

(Model.)

T. H. SCHMITZ.
DENTAL HAND PIECE.

No. 263,814.

Patented Sept. 5, 1882.

Fig. 1

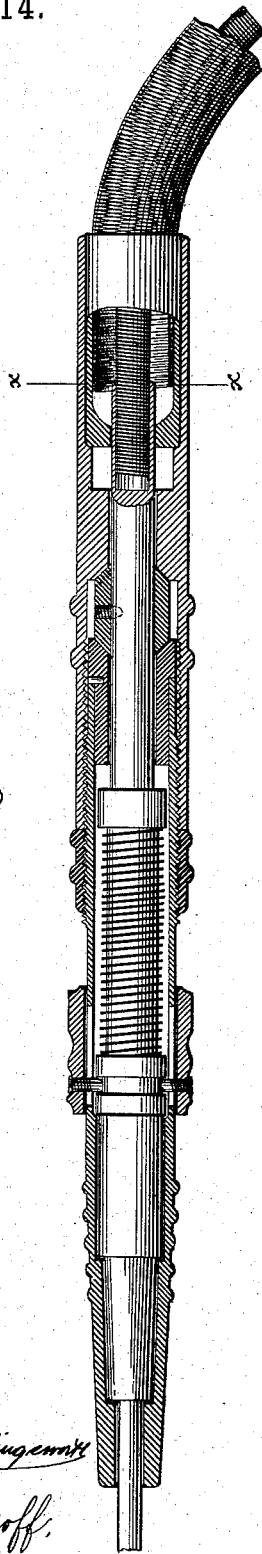


Fig. 3.

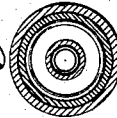


Fig. 2.



Attest.

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THEODORE H. SCHMITZ, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
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DENTAL HAND-PIECE.

SPECIFICATION forming part of Letters Patent No. 263,814, dated September 5, 1882.

Application filed April 20, 1882. (Model.)

To all whom it may concern:

Be it known that I, THEODORE HENRY SCHMITZ, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have
5 invented certain Improvements in Dental Hand-Pieces, of which the following is a specification.

This invention relates to that class of hand-pieces or tool-holders which are used in connection with a rotary flexible shaft and a flexible sheath or jacket which loosely surrounds the shaft.

The object of the invention is to avoid the rapid wear of the hand-piece and the frequent
15 breakage of the shaft, which occurs in consequence of the sheath being attached to the hand-piece by a rigid connection or by a swivel-joint, as usual; and to this end the invention consists in joining the hand-piece and the flexible sheath by a loose telescopic connection,
20 permitting the one to both rotate and play endwise in relation to the other. The connection is preferably made by means of a loose cylindrical cap or thimble applied to the end
25 of the sleeve and seated loosely in a corresponding recess in the end of the hand-piece, as shown in the accompanying drawings; but the devices may be varied in their details, provided the mode of action stated is retained.

30 In the drawings I have represented the improvement in connection with a hand-piece of my own design well known in the trade; but it is to be distinctly understood that the invention may be applied to any other hand-piece of the same general character.

35 Referring to the drawings, Figure 1 represents a longitudinal central section of the hand-piece and its connections with my improvement incorporated therein. Fig. 2 represents
40 a perspective view of the forward end of the flexible sheath and the cap thereon. Fig. 3 is a cross-section on the line *x x*.

A represents the rotary flexible driving-shaft, sometimes known as the "cable," designed to be attached to and driven by any
45 suitable motor, as usual.

B represents the tool-carrying spindle, secured by soldering or otherwise to the end of

the shaft to revolve therewith in the ordinary manner.

50 C represents the tubular non-rotating body of the hand-piece, mounted upon and around the spindle, and provided with the usual appliances to prevent end motion thereon and to secure the tool in the spindle. At its rear
55 end the body C, surrounding the end of the shaft, is bored out smoothly to form a large cylindrical opening or mouth to receive the end of the sheath D. This sheath consists, as usual, of a tubular body of flexible material
60 loosely surrounding the shaft. At its forward end it is provided with a metal thimble or cap, *a*, held thereon by friction or otherwise, which is seated loosely in the mouth or end of the body C in such manner as to turn and slide
65 endwise freely therein. This loose connection of the sheath D with the body of the hand-piece constitutes the essential feature of the invention.

I am aware that a hand-piece and a flexible
70 sheath have been united by means of a swivel-connection, which permitted a rotary motion between the parts, but prevented them from moving endwise in relation to each other.

75 I am aware that a hand-piece has been provided in its end with a tapering socket or opening, into which a correspondingly-tapered cap or head on the sheath was inserted and held by friction.

80 My construction differs from the above in that the connection is cylindrical and adapted to permit a free motion between the sheath and hand-piece in two directions during the action of the instrument.

85 Having thus described my invention, what I claim is—

In combination with the dental hand-piece or tool-holder, the flexible sheath connected thereto by means of a cylindrical telescopic joint adapted, substantially as described, to
90 permit both a rotary and a longitudinal motion between the parts.

THEODORE H. SCHMITZ.

Witnesses:

JNO. MOYER,
ROBERT BRUNNEE.