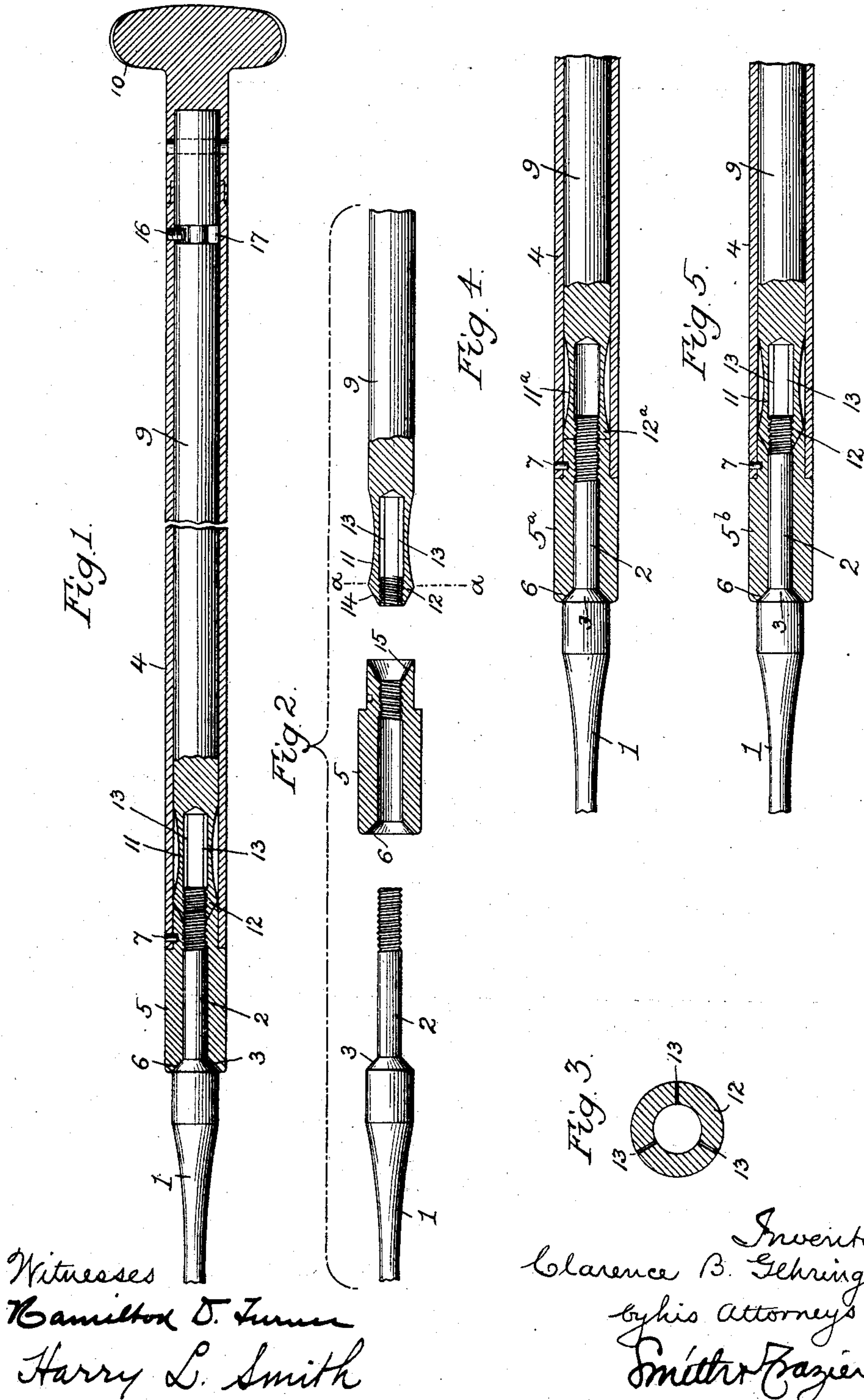


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DENTAL TOOL HOLDER.  
APPLICATION FILED MAR. 31, 1908.

906,869.

Patented Dec. 15, 1908.





# UNITED STATES PATENT OFFICE.

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## DENTAL TOOL-HOLDER.

No. 906,869.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed March 31, 1908. Serial No. 424,334.

*To all whom it may concern:*

Be it known that I, CLARENCE B. GEHRINGER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Dental Tool-Holders, of which the following is a specification.

The object of my invention is to provide means for securely attaching to its handle a dental tool, especially one of that class known as a "cone-socket" tool. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawing, in which

Figure 1 is a sectional view, on an enlarged scale, of part of a dental tool and a handle therefor provided with retaining devices for the tool in accordance with my invention; Fig. 2 is a view illustrating part of the tool and the essential members of the fastening device detached from one another; Fig. 3 is a transverse section on the line *a--a*, Fig. 1, on an enlarged scale, and Figs. 4 and 5 are sectional views illustrating certain modifications of my invention.

