

No. 612,611.

Patented Oct. 18, 1898.

A. O. LOMBARD.

FEED ATTACHMENT FOR PULP WOOD BARKERS.

(Application filed Mar. 27, 1897.)

(No Model.)

3 Sheets—Sheet 1.

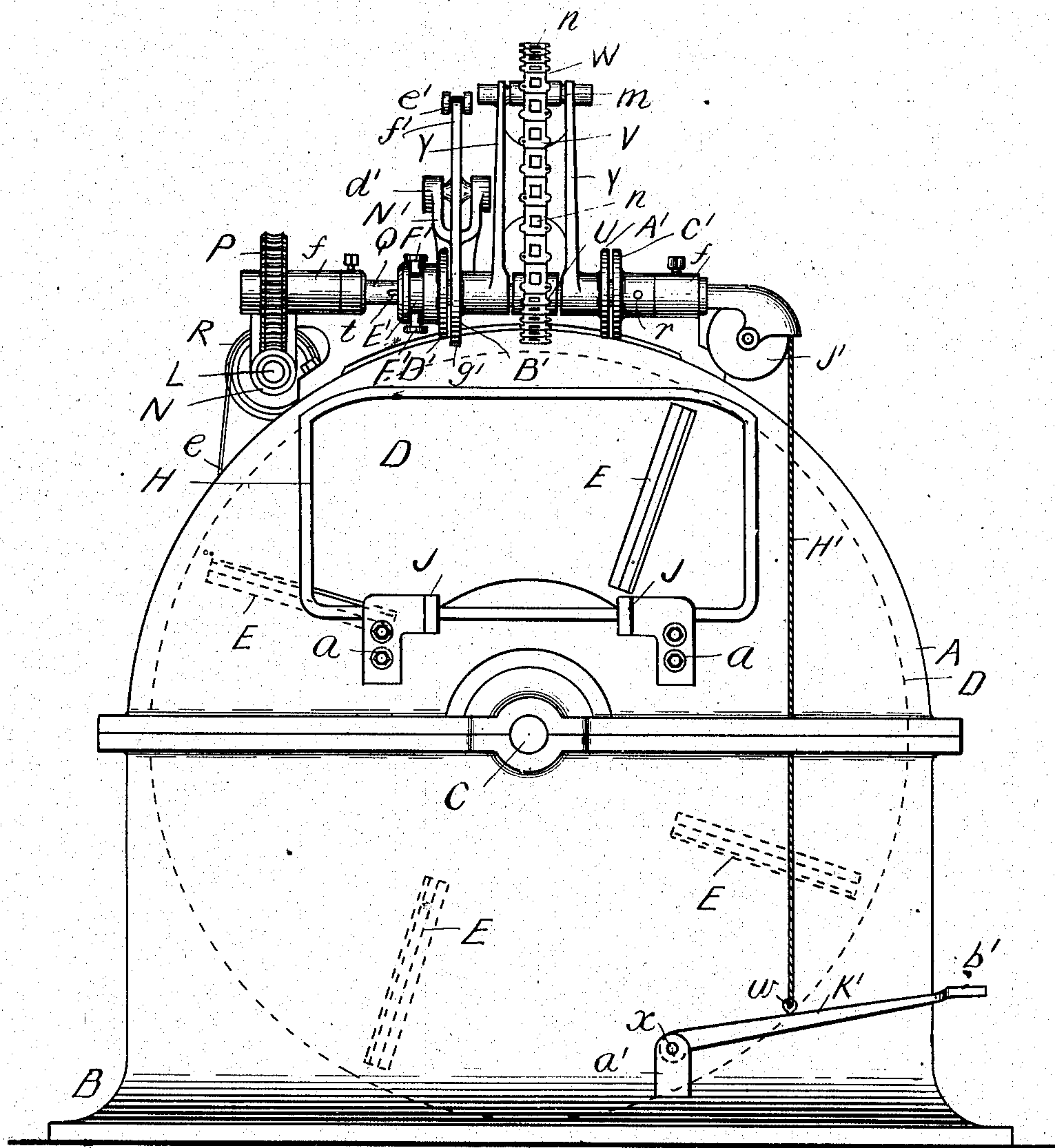


Fig. 1.

