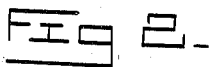


Filed June 11, 1946

SAW JOINTER

2 Sheets-Sheet 1



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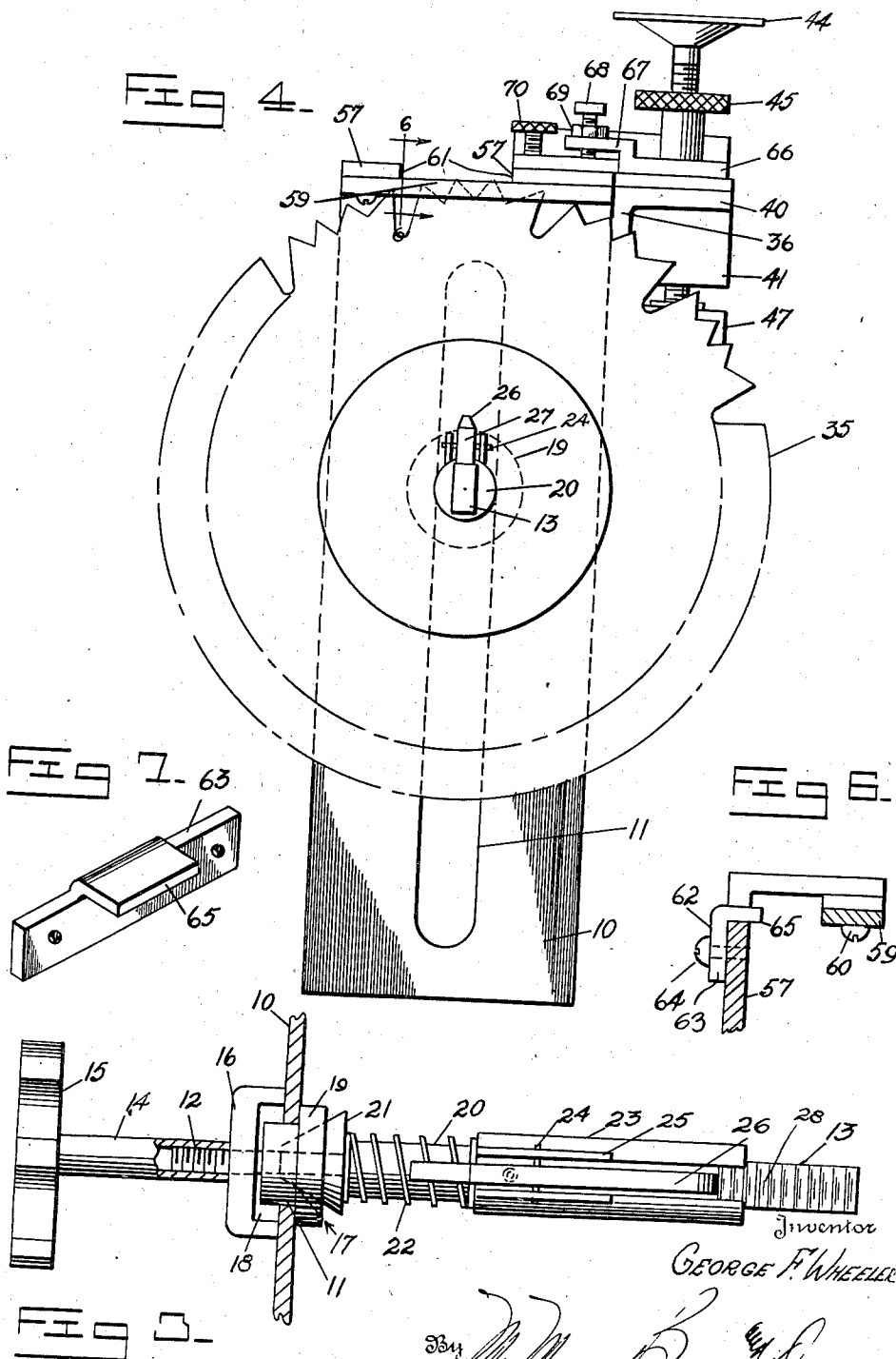
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SAW JOINTER

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2 Sheets-Sheet 2



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SAW JOINTER

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5 Claims. (Cl. 76-48)

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This invention relates to a saw jointer, and more particularly to such a jointer for circular saws.

