C. T. VAN WOERT.

BROACH HOLDER.

APPLICATION FILED JULY 20, 1915.

1,203,083. Patented Oct. 31, 1916.

Fig. 1.

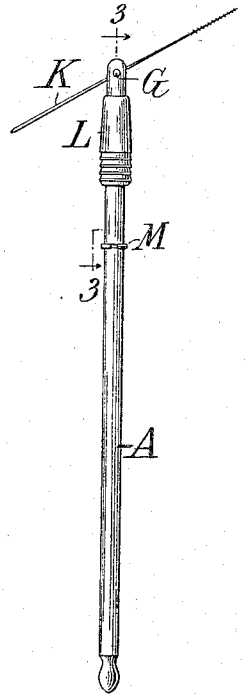


Fig. 2.

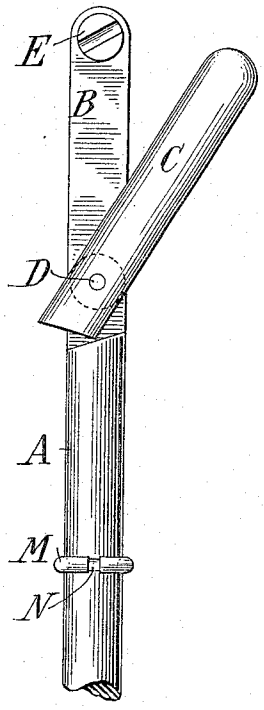


Fig. 3.

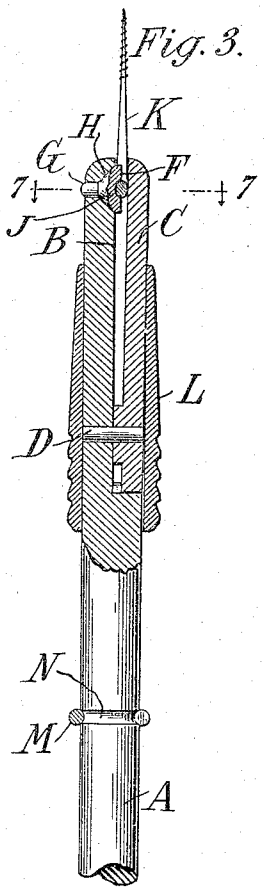


Fig. 4.



Fig. 5.

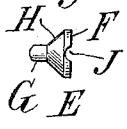


Fig. 6.

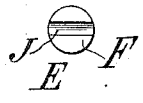
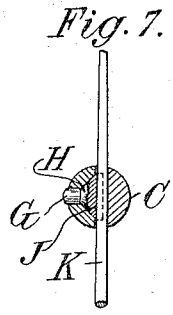


Fig. 7.



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BROACH-HOLDER.

1,203,083. Specification of Letters Patent. Patented Oct. 31, 1916.

Application filed July 20, 1915. Serial No. 40,826.

To all whom it may concern:

Be it known that I, CLARENCE T. VAN WOERT, a citizen of the United States of America, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Broach-Holders or the like, of which the following is a specification.

This invention relates to holders for dental broaches, needles, or other similar devices, and aims to provide certain improvements therein.

The invention in its preferred form is adapted to receive the ordinary or common form of broach, needle, or similar device, and hold it at any desired angle to the handle or handpiece. Furthermore the device permits a lengthwise adjustment of the broach so that it may be held with any degree of protection from the handpiece.

Further advantageous features of the device are its simplicity and ease of adjustment, and its capacity for quick disassembling and assembling so that it may be conveniently sterilized or cleaned after each operation.

The invention also includes other features of the construction which will be hereinafter more fully described.

Referring to the drawings which illustrate the preferred form of the invention, Figure 1 is a side elevation of the complete holder. Fig. 2 is an enlarged view of the upper part of the holder showing the parts extended, the clamping sleeve being removed. Fig. 3 is a sectional view on the line 3—3 in Fig. 1 showing the clamping sleeve and broach in place. Fig. 4 is a side elevation of the clamping pivot. Fig. 5 is an end elevation. Fig. 6 is a face view; and Fig. 7 is a sectional view on the line 7—7 in Fig. 3.

