

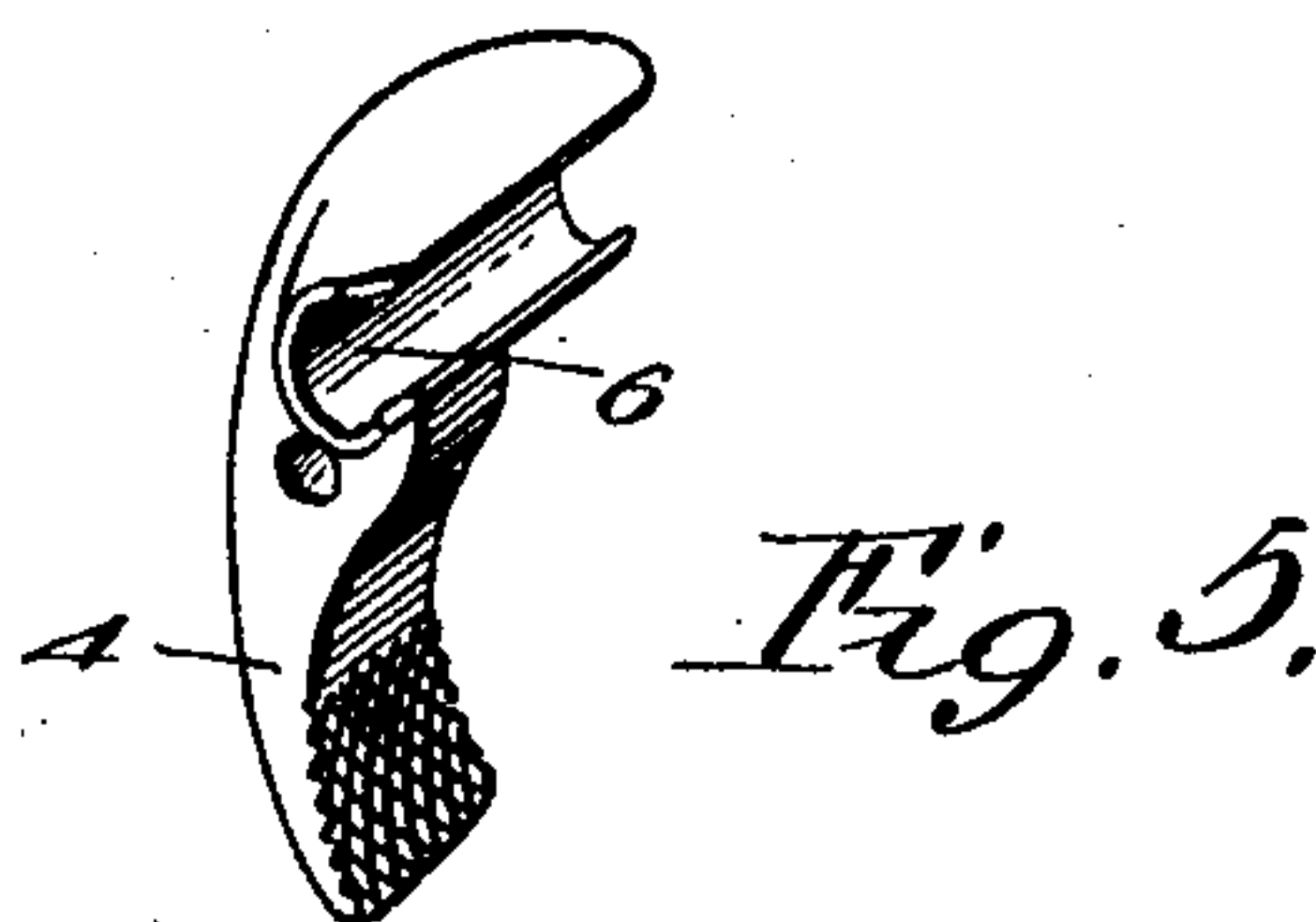