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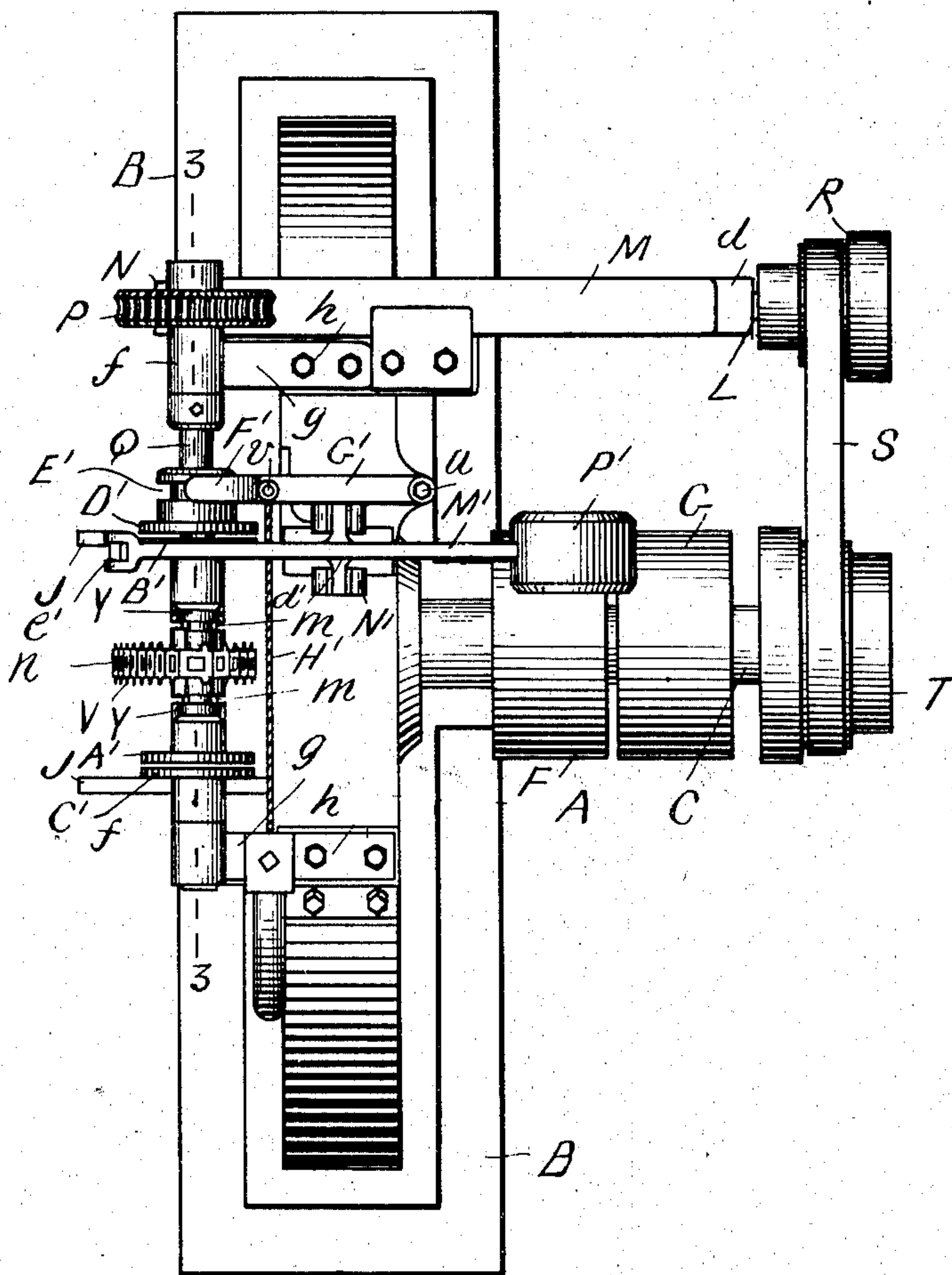
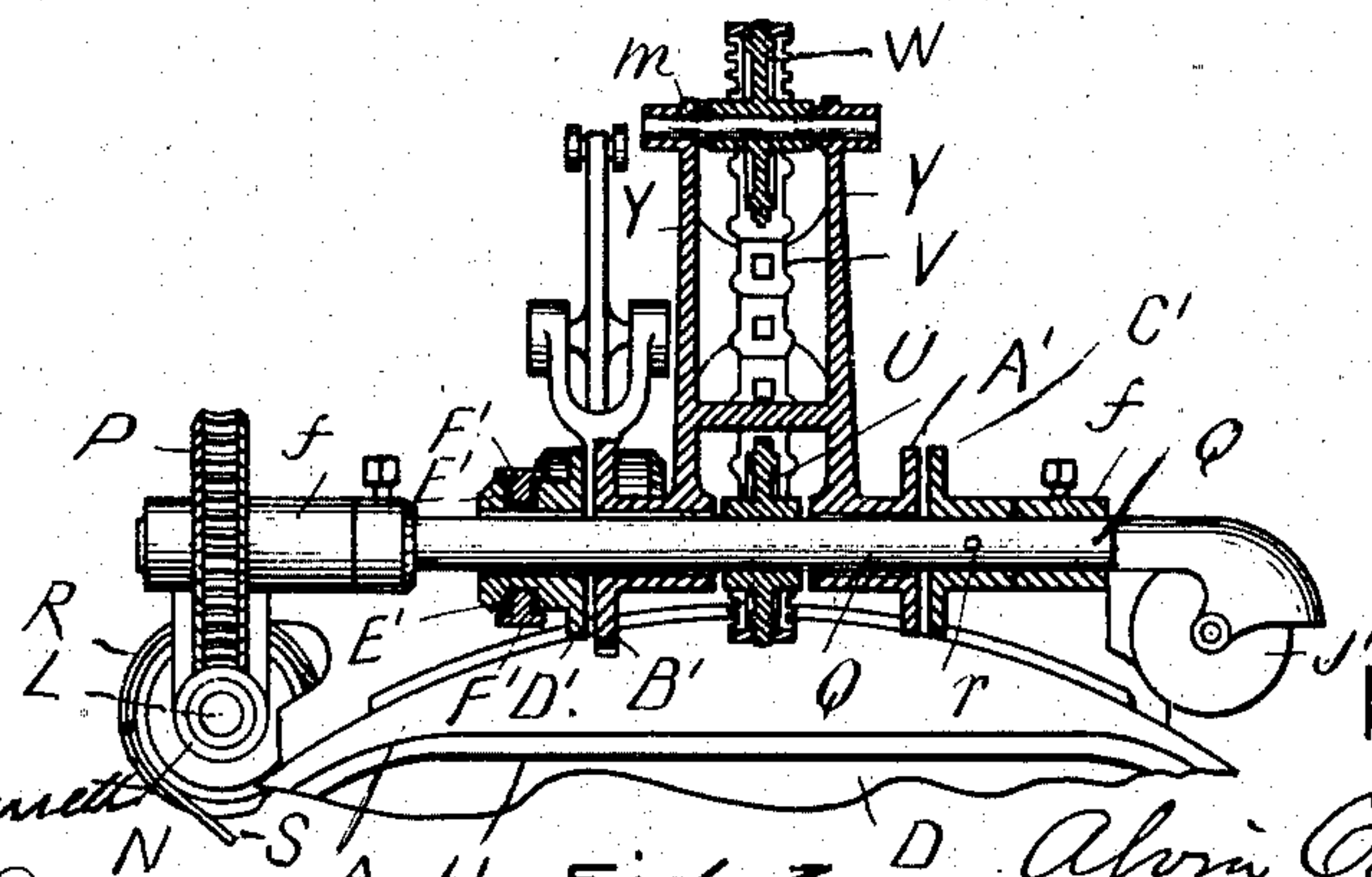


