R. V. BRANDT.

DENTAL INSTRUMENT.

APPLICATION FILED JAN. 14, 1916.

1,229,024. Patented June 5, 1917.

Fig. 1.

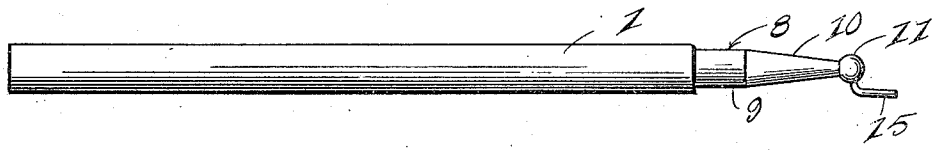


Fig. 2.

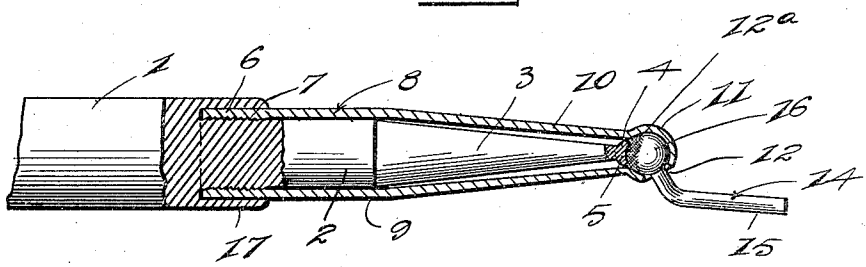


Fig. 3.

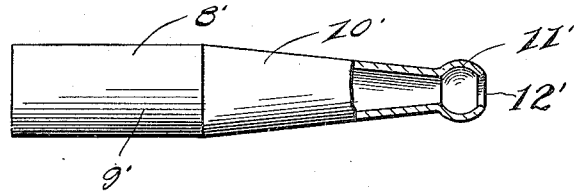
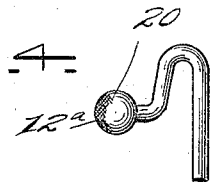


Fig. 4.



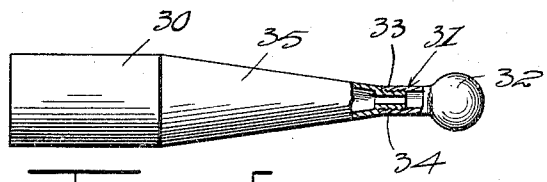


Fig. 5.

Witnesses

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DENTAL INSTRUMENT.

1,229,024. Specification of Letters Patent. Patented June 5, 1917.

Application filed January 14, 1916. Serial No. 72,098.

To all whom it may concern:

Be it known that I, RAYMOND V. BRANDT, a citizen of the United States, residing at Germania, in the county of Kossuth and State of Iowa, have invented certain new and useful Improvements in Dental Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in dental instruments and the primary object of the invention is to provide a dental instrument which is constructed so that the bit of the instrument may be adjusted at various angles, as may be found necessary when working upon a person's teeth.

Another object of this invention is to provide a dental tool as specified, which has a reduced shank projecting outwardly from one end of the same, upon which shank is formed a concave clamping member, a sleeve for adjustable and detachable connection to the handle and mounted over said reduced end, and to provide a bit which has a sphere formed upon one end of the same for seating in one end of said sleeve, said sphere having a portion of its surface roughened and being held in various adjusted positions by the clamping of the concave clamping member against the roughened portion thereof.

With the foregoing and other objects in view this invention consists of such novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters designate like and corresponding parts throughout the several views, and in which:—

Figure 1 is a side elevation of the improved dental tool.

Fig. 2 is a longitudinal section through a portion of the dental tool.

Fig. 3 is a side elevation of a modified form of the adjustable sleeve showing a part thereof in section,

Fig. 4 is a side elevation of a modified form of disk used in connection with the improved dental instrument, and

Fig. 5 is a detail view partially in section of a modified form of the adjustable sleeve.

