

No. 799,150.

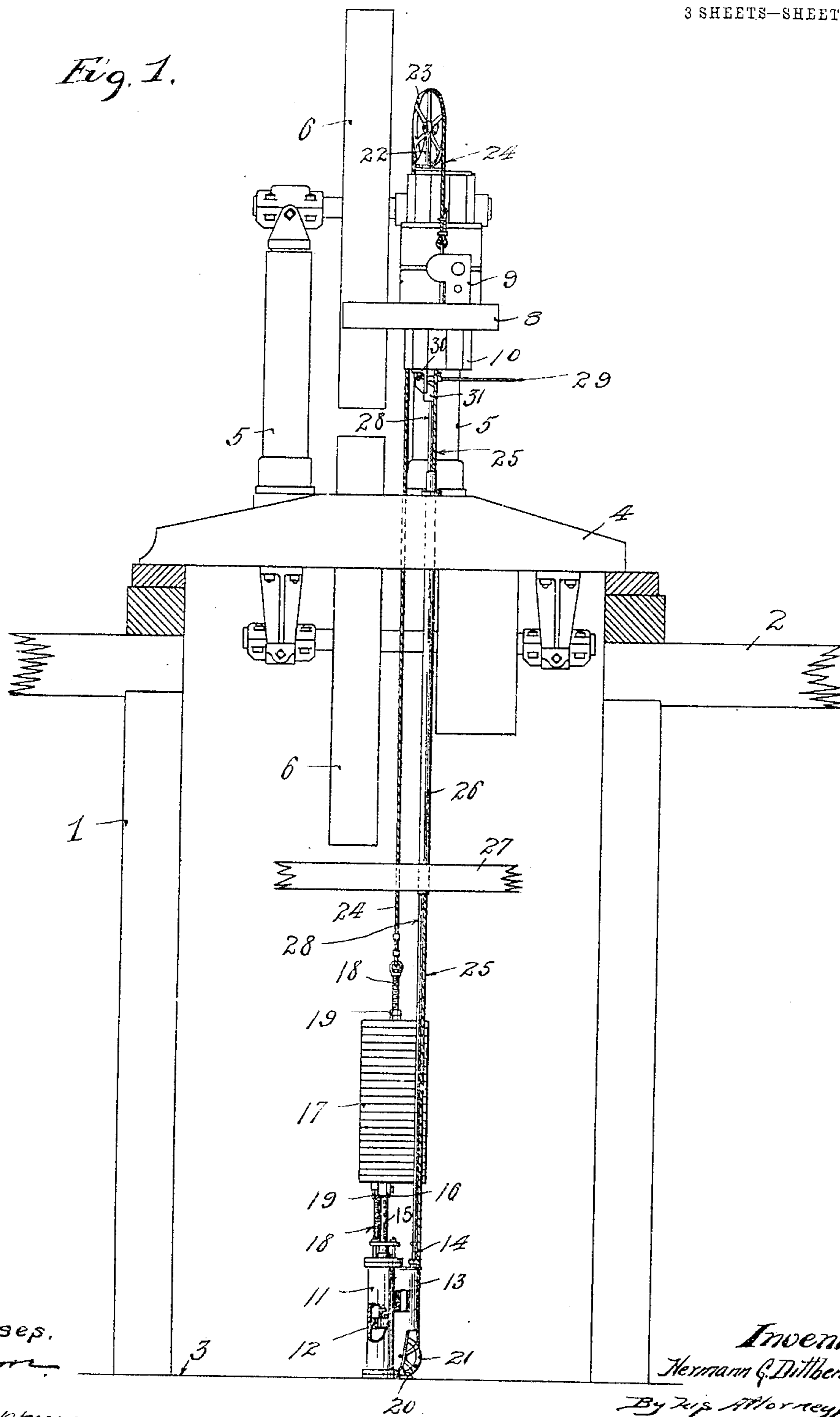
PATENTED SEPT. 12, 1905.

H. G. DITTBENNER.
UPPER SAW GUIDE FOR BAND SAW MILLS.

APPLICATION FILED MAR. 21, 1904.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses.
H. D. Kilgore.
E. W. Jeppesen.

Inventor:
Hermann G. Dittbenner.
By *Tip Attorney*.

