

No. 648,649.

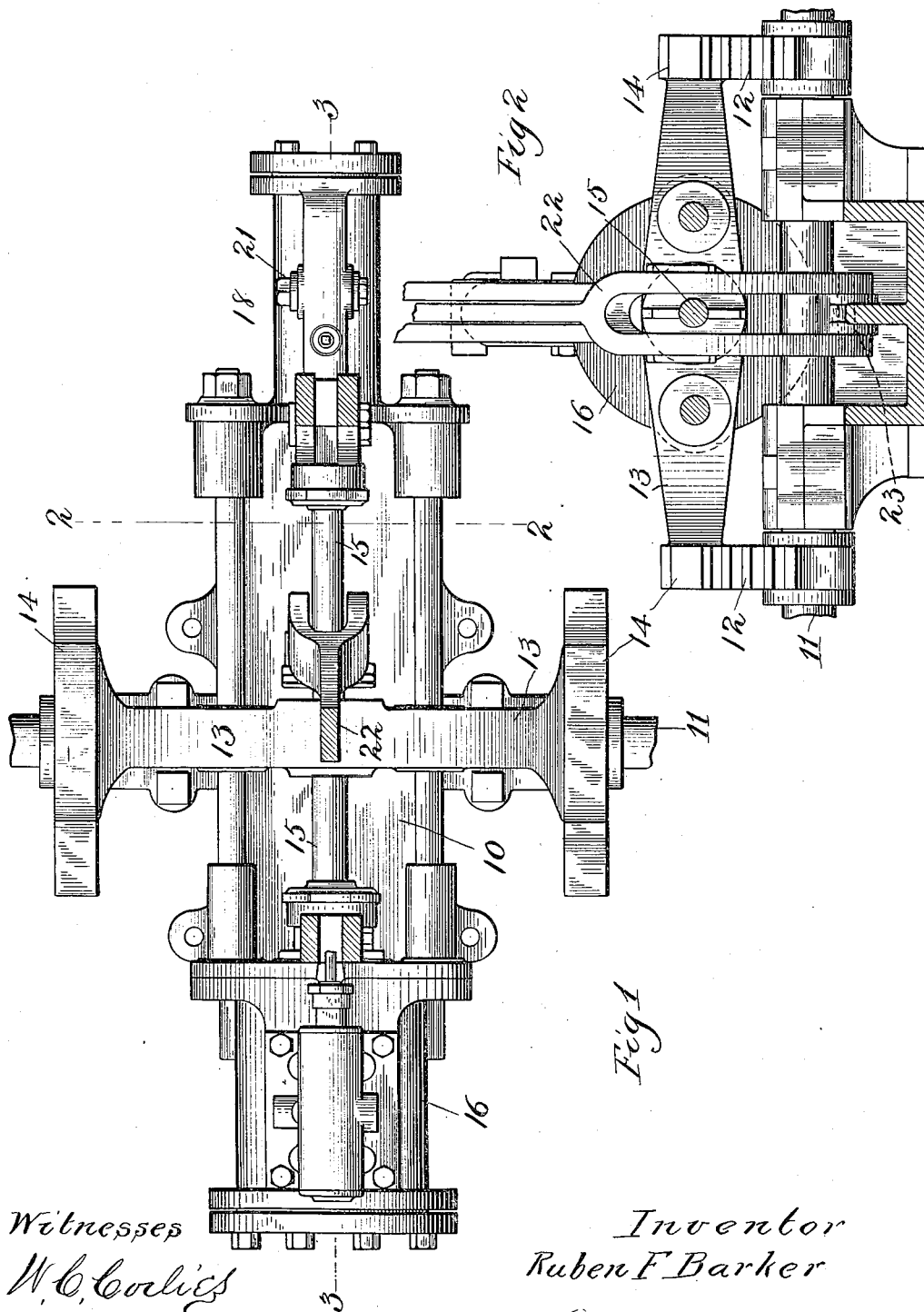
Patented May 1, 1900.

