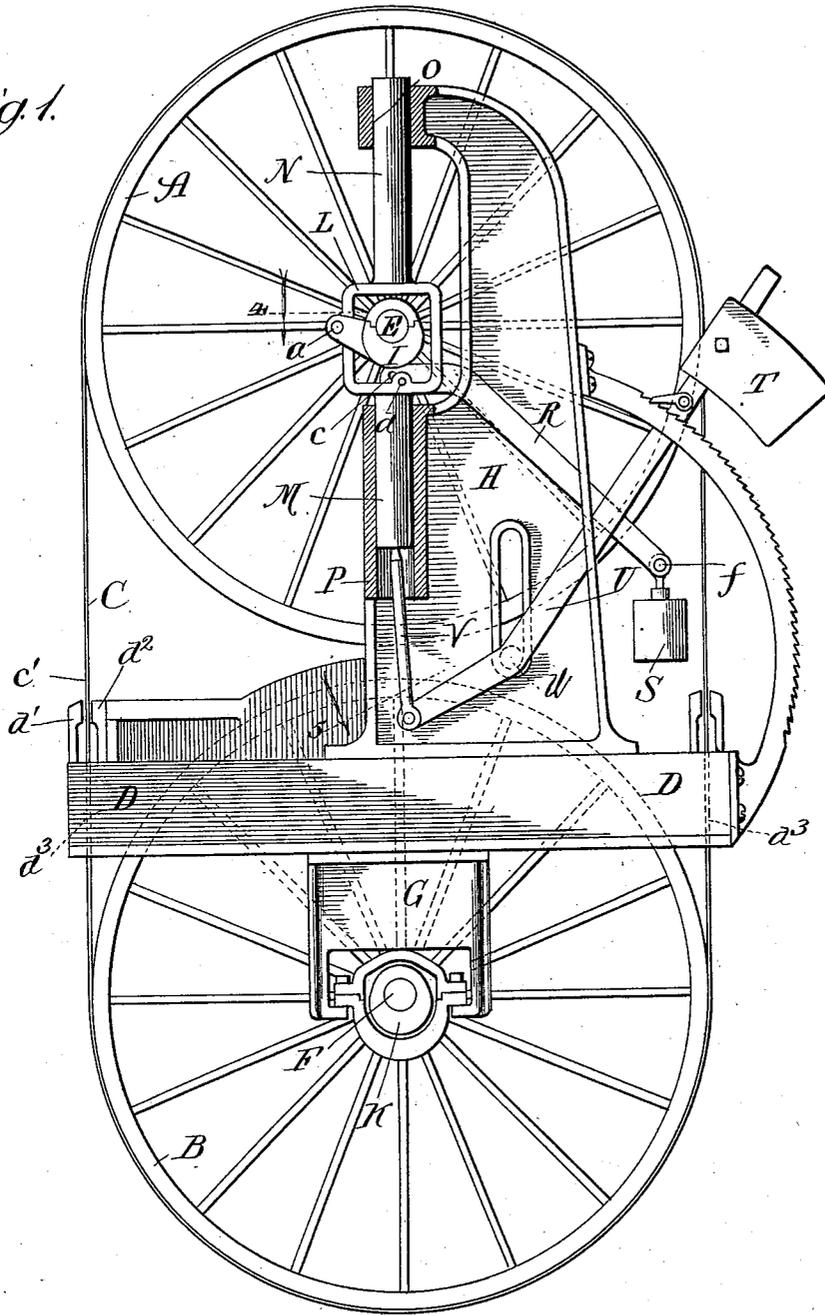


G. M. PELTON.
BAND SAW MILL.

No. 588,653.

Patented Aug. 24, 1897.

Fig. 1.



