

A. RODGERS.

Machines for Moving and Barking Logs.

No. 154,912.

Patented Sept. 8, 1874.

Fig. 1.

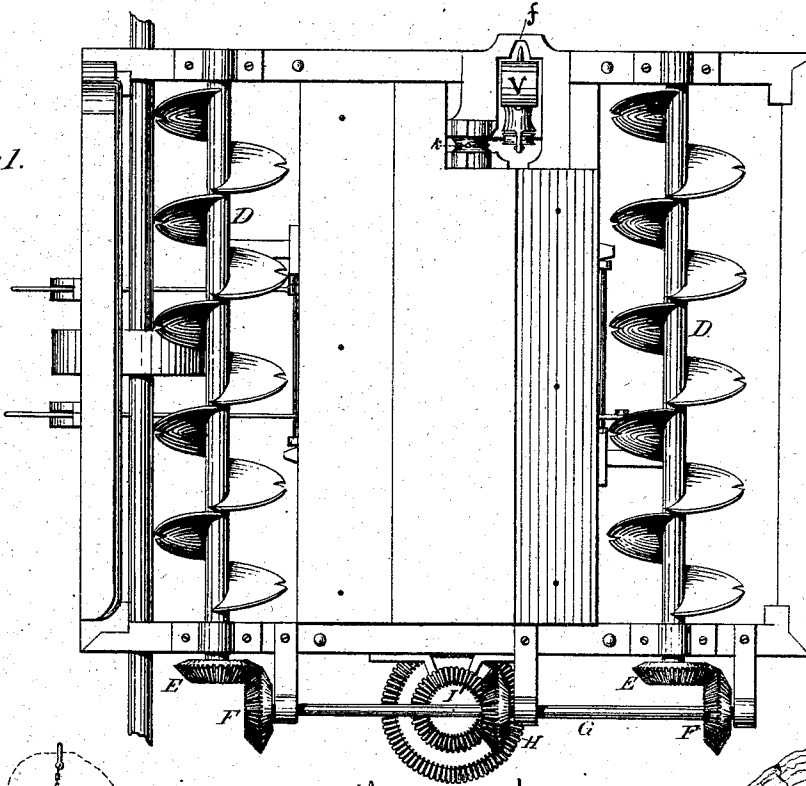
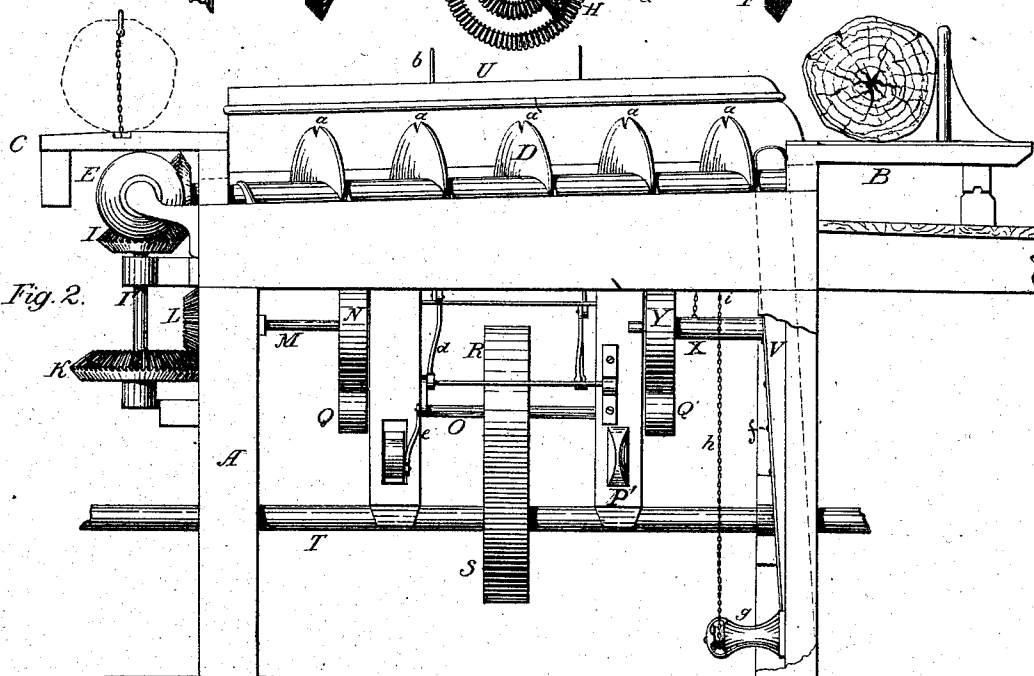


