

(No Model.)

H. L. BOSS.
SAW SETTING MACHINE.

No. 594,593.

Patented Nov. 30, 1897.

Fig. 1.

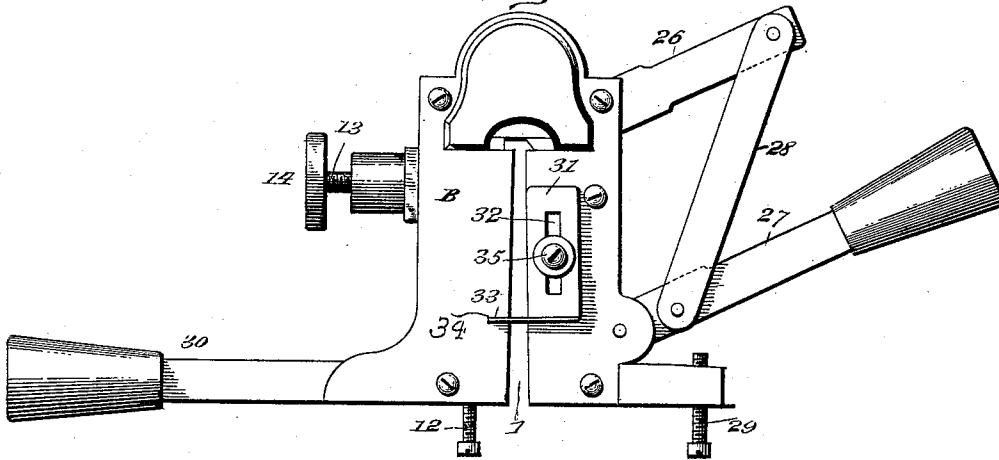


Fig. 2.

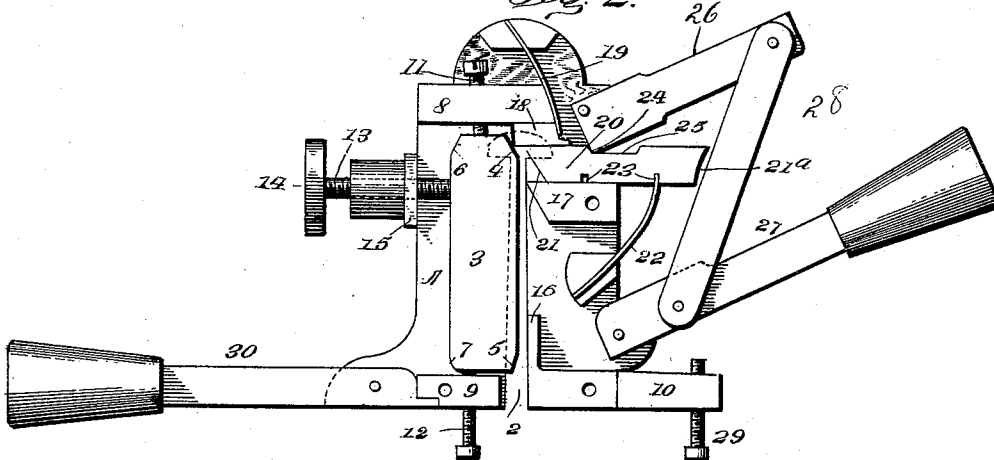


Fig. 3.

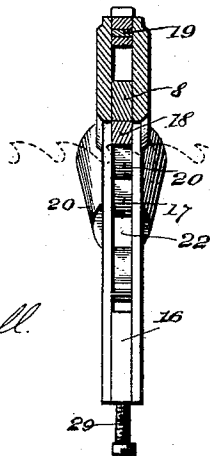
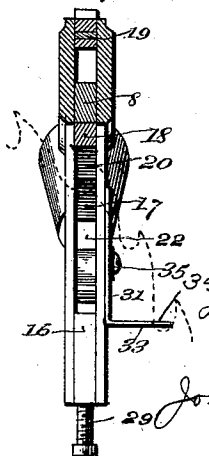


Fig. 4.



WITNESSES:

L. G. Randall.
H. A. Han.

INVENTOR

Henry L. Boss.

BY

John Hedderburn
his ATTORNEY.

UNITED STATES PATENT OFFICE.

HENRY L. BOSS, OF WATSONVILLE, PENNSYLVANIA.

SAW-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,593, dated November 30, 1897.

Application filed June 11, 1896. Serial No. 595,106. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. BOSS, a citizen of the United States, residing at Watsonville, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Saw-Setting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to saw-sets.

My object is to provide a more powerful and satisfactory saw-set adapted for treating a variety of saws and effecting in all cases a highly superior set of teeth without any danger of their cracking or breaking.

The invention consists of certain novel features and combinations, as will appear more fully hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of the complete invention, showing the gage; Fig. 2, a side elevation of my improved saw-set, showing one side removed; Figs. 3 and 4, cross-sectional views showing the invention used in connection with a straight saw and a circular saw, respectively.

A and B designate the two sides of the saw-set, the former of which carries the operative mechanism, while the latter simply serves as a cover and connection for the gage. The sides are provided with registering slits 1 and 2, which terminate in back cuts at the upper end and serve to receive the saw being treated.

