

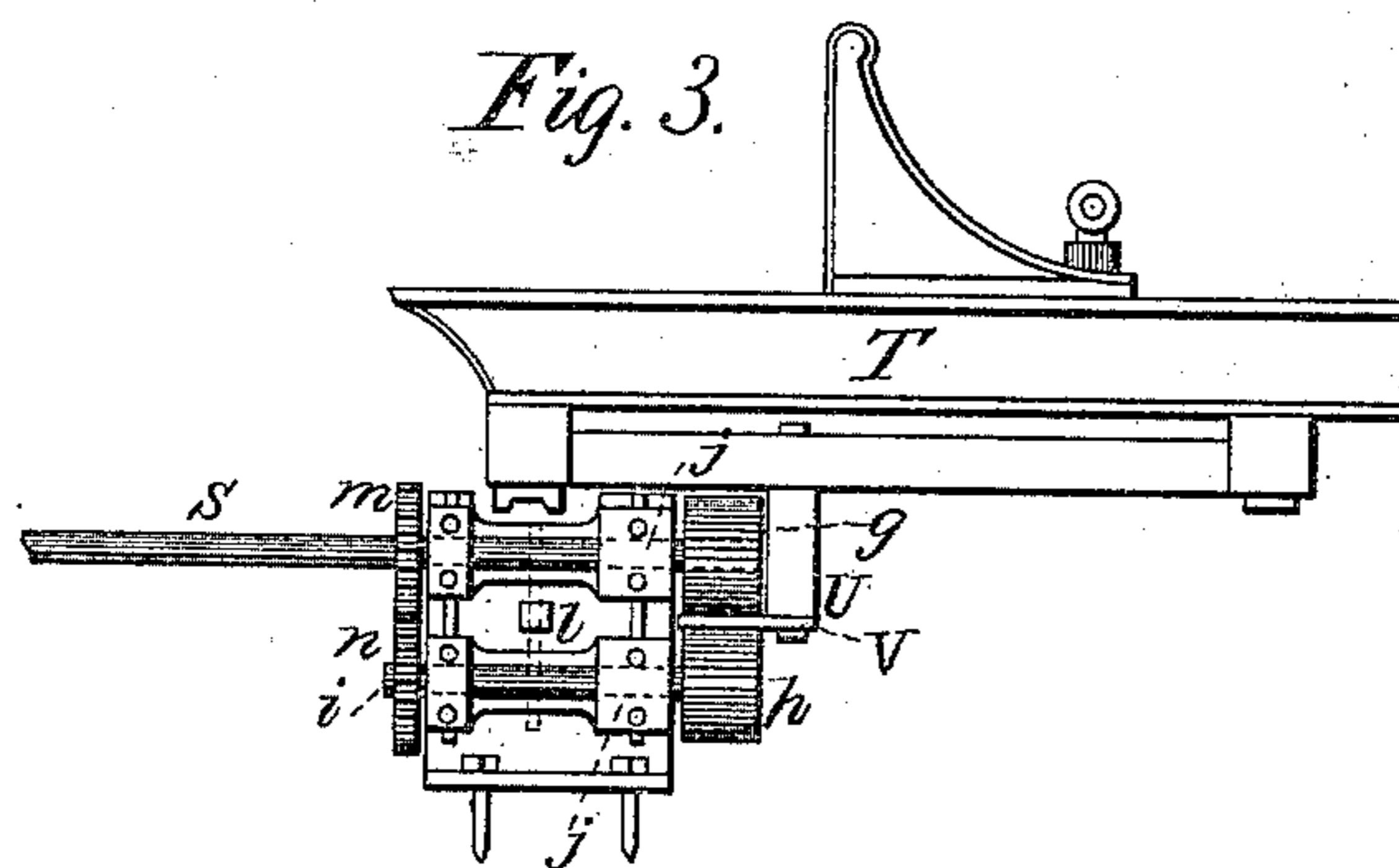
