March 22, 1949. N. O. TURNER 2,465,000

ADJUSTABLE SAWING MACHINE TABLE

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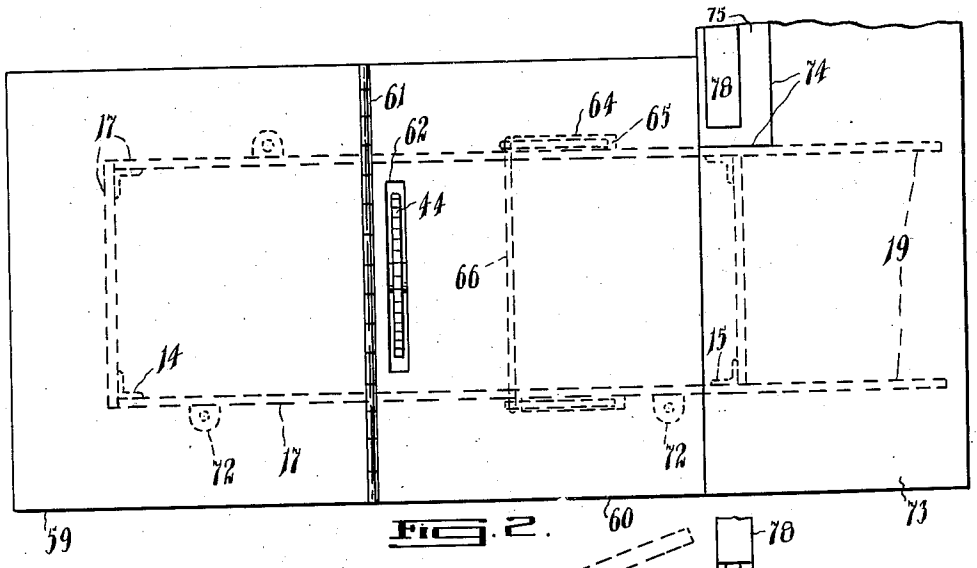


Fig. 2.

