

T. S. WATERS.
DENTAL TOOL.
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1,004,118.

Patented Sept. 26, 1911.

Fig. 1.

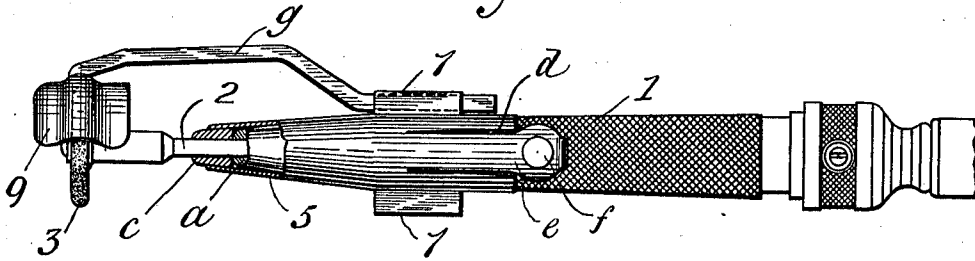


Fig. 2.

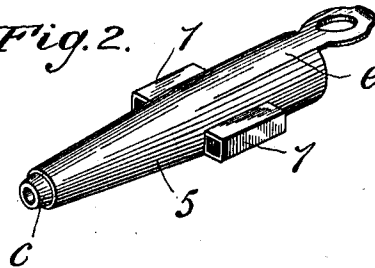
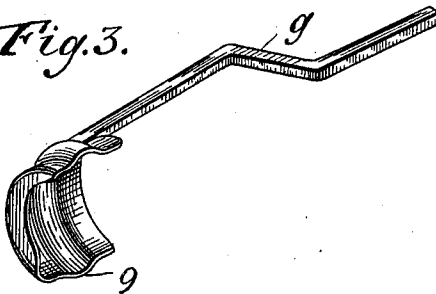


Fig. 3.



WITNESSES
Frank R. Woodew.
Alberta Richards.

Thomas S. Waters,
INVENTOR
H. H. T. Howard,
by W. T. Howard,
Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS SOLLERS WATERS, OF BALTIMORE, MARYLAND.

DENTAL TOOL.

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To all whom it may concern:

Be it known that I, THOMAS S. WATERS, a citizen of the United States, and resident of Baltimore, Maryland, have invented certain
5 Improvements in Dental Tools, of which the following is a specification.

This invention relates to a device adapted for attachment to the hand-piece of a rotary dental tool, whereby the bearing for the
10 rotary spindle of the tool is increased in length and its wear reduced, and the wobbling of spindles in worn bearings prevented. The device also serves as means for supporting a removable shield or guard
15 which partially encircles the operative portion of the tool such for instance as a grinding disk, thereby protecting the mouth of the patient against contact with the disk, as will hereinafter fully appear.

20 In the further description of the said invention which follows, reference is made to the accompanying drawing, forming a part hereof, and in which,—

Figure 1 is a side view, partly in section,
25 of a dental tool hand-piece carrying a rotary grinding disk, to which is applied the attachment constituting the present invention. Fig. 2 is a perspective view of the attachment alone, and Fig. 3 illustrates, in per-
30 spective, the guard or shield which is adapted for application to the attachment.

Referring to the drawing, 1 is the hand-piece which differs in no essential particular from that commonly in use. The end of the
35 hand-piece is provided as is usual, with a bearing *a* of hard metal for the spindle 2 which carries the grinding disk 3; and this bearing, due to the rapidity of rotation of the spindle, becomes worn and causes the
40 spindle to wobble and thereby produce a disagreeable sensation when the disk is brought into contact with the tooth of a patient.

5 is the sleeve of such form as will adapt
45 it to fit closely over the hand-piece 1 as shown in Fig. 1. At its point the sleeve is provided with a hardened annulus *c* having an inner diameter corresponding with that of the spindle 2, and is thereby adapted as
50 an additional bearing for the spindle 2 when the sleeve is placed in position as shown in Fig. 1.

In cases where the main bearing *a* has become worn, the application of the attachment to the hand-piece will accurately center
55 the spindle in the enlarged hole and further wear of the bearing in the hand-piece is prevented. The wear is now transferred to the inner surface of the annulus, *c*, and when this wear becomes excessive, a new
60 sleeve which is an inexpensive device may be substituted for the worn one, thus obviating the necessity of repairing the hand-piece. While the sleeve 5 can be made rigid
65 throughout, and to accurately fit the hand-piece, it is preferred to have the sleeve slit from the rear end, the slits *d* extending a limited distance as shown in Fig. 2. The
70 slitting of the sleeve also admits of simple means being used to hold the sleeve in position on the hand-piece, which consist in extending a portion *e* rearward beyond the remaining part to form a spring tongue, which
75 is perforated near its end, and in providing the hand-piece with a button *f* over the head of which the perforated spring tongue *e* may be snapped.

7, 7 are sockets into either one of which the stem *g* of the shield 9 may be slid. Only
80 one socket is actually required, but it may be an advantage to have two sockets so that should one of them become impaired, the other could be used.

I am aware that it is not new to provide the hand-piece of a dental tool with a sleeve
85 to which the shield for the grinding disk is permanently secured, but I am not aware that before my invention thereof, a sleeve having a bearing for a rotary spindle has
90 been placed over the hand-piece to accurately center and support the spindle independently of the bearing in the hand-piece; nor that the shield for the tool has been made removable from the sleeve in
95 order that its removal will not interfere with the function of the sleeve with respect to the centering and support of the rotary spindle.

I therefore claim as my invention,—

1. In combination with the hand-piece of
100 a rotary dental tool, a removable sleeve provided with an inserted steel bearing for the spindle of the tool, and having a smooth inner surface whereby it is adapted to be

slid over the hand-piece, and means to temporarily hold the sleeve to the hand-piece substantially as specified.

2. In combination with the hand-piece of
5 a dental tool having a button on its exterior surface, a removable sleeve having a bearing for the spindle of the tool and provided with a perforated spring tongue adapted in

the application of the sleeve to the hand-piece, to snap over the button and temporarily hold the sleeve in place, substantially as specified. 10

THOMAS SOLLERS WATERS.

Witnesses:

JULIA B. ROBINSON,
WM. T. HOWARD.

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