

No. 843,451.

PATENTED FEB. 5, 1907.

F. H. GROVE.
SAWMILL SET WORKS.
APPLICATION FILED MAY 18, 1906.

2 SHEETS—SHEET 1.

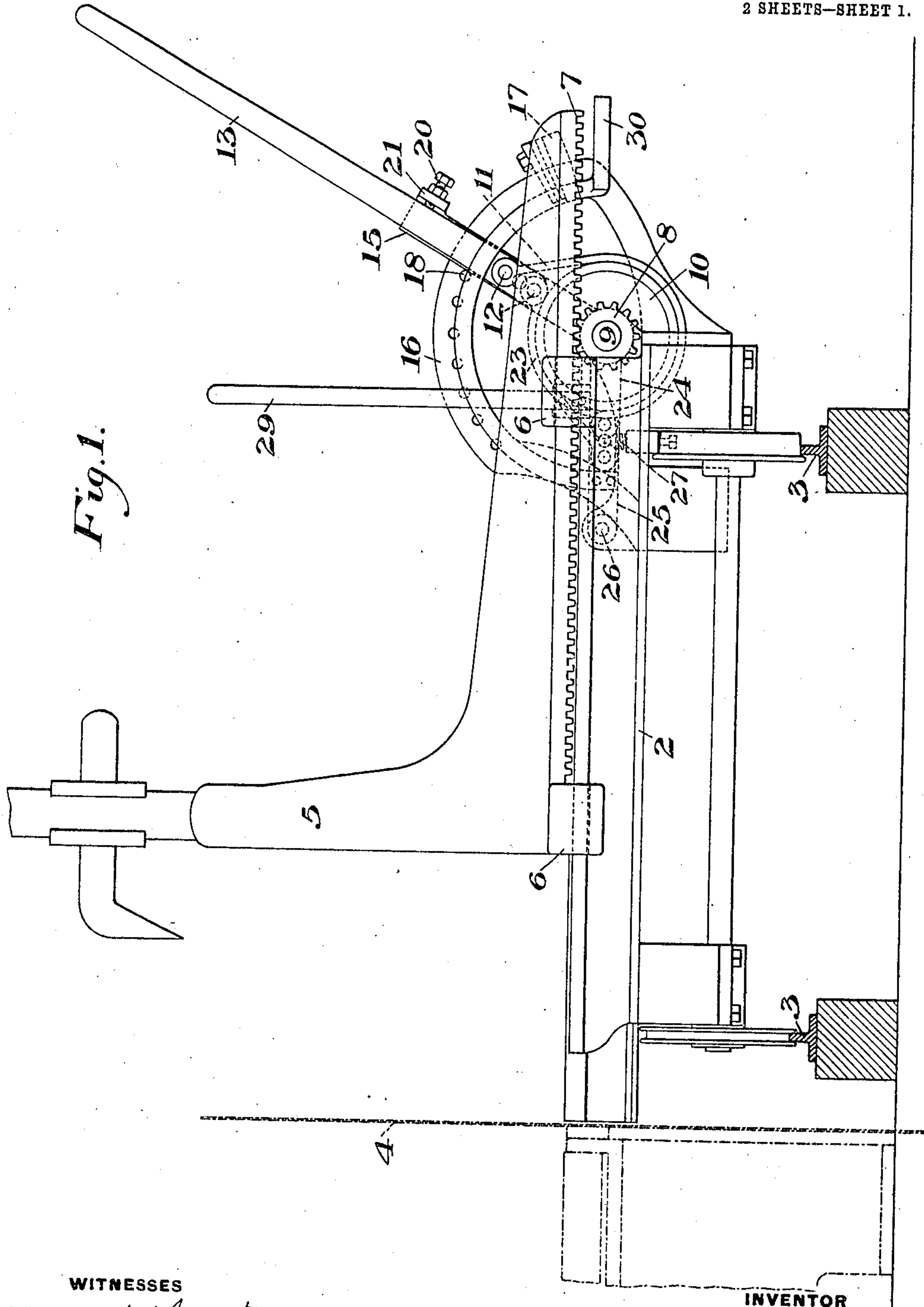


Fig. 1.

