

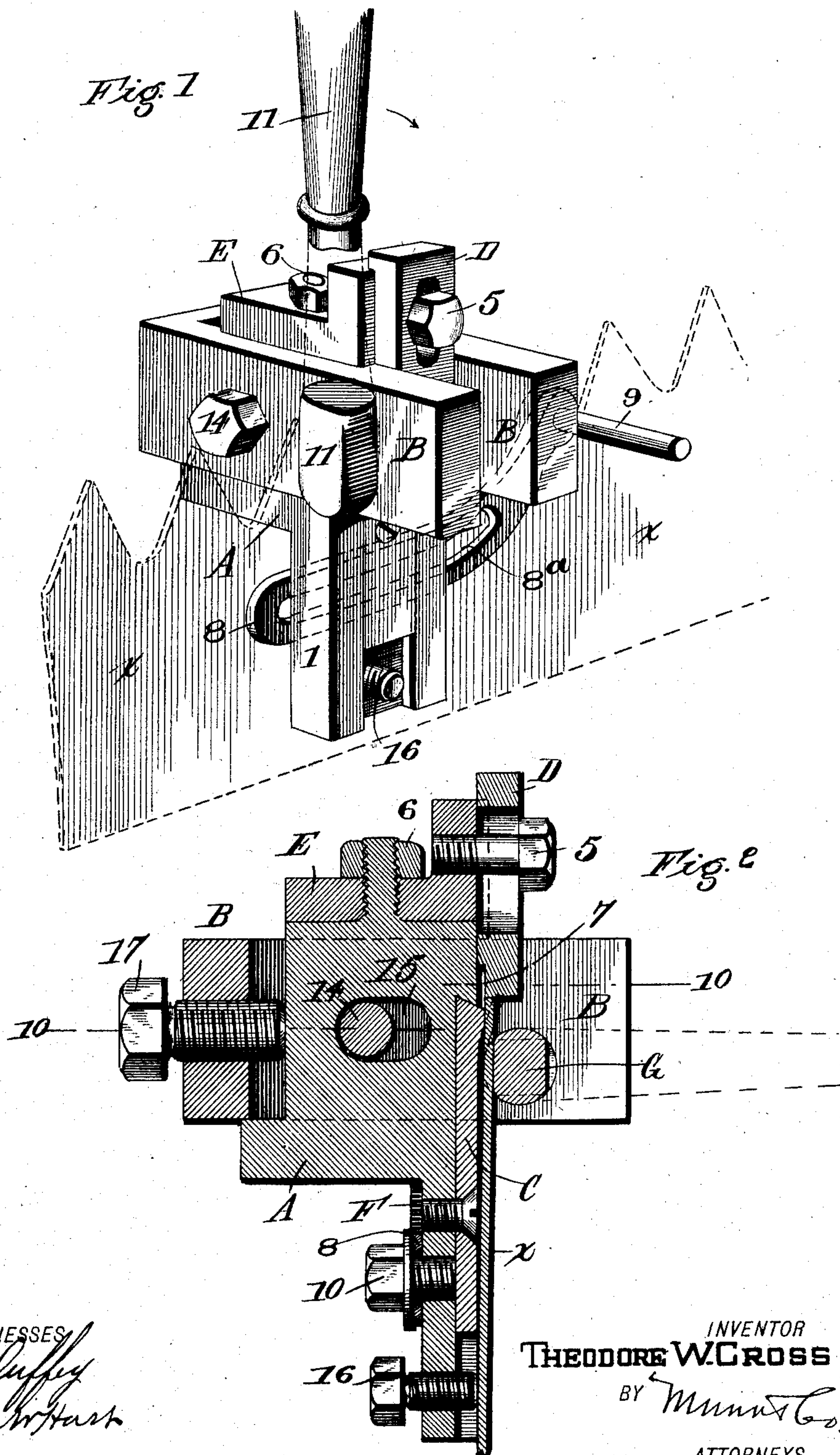
No. 865,165.

T. W. CROSS.
SAW SET.

PATENTED SEPT. 3, 1907.

APPLICATION FILED MAR. 21, 1907.