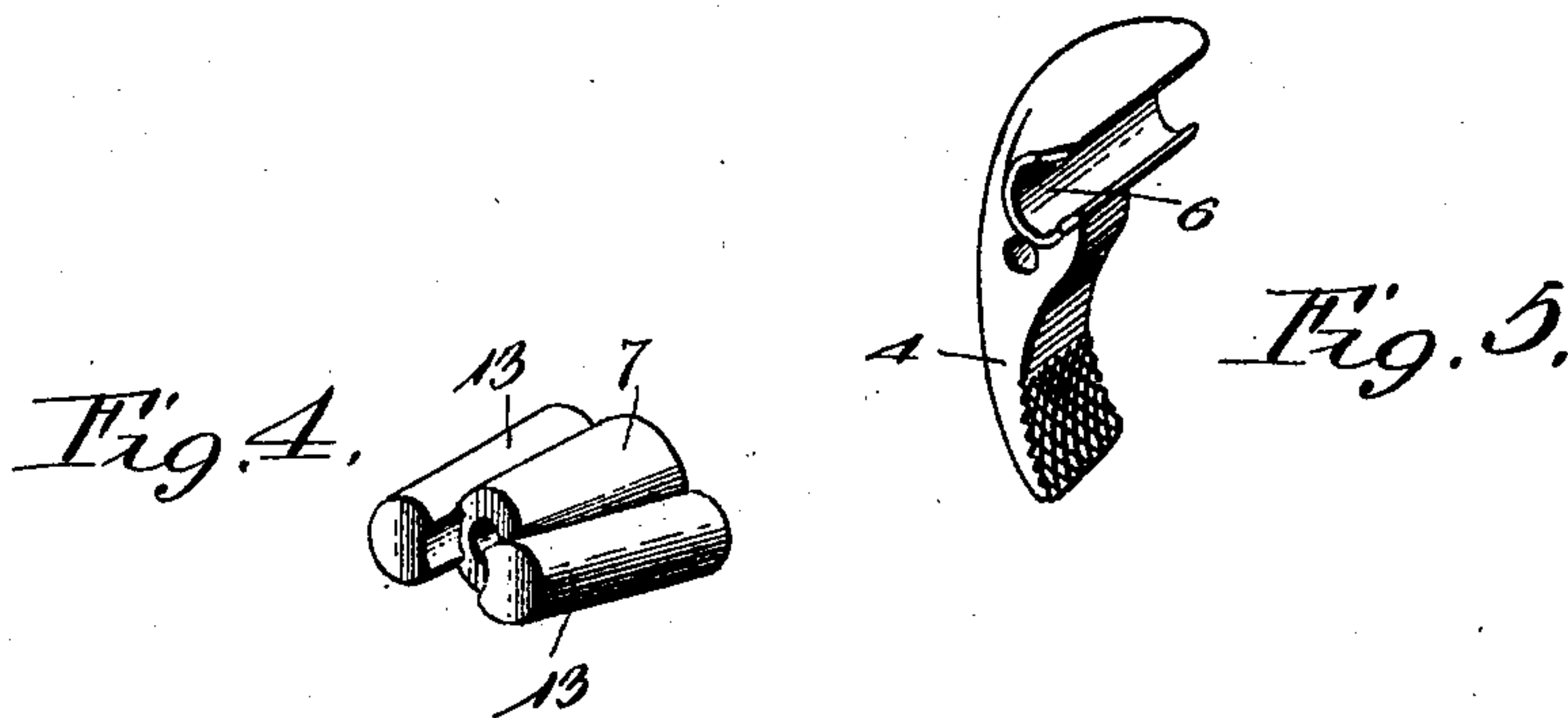
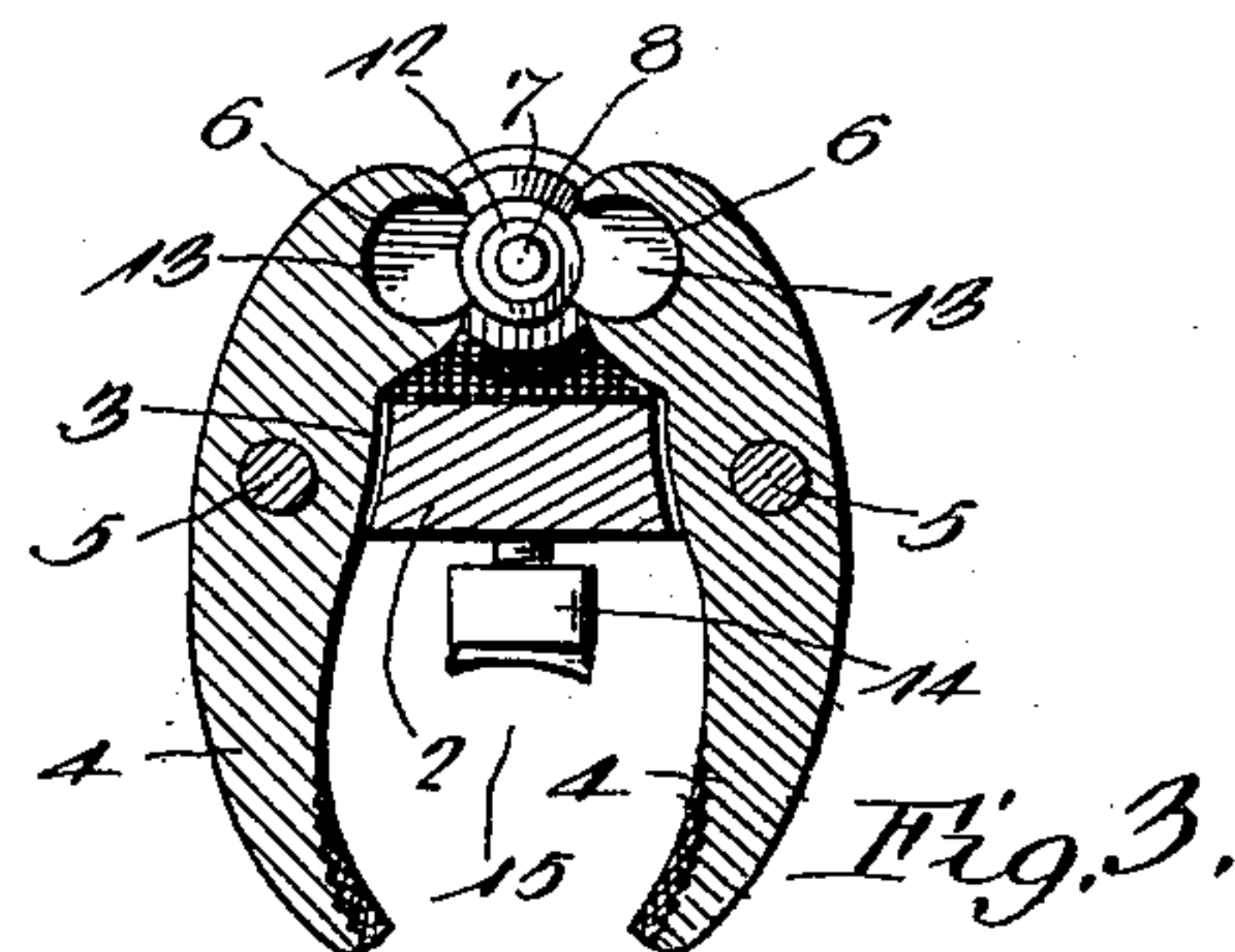