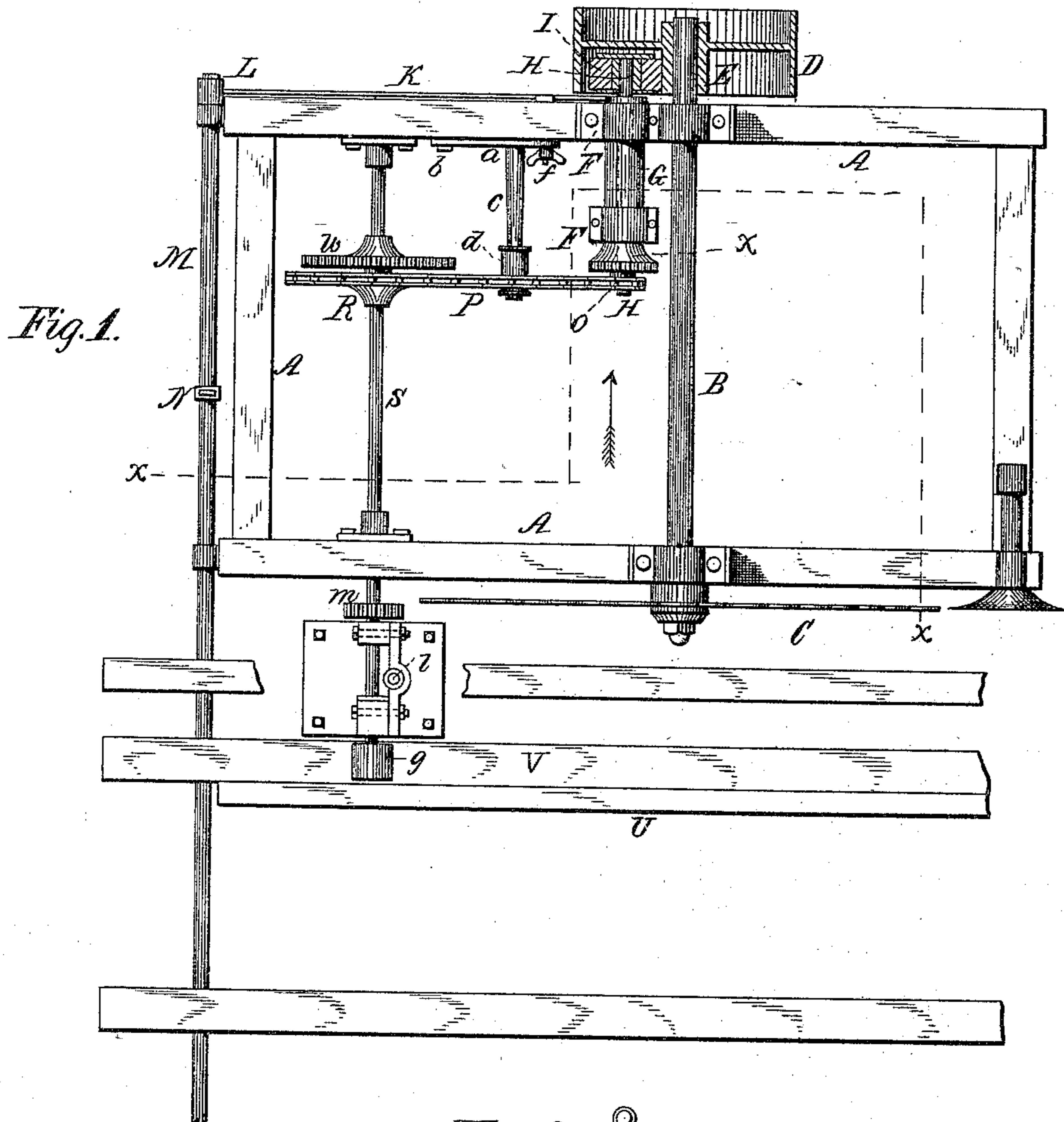
(No Model.)