WITNESSES

Warren W. Swartz
R. A. Balderson

INVENTOR

Frank H. Grove,
by Baker & Byrnes,
his Atty

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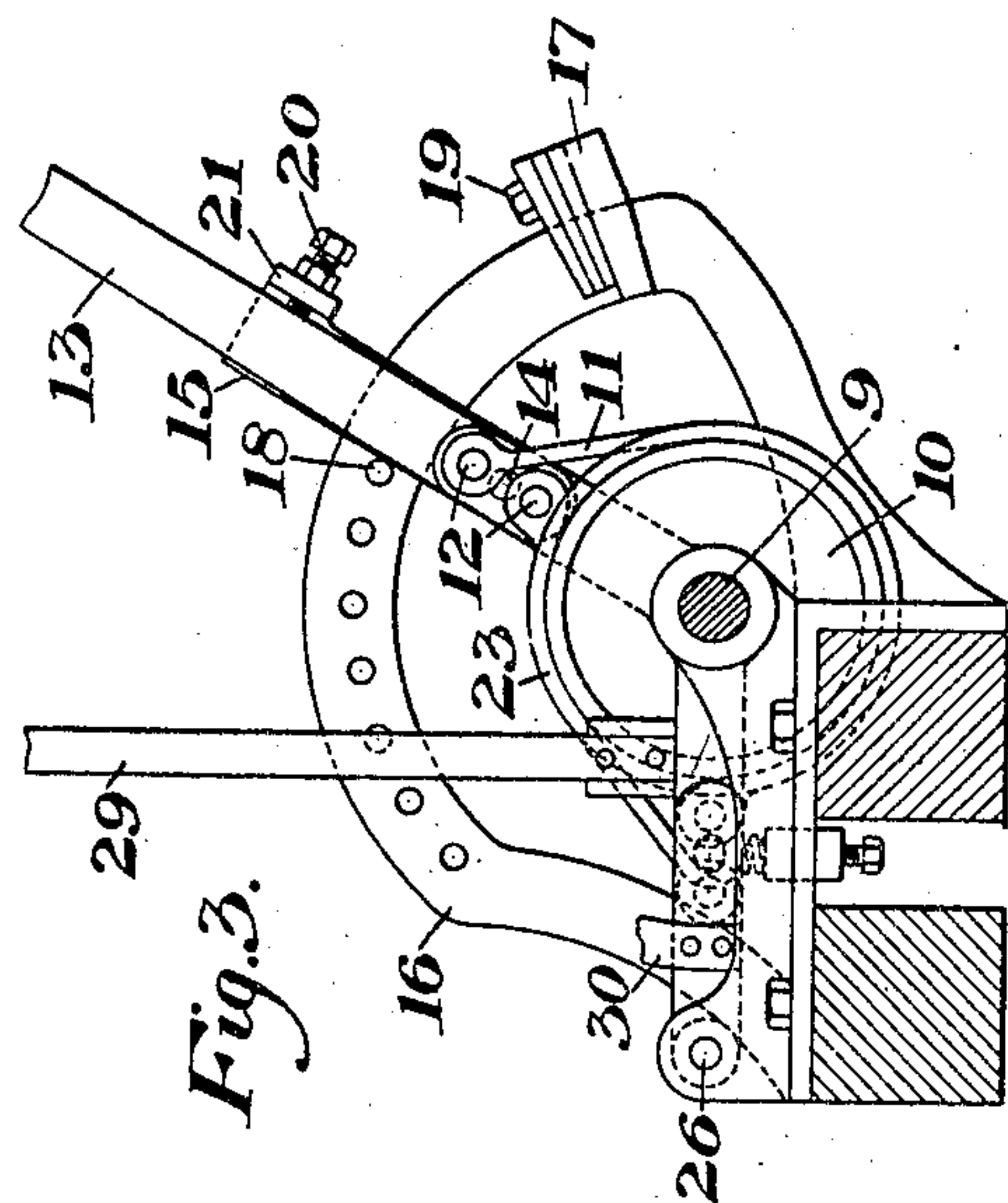


Fig. 3.