Referring more particularly to the drawings, 1 designates the handle of the instrument, which handle may be constructed of any suitable material and shaped round, hexagonal or any other desired shape. The handle 1 has a reduced portion 2 formed upon one end of the same which projects outwardly therefrom, and has its outermost portion as indicated at 3, substantially cone-shaped, terminating in a head 4, the outer surface of which is cut concaved, as at 5. The handle 1 is provided with an annular recess 6 extending inwardly from the end, outwardly of which the reduced portion 2 extends, and the inner wall of the recess 6 is screw threaded for coaction with the screw threads 7 formed upon the inner surface of the end of a sleeve 8. The sleeve 8, has a tubular portion 9 which encompasses the straight portion of the reduced end 2, and a substantially conical portion 10 which encompasses the conical end 3 of the reduced portion 2. A substantially spherical casing or head 11 is formed upon the outer end of the substantially conical portion 2 of the casing 8, and is provided with an opening 12 extending therethrough. The opening 12 may be positioned at any desired angle with respect to the central axis of the handle 1 as may be deemed necessary in the construction of this device.

The bit which is referred to by the numeral 14, includes the working end 15 of the bit which may be of any numerous type of dental instrument necessary in dentistry, such as sealers, cutting instrument, pluggers, explorers, mouth mirrors or the like. The bit 15 has a sphere 16 formed upon its inner end which is adapted for seating in the substantially spherical head 11. The opening 12 is larger than the portion of the bit which extends therethrough, so as to permit of a limited movement of the bit with respect to the casing 10. When it is desired to adjust the position of the bit, the sleeve 8 is rotated in the direction for moving it outwardly from the end of the handle, and the bit is placed at the desired angle, after which the sleeve is rotated in a reverse direction, which

will cause it to move inwardly toward the handle 1, and over the portion 3 of the reduced end 2 of the handle, until the head 4 engages the sphere 16, which will force the sphere into engagement with the walls of the head 11 and prevents accidental rotation of the sphere 16 and consequently the bit 15. By forming the recess 6, within the end of the handle 1, a flange indicated at 17 is formed which will extend over the inner end of the portion 9 of the sleeve 8. The concave surface 5 of the head 4, and the portion of the sphere 16 which is engaged by the concave head may be roughened as shown at 12^a, so as to insure a firm grip of the sphere by the head 4.

In Fig. 3 of the drawings, a modified form of sleeve is shown wherein the sleeve 8′ has a body 9′ identical with the body 9 and a substantially conical portion 10′ which terminates in a spherical casing 11′. The spherical casing is provided with an opening 12′ which is positioned substantially in alinement with the central axis of the sleeve. The openings formed in the spherical head on the end of the sleeve may be made at any angle desired.

In Fig. 4, a different type of bit is illustrated, from that which is shown in Fig. 2 of the drawings, and it is to be understood that any of the previously mentioned instruments may be provided with a spherical head as indicated at 20 for use in connection with the improved instrument handle.

In Fig. 5 of the drawings, a modified form of the sleeve is shown, which form includes a sleeve 30 having a detachable nipple 31 connected to its outer end, upon which the spherical casing 32 is formed. The nipple 31 is internally screw threaded, as is shown at 33, for coaction with the external screw threads 34 formed on the reduced outer end of the conical portion 35 of the sleeve 30. A detachable nipple 31 is provided for permitting of the changing of the bits without necessitating the changing of the sleeve.

In reducing the invention to practice certain minor features of construction, combination and arrangement of parts may necessitate alterations to which the patentee is entitled, provided such alterations are comprehended within the scope of what is claimed.

What is claimed is:—

In a dental instrument structure, the combination, of a handle having a reduced portion projecting longitudinally from one end of the same, an enlarged head formed upon the terminal of said reduced portion and having a concaved outer surface, said handle provided with an annular recess extending inwardly from one end and surrounding the inner end of said reduced portion, a sleeve adjustably connected to and inclosing said reduced portion, the inner end of said sleeve extending into said annular recess, a bit, a spherical head formed upon said bit and seated in said sleeve, said enlarged head adapted for clamping engagement with said spherical head for holding said bit in adjustable positions, said spherical head having a portion of its surface roughened for preventing accidental movement of said bit with respect to said reduced portion.

In testimony whereof I affix my signature in presence of two witnesses.

RAYMOND V. BRANDT.

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