A. SERFÖZÖ.

SAW SET.

APPLICATION FILED JUNE 19, 1916.

1,241,772.

Patented Oct. 2, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

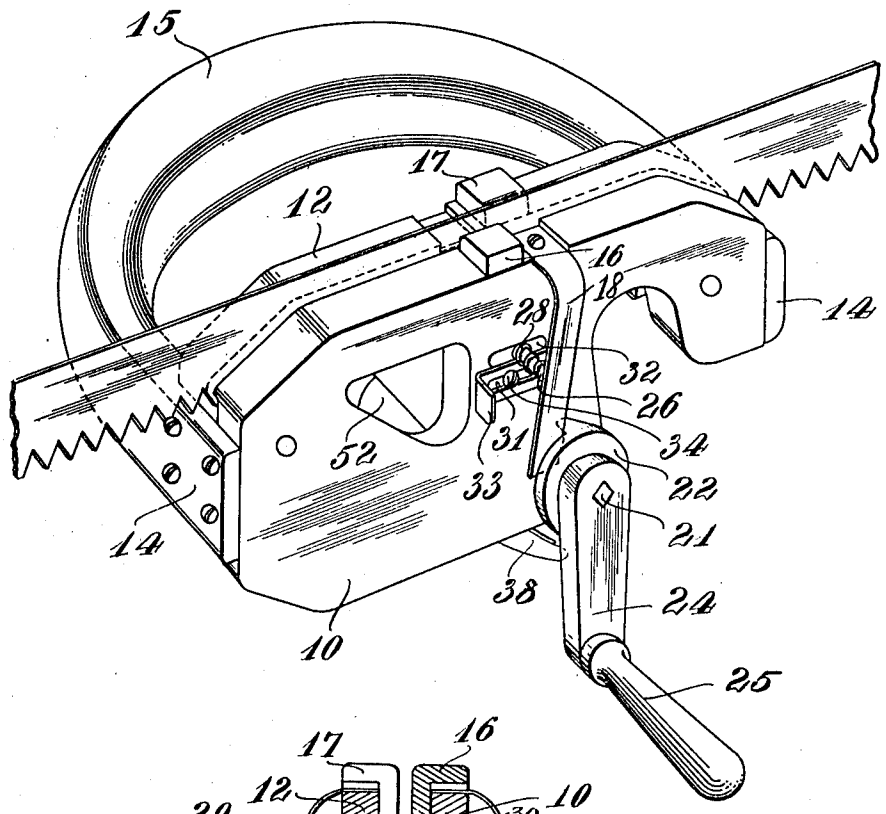
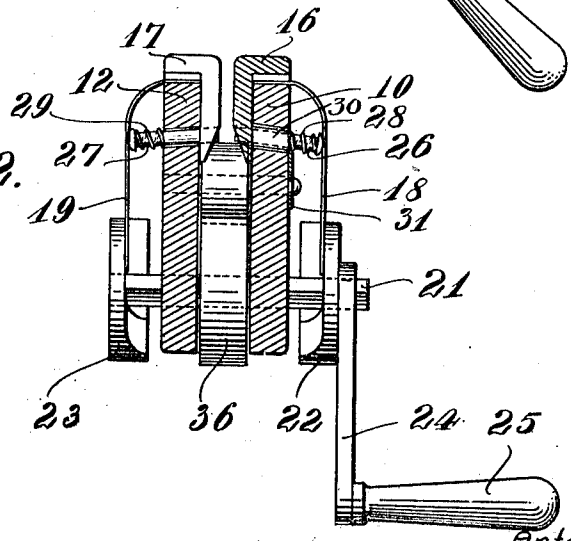


Fig. 2.



Inventor

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By his Attorney

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2 SHEETS—SHEET 2.