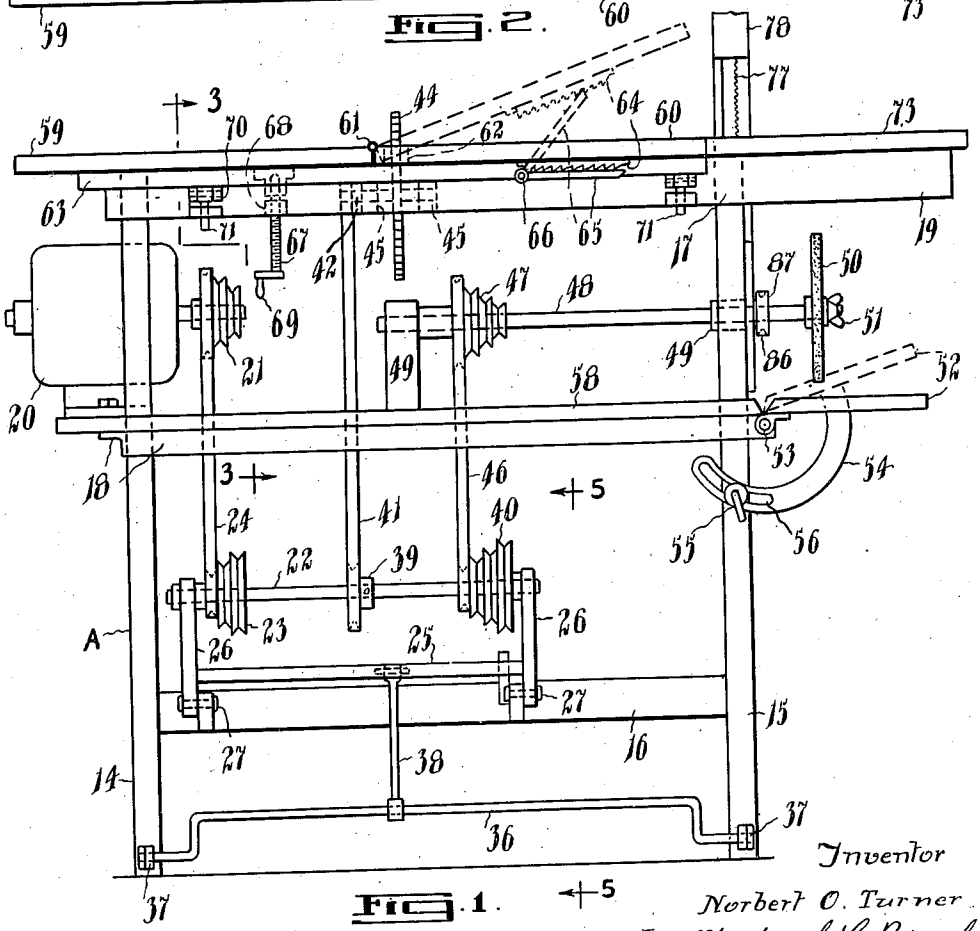


Fig. 1.

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ADJUSTABLE SAWING MACHINE TABLE

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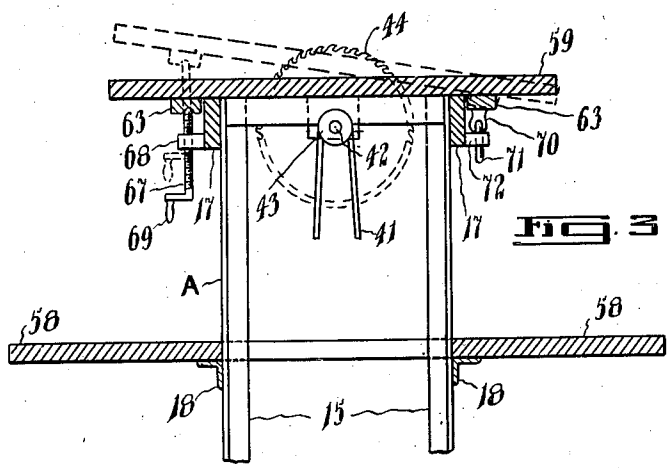


Fig. 3

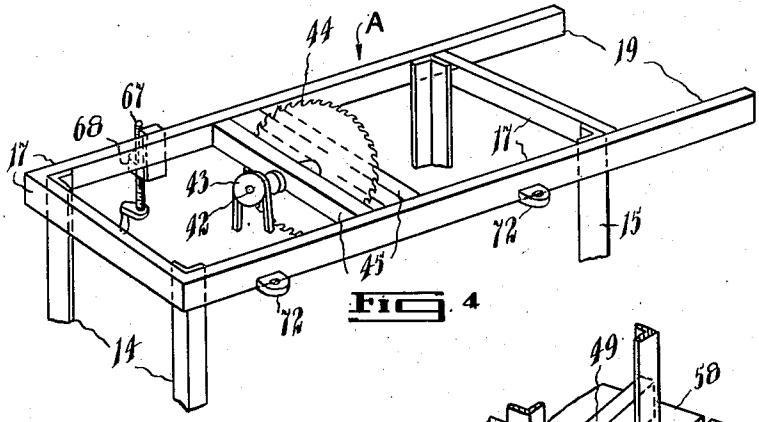


Fig. 4

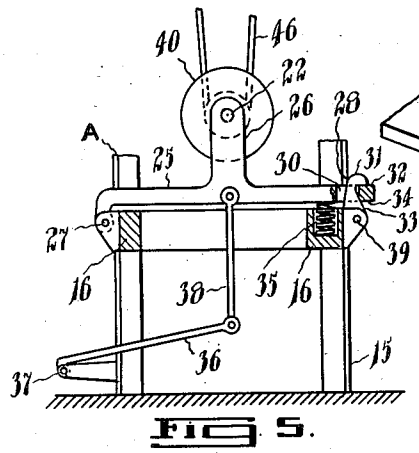


Fig. 5.