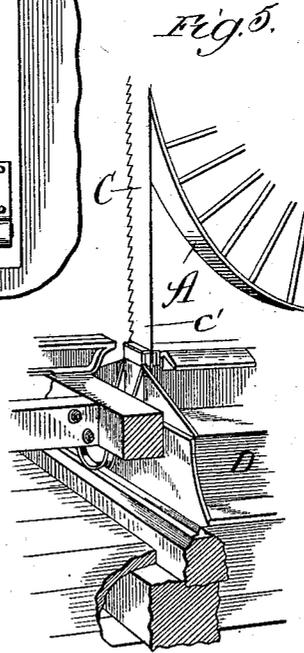
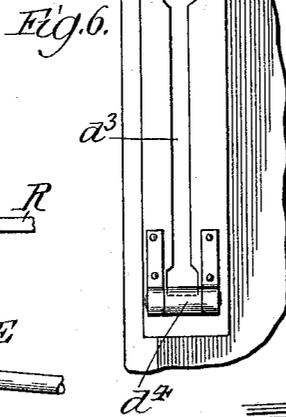
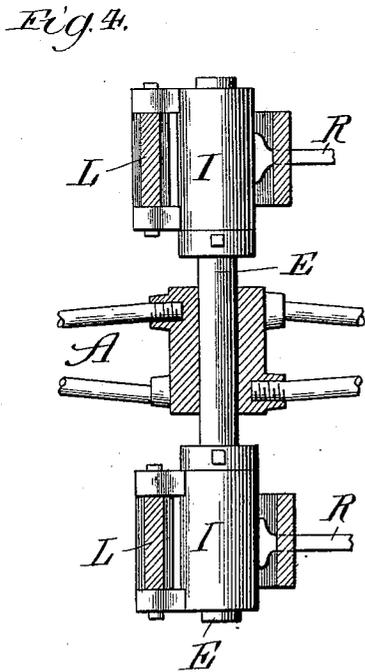
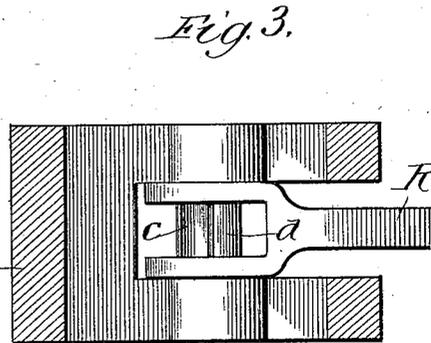
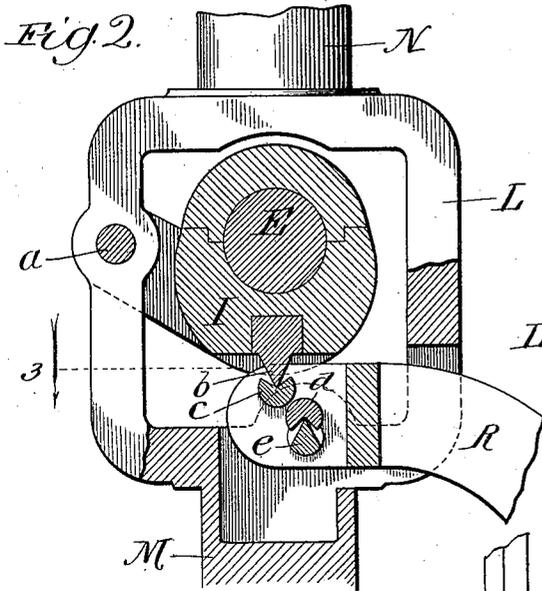
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UNITED STATES PATENT OFFICE.

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BAND-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 588,653, dated August 24, 1897.

Application filed March 2, 1897. Serial No. 625,719. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. PELTON, a citizen of the United States, residing at Belmont, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Band-Saw Mills; and I do hereby declare that the following is a full, clear, and exact description of my invention in its best form now known to me, reference being had to the accompanying drawings.

The object of my invention is to simplify the construction of band-saw mills and increase their efficiency. It is necessary to make the saw very thin in order not to waste material in cutting and also to save power, as the thinner the saw the less the power required, and it is of great importance that the saw be kept taut or suitably stretched vertically and at the same time prevented from wobbling laterally at the point where the cutting is done, thereby making the cut rough and irregular, wasting material, and increasing resistance to the movement of the saw. In order to effect this result, it is necessary that the pulleys which carry the saw be properly aligned and sustained in a vertical plane, and, further, that the distance between their axles be made automatically variable within small limits to provide for irregularities of stress and for safe distribution of the same.

The invention consists in mechanism for accomplishing the above results, the details of which will be hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a side elevation of the band-saw mill. Fig. 2 is a detail vertical section of the adjusting mechanism. Fig. 3 is a detail plan view on the line 3 of Fig. 2. Fig. 4 is a detail plan view on the line 4 of Fig. 1. Fig. 5 is a partial perspective view showing the relative positions of the base, the carriage, and the saw. Fig. 6 is a plan view of a part of the base, showing the slot with an antifriction-roller behind the slot to support the saw.

Like letters designate the same parts in the several figures.

