

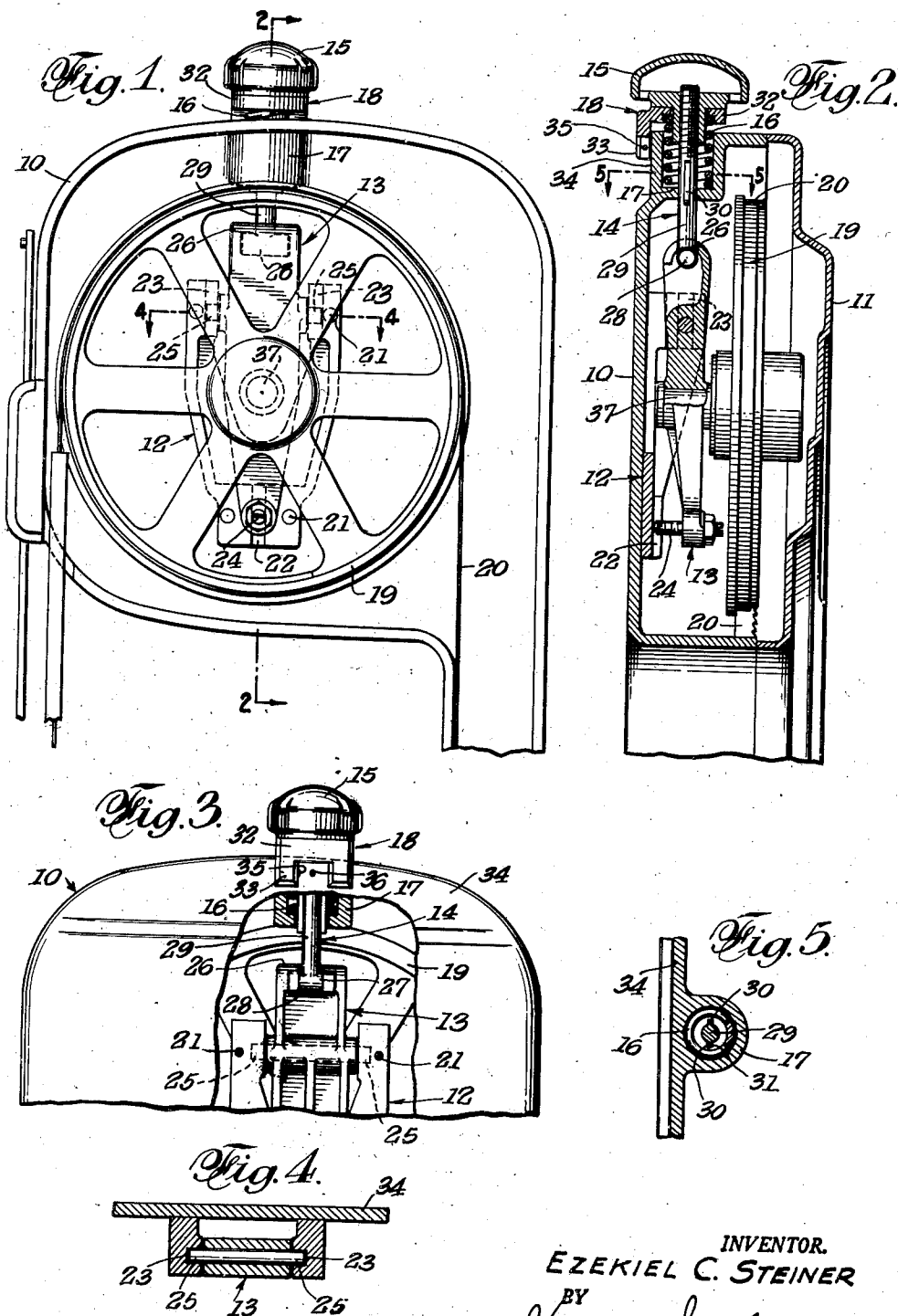
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ADJUSTABLE BAND SAW WHEEL MOUNTING MEANS

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ADJUSTABLE BAND-SAW WHEEL
MOUNTING MEANS

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2 Claims. (Cl. 143-27)

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This invention relates to wheel mounting means and deals more especially with means for mounting the upper wheel of a bandsaw or like machine.

An object of the present invention is to provide novel and improved means whereby one—preferably the upper—wheel of a bandsaw is adjustably mounted for taking up slack in the band and resiliently supporting the wheel during operative use.

Another object of the invention is to provide wheel mounting means as indicated designed to facilitate mechanical orientation or alignment of the wheel and the support means therefor whereby the need for extreme accuracy in the manufacture and assembly of the parts is obviated.

Another object of the invention is to provide improved means for both adjustably and demountably supporting a wheel of the type indicated and thereby facilitating adjustable tensioning of the wheel and also simplifying mounting or demounting of the wheel.

The invention also has for its objects to provide means of the character indicated that are positive in operation, convenient in use, easily installed in working position and easily disconnected therefrom, economical to manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear from the following description. However, the drawing and the description serve to disclose only one embodiment of the present invention which is given as by way of example only.

In the drawing:

Fig. 1 is a side view of the upper portion of a bandsaw with the cover thereof removed and showing wheel mounting means embodying the present invention.

Fig. 2 is a vertical cross-sectional view as taken on the plane of the line 2—2 of Fig. 1.

Fig. 3 is a broken view of said bandsaw portion as seen from the opposite side of Fig. 1.

Fig. 4 is an enlarged cross-sectional detail view as taken on the line 4—4 of Fig. 1.

Fig. 5 is a similar view as taken on the line 5—5 of Fig. 2.