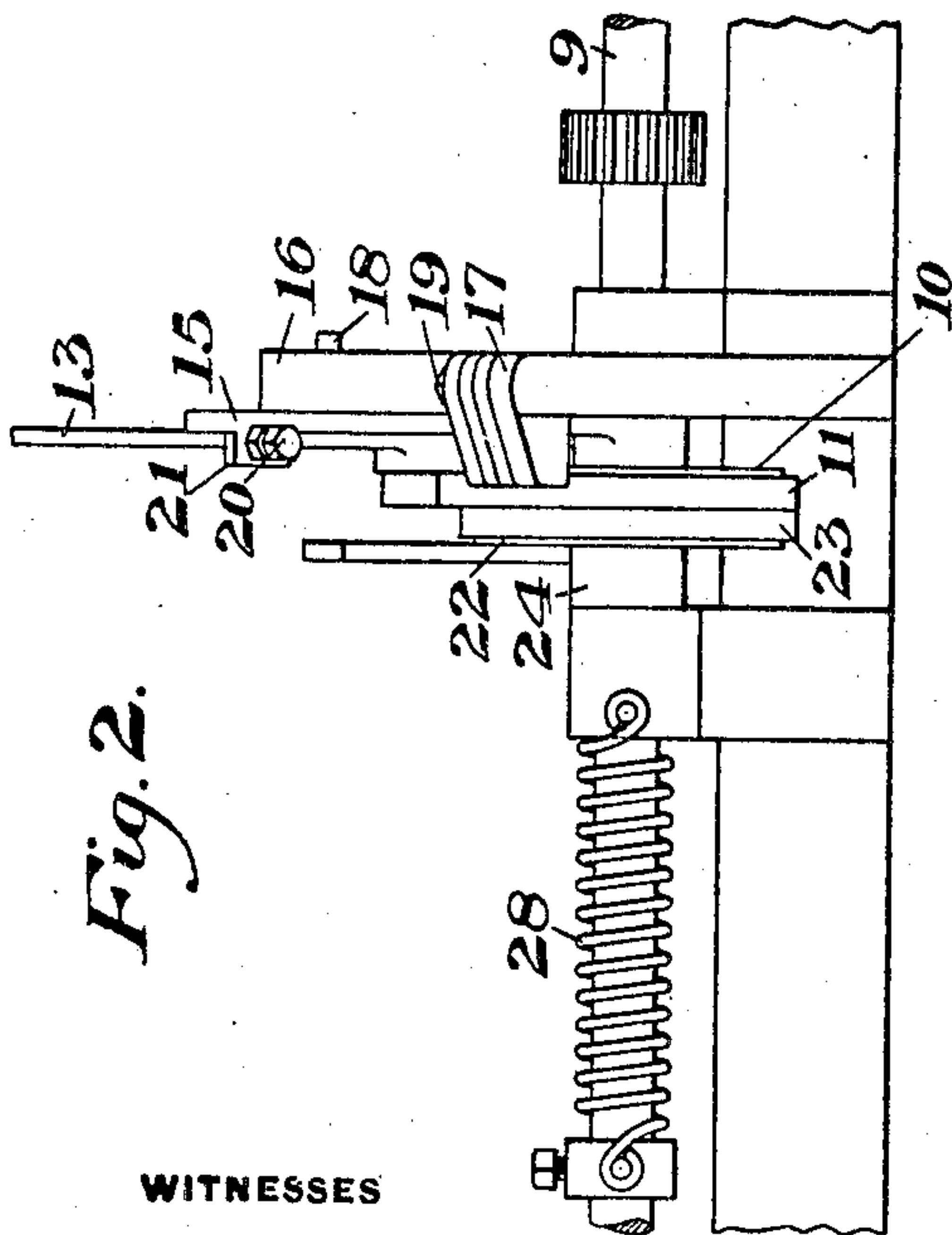


Fig. 2.

WITNESSES

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R. A. Balderoon.