Fig. 2.



Attest:
W. P. Hargwood.
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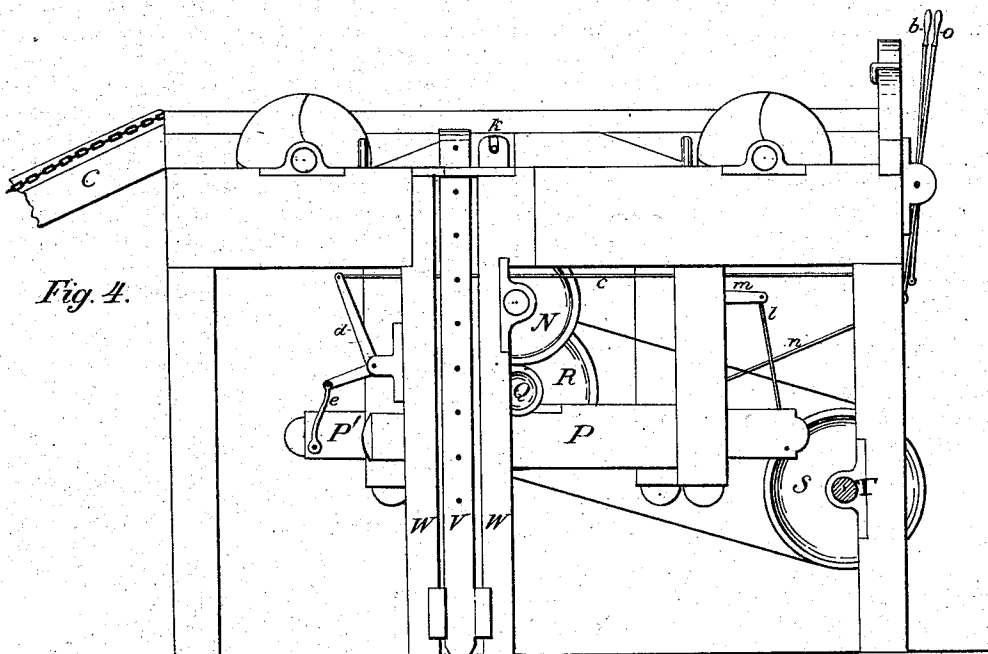
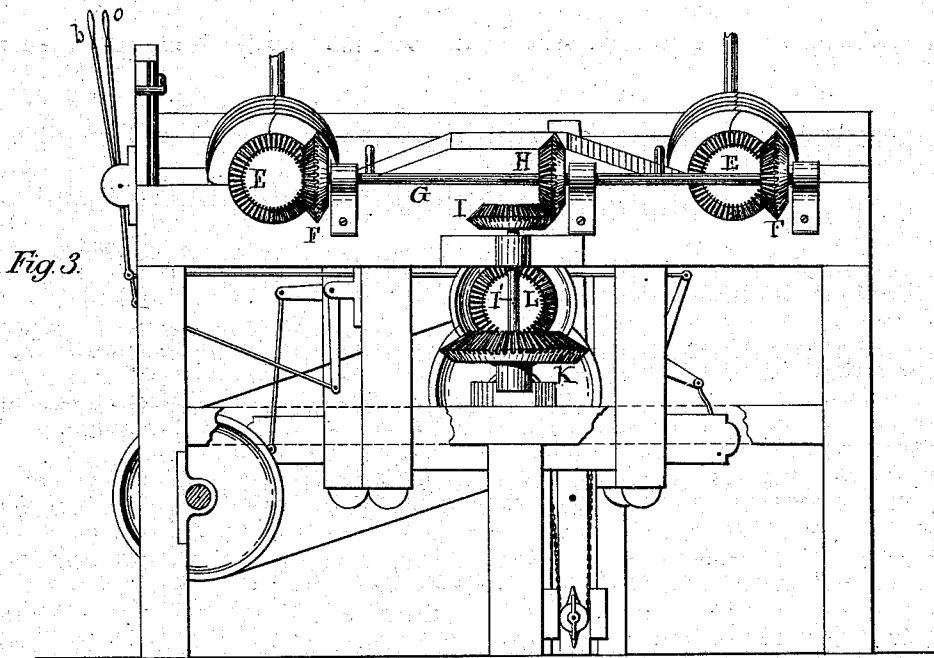
Inventor.
Alexander Rodgers
 By *Andrew R. Brown atty*