Williamson & Merck

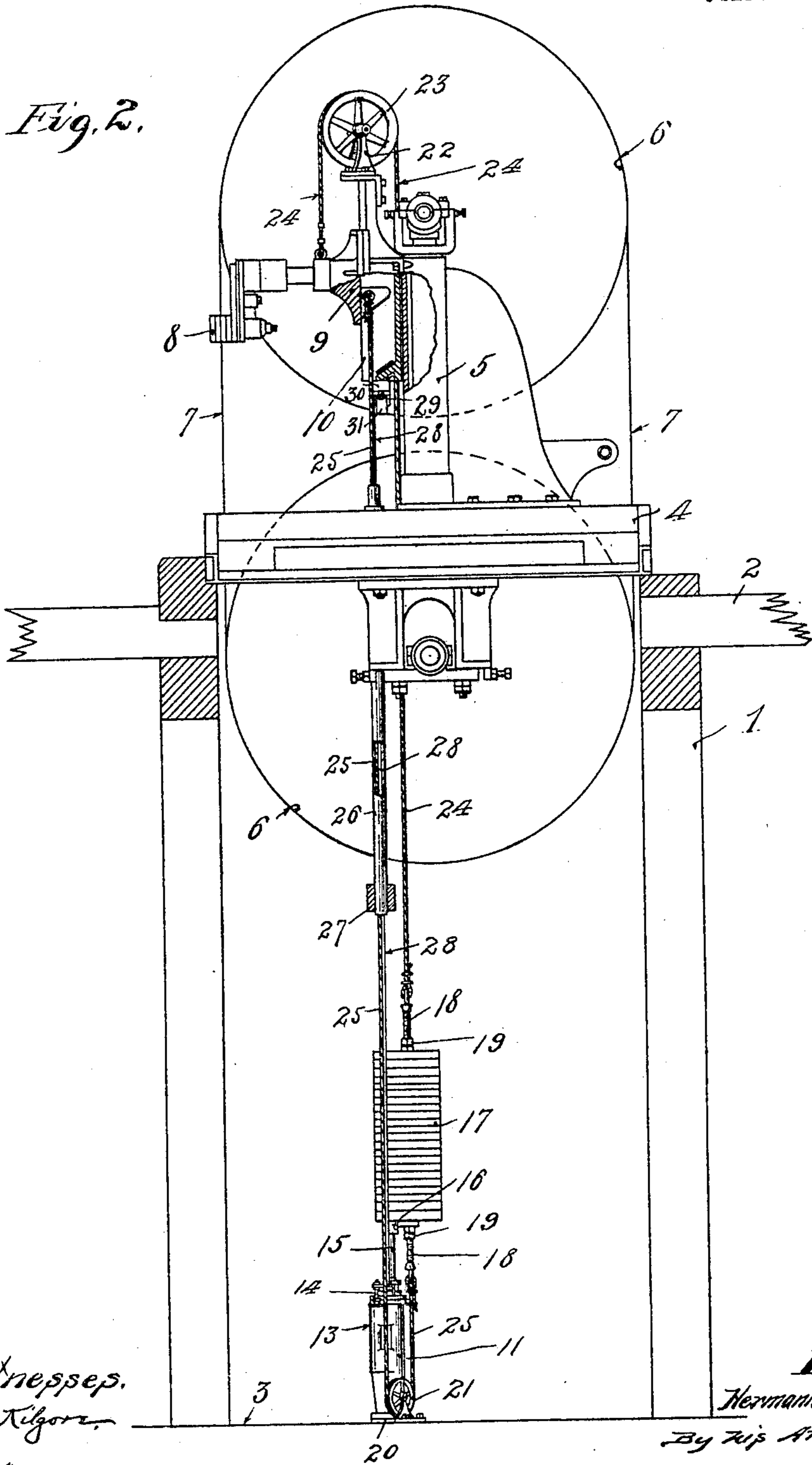
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3 SHEETS—SHEET 2.



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H. D. Kilgore.
E. W. J. J. J. J.

Inventor.
Hermann G. Dittbenner.
By his Attorneys.