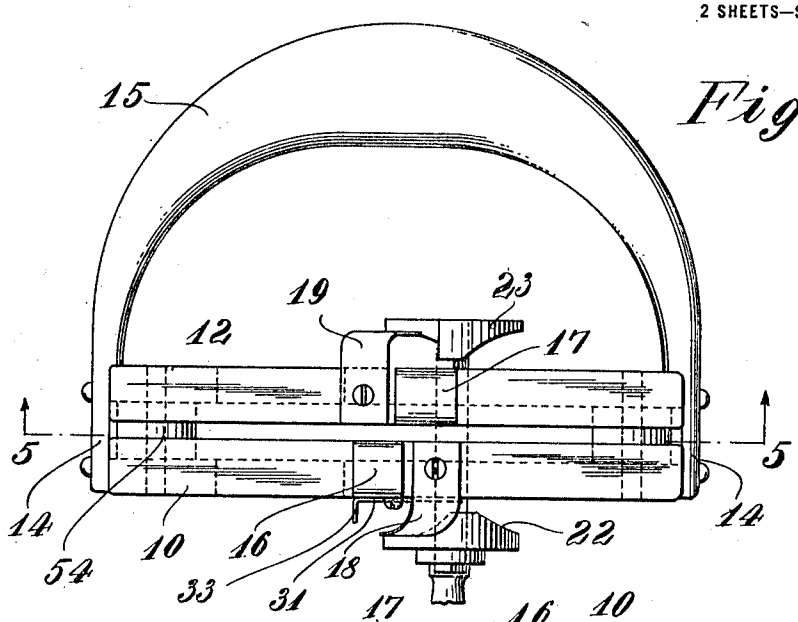


Fig. 3.

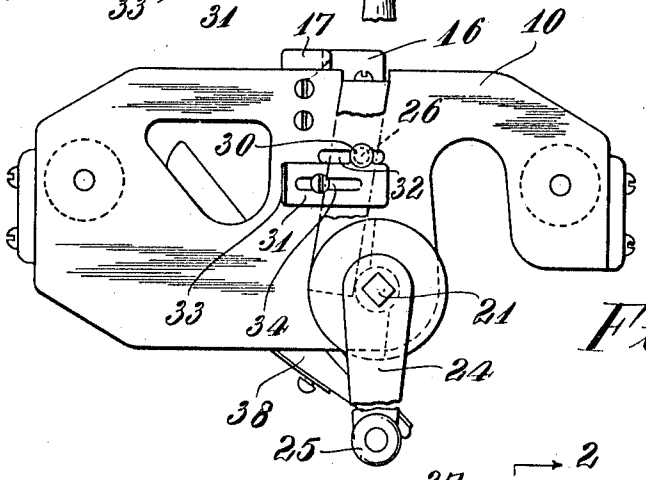


Fig. 4.

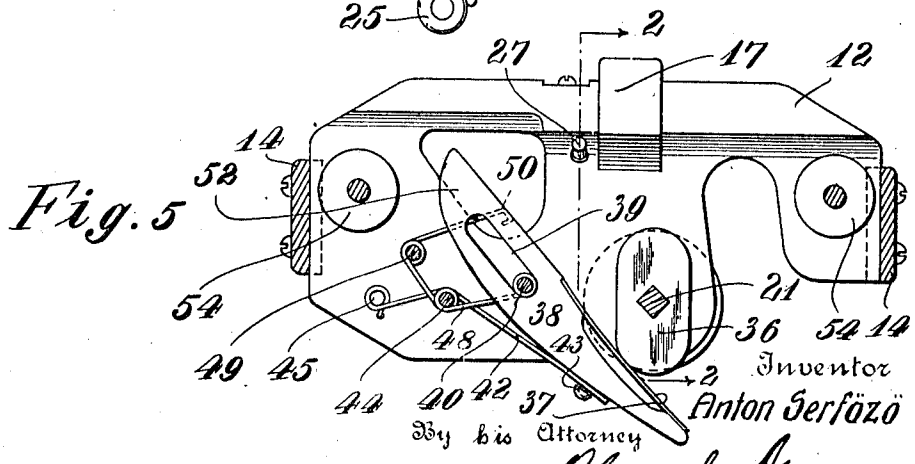


Fig. 5

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UNITED STATES PATENT OFFICE.

