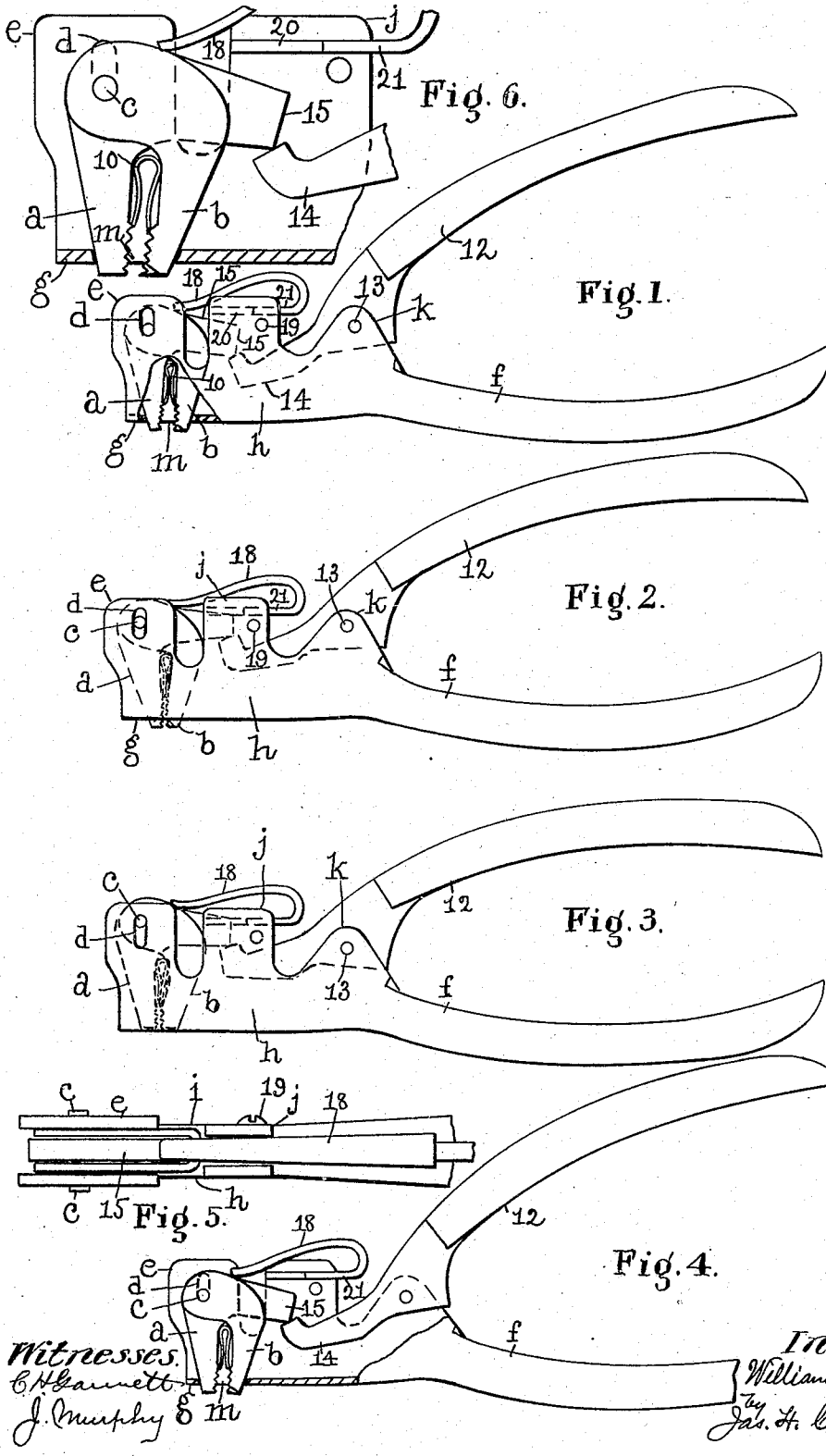


W. H. MANNING.
DENTAL INSTRUMENT.
APPLICATION FILED FEB. 25, 1908.

936,732.

Patented Oct. 12, 1909.



UNITED STATES PATENT OFFICE.

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DENTAL INSTRUMENT.

936,732.

Specification of Letters Patent.

Patented Oct. 12, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM H. MANNING, a citizen of the United States, residing in Malden, county of Middlesex, and State of Massachusetts, have invented an Improvement in Dental Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a dental instrument, and has for its object to provide a simple and efficient instrument of the class described, which is especially adapted among other uses, to be employed in extracting the pins commonly employed in crown work.

The invention further has for its object to provide an instrument which is capable of being operated by one hand, and one with which the patient is caused the least inconvenience. For this purpose, the instrument is provided with gripping jaws and with means for operating said jaws so as to move one with relation to the other to engage the crown pin, and then to move both jaws bodily to extract said crown pin.

These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation with parts broken away of a tool or instrument embodying this invention. Fig. 2, a side elevation showing the gripping jaws closed. Fig. 3, a side elevation showing the gripping jaws in their extracting position. Fig. 4, a longitudinal section on the line 4—4, Fig. 5. Fig. 5, a plan of the front portion of the instrument on a larger scale, and Fig. 6, a detail in section on an enlarged scale.

In the present instance, I have shown one construction of instrument embodying this invention in which *a, b*, represent two gripping jaws, adapted to engage the crown pin, not herein shown.

