uniform sharpening of the point of the tool and an even beveling of its cutting face.

The invention consists generally in an arm, having a foot piece or base at one end
15 and a clamping member at the other end provided with a single clamping screw, by means of which a dental tool can be held and locked at any desired angle with respect to the surface of the stone.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view, illustrating my tool in use,
20 Fig. 2 is a top view of the tool, Fig. 3 is a side view, Fig. 4 is a detail, sectional view, illustrating the construction of the clamping mechanism.

In the drawing, 2 represents a table, 3 an oil stone, 4 a metallic arm having a base or foot piece 5 that is adapted to rest and slide
30 upon the table. This arm is of suitable length and is provided on its outer end with a split collar 6 that is held in place on the arm by a washer 7 and a ring 8, the collar being capable of oscillating freely between said washer and ring. A pin 9 is fitted
35 within a socket in the collar and has one end provided with a head 10 having a hole 10' therethrough, in which the shank of the dental tool is inserted. A disk 11 is provided on the pin 9 and has a socket 12 to
40 receive the head 10—the pin having a squared portion 14 at the point where it passes through the disk to prevent rotation of the disk on the pin. The disk is also
45 preferably provided with a hub 15, fitting within a correspondingly shaped socket in the collar. On the opposite side of the collar the pin is threaded and provided with a thumb nut 16, having a sleeve 17 on one
50 side inclosing a spring 18 that is adapted to bear on the split collar and draw the head 10 into the socket 12 and hold the shank of the tool against the disk with a yielding pressure. Upon releasing this thumb nut,
55 the tool can be revolved with the pin as an axis and at the same time the collar will

be loosened on the arm 4 and the tool and pin may be oscillated with the collar on the arm 4 as an axis. I am thus able to adjust the tool in vertical planes at right angles to one another and set it at any desired inclination to the surface of the oil stone.

With this device, a dental tool of any shape can be supported on an oil stone and a uniform bevel obtained on the cutting edge
65 and whenever it is desired to re-adjust the tool or remove it from its support, it is only necessary to manipulate a single thumb screw.

The ring 8 and the disk 11 have graduations 19 and 20 thereon opposite marks A. and B. on the collar and by means of these graduations, the operator of the tool can adjust the clamp to obtain the right inclination for the bevel on the tool. Then the
75 shank of the tool can be marked to correspond to the adjustment of the graduations and when the tool is sharpened again, it will only be necessary to set the graduations as indicated by the marks on the tool shank 80 and be sure that the proper inclination is obtained for the bevel on the tool point. The disk 11 is provided with a flange 11' that is adapted to enter the notch in the shank of the tool and enable the operator to
85 easily and quickly set the tool in the clamp.

Considerable time would be required in adjusting the clamp device to fit the bevel on the tool to the surface of the stone, but with my device, when this adjustment has
90 once been obtained and the shank of the tool marked, it will be a very simple matter to again mount the same tool in the clamp so that its bevel will bear evenly on the stone surface.

I claim as my invention:

1. A device of the class described comprising an arm having a base or foot at one end adapted to rest upon a table and freely movable thereon and a clamp mounted on the opposite end of said arm, said clamp having a socket to receive a dental tool shank, said shank having a revolving movement independently of said clamp and a movement with said clamp at an angle to said arm, substantially as described.

2. A device of the class described, comprising an arm having a base or foot at one end and a clamp at its opposite end, said clamp being capable of revolving around said arm and provided with a socket to receive the shank of a dental tool and allow the tool to

be swung in a plane parallel with said arm or at an angle thereto, and a single clamping screw adapted to lock said clamp on said arm and the shank of the tool on said clamp simultaneously.

3. A device of the class described, comprising an arm having a base or foot piece at one end adapted to rest on a table or other surface, a clamp mounted on the opposite end of said arm and comprising a split collar adapted to oscillate at right angles to said arm, a screw passing through said collar and having a head at one end provided with a socket to receive the shank of a dental tool, the opposite end of said screw being threaded and provided with a thumb nut and the movement of said nut serving to tighten said collar on said arm and lock the tool shank in its socket, substantially as described.

4. The combination, with a supporting arm, of a clamping device mounted thereon and comprising a split collar, a screw passing therethrough and having a head on one end and provided with a socket to receive the shank of a tool, a disk interposed between said head and collar and adapted to bear on the tool shank and having a graduated periphery, and a ring secured on said arm also having a graduated surface and said collar having marks opposite said grad-

uated surfaces, and said screw having a threaded end and a thumb nut therefor adapted to contact with said collar, substantially as described.

5. The combination, with a supporting arm, having a graduated ring secured thereon, of a split collar loosely mounted on said arm and having a mark opposite the graduations on said ring, a pin passing through said collar and having a threaded end provided with a thumb nut, and a head having a socket to receive the shank of a dental tool, and a spring arranged on said screw between said thumb nut and collar, substantially as described.

6. A device of the class described, comprising an arm having a foot or rest at one end, and a clamping device mounted on its opposite end, said clamping device having a socket to receive the shank of a dental tool, and a single screw and a thumb nut therefor, arranged to lock said clamping device on said arm and simultaneously secure the shank of the tool in said socket, substantially as described.

In witness whereof, I have hereunto set my hand this 2nd day of January 1909.

CHARLES WIETHOFF.

Witnesses:

J. A. BYINGTON,
J. M. SULLIVAN.