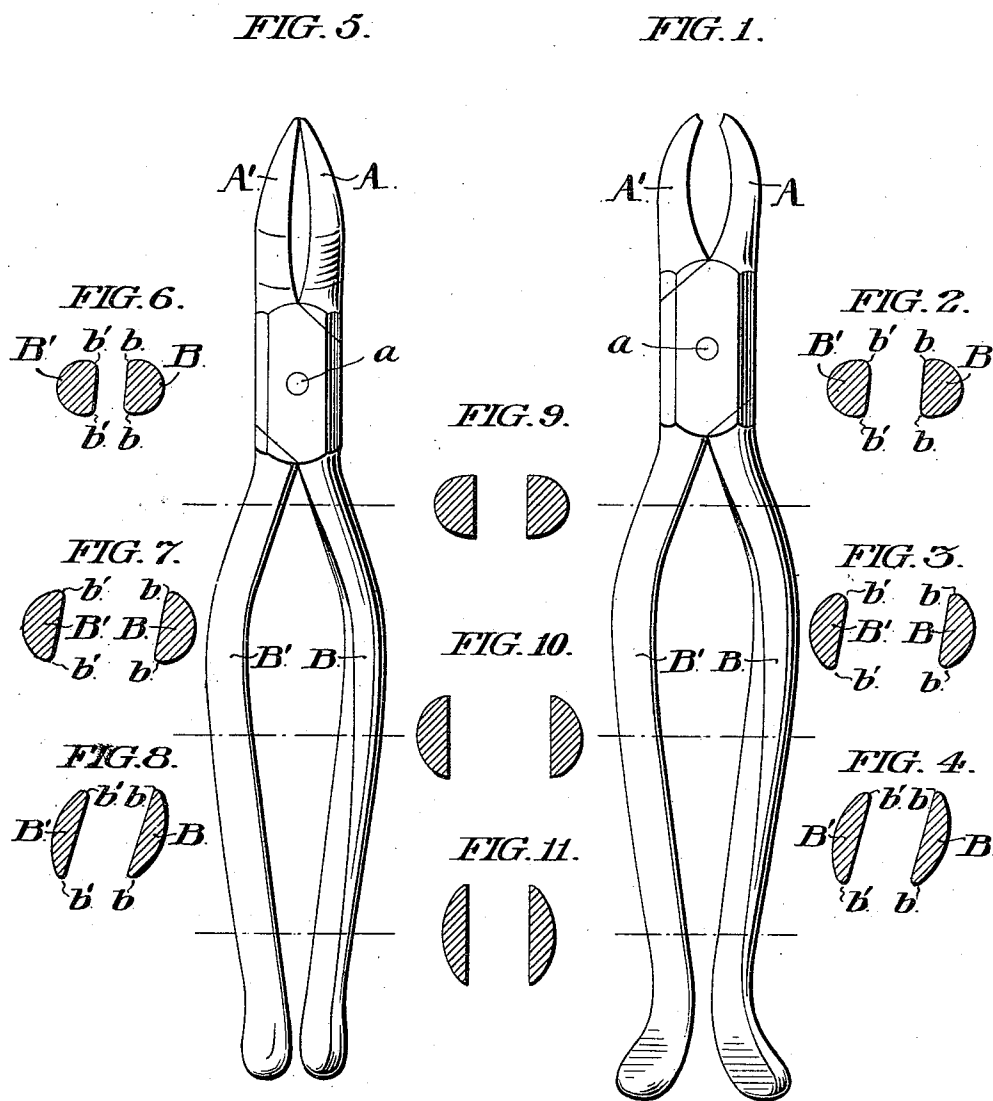


(No Model.)

W. S. HOW.
DENTAL FORCEPS.

No. 513,015.

Patented Jan. 16, 1894.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WOODBURY STORER HOW, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF SAME
PLACE.

DENTAL FORCEPS.

SPECIFICATION forming part of Letters Patent No. 513,015, dated January 16, 1894.

Application filed November 13, 1893. Serial No. 490,812. (No model.)

To all whom it may concern:

Be it known that I, WOODBURY STORER HOW, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Forceps, Pliers, &c.; 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.

My invention relates to a certain improvement, as hereinafter claimed, in implements of the class having pivoted handles and provided with jaws adapted to grip an object between them when the handles are compressed by hand, such as pliers, dental forceps, nippers, &c.

My object is to give to the handles of implements of this class a configuration such as to enable the implements to be used with greater efficiency and less discomfort to the user than when provided with handles constructed as heretofore usual.

In the accompanying drawings which represent my invention as applied to dental forceps, Figure 1 shows a pair of forceps with my improved handles. Figs. 2, 3 and 4 are sections on the lines 2, 3 and 4, respectively, of Fig. 1. Fig. 5 shows a pair of forceps differing somewhat from the pair shown by Fig. 1. Figs. 6, 7 and 8 are sections on the lines 6, 7 and 8, respectively, of Fig. 5. Figs. 9, 10 and 11 are sectional views of the handles of forceps of usual old construction, on lines corresponding with the lines 2, 3 and 4, or 6, 7 and 8 of Figs. 1 and 5, respectively.

The handles of dental forceps and of various analogous implements, such as pliers, nippers, &c., as heretofore constructed, have generally been given a configuration in cross section such as will be understood by reference to Figs. 9, 10 and 11, assuming that these sectional views are such as would result by cutting through the old style handles on lines corresponding or nearly so with the section lines indicated in Figs. 1 and 5. As shown in Figs. 9, 10 and 11, the old handles have

rounded outer sides or surfaces, plane-surfaced inner sides, and sharp top and bottom corners, and the handles at any given point, and the pivot by which they are jointed together, occupy parallel planes.

In accordance with my invention two members of the implement jointed together at the pivot *a* and constituting the beak or jaws *A A'*, and the handles *B B'*, have a peculiar configuration as follows:—The handles at the junction of their inner and outer sides or at their top and bottom corners *b b' b' b'* are rounded, and they are given a right hand inclination or partial twist relatively to the pivot *a*, gradually increasing from a point in advance of their outwardly bulged or most prominently curved portions to their rear ends where they may be curved or bent outward as in Fig. 1, terminate near each other as in Fig. 5, or be otherwise suitably shaped. By the inclination or partial twist or turn relatively to the pivot *a* correspondingly given to each handle, as shown, the outer surfaces of the handles are made to conform more readily to the grasp of the hand than when they are constructed in the usual old manner, and they may be grasped with greater firmness and comfort to the user. By rounding the top and bottom corners of the handles instead of leaving sharp corners, liability to hurt the thumb or forefinger of the user of the implement in operating it is avoided.

As my invention relates to the peculiar configuration of those portions of the handles of the implements which come in contact with the palm and fingers of the hand when in use, it is obvious that only the outer rounded or curved surfaces of the handles which come in contact with the hand need be given the described inclination or twist, while the plane-surfaced inner sides of the handles may maintain their parallelism at any given point with the pivot jointing the handles together.

In order that the user of the implement may conveniently exert a pushing or thrusting force thereon without causing pain to the hand, as when pressing the beak of the forceps under the gum or between the gum and

a tooth to be extracted, the ends of the handles are thickened and rounded as plainly shown, thus presenting blunted surfaces against which the hand may be pressed.

5 I claim as my invention—

A pair of dental forceps, pliers, &c., the outer surfaces of the handles of which have relatively to the pivot connecting the handles

a right hand inclination or twist, substantially as set forth.

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

WOODBURY STORER HOW.

Witnesses:

EDW. F. SIMPSON, Jr.,

R. DALE SPARHAWK.