

March 18, 1941.

R. D. RUITER

2,235,591

SAW SET

Filed April 11, 1940

2 Sheets-Sheet 1

Fig. 1.

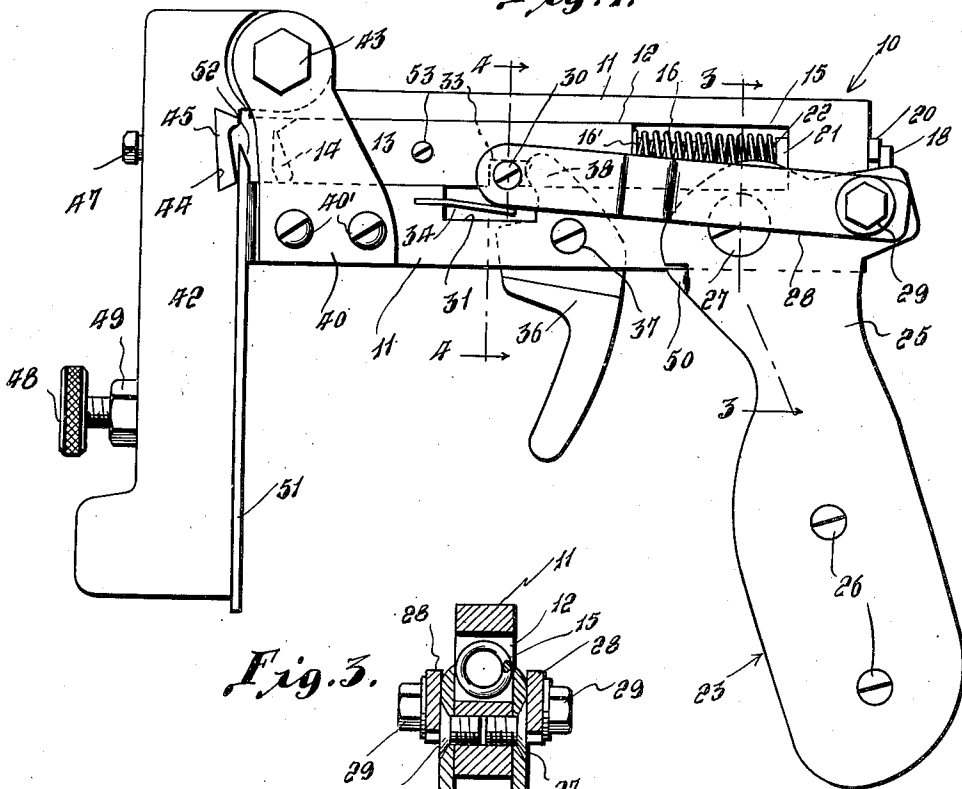


Fig. 3.

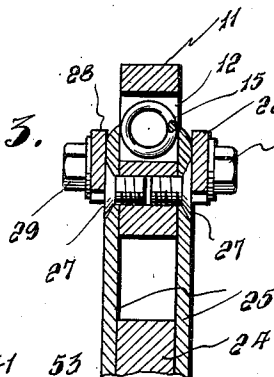


Fig. 2.

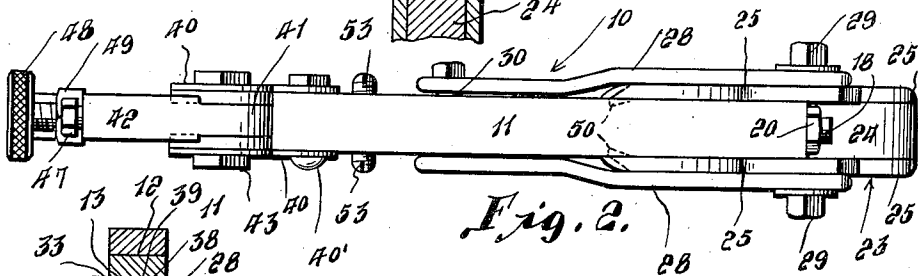
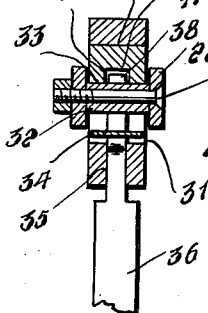


Fig. 4.



