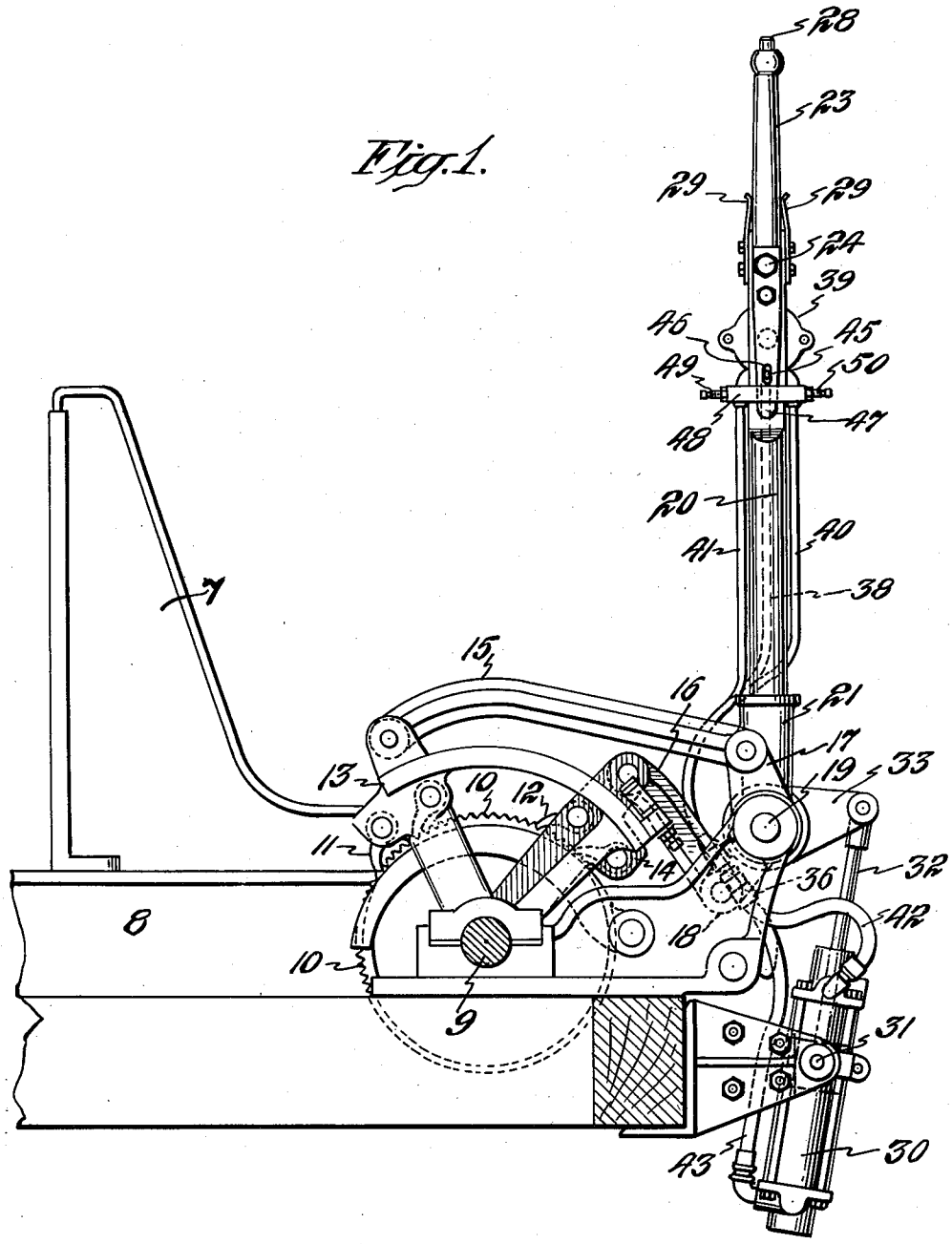
Aug. 19, 1952 W. F. CAHOON 2,607,374

AIR BOOSTER FOR SAWMILL SETWORKS

Filed Feb. 15, 1949 2 SHEETS—SHEET 1

Fig. 1.