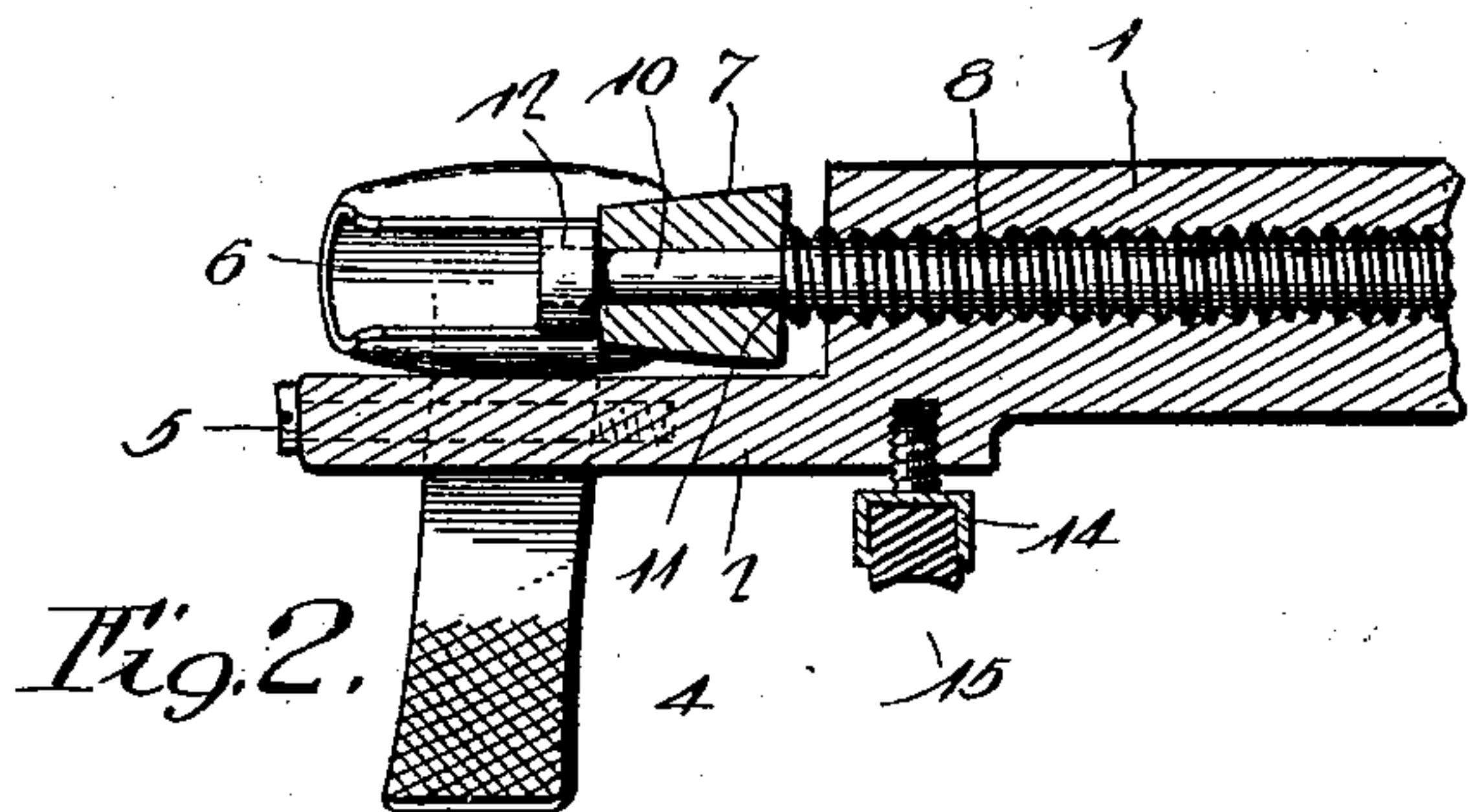