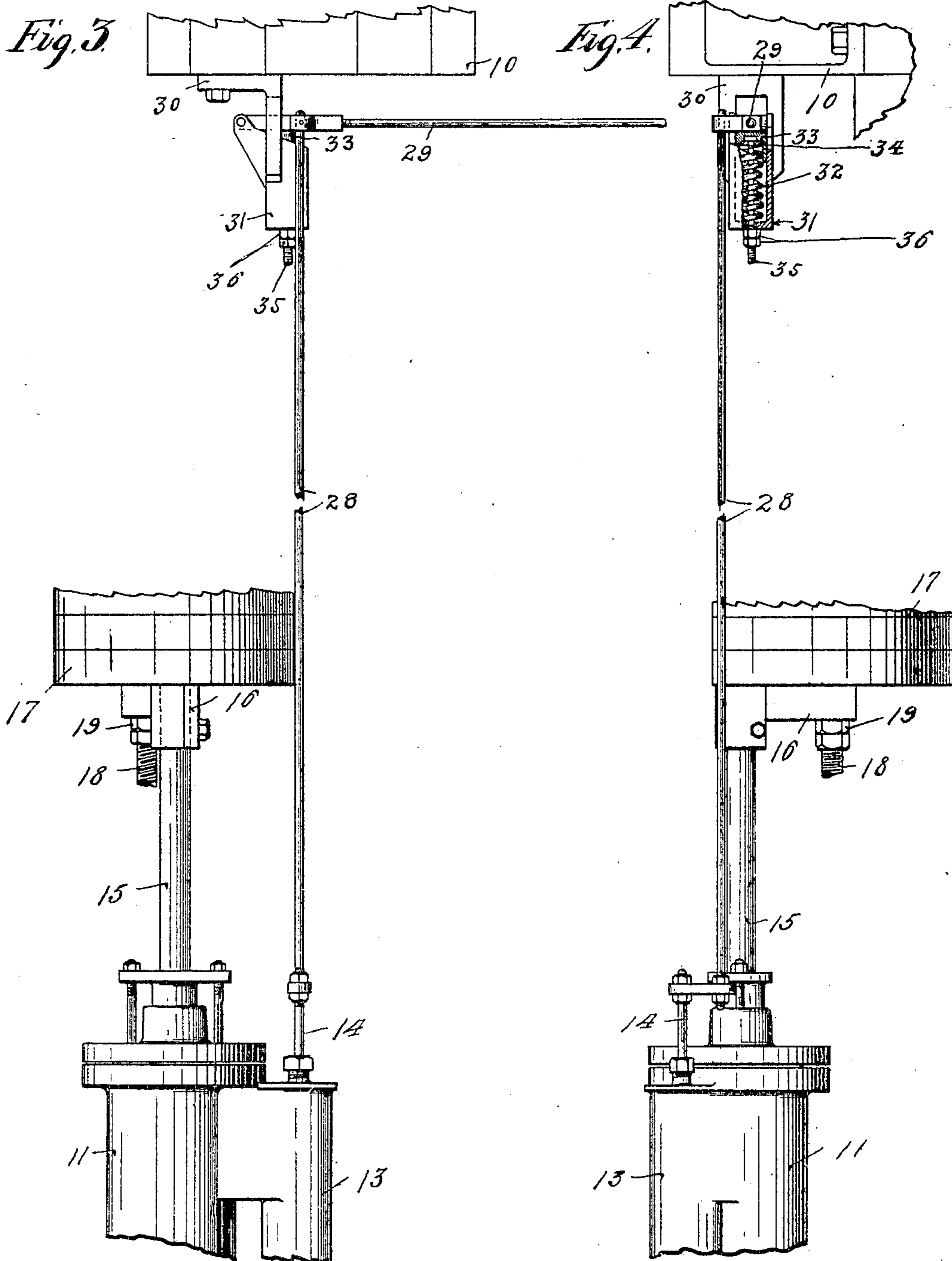
Williamson M. M. M.

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3 SHEETS—SHEET 3.



Witnesses.
H. D. Kilgore.
E. W. Juppner.

Inventor.
Hermann G. Dittbenner.
By his Attorneys.
Williamson & Meacham

UNITED STATES PATENT OFFICE.

HERMANN G. DITTBENNER, OF MINNEAPOLIS, MINNESOTA.

UPPER SAW-GUIDE FOR BAND-SAW MILLS.

No. 799,150.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed March 21, 1904. Serial No. 199,107.

To all whom it may concern:

Be it known that I, HERMANN G. DITTBENNER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Upper Saw-Guides for Band-Saw Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to band-saw mills, and has for its object to provide improved means for vertically adjusting the upper saw-guides thereof; and to the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a side elevation showing in diagram a band-saw mill and illustrating my invention applied thereto. Fig. 2 is a front elevation of the parts shown in Fig. 1, some parts being broken away and some parts being sectioned. Fig. 3 is an enlarged view in side elevation, showing certain of the parts viewed in the same direction as in Fig. 1, some parts being broken away; and Fig. 4 is a view in front elevation, showing the parts illustrated in Fig. 3, viewing the same from the same direction that they are viewed in Fig. 2.

The numeral 1 indicates a portion of the framework of the mill, an upper floor thereof being indicated by the numeral 2 and a lower floor being indicated by the line marked 3.

The numeral 4 indicates the bed, the numeral 5 the pedestal-brackets, the numeral 6 the band-wheels, the numeral 7 the band-saw, the numeral 8 the upper saw-guide, and the numeral 9 the vertically-adjustable saw-guide-carrying block of an ordinary band-saw mill, which block 9 is mounted in the usual way for vertical movements on guides 10, supported by one of the pedestal-brackets 5.

