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D. D. LEVY

2,093,682

DENTAL TOOL HOLDER

Filed Nov. 13, 1935

Fig. 1

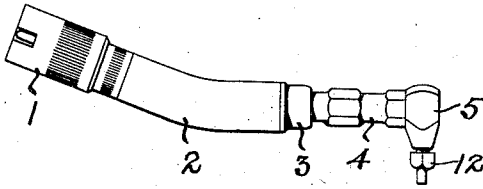


Fig. 2

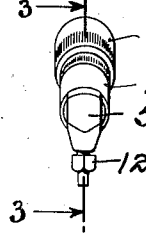


Fig. 3

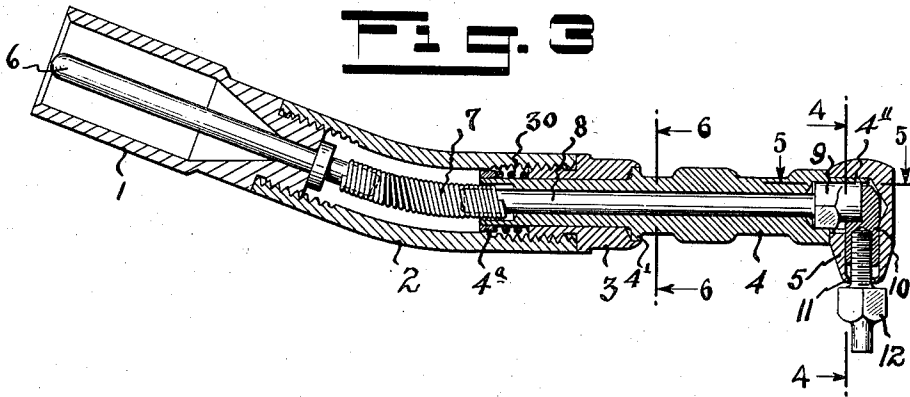


Fig. 4

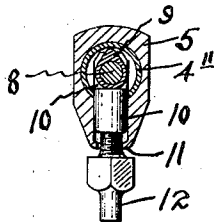


Fig. 5

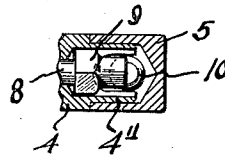
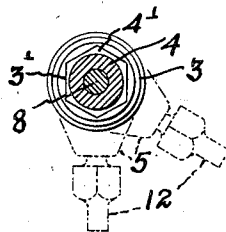


Fig. 6



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DENTAL TOOL HOLDER

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Application November 13, 1935, Serial No. 49,473

1 Claim. (Cl. 32—54)

This invention relates to improvements in dental tool holders of the type which are power operated to cause movement of the tool.

The general object of this invention is to provide an improved and simplified structure of this type adapted to easy manufacture and capable of long and efficient use without substantial deterioration due to wear.

The many detailed objects of this invention will be apparent from the following description when taken in connection with the attached drawing.

This invention resides substantially in the combination, construction, arrangement and relative location of parts, all as will be described in greater detail in the following specification.

In the drawing,

Figure 1 is a side elevational view of a tool holder in accordance with this invention;

Figure 2 is an end elevational view thereof;

Figure 3 is a longitudinal, cross-sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a cross-sectional view taken on the line 4—4 of Figure 3;

Figure 5 is a cross-sectional view taken on the line 5—5 of Figure 3; and

Figure 6 is a cross-sectional view taken on the line 6—6 of Figure 3.

The tool holder is shown as of the bent type adapted to ready manipulation in the mouth but it will be apparent as the description proceeds that the principles of this invention are not limited to this particular form of holder. As illustrated, the holder comprises a pair of sleeves 1 and 2 threadedly or otherwise secured together to form a continuous unit. The sleeve portion 2 is slightly bent longitudinally and has threadedly or otherwise mounted on the other end thereof a bushing 3 in which is slidably mounted the tubular member 4. The exposed end of the bushing 3, as is clear from Figure 6, has a recess of hexagonal shape 3' formed in the end thereof.

The tubular member 4 is provided with a reduced portion which slidably fits in the bushing and terminates at its free end in a collar 4a which serves to hold the compression spring 30 between it and the end of the bushing. The tubular member 4 is provided adjacent the hexagonal recess of the bushing 3 with a hexagonal collar 4' positioned to nest in the recess and lock the two parts together against relative movement under the action of spring 30. However, when the tubular member is pulled outwardly to compress the spring 30 the collar 4' is freed of the recess, permitting relative rotation of the tubular member to any one of six angular positions, as indicated in Figure 6.

The other end of the tubular member 4 is provided with a reduced cylindrical portion 4'' which

fits in the head-piece 5 and may be attached thereto in any suitable manner, as by sweating on. The headpiece 5 has a longitudinal passage therein in which is slidably mounted a tool chuck 10. The tool chuck is held within the head by beading the end thereof, as indicated at 11. One suitable form of tool is shown at 12 threadedly mounted on the chuck.

Rotatably mounted in the tubular member 4 is a shaft 8 which has formed integrally therewith or mounted thereon in any suitable manner a cam piece 9. The cross-sectional shape of this cam piece is clear from Figure 4. The inner end of the chuck is notched, as is clear from Figure 3, so that the end of the cam piece overlaps the end of the chuck. When the shaft 8 revolves the cam causes the chuck to reciprocate in a manner which will be apparent, and in turn causes the tool to strike a blow in proportion to the pressure with which the tool is brought to bear upon the surface being operated upon. Rotatably mounted in the sleeve 1 is another short length of shaft 6 which is connected to the shaft 8 by means of a flexible coupling member 7.

This tool holder may be attached to any suitable form of power outlet, such as a flexible shaft, in a manner well known in the art. The particular construction of the chuck and its interconnection with the cam provides the advantage that the chuck cannot rotate about its longitudinal axis but is held against such movement by the nesting of the cam in the right angled notch formed directly in the chuck.

From the above description it will be apparent to those skilled in the art that the details and principles of this invention may be readily varied without departure from the full scope of the invention. I do not, therefore, desire to be strictly limited to the disclosure as given for purposes of illustration but rather to the scope of the appended claims.

What I seek to secure by Letters Patent is:

A dental tool holder as described, comprising a tubular handle having a bushing secured in one end thereof, said bushing having a recess in the end of polygonal cross-section, a sleeve slidably mounted in the bushing, means for resiliently resisting sliding movement of the sleeve, said sleeve having a collar thereon of polygonal cross-section and adapted to seat in said recess, a tool holder mounted in said sleeve, and means journaled in the handle and sleeve for operating the tool holder, said recess and collar cooperating to permit adjustment of the tool holder to various angular positions in the plane of the axis of the tool holder.

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