J. H. DEVINI.

SAW TOOL.

APPLICATION FILED JUNE 12, 1913.

1,098,233.

Patented May 26, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

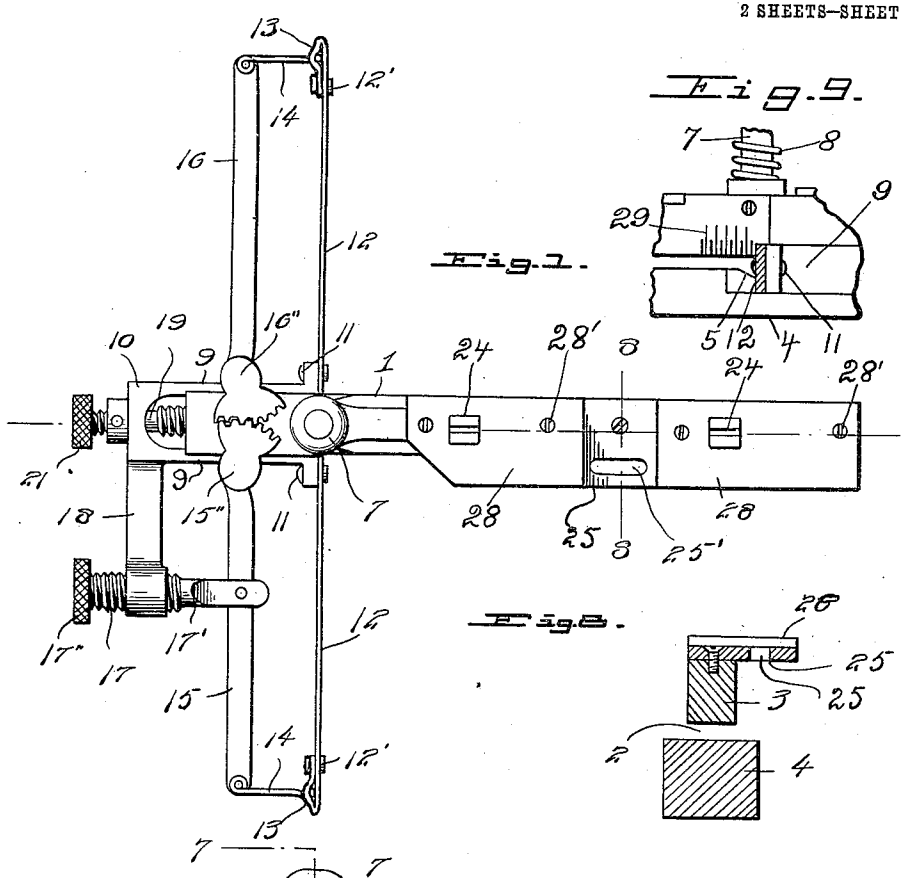


Fig. 9.

Fig. 8.

Fig. 3.

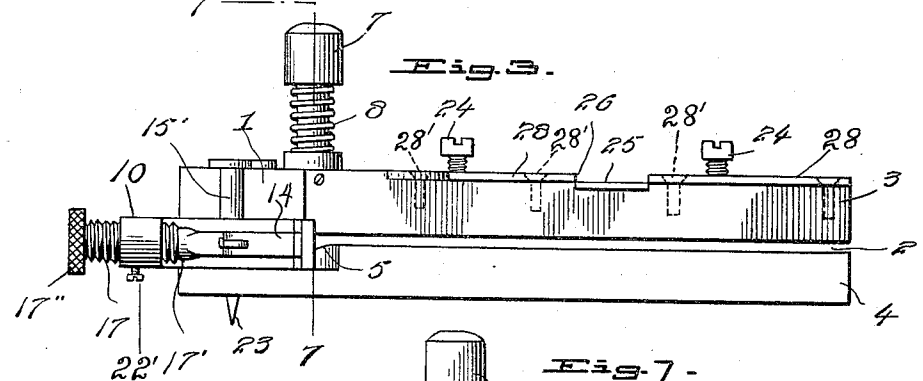
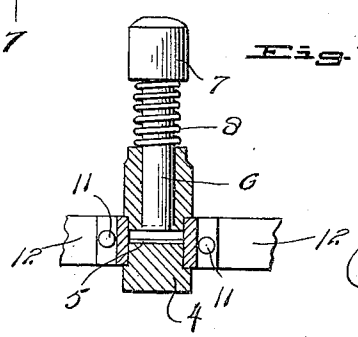


Fig. 7.



