

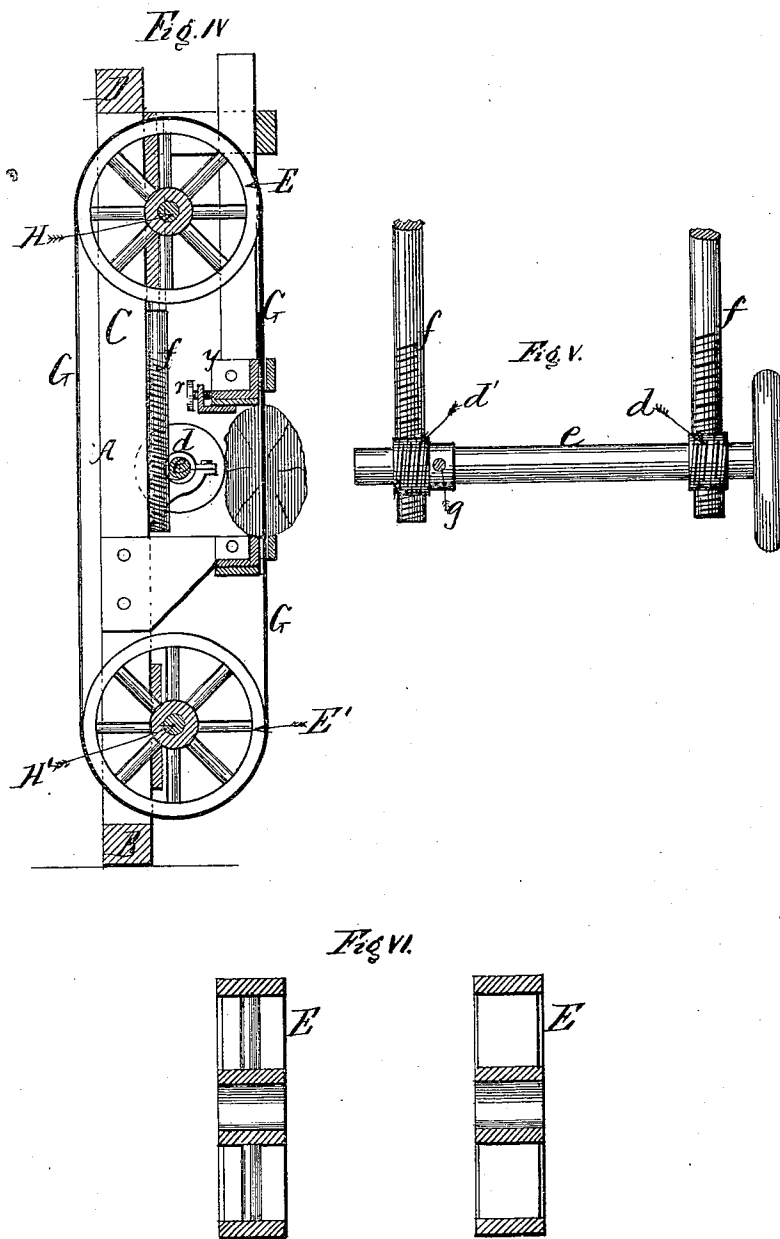
(No Model.)

2 Sheets—Sheet 2.

C. MEINERS.
BAND SAW MILL.

No. 246,330.

Patented Aug. 30, 1881.



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UNITED STATES PATENT OFFICE.

CORNELIUS MEINERS, OF NEW YORK, N. Y.

BAND-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 246,330, dated August 30, 1881.

Application filed July 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS MEINERS, of the city and county and State of New York, have invented a new and useful Improvement in Band-Saw Mills; and I do hereby declare that the following is a clear and exact description of the same.

The object of my invention is to overcome certain radical defects in band-saw mills which arise from the imperfect construction of the mills now in use.

By my construction, hereinafter more fully described and set forth, I am able to saw more rapidly and more positively than has been done heretofore.

Referring to the drawings forming a part of this specification, Figure 1 is a front view of my invention. Fig. 2 is a back view of my invention. Fig. 3 is a plan view of my invention. Fig. 4 is a sectional view on line *xx*, Fig. 1. Fig. 5 is a detached view of the worm-gear device. Fig. 6 is a sectional view of the band-wheels.

A represents the frame, which consists of the bed or base-piece, B, the two uprights C C', and the top-piece, D. This frame may be made of one piece and of wood or metal.