2 Sheets—Sheet 1.

H. R. WOLFE.  
CIRCULAR SAW MILL.

No. 335,729.

Patented Feb. 9, 1886.



Witnesses:  
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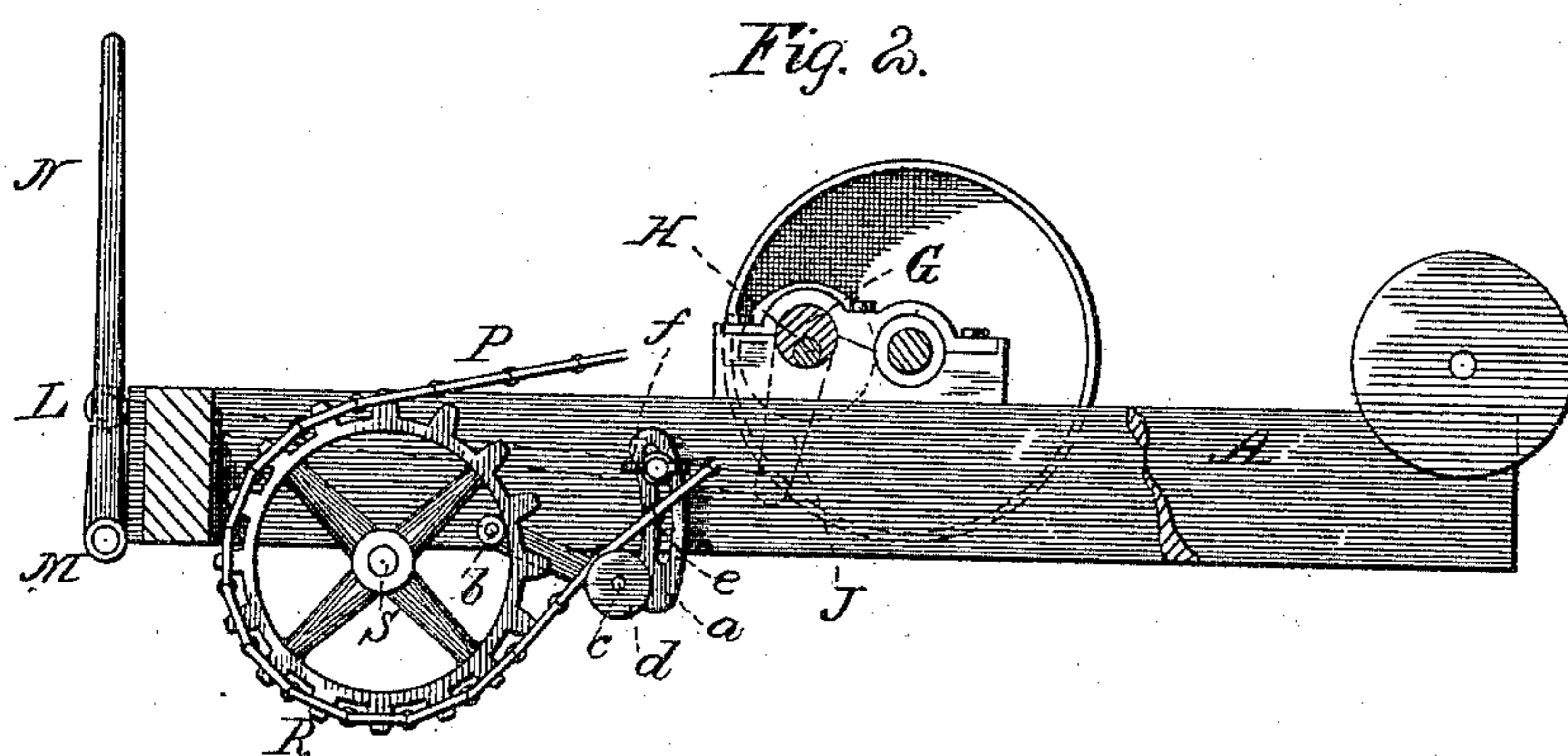
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# UNITED STATES PATENT OFFICE.

HARVEY R. WOLFE, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO BRENNAN & CO. SOUTHWESTERN AGRICULTURAL WORKS, OF SAME PLACE.

## CIRCULAR-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 335,729, dated February 9, 1886.

Application filed August 3, 1885. Serial No. 173,316. (No model.)

*To all whom it may concern:*

Be it known that I, HARVEY R. WOLFE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Saw-Mills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in circular-saw mills, and has for its object the production of novel feeding and backing mechanism for the saw table or carriage, whereby the efficacy of the machine is increased and its construction simplified.

The novelty of my invention will be herein set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view, partly in section, of so much of the saw-mill as is necessary to illustrate my invention. Fig. 2 is a side elevation taken through the broken dotted line *xx* of Fig. 1, looking in the direction of the arrow, but showing only one of the large sprocket-wheels. Fig. 3 is a detail end elevation of the saw table or carriage and operating mechanism.

The same letters of reference are used to indicate identical parts in all the figures.

A is the usual or any suitable frame-work of a circular-saw mill, upon which is suitably journaled the saw-arbor B, carrying the circular saw C. Upon the opposite end of the arbor is keyed the main driving-pulley D, whose hub E is made somewhat larger than usual, and which is, with the inner face of the periphery of the pulley, made perfectly true and smooth.

Journaled in boxes F, suitably secured to the frame-work, is a sleeve, G, containing a longitudinal eccentric bore, in which is fitted a shaft, H, parallel to the saw-arbor, and upon whose outer end, within the pulley D, is keyed a friction-pulley, I, preferably with a paper rim, adapted to bear against either the hub E or the periphery of the pulley D, as may be desired.

Fastened to and depending from the sleeve G is a crank-arm, J, (shown in dotted lines in Fig. 2,) from whose lower end extends a link, K, which is connected to the upper end of a

crank-arm, L, keyed upon a shaft, M, which is provided with an operating-lever, N. By pressing this lever forward or toward the saw-arbor the sleeve G is so turned as to bring the pulley I into contact with the hub E of the pulley D. A reverse or outward movement of the lever N causes a reverse oscillation of the sleeve G and brings the pulley I into contact with the inner rim of the pulley D, owing to the fact that the shaft H is eccentric to the sleeve G.

Upon the inner end of the shaft H is keyed a small sprocket-wheel, O, with which a drive-chain, P, engages and passes around a larger sprocket-wheel, R, keyed upon the table-feeding counter-shaft S, which is properly journaled in the frame.

