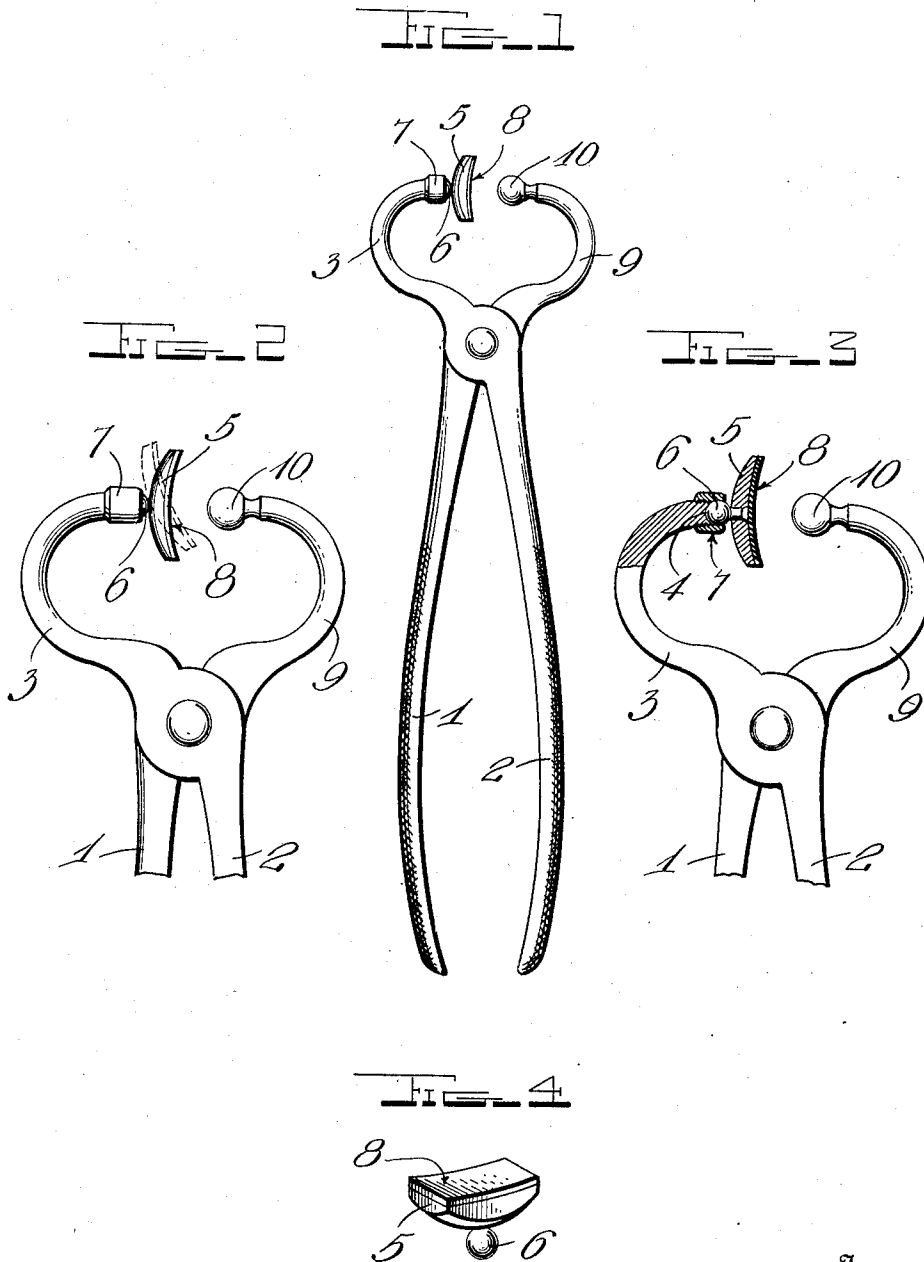


J. W. TROSPER.
DENTAL PLIERS FOR HOLDING TEETH.
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1,007,824.

Patented Nov. 7, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES W. TROSPER, OF TEKOA, WASHINGTON.

DENTAL PLIERS FOR HOLDING TEETH.

1,007,824.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed February 20, 1911. Serial No. 609,635.

To all whom it may concern:

Be it known that I, JAMES W. TROSPER, a citizen of the United States, residing at Tekoa, in the county of Whitman and State of Washington have invented certain new and useful Improvements in Dental Pliers for Holding Teeth; and I do 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 improvements in dental pliers for holding teeth.