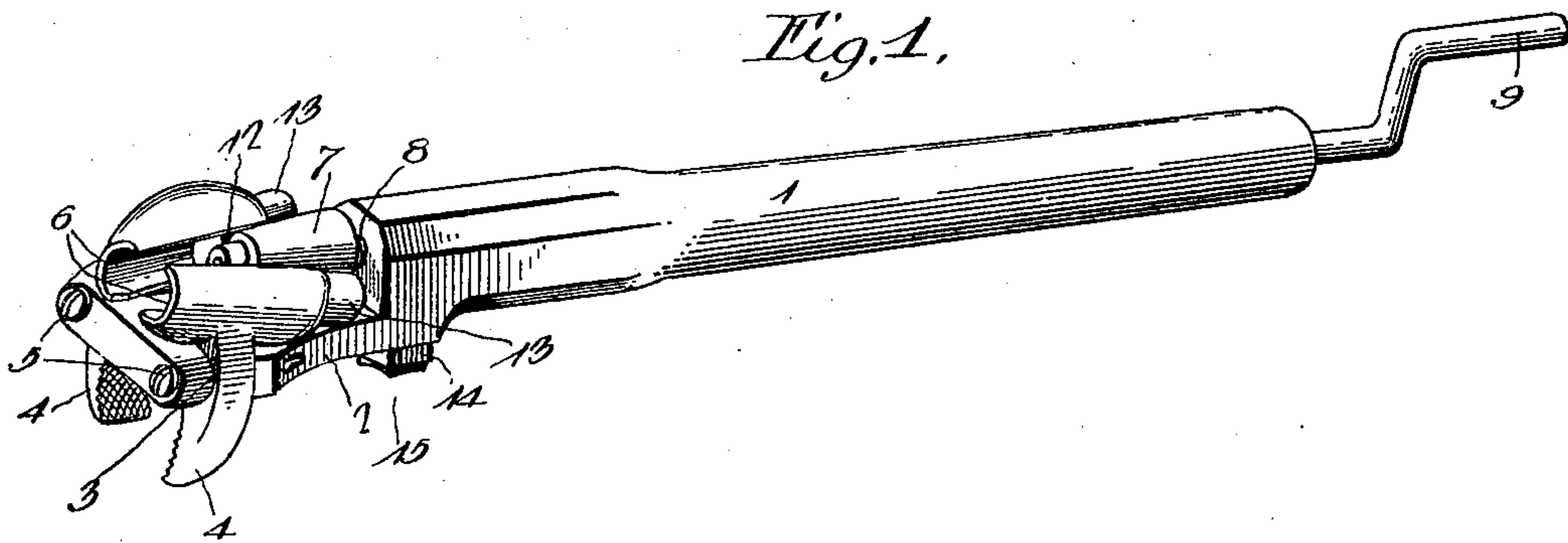
No. 636,285.