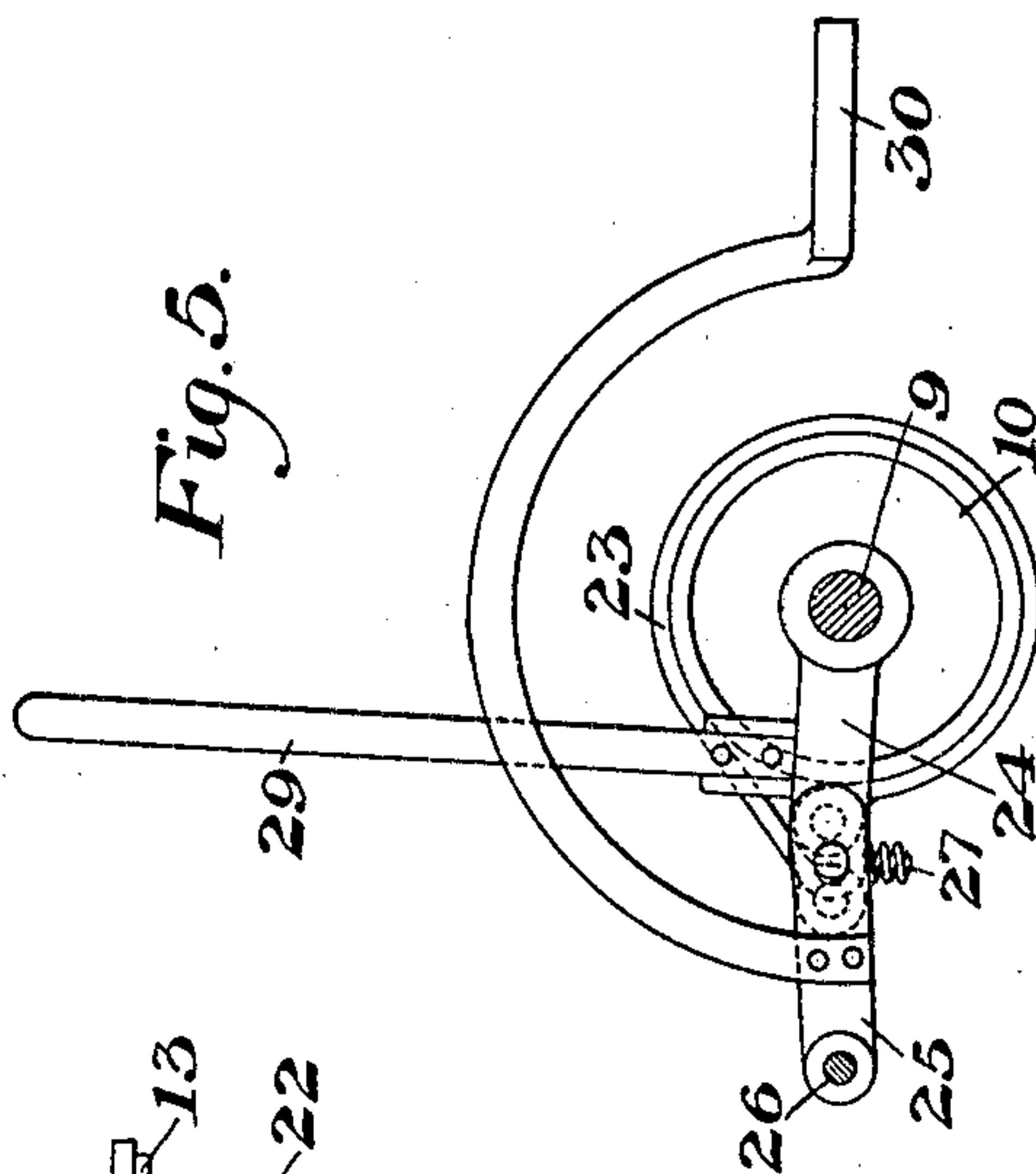


Fig. 5.

