

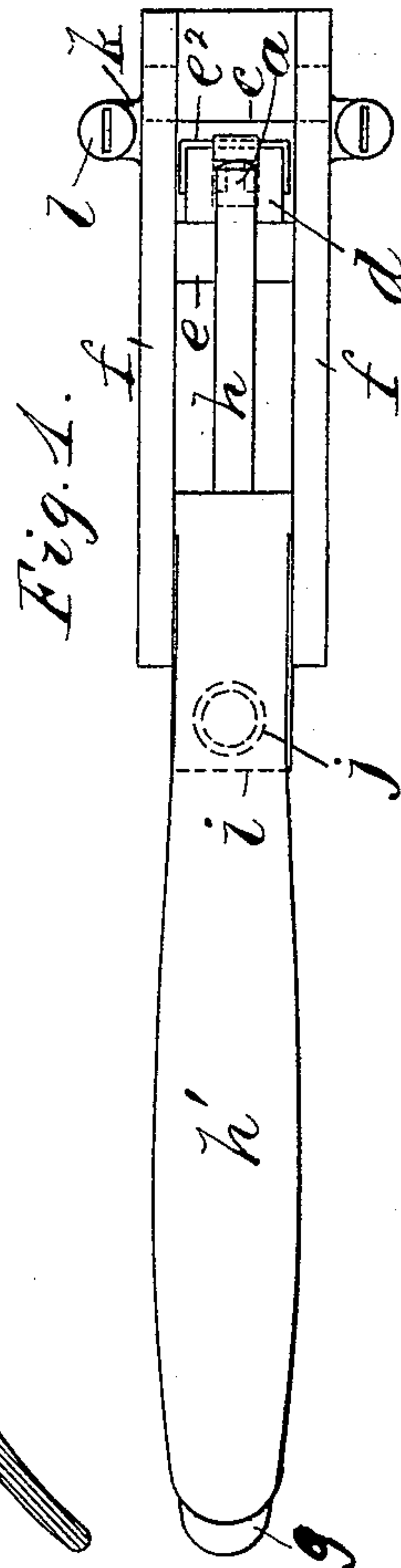
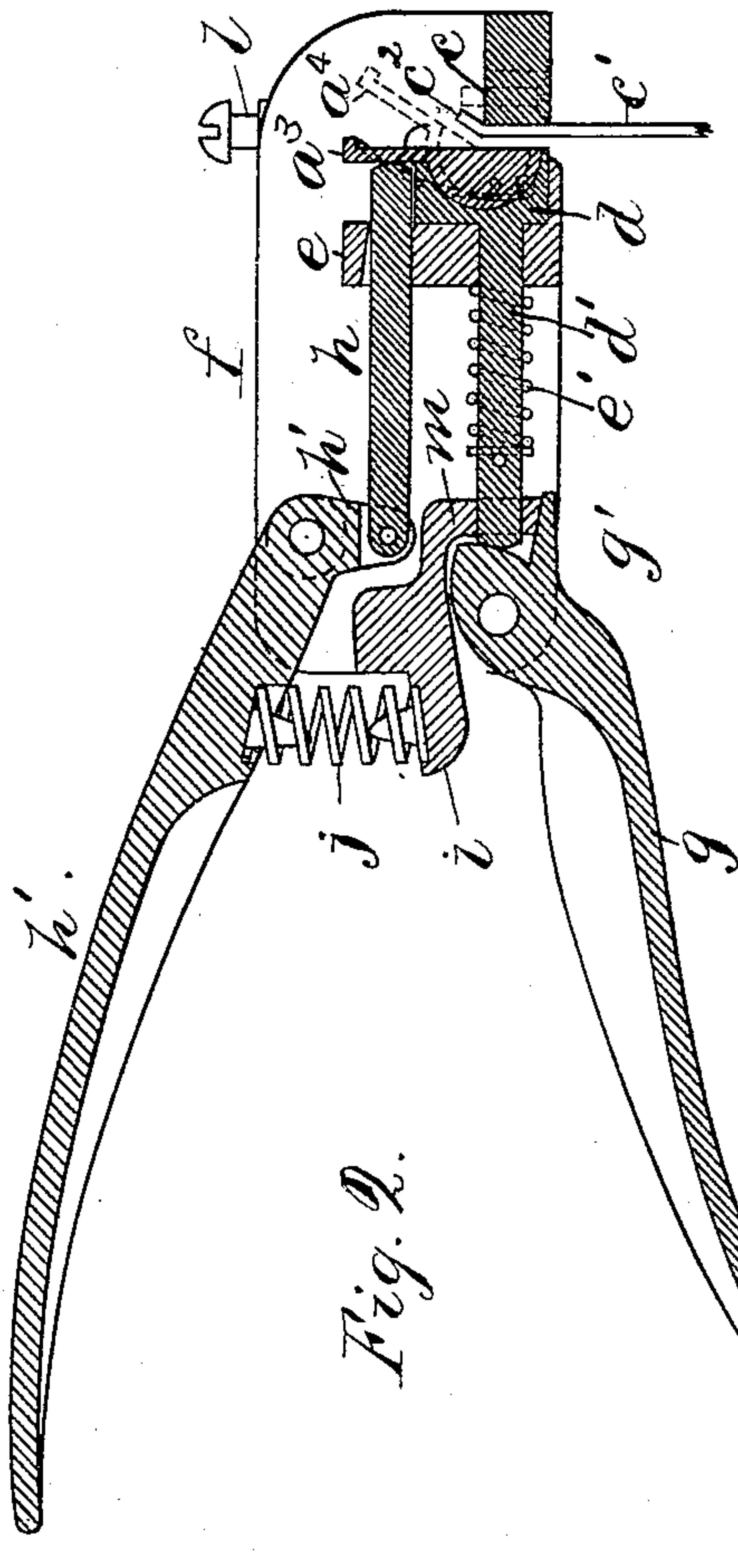