The jaws, *a, b*, may be made as herein shown, and consists of two levers mounted on a common pivot *c*, which is extended beyond said jaws and into slots *d* in ears *e* attached to or forming part of a supporting member for the parts of the instrument. The supporting member in the present instance is shown as a handle *f* having extended from its front end a plate which is folded to form a bearing surface *g* and side walls *h, i*, from

which extend the ears *e*, and additional ears *j, k*. The bearing surface *g* is provided with a slot or opening *m* (see Figs. 1, 4 and 6) through which the gripping jaws *a, b* normally project, and the opposite end walls of said slot form stops to determine the width of the space between the jaws when the latter are in their opened position, into which position they are moved by a spring interposed between said jaws.

Provision is made for closing the jaws to engage the crown pin and then for bodily moving said jaws for extracting said pin. For this purpose, I have provided as herein shown an operating handle in the form of a lever 12, which is pivoted at 13 between the ears *k* and has its short arm 14 extended under a rearwardly extended arm 15 on the jaw lever *a*, so that by turning the handle 12 on its pivot so as to elevate the short arm 14, the jaw lever *a* is turned on its pivot *c* to move the gripping jaw of the said lever toward its coöperating jaw *b* and into engagement with the crown pin not shown. Further movement of the operating handle 12 toward the handle *f* of the stationary member, effects bodily movement of both gripping jaws against the action of a spring 18, which is shown as having one end bearing upon the upper side of the arm 15 of the jaw lever *a* and its other end clamped between the ears *j* by the screw 19.

The ears *j* may be provided with slots 20 (see Figs. 4 and 6) for the reception of the sides of the inturned end 21 of the spring 18.

In operation, with the instrument herein shown, the doctor applies the bearing surface of the tool to the tooth from which the crown pin is to be extracted, with the jaws *a, b* in their open position shown in Figs. 1 and 6. When properly positioned with the crown pin between the jaws, the handle 12 is pressed upon and moved toward the handle *f*. On the first portion of the movement of the handle 12, the jaw *a* is moved toward the jaw *b* and the crown pin is firmly gripped between said jaws. When the crown pin is thus firmly gripped, the handle 12 is moved farther in the same direction, which causes both jaws to be moved bodily in a direction substantially at right angles to that in which the jaw *a* is moved when closed, with the result that the jaws *a, b* are moved up into the slot *m*, substantially

as represented in Fig. 3, and carry with them the crown pin, which is thus extracted from the tooth.

It will be observed, that the instrument is operated with one hand and that the gripping and extracting movements of the jaws is effected by one movement of the handle 12 which is merely pressed by the doctor toward the handle *f*.

In the present instance, I have shown one construction of instrument with which I have obtained excellent results, but I do not desire to limit my invention to the particular construction shown.

Claims.

1. In a dental instrument of the class described, in combination a supporting member comprising a handle and a folded plate integral therewith and extended therefrom and provided with a slot or opening in its under surface, gripping jaws pivoted between said folded plate and having their lower ends extended through said slot, a spring to normally separate said jaws, a pivot for said jaws extended into slots in the folded plate and bodily movable in said slots, an arm extended from one of said jaws, a lever cooperating with the said arm to turn the same on its pivot and move its jaw toward its cooperating jaw, and a spring to act on said arm in opposition to said lever, substantially as described.

2. In a dental instrument of the class described, in combination, a supporting member provided with a handle and with a bearing surface capable of being applied to a tooth and having a slot or opening in said bearing surface, pivoted gripping jaws supported by said supporting member and having their lower ends extended into said slots and bodily movable simultaneously in the same direction substantially at right angles to the length of said supporting member, and an operating lever cooperating with one of said gripping jaws to effect movement of one of said gripping jaws toward its cooperating jaw in said slot, and then effect bodily movement of both jaws away from the bearing surface of said supporting member substantially at right angles thereto, substantially as described.

3. In a dental instrument of the class described, in combination, two gripping jaws, one of which is movable toward the other to engage a crown pin and both of which are thereafter movable bodily to withdraw said crown pin from the tooth in which it is fixed, a supporting member for said gripping

jaws having a handle rigidly attached thereto and extended in a direction substantially at right angles to the direction in which the gripping jaws are bodily movable, said supporting member and gripping jaws being capable of being inserted into the mouth of a patient, and said supporting member having a bearing surface capable of resting on the root of a tooth and provided with a longitudinally extended slot or opening into which the gripping jaws extend to engage the crown pin, and means carried by said supporting member for effecting the independent movements of said jaws, substantially as described.

4. In a dental instrument of the class described, in combination, a supporting member provided with a handle rigidly attached to it and extended in the direction of the length thereof and having a bearing surface capable of being applied to a tooth and provided with a slot or opening, pivoted gripping jaws supported by said member and extended into said slot and capable of having one of said jaws moved toward the other and then both moved bodily together substantially at right angles to the length of said bearing surface, means cooperating with one of said jaws to move it into its closed position and thereafter to effect the bodily movement of both jaws, and a spring to open said jaws, substantially as described.

5. In a dental instrument of the class described, in combination, a supporting member provided with a bearing surface having a longitudinally extended slot and having upright side walls extended from said bearing surface and a handle rigidly attached to the bearing surface and extended rearwardly therefrom, pivoted gripping jaws supported by said supporting member and having their lower ends located between said side walls and extended into said slot, and an operating lever pivoted to said supporting member and movable toward the handle thereof to effect movement of one of said jaws toward the other and then effect bodily movement of both jaws away from the bearing surface, and a spring to open said jaws when the pressure of the hand on said lever is removed, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM H. MANNING.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.