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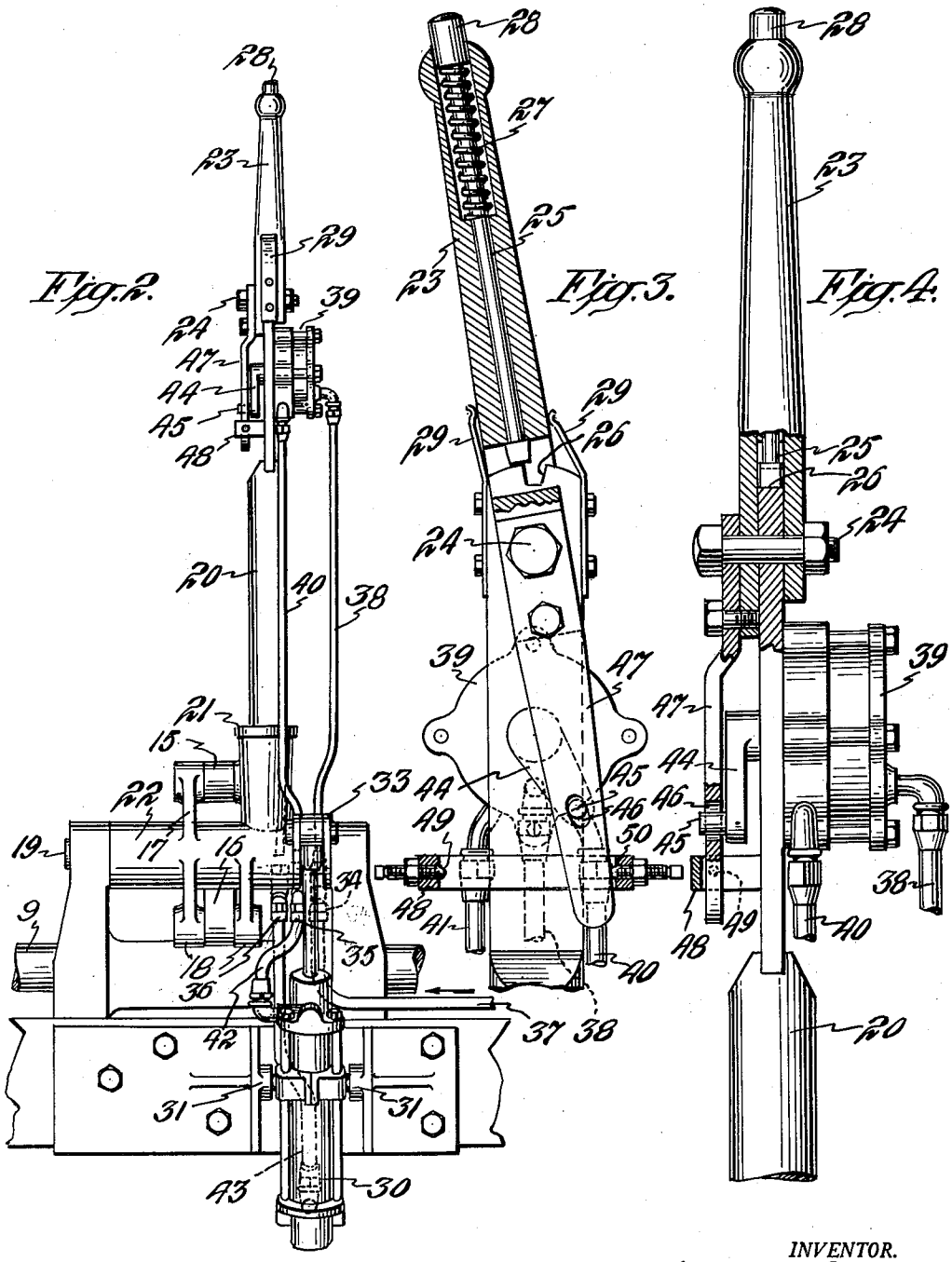


Fig. 2.

Fig. 3.

Fig. 4.

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AIR BOOSTER FOR SAWMILL SETWORKS

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The invention here disclosed relates to sawmill setworks.

One of the principal objects of the invention is to provide power means for assisting the setter in setting the knees or standards on the head blocks.

Particularly it is a purpose of the invention to provide such power mechanism in a form available for use by the setter when desired but leaving the setter free to operate the setworks manually if he so chooses.

A special object of the invention is to afford a control which will simulate the back and forth action of the setter's lever so that control can be exercised in a manner to which the setter is accustomed.

Further important objects of the invention are to provide a power booster of the character indicated which may be readily incorporated with exisiting setworks or be built into newly designed setworks at reasonable cost and which will not add objectionable bulk or projections on the sawmill carriage and will, on the whole, contribute to the safety and efficiency of operation of the entire apparatus.

Objects of the invention also are to provide mechanism of simple, rugged construction, free of complicated parts and generally desirable for the purposes outlined.

Other desirable objects attained by the invention and the novel features of construction, combination and arrangement of parts through which the purposes of the invention are attained are set forth or will appear in the course of the following specification.

The drawings accompanying and forming part of the specification illustrate a present commercial embodiment of the invention. Structure, however, may be modified and changed as regards the immediate illustration, all within the true intent and broad scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawings is a broken and part sectional side elevation of a sawmill setworks having the invention incorporated in and applied thereto;

Fig. 2 is a broken front view showing particularly the booster cylinder connected with the rocker arm and air supply connections between the same and the control valve on the set lever;

Fig. 3 is an enlarged broken sectional view of the control valve and connections between the same and the handle which may be used by the setter as a pilot for effecting corresponding power operation of the lever and parts associated therewith;

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Fig. 4 is a broken front elevation and part sectional view illustrating details of the pilot handle and control valve mechanism.