Fig. 2.



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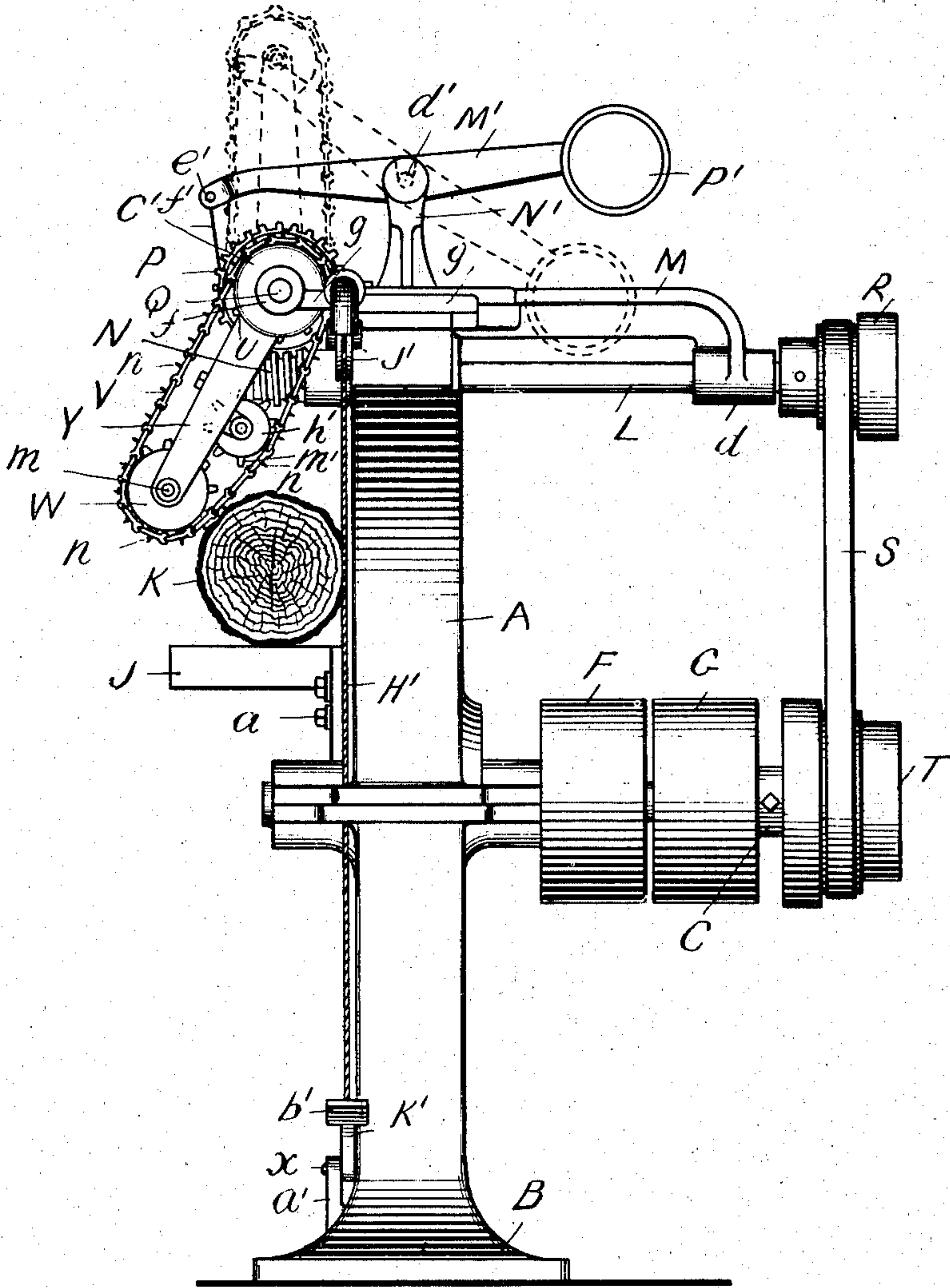


Fig. 4.

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# UNITED STATES PATENT OFFICE.

ALVIN O. LOMBARD, OF WATERVILLE, MAINE.

## FEED ATTACHMENT FOR PULP-WOOD BARKERS.

SPECIFICATION forming part of Letters Patent No. 612,611, dated October 18, 1898.

Application filed March 27, 1897. Serial No. 629,602. (No model.)

*To all whom it may concern:*

Be it known that I, ALVIN O. LOMBARD, of Waterville, in the county of Kennebec and State of Maine, have invented certain new and  
5 useful Improvements in Feed Attachments for Pulp-Wood Barkers, of which the following is a full, clear, and exact description.

