

(No Model.)

T. B. WALKER.
BAND SAW MILL.

No. 328,094.

Patented Oct. 13, 1885.

Fig. 1.

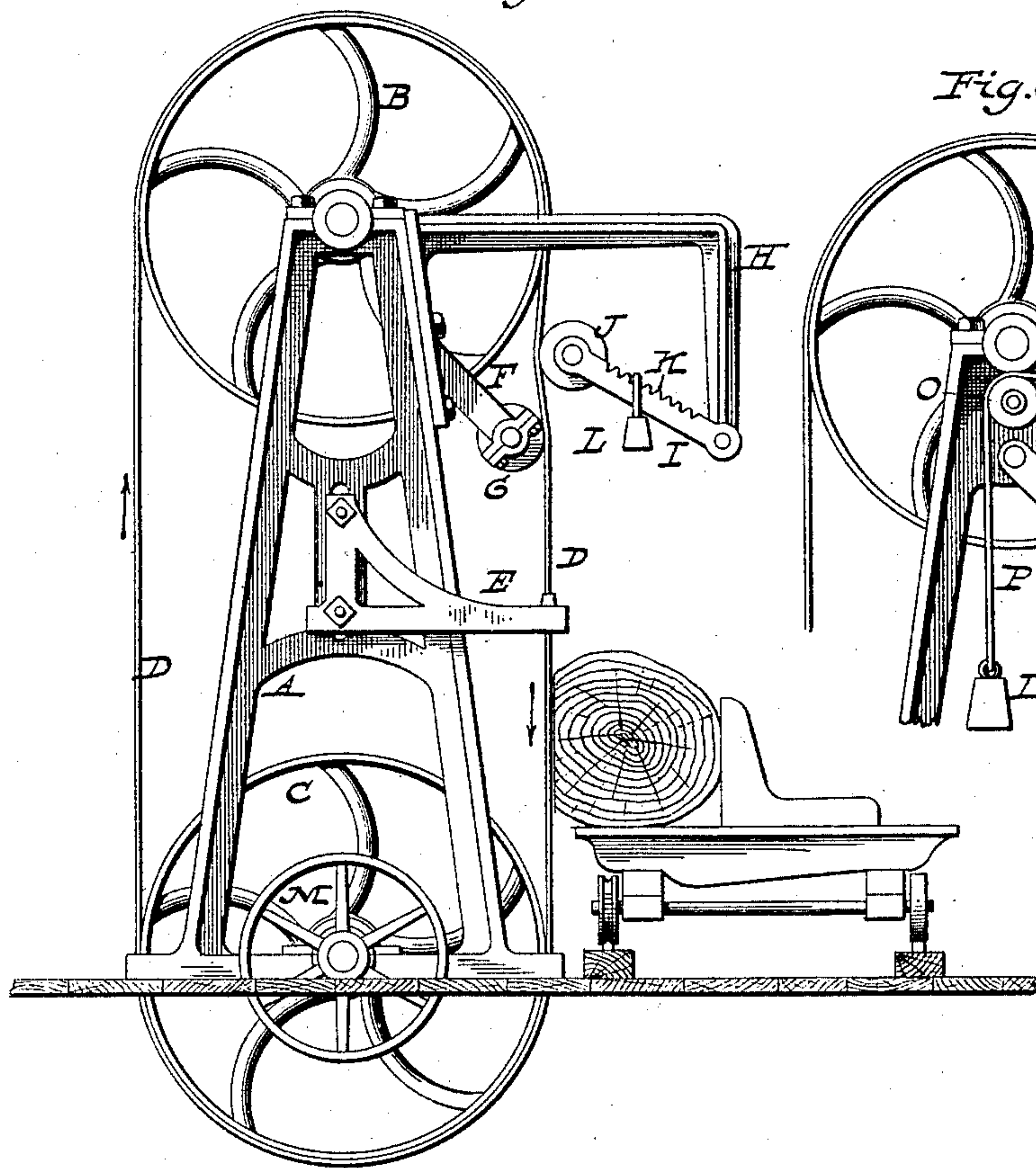


Fig.3.

