

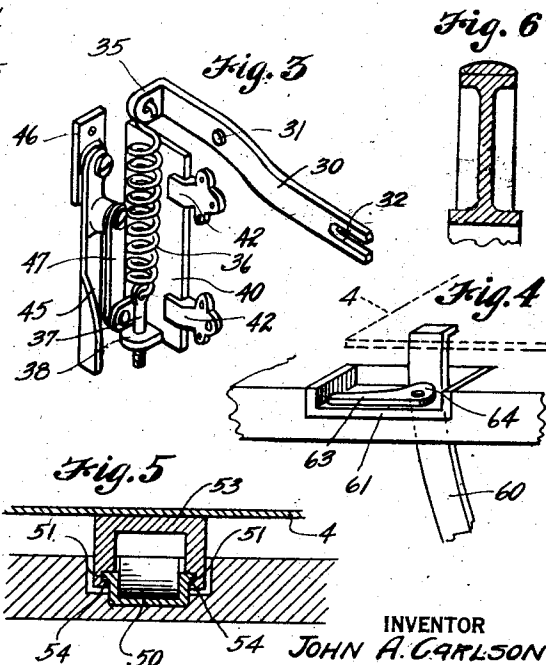
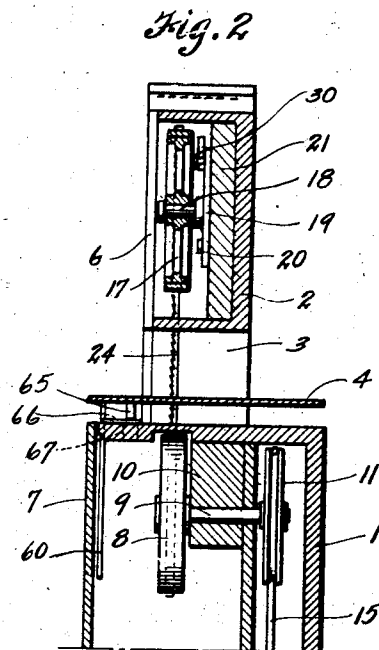
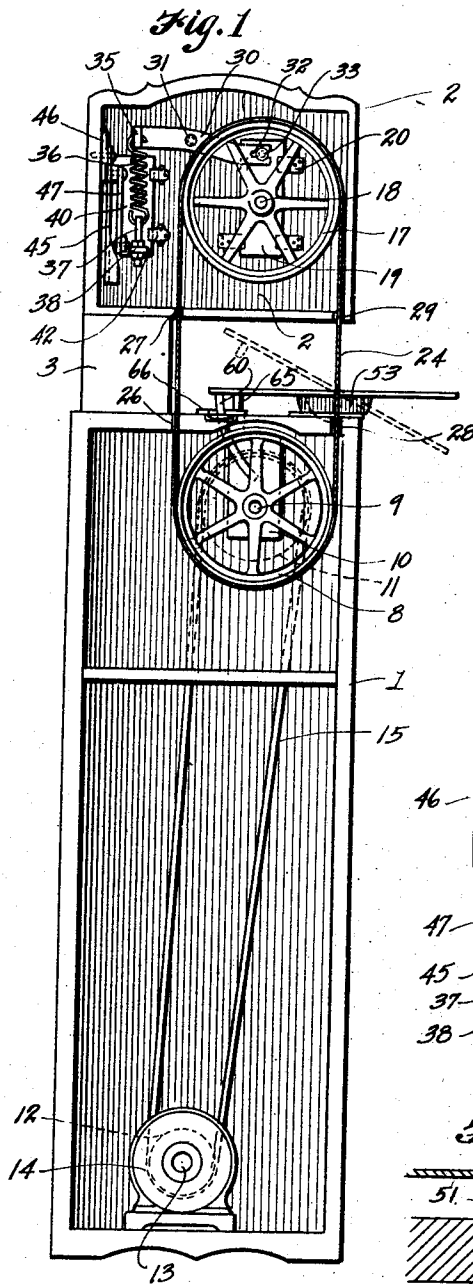
April 13, 1926.

J. A. CARLSON

1,580,407

BAND SAW

Filed July 28, 1924



INVENTOR
JOHN A. CARLSON

BY
Richard J. Cook
ATTORNEY

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UNITED STATES PATENT OFFICE.

JOHN A. CARLSON, OF TACOMA, WASHINGTON.

BAND SAW.

Application filed July 28, 1924. Serial No. 728,635.

To all whom it may concern:

Be it known that I, JOHN A. CARLSON, a citizen of the United States, and a resident of Tacoma, Pierce County, Washington, have invented certain new and useful Improvements in Band Saws, of which the following is a specification.

This invention relates to improvements in band saws, and more particularly to band saws of that character especially adapted for use in manual training schools and like places, but which may be used with satisfactory results for various purposes by carpenters, cabinet or pattern makers.

It is the principal object of my invention to provide a light and durable construction embodying a supporting frame for the various parts of the saw which constitutes a protecting housing whereby injury, due to carelessness or accident, is not possible.

Another object of the invention resides in the details of construction of means for loosening or tightening the saw band, and whereby tension is maintained thereon during its use.

A still further object resides in the provision of a tiltable saw table and means for locking it at different positions of adjustment.

