

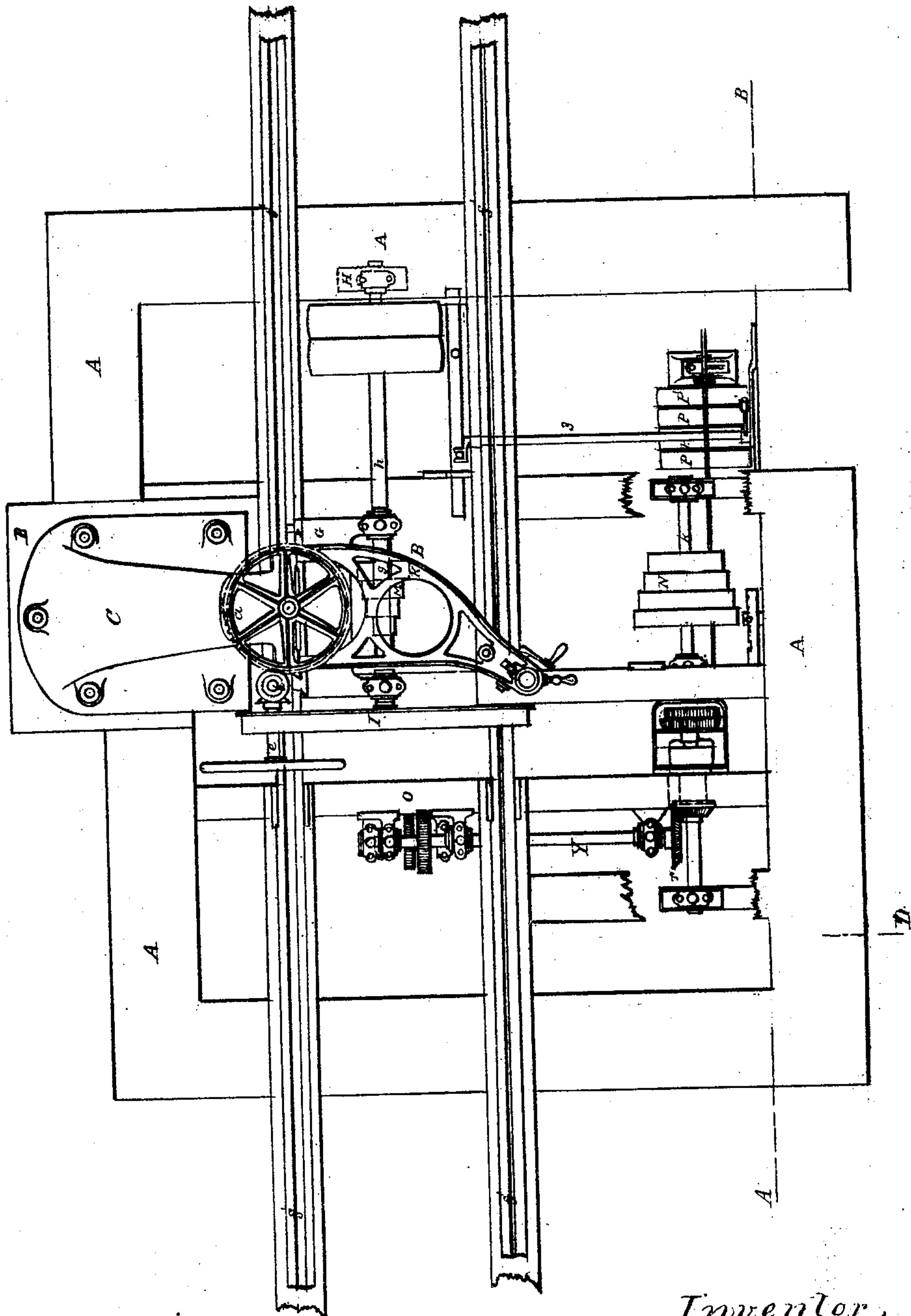
*A. Perin,*

*3. Sheets, Sheet. 1.*

*Band Saw Mill.*

*No. 101034.*

*Patented Mar. 22, 1870.*



