

No. 799,737.

PATENTED SEPT. 19, 1905.

H. L. JOHNSTON.

SAW SET.

APPLICATION FILED FEB. 28, 1905.

2 SHEETS—SHEET 1.

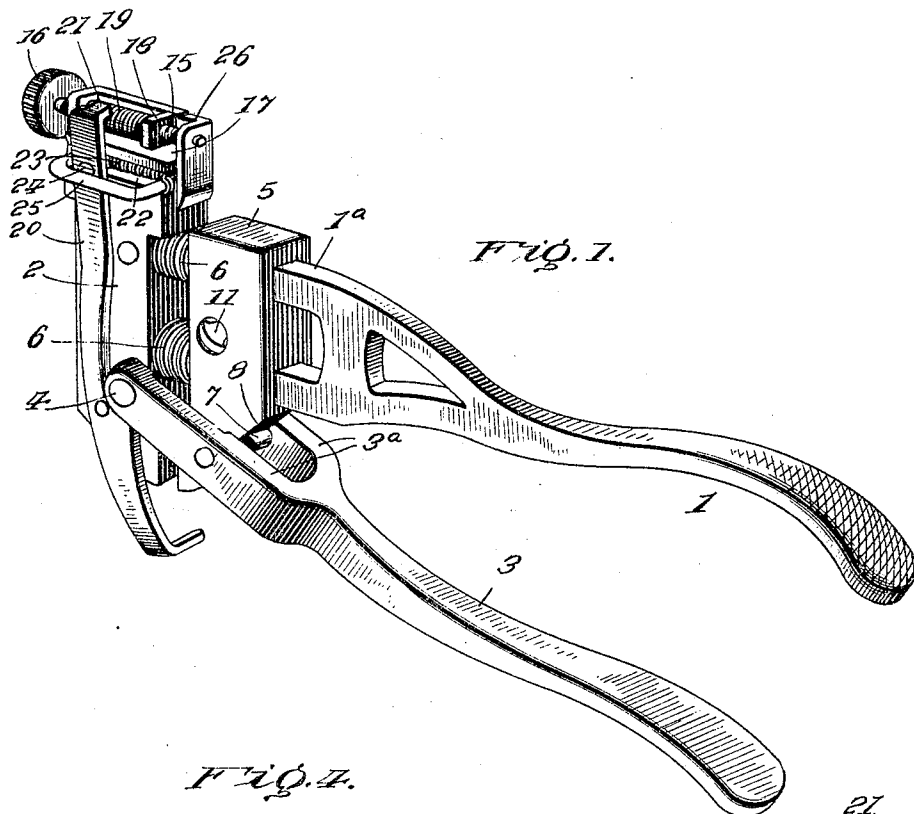


FIG. 4.

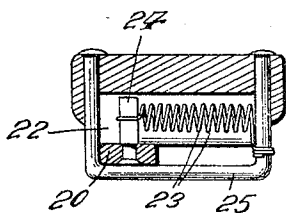
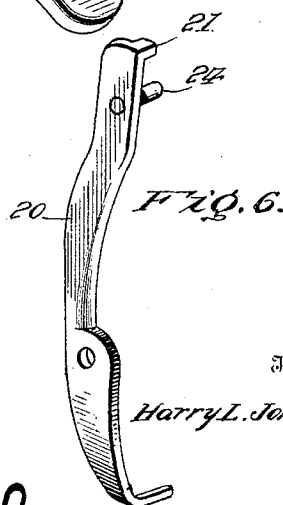
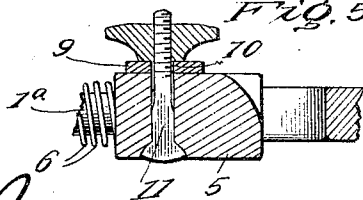


FIG. 5.



Witnesses

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2 SHEETS—SHEET 2.