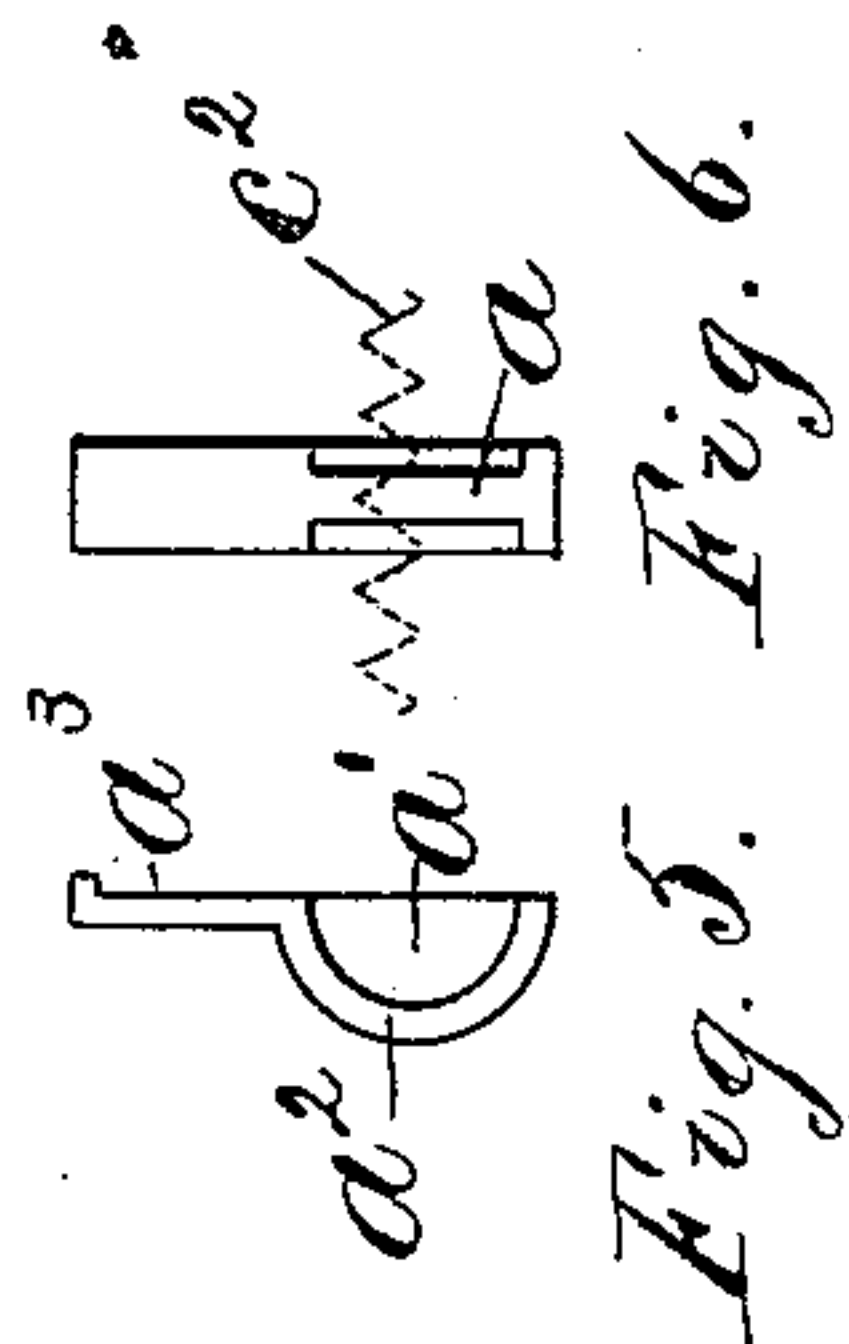