A primary object of this invention is the provision of an improved saw jointer characterized by means whereby a circular saw may be jointed and maintained in perfect circular form.

An additional object of the invention is the provision of such a device characterized by means whereby a plurality of sizes of circular saw blades may be jointed thereon.

Still another object of the invention is the provision of such a device having improved means for securing the saw blade thereto during the jointing operation.

A still further object of the invention is the provision of such a device provided with improved adjusting means for varying the relative position of the file guide plates with respect to the saw blade, to permit varying cuts in the cutting teeth and the raker teeth of the saw.

A still further object of the invention resides in the provision of such a device which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and assemble.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings, wherein there is shown a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side elevational view of one form of jointer embodying features of the instant inventive concept, certain portions thereof being broken away.

Figure 2 is a view similar to Figure 1, but viewed from the opposite side, certain additional portions thereof being broken away.

Figure 3 is an enlarged sectional view taken substantially along the line 3-3 of Figure 2.

Figure 4 is a front plan view of the device of Figures 1 and 2, certain concealed portions thereof being indicated in dotted lines, and showing a circular saw blade affixed thereto for jointing.

Figure 5 is an enlarged sectional view taken substantially along the line 5-5 of Figure 1, as viewed in the direction indicated by the arrows.

Figure 6 is an enlarged sectional view taken substantially along the line 6-6 of Figure 4, as viewed in the direction indicated by the arrows; and

Figure 7 is an enlarged perspective view of a constructional detail.

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Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings, the device of the instant invention is comprised of a supporting base generally indicated at 10, comprised of an angle iron structure, in one side of which is provided an elongated slot 11.

As best shown in Figure 3, the threaded extremity 12 of a bar 13 of rectangular cross-section extends through the slot 11 and is engaged by the threaded interior portion of a sleeve 14 secured to a knob 15. The opposite extremity of the sleeve 14 engages a bracket 16 which surrounds a clamping member 17, provided with a lug 18 which extends into the slot 11. A flange or collar 19 is secured to the bar 13 on the opposite side of the slot 11. Thus, it will be seen that rotation of the knob 15 in one direction serves to clamp the portions 19 and 16 tightly about the side wall of the member 17 on opposite sides of the slot, and thus hold the assembly in any adjusted longitudinal position with respect to the member 10.

Surrounding the bar 13 is a sleeve 20 having a rectangular bore to accommodate the bar 13, which terminates in a conical member 21 adapted to engage in the central aperture of the circular collar 19. One end of a coil spring 22 engages the inner extremity of the conical member 21, and its opposite end abuts the extremity of a second sleeve 23 which surrounds the first sleeve 20. The sleeve 23 is provided with a longitudinally extending slot on opposite sides of which are positioned upwardly projecting lugs 24, between which is pivotally mounted, as on a pivot 25, a trigger member 26 provided at its extremity with a downwardly depending tongue 27.

The upper portion of the bar 13, adjacent the depending trigger tongue 27, is provided with a plurality of serrations or teeth 28 adapted to be engaged by trigger 26, a spring 29 serving to bias tongue 27 towards teeth 28. Thus, it will be seen that the spring 22 normally serves to bias the sleeve 23 backwardly, or, conversely, the conical member 21 forwardly into relatively tight engagement with the central aperture of the collar 19. A set screw 30 may be provided for securing the sleeves 23 together, a suitable slot being provided in sleeve 20 to permit relative longitudinal movement of the two sleeves.

From the foregoing, the operation of this part of the apparatus should now be readily understandable. A circular saw blade 31 (see Fig. 4) is positioned over the bar 13 in abutting relation

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to the collar 19, the sleeves 20 and 23 having been removed by release of the trigger member 26. Reassembly of the sleeve 21 and the sleeve 23 with the bar 13 serves, by the engagement of conical member 21 with the central aperture in the saw blade to securely hold the saw against the face of collar 19 and accurately central relative to the carrier member 21. Obviously, the latch member may be adjusted to vary the pressure exerted by spring 22 as desired, most effectively to clamp the saw blade in position.

Secured to the face of angle iron base or support 10 adjacent the upper portion thereof and opposite to the face bearing the slot 11 is a plate 35 provided with three longitudinally extending slots 37 adapted to receive screws 38 engaging suitable threaded apertures in the adjacent face of the member 10. Clearance is provided between the heads of screws 38 and plate 35 to permit vertical movement of the plate in a manner to be more fully described hereinafter.