Witnesses

Chas. E. Hooper.

G. O. Rose

Inventor

John H. Devini.

Robb & Robb

Attorneys

J. H. DEVINI.

SAW TOOL.

APPLICATION FILED JUNE 12, 1913.

1,098,233.

Patented May 26, 1914.

2 SHEETS—SHEET 2.

Fig. 2.

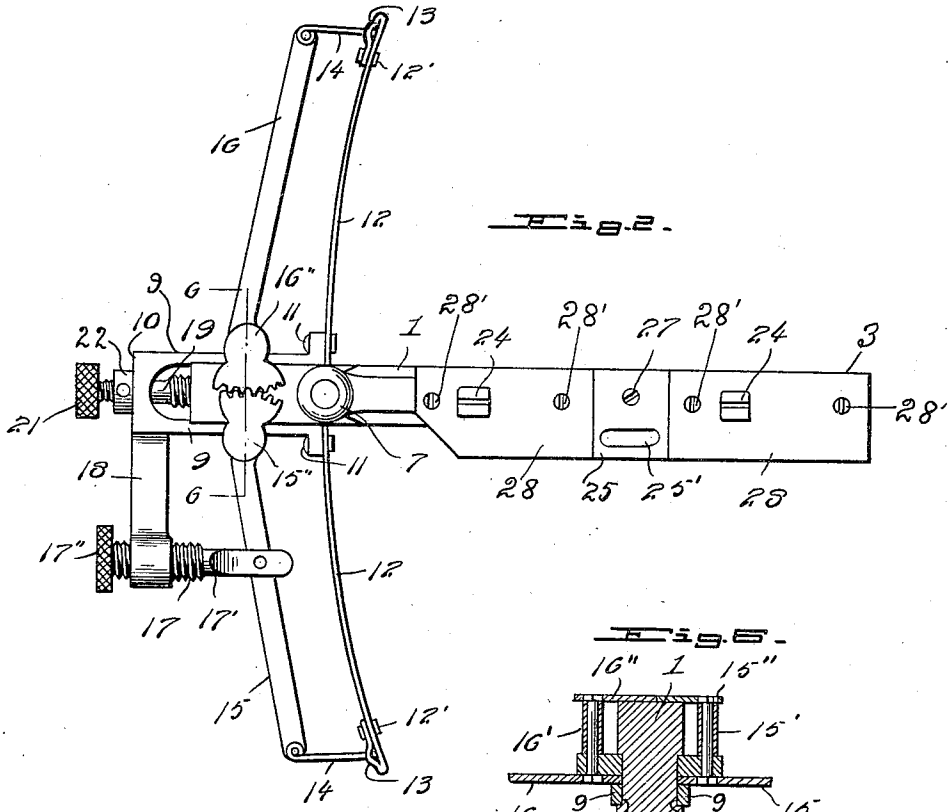


Fig. 5.

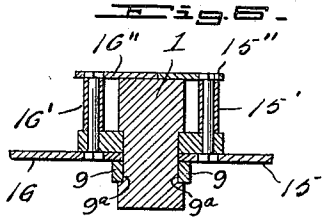


Fig. 4.

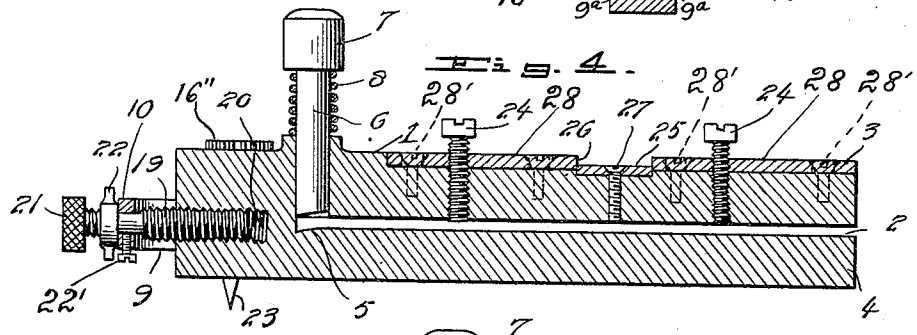
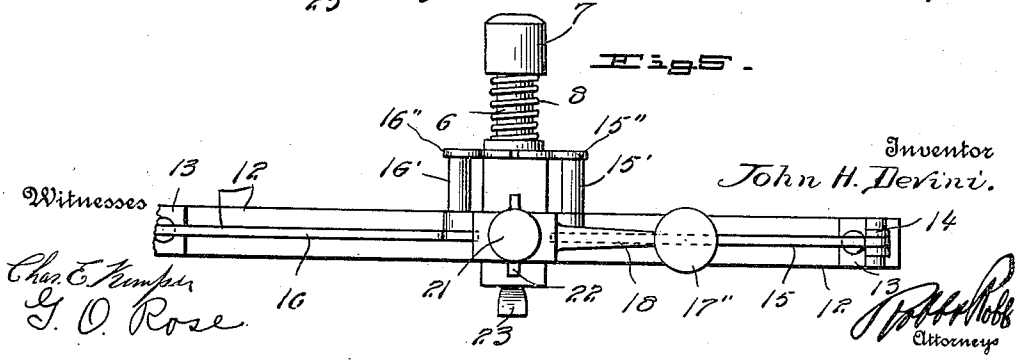