ANTON SERFÖZÖ, OF DENVER, COLORADO.

SAW-SET.

1,241,772. Specification of Letters Patent. Patented Oct. 2, 1917.

Application filed June 19, 1916. Serial No. 104,507.

To all whom it may concern:

Be it known that I, ANTON SERFÖZÖ, a subject of the King of Hungary, residing at Denver, in the county of Denver and State of Colorado, have invented new and useful Improvements in Saw-Sets, of which the following is a specification.

This invention relates to improvements in apparatus for bending alternate teeth upon saw blades, commonly known as saw-sets.

One of the objects of the invention is to provide a hand actuated device adapted to operate in a rapid and efficient manner without special experience on the part of the operator.

Another object is to provide an apparatus having means whereby saws having differently spaced teeth may be operated upon, it being possible to adjust the apparatus to suit varying conditions of teeth distance.

A further object is to provide in such an apparatus, means for feeding the teeth intermittently into the range of bending action, and finally, to provide such a device in a specially compact form, such as may readily be carried in any workman's kit.

These and other similar objects are attained by the novel construction and combination of parts hereafter described and shown in the accompanying drawings, forming a material part of this specification, and in which:—

Figure 1 is a perspective view of the apparatus, made in accordance with the invention.

Fig. 2 is a transverse sectional view, taken on line 2—2 of Fig. 5.

Fig. 3 is a top plan view of the apparatus.

Fig. 4 is a front elevation of the same.

Fig. 5 is a vertical sectional view, taken on line 5—5 of Fig. 3.

The invention is comprised of a pair of plates 10 and 12 respectively outer and inner, the same having a like profile and engaged at their ends by extensions 14 of the handle 15 by which the implement is maneuvered.

These plates are of reduced thickness for a considerable portion of their height, the upper edges being allowed to approach each other within a short distance and secured to the inner surface of the plates are hardened anvils 16 and 17, adapted to contact with the sides of the saw in its passage through the implement and to support the same during the bending action.

Also attached to the upper edge of the plates 10 and 12, opposite to the anvils 16 and 17 are secured flat, obliquely disposed resilient strips 18 and 19, extending downwardly alongside the plates.

A shaft 21 is mounted in the lower part of the plates 10 and 12 and has secured to it cams 22 and 23, the inner faces of which are formed into two uniform raising sections terminating abruptly. This shaft has also mounted upon it a lever 24, having an operating handle 25 by which the shaft and cams may be rotated.

These cams work directly upon the ends of the resilient strips 18 and 19 so that as the shaft is turned, first one and then the other is forced inwardly toward the plates and caused to make contact with the outstanding ends of hardened plunger hammers 26 and 27, which are slidably engaged within the plate 12 and furnished with helically wound push springs 28 and 29 by which they are normally pressed outward against the inner edge of the spring elements 18 and 19.

The plunger hammer 26 is slidably contained within a bushing or sleeve 30 formed with a sliding element 31, the sleeve 30 sliding in the slot 32, formed through the side of the plate 10, while the slide is movable by means of the projection 33 and can be clamped when in an adjusted position by means of the screw 34.

Secured on the shaft 21 between plates 10 and 12 is a face cam 36, the same being set in timed relation to the cams 22 and 23 and adapted to impinge upon a flat resilient element 37 set in the lever 38, the lever having a slot 39 slidably mounted on a pin 40, rigidly set on the side plates 10 and 12.

A spring 42, secured at 43 to the lever 38 is coiled around a post 44, fixed in the plates, the extreme end of the spring being turned outward and secured at 45.