In the drawing, 1 represents part of the stem of the tool which may be a hand plugger or other tool bearing a fixed relation to the handle, said tool having, at its rear end, a contracted shank 2, externally threaded at its rear end, a conical shoulder 3 being formed at the junction of said stem and shank. The handle 4 of the tool is tubular and is closed at its forward end by means of a tubular plug 5, whose bore fits snugly to the shank 2 of the tool and is internally threaded at the rear end for engagement with a portion of the thread formed upon said shank, as shown in Fig. 1, the forward end of the plug having a beveled seat 6 for the reception of the conical shoulder 3 at the junction of the stem and shank of the tool. The plug 5 is prevented from turning independently of the handle 4 by any suitable means, such for instance as the locking pin 7, shown in Fig. 1. Fitting within the handle 4 of the tool is a rod 9, to the rear end of which is secured, in any desirable manner, a milled head 10, whereby said rod can be readily turned, the exterior face of the handle 4 being also, by preference, knurled or roughened in order that the same may be held in the hand without danger of slipping. The forward end of the rod 9 is bored out so as to form at this point a tubular member 11 and the latter is internally threaded at its forward end for engagement

with the rear portion of the threaded shank of the tool, for which it thus constitutes a nut 12. This nut is split by reason of the formation in the tubular member of the rod of a series of longitudinal incisions 13, and said nut is exteriorly coned or beveled, as shown at 14, and is seated in a similarly coned or beveled recess 15 in the rear end of the plug 5. The removal of the rod 9 from the handle 4 is prevented by means of a pin 16 secured to the handle and projecting into an annular groove 17 formed in the rod, as shown in Fig. 1, the groove being slightly wider than the diameter of the pin in order to permit of a limited amount of longitudinal movement of the rod independently of the handle.

In preparing the handle for the reception of the tool the plug 5 is first inserted and secured in place in the forward end of the handle and the rod 9 is then inserted from the rear end of the handle until the beveled forward face of the nut 12 is seated in the similarly shaped recess in the rear end of the plug 5, the parts being retained in this position by the insertion of the pin 16 and the engagement of the inner end of the same with the grooved portion 17 of the rod.

In order to apply the tool the shank 2 of the same is passed into the plug 5 and its threaded rear end is screwed into the internally threaded portion of said plug and into the split nut 12 at the forward end of the tubular portion 11 of the rod 9, until the conical shoulder 3 of the tool is seated in the recess 6 at the forward end of the plug, whereupon there is a further slight turning movement of the tool, which has the effect of drawing the conical forward face of the nut 12 more firmly into contact with the conical seat 15 of the plug and thereby compressing the members of said nut tightly upon the threaded rear end of the tool shank. This insures the rigid retention of the tool in place in the handle, and effectively guards against any accidental loosening of the connection between the tool and the handle.

Independently of this contractible feature of the nut 12, however, the latter acts in conjunction with the threaded portion of the tube 5 as a lock nut for the tool shank, and the splitting of the nut 12 and the formation of the same with a conical face may therefore, in some cases, be dispensed with without depriving the nut 12 of its function as a lock nut. Such modification is illustrated in Fig. 4 of the drawing, in which the tubular



portion 11<sup>a</sup> of the rod 9 is not split and the forward end of the nut 12<sup>a</sup> presents a face perpendicular to the axis of the handle for contact with a similarly disposed face at the inner end of the plug 5<sup>a</sup>. On the other hand, the contractible feature of the nut 12 may be relied upon to insure the proper retention of the tool in the handle, even if said nut does not constitute a lock nut. Such modification is illustrated in Fig. 5. In the construction there shown the plug 5<sup>b</sup> has an unthreaded bore but retains the conical recess 15 at its inner end, the nut 12 being constructed in the same manner as in the tool shown in Fig. 1.

I claim:—

1. In a dental tool holder, the combination of the tool having a shoulder and a threaded shank, with a handle having, at the forward end, a member with a seat for the shoulder on the tool and an internally threaded bore for engaging the threaded shank on the tool, and a rod in said handle having, at its forward end, a nut for engaging the threaded shank of the tool, said nut being seated upon the rear end of the threaded member of the handle, so as to constitute a lock nut for said threaded shank of the tool.

2. In a dental tool holder, the combination of the tool having a shoulder and a

threaded shank, with a handle having a forward member with a seat for the shoulder on the tool and a beveled recess at its rear end, and a rod in the handle presenting at its forward end a split nut for engagement with the threaded shank on the tool, said nut having a beveled exterior face seated in the beveled recess at the rear end of the forward member of the handle, whereby contraction of the split nut upon the threaded portion of the tool shank can be effected.

3. In a dental tool holder, the combination of the tool having a shoulder and a threaded shank, with a handle having a forward member with seat for the shoulder on the tool, a beveled seat at its rear end, and an internally threaded bore for engaging the threaded portion of the shank of the tool, and a rod in the handle presenting, at its forward end, a split nut for engagement with the threaded shank of the tool, said nut having a beveled exterior face bearing upon the beveled seat at the rear end of the forward member of the handle.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CLARENCE B. GEHRINGER.

Witnesses:

HAMILTON D. TURNER,  
KATE A. BEADLE.