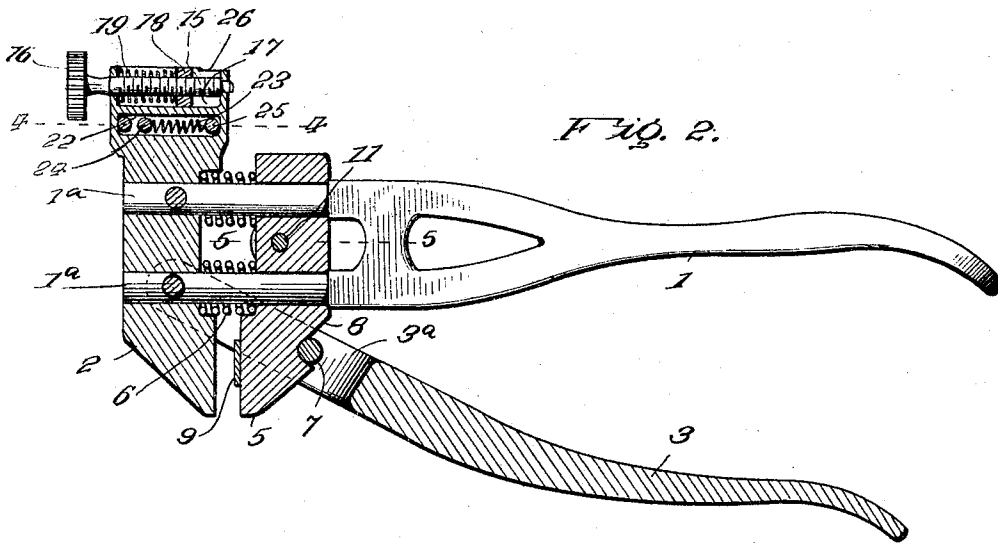


Fig. 2.

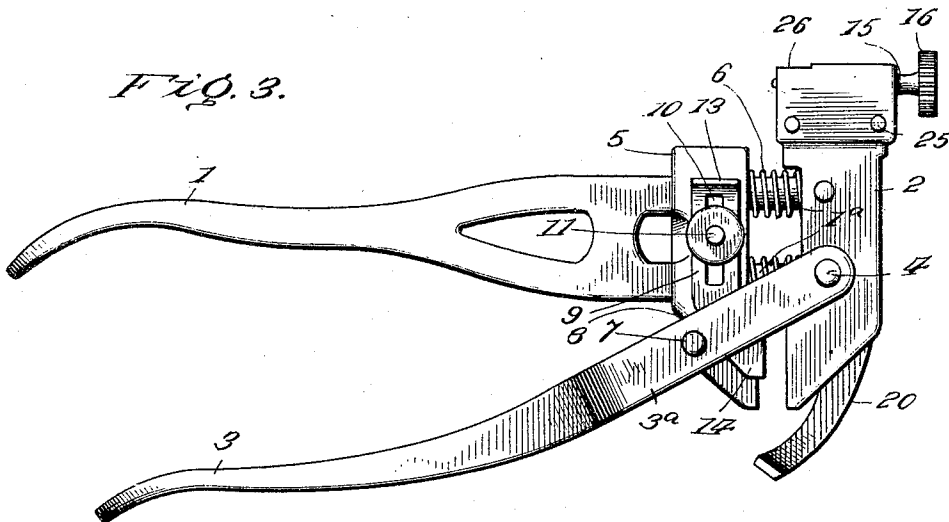


Fig. 3.

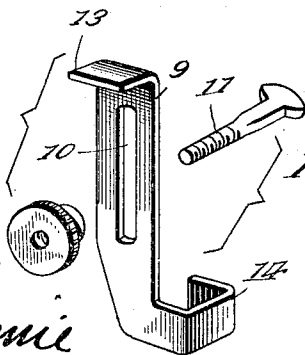


Fig. 7.

Witnesses

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SAW-SET.

No. 799,737.

Specification of Letters Patent.

Patented Sept. 19, 1905.

Application filed February 28, 1905. Serial No. 247,734.