Fig. 3.



Witnesses

Chas. E. Kemper

G. O. Rose

Inventor

John H. Devini.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN H. DEVINI, OF CLEVELAND, TEXAS.

SAW-TOOL.

1,098,233. Specification of Letters Patent. Patented May 26, 1914.

Application filed June 12, 1913. Serial No. 773,283.

To all whom it may concern:

Be it known that I, JOHN H. DEVINI, a citizen of Austria-Hungary, residing at Cleveland, in the county of Liberty and State of Texas, have invented certain new and useful Improvements in Saw-Tools, of which the following is a specification.

The object of my present invention is to provide an improved form of saw tool, or combined saw set and gage, of the type disclosed in my previous Patent Number 1,047,179, dated December 17, 1912. In this prior construction it was contemplated to properly insure the "set" or lateral bend of the teeth of straight-edged saws but in the present device it has been my aim to provide a gage device for coöperation with the saw setting means which will not only be capable of performing the previous function in a similar manner but equally susceptible of use in connection with circular saws of various diameters, or saws having teeth arranged arcuately. To this end I have employed a gage member having a pair of oppositely projecting gage plates adapted when in alined position to coöperate with the teeth of straight-edged saws, which plates, however, are capable of being flexed to present a curved gage for arcuately arranged saw teeth, novel means being provided for accomplishing the flexing aforesaid.

With these and other objects in view, my invention consists of certain combinations, constructions, and arrangements of parts all as hereinafter more fully described, claimed and illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of a device constructed in accordance with my invention and showing the gage member adjusted for coöperation with straight-edged saws; Fig. 2 is a similar view with the gage member adjusted for arcuately arranged teeth; Fig. 3 is a side elevation of my invention; Fig. 4 is a longitudinal sectional view on the line 4—4 of Fig. 1; Fig. 5 is a front elevation of the device; Fig. 6 is a transverse sectional view taken about on the line 6—6 of Fig. 2; Fig. 7 is a similar section on the line 7—7 of Fig. 3, with parts broken away; and Fig. 8 is a transverse sectional view on the line 8—8 of Fig. 1. Fig. 9 is a fragmentary view in elevation showing the scale indicator adapted to coöperate with the flexible gage plates.

Throughout the following detail description, and on the several figures of the drawings, similar parts are referred to by like reference characters.

Specifically describing my invention, as in the construction disclosed in my patent hereinbefore mentioned, the device comprises a body portion 1 of elongated form and having a transverse, saw-receiving slot 2 extending longitudinally the greater portion of its length, said slot dividing the body portion into upper and lower arms 3 and 4 respectively. The surface of the lower arm 4, at the inner terminal of the slot 2, declines or is beveled, as indicated by the numeral 5, this bevel representing the extent of lateral bend capable of being given to the teeth of saws adapted to be received in said slot, teeth inward. Directly above the terminal of said slot 2, in the arm 3, is reciprocally mounted a tooth setting bolt 6 having an enlarged striking head 7 at its upper extremity, between which and the upper surface of the arm 3 is disposed an expansion spring 8 normally holding said bolt retracted from the slot 2. The lower end of this bolt is beveled to correspond to the bevel 5, as shown most clearly in Fig. 4.