E and E' are two wheels, over which is placed and revolves the band-saw G. These wheels are fastened to the axles H H' at about the center. The ends of the upper axle, H, are supported and revolve in movable bearings J and J'. The bearing J is secured to the upright C, and the bearing J' to the auxiliary support C². Both of these bearings are moved up and down, together or separately, by the worm gear or wheels *d d'*, fastened on the horizontal rod *e*, acting on the vertical threaded rods *f f*, fastened to the under side of the movable bearings J and J'.

Worm-gear wheel *d'* is made loose on the axle or rod *e*, and is made fast thereto, when it is desired to move both bearings at once, by aid of set-screw *g*. The outer ends of the rod *e* are provided with crank-wheels.

By the above construction the band-saw can be quickly stretched over the wheels; and the object of making one of the worm-wheels loose is to enable one bearing to be moved without the other, which may be necessary, owing to the difference in the circumferences of the band-saw. The ends of the lower axle, H', are sup-

ported and revolve in fixed bearings I I', fastened to the upright C and auxiliary support C². This support C² is held to the upright C by the bracket C³; but it may be made or cast with the upright C, or it may be made in one separate piece, or in two parts. This auxiliary piece C² is not attached to the upper and lower pieces of the frame, but is, on the other hand, made smaller, so that a small space or opening, *h h*, is formed between the support C² and the upper and lower pieces of the frame, in order that the saw may be removed and placed onto the wheels. Although the support C² is not made fast to the frame, the ends are provided with bolts or bars *l l*, which, when the saw is placed on the wheels, can be screwed up into the lower and upper pieces of the frame, thereby forming as secure a fastening of the support as if it had been originally fastened thereto; and when the saw is required to be taken off of the wheels the bolts *l l* have only to be screwed down in order to leave the openings between the ends of the support and the frame, so that the saw can be easily moved. By this means of securing the support to the frame two advantages are gained: first, the easy removal and replacing of the saw on the wheels; second, it enables a greater tension to be given to the saw. The more rigid the support is made to the frame the more tension can be given to the saw, which is absolutely necessary to perfect and rapid sawing.

P and P are brackets, fastened to the movable bearings J and J', and the upper arms, *p p*, of these brackets carry axles, the outer ends of which having friction-pulleys Q, and upon these pulleys partially rests the shaft H. The object of this arrangement is to relieve the shaft H of too much strain and friction.

Underneath the wheel E is fastened the horizontal piece *m* to the upright C, and fastened to this piece *m* is a piece of rubber or such like material, which partially rests against the face of the wheel, and serves to brush off the saw-dust and prevent it from getting between the saw and wheel, which is necessary to prevent when the saw is stretched tightly over the wheels, for if it were not prevented the saw-dust, in lodging between the saw and wheel, would so increase the tension as to snap the saw-blade.

Y is the saw-guide, which consists of the part

n , pivoted to the bracket Z . It also consists of the two jaw-pieces p' and p^2 , which are fastened down upon the part n , but in such a manner that the said jaws can be moved in or out, if desired, which movement is performed by the thumb-screw r . The jaw p^2 is so fastened upon jaw p' that it can be adjusted in any position that is desired. Between the jaws p' p^2 passes the saw-blade; and the object of making all the parts of the saw-guide adjustable is to enable the parts to guide the saw without hindering its movement.

By the above arrangement I am able to more easily and effectually guide the saw than has been done before.

Heretofore the rim of the wheels of a band-saw mill were made crown-shaped. I make the rims of the wheels E and E' flat, instead of crown-shaped, and around the circumference of this flat rim I place a flat piece of india-rubber or any such like material, which may be fastened thereto by any suitable means. Over this rubber band, in the center of the upper wheel, E , I place a thin narrow strip of

cloth, which serves to guide or hold the saw-blade in position better than could be done if the rim were crown-shaped. The wheels are constructed with spokes that extend the whole width of the rim, or they may be so constructed with two sets of spokes, one on each side of the rim, and the spokes may be round or flat. (See Fig. 6.) By this mode of construction the wheels are able to withstand the strain.

Having thus described my invention, I desire to claim—

In a band-saw mill, the combination of the auxiliary support C^2 with bolts l l , the uprights C C' , connected by the bed-piece B and top piece, D , the movable bearings J J' , operated by the rods f f , the horizontal rod e , and worm-wheel d' , and the axle H H' , with wheels E E' , for carrying the band-saw G , all arranged to operate substantially as described and set forth.

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