The plate 35 has secured to its upper extremity at substantially right angles thereto and extending over the angle iron base 10 a plate 40. The plate 40 is provided, as best shown in Figure 1, with a downwardly depending boss 41, which fits into a slotted aperture 42 in the plate 36. The boss 41 is provided with a threaded bore which accommodates a screw-threaded member 43, the upper extremity of which terminates in a hand wheel 44 and which is provided with a locking nut 45. The lower portion of the threaded member 43 comprises a smooth portion of reduced diameter which passes through a smooth bore in an extending lug 47, secured to the base 10. Lock nuts 48 are provided for the threaded extremity of the member 43 extending beyond the lug 47.

It will thus be seen that when the locking nut 45 is released, rotation of the hand wheel 44 will serve, through the shoulder formed by the reduction in diameter of screw 43, to raise and lower the plate 36, and consequently the plate 40 carried thereby, as well as the mechanism to be more fully described hereinafter associated with the carrier plate 40.

One extremity of the plate 40 extends rearwardly of the base 10, as indicated at 50, and is provided with channels or grooves 51 in which are seated a pair of cylindrical hinge pins 52 which in turn have mounted thereon by means of suitable grooves 53 an upper plate 54. The extremity 50 of plate 40 and the plate 54 are held in related assembly about the hinge pin 52 by a substantially cylindrical spring member 55 of C-shaped cross-section, the adjacent extremities of which seat in suitable grooves formed in the plates 54 and 40 inwardly of the hinge pins 52.

The opposite extremity of the plate 54 extends forwardly, as at 56, outwardly a substantial distance from the face of the base 10 bearing the slot 11.

The extremity 56 of the plate 54 has secured thereto an angle iron section 57, the lower portion of which extends adjacent the base of the member 10 bearing the slot 11, and is provided at its lower extremity with a plate 58 accurately aligned with the collar 19 in order to hold the saw blade 31 in exact vertical relation with the base when the same is positioned on the device. The extremity 56 is bifurcated, as is the member 57, and has a forward file guide 59 secured thereto, as by bolts 60. The bifurcation is indicated by the slot 61, as shown in Figure 4.

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As best shown in Figures 6 and 7, a rear file guide 62 is also provided, and includes a horizontally extending portion 63 adapted to be secured, as by screws 64, to the rear face of the depending portion of the member 57. The member 62 also includes a forwardly extending lug or plate 65 adapted to extend into the slot 61 formed by the bifurcation in the member 57, in substantially exact alignment with the forward file guide 59.

As best shown in Figures 2 and 4, a lug 56 is secured to the plate 40, and includes an offset portion 67, through which extends an adjusting screw 68 provided with a lock nut 69. A second screw 70 extends through a suitable threaded aperture in the top plate 54 and abuts the plate 40. Thus, rotation of the screw 70 serves to separate the plates about the hinge formed by the pins 52, in order to provide minor adjustment for taking care of the different heights of the cutting and raker teeth in the saw blade, while screw 68 serves to lock the parts in adjusted position.

From the foregoing the operation of the device should now be readily understandable. A circular saw blade is positioned between the members 19 and 21, abutting the guide plate 58 in the manner previously described, and by suitable adjustment of the hand wheel 44, the upper assembly carried by the plate 40 is adjusted so that the saw teeth extend exactly to the requisite distance between the file guide plates 62 and 59. Each tooth as it is aligned is filed. When a raker tooth is reached, suitable adjustment may be made by means of the adjusting screw 68. Rotation of the saw may be effected by hand against the bias of the spring-pressed conical member 21 to permit complete jointing of the saw blade, while the aligned file guides 62 and 59 permit exact filing of each saw tooth to exactly the requisite degree.