Heretofore in cutting and trimming off the bark of logs of wood for the purpose of using  
10 the wood for paper-pulp, &c., the logs when presented to the cutters of the cutting-machine have been turned by hand to present all sides of the log to the cutters, but the result of such manipulation of the log is such  
15 that the trimming of the bark has been more or less irregular and uneven, and also more or less of the fiber of the wood next to the bark is apt to be cut away, which fiber is generally considered the best part of the log for  
20 use; and the object of this invention is to provide means for automatically pressing the log close against the cutters of the machine and at the same time turning it slowly, regularly, and gradually, so that the bark will be  
25 cut evenly therefrom, so that when the bark has been all cut off and before the wood portion is acted upon by the cutters the machine can be stopped, and thus the cutting of the wood be prevented; and the invention consists, in  
30 a machine for cutting and trimming the bark from logs of wood, of mechanism suitably constructed and arranged to press the log against the cutters and constantly turn the same to present new parts of the bark of the  
35 log to the cutters, all substantially as hereinafter fully described, reference being had to the accompanying sheets of drawings, in which is illustrated a machine for cutting and trimming the bark from logs of wood  
40 having this invention applied thereto.

Figure 1 is a front view of the machine. Fig. 2 is a plan view. Fig. 3 is a detail section on line 3 3, Fig. 2. Fig. 4 is an end view showing a log in position to be operated upon,  
45 with the parts comprising this invention in position for operation thereon.

In the accompanying sheets of drawings, A represents a casing having a base B and sup-

porting a horizontal shaft C, carrying a disk D within the casing, on one side of which are  
50 arranged in the present instance four cutters E.

On the shaft C is a tight pulley F and a loose pulley G, which are connected by a belt (not shown) to any suitable driving power.  
55

In the front of the casing is an opening H opposite the upper part of the line of movement of the cutters, and on two arms J, secured to the casing at *a*, is placed the log K to be cut to be opposite to and in front of  
60 the opening H in the casing, so that it can be conveniently pressed against the cutters as they are revolved in operating the machine, the log being short enough to extend through the opening H.  
65

So far the machine is constructed and arranged for operation substantially as usual in machines for cutting and trimming the bark from logs of wood.

L is a horizontal shaft above and parallel  
70 with the shaft C, adapted to turn in a bearing of the casing and a bearing *d*, secured and supported by a horizontal arm M, secured to the casing at *e*. On the end of this shaft L is a pinion-gear N, which engages with a  
75 worm-gear P, secured to a horizontal shaft Q at right angles to the shaft L, turning in bearings *f* in arms *g*, secured to the casing at *h*.

On the outer end of the shaft L is secured  
80 a series of pulleys R of different diameters, which are connected by a belt S to a series of pulleys T on the shaft C of different diameters in the reverse direction, so that by changing the belt from one to the other the shaft  
85 Q, through its worm-gear connection with shaft L, will be turned with more or less speed correspondingly.

Secured to the shaft Q is a sprocket-wheel U, over which runs a sprocket-chain V and  
90 from it to and over another sprocket-wheel W, the sprocket-wheel journals *m* turning freely in the outer ends of two arms Y, the inner ends of the arms freely fitting over the shaft Q, respectively, each side of the  
95 sprocket-wheel U and forming a journal on



which the arms can swing. Projecting from each link of the chain is a sharp-pointed pin or tooth *n*.

The bearings of the arms Y on the shaft Q are each lengthened out, and each end is increased in diameter to form a friction disk or plate A' and B', respectively.