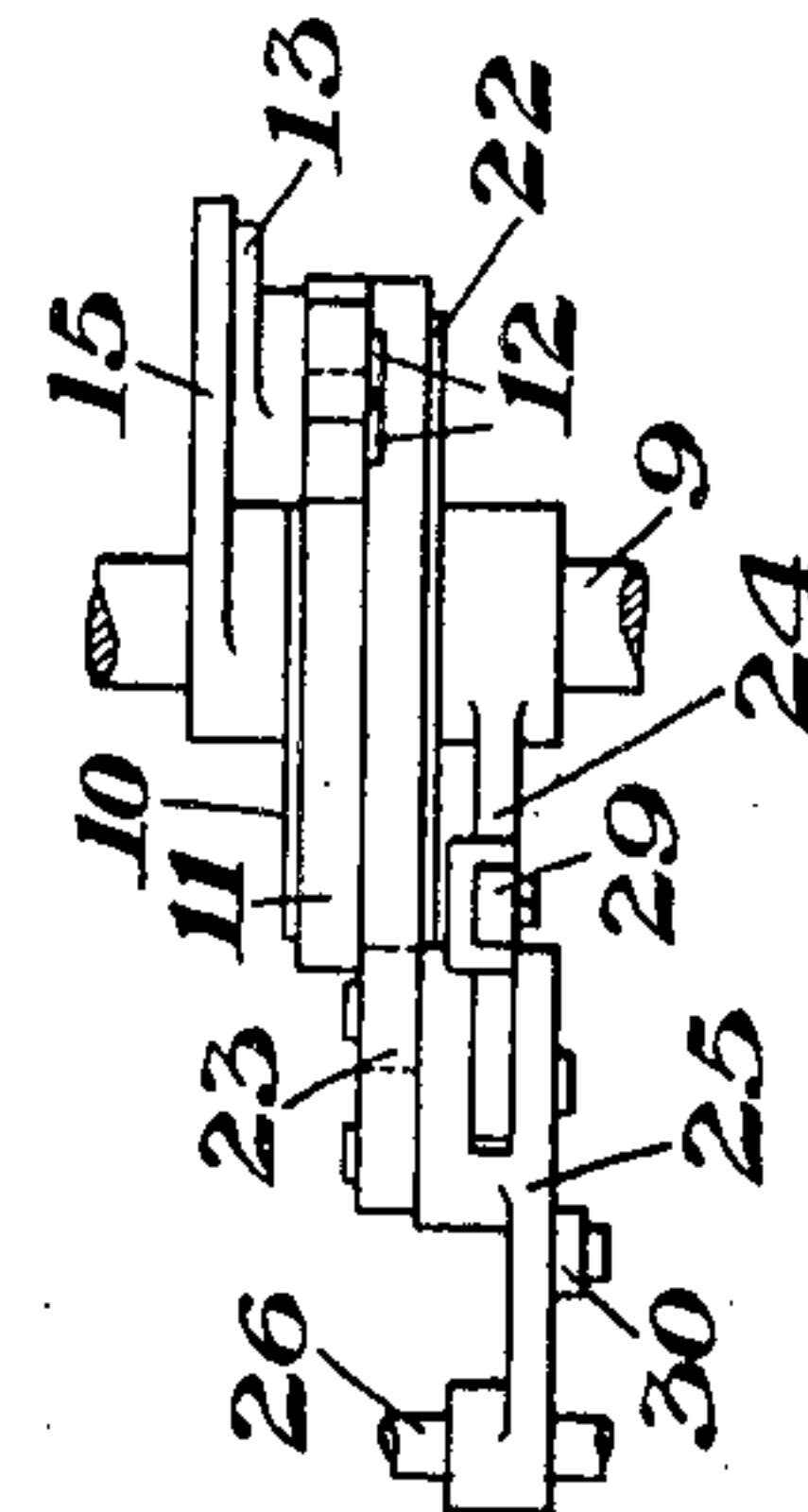


Fig. 6.