*Witnesses,*

*H. A. Daniels  
J. H. Abster*

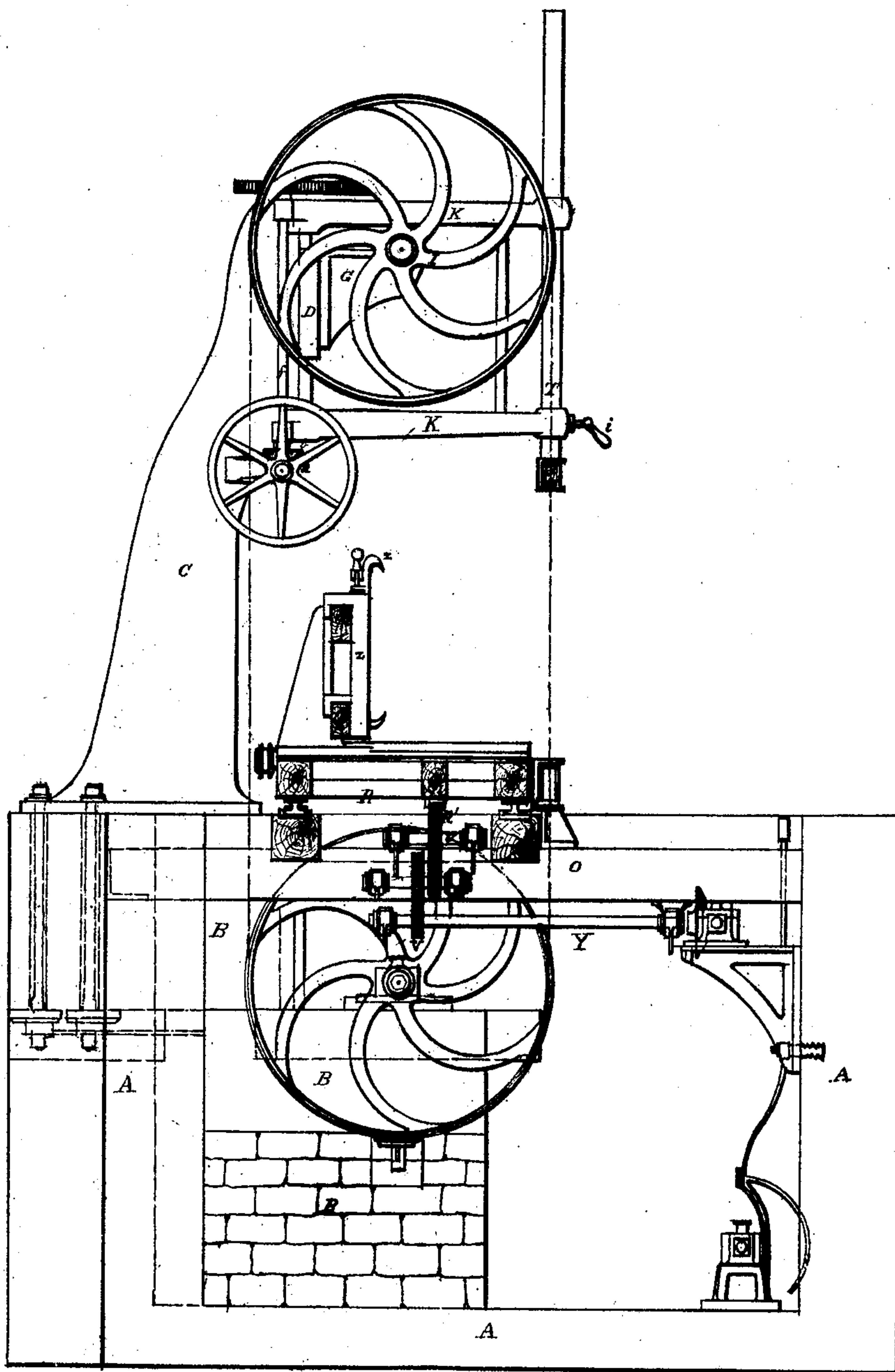
*Inventor,  
A. Perin by  
C. Whitman  
att*