Other objects of the invention reside in the various details of construction of the supporting frame and housing.

In accomplishing these and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein—

Figure 1 is a front view of a saw embodying the present invention with the housing doors removed in order to better illustrate the construction and combination of the interiorly located parts.

Figure 2 is a vertical, transverse sectional view taken through the upper part of the housing to show the saw mounting wheels and the drive means therefor.

Figure 3 is a perspective view of the same band tightening means.

Figure 4 is a detailed perspective view of the table locking means.

Figure 5 is a transverse, sectional view through the table mounting.

Figure 6 is a detailed, sectional view of a part of a saw band supporting wheel.

Referring more in detail to the drawings—

1 and 2, respectively, designate lower and upper box like housings wherein the saw band supporting wheels and band tightening means, presently described, are contained. The upper housing 2 is supported from the lower by means of a post 3 that is fixed rigidly to these parts and which is of such length that it provides an intermediate working space between the two housings wherein a saw table 4 is tiltable mounted. Doors 6 and 7 are provided for the housings, which are normally closed but which may be opened to give access to the interior mechanism.

Mounted within the upper end portion of the lower housing is a saw band supporting wheel 8 that is fixed upon the outer end of a shaft 9 rotatably mounted in a band block 10. On the inner end of this shaft a belt wheel 11 is fixed; this being vertically alined with a driving belt wheel 12 on the shaft 13 on an electric motor 14 located within the lower end of the housing. A belt 15 operates over these wheels to drive the band wheel 8.

A saw band mounting wheel 17 is mounted in housing 2 in vertical alinement with the band wheel 8; the wheel 17 being rotatable on a spindle 18 that is fixed rigidly to a plate 19 that is held vertically slidable by guide plates 20 fixed to the back wall 21 of the housing and a continuous saw band 24 extends over the wheels and is retained thereon during operation due to the convexity of the wheel surfaces as is illustrated at 25, in Figure 6.

The saw band 24 moves upwardly adjacent the post 3 through slots 26 and 27 and moves downwardly through slots 28 and 29 in the housing walls; all of the slots being extended to the edge of the housing walls so that the band may be slipped on or off the wheels and removed from the housing.

The means provided for retaining tension on the saw band and whereby the latter may be released is best illustrated in Figures 1 and 3, wherein 30 designates a lever that is pivotally supported between its ends by a pin 31 from the back wall of housing 2. One end of the lever has an end slot 32 that slidably receives a stud 33 that is fixed to the upper end of plate 19. The other end of the lever has an outturned ear 35 to which the upper end of a tension spring 36 is attached; the lower end of the spring being fixed within an eye of a bolt 37 that is ad-

justably fixed to an outwardly turned flange 38 formed at the lower end of a plate 40 that is mounted for vertical slidable movement on the back wall of housing 2 by means of guides 42. A lever 45 is pivotally fixed at its upper end to a plate 46 fixed to the side wall of housing 2, and a link 47 pivotally connects at its ends to lever 45 and plate 40. With this construction, when lever 45 is swung downwardly, link 47 causes plate 40 to move likewise and this places tension on spring 36 whereby lever 30 causes upward movement on plate 19 and tension on the saw band. When lever 45 is moved upwardly, the spring tension is released, and the saw band may be removed from the wheels.

The table 4 is tiltably mounted in order that saw cuts may be made at various angles. The mounting comprises a seat 50 that is fixed to the upper face of top wall of housing 1 and which has radially curved ribs 51 on its opposite sides. A block 53 is fixed to the under side of table 4 that has downwardly extending side flanges enclosing the seat 50 and provided with radial grooves 54 wherein said ribs 51 are slidably fitted.

The mounting permits tilting of the table to various positions as shown in dotted line in Figure 1.

To retain the table at any adjusted position, I have provided a radially curved supporting bar 60 that is fixed at one end to the under side of the table and extends slidably through a slot in a plate 61 fixed within the upper wall of housing 1. A locking lever 63 with an eccentric head 64 is pivotally mounted on the plate and this may be ad-

justed to clamp the head against the bar to hold it and the saw table at any set position.

As a means for bringing the saw table to horizontal position, I have fixed a leg 65 to the underside at the back edge thereof. This post is adapted to rest upon a pivotally secured plate 66 that overlies an opening 67 in the top wall of the lower housing. If it should be desired to tilt the table rearwardly, the plate is moved so as to uncover the opening so that the post could move downwardly therein.

By so constructing the saw frame and housing, all the operating parts are enclosed and injury by carelessness, or accident is not possible. All saw dust will be carried by the saw into housing 1 and will not scatter over the saw table or work. Saw bands that break can be easily removed and replaced, and easy access can be had to all parts of the mechanism.

Having thus described my invention, what I claim as new therein and desire to secure by Letters-Patent, is:

In a saw of the class described, a saw band mounting wheel, a slidably supported mounting for said wheel, a stud on said mounting, a pivotally mounted lever having connection at one end with said stud, a slidably mounted plate, a spring connected to said lever and to said plate, a pivotally mounted lever and a link connecting the said lever and plate whereby the plate may be moved to remove or place tension on the spring for the purpose set forth.

Signed at Everett, Snohomish County, Washington, this 30th day of June 1924.

JOHN A. CARLSON.