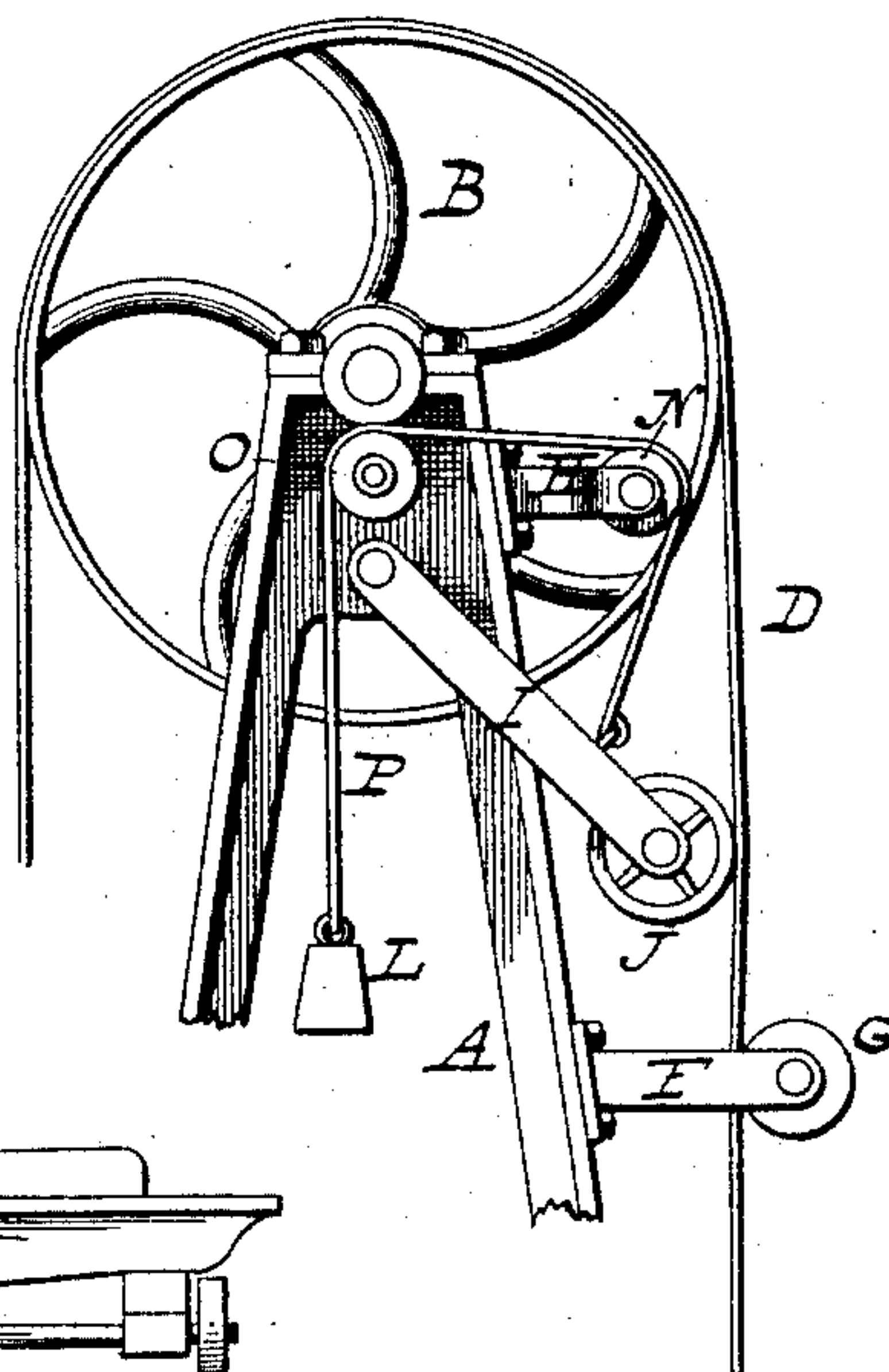
