(No Model.)

E. N. COLLETT.

REVERSING GEAR FOR SAW MILLS.

No. 381,215. Patented Apr. 17, 1888.

Fig. 1.

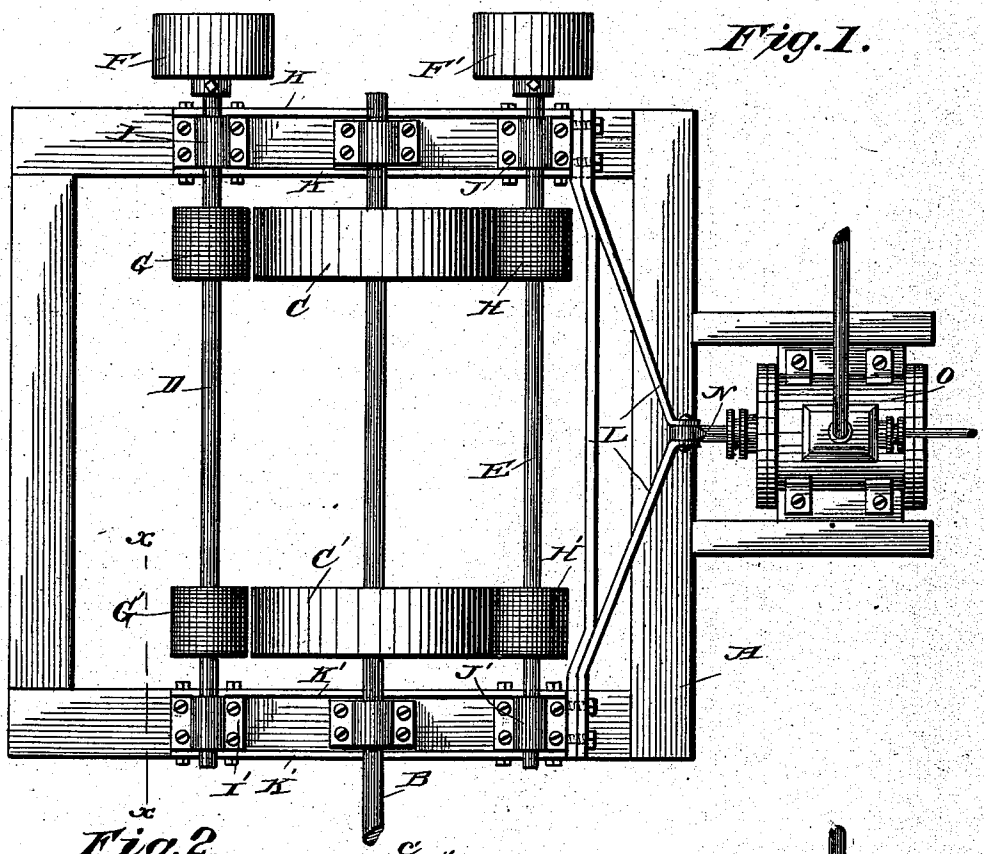


Fig. 2.

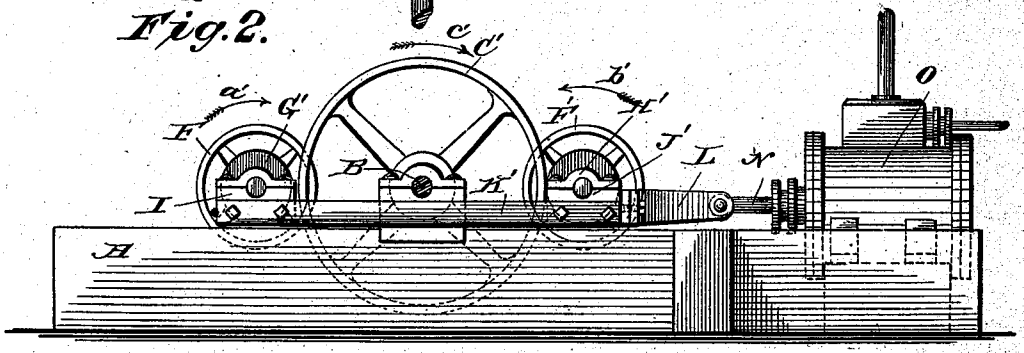
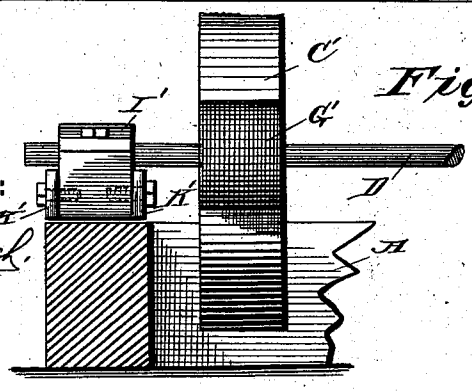


Fig. 3.