To all whom it may concern:

Be it known that I, HARRY L. JOHNSTON, a citizen of the United States, residing at Detroit, in the county of Becker and State of Minnesota, have invented certain new and useful Improvements in Saw-Sets, of which the following is a specification.

This invention aims to provide a simple and durable saw-setting tool, and embodies a construction of device of this class which is particularly adapted for use in setting teeth of crosscut, buck, or other saws.

An essential feature of the invention resides in the provision of peculiar means for admitting of use of the device in setting teeth of different lengths, a special form of gage means being utilized for this purpose. In addition to the above peculiar means are also used for regulating the pitch or set of the teeth, so that all teeth of the saw will be accurately alined when the operation is completed.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a tool embodying the essential features of the invention. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a side elevation. Fig. 4 is a sectional view taken about on the line 4 4 of Fig. 2. Fig. 5 is a broken section taken about on the line 5 5 of Fig. 2. Fig. 6 is a detail perspective view of the pressure member. Fig. 7 is a detail perspective view of the gage-plate and the means adjustably attaching the same.

In carrying out the invention and specifically describing the construction thereof the tool comprises a handle 1, at one end of which is disposed a relatively rigid jaw 2. A second handle 3 is pivoted to the jaw 2 at 4, and this handle coöperates with a movable jaw 5, which is mounted for movement longitudinally of the handle 1. The end portion of the handle 1 adjacent the jaw 2 is preferably of bifurcate construction to form spaced members 1^a, and the movable jaw 5 is provided with openings

therethrough, which openings receive the spaced members 1^a. Between the jaw 5 and the jaw 2 and mounted upon the spaced members 1^a of the handle 1 are interposed coil-springs 6, the normal action of which is to hold the two jaws 1 and 5 separated. The end portion of the handle 3 adjacent the jaw 2 is likewise bifurcated to form spaced members 3^a, and these members operate upon opposite sides of the jaws 2 and 5, the pivot 4 passing through both of the members 3^a, as shown most clearly in the drawings. Some distance from the pivot 4 the members 3^a of the handle 3 are connected by a transverse bar 7, which is adapted to engage a cam 8, formed upon the rear portion of the movable jaw 5. The cam 8 inclines outwardly toward the handle 1, and by forcing the handle 3 toward the handle 1 the bar 7 in riding up the cam 8 forces the movable jaw toward the fixed jaw. In operating the tool the teeth of the saw are received between the jaws 2 and 5, and said jaws are closed upon the teeth individually, whereupon the tool is operated to set or give the proper pitch to the said teeth.

In order that the device may be applied to teeth of different lengths and offset all of the teeth at the same depth or length, a gage-plate 9 is utilized, and this plate is preferably mounted at one side of the movable jaw 5. The plate 9 is slotted longitudinally, as shown at 10, and a set-screw 11 passes through the slot 10 of the plate, a thumb-nut 12 being threaded upon the screw 11 and adapted to engage the plate 9 in order to hold the latter at an ascertained adjustment. An end portion of the plate 9 is projected outwardly from the jaw 5 to form a finger-piece 13, and the opposite end portion is projected laterally and downwardly to form a somewhat U-shaped gage member 14, which receives and rests in contact with the inner or working side of the jaw 5 above mentioned. It will be obvious that the member 14 comprises a projecting part which will regulate the length of the tooth which may be received between the jaws 2 and 5 by engaging or resting against the extremity of each tooth. By adjustment of the plate 9 longitudinally of the jaw 5 the portion of the tooth embraced by the jaws of the device will be varied according to the desires of the operator, as necessary for the purposes of the invention.

