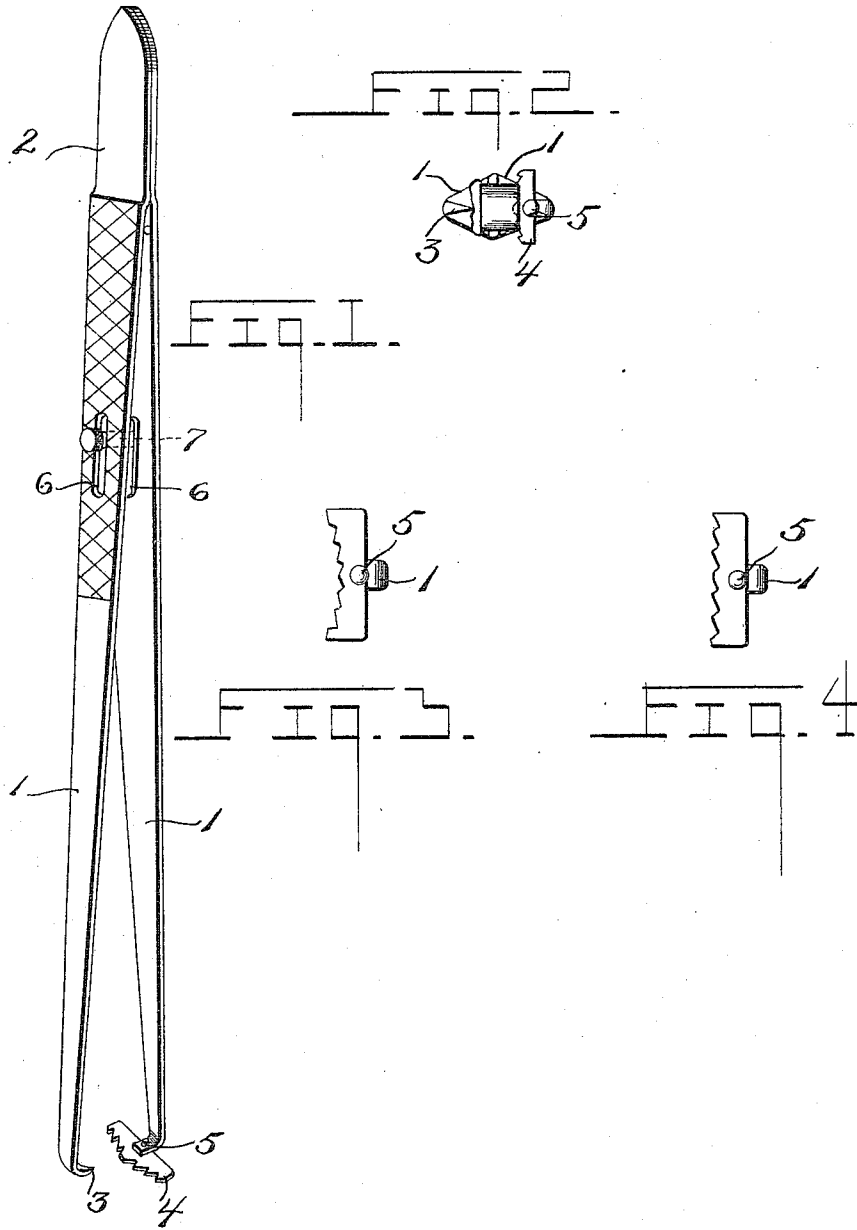


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TWEEZERS.
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UNITED STATES PATENT OFFICE.

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TWEEZERS.

964,526.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT S. KNAPP, a citizen of the United States, residing at Cooperstown, in the county of Otsego and State of New York, have invented certain new and useful Improvements in Tweezers, of which the following is a specification.

This invention relates to new and useful improvements in tweezers such as are used by dentists, jewelers, locksmiths, etc., and has for its object to provide a tweezers by means of which various irregularly shaped articles may be securely held between the opposed ends thereof.

Another object is to provide a tweezers which comprises two spring arms integrally connected together at one end thereof and provided with longitudinal slots therein through which is adapted to extend an adjusting pin by means of which the clamping ends of the arms are brought together or permitted to spring apart.

