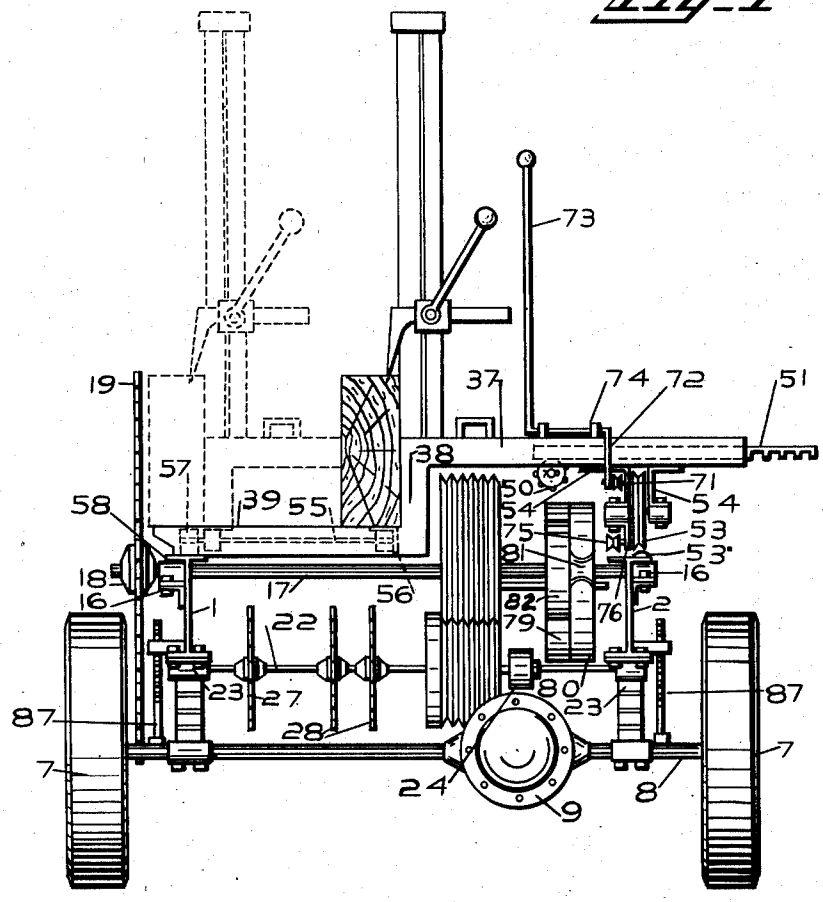
Oct. 7, 1952 A. J. BACH 2,612,913

PORTABLE SAWMILL WITH CARRIAGE TRAVELING OVER HUSK

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Fig. 1