R. F. BARKER.
STEAM SET WORKS FOR SAWMILLS.

(Application filed Aug. 16, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
W. C. Corlies
W. H. Cotton

Inventor
Ruben F. Barker
By Louis K. Gieson
Atty

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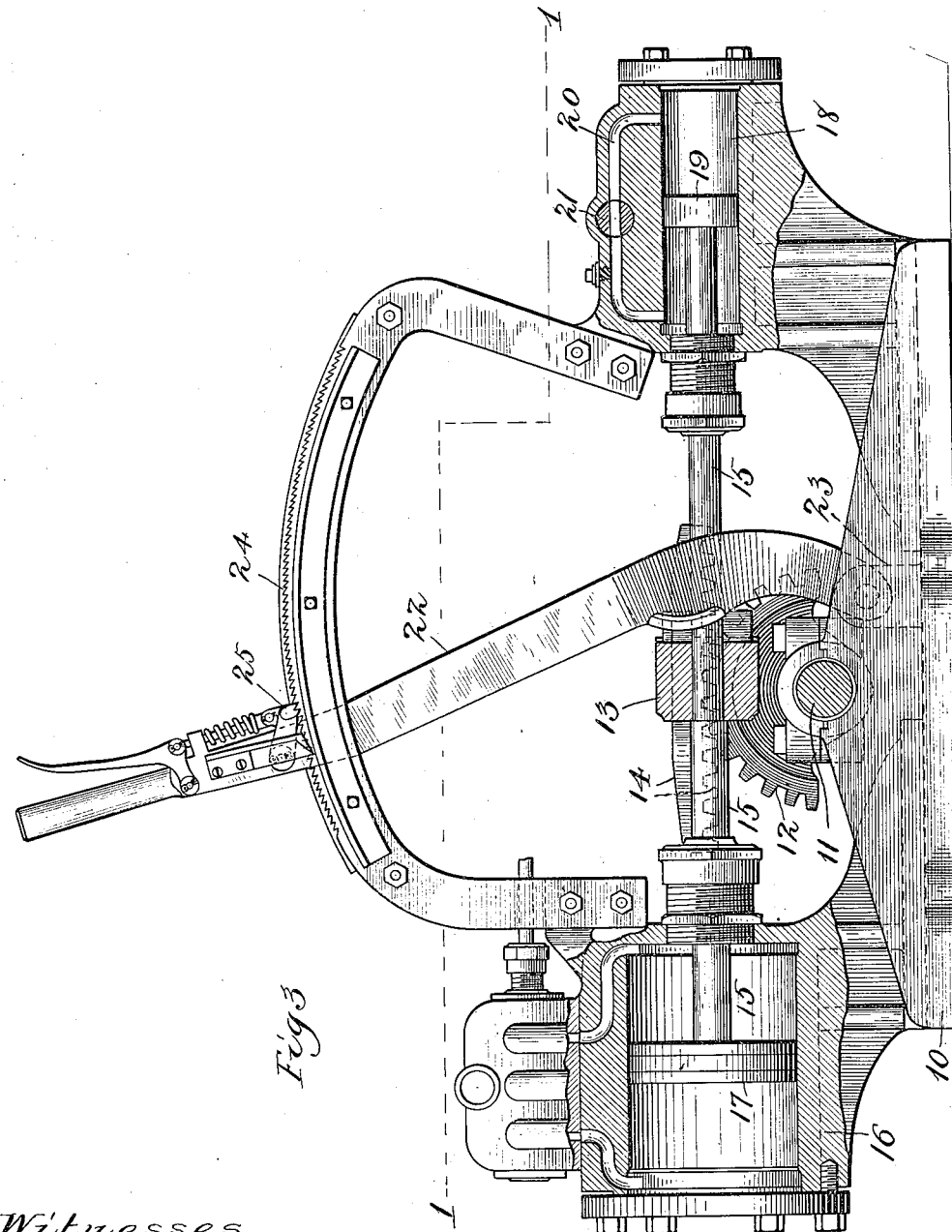


Fig 3

Witnesses
W. C. Corlies
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Inventor
Ruben F. Barker
By Louis K. Gilson Atty

UNITED STATES PATENT OFFICE.

RUBEN F. BARKER, OF MARINETTE, WISCONSIN, ASSIGNOR TO MICHAEL CORRY, OF SAME PLACE.

STEAM SET-WORKS FOR SAWMILLS.

SPECIFICATION forming part of Letters Patent No. 648,649, dated May 1, 1900.

Application filed August 16, 1899. Serial No. 727,408. (No model.)