On one end of the shaft Q on one side of arms Y is secured a friction-disk C' by a pin *r*, and at the other end of the shaft on the other side of the arms Y is another friction-disk D', which is secured to the shaft by a spline-joint *t*, Fig. 1, so it can move freely longitudinally on the shaft, but revolve with it. In an extension of the disk it has a circumferential groove E', in which is disposed the forked arms F' of a horizontal cross-bar G', pivoted at *u* to a support on the casing, and connected to this bar G' at *v* is a cord H', which runs to and over a pulley J', then down to and is connected at *w* to a treadle K', pivoted at *x* to a lug *a'* of the base and projecting to the right for operation by the foot at *b'*. Pushing down the treadle swings the bar G', which moves the disk D' to and against the friction-disk B' of the arm Y and the arm for its friction-disk A' to bear against the friction-disk C' on the other end of the shaft, the contacts and friction of which when the shaft Q is turned causes the arms carrying the toothed chain to swing over from its position shown in dotted lines to its position shown in full lines in Fig. 4. The shaft Q being turned revolves the sprocket-wheel U, carrying round the chain V, and if the treadle is then pressed down by the cord H' and bar connection it will move the friction-disk D' against the friction-disk B' of the arms and their other friction-disk A' against the disk C', causing the arms Y to swing down with the endless chain running thereon, as described, the chain then by its teeth bearing against the log K in place on the machine to be trimmed of the bark. The friction of these disks causes the chain to be held with a certain amount of pressure against the log for its teeth or pins to press into the bark more or less to get a firm hold upon the log, this pressure being graduated more or less by pressing down correspondingly upon the treadle, which presses the friction-disks together correspondingly against the chain-supporting-arm disks. As the chain is operated bearing against the log it causes the log to revolve slowly upon its supporting-arms against the cutters and causes new portions of the bark-surface to be presented to the cutters, until the log has turned sufficiently for all the bark to be cut off, when the machine is stopped and the chain allowed to rise free of the log, so the log can be taken away and another substituted.

To hold the chain and its supporting-frame up out of the way, as shown in the dotted lines in Fig. 4, and to return it thereto when

the machine ceases running, an arm M', pivoted at *d'* to a support N' of the casing and having a weight P' on one end, is connected by its other end at *e'* to a strip *f'*, which strip by its other end is rigidly connected to the edge of the friction-disk B' of the chain-supporting arms Y, as shown at *g'* in Fig. 1. As the machine stops running the treadle K' is allowed to rise, releasing the friction-disks, when weighted arm acts to raise the chain out of the way, as described. Thus when the cutters are revolved by simply pressing down the treadle the toothed chain will be swung down and held to its bearing upon the log for the turning of the same, for the purpose described.

Pivoted to lugs *h'* of the two arms Y is a small sprocket-wheel *m'*, which engages with the inside of the sprocket-chain V between the sprocket-wheels U W and is so arranged as to press outwardly the side of the sprocket-chain which bears upon the log in operation to increase the pressure and the hold of the chain upon the log when operating to turn it, all as shown more particularly in Fig. 4. By such an arrangement of mechanism for turning the log in a bark-cutting machine as herein described the bark is cut and trimmed evenly from the log and without cutting beyond it to injure or remove any portion of the wood of the log itself to waste some of the best portions of the log.

By the chain bearing upon the periphery of the log the surface of the log is presented to the cutters at the same uniform speed irrespective of the diameter of the log that may be put in the machine.

The advantage of an endless chain with its projecting teeth for bearing and operating upon the log is of considerable importance in that it is more or less flexible or yielding as it bears upon the log between its supports, its flexibility as it is pressed against the log insuring a longer bearing around the surface of the log, and thus getting a better hold upon the log for its work than other devices, which generally have a rigid bearing-surface, and that very small.

Having thus described my invention, what I claim is—

1. In a machine for cutting and trimming the bark from a wood log, in combination, an endless chain adapted to run in a suitable supporting-frame, teeth or pins on the outside of the chain, the frame adapted to rock on a shaft, and having friction-disks, a friction-disk secured to said shaft, another friction-disk on said shaft adapted to move longitudinally thereon to bear respectively upon one friction-disk of the frame and force the other against the rigid disk on the shaft, and means for operating said movable disk.

2. In a machine for cutting and trimming the bark from a wood log, in combination, a rotating shaft, a sprocket-wheel secured on



said shaft, two arms pivoted on said shaft, a sprocket-wheel on the outer ends of said arms, a chain connecting said sprocket-wheels, teeth or pins on said chain, a friction-disk on said shaft, a movable friction-disk on said shaft, friction-disks on said arm and means for moving said movable friction-disk for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALVIN O. LOMBARD.

Witnesses:

J. F. PERCIVAL,  
ERNEST E. DECKER.