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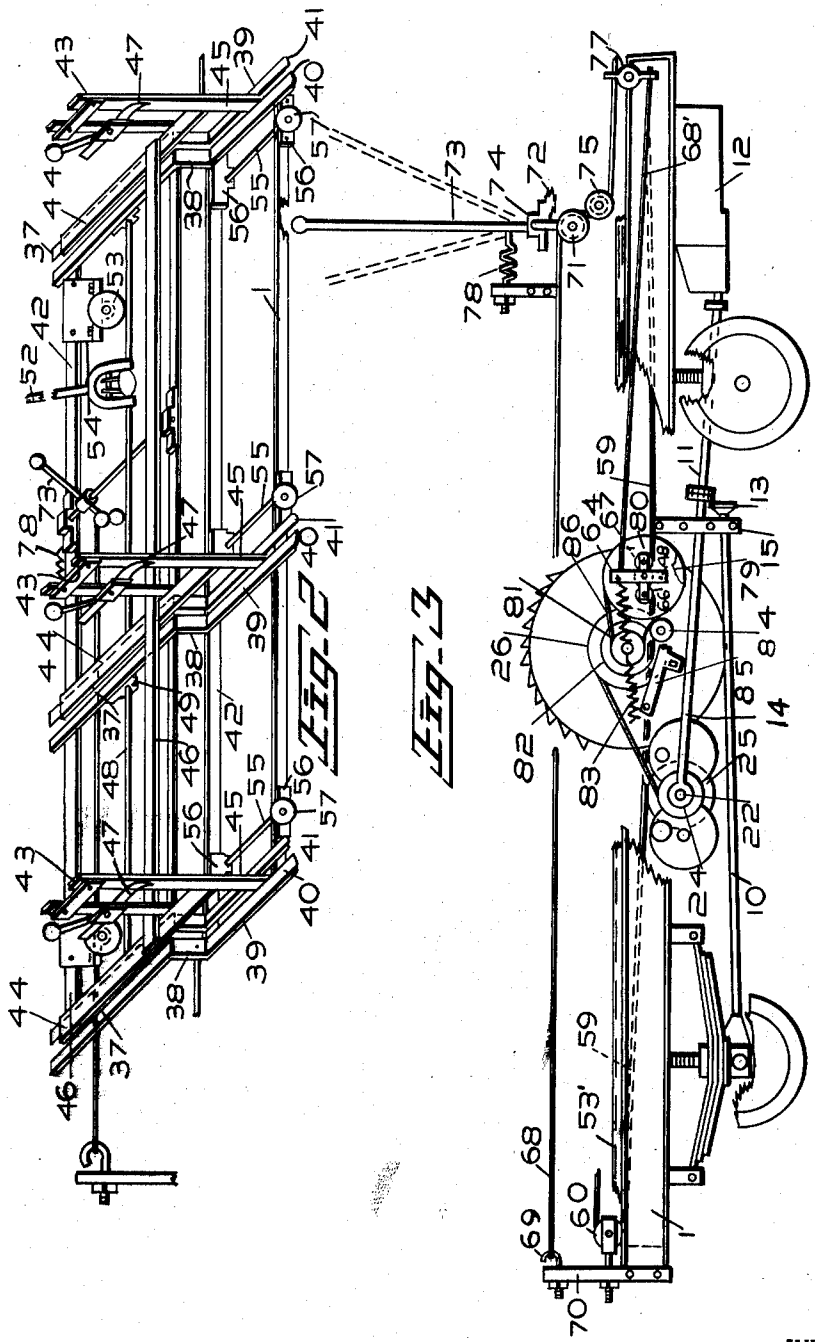


FIG. 3

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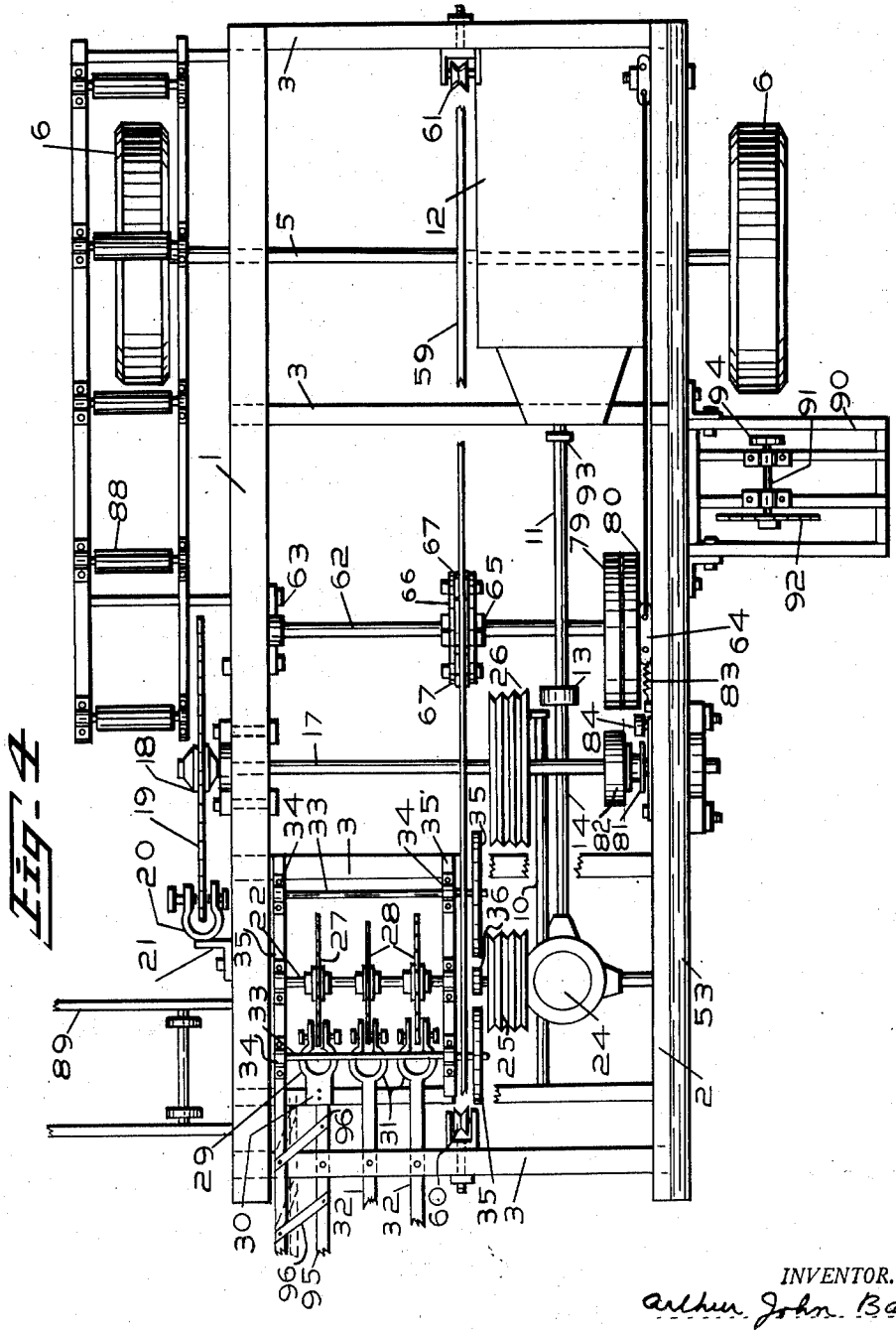