2 SHEETS—SHEET 1.



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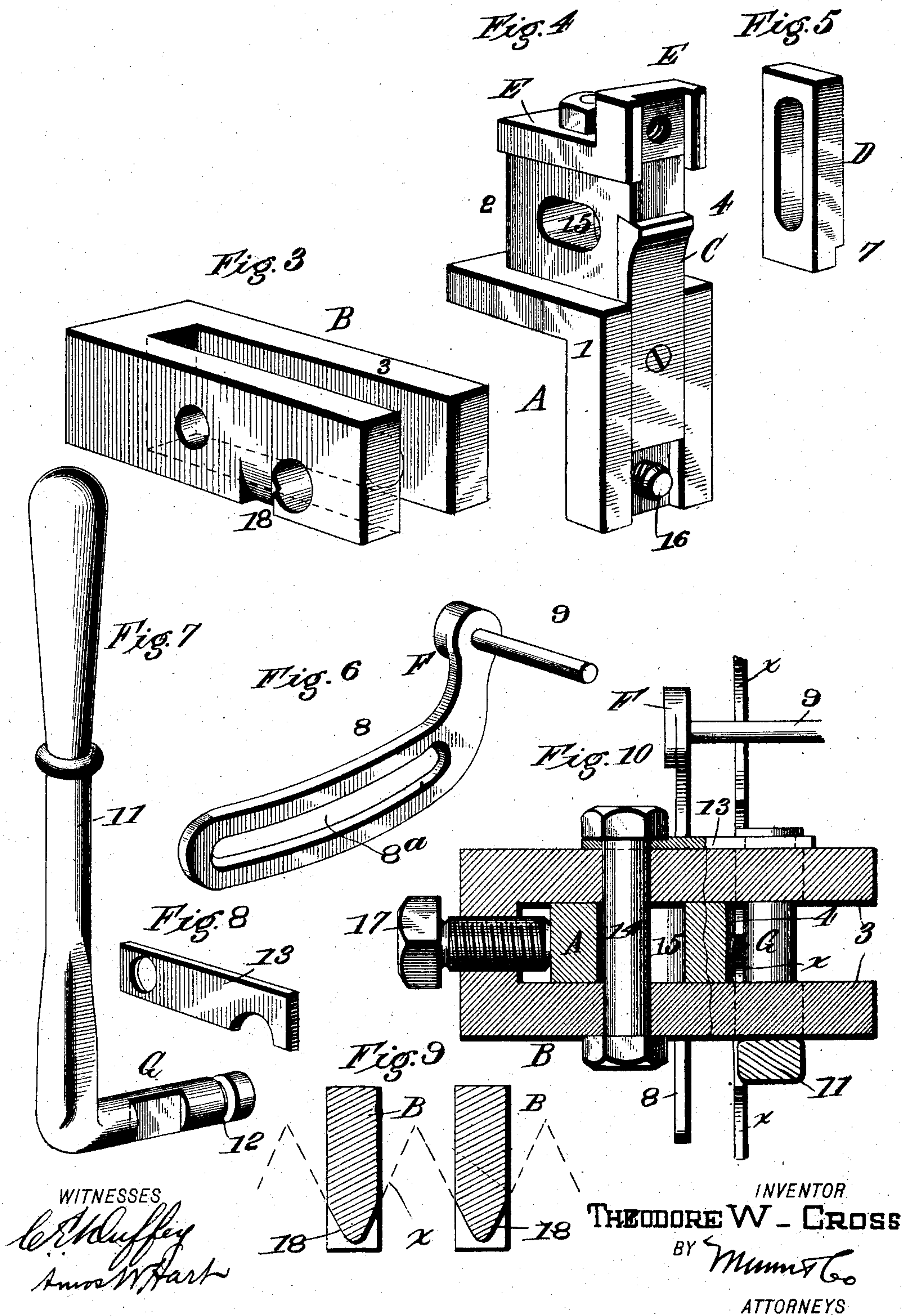
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UNITED STATES PATENT OFFICE.

THEODORE W. CROSS, OF EVERETT, WASHINGTON.

SAW-SET.

No. 865,165.

Specification of Letters Patent.

Patented Sept. 3, 1907.

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To all whom it may concern:

Be it known that I, THEODORE W. CROSS, a citizen of the United States, and a resident of Everett, in the county of Snohomish and State of Washington, have
5 invented an Improvement in Saw-Sets, of which the following is a specification.

My invention is a spring saw-set, that is to say, it is adapted to set saw teeth by pressing them laterally against an anvil, or shaping piece, so as to bend or
10 spring the points sidewise.

The details of construction, arrangement, and combination of parts are as hereinafter described, and illustrated in the accompanying drawing, in which

Figure 1 is a perspective view showing my improved
15 saw-set as applied in use. Fig. 2 is a vertical central section of the saw-set. Fig. 3 is a perspective view of the forked horizontal frame. Fig. 4 is a perspective view of the vertical block or frame to which the forked frame shown in Fig. 3 is secured in practice. Fig. 5 is
20 a perspective view of a vertical adjustable gage for saw teeth. Fig. 6 is a perspective view of a laterally adjustable gage. Fig. 7 is a perspective view of the rotary cam and handle therefor by which the saw teeth are bent or sprung laterally. Fig. 8 is a perspective
25 view of a catch for holding the cam in the frame. Fig. 9 is a vertical cross section of the forked frame shown in Fig. 3. Fig. 10 is a horizontal section on the line 10—10 of Fig. 2.

A—see Figs. 1 and 4—indicates a vertical frame or
30 block which is of irregular form, the lower portion 1 being right angular in shape, and the upper portion 2 being narrowed to adapt it for insertion between the sides or jaws 3 of the forked horizontal frame B—see Figs. 1, 2, and 3. An anvil, or shaping block, C, is
35 attached to the front side of the vertical frame A, its upper end being provided with a transverse rib 4 whose lower side slopes or curves downward, as shown best in Fig. 2. D—see Figs. 1, 2, and 5—indicates a vertical
40 saw-gage, the same comprising a rectangular oblong block having a vertical slot to receive a clamping screw 5, which secures it to the angular bracket E that is secured by a screw nut 6 to the top of part 2 of frame. The front of said bracket E is channeled, or provided with side flanges that embrace the sides of the vertical gage
45 D and hold it in vertical position. The lower edge of the gage D is provided with a right angular rabbet, or notch, 7, for reception of the rib 4 of anvil C in case the gage D should be adjusted downward far enough for the purpose—see Fig. 2.