Patented Nov. 7, 1899.

B. F. PINSON.
VETERINARY DENTAL FORCEPS.

(Application filed Dec. 20, 1898.)

(No Model.)



Witnesses

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By his Attorneys,

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UNITED STATES PATENT OFFICE.

BENJAMIN F. PINSON, OF BLACKWELL, OKLAHOMA TERRITORY, ASSIGNOR
OF ONE-HALF TO THOMAS J. HUGHES, OF SAME PLACE.

VETERINARY DENTAL FORCEPS.

SPECIFICATION forming part of Letters Patent No. 636,285, dated November 7, 1899.

Application filed December 20, 1898. Serial No. 699,834. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. PINSON, a citizen of the United States, residing at Blackwell, in the county of Kay and Territory of Oklahoma, have invented a new and useful Veterinary Dental Forceps, of which the following is a specification.

My invention relates to veterinary dental forceps, and has for its object to provide a simple, compact, and efficient device of the class named whereby teeth of horses and other stock may be drawn with the minimum risk of injury to other or sound teeth, the means employed for securing engagement of the objectionable tooth being such as to prevent the slipping thereof when pressure is applied to draw the tooth.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a dental forceps constructed in accordance with my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse vertical section. Fig. 4 is a detail view of the follower or spreader.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

1 designates a shank or stock of sufficient length to give the required leverage in operation, and at its front end this stock is provided with a head 2, which is spread laterally and is notched in its side edges to form seats 3 for the pivotal tooth-engaging jaws 4, said jaws inclining forward slightly toward their lower or engaging extremities, as shown in Fig. 2, and having suitable roughened or serrated faces. The jaws, however, are interchangeable or are replaceable by others to adapt the same to the peculiarities of the tooth which is to be drawn, and to enable the jaws to be interchanged I employ a removable pivot-pin 5, engaging registering openings in the lateral extensions of the head and intersecting the said seats in which the jaws are mounted. In the construction illustrated these pins consist of screws which are suit-

ably threaded to maintain them in operative positions.