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UNITED STATES PATENT OFFICE.

ALEXANDER RODGERS, OF MUSKEGON, MICHIGAN.

IMPROVEMENT IN MACHINES FOR MOVING AND BARKING LOGS.

Specification forming part of Letters Patent No. **154,912**, dated September 8, 1874; application filed June 11, 1874.

To all whom it may concern:

Be it known that I, ALEXANDER RODGERS, of Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Devices for Moving and Barking Logs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The object of this invention is to obviate the difficulty heretofore experienced by millmen which arises from the loose condition of the bark upon such logs as have lain any time in the water. This bark, when the logs have been placed upon the head-blocks, renders them difficult to handle, and liable to slip off, causing the log to change its position, and by so doing cramps and may break the saw, but is sure to make bad lumber; and a further object is to cause the same devices which remove the bark to act as a conveyer for the log from the jackway to the saw-mill carriage; also, to provide means for handling the log thereon; and the invention consists in the application to the above-named purposes of two or more revolving screws or conveyers and other operative mechanism, all acting together in the manner hereinafter described and claimed.

Figure 1 is a plan view, showing the arrangement and relative position of the conveying-screws and their operative mechanism. Fig. 2 is a section exhibiting the arrangement of the devices by means of which the conveying-screws and log-turning bar are put in motion. Fig. 3 shows the arrangement of the gearing, by means of which motion is imparted to the conveying-screws. Fig. 4 is a vertical and longitudinal section through the floor of a saw-mill on a line running between the log-carriage and the conveying-screws, which, in this case, form the logway, and also shows the position of the log-turning device.

The devices will be further designated by letters, as follows, similar letters always representing the same part in the different figures.

A represents the supporting frame-work of

this portion of the mill, and B the log-carriage, constructed and operating in any of the various and well-known modes in use among millwrights for that purpose. C is the jackway, up which the logs are drawn by a suitable apparatus into the mill from the water. D D represent the conveying-screws and bark-strippers, two or more being used, as may be required.

In mills cutting short lumber one placed opposite each head-block will be found sufficient; but if it be desired to remove the bark wholly from the log, or move very long timber, more will be necessary.

These conveying-screws are formed of a thin web surrounding a central shaft spirally, thus forming what may be termed a very deeply-cut screw, the outer edges of the thread or web being brought to a more or less sharp edge, which may be provided with the sharp-cutting recesses *a* for the purpose of cutting and tearing the bark at certain points, thus rendering its removal easier.