A second spring 48 engaged in a slot formed in the back of the lever 38, is coiled around the pin 44, and continuing to another coil around the pin 49 from whence it is extended through a slot in the lever 38 and terminating in the hook 50, the construction and arrangement of the springs being such as to hold the lever 38 floatingly, normally pressed against the cam, opposite to the screw 43 whereby the spring element 37 is always under tension, causing the lever to rock on the pivot 40, while the tendency of the spring 48 is to maintain the le-

ver 38 so that the extreme point 52 will be carried toward the top so far as the pin 40 will permit as engaged within the slot 39.

A pair of rollers 54 are freely pivoted between the plates 10 and 12 near the ends thereof and serve as supports to receive the saw when entered between the anvils 16 and 17.

In operation, the saw being placed as indicated in Fig. 1, the handle is actuated, causing the shaft 21 to rotate, whereupon the cams 21 and 23 impinge successively against the pins 28 and 29, forcing the inner ends against the teeth and bending the same alternately in opposite directions.

At each full revolution of the cam, two adjacent teeth are operated upon and, during the return of the hammer plungers, the lever 38 is operated, causing the point 52 to engage with the teeth, advancing the saw blade the necessary amount to place two teeth next adjacent in condition for further operation.

The longitudinal distance between the plungers 26 and 27 is made in conformity with the center distance of any two adjacent teeth by changing the position of the slide 31 in an obvious manner, and the lever 38 is so mounted as to automatically become engaged with the teeth of the saw and advance the same, irrespective of the distance between succeeding teeth, the motion imparted in advancing the saw being such as not to injure the cutting edges.

Having thus described my invention, together with the manner of its operation and use, what I claim as new and desire to secure by Letters Patent is:—

1. In a saw-set, the combination with a pair of plates, anvils disposed on the inner surface of said plates, resilient members disposed on the outer surface of said plates, plunger hammers disposed obliquely in said plates and movable therethrough in register with said anvils and adapted to be impelled by said resilient members, a shaft revolubly mounted in said plates, means for actuating said shaft, a pair of side cams each having a double throw mounted on said shaft exteriorly of said plates and adapted to impinge the resilient members, a face cam mounted on said shaft between said plates, and a floating lever for feeding the saw-blade, said lever having a part engageable by the last mentioned cam.

2. In a saw-set, the combination with a handle having a pair of plates, anvils disposed on the inner surface of the plates, resilient members disposed on the outer surface of the plates, plunger hammers disposed obliquely in said plates behind said resilient members and slidably in register with said anvils, a floating lever for feeding the saw-blade, means for advancing said floating lever at uniform intervals and in relation to the hammer action, said means being resiliently applied, and means for thrusting said lever against the teeth of a saw-blade inserted between said anvils.

3. In a saw-set, the combination with a handle, a pair of plates secured thereto and spaced from each other, an anvil disposed on the inner surface of each plate, a resilient member disposed on the outer surface of each plate, a plunger hammer obliquely disposed in each plate in register with an anvil and adapted to be impelled by a resilient member, a shaft revolubly mounted in said plates, means for actuating said shaft, a pair of side cams mounted on said shaft one on the outside of each of said plates, said cams being adapted to impinge the resilient members, a face cam mounted on said shaft between said plates, and a floating lever for feeding the saw-blade, said lever having a part engageable by the last mentioned cam.

4. In a saw-set, the combination with a handle bent upon itself and provided between its opposed ends with a pair of plates spaced from each other, a pair of anvils disposed on the inner surface of said plates, hammer plungers slidably in register with said anvils, said plungers being disposed obliquely to said plates, means for actuating said hammer plungers, a floating feed lever, means for advancing said feed lever at uniform intervals and in relation to the plunger action, said operating means being resiliently applied and means for thrusting said lever against the teeth of a saw-blade inserted between said anvils.

In testimony whereof I have signed my name to this specification.

ANTON SERFÖZÖ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."