A set block or plate 3 has two of its corners 4 and 5 beveled, while the remaining corners 6 and 7 are rounded. This plate has straight edges adapted to bear against the saw and hold it firmly in position, being capable of a sliding movement on the side A. This side A is provided with three ears 8, 9, and 10, all of which receive adjusting-screws.

Adjusting-screws 11 and 12 are adapted to adjust the set-plate vertically, and that designated 13 is adapted to set it against the saw, so that any desired position of the set-plate is rendered possible. The adjusting-screw 13 is preferably provided with a hand-wheel 14 and a jam-nut 15.

On the opposite side of the slit in the side

A, I provide an abutment-ear 16, against which the saw rests. I also provide a guide-ear 17.

A tooth-rest 18, pressed by a spring 19, rests against the upper end of the set-plate, and it also bears on the ear 8, which serves as a guide. The apex of the tooth of the saw rests on this tooth-rest when the saw is in position.

My improved die 20 is adapted for a sliding movement between the tooth-rest and the guide-ear 17. This die has one end beveled, as at 21, to fit the bevel on the set-plate, while its other end 21^a is concaved, so that it and the set-plate may be reversed and a curved set given to the saw-teeth when desirable. This die is normally retracted, as shown, by a flat spring 22, having its free end adapted to fit in notches 23 of the die. The upper edge of the die is provided with a recess, thereby forming two shoulders 24 and 25.

The means for operating the die consists of a compound lever composed of two levers 26 and 27, connected by links 28 and pivoted to the side A in such position that the end of the upper lever 26 is adapted to work in the recess in the die and engage with one of the shoulders when properly actuated. The lower lever is provided with a suitable handle, as shown. The stroke of the levers is regulated by an adjusting-screw 29. I also find it desirable to employ a hand-lever 30, which is fulcrumed to the side A, as shown, and used for the purpose of relieving or counterbalancing the strain brought to bear on the saw when the compound lever is depressed.

A gage is connected to the side B. This gage consists of a plate 31, provided with a longitudinal slot 32 and having an outwardly-extending arm 33, provided with a rest 34, which extends across the saw-slot. A screw and washer 35 are the means for holding the gage in proper position.

The operation is as follows: If a straight saw is to be set, the gage is removed. The saw is then inserted in the saw-slots until the saw-teeth rest against the tooth-rest. The set-plate is adjustable vertically by the screws 11 and 12 until it has been brought in proper position and is held snugly, yet easily, between them. The adjusting-screw 13 is then turned, the same causing the set-plate to advance and serving to clamp the said plate

firmly against the saw, so that the saw-set is held tightly in position during the setting operation. The hand-lever should now be depressed to counterbalance the strain to be encountered. The compound lever is then operated, which actuates the die and presses the saw-tooth firmly and evenly against the set-plate. The clamping-screw 13 is turned back slightly to release the set-plate, which can slide between the tips of the screws 11 and 12. The saw-set can then be slid along the saw in any position to set the next tooth, and after the screw 13 has again been turned and the saw clamped by the said plate the operation may be repeated. If a circular saw is to be set, the gage is replaced. After the saw has been properly inserted in the saw-set the gage is adjusted so that its rest lies on top of the second tooth from the one being set. This materially assists in holding the saw in place after it has been clamped in position by the set-block in the manner heretofore described. After one tooth has been set the saw is advanced and the operation repeated.

It will be observed that owing to the construction and coöperation of the tooth-rest 18, the spring 19, and the anvil 3, no matter what the position of the anvil, the tooth-rest will always be pressed against it by the spring, and when the anvil is adjusted the tooth-rest moves with it. This spring and tooth-rest form an important part of the present invention, as there is no liability of a space being left between the end of the tooth-rest and the anvil after a saw has been removed after being set, for if a space were occasioned when the next tooth would be set there would be a liability of its point being bent out of shape over the upper edge of the anvil.

Having thus described the invention, what is claimed as new is—

1. In a saw-set, the combination with a casing or body having an opening to receive the saw, of a combined anvil and saw-clamp located on one side of the slot, means for moving the said anvil and clamp across the slot, a setting-die located on the other side of the slot from the saw-clamp, and means for moving said die.

2. In a saw-set, the combination with the saw-set casing or body, of a movable combined saw-clamp and anvil having die-faces, means for effecting adjustment of said plate both longitudinally and transversely of its length, a setting-die adapted for coöperation with the die-faces of the set-plate, and means for actuating said die.

3. In a saw-set, the combination with an adjustable set-plate having die-faces, of a movable tooth-rest, abutting on the set-plate and actuated by the movement of the latter, a setting-die for forcing the teeth against the set-plate, and means for actuating the setting-die, substantially as described.

4. In a saw-set, the combination with an adjustable set-plate for clamping the saw in position, and which serves as an anvil, of a spring-pressed tooth-rest, abutting on the set-plate and actuated by the movement of the latter, a setting-die, and means for actuating the latter, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HENRY L. BOSS.

Witnesses:

E. W. MULLIN, Jr.,
J. P. MULLIN.