Motion is given to these conveying-screws by bevel-gears E E, which are secured to their shafts, and mesh into the gears F F upon the shaft G. This shaft also carries the bevel-gear H, by which it is revolved through the instrumentality of the gear I placed upon the upper end of the vertical shaft J'. A large bevel-gear wheel, K, is secured to this vertical shaft, and receives motion from the pinion L upon the outer end of a shaft, M, which carries the friction-wheel N. The shaft O, which runs in bearings upon the adjustable bridge-trees P and P', is provided with a pulley, R, and at each extremity with friction-pinions Q and Q', one of which, by raising the bridge-tree P, is brought into forcible contact with the friction-wheel N. Thus the revolution of the shaft O, by the belt coming from the pulley S upon the driving-shaft T, gives motion to the whole apparatus.

In order to raise the bridge-tree P', which causes the friction-pinion to engage with the friction-wheel N, a hand-lever, *b*, which comes into a convenient position above the floor of the mill for the use of the operator, is connected, by a rod, *c*, to one extremity of the bell-crank *d*, the other arm of the same being connected by the link *e* to the bridge-tree.

It will thus be seen that if the hand-lever be moved so as to bring the friction-wheel and pinion in contact with each other, the whole train of machinery will be put in motion, and, if a log be rolled upon the conveying-screws from the jackway, it will be revolved by them, and carried forward toward the log-carriage of the mill, and, at the same time, the edges of the screws will remove all loose bark or dirt in their path around the log.

In the drawing an end-rest, *U*, is shown, against which one end of the log bears as it moves forward. This may be constructed, as shown; or the face against which the log bears may be formed of a series of rolls; and, if desired, the rest may be entirely dispensed with, and one-half the conveying-screws made with a right, and the remainder with a left, hand screw-thread, and so arranged as to revolve in opposite directions.

By this arrangement the tendency to end thrust is obviated; but, as it is more expensive than the one shown, and is not absolutely necessary in the handling of logs of ordinary length, I prefer, generally, to use the rest.

If desired, worm-wheels may be used instead of the bevel-gears *E*, in connection with screws which take the place of the gears *F* upon the shaft *G*, or other methods may be devised for giving motion to the conveying-screws without departing from the spirit of my invention.

In connection with the heretofore-described apparatus for carrying forward and removing the bark from the logs, I use an arrangement of devices for putting the log upon the log-carriage, and for turning it thereon, consisting of a bar, *V*, having teeth *f* attached to its forward side, and which has a vertical as well as a horizontal movement, controlled by suitable guides. The lower end of the bar is pivoted to a block, which moves up and down in guides upon the inner sides of the posts *W*, which enables the upper end of the toothed bar to move back and forth, and adjust itself to the size or position of the log to be rolled

or turned, and also allows the bar to fall back away from the log when descending. To the rear side of the lower end of the bar is attached a projection, *g*, which carries a sheave in its outer end, around which a chain or rope, *h*, passes, one end of which is fastened at *i*, and the other, after coming up from the sheave in the projection *g*, passes over a sheave, *k*, and thence downward to the shaft *X*. To this shaft is attached the large friction-pulley *Y*, to which motion is given by the friction-pinion *Q'* upon the shaft *O*. The end of this shaft which carries the pinion *Q* rests upon the bridge-tree *P*, and is adjusted so as to throw the pinion into and out of contact with the wheel *Y* by the connection *b*, bell-crank *m*, rod *n*, and hand-lever *o*. The latter, being placed side by side with the lever *b*, enables the operator to take the log from the jackway, move it forward, remove the bark, place it upon the head-blocks of the carriage, and turn it into a suitable position thereon for dogging without removing his hand from the operating-levers, or changing his position, as the whole may be one continuous operation.

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

1. The conveying and barking screws *D*, substantially as and for the purpose set forth.
2. The conveying-screws *D*, in combination with their operative mechanism, substantially as described.
3. The end rest *U*, in combination with the conveying-screws, as described.
4. The arrangement of the log carrying and barking devices and the log-turning devices, for continuous operation, as set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

ALEXANDER RODGERS.

Witnesses:

EDWARD H. WYLIE,
FERDINAND WOLLENBERG.