The present wheel mounting means is embodied in a housing 10 which is the upper extension of a bandsaw or like machine. The housing is provided with a suitable closure cover 11 which may be opened laterally on vertical hinges to expose the interior of the housing.

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The wheel mounting means which is illustrated comprises, generally, a trunnion block slide 12 fixedly mounted on the housing 10, a trunnion block 13 associated with the slide 12, a hanger bolt 14 for the block 13, a tension regulating knob 15 threadedly engaged with the bolt 14, a compression spring 16 in a seat 17 provided in the housing 10 and compressible by the knob to vary the tension on the block 13, indicating means 18 externally visible for indicating the relative position of the fixed and movable parts of the mounting means, and a wheel 19 mounted on the block 13 and about which is trained a bight of a saw band 20.

The trunnion block slide 12 is shown as a casting which is secured to the housing 10 by screws or bolts 21 in general alignment with the spring seat 17, the latter being formed as an integral boss on the housing. The block 12 is provided with a lower centrally arranged and outwardly directed vertical slot 22 and with a pair of upper spaced and vertical slots 23 directed toward each other.

The trunnion block 13 is a casting which is provided with an inwardly directed trunnion pin 24 to engage and move in the slot 22 and with laterally directed trunnion pins 25 for similar engagement in slots 23. In this manner, the block 13 is mounted for vertical movement with respect to slide 12, the three trunnion pins guiding the block to obviate tilting thereof and also both lateral and front to back displacement.

The upper end of the block is formed as a curved hook 26 which is notched at 27. The hook 26 is designed to receive a cross bar 28 provided on the end of the hanger bolt 14 and the notch 27 is provided to accommodate the shank 29 of said bolt. The hook 26 is directed inwardly so that by dropping the bolt 14, the block 13 may be disengaged therefrom, slid downwardly on its trunnions, and disconnected from the slide 12. The shank 29 of the bolt 14 is formed with one or more keys 30 which extend through suitable keyways 31 formed in the seat boss 17. The bolt 14 is thereby mounted for vertical movement but is held against turning about the axis of the shank 29.

The end of the shank 29 which extends through the spring seat 17 is threaded for the knob 15 which resides above the top of the housing 10. The means 18 includes a member 32 which is apertured for a lower extension formed on the knob. Said member 32 has a down-reaching bifurcated portion 33 which resides adjacent to the lateral wall 34 of the housing 10. The member

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32 is thereby held against rotation during rotation, manually, of the knob 15. The spring 16 encircles the shank 29 of bolt 14 and is confined endwise by its seat 17 and the member 32. A spot 35 on the member 32 is correlated with a spot 36 on the wall 34 to give external visual indication of the degree to which the spring 16 is compressed. An alignment of the spots would indicate normal tension for a given length of saw band and abnormally enlarged mis-alignment would indicate either too light or too great a tension on the saw band.

The wheel 19 is provided with an axle 37 which extends outward from the trunnion block 13, said wheel being freely rotatable on the axle. The band 20 is trained over the wheel.

Assembly of the parts is relatively simple since accurate alignment of the slide 12 and block 13 with the bolt 14 and its connected parts, is not necessary, since ample lateral play at the connection of the block hook 26 and the bolt 14 may be embodied in the design of the parts. Inasmuch as the wheel is outboard of the block 13 and the latter is vertically aligned with the hanger bolt, the pull of the band on the wheel exerts a force about the trunnions 24 and 25, to urge the trunnion 24 firmly into the slot 22 and in desired vertical position.

It will be seen that suitable upward tension is imparted by the spring 16 to the saw band and that said band is resiliently mounted in the manner described. Disassembly of the wheel 19 is easily effected by slacking off on the knob 15 until the trunnions 24 and 25 move out of their slots. The block 13 is then unhooked from the hanger bolt 14 and the wheel together with the block 13 can be removed. Assembly is as easily effected.

While I have illustrated and described what I now regard as the preferred embodiment of my invention, the construction, being subject to modification, I do not wish to restrict myself to the particular form of construction disclosed, but desire to avail myself of such modifications that may fall within the scope of the appended claims.

I claim:

1. In a wheel mounting means, a wheel, a block mounting said wheel for relative rotation, lateral trunnion pins on the block on one side of the wheel axis, a transverse trunnion pin on the block on the other side of said axis, a fixed mem-

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ber having guides for said trunnion pins to guide said block for straightline movement, a hook formed on the block and comprising spaced lateral hook portions, a hanger bolt having a shank and lateral head portions at the end of said shank, said head portions being separably engaged in the spaced hook portions and the shank extending in the space between said hook portions and generally longitudinally with the mentioned block, and means engaged with the shank of the hanger bolt for adjusting endwise pull thereon and the tension of a saw band trained about said wheel.

2. In a wheel mounting means, a wheel, a block mounting said wheel for relative rotation, lateral trunnion pins on the block on one side of the wheel axis, a transverse trunnion pin on the block on the other side of said axis, a fixed member having guides for said trunnion pins to guide said block for straight-line movement, a hook formed on the block and comprising spaced lateral hook portions, a hanger bolt having a shank and lateral head portions at the end of said shank, said head portions being separably engaged in the spaced hook portions and the shank extending in the space between said hook portions and generally longitudinally with the mentioned block, a fixed housing for the wheel and carrying the member housing the guides, said housing having a seat therein and said hanger bolt shank extending through said seat, an adjusting knob on the end of said shank, and a compression spring in said seat and exerting pressure on the knob to urge the bolt and the block and the wheel on the latter in a direction to tension a saw band trained about said wheel.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
614,568	Melanowski	Nov. 22, 1898
1,967,724	Ponton	July 24, 1934
2,380,700	Lasar	July 31, 1945

FOREIGN PATENTS

Number	Country	Date
722,001	France	Dec. 28, 1931