A and B are respectively the upper and lower band-saw wheels, carrying on their circumferences the saw C.

D is the base of the machine.

The wheel A is carried by the shaft E, which is journaled in bearings in the yokes I. The yokes I have a projection on one side, by which they are pivoted at *a* to the frame L, and carry on their under sides the knife-edges *b*. The frame L, carrying the knife-edges *e*, is supported by the rods N and M, which are adapted to slide in the guides O and P of frame H.

H is the main frame of the machine, by which the wheel A and the other mechanism just described are supported in a vertical position above the base D. The lever R, lying transversely to the shaft E and carrying at its outer end the weight S, is pivoted at *d* on the knife-edge *e* by contact with the knife-edge *b* and supports the yoke I at the point *c*.

Wheel B is carried on the axle F, journaled in the bearing K and hung below the base D by means of the frame G.

T is a weight attached to the lever U, which is pivoted on the shaft W and which acts on rods M by means of the rods V.

c' is the point where the sawing is done.

d' and *d''* are saw-guides attached to the base D, and *d'''* are slots in the base D.

d'''' is an antifriction-roller which may be used in or just above said slot to support the saw from behind.

In operation the saw is first placed on the wheels A and B and brought to its proper working tension by depressing the lever U. Power is applied to the axle F, thereby causing the wheels to rotate and drive the saw, as in any band-saw. As the wood is fed in at the point *c'* the base, being extended and supported beyond the saw substantially on a level with the carriage, tends to counteract the pull on the periphery of the saw-wheels and avoid the wobble or jar incident to the exertion of such pull outside the base, and the saw is held from wobbling laterally by the guides *d'* and *d''* and the slot *d'''* in said base D, and it may also be supported against back thrust by the antifriction-roller *d''''*, while at the same time the lever R and weight S act as a spring under the yoke I, permitting it to yield slightly with variations in strain on the saw, though at the same time keeping the saw taut, thus enabling a thinner saw to be used and much cleaner, smoother, and better work to be done.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

- 5 1. In a band sawing-machine the combination of a band-saw, a base, between the band-wheels substantially in line with the carriage, extended and supported outside the saw and slotted to receive said saw, a lower frame depending from said base carrying the lower
10 band-wheel and its shaft, an upper main frame rising from said base, bearing an adjustable support for said upper band-wheel and its shaft, means for adjusting said support, a yoke bearing said shaft pivoted horizontally
15 at one side of said shaft to said support, a lever, pivotally connected to said support, extending crosswise of said shaft under said yoke whereby said band-saw is adjusted, substantially as described.
- 20 2. In a band-saw mill the combination of a band-saw C, a base D, between the axles of the band-wheels substantially in line with the carriage, extended and supported in the direction of the carriage outside the saw, and
25 slotted at d^8 to receive said saw, the lower frame G, band-wheel B and its shaft F, the upper frame H having the guides O and P rising from said base, the frame L supported by the rods M and N adapted to slide in guides
30 O and P of frame H, the yoke I pivoted at a to frame L bearing saw-wheel A and its shaft E, lever R, pivoted to frame L at d , supporting yoke I at c and weight S pivotally connected to lever R at f , whereby said band-saw
35 is adjusted, substantially as described.
3. In a band-saw mill the combination of

the upper main frame H having the guides O and P, the frame L supported by the rods M and N adapted to slide in the guides O and P, means for causing said frame to slide in said
40 guides, the upper band-wheel and its shaft E, the yoke I, lever R and weight S affording a yielding support to said yoke, substantially as described.

4. In a band-saw mill, the combination of
45 the upper main frame H, having the guides O and P, the frame L supported by the rods M and N adapted to slide in the guides O and P, the lever U pivoted at W and weight T adapted, by means of rod V, to press the frame L
50 and its attachments upward, the upper band-wheel A and its shaft E journaled in yoke I, said yoke I pivoted at a to frame L, lever R pivoted to frame L at d supporting yoke I at c and weight S pivotally connected to R, af-
55 fording a yielding support to said band-wheel, substantially as described.

5. In a band sawing-machine the combination of an upper main frame rising from the base, bearing an adjustable support for the
60 upper band-wheel and its shaft, means for adjusting said support, a yoke bearing said shaft, pivoted horizontally at one side of said shaft to said support, and a lever, pivotally
65 connected to said support, extending crosswise of said shaft under said yoke, affording a yielding support to said band-wheel, substantially as described.

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