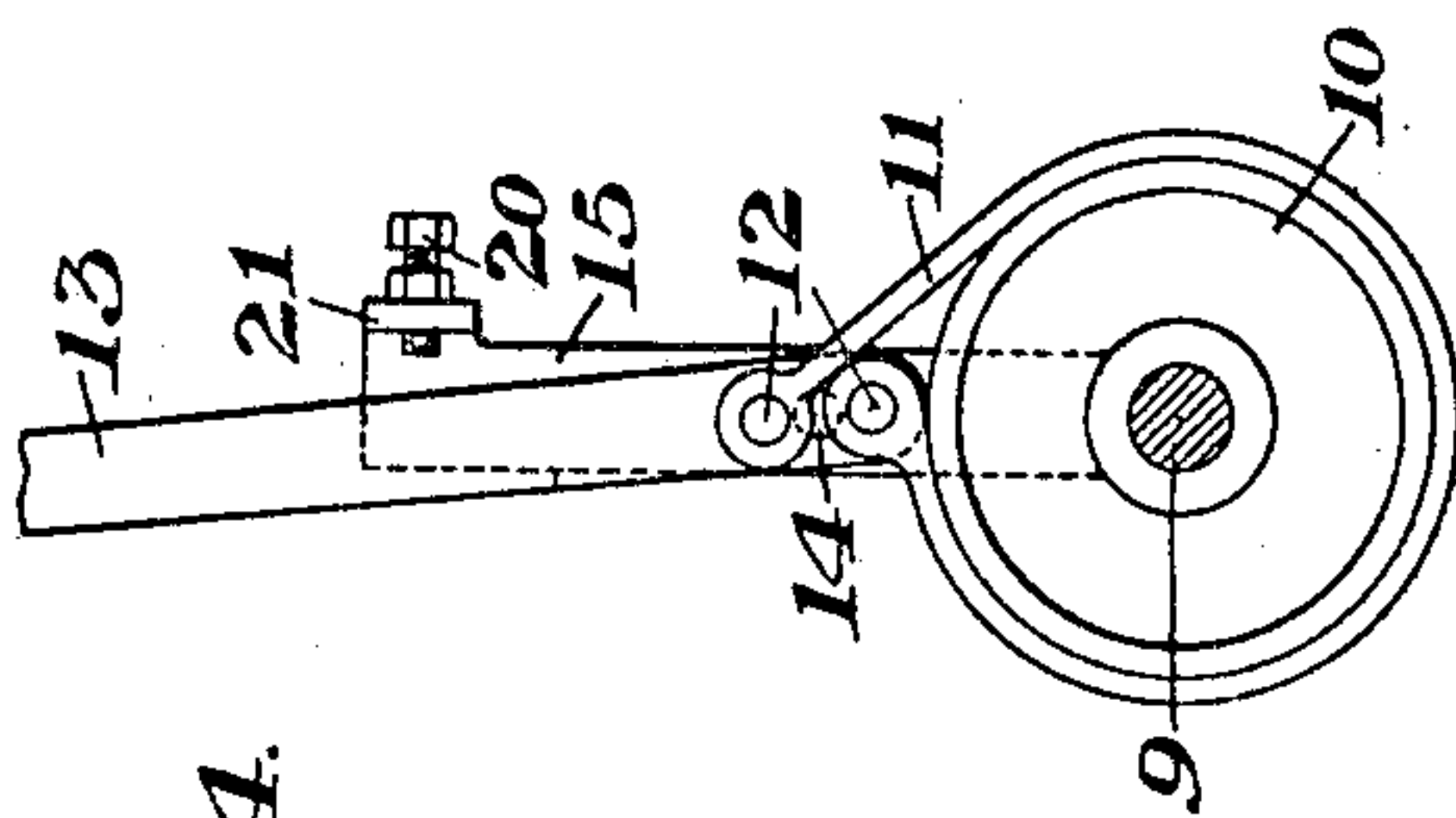


Fig. 4.

INVENTOR

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UNITED STATES PATENT OFFICE.

FRANK H. GROVE, OF COLUMBIANA, OHIO, ASSIGNOR TO ENTERPRISE MANUFACTURING COMPANY, OF COLUMBIANA, OHIO, A PARTNERSHIP.

SAWMILL SET-WORKS.

No. 843,451.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed May 18, 1906. Serial No. 317,442.

To all whom it may concern:

Be it known that I, FRANK H. GROVE, of Columbiana, Columbiana county, Ohio, have invented a new and useful Sawmill Set-Works, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly in section, of a sawmill set-works embodying my invention. Figs. 2 and 3 are side and end views, respectively, of the setting device. Fig. 4 is a detail view of the set-lever, and Figs. 5 and 6 are detail views showing the releasing devices.

My invention has relation to a device for setting a log to be sawed in proper relation to the saw for different thicknesses of lumber, my object being to provide means whereby a very fine and uniform adjustment may be obtained, the log being held with a positive grip, but the set being capable of being quickly released for automatic recession.

A further object of my invention is to avoid the looseness and lost motion which is commonly present in set-works in which pawl-and-ratchet mechanism is employed and which prevents accurate and uniform adjustment.

With these objects in view my invention consists in the novel construction, arrangement and combination of parts, all substantially as hereinafter described, and pointed out in the appended claims.

In the drawings the numeral 2 designates the usual carriage of the mill, mounted upon the tracks 3 for carrying the log to be sawed.

4 indicates the saw, and 5 is one of the adjustable setting-knees, which is mounted in the usual manner to move transversely toward and away from the saw upon suitable guides 6, the movement being effected by means of the rack 7, engaged by a pinion 8 on the set-shaft 9.