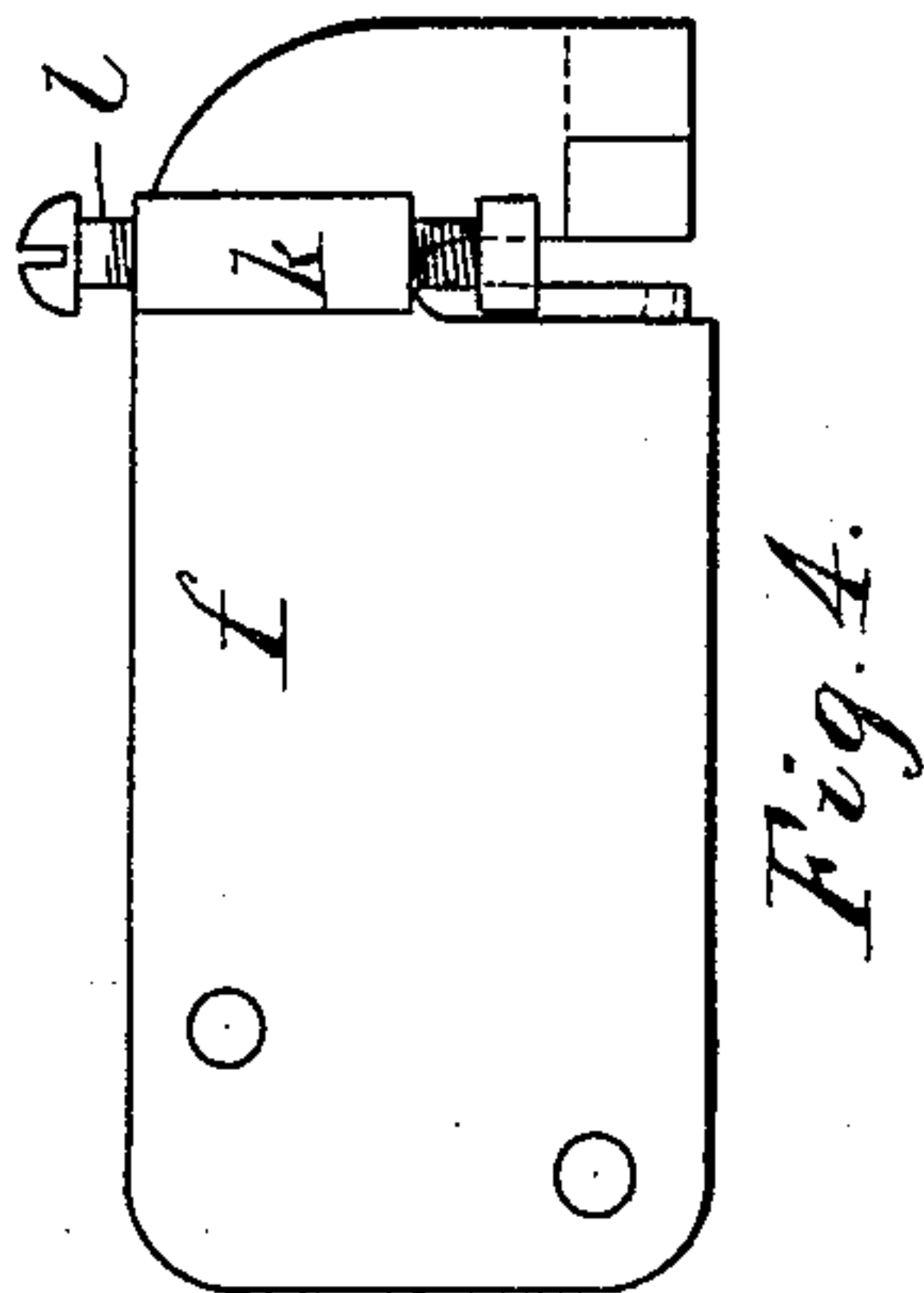
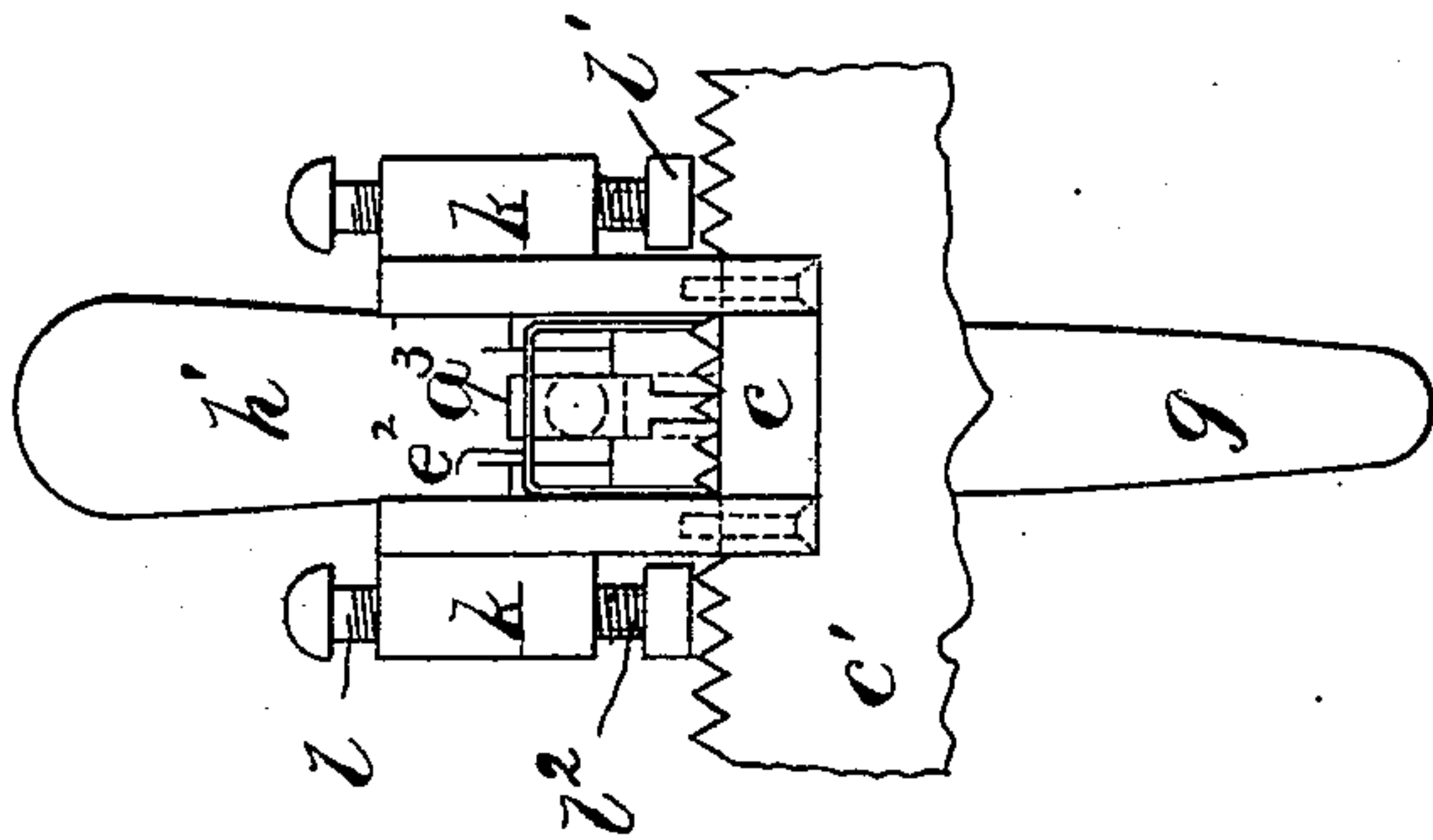