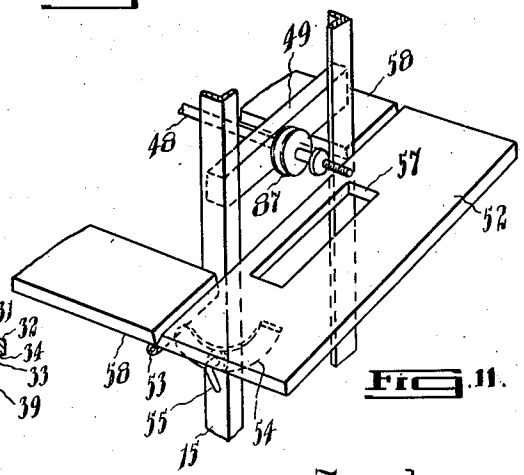


Fig. 11.

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ADJUSTABLE SAWING MACHINE TABLE

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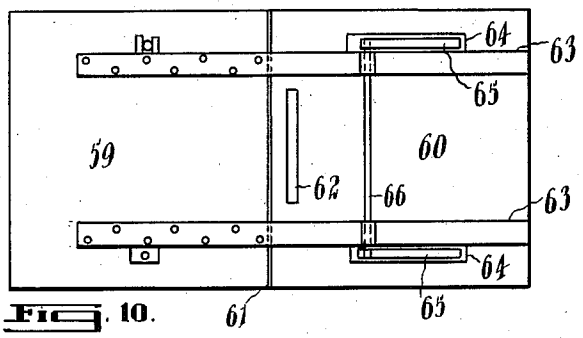


Fig. 10.

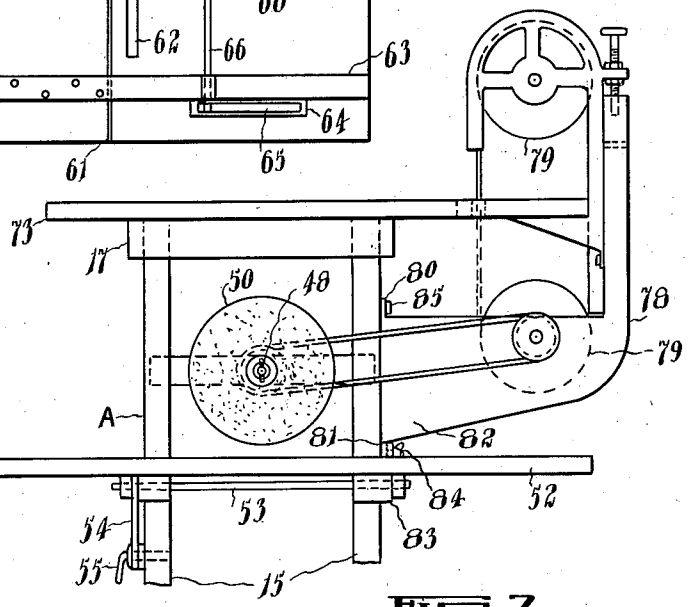


Fig. 7.

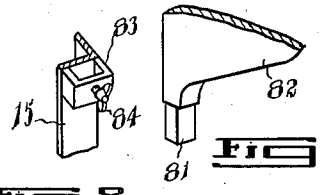


Fig. 9

Fig. 8.