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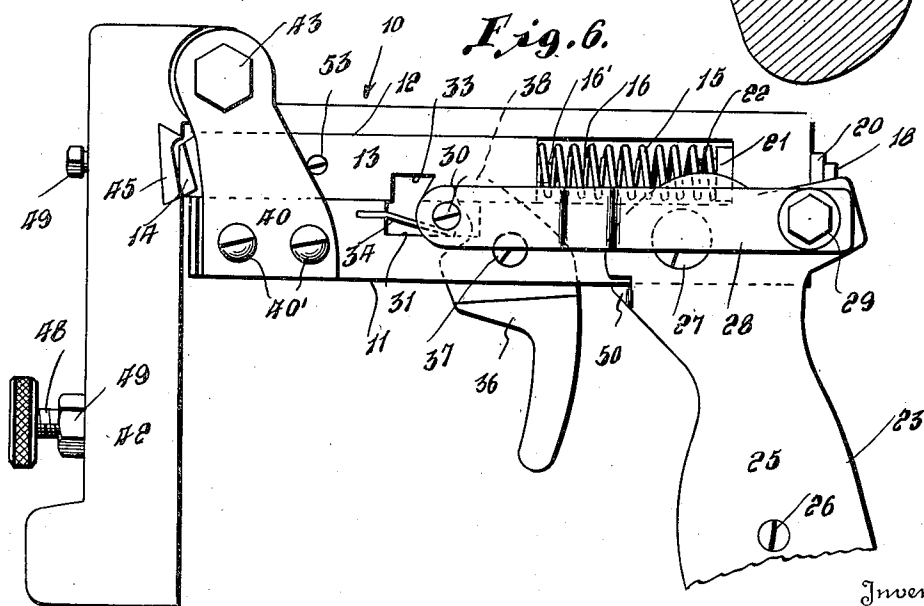
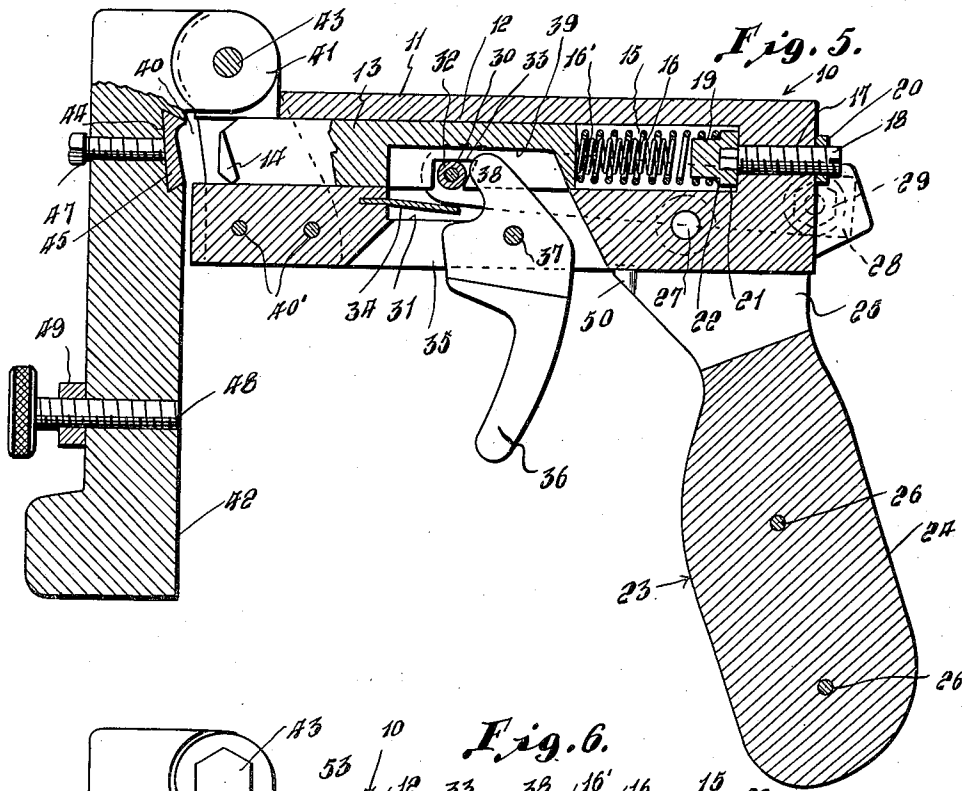
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,235,591

SAW SET

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Application April 11, 1940, Serial No. 329,176

8 Claims. (Cl. 76—67)

This invention relates to an improved construction of saw set of pistol type design including a slidably mounted spring projected hammer for cooperating with an anvil for setting teeth of the saw, which hammer is adapted to be retracted and held in a retracted position by a pivotally mounted handle member, and released, to be projected by its spring, by a trigger.

Still another aim of the invention is to provide a saw set having means of simple construction for cocking a slidably mounted hammer or bolt and for releasing the cocked hammer or bolt to be projected by a spring associated therewith.

Still another object of the invention is to provide a saw setting device which may be readily applied to or removed from a saw blade and which may be readily held in clamping engagement therewith to properly position the saw teeth between the anvil and hammer.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, which illustrate a preferred embodiment of the invention, and wherein—

Figure 1 is a side elevational view showing the saw set in a cocked position,

Figure 2 is a top plan view of the same,

Figures 3 and 4 are transverse vertical sectional views taken substantially along the planes of the lines 3—3 and 4—4, respectively, of Figure 1,

Figure 5 is a longitudinal, vertical substantially central sectional view, partly in elevation, of the invention, and

Figure 6 is a side elevational view of the same showing the parts in a released position.