At the end of the jaw 2 opposite that which operates upon the teeth of the saw is mounted a feed-screw 15, said screw being arranged

longitudinally of the tool and provided at one end with a suitable knurled finger-piece 16 by which it is manipulated. The portion of the jaw 2 at which the screw 15 is mounted is recessed, as at 17, from one side of the jaw, and the screw aforesaid is mounted in openings in the end walls of this recess 17. An indicating member 18 is provided with a threaded opening therethrough to receive the screw 15 and is adjusted between the end walls of the recess 17 by means of said screw. Between the member 18 and one end wall of the recess 17 is interposed a coil-spring 19, and this spring is mounted upon the feed-screw above described. The member 18 coöperates with a pressure device or member 20, which comprises, essentially, a plate pivoted at a point between its ends to a side of the jaw 2, one end of the plate being projected some distance beyond the working end of the jaw 2, the opposite end of the pressure member having a projection 21 extended laterally therefrom adjacent the recess 17 above described. The member 20 is adapted for pivotal movement in the plane of the side of the tool and is designed to coöperate with the saw, so that the exact amount of movement of the tool in setting the teeth may be determined. A side of the jaw 2 is provided with a second recess 22 just below the recess 17, and the coil-spring 23, mounted in this recess, bears against the lug 24, projecting laterally from the member 20 near its upper end. A U-shaped guide member 25 has the ends thereof received in the recess 22, and this guide member 25 receives the pressure member 20 and directs said member in its movement. The side wall of the recess 17 at its outer edge may be notched, as shown at 26, so that the member 18 may be adjusted to an ascertained position by means of the screw 15.

Describing the operation of the tool, in setting the teeth of the saw the gage-plate 9 is first adjusted so that all of the teeth offset the same length when the tool is operated. Having adjusted the plate 9, the tool is now disposed so as to receive a tooth of the saw and the handles 1 and 3 are forced together, so as to clamp firmly against the tooth. In clamping the tooth between the jaws of the tool the projecting end portion of the pressure member 20 is caused to bear against the side of the saw, and under certain conditions of use the engagement of the pressure member, as above mentioned, will force the projection 21 approximately into alinement with the notch 26 at one side of the recess 17. The feed-screw 15 may now be adjusted so that the member 18 will assume a position a certain distance from the notch, according to the set which it is desired to give to the teeth of the saw, and by forcing the tool downwardly the pressure of the member 20 against the

saw will be gradually relieved until the projection 21 of this member moves into alinement with the indicating member 18, whereupon the downward movement of the tool is stopped, the necessary pitch having been given to the tooth. The amount of movement of the pressure-plate 20, as indicated by the member 18, determines the pitch which is given the teeth, and this enables all of the teeth to be offset exactly the same distance, which is a very essential feature in a device of this class. It will be understood that by adjusting the member 18 the amount of pitch of the saw-teeth may be regulated in a manner readily apparent to those versed in this art.

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

1. In a saw-set, the combination of coacting jaws, a pressure-plate pivoted to one of the jaws and adapted to engage the saw operated upon, and an adjustable indicating member carried by one of the jaws to indicate the movement of the pressure member.
2. In a saw-set, the combination of coacting jaws, a pressure-plate pivoted to a side of one of the jaws and adapted to engage the saw operated upon to indicate the movement of the tool relative thereto, and a movable indicating member adjustably mounted upon the jaw carrying the pressure member.
3. In a saw-set, the combination of coacting jaws, handles for the jaws, a pressure member pivoted to a side of one of the jaws, spring means coöperating with said member, a feed-screw mounted upon the jaw carrying the pressure member, and an indicating member adjustable upon said feed-screw.
4. In a saw-set, the combination of coacting jaws, handles for the jaws, a pressure member pivoted to a side of one of the jaws, spring means coöperating with said member, a feed-screw mounted upon the jaw carrying the pressure member, an indicating member adjustable upon said feed-screw, a spring coacting with the indicating member, and a guide member for directing the movement of the pressure member.
5. In a tool of the class described, the combination of relatively fixed and movable jaws, a handle carried by the fixed jaw, a second handle pivoted at one end to the fixed jaw, the movable jaw being provided with a cam, and means carried by the second handle at a point between its ends for engaging the cam of the movable jaw to effect actuation of the latter.

In testimony whereof I affix my signature in presence of witnesses.

HARRY L. JOHNSTON. [L. s.]

Witnesses:

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CHAS. G. STURTEVANT,
HENRY OWENS.