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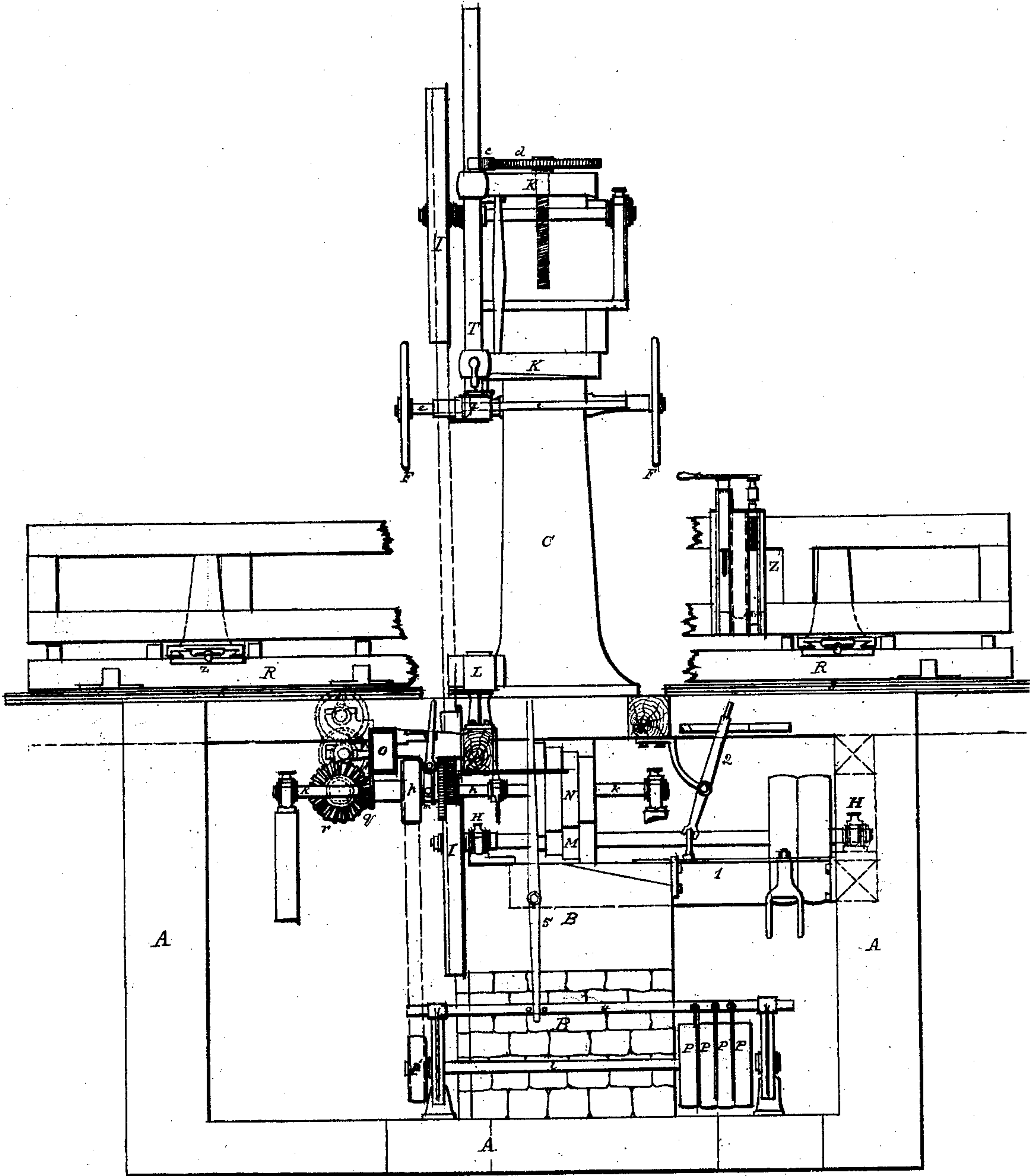
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A. Perin,

Band Saw Mill.

No. 191,034.

Patented Mar. 22, 1870.



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J. H. A. Foster  
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# United States Patent Office.

A. PERIN, OF PARIS, FRANCE.

Letters Patent No. 101,034, dated March 22, 1870.

## IMPROVEMENT IN SAW-MILLS

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that I, A. PERIN, of Paris, in the Empire of France, have invented a new and useful Improvement in Saw-Mills; and do hereby declare that the following description, taken in connection with the accompanying plate of drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said invention, by which the same may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent.

My invention relates to that class of sawing-machines in which a flexible band blade is made to pass over and about two pulleys arranged at a suitable distance apart, by the continuous rotary motion of which continuous rectilinear motion is imparted to the cutting part of the saw-blade; and

The nature of my invention consists in certain modifications and improvements in the details of the same, in the arrangement of the devices and mechanism employed, and in the employment of certain appliances for obviating the difficulties which have heretofore attended the use of endless-band saws, to wit:

In the arrangement of the shafts and gearing by means of which slow rectilinear motion is imparted to bearings of the upper or tension-pulley, and the distance between the pulleys bearing the saw-blade accurately adjusted.

Second, in the arrangement of the automatic feed-motion employed for the purpose of operating the carriage upon which the wood to be sawed is carried.

Third, in the arrangement of the shafts and gearing made use of for holding the lumber in position upon the carriage, and laterally adjusting the same.

Fourth, in the arrangement of the pulleys, shafts, and gearing made use of for the purpose of imparting a rapid lateral motion to the carriage carrying the lumber.

In the accompanying plate of drawings which illustrate my invention and form a part of the specification thereof, and in which corresponding parts are illustrated by similar letters—

Figure 1 is a front elevation of the machine with my invention applied thereto.

Figure 2 is a side elevation, and

Figure 3 a plan of the same.

The construction and operation of my invention is as follows, to wit:

A A A A represent a foundation of masonry, upon and within which are placed and arranged the mechanism and devices composing the machine.