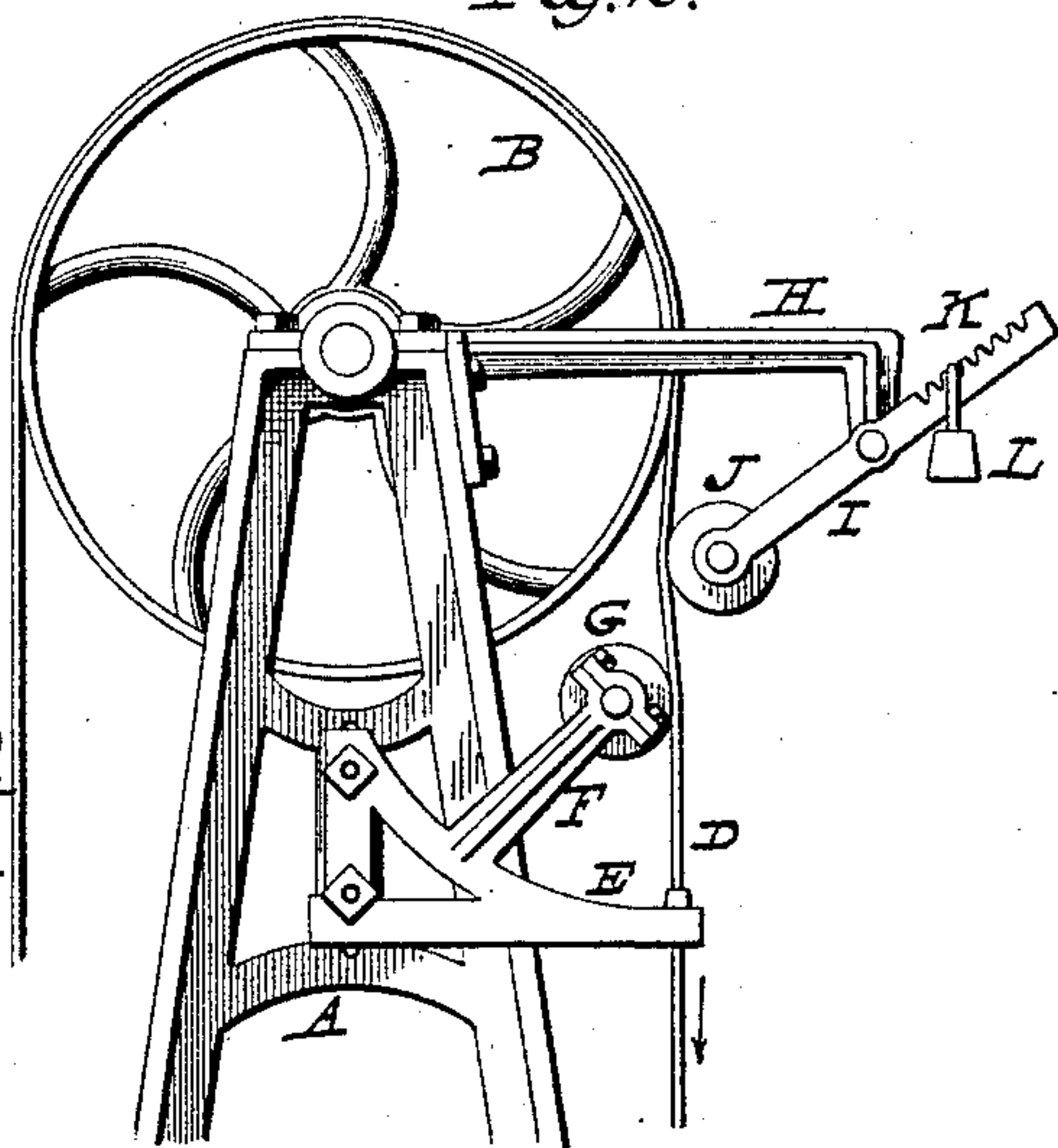