A further object is to provide a tweezers upon one of the extremities of which a serrated jaw is pivotally mounted, the end of the other of the spring arms being bent inwardly substantially at right angles thereto and pointed whereby various articles of irregular shape may be securely held between the same.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be herein-after more fully described and particularly pointed out in the appended claim, it being understood that changes in the specific structure shown and described may be made within the scope of the claim, without departing from the spirit of the invention.

In the drawings forming a part of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 illustrates a perspective view of my improved tweezers, Fig. 2 is an end view thereof showing a cap or crown, such as is used in dentistry held between the extremities of the spring arms and a plate superposed upon the same to be soldered thereto. Fig. 3 is a detailed view of the modified form of the pivoted jaw, Fig. 4 is a similar view of further modifications thereof.

Referring to the drawings, 1 indicates the spring arms of my improved tweezers, which

are integrally connected together at one end 55 as shown at 2. The extremities of the arms are bent inwardly at right angles toward each other and one is sharpened or pointed as at 3. The other of the arms has pivoted upon the extremity thereof, the flat jaw 4 60 which as will be seen from reference to Fig. 1, is convex on the serrated edge thereof, and is in opposed relation to the extremity of the other arm. A suitable pivot pin 5 secures the jaw 4 to the end of the arm 1. 65 Each of the arms, adjacent to the connected ends thereof, is provided with the longitudinal slots 6, through which extends an adjusting pin 7, suitable nuts being threaded upon either end thereof. Thus it will be 70 seen that owing to the spring tendency of the arms 1 as the adjusting pin is moved upward or downward in the slot 6, the arms will be brought together or permitted to be sprung apart, so that an article of any de- 75 sired size or form may be securely held between the outer extremities of the same, and may be manipulated as desired. It will also be seen from reference to Fig. 2 that by reason of the pivoted mounting of the 80 jaw 4 that articles of irregular shape may be securely clamped between the ends of the jaws, without any danger of the same slipping therefrom.

In Fig. 3, a slight modification of the piv- 85 oted jaw is shown wherein the serrated edge is concaved instead of convex. In Fig. 4 the jaw is shown perfectly straight, which may be desired in some instances.

My improved tweezers is especially de- 90 signed for use by dentists, jewelers, locksmiths, etc., but can also be used to advantage in various other trades or professions wherein an instrument of this class is required. The device is moreover simply con- 95 structed and may be very inexpensively manufactured. It is also entirely formed of sheet metal and is practically indestructible in use.

The transverse adjusting pin 7 may be re- 100 moved and replaced by one of greater length so that a wider spread of the extremities of the arms may be secured when it is desired to use the same for manipulating larger sized articles.

Heretofore it has been an extremely dif- 105 ficult matter to properly solder the cap plate to a gold crown as employed in the art of

dentistry, and it is to provide a device whereby this may quickly and satisfactorily be accomplished that my improved tweezers is more especially devised. After
5 the crown has been cut and shaped to fit the tooth the cap plate is placed thereon. The surface of this plate is undulating so the same will closely contact with the top of the tooth upon which it is to be fitted. The cap
10 and crown are now placed between the ends of the tweezers, the pivoted jaw being disposed upon the lower open end of the crown and the downwardly extending point 3 bearing upon the cap plate. As the serrations in
15 the convex edge of the jaw are disposed in opposite directions from either end thereof toward the center, it will be seen that the crown and plate will be securely held against any movement whatsoever. The pin
20 7 is now adjusted so that the operator may release the pressure upon the spring arms 2 and use both of the hands to solder the cap plate upon the crown.

Having thus described my said invention,

what I claim as new and desire to secure by 25 United States Letters Patent is:—

A device of the character described comprising two spring arms integrally connected together at one of their ends, said arms extending in divergent relation to each other 30 and having their extremities disposed inwardly at right angles to said arms, the extremity of one of said arms being pointed, and a pivoted flat jaw secured to the inwardly projecting extremity of the other of 35 said arms, the inner edge of said plate being serrated, and means for adjusting said arms in respect to one another, whereby the pointed end of one of the arms will extend below the inwardly turned extremity of the 40 other arm to bring the pointed end on a line with the said serrated plate or jaw.

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

ALBERT S. KNAPP.

Witnesses:

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