Upon the pedestal B B B rests the main standard C, forming a support for the carriage G, which travels upon angular ways secured to the same, and is

vertically adjusted, raised, or lowered, by the screw-shaft E, which is operated by the spur-gearing c d, screw-shaft f, bevel-gears a b, and crank-shaft e.

The said standard C also forms a support for the brackets K K, in the ends of which are cut perforations for the reception of the cylindrical tube T, which slides vertically within the same, and is raised or lowered by means of a rack and pinion, and held in position by the set-screw i.

To the lower end of the said tube is secured the jointed guide, consisting of an outer and an inner box. The inner is pivoted or jointed to the outer box by means of a pin passing through lugs or flanges projecting from the upper sides of the said boxes.

The wooden guide within the boxes through which the saw-blade passes is held in position by means of a set-screw, and the required direction is given to it by means of a screw attached to the outer box and working in a female screw cut in a flange attached to the inner box.

The shaft of the lower fixed pulley revolves in bearings H, one of which is rigidly attached to the pedestal B, upon which the standard C is placed, and the other secured in the foundation A.

The said shaft carries the main driving-pulleys and also a cone of six pulleys, M, which imparts motion to a corresponding cone, N, operating the carriage R by means of the feed-motion hereinafter described.

The upper or tension-pulley I revolves upon a shaft, g, which has its bearings in journal-boxes in the arms of the carriage G.

A double track, f, parallel with the plane of the horizon, is secured to the top of the foundation, upon which runs the rails of the carriage R, carrying the lumber to be sawed. The said rails are provided with grooved tracks to obviate the difficulty which would be otherwise caused by friction.

Upon the top of the said rails, and at right angles with the same, are secured the cross-pieces Z, upon which are cut acute-angled guides.

Upon the said guides, runners carrying the beam W are arranged to move at right angles with the direction of the rails R', and the said runners are operated by means of screw-shafts having their bearings in the cross-pieces Z.

Attached to the said beam are the screw-shafts and traveling-hooks z, by means of which the lumber to be sawed is held in position.

The screw-shafts operating the said runners are connected by chain-gearing in such a manner that they move laterally in unison with each other.

The carriage R is operated by the shaft h, attached to the end of which is the bevel-gear q, which engages with the bevel-gear v upon the end of the shaft y.

The shaft y has its bearings in journal-boxes at-



tached to the cross-beam O, and is provided with a spur-gear *r*, which, through the intermediate gearing or feed-motion *s t*, imparts motion to the pinion *n* working in a rack attached to the bottom of the carriage R.

Motion is also imparted in the desired direction by means of the shaft *l* carrying the pulleys P P P P', the pulley P' on one end of the said shaft being connected by means of an open band with the pulley *p* upon the shaft *h*, which, together with the bevel-gearing, may be engaged or disengaged from the said shaft by means of the lever and coupling *m*.

The driving-pulleys upon the main axle are thrown in and out of gear by means of the slide 1 operated by the crank-shaft 3, and the lever 2, whose fulcrum is secured to a cross-beam of the frame, and the pulleys P P P P' are thrown in and out of gear by the slide 4 operated by the lever 5.

The operation of the various devices herein described will be apparent from the foregoing description thereof.

Having thus described the construction, operation, and relative arrangement of the component parts of my invention,

I will indicate what I claim and desire to secure by Letters Patent, in the following clauses—

1. The arrangement of the standard C, carriage G, screw-shaft E, spur-gearing *c d*, shaft *f*, bevel-gears *a*

*b*, and crank-shaft *e*, when constructed and operating substantially as described.

2. The automatic feeding apparatus by which the carriage carrying the lumber is moved, consisting of the combination of the shaft K, bevel-gear *g*, bevel-gear *v*, shaft *y*, spur-gearing *r s t*, pinion *n*, and rack attached to the bottom of the carriage, when constructed and operating substantially as described.

3. The arrangement of the shaft *l* carrying the pulleys P P P P', the pulley *p* on the shaft *h*, the bevel-gearing *g*, and the lever operating the coupling by which the said bevel-gearing *g* and pulley P' are thrown in and out of gear, when constructed and operating substantially as described.

4. The arrangement of the foundation A, pedestal B, shafts *h* and K, cross-beam O, track *f'*, standard C, levers 2 and 5, and slides 1 and 4, when constructed and operating substantially as shown and described.

5. The arrangement of the track *f*, rails R' and cross-bars Z, with the screw-shafts operating the runners upon which the beam W is secured, and traveling hooks *z*, when constructed and operating substantially as described.

The above specification of my invention signed by me this 10th day of December, A. D. 1868.

Witnesses:

J. U. ZUST,

DAVID B. FULLER.

PERIN.