Now, from the foregoing, it will be seen that there is herein provided an improved saw jointer for circular saws which accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As various embodiments may be made of this inventive concept, and as various modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A jointing tool for circular saws comprising a base having a vertically-disposed face provided with an elongated, vertically-extending slot, a vertically-adjustable saw support carried by said base below the upper end thereof, and a vertically-adjustable file-guard plate and support assembly carried by said base at the upper end thereof, said saw support comprising a bar having a screw-threaded end portion extending through said slot, means carried by said end portion for clamping said bar to said base in adjusted position lengthwise of said slot, said bar being adapted to extend through the central aperture of a circular saw, and means slidable on said bar for holding a circular saw in operative position on said bar including a conical element engageable in the central aperture of the saw, and a spring resiliently forcing said conical element into the saw aperture, teeth on said bar spaced apart longitudinally thereof, and a trigger on said slidable means engageable with said teeth to releasably hold said

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slidable means in adjusted position lengthwise of said bar.

2. A jointing tool for circular saws comprising a base having a vertically-disposed face provided with an elongated, vertically-extending slot, a vertically-adjustable saw support carried by said base below the upper end thereof, and a vertically-adjustable file-guide plate and support assembly carried by said base at the upper end thereof, said saw support comprising a bar having a screw-threaded end portion extending through said slot, a hollow, annular collar on said bar bearing against said face and having a flattened lug portion disposed in said slot, an apertured bracket on said bar end portion adapted to bear against said base in opposition to said collar, means threaded on said bar end portion and against said bracket to clamp said base between said collar and said bracket and hold said bar substantially perpendicular to said face in adjusted position lengthwise of said slot, said bar being receivable in the central aperture of a circular saw and having serrations in the end portion thereof remote from said face, an inner sleeve slidable on said bar, a conical element on the end of said inner sleeve adjacent said face, adapted to enter the central aperture of a circular saw and hold such saw against said collar in centered relationship to said bar, an outer sleeve slidable on said inner sleeve, a trigger member carried by said outer sleeve and engageable with said serrations to releasably hold said outer sleeve in adjusted position on said bar, and a compression spring between said outer sleeve and said conical element resiliently urging said conical element into the central aperture of a circular saw mounted on said bar.

3. A jointing tool for circular saws comprising a base having a vertically-disposed face provided with an elongated, vertically-extending slot, a vertically-adjustable support carried by said base below the upper end thereof, and a vertically-adjustable file-guide plate and support assembly carried by said base at the upper end thereof, said file-guide plate and support assembly comprising a vertically-disposed plate, means securing said plate to said base for vertical sliding movement of said plate relative to said base, a horizontal carrier plate secured to the upper end of said vertical plate and overlying the upper end of said base, manually-operated, screw-threaded means operatively connected between said vertical plate and said base for moving said vertical plate and carrier plate up and down relative to said base, an upper plate carried upon said carrier plate, a pivotal connection between said carrier plate and the upper plate at corresponding ends thereof, the end of said upper plate opposite said pivotal connection being bifurcated to receive the uppermost teeth of a saw supported on said base, a pair of file-guide plates carried by the bifurcated portion of said upper plate and disposed one at each side of a saw operatively supported on said base, screw means operative to adjust the file-guide-plate-carrying end of said upper plate relative to said carrier plate to raise and lower said file-guide plates, and a saw-guide plate depending from

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said upper plate between said base and a saw operatively supported thereon.

4. A jointing tool for circular saws comprising a base having a vertically-disposed face provided with an elongated, vertically-extending slot, a vertically-adjustable saw support carried by said base below the upper end thereof, and a vertically-adjustable file-guide plate and support assembly carried by said base at the upper end thereof, said base comprising an elongated member of right-angular cross-sectional shape having two external, vertically-disposed faces positioned substantially at right angles to each other, said vertically-extending slot being provided in one of said faces and said vertically-adjustable file-guide plate and support assembly being supported from the other of said faces at the upper end of said base.

5. A jointing tool for circular saws comprising a base having a vertically-disposed face provided with an elongated, vertically-extending slot, a vertically-adjustable saw support carried by said base below the upper end thereof, and a vertically-adjustable file-guide plate and support assembly carried by said base at the upper end thereof, said file-guide plate and support assembly comprising a carrier plate overlying the upper end of said base, means supporting said carrier plate on said base for upward and downward movement relative thereto, manually-operated screw means operatively connected between said carrier plate and said base operative to move said carrier plate relative to said base, an upper plate supported on said carrier plate and having a bifurcated end portion positioned to receive the uppermost teeth of a saw operatively supported on said base, file-guide plates carried by said upper plate at the bifurcated end thereof, and means operatively connecting said upper plate to said carrier plate for adjustment of said upper plate toward and away from said carrier plate.

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