10 is a friction-wheel which is rigidly mounted on the shaft 9 and whose periphery is surrounded by a gripping-band 11, the two ends of which are connected to pins 12 of a lever 13, which is pivoted at 14 to an arm 15, fulcrumed on the shaft 9, the pivotal point 14 being between the two pins 12.

16 is a fixed bracket or sector which is provided with a stop 17 for the purpose of limit-

ing the movement of the lever 13 in one direction and with a stop 18 for limiting its movement in the opposite direction. The stop 17 may be conveniently formed by a series of removable pieces secured to a lug of the sector 16 by a set screw or bolt 19. The stop 18 may conveniently consist of pins which are seated in holes in the sector 16 and any one of which can be thrown back and forth into stopping position. In this manner a very large range of adjustment can be had by a simple change in the position of the stops.

In order to hold the lever 13 in proper relation to the arm 15, I employ an abutment consisting of an adjustable screw 20, seated in a lug 21 of said arm. This screw may be adjusted for engagement with the rear edge of the lever 13 for the purpose of supporting said lever in such position as to free the gripping-band 11 from the wheel 10, and thus allow a quick backward movement of the parts.

In order to prevent backward rotation of the wheel 10, I provide it with a second friction-surface 22, which is engaged by a gripping-band 23. Fulcrumed on the shaft 9 is an arm or lever 24, whose free end portion is pivotally connected to a lever 25, pivoted at the fixed point 26, the two members 24 and 25 forming a toggle and the two ends of the gripping-band 23 being connected to the lever 25 at opposite sides of the pivot of such toggle, as shown in Figs. 5 and 6. A spring 27 is provided for the purpose of taking up all lost motion in this toggle and to keep the band 23 tight on the wheel 10.

It will be readily seen that when the lever 13 is moved forwardly the gripping-band 11 will be caused to firmly grip the wheel 10, and thus cause the rotation of the shaft 9, the gripping-band 23 preventing any backward movement of the shaft 9. To allow the knee 5 to recede under the action of the usual spring 28, the hand-lever 29 or foot-lever 30 is actuated to move the toggle 24 25, and thereby loosen said band. The lever 30 is a curved arm which is connected to the toggle 25, as shown in detail in Fig. 15.

The advantages of my invention consist in the simplicity of the construction and arrangement, in the wide range of adjustment which is provided, and in the fact that an accurate and uniform adjustment may be obtained, the gripping-bands preventing all

looseness or lost motion such as is commonly present if pawl-and-ratchet mechanism is employed

Various changes may be made in construction and arrangement of the parts by those skilled in the art without departing from the spirit and scope of my invention.

What I claim is—

1. In a clutch device for the purpose described, a shaft having two friction-surfaces thereon, an operating-lever fulcrumed outside of said shaft, a gripping-band engaging one of the friction-surfaces and having its ends secured to said lever upon opposite sides of its pivot, a second friction-band engaging the other friction-surface, and a toggle device for controlling the second band; substantially as described.

2. In a clutch device of the character described, a shaft having two friction-surfaces thereon, a friction-band engaging one of said surfaces, an actuating-lever for said band, a second band engaging the other friction-surface, a toggle device to which the ends of the second band are connected upon opposite sides of the toggle center, and means for actuating the toggles; substantially as described.

3. In a clutch device of the character described, a shaft having a friction-wheel thereon, an arm fulcrumed on said shaft and hav-

ing an abutment thereon, a lever pivoted to said arm and arranged to engage the abutment, and a friction-band engaging said wheel and having its ends connected to the lever at opposite sides of its pivot; substantially as described.

4. In a clutch device of the character described, a shaft having a friction-wheel thereon, an arm fulcrumed on said shaft and having an abutment thereon, a lever pivoted to said arm and arranged to engage the abutment, a friction-band engaging said wheel and having its ends connected to the lever at opposite sides of its pivot, and means for limiting the throw of said lever; substantially as described.

5. In a clutch device of the character described, a shaft having two friction-surfaces thereon, a friction-band engaging one of said surfaces, an actuating-lever for said band, means for adjusting the throw of the lever in both directions, and a second friction-band engaging the other friction-surface, and means for controlling the action of the second band; substantially as described.

In testimony whereof I have hereunto set my hand.

FRANK H. GROVE.

Witnesses:

HOMER H. DETWILER,
CLARA V. MCGINNIS.