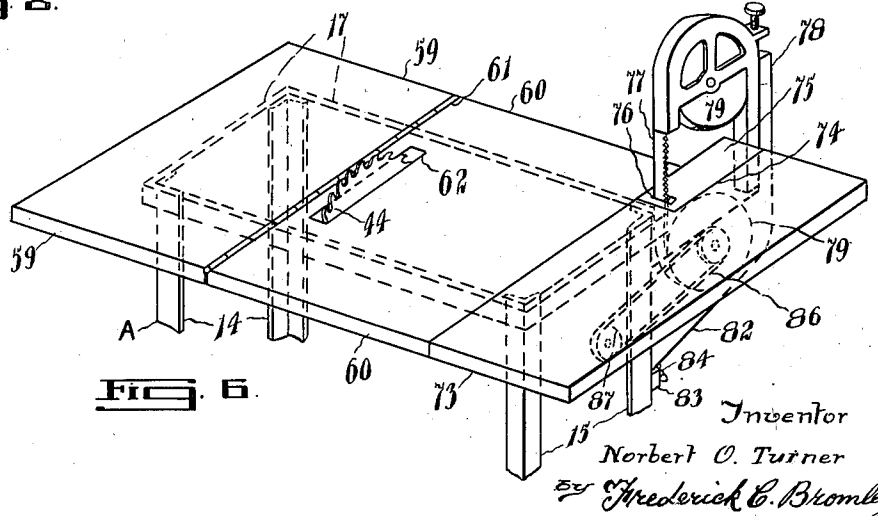


Fig. 6.

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UNITED STATES PATENT OFFICE

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ADJUSTABLE SAWING MACHINE TABLE

Norbert O. Turner, Toronto, Ontario, Canada

Application September 3, 1946, Serial No. 694,604

1 Claim. (Cl. 143—132)

1

My invention relates to woodworking machines and the like as described in the present specification and shown in the accompanying drawings forming a part thereof.

An object of the invention is to provide a novel construction and arrangement of a table or bench having table surfaces for power saws, disc grinders, power files and other machines of the kind used in woodworking shops, the table or bench being characterized in that it includes an electric motor and line shafting equipped with pulleys for power take-off by which a self-contained organization is produced for carrying out a multiplicity of operations on workpieces.

A further object is to provide a combination machine of the class described comprising various woodworking equipment compactly assembled on a table or bench into a unitary apparatus by which different units are adapted for use as required.

A still further object is to provide a novel combination and arrangement of components of a table by which various power tools may be supported in a compact manner and selectively operated.

Having described the major objects and advantages of the invention, other objects and advantages will manifest themselves as the invention is more fully recounted in the ensuing specification.

The accompanying drawings illustrate a practical form of the invention in which:

Fig. 1 is a side elevation of the invention.

Fig. 2 is a top plan view of Fig. 1.

Fig. 3 is a vertical section on line 3—3 of Fig. 1.

Fig. 4 is a view showing the frame of the bench or table in perspective.

Fig. 5 is a cross section taken on line 5—5 of Fig. 1 showing a belt-tightening device.

Fig. 6 is a perspective view of the upper part of the machine table showing the top table equipped with a circular saw and a band saw.

Fig. 7 is a view of the right hand end of the machine table depicting the band-saw unit attached thereto.

Fig. 8 is a detail of a socket which forms a part of the attachment means for the band-saw unit.

Fig. 9 is a detail view of the lug which fits into the socket of Fig. 8 and is carried by the frame portion of the band-saw unit.

Fig. 10 is a bottom plan view of the table top for the circular saw.

Fig. 11 is a perspective view of a tilt table for a disc grinder.

Referring to the drawings by reference characters, the disclosure of the present invention comprehends a machine table including a main frame denoted as a whole by the character A. This frame is of a skeletal construction and is of greater length than width. It comprises the legs 14 at one end and the legs 15 at the other end, which legs are firmly connected together in suitable manner by means of lower and upper bars 16 and 17 respectively, and intermediate bars 18. Said bars 16, 17 and 18 are horizontal members, and it will be noted from an inspection of Figs. 1, 2 and 4 that the bars 17 include side members which project endwise beyond the legs 15, as indicated at 19.