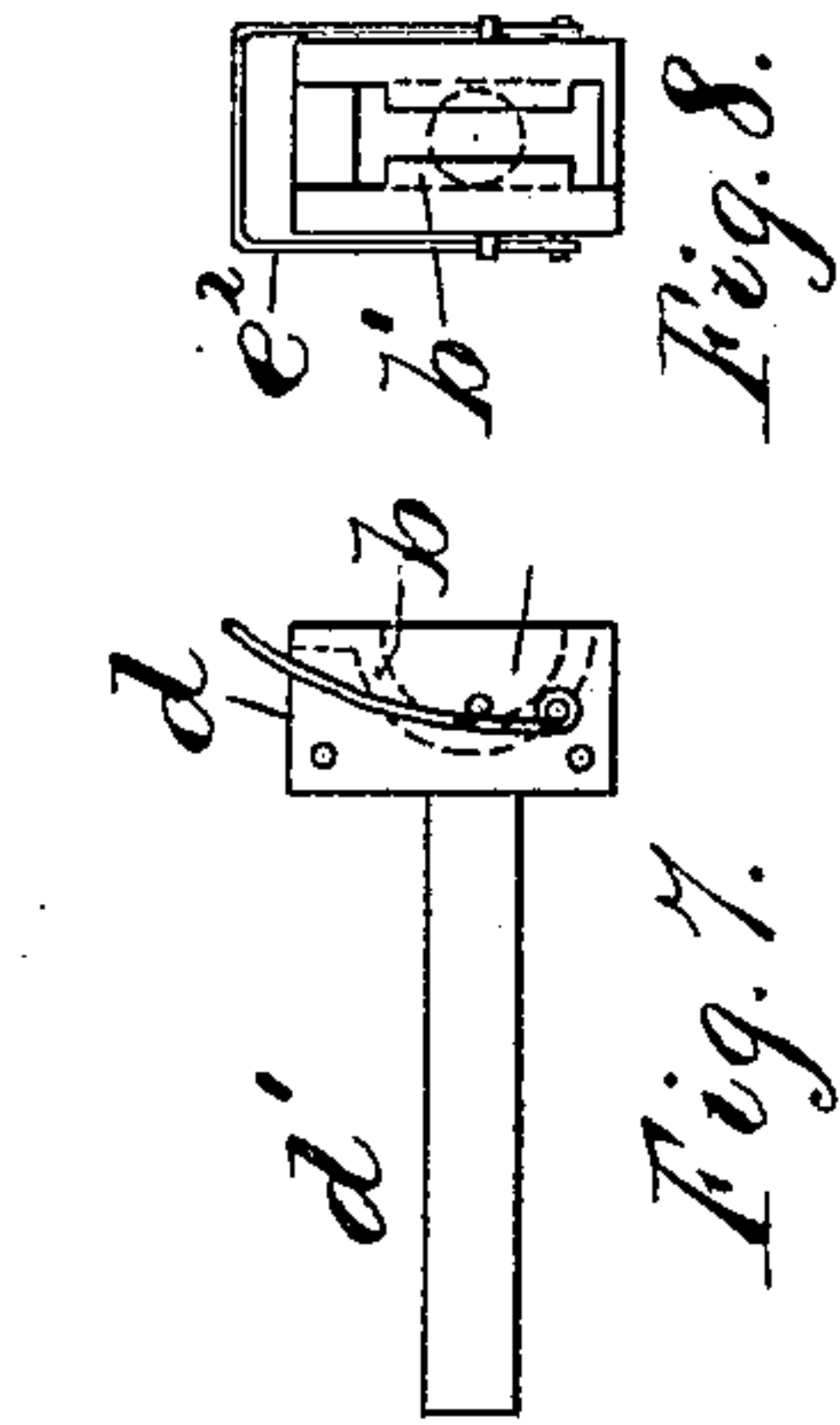
(No Model.)