The jaws are constructed at their upper or back ends to form convergent guides 6, and between these guides operates a spreader 7, actuated by a feed-screw 8, threaded in the bore of the stock or shank, said feed-screw terminating at its rear end in a suitable handle or grip, such as the crank-arm 9. (Shown in the drawings.) The feed-screw is swiveled in the spreader, the same having a reduced spindle portion 10, terminating at its inner end in a shoulder 11 and at its outer end in a collar 12. The spreader is tapered to agree with the convergence of the guides carried by the jaws, and it is obvious that by operating the feed-screw said spreader may be advanced or retracted between the guides to suitably actuate the jaws. In the construction illustrated the guides are arranged to converge toward their front ends, and hence when the spreader is advanced forwardly the engaging faces of the jaws are drawn toward each other to clamp an interposed object. It is desirable, however, in this connection to provide means whereby when the spreader is retracted or is moved in the opposite direction to that which is necessary to contract the jaw-faces the jaws should be separated or, in other words, that the guides should be drawn toward each other, and hence in practice I prefer to construct the spreader with lateral forwardly-convergent ribs 13, which are cross-sectionally rounded and exceed a semicircle in contour, and correspondingly provide the guides at the upper ends of the jaws with cross-sectionally-rounded ways to receive said ribs and also exceeding a semicircle in extent. Thus when the spreader is advanced the guides are separated, the same turning freely upon the cross-sectionally-rounded ribs of the spreader, and when the spreader is retracted or moved toward the rear the guides remain in engagement with said ribs, and are thus drawn toward each other. It will be seen that the spreader has an interlocked sliding connection with the jaws to adapt it to impart motion in opposite directions to the latter. Thus in an instrument constructed in accordance with my invention in addition to the feed-

screw and the jaws, which obviously must move in order to alternately engage and release an object, the only movable part is the spreader, which is actuated by the feed-screw and is arranged in operative relation with the jaws, so as to spread said jaws or draw them toward each other, according to the direction of movement of the spreader. Furthermore, when it is desired to change the jaws to suit teeth of different forms the substitution may be accomplished by the simple withdrawal of the pivot-screws and engagement of the guides of the substituted jaws with the ribs of the spreader.

15 In addition to the above-described mechanism I also employ a fulcrum or bearing element consisting of a block 14, or the equivalent thereof, swiveled upon the stock or shank at an interval from the transverse plane of the jaws and provided with a cushion 15, of vulcanized rubber or the equivalent thereof. This fulcrum-block is adapted to be arranged in contact with a sound tooth adjacent to that which is to be extracted, whereby the operator obtains leverage in raising the jaws and, furthermore, whereby the operator is enabled to apply power steadily and economically and without the danger of causing injury to the animal. This fulcrum-block is swiveled to enable it to adjust itself to peculiarities of the surface of the teeth in contact with which it is arranged.

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

Having described my invention, what I claim is—

40 1. In veterinary dental forceps, the combination of a stock, transversely-disposed co-operating jaws mounted upon longitudinal pivots to swing transversely of the stock, a spreader arranged in operative relation with the jaws and having interlocking engagement

therewith, whereby the jaws may be opened or closed by movements in opposite directions of the spreader, and means for advancing and retracting the spreader, substantially as specified.

2. In veterinary dental forceps, the combination of a stock, transversely-disposed co-operating jaws mounted upon longitudinal pivots to swing transversely of the stock and having guides convergent toward one end, a spreader having an interlocked sliding engagement with said guides, and means for moving the spreader in opposite directions, substantially as specified.

3. In veterinary dental forceps, the combination of a stock, coöperating pivotal jaws mounted upon the stock and having convergent guides provided with ways which exceed a semicircle in cross-sectional contour, a spreader interposed between said guides and having convergent cross-sectionally-rounded ribs fitted in said ways, whereby the jaws may be opened or closed by movement in opposite directions of the spreader, and means for moving the spreader in opposite directions, substantially as specified.

4. In veterinary dental forceps, the combination of a stock terminating at one end in a head having lateral extensions provided with transverse seats, jaws arranged perpendicularly to the stock and fitted at intermediate points in said seats, removable pivot-pins intersecting said seats and forming fulcrums for the jaws, a follower or spreader interposed between the guides and having an interlocking sliding connection therewith, and means for moving the follower in opposite directions, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BENJAMIN F. PINSON.

Witnesses:

G. M. DANIELS,
O. F. EVERSOLE.