50 In Figs. 1, 2, and 10, a saw blade X is shown arranged in the position required for operation of the saw-set, one side of the blade resting against the anvil C, and the gage D resting upon one of its teeth, namely the one which is in the position to be sprung, or bent, laterally.
55 It is obvious that by adjusting the gage D by means of the clamping-screw 5, the gage may be set higher or

lower to accommodate saw teeth of different lengths, or to determine the point at which pressure shall be applied for bending the teeth laterally.

For supporting the saw-set as a whole in the required
60 vertical position upon the saw blade X, I employ the lateral gage F, shown detached in Fig. 6, the same consisting of a blade or arm 8 having a lengthwise slot 8^a and its upturned end provided with a lateral pin or rod 9. The slotted part 8 is applied to the back of the lower
65 portion of frame A, and secured by a clamp-screw 10. As shown in Figs. 1 and 10, the pin 9 rests on the saw between two teeth adjacent to the one which is to be bent or sprung laterally. Thus two bearings are provided for the saw-set on a saw blade, the same comprising the vertical gage D and the lateral gage F. It is
70 obvious that the slot 8^a in the gage and the clamp-screw 10 shown in Fig. 2, enable the gage to be set as required, that is to say, to be extended laterally or set at an upward inclination according to the saw which is
75 being operated upon.

The device for bending or springing, and thus properly setting, the saw teeth, is in the nature of a rotary cam G—see especially Figs. 2, 7, and 10. The cam
80 proper is provided with a handle 11 attached at one end and preferably formed integrally with it, the handle and cam being at right angles to each other. The opposite end of the cam is provided with a circumferential groove 12, which receives a pivoted catch 13—see
85 Figs. 8 and 10. The same is pivoted upon a screw bolt 14 that passes through the forks of frame B and through a horizontal slot 15 formed in the web or top portion 2 of the frame A. When the catch 13 is in the horizontal position, it locks the cam in place; but, if raised to a
90 slight inclination, it releases the cam, which may then be withdrawn laterally. As shown in Figs. 2 and 7, the middle portion of the cam has opposite flat surfaces, the intervening portions being circular and constituting the active or operative portions of the cam.

In Figs. 1, 2, 10, the handle 11 is shown raised to the
95 vertical position and one of the flat sides of the cam G is against the saw blade tooth which is to be bent or sprung laterally. If now the handle be turned downward, in direction of the arrow Fig. 1, and thus brought to the horizontal position shown by dotted lines in Fig.
100 2, it is obvious that the rounded under surface of the cam will be forced against the saw tooth and will bend the same inward against the curved surface of the anvil C, and thus the tooth will be compressed to such an extent that it will acquire a permanent lateral bend, or
105 the set required. It will be noted that the cam and the top of the anvil and the vertical gage D are in such local relation that the saw-blade *x* inserted in place as shown in Fig. 2, projects above the cam, and its teeth rest against the upper forwardly projecting portion of
110 the anvil. Thus the cam G is adapted to act upon the saw-blade at a point duly removed from the points of

the teeth. As a means for determining the degree to which the tooth shall be bent laterally, a gage screw 16—see Fig. 2—is arranged in the lower portion of the frame 1, and the lower portion of the saw blade rests in contact with it. It is obvious that by adjusting this screw in or out, the set of a tooth may be changed at will. As a rule, the point of compression of a saw tooth is about one-fourth or three-eighths of an inch below the point of the same, or, what is the same thing, below the vertical gage D. It is obvious that, by carrying the lever 11 further down, or to the pendent position, the cam G will be released from pressure and friction with the saw tooth, and that the saw-set may then be readily moved along the saw so as to engage, and operate upon, another tooth.

Since saws vary in thickness, it is requisite that the anvil C shall be adjustable toward and from the cam G, and since the anvil is secured by a screw in a groove or channel in the vertical face of the block A, as shown in Figs. 2 and 4, the entire block A must be made adjustable. The slot 15 and the cross bolt 14 provide for such

adjustment of the parts A and B relative to each other, and a set screw 17—see Figs. 2 and 10—is applied to the rear portion of the forked frame B for setting the parts A, B, relative to each other. The screw bolt 14 serves to clamp the two parts firmly together, when the proper adjustment has been made. As shown in Figs. 3 and 9, the under side of the forks of frame B are beveled or cut away at 18, thus forming angles adapted to pass down between the teeth of a saw.

I claim:

An improved saw-set comprising a vertical frame having an anvil on its front side, a horizontal forked frame which is adjustable horizontally on said vertical frame, and means for adjusting and clamping it as required, a rotary cam journaled in said horizontal frame in a plane below the top portion of the anvil and a vertically adjustable tooth gage arranged in the horizontal frame and above the anvil, as shown and described.

THEODORE W. CROSS.

Witnesses:

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