2 Sheets—Sheet 1.

C. C. TAINTOR.
SAW SETTING DEVICE.

No. 390,718.

Patented Oct. 9, 1888.



Attest.
J. C. Lee.
J. C. Fischer.

Inventor.
Charles C. Taintor per
Cram & Miller, Attys.

(No Model.)

2 Sheets—Sheet 2.

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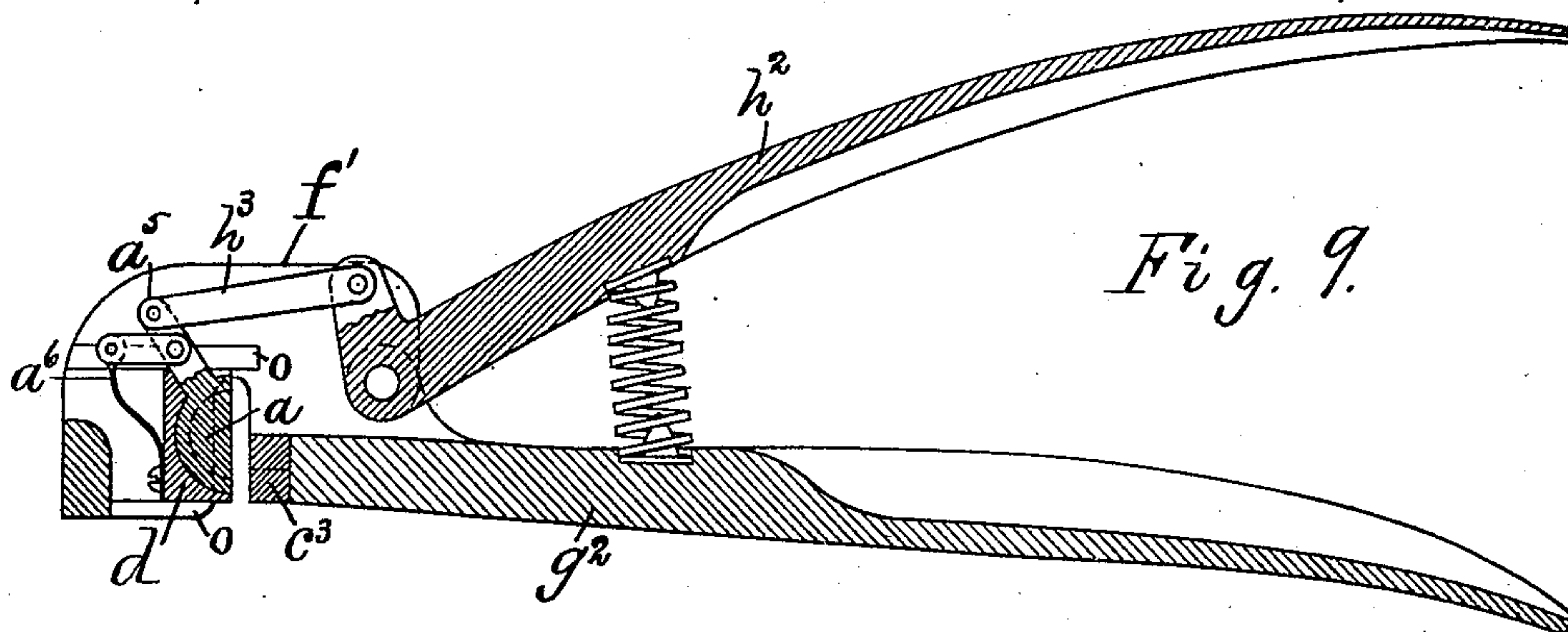


Fig. 9.

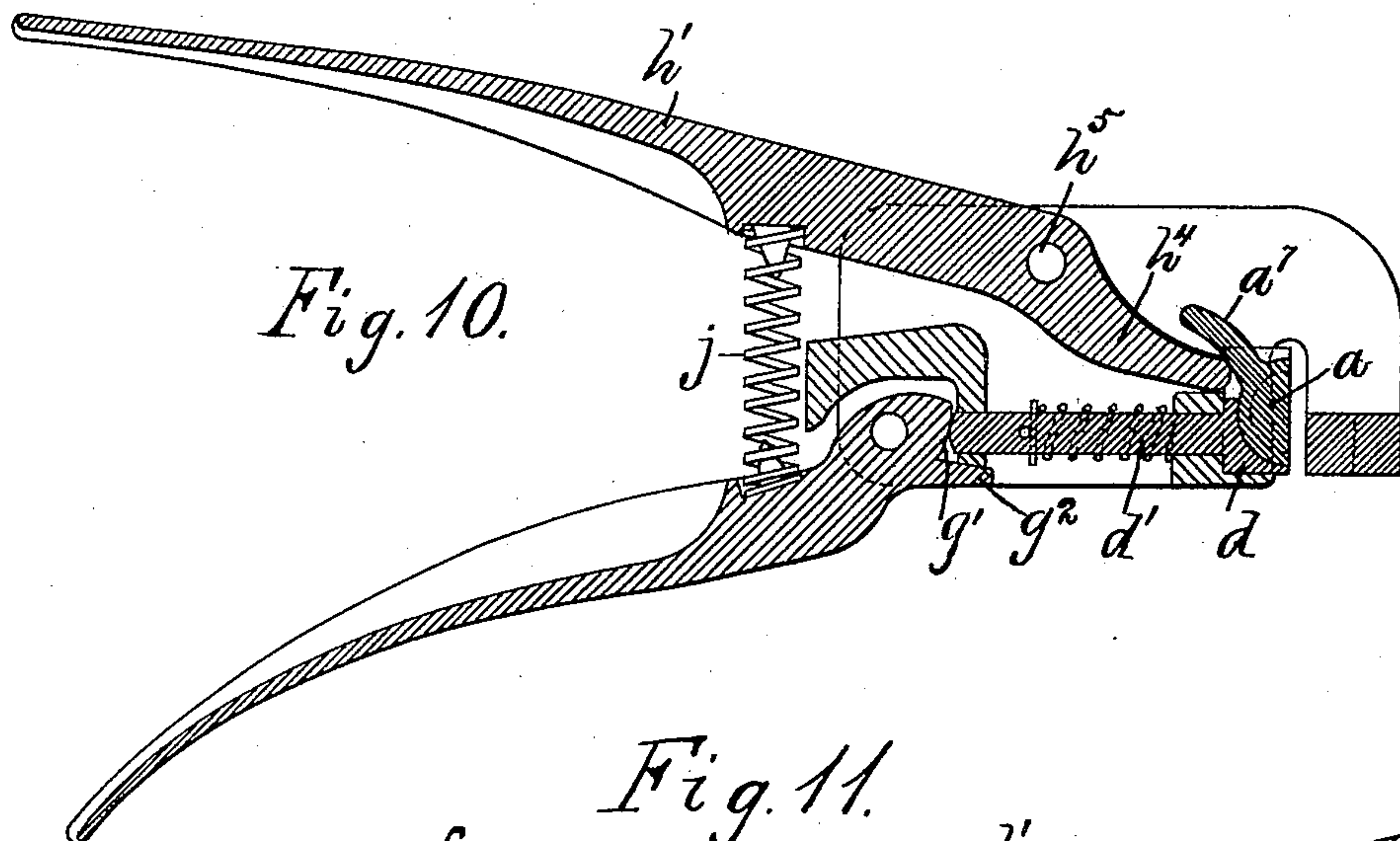


Fig. 10.