Referring more particularly to the drawings, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally the improved saw set, which is generally in the shape of a pistol and which includes a barrel portion 11 which is provided with a longitudinal slot 12 which extends from adjacent its rear end through its forward end to slidably receive a bolt 13 having a hammer portion 14 at its forward end which normally projects beyond the forward end of the barrel portion 11. Within the rear end of the slot 12 and behind the bolt 13 is disposed an expansion coil spring 15. The forward end of the spring 15, which abuts against the bolt 13, is held in place by means of a smaller coil spring or spiral strand of wire 16, which is disposed therein and supported at one end by a shank 16' on the rear end of the bolt 13. A threaded bore 17

is formed in the barrel portion 11 with one end thereof opening into the rear end of the slot 12 and the opposite end opening outwardly of the rear end of the barrel portion 11 to receive a follower screw 18 having a stop member 19 swivelly mounted on its inner end and disposed within the slot 12 and a locking nut 20 on its opposite end for retaining the follower screw 18 in adjusted position relatively to the bore 17. The stop member 19 has an annular flange portion 21 forming a seat for one end of the spring 15 and a shank portion 22 extending into said end of the spring to provide a seat for the corresponding end of the spring 16 when the spring 15 is partly compressed. The opposite ends of the springs 15 and 16 seat against the rear end of the bolt 13.

A handle 23, comprising a spacing member 24 and side plates 25, connected thereto by means of fastenings 26, is pivotally connected by means of a pin 27 to the lower portion of the barrel member 11 adjacent its rear end. The plates 25 have corresponding upper ends which extend beyond the spacing member 24 which engage opposite sides of the barrel member 11, and it is through these portions that the pivot pin 27 extends for pivotally mounting the handle 23 thereon. A pair of links 28 have their corresponding ends pivotally connected to the plate portions 25, by means of the fastenings 29, rearwardly of the pivot 27. The links 28 are disposed on the outer sides of the plates 25 and extend forwardly along opposite sides of the barrel portion 11. The free ends of the links 28 are connected by means of a pin 30 which extends through a slot 31 in the barrel 11, beneath the bolt 13. A roller 32 is journaled on the pin 30, as best seen in Figure 5. The bottom edge of the bolt 13, intermediate of its ends, is provided with a notch 33, having a forwardly and downwardly extending rear side. A leaf spring 34 is mounted in the barrel member 11 and extends rearwardly through a portion of the slot 31, from the forward end thereof, for engaging the roller 32 to urge it upwardly into the notch 33.

A perpendicular slot 35 is formed in the barrel 11 and extends from the slot 31 downwardly through the bottom edge of the barrel 11 to receive the intermediate, shank portion of a trigger 36 which is pivotally mounted therein by means of a pivot pin 37 which is provided with a pawl 38 which extends upwardly and forwardly, from the shank portion, into a slot 39, formed in the bottom edge of the bolt 13 and which communicates with the notch 33.

Plates 40 are secured to the sides of the barrel 11, adjacent its forward end, by the fastenings 40' and extend upwardly therefrom above the upper edge of the barrel 11 to receive the restricted extension 41 of a lever 42, which is disposed between the upper ends of the plates 40 and pivotally connected thereto by means of a bolt 43 which extends through the plates 40 and the extension 41. The lever 42 depends downwardly from the forward end of the barrel 11 and is provided with a dovetailed slot 44 in which is removably mounted an anvil 45, which is shaped to snugly engage the slot 44 and which is inserted into or removed therefrom laterally of the lever 42. A set screw 46 extends through the lever 42 and into the slot 44 for retaining the anvil 45 therein. A set screw 48 is mounted in and extends through the lever 42, adjacent its lower end and is provided with a lock nut 49, for a purpose which will hereinafter be explained.