Supported on the frame A at the left-hand end thereof is an electric motor 20 which is located subjacent to said top bars 17 and is provided with a step pulley 21 below which is a countershaft 22 having a step pulley 23 aligned with said pulley 21 and connected thereto by a belt 24—see Fig. 1. The countershaft is thus driven by the connection with said motor, and means are provided to disconnect the drive by loosening the belt. The disconnecting means is novel and comprises a swing bracket 25 extended transversely of the main frame A and provided intermediate of its length with upstanding arms 26 in which the countershaft 22 is journalled. See Figs. 1 and 5. One end of the bracket 25 is pivoted at 27 so that it is capable of swinging upwardly to slacken the belt 24, and the other end is supplied with a latch 28 which retains the bracket in a lowered position that keeps said belt taut for power transmission. Said latch is pivoted at 39 to the frame A and is upwardly projected through an opening 30 in said bracket with its hook end 31 engaged with the face 32. This engagement precludes upward movement of the bracket. The latch has an inclined face 33 engaged with the face 34 of the bracket and sloped so that upon slight depressional movement of the bracket the latch will be automatically disengaged. A spring 35 is employed to force the bracket upwardly on its pivotal mounting with the consequence that the bracket will be raised automatically and the belt will be slackened when the bracket is freed from the latch by the depressional movement above mentioned. The latch is limited in its pivotal movement by the size of said opening 30 in which it remains. A treadle bar 36 is pivoted at 37 to the legs 14 and 15 and connected by a link bar 38 to said bracket. Accordingly the operator can readily disconnect the drive to the countershaft 22 by merely applying foot pressure on the treadle with sufficient force to depress the bracket so

that the latch will be disengaged. The latch can be engaged again by a similar movement.

The countershaft may be driven at different speeds by means of the step pulleys 21 and 23, and it is used to transmit power for operation of various devices, for which purpose it is supplied with pulleys such as those denoted at 39 and 40. The pulley 39 is connected by the belt 41 to a pulley 43 on a shaft 42 of a disc or circular saw 44. This saw is disposed at the top of the main frame A and transversely thereof. Its shaft 43 is journalled in suitable bearings carried by the cross members 45 which are secured to the bars 17 that extend longitudinally of said main frame, as will best be seen by reference to Fig. 4.

The pulley 40, which is of the step type, is connected by belt 46 to a similar pulley 47 on a jack shaft 48. Shaft 48 is longitudinally mounted in the frame A by means of bearings 49 and located below the top of this frame with an end projecting beyond the legs 15. This projecting end of shaft 48 may carry a disc grinder 50 detachably applied thereto, as by a wing nut 51, so that it can be readily removed for substitution of another tool as desired in the uses of the apparatus of which it is capable. For instance, the disc grinder may be replaced by a sanding wheel or a buffer wheel. On the other hand its removal may enable a reciprocating file to be driven by said shaft 48.

In the use of the disc grinder, or a like device, the workpiece may be supported upon the tilt leaf 52, which provides a table surface disposed beneath the disc wheel transversely of the adjoining end of said main frame. Said tilt leaf is hingedly mounted at 53 to the legs 15 to swing to and away from the disc wheel 50 in order that angular surfaces of workpieces may be finished. The tilt leaf may be set in various positions of adjustment by a locking device comprising the curved arm 54 and the clamp screw 55. This arm curves downwardly and extends alongside of one of the legs 15 and is supplied with a lengthwise slot 56 through which the clamp screw extends. The clamp screw secures the arm to the adjacent leg 15. The tilt leaf is apertured at 57 so that it may more closely approach the wheel 50 in its upward adjustment, as indicated in dash lines in Fig. 1.

At opposite sides of the main frame A fixed leaves 58 are disposed below the top thereof and secured to the intermediate bars 18. Said leaves 58 provide table surfaces projecting laterally of the main frame for support of power machines or other equipment employed in the woodworking industry. For example, a lathe may be mounted on one of the leaves 58 and driven by the power transmission previously described, and a tool sharpener or like power devices may be mounted on the other of the leaves 58 to have operable connection with said power transmission. This arrangement provides for compactness of the structure.