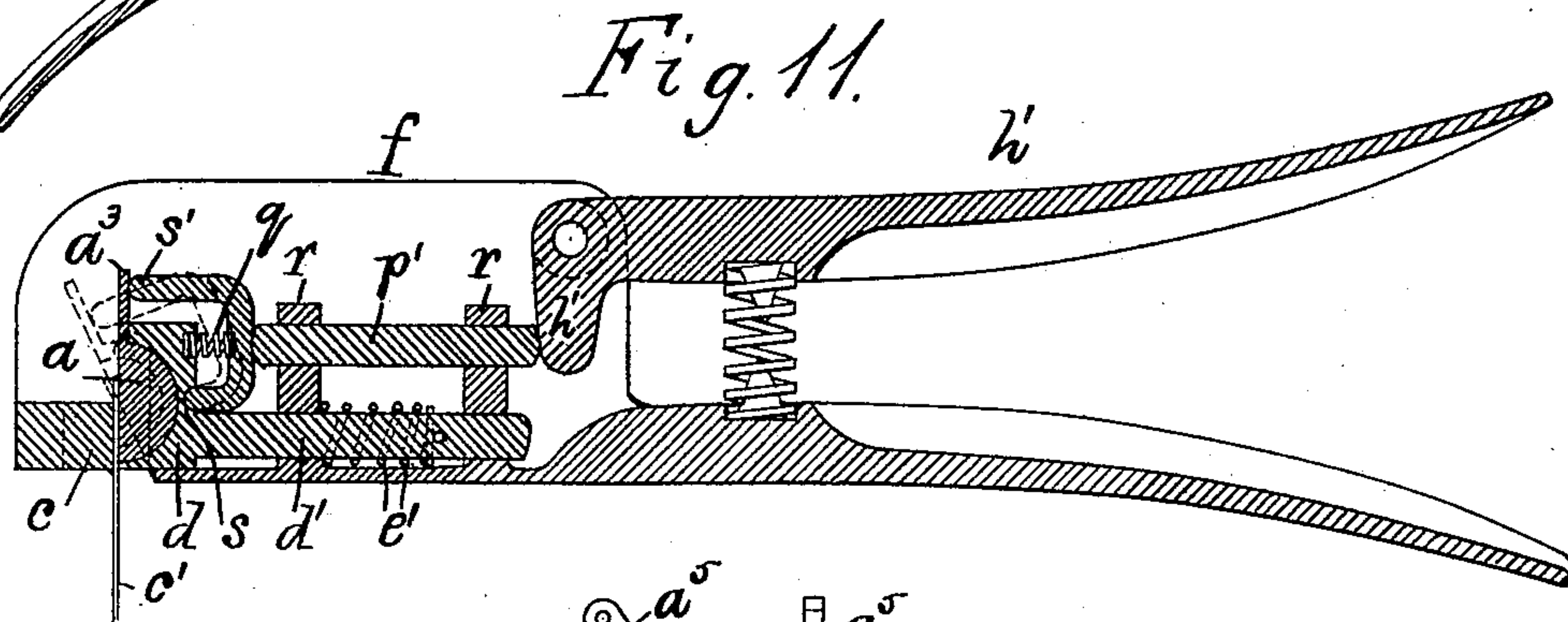


Fig. 11.

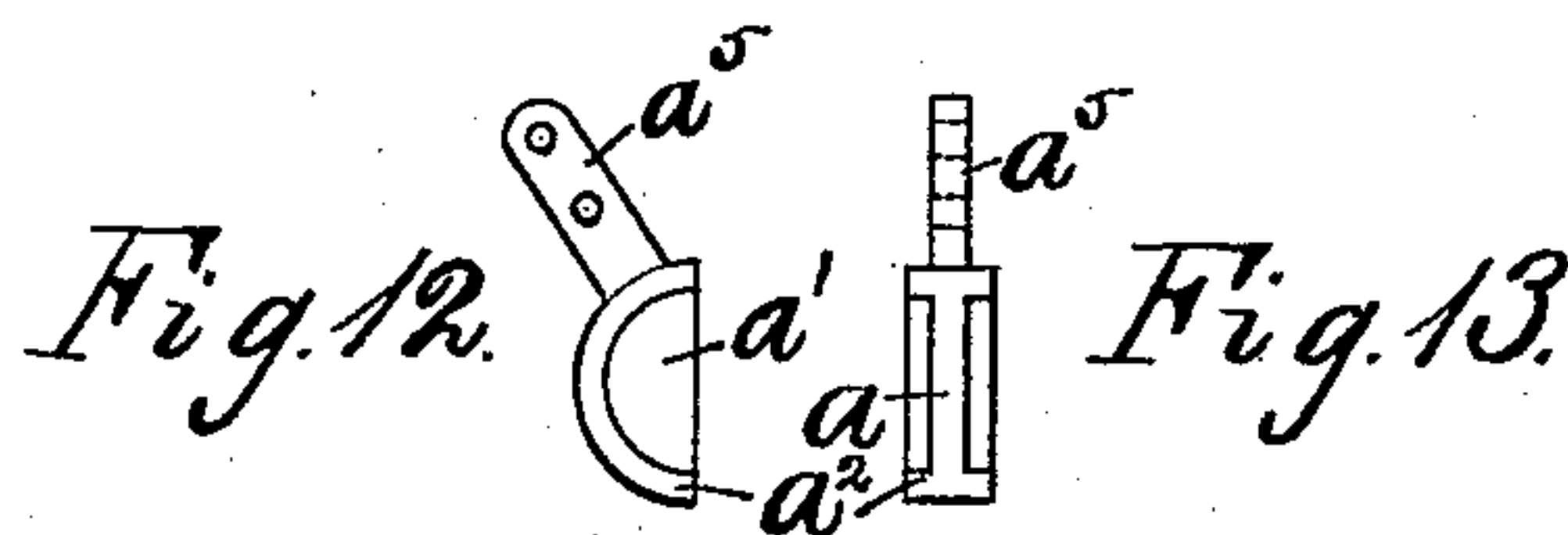


Fig. 12.