Referring to the drawings, let A indicate the handpiece of the holder, which may be of elongated form, as shown, and is preferably made of metal, hard rubber, or similar material. The top of the handpiece is recessed or cut away at B so as to provide space for a complemental piece C, which is best pivoted at its lower end to the handpiece by means of the pin D in order that it may be capable of swinging sidewise, as shown in Fig. 2. One or the other of the parts B, C, preferably the part B, is provided with a clamping pivot E, the preferred form of which is best shown in Figs. 4 to 7. Preferably it has a broad face F and a reduced shank G, these parts being joined by a tapered wall H. The part B is formed with a socket which corresponds to the contour of the clamping pivot and permits the latter to rotate as desired. The face F of the clamping pivot is preferably formed with a slot J, which is designed to receive the broach K, or needle, or other device which it is desired to clamp. The slot J will ordinarily be formed of less depth than the diameter of the smallest tool to be held.

In the construction shown the member C constitutes a clamping member, the upper or outer end of which engages the broach as shown in Figs. 3 and 7, and clamps it firmly in the slot J, while at the same time the clamping pivot E is forced against its socket sufficiently to prevent its turning. By reason of its own elasticity or looseness of fit the outer end of the clamping part C may be separated from the clamping pivot E to an extent sufficient to permit the clamp to receive broaches or other instruments having widely varying diameters.

In order to hold the member C in its clamping position I prefer to provide a clamping sleeve L which is slidable along the handpiece, and which in its clamping position tightly engages the parts B and C, thus forcing them together, as best seen in Fig. 3. In order to limit the downward movement of the sleeve L, I provide a stop M, which is best constructed as a split ring entering a groove N in the handpiece. Preferably the stop M is so located that the sleeve L does not disengage the clamping member C when the sleeve is resting against the stop. Hence the clamping member C is not capable of the swinging movement illustrated in Fig. 2 unless the stop be removed and the sleeve passed farther along the handpiece.

In the preferred method of use, when it is desired to insert a broach, the sleeve L is moved against the stop and the broach threaded through the end that is passing into the recess or slot J. The broach is then turned to the required angle, the clamping pivot E turning therewith. When the position is reached the sleeve is slipped forwardly, securely holding the broach in its adjusted position. The threading operation is easily performed in practice and will be facilitated if the operator habitually re-

moves the broach from the holder when the former is at a definite position (a right angle, for example) to the latter.

It is preferred to construct the device so that the clamping pivot E and clamp C are easily removed, whereby the device can be thoroughly cleaned and sterilized, although ordinarily disassembling will not be necessary. It may be accomplished by removing the stop M, clamp C, clamping pivot E, and sleeve L.

By the construction thus provided I provide a holder which is cheap and simple to manufacture, which is capable of holding the broach at any angle required by the dentist, and with any requisite degree of projection. By reason of its capacity for wide range of adjustment, the device is admirably suited for holding surgical needles, and in fact, any other small instrument or tool.

While I have shown and described the preferred form of the invention, it will be understood that I do not wish to be limited thereto, since various changes may be made therein without departing from the spirit of the invention.

What I claim is:—

1. A device for holding broaches, needles, or similar articles having means for engaging the article in various angular positions, and a clamping member adapted to swing laterally into position to hold the article against such means.

2. A device for holding broaches, needles, or similar articles having a rotatable clamping pivot, a clamping arm, and means for pressing the clamping arm toward the pivot.

3. A device for holding broaches, needles, or similar articles having a rotatable clamping pivot, a pivoted clamping arm adapted to overlie said clamping pivot, and an adjustable means for pressing said arm toward said pivot.

4. A device for holding broaches, needles, or similar articles having a rotatable clamping pivot, a pivoted clamping arm adapted to overlie said clamping pivot, and an adjustable means for pressing said arm toward said pivot, said means comprising a sliding sleeve.

5. A device for holding broaches, needles, or similar articles comprising a hand-piece having at one end a rotatable slotted pivot adapted to receive the article, a pivoted clamping arm adapted to overlie said pivot, a clamping sleeve adapted to engage said arm to press it toward said pivot, and a removable stop for limiting the movement of said sleeve.

6. A device for holding broaches, needles, or similar articles comprising a hand-piece having at one end a rotatable slotted pivot adapted to receive the article, a pivoted clamping arm adapted to overlie said pivot, a clamping sleeve adapted to engage said arm to press it toward said pivot, and a removable stop for limiting the movement of said sleeve, said stop comprising a split ring arranged below said sleeve.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

CLARENCE T. VAN WOERT.

Witnesses:
HENRY L. MAHLSTEDT,
JOSEPH W. CATHARINE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."