In the general view, Fig. 1, a setworks is illustrated conventional in design to the extent of embodying knees or standards 7 operated on head blocks 8 from a set shaft 9 having a ratchet 10 engaged by pawls 11, 12, on pawl carriers 13, 14, actuated through links 15, 16, from rocker arms 17, 18, on rock shaft 19.

Under the present invention rock shaft 19 may be oscillated by hand in the usual manner, or by power, as elected by the setter.

For the hand operation there is provided a set lever and in order that this same lever may be utilized for power control purposes, the upper end of the lever is made as a separate, independently movable handle part operative to throw a valve for controlling the power operation.

The lower main portion of the set lever is shown at 20 secured in a socket 21 on the rocker casting 22 and the control handle is shown at 23 pivoted on the upper end and to swing in the same plane as the lever at 24.

This handle may be "locked" to constitute a rigid bar or extension of the set lever by means of a bolt 25 slidingly guided in the handle for engagement at its inner end in a notch 26 in the end of the lever. A spring 27 normally holds the bolt retracted, with the handle unlocked from the lever and a thumb button 28 exposed at the upper end of the handle provides conveniently accessible means for the setter to lock the handle to the lever at will.

Flat springs 29 bearing against opposite sides of the handle hold it normally centered, with the bolt in position to be instantly thrust into locking engagement with the notch in the end of the lever.

The power operation is supplied in the present disclosure by a relatively small, short stroke air cylinder 30 swiveled in bearings at 31 at the side of the carriage, below the setworks and having a piston with a rod 32 pivotally connected with a toggle arm or lever 33 on or secured to the rocker 22.

This toggle arm is shown as carrying three sets of coupling sleeves 34, 35, 36, at the back of the same for the necessary air connections, including the supply line 37 from the air receiver, the extension 38 of the same leading to the four-way control valve 39 and the lines 40, 41, running from this valve back to coupling sleeves 35, 36, and thence continued at 42, 43, to the upper and lower ends, respectively, of the air cylinder.

Various forms of control valves may be em-

ployed, that shown being of a simple, practical form suited to the purpose and embodying a valve element ported to admit pressure to one end while releasing pressure from the opposite end of the air cylinder when rocked in opposite directions by means of lever **44** carrying a pin **45** entered in slot **46** in the leverage extension **47** of handle **23**.

To limit the swing of handle **23** and prevent overthrow of the valve, the handle extension **47** is shown as operating in a guide **48** carrying stop screws **49**, **50**, adjustable for accurately determining the extent of handle and valve movement.

The air cylinder, trunnioned directly below the rocker and below the floor level of the carriage, is out of the way and does not interfere with normal operations about the setworks. The control valve and connections on the set lever are not in the way and do not interfere with use of the set lever for manual operations. If the setter wishes to operate manually, it is only necessary to hold in the thumb button **28** while rocking the lever, using this handle as a grip.

For power assist the setter merely rocks the handle **23** in the direction in which he wishes the set lever to go and more or less at the speed and to the proportionate extent at which he wishes the lever to travel. The setter can thus use the handle as a pilot to direct and control the lever and hence the setout for each board. This control may be exercised with cushioning effect and the operation may be as fast as desired to speed up production.

While compressed air may generally be preferred as the motive fluid, it is contemplated that other power may be employed. Also, while usually preferable to place all control parts on the set lever, it is contemplated that the control valve may be mounted elsewhere, within convenient reach of the setter.

What is claimed is:

1. In a sawmill setworks having a set shaft and a rocker for setting same, a setter's lever mounted on said rocker, a setter's lever handle pivotally mounted on the upper end of said lever, a valve mounted on said lever and connected for actuation by said lever handle, said lever handle and valve having an intermediate, neutral position, a depressible locking bolt in said lever handle for mechanically coupling the same to the setter's lever in said intermediate, neutral position of the parts, a power cylinder and piston connected to effect power operation of said rocker and fluid pressure control connections between said power cylinder and valve.

2. In a sawmill setworks having a set shaft and a rocker for setting same, a setter's lever mounted on said rocker, a setter's lever handle pivotally mounted on the upper end of said lever, a valve mounted on said lever and connected for actuation by said lever handle, said lever handle and valve having an intermediate, neutral position, a depressible locking bolt in said lever handle for mechanically coupling the same to the setter's lever in said intermediate, neutral position of the parts, a power cylinder and piston connected to effect power operation of said rocker and fluid pressure control connections between said power cylinder and valve including couplings on said rocker, the pressure connections to the valve and to the cylinder being engaged with said couplings.

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