Fig. 13.

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UNITED STATES PATENT OFFICE.

CHARLES C. TAINTOR, OF ELIZABETH, NEW JERSEY.

SAW-SETTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 390,718, dated October 9, 1888.

Application filed December 19, 1887. Serial No. 258,295. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. TAINTOR, a citizen of the United States, residing at Elizabeth, Union county, New Jersey, have
5 invented certain new and useful Improvements in Saw-Sets, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention consists in the combination,
10 with the head of a tool and a handle pivoted thereon, of an anvil having a corner adapted to fit against the base of the tooth, a rotating jaw fitted to a segmental seat concentric with the corner of the anvil and having a radial
15 bending-face, and means actuated by the handle for pressing the corner of the anvil against the center of the rotating jaw to clamp the saw-blade, and rotating the jaw in its seat to bend the tooth.

20 Several forms of my invention are shown in the annexed drawings, in which—

Figure 1 is a plan view of a saw-set, showing the clamp and rotating jaw actuated by separate levers. Fig. 2 is a section of the
25 same on line xx in Fig. 1. Fig. 3 is a front end view of the same; Fig. 4, a side view of the head for holding the operative parts; Fig. 5, a side view, and Fig. 6 a front view, of the rotating jaw detached from its holder. Fig. 7
30 is a side view in vertical section at the center of the jaw-holder constructed as a clamp. Fig. 8 is a front end view of the same. Fig. 9 is a side view in section near the middle line of a saw-set in which a single hand-lever is linked
35 to the rotating jaw, and through it moves the saw-clamp in the desired manner. Fig. 10 is a similar longitudinal section of a saw-set in which the clamp is actuated by a cam-lever, and the rotating jaw is actuated by a lever-
40 arm pressed against a tongue upon the jaw. Fig. 11 is a longitudinal section similar to Fig. 2 of a saw-set in which the clamp is first moved and the jaw then rotated through the agency of a sliding pin actuated by a hand-
45 lever. Fig. 12 is a side view, and Fig. 13 a front view, of the rotating jaw shown in Fig. 9.

The rotating jaw for bending or setting the tooth is shown detached in Figs. 5 and 6, and
50 consists in a semicircular block of metal, a , adapted to fit a semicircular seat, and provided with a turning arm by which it may be rotated.

The block is shown with semicircular recess a' upon opposite sides, forming an annular rib, a'' , by which it may be held in its seat. 55

The holder d , as shown in Figs. 7 and 8, consists in a block having semicircular seat b formed therein and provided, if fitted to the recess a' , with semicircular cheeks b' , which are produced by suitable milling-tools and
60 serve to hold the jaw in its seat. One of the cheeks is made separate and attached by rivets r'' .

In Fig. 6 a row of dotted saw-teeth, c^2 , is represented with their bases on a line with the
65 center of the rotating jaw, the center of one tooth lying in the middle of the jaw, so that the tooth may be bent by the rotation of the latter when clamped by a suitable anvil at the level of the base. Fig. 2 shows such
70 an anvil, c , the saw-blade being shown at c' , with a bent tooth formed thereon at c^2 , and the holder d , which carries the jaw, being held movably before the anvil to clamp the saw thereto. The holder thus serves as a clamp,
75 and is provided with a shank, d' , which is fitted to a guide, e , in the head f , which carries the operative parts of the tool.

The shank is provided with a spring, e' , to hold the clamp and jaw normally from the anvil, and a hand-lever or handle, g , is pivoted
80 upon the head and provided with a cam-face, g' , fitted to the rear of the shank to press it forward. The arm a^3 upon the rotating jaw is actuated by a push-rod, h , and hand lever
85 and crank, h' , pivoted to the head adjacent to the handle g .

A wire spring, e'' , is fitted to the two outer sides of the holder d and arched across the front of the arm a^3 , to hold the rotating jaw
90 normally in its operative position, as shown in Fig. 2. The holder and jaw are shown retracted from the anvil, with the handles g and h' expanded prior to clamping the saw-blade.

The spring e'' is indicated in dotted lines
95 only in Fig. 2, but is shown in full lines in Figs. 7 and 8, and partially in Fig. 3, the sides of the holder being clear of the plates f sufficiently to introduce such spring.

A seat, i , is formed upon the head and a
100 spring, j , inserted between such seat and the handle h' , and the springs are so proportioned to the leverage of the handles that when the handles are pressed together the spring e'

first yields and the clamp d is pressed toward the anvil by the handle g , the cam-face g' then serving to lock the clamp, while the continued movement of the handles toward one another compresses the spring j , and the handle h' then pushes the rod h forward and turns the rotating jaw around, as indicated by the dotted lines a^4 .

In the construction shown in Figs. 1 to 4, inclusive, the head f consists in two flat plates by the guide e and the anvil or anvil-seat, and by a piece, which serves for the spring-seat i and for the guide m at the rear end of the shank d' .

Upon the head at opposite sides are fixed two threaded sockets, k , through which screws l are fitted, and are provided with gage-pieces l' at their lower ends, against which the points of the saw-teeth may rest when the set is fitted thereto, as shown in the section of the saw-blade at c' in Fig. 3.

The gage-pieces are preferably formed of celluloid, rawhide, or analogous material, formed with a shank, l'' , fitted into the lower ends of the screws l , the toughness of such material preventing it from wearing under the contact of the teeth. The views from 9 to 13, inclusive, show alternative constructions embodying the same invention, the first illustrating the operation of a single hand-lever in moving the clamp and then the rotating jaw, as required.

The combined clamp and holder d in this construction is fitted between plates f , furnished with ribs o to guide the holder. The plates are connected by the lower handle, g^2 , the inner end of which is provided with an anvil, c^3 , and the rotating jaw a is provided with an arm, a^5 , which is linked to a spring, a^6 , affixed to the outer side of the holder d .