The body portion of the device at the end opposite the arms 3 and 4 is provided with diametrically opposing, lateral grooves 9^a extending to a point proximate the terminal of the slot 2, said grooves being of sufficient width to receive for sliding movement the spaced side members 9 of a substantially U-shaped gage frame 10. To the extremities of said members 9 are suitably secured, by means of rivets or like fastening members 11, the oppositely extending, flexible gage plates 12, the outer ends of said plates being preferably bent back upon themselves and secured by means of fastening members 12′ to form the journals 13 for the links 14, which latter are pivotally mounted upon the outer ends of opposing levers 15 and 16, of substantially equal length to the plates 12 aforesaid. The inner extremities of the levers 15 and 16 are journaled at the sides of the side members 9 of the frame 10 intermediate their lengths, and said extremities have projecting vertically therefrom studs 15′ and 16′ respectively, as shown most clearly in Fig. 5, which studs carry horizontally extending, toothed sectors 15″ and 16″ intermeshing at their contiguous edge portions. To one of these levers, 15, is piv-

otally secured a swiveled connecting member 17′ carried by the adjusting screw 17, threaded into the outer extremity of a laterally projecting arm 18 formed on the frame 10, this screw having a knurled head 17″ for manipulating the same.

Means for adjusting the gage frame 10 with its coöperating members is employed and consists of a screw 19 rotatably journaled in the end of said frame, being provided with threads the greater portion of its length, and adapted to be screwed into the internally threaded recess 20 formed in the end of the body portion 1. Adjacent the knurled head 21 of the bolt 19, it is also threaded to receive the locking nut 22, whereby the frame 10 may be positively held in any of its longitudinally adjusted positions given to the same by the screw 19. A locking screw 22′ is preferably threaded through the lower portion of the frame 10 for the purpose of taking up lost motion of the screw 19 or for locking the same from movement.

The use of the device will be apparent from the foregoing, but it may be stated that the same is disposed preferably upon a bench or other support, the spike 23 projecting downwardly from the body portion, being driven into said support. The saw is then inserted in the slot 2 with the teeth toward the closed end and resting upon the bevel or anvil 5. Assuming that the saw is a straight-edged one, and referring to Fig. 1 of the drawings, the gage frame 10 is slidably adjusted by turning the screw 19 in one direction until the plates 12 in alined position abut against the teeth. Obviously by this adjustment a predetermined portion of the teeth will be permitted to extend over the bevel 5, determining thereby the amount of "set" which will be given thereto by striking upon the bolt 6 in the usual manner. The saw is then moved to the next alternate tooth, and reversing in the customary way for the balance of the teeth, all being uniformly set. If the saw to be operated upon is a circular one or of curved contour at its cutting edge, the plates 12 are made to conform to this general curvature so as to insure the uniformity of set to this character of saw. To accomplish this the screw 17 is turned in one direction, forcing the lever 15 and its corresponding lever 16, through the instrumentality of the sectors 15″ and 16″, to flex the plates in a given direction, thereby providing the desired curvature. It is to be understood that the adjustment of the gage frame longitudinally is independent of the adjustment of the gage plates adapted to coöperate with the saw teeth, this structure giving a wide range of use of the device in conjunction with saws of different characters.

Incidental to the general construction of my saw tool, one or more adjusting screws 24 are threaded into the upper arm 3 and adapted to project into the slot 2 for cooperation with the saw to act in the nature of a guide for saws of different gages, or to insure the proper seating of the saw upon the lower arm 4 for setting its teeth. Obviously, as in my previous construction, these adjusting screws 24 may be used for clamping purposes, particularly to secure a flat file in the slot 2 so as to project from one side and by means of which the points of the teeth may be struck off in the usual manner.

Intermediate the length of the arm 3 is also provided a raker tooth gage plate 25 secured in a transverse groove 26 in said arm by means of a screw or similar fastening member 27, as most clearly shown in Fig. 4 of the drawings. This plate projects over one side of the arm 3 and is provided with a slot 25′ through which the points of the raker teeth are adapted to project when it is desired to shorten said teeth, in a manner obvious to those skilled in this art. At each side of the gage 25 is detachably secured to the upper surface of the arm 3 a plate 28, said plate being fastened by means of countersunk screws 28′. These plates 28 constitute rests for the cutting teeth of the saw at each side of a raker tooth when disposed as just mentioned above. The plates 28 project over the side of the arm for this purpose. The provision of detachable plates instead of forming the arm 3 with integral, spaced flanges is particularly designed to cheapen the manufacture of the device. One side of the arm 3 just adjacent the set bolt 6 is provided with a scale 29 with which the gage plate 12 at that side coöperates to determine exactly the amount of set to be given the teeth.