Assuming the parts to be in the position as seen in Figure 6, the handle 23 is swung rearwardly and upwardly relatively to the barrel 11 to move the links 28 forwardly to cause the roller 32 to engage the upper side of the spring 34 and be projected thereby into the notch 33 when it has reached the forward end of the slot 31. The handle 23 is then swung downwardly to retract the links 28 to thereby retract the bolt 13 to cause these parts to assume the position, as seen in Figures 1 and 5 for compressing the spring 15. The extended portions of the plates 25 are struck-out to form the inwardly projecting lugs or stops 50 which engage the bottom edge of the barrel 11 and limit the downward and forward swing of the handle 23 to thereby limit the extent to which the bolt 13 will be retracted. The lever 42 is swung outwardly and away from the barrel 11 so that a saw blade, as seen at 51 in Figure 1, may be positioned between the lower portion of the forward end of the barrel 11 and the lever 42 after which the lever 42 and the handle 23 are pressed toward the blade 51 to cause it to be clamped between the lower portion of the forward edge of the barrel 11 and a portion of the adjacent face of the lever 42 which is disposed directly beneath the groove 44. The saw blade 51 is thus held between the lever 42 and the barrel 11 with one of its teeth 52 positioned in front of the anvil 45. The operator employs one hand to hold the lever 42 and the other to hold the handle 23 to retain the saw clamped between the lever 42 and barrel 11. The trigger 36 is then pulled to cause the pawl 38 to engage the roller 32 and move it downwardly out of engagement with the slot 33 to thereby release the bolt 13 so that the spring 15 can project it to cause its head 14 to contact the tooth 52 to bend the tooth to the proper angle, against the anvil 45 for setting the tooth. Obviously, the shape of the hammer 14 and the face of the anvil 45 may be varied depending upon the extent to which the teeth 52 of the blade 51 are to be bent in setting them. This variation can also be accomplished by adjusting the set screw 48 so that it will hold the lower portion of lever 42 out of contact with the blade 51 to thereby vary the position of the anvil 45 relatively to the blade 51. In order to prevent the bolt 13 from being projected from the slot 12 when the saw set 10 is removed from the saw 51 and is in an uncocked position, stops 53 project outwardly from the sides of the bolt 13 to engage the plates 40 to limit the forward movement of the bolt.

Various modifications and changes are contem-

plated and may obviously be resorted to as only a preferred embodiment of the invention has been illustrated and described.

I claim as my invention:

1. A saw set comprising a guide member having an elongated slot opening outwardly of one end thereof, a bolt slidably mounted in said slot, expansion spring means for normally projecting said bolt toward the open end of the slot, a cocking member pivotally connected to said guide member adjacent its opposite end, links pivotally connected to said cocking member and provided with forwardly extending free ends connected by a transverse bar, a notch in said bolt to receive said bar for retracting the bolt, a trigger mounted in said guide member for engaging the bar to release it from the notch to release the bolt to be projected by said spring means, and an anvil mounted on the guide member and disposed in opposed relationship to the open end of the slot.

2. A saw set comprising a gun shaped member including a barrel having a slot opening outwardly of its forward end, a handle pivotally connected to the barrel adjacent its opposite end, a bolt slidably mounted in said slot, spring means mounted in said barrel for projecting the bolt toward the open end of the slot, a lever pivotally mounted on the upper side of the forward end of the barrel and depending therefrom, an anvil removably mounted in said lever in opposed relationship to the open end of the slot, means for detachably connecting said handle and bolt for retracting the bolt, and a trigger mounted in the barrel for disengaging said means from the bolt.

3. A saw set as in claim 2, said lever having a portion disposed in opposed relationship to the forward end of the barrel for clamping a saw blade therebetween to position a tooth of the saw between the anvil and the forward end of the bolt.

4. A saw set as in claim 2, said means comprising links pivotally connected at their corresponding ends to said handle member and extending forwardly therefrom, a roller mounted between the free ends of said links, a notch in the lower edge of said bolt for receiving the roller, and a leaf spring mounted in the barrel for engaging and directing the roller into the notch, when the bolt is in a projected position.

5. A saw set as in claim 2, comprising a stop member mounted in the closed end of said slot and forming a seat for one end of said spring, a set screw mounted in the barrel member for adjusting the stop relatively to the slot for varying the tension of the spring.

6. A saw set as in claim 2, said lever having a dovetailed slot for receiving said anvil, and a set screw projecting into said slot for removably positioning the anvil therein.

7. A saw set comprising a pistol shaped member including a barrel, a handle pivotally connected to one end thereof, said barrel having a slot opening outwardly of its forward end, an elongated hammer member slidably mounted in said slot, expansion coil spring means for projecting said hammer member toward the open end of the slot, links pivotally connected to said handle, a roller mounted between corresponding ends of said links, a notch in said hammer member for receiving said roller for retracting the hammer when the handle is moved in one direction, a trigger mounted in said barrel for releasing the roller from the notch, when the hammer is in a retracted position, a supporting member mounted on the forward end of the barrel, and

an anvil removably mounted in said supporting member in opposed relationship to the open end of the slot for receiving the hammer when projected by its expansion spring.

- 5 8. A saw set as in claim 7, said supporting member being pivotally connected to the barrel to cooperate therewith in clamping a saw blade

therebetween for positioning a tooth of the saw between the anvil and the open end of the slot, and a set screw mounted in said supporting member for engaging the saw blade to angularly adjust the supporting member and anvil relatively thereto. 5

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