To prevent and take up slack in the chain P, I provide the bell-crank arm *a*, which, pivoted, as at *b*, to the side beam of the frame, has a laterally-projecting stud, *c*, upon which an idler spool or pulley, *d*, is loosely fitted and engages with the chain P, as shown. The upward-extending arm of the bell-crank is provided with an upward-extending slot, *e*, through which the end of a bolt extending through the beam passes and receives a clamping thumb screw or nut, *f*, by loosening which the bell-crank may be so oscillated as to cause the idler *d* to take up the slack of the chain P, whereupon said screw is tightened to hold the parts in their adjusted position, as will be readily understood.

T is the usual or any suitable saw table or carriage running upon ways, and in this instance provided with a lower longitudinal beam, U, to which is secured a horizontal projecting plate, V, preferably of metal, which is clamped between friction-rollers *g h*, the former of which is keyed upon the end of the counter-shaft S, and the latter of which is keyed upon the end of a short shaft, *i*, directly below the counter-shaft, as seen in Fig. 3. Both the shaft *i* and the adjacent end of the counter-shaft S are secured in vertically-adjustable boxes *j*, which, confined in any suitable frame-work, are adjusted toward or from each other by means of a right-and-left hand centrally-arranged screw, *l*, that engages both, and by means of which the friction-pulleys *g* and *h* are caused to bind more or less tightly

upon the plate V. Motion is communicated to the pulley *h* by means of the engaging pinions *m n*, the former of which is keyed to the counter-shaft S and the latter to the short shaft *i*.

From the above construction it will be readily understood that when the lever N is so operated as to cause the pulley I to engage with the hub of the pulley D, such a direction of revolution is given to the counter-shaft S as to cause the saw table or carriage, through the medium of the rollers *g h*, gripping the plate V, to be fed forward to carry the work to the saw, and that after the cut has been made the reverse motion of the lever N, causing the pulley I to engage with the inner rim of the pulley D, will impart an instant and very rapid backward movement to the saw table or carriage.

To provide for increased speed in the feeding and backing movements of the saw table or carriage when desired, I key upon the shaft S, just outside the sprocket-wheel R, a second sprocket-wheel, W, of a somewhat smaller diameter than the wheel R, and upon the inner end of the sleeve G, I provide a corresponding sprocket-wheel, X, of a somewhat larger diameter than the wheel O.

When it is desired to increase the speed of the saw table or carriage, the pressure of the tightener-pulley *d* may be removed from the chain P, the latter slipped off the sprocket-wheels R and O onto the wheels W and X, and the pressure of the tightener-pulley *d* restored, whereupon the speed of the saw table or carriage will be increased in proportion as the diameter of the wheel W is decreased and that of the wheel X increased, as will be readily understood.

Having thus fully described my invention, I claim—

1. The combination, with the saw-table feeding mechanism of a saw-mill, of the main driving-pulley having a friction-pulley located between its hub and its inner periphery, said friction-pulley being connected to the saw-table-feeding mechanism, and so arranged that it may be made to engage with the hub of the driving-pulley to cause the travel of the table in one direction, and with the inner rim of

said pulley to cause its travel in an opposite direction.

2. The combination, with the saw-table-feeding mechanism of a saw-mill, of the main driving-pulley having its inner periphery and its hub made true and smooth, and having located between said periphery and hub a friction-pulley which actuates the saw-table mechanism, and is so arranged that it may be made to engage with the hub of the driving-pulley to cause the travel of the table in one direction, and with the inner rim of said pulley to cause its travel in an opposite direction.

3. The combination, with the main driving-pulley having its hub and inner rim made true and smooth, of a friction paper pulley located between said hub and inner rim, and connected to the saw-table-feeding mechanism, substantially as and for the purpose specified.

4. The combination, with the main driving-pulley D, of the oscillating sleeve G, the eccentrically-set shaft H, journaled in the sleeve G, the pulley I upon the end of the shaft H, and arranged between the inner periphery and hub of the pulley D, the driving-wheel O upon the shaft H, and connected to and actuating the feed-table mechanism, the crank J, secured to the shaft H, the link K, extending from the lower end of the crank J, and lever-  
age, substantially as described, for operating said link K to cause the oscillation of the sleeve G, for the purpose specified.

5. In a saw-mill, and in combination with the feed-table and its driving counter-shaft S, the adjustable boxes *j*, made adjustable to and from each other by the right-and-left hand screw *l*, engaging with said boxes, the short shaft *i*, journaled in one of said boxes, the pulleys *g h*, secured the one upon the end of the shaft S and the other upon the end of the short shaft *i*, the pinions *m n*, meshing with each other and secured, respectively, upon the shafts S and *i*, and the feeding-plate V, confined between the pulleys *g h*, substantially as described.

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Witnesses:

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