No. 882,404. PATENTED MAR. 17, 1908.

W. C. MINER.

DENTAL FORCEPS.

APPLICATION FILED JULY 3, 1907.

Fig. 1.

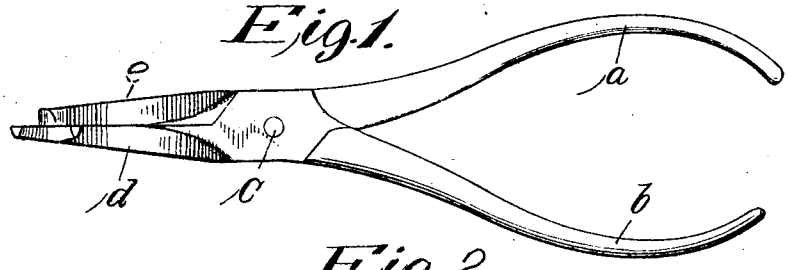


Fig. 2.

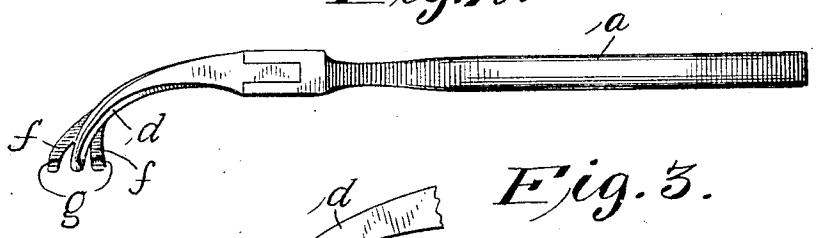


Fig. 3.

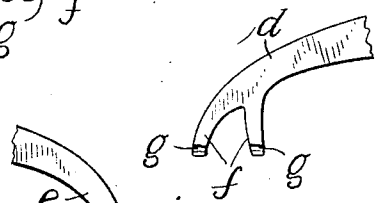


Fig. 4.

Fig. 5.

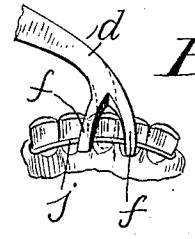


Fig. 7.

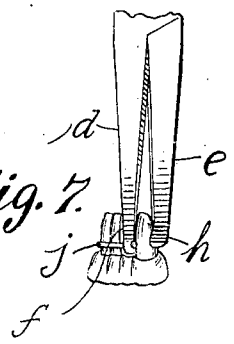
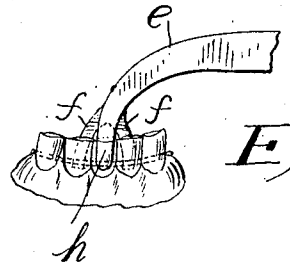


Fig. 6.



Witnesses:
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Walter Curtis Miner Inventor
By his Attorney,
James Hamilton

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UNITED STATES PATENT OFFICE.

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DENTAL FORCEPS.

No. 882,404. Specification of Letters Patent. Patented March 17, 1908.

Application filed July 3, 1907. Serial No. 382,006.

To all whom it may concern:

Be it known that I, WALTER CURTIS MINER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Dental Forceps, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in dental forceps; and an object of my invention is to provide forceps of this character for use in ligating the teeth to be regulated to the expansion wire.

Another object of my invention is to provide dental forceps of the character just described which will be simple in construction, comparatively cheap in manufacture and most efficient in operation.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is a view of the lower face of the forceps; Fig. 2 is a side elevation; Fig. 3 shows the wire-engaging jaw; Fig. 4 shows the tooth-engaging jaw; and Figs. 5, 6 and 7 show the forceps in different positions in use.

The handle-levers *a*, *b* are pivoted at *c* and are provided at their working end with the jaws *d*, *e*, respectively. The end of the wire-engaging jaw *d* is forked, the claws *f* being formed with the grooves *g* for the better engagement of the wire. The tooth-engaging jaw *e* is provided at its extremity with the claw *h* the inner face of which is formed with a depression or concavity *i* which adapts it to fit more securely upon the tooth.

The expansion wire *j* may be placed upon either the inside (lingual or palatal) of the row of teeth or upon the outside or labial or buckal side thereof. The beak *h* is made to engage the tooth to be ligated, while the wire *j* is held in the grooves *g* of the Y-shaped jaw *d*. Force is then applied and the wire *j* is bent towards the tooth. The ends of the ligature are led between the claws *f* and tied, securing the tooth to the wire.

The faces of the jaws *d*, *e* which lie opposed to each other in the working positions of the forceps shown in Figs. 5, 6 and 7 may be denominated the working faces of the jaws and are so designated in the claims which follow.

I am well aware of the patent to Angle, No. 610,840 granted September 13, 1898; but in that patent the jaws are essentially gripping jaws for seizing the teeth-bands between them; and neither of the jaws is bifurcated for the passage of a ligature or grooved for the engagement of a regulating or expansion wire; and neither is shaped to engage one side of the tooth while the other engages the wire on the opposite side of the tooth.

I claim:

1. Dental forceps consisting of a pair of levers pivotally secured together and each having at its working end a jaw curved bodily in the plane of the working face of the jaw and out of a plane passed perpendicular to the axis about which said levers turn; said jaws lying in their closed position beside but free from engagement with each other; the working end of one of said jaws being bifurcated to permit the passage of the ligature through the fork; and said bifurcated end being formed with a pair of claws grooved for the reception of the expansion wire.

2. Dental forceps consisting of a pair of levers pivotally secured together and each having at its working end a jaw curved bodily in the plane of the working face of the jaw; the working end of one of said jaws being bifurcated to permit the passage of the ligature through the fork; said bifurcated end being formed with a pair of claws grooved for the reception of the expansion wire; and the working end of the other jaw being formed with a depression for engagement with the tooth.

3. Dental forceps consisting of a pair of levers pivotally secured together and having each at its working end a jaw curved bodily out of and away from a plane passed through said levers at their handle end; the working end of one of said jaws being bifurcated to permit the passage of the ligature through the fork; and the working end of the other jaw being shaped to engage the tooth to be ligated.

In testimony whereof I have hereunto set my hand this 28th day of June, A. D. 1907, at said Boston, in the presence of the two undersigned witnesses.

WALTER CURTIS MINER.

Witnesses:
WILLIAM N. SWAIN,
EDWARD N. CARPENTER.