Fig. 4

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PORTABLE SAWMILL WITH CARRIAGE TRAVELING OVER HUSK

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3 Claims. (Cl. 143—105)

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My invention relates to saw mills, more particularly having reference to a combined saw mill and edger mounted for travel as a self propelled unit.

In the art to which the invention relates portable saw mills and edgers are more usually constructed as individual units, and employ separate power means for driving the mill and for its transportation. The present invention contemplates improvements in saw mills and edgers by combining these in a single unit, and incorporating in the unit a motor connectable for either propulsion of the unit or for driving the saw mill mechanisms.

One of the objects of the invention is accordingly to provide a portable saw mill, combining therewith an edger, both run from a common source of power.

A further object of the invention is to provide in a saw mill apparatus, a motor carried in the apparatus and adapted to be connected for propulsion of the mill, or to the mill mechanism for driving the saws and carriage.

A further object of the invention is to provide an improved carriage for the mill embodying an offset or step by which the motor assembly may be carried in the mill below the carriage, and permitting use of large pulleys and making full use of the main frame of the mill possible. This arrangement also provides a more compact unit that is convenient for travel, and further in setting up the mill there are no belts to tighten or line up, and both ends of the mill are open.

Other features and advantages of the invention will become apparent by reference to the accompanying description taken in conjunction with the drawings, wherein like characters or reference indicate like parts throughout the several views, and wherein:

Fig. 1 is a rear end view of the mill.

Fig. 2 is a perspective view of the carriage taken by itself and including the connection with the friction cable.

Fig. 3 is a side view of the body of the mill, with certain parts omitted and shown partly broken away.

Fig. 4 is a plan view of the body of the mill, shown partly broken away, and with the carriage and rear wheels omitted.

Having reference to the drawings, the mill includes side frame members 1 and 2 of I beam construction, with cross bars 3 at intervals and as required for mounting the working parts of the mill. The frame is supported forwardly on an axle 5 with wheels 6, and rearwardly on

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wheels 7 on an axle 8 that includes a differential at 9 with driven shaft 10 connected therewith and in turn said shaft being connectable to be driven by a drive shaft 11 of a motor unit 12 located forwardly in the machine. This connection between the shafts 10 and 11 is indicated by the numeral 13, and as shown in Figure 3 may be broken to connect the shaft 11 with a saw mill drive shaft 14, the shafts 10 and 14 being supported from the frame bar 2 by a bracket 15.