To all whom it may concern:

Be it known that I, RUBEN F. BARKER, a citizen of the United States, and a resident of Marinette, county of Marinette, and State of Wisconsin, have invented certain new and useful Improvements in Steam Set-Works for Sawmills, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

This invention relates to the retarding device used in connection with a steam-cylinder and its piston and rod for actuating the rocker-shaft by means of which the set-shaft is rotated.

More specifically the invention relates to the particular arrangement of the retarding-cylinder in connection with the other parts of the mechanism.

The object of the invention is to simplify the construction and to so dispose the retarding-cylinder that it will cooperate with the steam-cylinder in guiding the piston-rod.

The invention consists in the parts and arrangement of parts hereinafter fully described and as illustrated in the accompanying drawings, in which—

Figure 1 is a plan section of the engine mechanism of the set-works on the line 1 1 of Fig. 3. Fig. 2 is a sectional view on the line 2 2 of Fig. 1, and Fig. 3 is a sectional view on the line 3 3 of Fig. 1.

I show in the drawings a suitable base-plate 10, provided with journal-boxes for carrying the rocker-shaft 11. This shaft is actuated from a cross-head 13 by means of segmental gears 12, mounted upon the shaft, and racks 14, carried by the cross-head and intermeshing with the gears. The cross-head 13 is fixed upon a piston-rod 15, which enters a steam-cylinder 16 and carries the piston 17, reciprocating therein. A second cylinder 18, mounted upon a suitable bracket rising from the plate 10, is in alinement with the cylinder 16 and receives the outer end of the piston-rod 15 through a suitable stuffing-box, and to such piston-rod end is fixed a piston 19, reciprocating within the cylinder. A transferring-duct 20 is formed in the walls of the cylinder 18, so as to connect the opposite ends of the latter, and this duct is controlled by means of a suitable valve 21. The cylinder 18 is intended to be filled with any suitable liquid, preferably oil, which is transferred from one end of the cylinder to the other as the piston

reciprocates, passing through the duct 20 and retarding the movement of the piston by reason of the comparatively-small cross-sectional area of the duct 20. By means of the valve 21 this duct may be still further reduced in capacity, so that the retardation will be increased.

In devices of this kind some suitable stop mechanism is employed for limiting the range of movement of the piston 15, and in this instance I show for this purpose a lever 22, pivoted to a suitable lug 23, rising from the plate 10 and cooperating with a segmental ratchet 24, the lever carrying a manually-controlled spring-pawl 25 for engagement with this ratchet. This lever is so disposed that it crosses the path of the cross-head 13 and may be set so as to regulate the range of movement of the piston-rod, and hence of the rocker-shaft 11. The particular form of stop device forms no part of the invention for which protection is now sought, but is made the subject of an application filed by me August 16, 1899, Serial No. 727,407. This is also true of the valve mechanism cooperating with the steam-cylinder 16, and I have not for this reason deemed it essential to show the details thereof.

By the peculiar arrangement of the retarding-cylinder in relation to the power-cylinder I am able not only to economize space—a consideration of importance in view of the fact that devices of this character are adapted to be mounted upon the sawmill-carriage—but I also provide a well-lubricated and strong guide-bearing for the outer end of the piston-rod 15, whereby this rod is firmly held against the lateral pressure incidental to the engagement of its racks with the segmental gears, while still being allowed the utmost freedom of movement.

I claim as my invention—

In steam set-works for sawmills, in combination, a pair of cylinders in alinement, a piston reciprocating within each cylinder, a piston-rod rigidly connecting the two pistons, a cross-head mounted upon the piston-rod between the cylinders and having gear-racks, a rocker-shaft, and gears mounted upon such shaft and cooperating with the racks.

RUBEN F. BARKER.

Witnesses:

W. W. SKINNER,
M. O. KOHLER.

It is hereby certified that Letters Patent No. 648,649, granted May 1, 1900, upon the application of Reuben F. Barker, of Marinette, Wisconsin, for an improvement in "Steam Set-Works for Sawmills," was erroneously issued to Michael Corry, as owner of the entire interest in said invention; that said Letters Patent should have been issued to the inventor, *Reuben F. Barker and Michael Corry*, jointly, said Michael Corry being the assignee of one-half interest only in said patent, as shown by the record of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 15th day of May, A. D., 1900.

[SEAL.]

F. L. CAMPBELL,
Assistant Secretary of the Interior.

Countersigned:

C. H. DUELL,
Commissioner of Patents.

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F. L. CAMPBELL,
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Commissioner of Patents.