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REVERSING-GEAR FOR SAW-MILLS.

SPECIFICATION forming part of Letters Patent No. 381,215, dated April 17, 1888.

Application filed January 13, 1888. Serial No. 260,595. (No model.)

To all whom it may concern:

Be it known that I, EUROPE N. COLLETT, of Whelen Springs, in the county of Clark and State of Arkansas, have invented a new and Improved Reversing-Gear for Saw-Mills, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved reversing-gear especially adapted for saw-mills, to impart a forward and backward motion to the saw-mill carriage, and which is very simple and durable in construction and effective in operation.

The invention consists of parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation of the same, and Fig. 3 is an enlarged sectional end elevation of part of the improvement on the line *x x* of Fig. 1.

The improvement is mounted on a suitably-constructed frame, A, on which is mounted to rotate the rack-shaft B, connected in the usual manner with the saw-mill carriage, which is intended to be moved forward and backward on its bearings. On the rack-shaft B, within the frame A, are secured the wheels C and C′, and on each side of the said shaft are placed the shafts D and E, carrying the pulleys F and F′, respectively, connected by belts with suitable machinery for imparting a rotary motion to the said shafts D and E in the direction of the arrows *a′* and *b′*, as indicated in Fig. 2. The shafts D and E carry the paper pulleys G G′ and H H′, respectively, and the said sets of pulleys G G′ and H H′ are adapted to engage alternately the sides of the wheels C and C′, so that when one set is in contact with the said wheels C C′ the other set is out of contact, and vice versa.

The shaft D is mounted to rotate in the bearings I I′, held loosely on the top of the frame A, and the shaft E is mounted to rotate in similar bearings, J J′, also held on top of the frame A. Bearings I J and I′ J′ are connected with each other by straight metallic bars K K and K′ K′, respectively, so as to move the shafts D and E parallel with each other and simultaneously. To the outer ends of the bearings J and J′ are secured the rods L, rigidly connected with a piston-rod, N, connected in the usual manner with the piston held to slide in a steam-cylinder, O, of any approved construction. The steam-cylinder O is mounted on the frame A in the middle between the paper pulleys H and H′, as shown in Fig. 1.

The operation is as follows: A rotary motion is imparted to the shafts D and E by the belts connected with the pulleys F and F′ in the manner above stated. When it is desired to run the shaft B in the direction of the arrow *c′*, the steam admitted to the cylinder O forces the piston carrying the piston-rod N outward, whereby the bearings J J′ and I I′ are moved to the left on the frame A, so that the paper pulleys H and H′ are thrown in contact with the wheels C and C′, while the paper pulleys G and G′ remain disconnected from the said wheels. The rotary motion of the pulleys H and H′ in the direction of the arrow *b′* imparts a rotary motion to the wheels C C′ and the rack-shaft B in the direction of the arrow *c′*, so that the saw-mill carriage is moved forward. When it is desired to return the saw-mill carriage, the rack-shaft B has to be reversed, which is accomplished by reversing the steam in the cylinder O, so that the piston and its piston-rod N are moved to the right, thereby imparting a similar movement to the bearings J J′ and I I′, so that the friction-pulleys H H′ are moved out of contact with the wheels C C′, and the paper pulleys G G′ are moved in contact with the said wheels C C′, and thereby impart a rotary motion to the said wheels on the rack-shaft B in the inverse direction of the arrow *c′*.

It will be seen that the force of the steam acting against the piston connected with the piston-rod N causes the respective sets of paper wheels H H′ and G G′ to be held in contact with the wheels C and C′, and by reversing the action of steam in the cylinder the motion of the rack-shaft B is likewise reversed, so as to impart alternately a forward and backward sliding motion to the saw-mill carriage.

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

1. The combination, with a rack-shaft mounted in stationary bearings and wheels secured on the said shaft, of two shafts placed parallel with the said rack-shaft, one on each side of the said wheels, pulleys secured on the said shafts and adapted to engage alternately said wheels, bearings in which the said shafts are mounted to rotate, bars for connecting the said bearings with each other, a piston-rod connected with the said bearings, and a steam-cylinder containing a piston connected with said piston-rod, substantially as shown and described.

2. The combination, with a cylinder provided with a piston having a piston-rod, of bearings mounted to slide and connected with the said piston-rod, shafts mounted to rotate in the said bearings and provided with driving-pulleys secured on the said shafts, and a stationary rack-shaft placed between the said shafts and carrying wheels adapted to be engaged on opposite sides by the said transmitting-pulleys, substantially as shown and described.

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