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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BAND-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 328,094, dated October 13, 1885.

Application filed June 26, 1885. Serial No. 169,883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. WALKER, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Band-Saw Mills, of which the following is a specification.

My invention relates to that class of machines commonly known as "band-saw machines," and has for its object to keep the saw-band taut and prevent its wobbling.

In sawing logs into lumber with band-saws the motion of the saw is retarded upon entering the log or striking a hard spot in the log, such as a knot, &c., and the result is that the upper band-wheel, B, exerts its force to preserve speed and stretches the saw as it passes upward from the band-wheel C to band-wheel B, and throws the stretch and slack of the saw over on the front of the mill above and against and into the log, where such looseness of the saw makes crooked or snaky lumber, and also tends to buckle and break the saw. It is the object of my invention to overcome this objection and to keep the saw above the log taut.

In the drawings, Figure 1 is a side view showing my improvement applied to a saw-mill. Fig. 2 is a view showing a slight modification, and Fig. 3 is a view showing a slight modification.

A indicates a framing, such as is commonly used in machines of this character, carrying at different heights the band wheels or pulleys B and C, around which the saw D passes. There is nothing novel in these features, and it will be apparent that any suitable mechanism for giving the desired motion to the saws and adjusting the band-pulleys may be adopted in lieu of that shown. The frame A is provided with an adjustable saw-guide, E, at a point just above the log to be sawed, as is now generally done.

Above the saw-guide E, and projecting from and attached to the frame A or other support, is an arm, F, which carries at its lower outer end a wheel or pulley, G, which is in contact with the face of the saw D, as shown either in Figs. 1, 2, or 3.

H indicates an arm or hanger secured to the frame of the machines or other suitable place, which arm carries at its lower end a pivoted bar, tightener, or ladder, I, provided with

wheel J at its free end. The bar, tightener, or ladder I is attached to arm H, as shown in Fig. 1, or to the frame A, as shown in Fig. 3, by hinges or bolt. To the arm H or frame A, or to some other suitable place, in such manner as to move freely on such joint in one end of the bar, tightener, or ladder I, on a shaft as an axis, is a pulley or wheel, J, which turns freely on the shaft. The upper face of the ladder I is provided with a series of notches, K, which hold in various positions on the ladder I the weight L; or the weight may be attached, as shown in Fig. 3; or instead of the notches K, as shown in Fig. 1, the weight L may be suspended from the center of the ladder I in such manner as to preserve an equal bearing of the wheel or pulley J on the face of the saw D. The wheel J at the other end of the arm or ladder I bears upon the saw D at a point above the wheel G, and exerts a constant pressure upon the saw, due to the weight L or its carrying-arm.

In order to vary or increase the pressure upon the saw at this point the weight L can be moved farther out on the arm or ladder I, or the weight L increased.

Instead of having the ladder or arm I pivoted at one end, as shown in Fig. 1, it may be pivoted at a point between its ends, as shown in Fig. 2, or as shown in Fig. 3. The constructions in Figs. 2 and 3 have less tendency to retard the saw as the ladder or arm inclines in the direction in which the saw moves. It is found that this construction prevents the saw from becoming slack above the log, and this obviates one of the greatest objections to the use of band-saws for sawing logs.

Instead of making the stationary or adjustable pulley-arm F separate, as shown in Fig. 1, it may be made integral with the saw-guide arm, as shown in Fig. 2, or as shown in Fig. 3, or it may take the place of the saw-guide and be used in its stead.

It will be apparent that a spring or other yielding device may be applied to the ladder or arm I in lieu of the weight.

In Fig. 3 the yielding pulley is upon the inner face of the saw, and the stationary one on the outer face, this plan being simply a reversal of that shown in Figs. 1 and 2. In this case the arm H has a pulley, N, at its outer end, over which and a pulley, O, on the main frame

the chain or belt P passes. The belt P is secured at one end to the lever I, and has at its other end a weight, L.

I am aware that it is not new to provide a band-saw with a tightener-pulley bearing against the outer face of the saw on the up-going or inoperative part thereof to keep the latter taut, and I do not wish to be understood as making any broad claim thereto.

Having thus described my invention, what I claim is—

1. In a band-saw mill, the combination, with a frame and pulleys, of an endless saw carried thereby, a pulley bearing against the inner face of the saw above the log and carried by a fixed support, and a pulley bearing against the outer face of the saw and carried by a yielding support.

2. In a band-saw mill, the combination, with a frame and pulleys, of an endless saw carried thereby, a pulley bearing against one side of the saw above the log and carried by a fixed support, and a pulley bearing against the opposite face of the saw and carried by a yielding support.

3. In combination with a frame and carrying-pulleys, a band-saw passing about said pulleys, a log-carriage movable past the saw, a saw-guide, a rigid arm attached to the frame, a pulley carried by said arm and bearing against the saw, a second arm secured to the frame, a lever attached to said arm, a pulley carried by said lever and bearing against the saw, and a counter-balance applied to the lever, all as shown.

4. In combination with frame A, pulleys B C therein, saw D, passing about the pulleys, saw-guide E, rigid arm F, pulley G, carried by said arm and bearing against the inner face of the saw, rigid arm H, above the arm F, lever I, pivoted to arm H, wheel J, carried by lever I and bearing against the outer face of the saw, counter-balance L, secured to the lever I, and mechanism for imparting motion to the saw.

THOMAS B. WALKER.

In presence of—

F. HOOKER,

A. H. MUNN.