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

1. A saw tool of the class described comprising a body portion adapted to receive a saw, means carried by said body portion for setting the saw teeth, a gage member connected with the body portion and adjustable longitudinally thereof to predetermine the amount of set of said teeth, said member being also adjustable to conform to alined or arcuately arranged saw teeth, means for adjusting said gage member longitudinally, and independent adjusting means for causing the same to conform to the arrangement of the teeth.

2. A saw tool of the class described comprising a body portion adapted to receive a saw, means carried by the body portion for setting the saw teeth, a gage member adjustably mounted upon the body portion and adapted to coöperate with the saw teeth,

means for adjusting the gage member longitudinally with respect to the body portion, and means for flexing the gage member to conform to the arrangement of the saw teeth, said flexing means being carried by and movable bodily with the gage member aforesaid.

3. A saw tool of the class described comprising a body portion adapted to receive a saw, means carried by the body portion for setting the saw teeth, a gage member adjustably mounted on the body portion and comprising spaced gage plates, means for slidably adjusting the gage member on the body portion, and means carried by said member for flexing the gage plates and comprising levers operatively connected to the gage plates.

4. A saw tool of the class described comprising a body portion having a saw-receiving slot therein, a gage frame carried by said body portion and movable longitudinally thereof to coöperate with the saw teeth of the saw, opposing flexible gage plates connected with said frame, and means carried by the frame and operatively connected to the plates for simultaneous adjustment of the latter, said last mentioned means including an adjusting bolt.

5. A saw tool of the class described comprising a body portion having a saw-receiving slot therein, a gage frame carried by said body portion and movable longitudinally thereof to coöperate with the saw teeth of the saw, opposing flexible gage plates connected with said frame, levers carried by the frame and connected with the gage plates, and adjusting means connected to one of said levers for operation of the latter to curve or aline the plates aforesaid.

6. A saw tool of the class described comprising a body portion having a saw-receiving slot therein, the body portion being formed with a declining surface at the closed end of said slot, constituting an anvil, means for setting the saw teeth carried by the body portion above the anvil aforesaid, a gage frame slidably mounted on the portion adjacent the closed end of said slot, diametrically opposing gage plates secured to the frame at one end, levers journaled on the frame and connected with the plates at their other ends, an adjusting member mounted in the frame and connected to one of said levers, operating means connecting the levers together whereby movement of the adjusting member will simultaneously move the levers and the plates in a similar direction, and means for adjusting the frame with respect to the body portion.

7. A saw tool of the class described comprising a body portion having a transverse, saw-receiving slot and lateral grooves adjacent said slot, a set bolt reciprocally mounted in the body portion, the slot aforesaid terminating in an anvil, a gage frame slidably mounted in the lateral grooves aforesaid and adapted to coöperate with the saw teeth, an adjusting screw journaled in said frame and connected to the body portion for adjusting the gage frame longitudinally of said body portion, gage plates connected to the frame at one end, operating levers journaled in the frame, link members carried by the ends of said levers and connected with the gage plates at their other ends, an arm projecting from said frame, and an adjusting member mounted in said arm and connected with one of the levers aforesaid for adjusting the gage plates aforesaid to conform to the arrangement of the saw teeth.

8. A saw tool of the class described comprising a body portion having a transverse, saw-receiving slot and lateral grooves adjacent said slot, a set bolt reciprocally mounted in the body portion, the slot aforesaid terminating in an anvil, a gage frame slidably mounted in the lateral grooves aforesaid and adapted to coöperate with the saw teeth, an adjusting screw journaled in said frame and connected to the body portion for adjusting the gage frame longitudinally of said body portion, gage plates connected to the frame at one end, operating levers journaled in the frame, link members carried by the ends of said levers and connected with the gage plates at their other ends, toothed sectors carried by the operating levers and intermeshing with each other, an arm projecting from said frame, and an adjusting screw threaded in said arm and operatively connected to one of said levers for simultaneous operation of the latter to flex the gage plates aforesaid.

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

JOHN H. DEVINI.

Witnesses:
E. A. MEEKINS,
JOE EMHOFER.