The jaw and the arm a^5 are shown separately in Figs. 12 and 13.

The handle h^2 is connected by a link, h^3 , with the arm a^5 , and when pressed toward the handle g^2 operates (owing to the resistance of the spring a^6) to first draw the clamp and jaw-holder d toward the anvil c^3 , and then, when the saw-blade is clamped, to turn the rotating jaw to bend the teeth, as desired, but toward the handles, instead of away from the same, as shown in Fig. 2.

In Fig. 10 the operation is substantially the same as in Fig. 2 so far as the means for moving the clamp and jaw-holder are concerned, while the means for rotating the jaw is slightly different, being simplified by the omission of the push-rod h .

The hand-lever g and cam g' operate upon the shank d' of the holder and clamp d to clamp the saw, as in Fig. 2; but the handle h' is provided with a finger, h^4 , which presses directly upon an arm, a^7 , extended from the rotating jaw toward the fulcrum h^5 of the handle h' . A stop, g^2 , is shown upon the handle g in Figs. 2 and 10 to limit the movement of the handle, and only a single spring, j , is required in the

construction shown in Fig. 10, as the mechanical power of the cam g' is so much greater than that of the finger h^4 that the pressure of the handles toward one another operates most effectively to move the clamp, and, after the clamp is closed, to rotate the jaw a .

In Fig. 11 the jaw-holder, the shank, and the anvil are arranged similar to those in Fig. 2; but the jaw is rotated in the holder by a bent presser, p , which is fitted at one end to a hollow socket, s , at the back of the holder and at its forward end, s' , against the arm a^3 . A push-rod, p' , is fitted to guides r , between the plates f , and a spring, q , is inserted between the holder and the presser to hold the same normally back from the arm a^3 . The handle and its crank end h' operate, when pressed upon the rod, to first push the holder forward to clamp the saw-blade c' , and to then compress the spring q and to rotate the jaw by tipping the presser p , as indicated by dotted lines in Fig. 11.

In all the constructions shown the agent for bending or setting the saw-tooth is the rotating jaw a , fitted to a semicircular or segmental seat, and therefore turning independently of any hinge or pivot, the anvil in all cases being provided with a corner opposite the center of the rotating jaw, so that the latter may operate in exact conjunction with such corner in bending the tooth over the same. The clamp which presses or grips one side of the saw-blade also acts as the holder for the rotating jaw, the metal at each side of the hollow segmental seat (as appears in Fig. 8) operating as the clamp and holding the saw-blade in close contact with the face of the rotating jaw and its center of rotation.

The essential parts of my invention are therefore a clamping anvil and a bending-jaw rotated in a segmental seat concentric with the base of the tooth and corner of the anvil, so that its operative face may bear upon the whole side of the tooth during the bending operation, and actuating mechanism adapted to first clamp the saw and then rotate the bending-jaw, as required.

The bending-face of the rotating jaw is preferably radial to the curved seat in which it rotates, and the corner of the anvil over which the saw-tooth is bent is formed upon a level with the center of such seat, although it does not coincide literally therewith when the saw-blade is interposed between the clamp and anvil.

The curved seat and the rotating jaw are, however, concentric with the corner of the anvil when placed in contact therewith, and are claimed herein as concentric therewith, as the introduction of the saw-blade produces no injurious effect by removing the corner of the anvil from the center of the curved seat.

The operation of the rotating jaw fitted to a segmental seat concentric with the base of the tooth would obviously be the same if it were

held in a stationary holder and the anvil moved to and from the same to clamp the saw-blade.

I am aware of United States Patent No. 320,753, issued June 23, 1885, for a saw-set containing a pivoted disk formed with two or more flat surfaces arranged obliquely to the radial line at different angles and combined with notches in the edges of the disk, to which a handle may be applied and any of the inclined surfaces used at pleasure to bend the saw-tooth at a certain angle. In such construction there is no bending-jaw having a radial surface nor any anvil having a corner pressed toward the center of the seat in which the bending-jaw rotates. The bending-agency therefore slides over the side of the saw-tooth during the bending operation, while in my construction the bending-jaw turns with the tooth around the corner of the anvil.

I am also aware of United States Patents No. 237,799, dated February 15, 1881, and No. 282,304, dated July 31, 1883, and I do not, therefore, claim the combination of a clamp and a bending-jaw, broadly, but only a bending-jaw fitted to a segmental seat and having a radial surface and operating with an anvil having a corner fitted to the center of the segmental seat to clamp the saw-tooth before it is bent.

Having thus set forth my invention, what I claim herein is—

1. The combination, with the head of a tool and a handle pivoted thereon, of an anvil hav-

ing a corner adapted to fit against the base of the tooth, a rotating jaw fitted to a segmental seat concentric with the corner of the anvil and having a radial bending-face, and means actuated by the handle for pressing the corner of the anvil against the center of the rotating jaw to clamp the saw-blade and rotating the jaw in its seat to bend the tooth, as and for the purpose set forth.

2. In a saw set, the combination, with the head of the tool and a handle pivoted thereon, of a rotating jaw fitted to a segmental seat in a movable holder, an anvil fitted adjacent to the holder with its corner concentric with the curved seat, and means actuated by the handle for first moving the holder toward the anvil to clamp the saw-blade and then rotating the jaw in its seat to bend the tooth, substantially as herein set forth.

3. In a saw-set, an anvil, clamp, and a bending-jaw fitted to a segmental seat concentric with the corner of the anvil and having a radial face adapted to bend the saw-tooth over the corner of the anvil, and a handle operated to actuate the clamp to lock the same in its operative position and to then rotate the bending-jaw, as and for the purpose set forth.

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

CHARLES C. TAINTOR.

Witnesses:

THOS. S. CRANE,
L. LEE.