Now referring back to the circular saw 44, it will be seen that this is associated with a table top of novel construction formed of two similar work-supporting sections 59 and 60, which are hingedly united at their inner edges by the hinge 61. These sections extend longitudinally of the main frame and the section 60 thereof overlies the circular saw 44 and is supplied with a transverse slot 62 in the vicinity of the hinge 61. The saw-blade operates in this slot. The section 59 is provided with parallel frame strips 63 (Figs. 3 and 10) rigidly secured to its bottom face and spaced to straddle the bars 17 that extend lengthwise of the main frame. Said frame strips are extended beneath the section 60 but are not attached thereto—see particularly Fig. 10. The sections 59 and 60 rest loosely upon the main frame and the strips 63 function to preclude displacement, therefore the arrangement enables this table top to be bodily removed when not required. Its section 60 can be tilted on the hinge connection 61 to position its work supporting surface at an acute angle to the blade of the saw for making angular cuts. Means are provided to retain the section 60 in tilted position. Such means comprise parallel racks 64 provided with teeth and affixed to the bottom face of the section 60 for selective engagement with the free end of swinging arms 65 which are pivoted on the frame strips 63 by means of a crossbar 66.

For the purpose of adjusting the sections 59 and 60 as a unit so that the table top provided thereby may be bodily tilted in the plane of the saw 44 for changing the depth of cut there is provided at one side of the main frame A a crank screw 67 threadedly engaged in a lug 68 projecting from a side of the main frame. The crank screw is vertically arranged with its upper end engaged with the adjacent frame strip 63 and with its lower end supplied with a handle 69 by which it may be turned to move this frame strip upwardly so as to tilt the sections in unison. The other frame strip is hinged to the respective side of the main frame by means of interfitting eye members 70 and 71. The eye member 70 is rigid with the frame strip 63 at that side of the main frame, and the eye member 71 is in the form of a pin which is inserted in an apertured lug 72 outwardly projecting from the main frame. This construction does not hinder the sections 59 and 60 from being bodily removed from the main frame.

Adjacent to the section 60 aforesaid there is provided a removable wing 73 which forms a table surface for a band saw and is supported upon the projecting ends 19 of the bars 17. The wing 73 may be shouldered against displacement by any suitable means such as frame strips similar to the frame strips 63 previously recounted. The wing is removed when the disc grinder is used, and it is cut away at 74 to provide a complementary section 75 which is permanently attached to the main frame A. Said section 75 is slotted at 76 (Fig. 6) to receive one run of the band saw proper, denoted at 77. The band saw is a separate unit comprising the frame 78 and the wheels 79 around which the saw proper 77 is trained. This band saw unit is detachably mounted on the main frame A so that it can be removed at will. The attachment means comprises an upper lug 80 and a lower lug 81, each formed on the base portion 82 of the frame 78 for connection with one of the legs 15. This leg is supplied with a socket 83 (best discernible in Fig. 8) in which the lower lug 81 is inserted and secured as by a thumb screw 84, the upper lug 80 being secured to the leg by a headed screw 85. By this arrangement the band-saw unit can be quickly detached when not required. The band saw is driven by a belt 86 engaged with a pulley 87 or the shaft 48.

The advantages and utility will be fully apparent from the preceding description and it will be manifest that while the invention has been disclosed in a specific form, such changes and modifications may be resorted to as come within the subjoined claim.

What I claim is:

In a machine table of the kind described, a main frame formed of legs and connecting bars, the connecting bars including top bars at opposite sides of the frame, a disc saw mounted transversely between said top bars to project above the same, means for driving said saw, a table top resting loosely on said frame and made up of a tiltable section and a non-tiltable section having meeting ends, parallel frame strips fixed to the bottom face of the non-tiltable section and extended beneath the tiltable section, said frame strips being spaced to straddle said top bars to preclude lateral displacement of said sections with respect to said frame, said sections being hingedly united at said meeting ends to enable the tiltable section to swing upwardly, the tiltable section being disposed to overlie the saw-blade and having a transverse slot in which the saw-blade is operable, means carried by said frame strips for retaining the tiltable section in an adjusted position to which it may be upwardly swung, apertured lugs provided on one of said top bars, said lugs having vertical apertures therein, interconnected eye members secured to the adjacent frame strip, said eye members including pins fitted loosely in said apertured lugs, and a crank screw carried by the other top bar for abutting engagement with the adjacent frame strip whereby said sections are bodily tilted in the plane of the saw-blade for changing the depth of cut.

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