Mounted rotatable in bearing members 16 secured on the under side of the top plates of the main frame bars 1 and 2 is a mandrel shaft 17 with saw collar 18 for mounting a circular saw blade 19, and for which a saw guide 20 is provided on a bracket 21 secured to the frame member 1.

There is further provided a mandrel shaft 22 for the edger saws, this shaft being rotatable in bearing members 23 attached on the under side of the lower horizontal portions of the beams 1 and 2.

The saw mill drive shaft 14 connects by a gear casing 24 to drive the mandrel shaft 22, and this shaft carried a belt pulley unit 25 for driving a pulley unit 26 fixed on the saw mandrel shaft 17.

The edger mandrel shaft 22 carried a saw 27 fixed thereon, and saws 28 slidable on the shaft, and for which there is a saw guide 29 for the saw 27 on a bracket 30 secured on a frame cross bar 3, and saw guides 31 for the movable saws, these latter saw guides being carried on movable arms 32 mounted pivoted on a cross bar 3, as is common in edger construction.

There are further provided feed rollers 33 mounted for rotation in brackets 34 on supplemental bars 35' secured to adjacent frame bars 3. The feed rollers are to be driven by pulley wheels 35 over which, and a drive pulley 36 on the edger mandrel shaft, a belt would be trained.

The carriage for the mill is separately illustrated in Figure 2. For convenience of illustration this carriage is of a design for use on a left hand mill, whereas the mill as herein shown is what is known as a right hand mill, it being understood that a reverse carriage structure would be employed in a right hand mill. The carriage in position for travel on the mill is shown in Figure 1.

The carriage provides in the present showing three transverse frame members, each including an upper horizontal section 37, a vertical section 38 and lower horizontal section 39. Each frame member is formed of two such parallel

spaced apart strips, as indicated at 40 and 41. The frame members are attached on angle iron supports 42 running lengthwise of the carriage.

Mounted sidewise movable on the horizontal frame sections 37 and 39 are head blocks 43 that include horizontal members 44 mounted slidable on the frame sections 37 and vertical members 45 slidable in the sections 39. The head blocks are connected by strips 46, and further include manually operable dogs 47. The carriage head blocks are moved by a set works shaft 48 mounted on the under side of the frame in bearings 49, and providing toothed pinions 50 engaging rack bars 51 on the frame sections 37. The shaft 48 may be actuated by a lever 52.

The upper level of the carriage is mounted for travel on wheels 53 carried by brackets 54 on a lengthwise angle iron support 42, the wheels being adapted for travel on a track 53' on the main frame side bar 2. The lower carriage level is provided with shafts 55 at intervals fixed in brackets 56 and mounting rotatable thereon wheels 57 that are adapted for travel on the upper flange 58 of the main frame side bar 1.

For effecting travel of the carriage I provide a chain 59 having the ends thereof fixed one to each end of the carriage, the chain being trained over pulleys 60 and 61 carried on end cross bars 3 of the main frame. Transversely in the main frame is mounted for rotation a shaft 62, the one end thereof being supported in a bearing bracket 63 on the main frame bar 1, and the other end carried in a fever arm 64 pivotally attached on the frame bar 2. On the shaft 62 is a sprocket wheel 65 over which the chain 59 engages for effecting travel of the carriage in either direction by rotation of the shaft 62. Included with this is a rocker arm 66 free to rock on the shaft 62 and carrying pressure sprockets 67 under which the chain 59 passes to take up slack at the sprocket drive wheel 65.

For putting the carriage in motion in either direction I provide a cable 68 fixed at one end to an eye bolt 69 on a support 70 on an end frame bar 3. The cable is carried over a pulley 71 on an arm 72 of a lever 73 that pivots at 74 on the carriage frame.

The cable is then carried over a pulley 75 on a depending bracket 76 on the carriage, and extends to and is attached to one end of a pivotally mounted bracket arm 77. From the other end of this bracket arm a cable 68' connects to the lever arm 64. The lever 73 is normally held neutral by a spring 78.