One object of the invention is to provide an improved construction of dental pliers for use in fastening artificial teeth or tooth facings to a backing or bridge while the latter is in place in the mouth, and which is particularly adapted for repairing work of this character in which the artificial tooth or tooth facing has been broken off.

Another object is to provide a tool of this character which may be readily employed on either the right or left side of the mouth or on the upper and lower jaw teeth and which is provided with means to prevent injury to the teeth or facings and by means of which the ends of the fastening pins or rivets of the teeth may be headed and smoothly burnished on the inner side of the backing or bridge without injuring or interfering with the hardening of the cement and without pain or discomfort to the patient.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a side view of a pair of pliers constructed in accordance with my invention; Fig. 2 is an enlarged side view of the upper end or jaws of the pliers showing in full and dotted lines different positions to which the swiveled anvil on one of the jaws may be turned; Fig. 3 is an enlarged longitudinal sectional view through the parts shown in Fig. 2; Fig. 4 is a detail perspective view of the anvil removed from the jaw.

Referring more particularly to the drawings 1 and 2 denote the handles of the pliers, said handles being pivotally connected together near their outer ends as shown. On the outer end of the handle 1 is formed a curved

jaw 3 having on its outer end an exteriorly threaded socket 4. Connected to the socket 4 is a swiveled anvil or bearing block 5 which is slightly concaved and has arranged on its outer side a ball 6 which is adapted to be inserted in the socket 4 and is held in operative engagement therewith by a sleeve or cap 7 the outer end of which is crimped or contracted around the inner portion of the ball and which has its outer end threaded internally to engage the threaded exterior surface of the socket whereby when said sleeve is screwed onto the socket the ball will be held in operative engagement therewith and the anvil block thus swiveled to the jaw to permit said block to swing or turn in any direction. Secured to the outer side of the anvil or bearing block 5 is a facing or lining 8 formed of rubber or other yielding material which will prevent the block from injuring the tooth or facing when engaged therewith. On the outer end of the handle 1 is formed an inwardly curved jaw 9 having formed on its outer end a riveting head 10 which is preferably of spherical form and is adapted to coact with the anvil or bearing block for the purpose of upsetting or riveting the ends of the pins against the inner side of the backing or bridge work to which the tooth or facing is being applied.

In using the pliers the tooth or facing and the backing or bridge are prepared in the usual manner and cement applied to the parts. The bridge or backing is drilled to receive the ends of the pins or rivets of the tooth and the inner side of the facing or bridge is reamed out around the inner ends of the rivet holes to form counter-sinks. The tooth or facing is now placed in position with the rivets projecting through the holes in the backing or bridge. With the tooth in this position the pliers are applied with the rubber face of the anvil engaging the outer side of the tooth or facing and the spherical head on the other jaw engaging the projecting end of the rivet or pin. Pressure is now applied to the handles of the pliers to cause the spherical head of the jaw 9 to first upset or head the end of the pin or rivet into the counter sink formed in the inner side of the backing or bridge after which the handles of the pliers are moved or swung around in different directions thus passing the spherical head back

and forth over the headed end of the rivet and thereby burnishing or smoothing said end. In thus moving or swinging the pliers around the swiveled connection between the outer end of the jaw 3 and the anvil or bearing block 5 permits the latter to remain in the same position against the outer side of the tooth or facing. After one of the pins or rivets of the tooth has thus been headed the head 10 on the jaw 9 is engaged with the other pin and the operation repeated. By means of a pair of pliers constructed in accordance with my invention it will be seen that the ends of the rivets or pins of the tooth are effectually headed solely by the pressure and rubbing movement of the riveting head of the tool without striking or jarring the tooth in any way or interfering with the cement used in connection with the setting of the tooth and without pain or discomfort to the patient.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention, what I claim is:

1. A pair of dental pliers comprising pivotally connected handles, an anvil jaw formed on one of said handles, a riveting jaw formed on the other handle, an anvil block having a universal joint connection with the end of the said anvil jaw, and a riveting head formed on the outer end of said riveting jaw.

2. A pair of dental pliers comprising pivotally connected handles, inwardly curved jaws formed on the outer ends of said handles, one of said jaws having a threaded socket, an anvil block having arranged thereon a ball adapted to engage said socket, an internally threaded sleeve arranged on said ball and adapted to be screwed into engagement with the socket whereby the anvil block is connected to the jaw to turn in any direction, a resilient facing secured to the outer side of said block and a spherical riveting head formed on the outer end of the opposing jaw.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES W. TROSPER.

Witnesses:

E. A. WILLIAMS,
T. D. LAKE.