In accordance with my invention I use as a motor for vertically adjusting the upper saw-guide a straight-line reciprocating steam or compressed-air engine made up of a cylinder 11 and a piston 12, which cylinder is anchored to the lower floor 3 and is provided with the usual steam-chest 13, equipped with a suitable distribution-valve, the stem 14 only of which is shown. The piston 12 has an upwardly-projecting stem 15, to the end of which

is secured a laterally-projecting bracket 16. The bracket 16 supports a counterweight 17, made up of a plurality of sections, through the center of which, as shown, is passed a screw-threaded rod 18. The sections of the weight 17 are clamped together and held on the rod 18 and to the bracket 16 by nuts 19 on said rod.

Mounted in bearings 20 at the base of the cylinder-casting 11 is a guide-sheave 21, and mounted in bearings 22, secured on an upper projection of one of the pedestals 5, is a guide-sheave 23. A cable 24 is attached at one end to the vertically-adjustable saw-guide-carrying block 9 and at its other end to the upper end of the screw-rod 18. This cable 24 is passed over the upper guide-sheave 23. Another cable 25 is passed under the lower guide-sheave 21 and is attached at one end to the lower end of the screw-rod 18 and at its other end to the vertically-adjustable block 9. As shown, the cable 25 is passed through a vertical guide-tube 26, supported by the base 4 and by a transverse timber 27, which timber is supported in any suitable way. The cables 24 and 25, the screw-rod 18, and the adjustable block 9 constitute an endless connection.

The stem 14 of the distribution-valve is attached to the lower end of a long operating-rod 28, which rod, as shown, is extended upward through the guide-tube 26 and at its upper end is attached to an operating-lever 29. This lever 29, as shown, is pivoted to a block 30, supported by one of the guides 10. This bracket 30 is formed with a pocket 31, in which is placed a coiled spring 32 and a follower-cap 33. Between the spring 32 and the cap 33 is a washer 34. A bolt 35 is passed through the washer 34 and the bottom of the pocket 31 and is provided at its lower end with stop-nuts 36, which work against the bottom of the pocket 31. The cap 33 is supported by the spring 32 and acts upon the lever 29. The spring 32 is so set that normally the operating-lever 29 will stand in an intermediate position. (Best shown in Fig. 3.) As is evident, the lever 29 normally rests loosely on the cap 32 and may be lifted upward free from the said cap or forced downward against the tension of the spring 32 to manipulate the distribution-valve and operate the engine. It is further evident that by the movement of the stop-nuts 36 the distribution-valve may be set in any desired position.

The counterweight 17 should be set to coun-

terbalance the vertically-adjustable block 9 and the upper saw-guide carried thereby. It is of course evident that when the piston 12 and counterweight 17 are moved upward the guide-block 9 and the upper saw-guide 8 will be moved positively downward, while, on the other hand, when the said piston and counterweight are moved downward the said block and upper saw-guide will be drawn positively upward.

With the above-described arrangement all the bulky parts of the saw-guide-adjusting device are placed below the band-saw mill, and hence entirely out of the way. Nevertheless the said adjusting device is placed under the easy control of the operator standing at the side of the mill. Furthermore, the said device is of simple construction, efficient for the purposes had in view, and of comparatively small cost.

It will of course be understood that the device described is capable of modification within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a band-saw mill having a vertically-adjustable upper saw-guide, of a guide-sheave located above said upper saw-guide, a guide-sheave located below the base of said mill, an endless flexible operating connection attached to said upper saw-guide, one portion thereof being run over

said upper guide-sheave, and another portion thereof being run under said lower saw-guide sheave, a counterweight interposed in said flexible connection, a straight-line reciprocating engine located below the base of said saw-mill, with its piston attached to said flexible operating connection, and an operating-lever located above the base of said mill and operatively connected to said engine, substantially as described.

2. The combination with a band-saw mill having a vertically-adjustable upper saw-guide, of a guide-sheave located above said upper saw-guide, a guide-sheave located below the base of said mill, an endless flexible operating connection attached to said upper saw-guide, one portion thereof being run over said upper guide-sheave, and the other portion thereof being run under said lower guide-sheave, a counterweight interposed in said flexible connection below the base of said mill, a straight-line reciprocating engine located below the base of said mill with its piston-rod directly attached to said counterweight, and an operating-lever located above the base of said mill and operatively connected to the said engine, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HERMANN G. DITTBENNER.

Witnesses:

ROBERT C. MABEY,
F. D. MERCHANT.