For driving the shaft 62 I provide a combined friction pulley with wheels 79 and 80 on said shaft adapted to be driven by a pulley wheel 81 on the saw mandrel shaft 17 to feed the carriage towards the saws and to be engaged by a reverse pulley 82 for withdrawal of the carriage. This is controlled by lever 73 which may be moved to actuate the arm 64 against the tension of a spring 83 to drive the carriage for feeding, or to be reversed, when spring 83 will move the arm 64 to engage pulley wheels 79 and 82. An idler pulley 84 is provided on an arm 85 for belt 86 on the pulleys 80 and 81.

Additionally to the foregoing I provide jack screws 87 at the frame corners by which the frame may be levelled when the saw is set for use. There are also provided dead rolls at 88 for the logs, and roll poles, as at 89, which are removable.

On the opposite side of the frame is shown a cut-off attachment that includes a frame 90 with saw shaft 91 and saw 92, the shaft 91 being

driven from a pulley wheel 93 on the main drive shaft 11 connectable to a pulley 94 on shaft 91.

There is also provided a straight edge 95 carried on arms 96 pivotally mounted on the frame bar 1 in relation to the edger.

In the operation of the device the mill may be propelled by the shaft 10 connected by shaft 11 to the engine, or when in use as a saw mill and edger the shaft 11 would be coupled, as at 13, to the mill driven shaft 14.

The shaft 14 drives the edger mandrel shaft 22 and through pulley units 25 and 26 drives the main saw mandrel shaft 17.

The carriage travels on the guide wheels 53 on the track 53' and the lower level wheels 57, and is moved by the chain 59 trained over pulleys 60 and 61, the chain being carried in operative relation to the sprocket wheel 65 on the shaft 62 by sprocket pinions 67 on rocker arm 66.

The carriage is controlled by lever 73 which is normally held inoperative by spring 78 but may be put in motion by actuation of the lever 73 to move arm 64 and drive the carriage shaft 62 by the pulleys 81 and 80, or reversed by moving the lever 73 oppositely when spring 83 would move arm 64 to cause pulley 79 to be reversely driven by pulley 82.

In setting up the machine for work the screw jacks 87 would be employed to level the saw mill frame on its supporting wheels.

While I have herein disclosed a preferred embodiment of my invention, it is obvious that changes in the construction of parts and elements would be permissible, and in so far as such changes come within the spirit and scope of the invention as defined in the appended claims they would be considered a part hereof.

Having thus particularly described and ascertained the nature of my invention, what I claim and wish to secure by Letters Patent is:

1. In a sawmill a frame, a log saw mandrel shaft in the frame and a saw on the shaft, a motor, means connecting said shaft to be driven from the motor, said motor and driving means being carried on one side of a substantially medial line lengthwise of the frame, a carriage mounted for travel on the frame, said carriage providing upper and lower horizontal levels extending one on each side of a vertical substantially medial plane longitudinal of the carriage with the upper level adapted for travel over the motor and driving means, head blocks for the carriage, means mounting said head blocks for travel as a unit movable across the carriage, said lower level being adapted to carry the material to be sawed thereon, means for effecting movement of the head block unit, and means for driving the carriage in either direction including manual controls therefor.

2. In a sawmill providing two main frame bars lengthwise of the mill spaced apart, a mandrel shaft mounted for rotation transversely between the frame bars and a saw on the shaft, a carriage for travel on the frame bars, the mill including mechanism on one side of a substantially medial line lengthwise of the frame bars for driving the mandrel shaft and operation of the carriage, including a source of power for driving said mechanism, and said carriage providing an upper horizontal level for travel over said mechanism and a lower horizontal level adapted for carrying a log to be cut and for travel on the opposite side of the medial line to the mechanism, and including vertical frame portions connecting said levels, and means mounting the

carriage for travel lengthwise on the frame bars.

3. A device as defined in claim 2 and including head blocks mounted to slide sidewise on the horizontal levels of the carriage, a set works shaft mounted lengthwise of the carriage and connectable to be driven from the source of power in the mill, pinions on said shaft, and rack bars transversely carried in the upper level of the carriage engaged by said pinions.

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