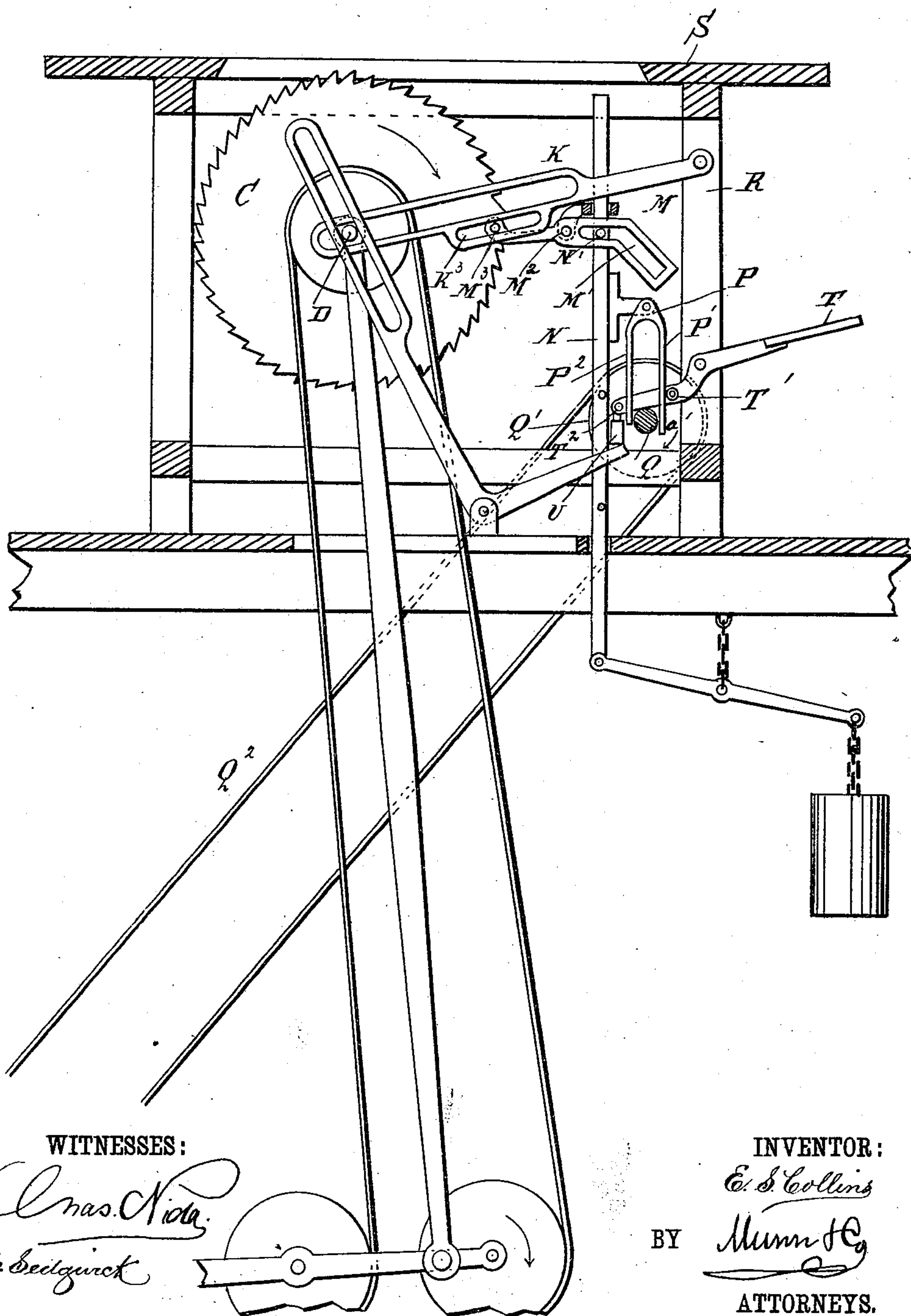


(No Model.)

E. S. COLLINS.
CIRCULAR SAWING MACHINE.

No. 355,589.

Patented Jan. 4, 1887.



WITNESSES:

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EVERELL S. COLLINS, OF NEBRASKA, PENNSYLVANIA.

CIRCULAR SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 355,589, dated January 4, 1887.

Application filed August 10, 1886. Serial No. 210,519. (No model.)

To all whom it may concern:

Be it known that I, EVERELL S. COLLINS, of Nebraska, in the county of Forest and the State of Pennsylvania, have invented certain
5 new and useful Improvements in Circular Sawing Machines, of which the following is a full, clear, and exact description.

The object of my invention is to provide certain new and useful improvements in the circular sawing machine for which Letters Patent No. 344,568 were granted to me on the
10 29th day of June, 1886.

The invention consists of a vertically-sliding rod actuating the mechanism for raising and
15 lowering the saw, of a forked arm operated by a rotating shaft and pivoted to the said sliding rod, and of a device for throwing the forked arm into frictional contact with the said rotating shaft.

20 The invention also consists of various 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
25 drawing, forming a part of this specification, in which the figure represents a sectional side elevation of my improvement.

In the Letters Patent above referred to the saw is raised and lowered by the operator
30 actuating the treadle. In this present invention I raise and lower the saw automatically from the main driving-shaft, and I accomplish this by the devices now to be described.

The circular saw C is mounted in precisely
35 the same manner as the one illustrated and described in my former patent above referred to, and is operated from the vertically-sliding rod N, which, however, is not actuated by a treadle, but by the device constituting my present in-
40 vention.

On the rod N is pivotally hung the arm P, having forked arms P' and P², through which passes the shaft Q, carrying a pulley, Q', which is rotated by a belt, Q², or other devices from the
45 main driving-shaft. To the upright R of the saw-table S is pivoted the treadle T, provided with a roller or pulley, T', which operates against the upper edge of the arm P', and with a roller or pulley, T², which operates against
50 the outer edge of the arm P². A weight, U, is hung on the inner end of the treadle T.

The bell-crank lever M is pivoted at M², and is provided with an angular slot, M', through which passes a pin, N', secured to the rod N. The lever M is also provided on its upper end
55 with a pin or roller, M³, which operates in a slot, K³, formed in the lever K, connected with the arbor D of the saw C.

The operation is as follows: A continuous rotary motion is imparted to the shaft Q from
60 the main driving-shaft, and when the operator desires to move the vertical rod N downward, so as to swing the circular saw to its former position, he presses slightly with his foot on the treadle T, whereby the roller or pulley T',
65 acting on the arm P', forces the latter against the shaft Q, which rotates in the direction of the arrow a'. The frictional contact between the rotating shaft Q and the arm P' causes the arm P to move downward, whereby the verti-
70 cal rod N also slides downward and elevates the saw C in the manner and by the means described in my former patent. As soon as the operator releases the pressure on the treadle T the weight U, acting on the treadle, disen-
75 gages the roller or pulley T' from the arm P' and causes the roller or pulley T² to throw the arm P² into frictional contact with the rotating shaft Q, so that the latter moves the arm P, and consequently the rod N, upward, and
80 the circular saw C is returned to its position of rest below the saw-table G, as shown in the drawing.

Instead of using the weight U, a spring may be employed to accomplish the same purpose.
85

An arm or suitable projection is fastened to rod N and projects under treadle T near T², so that when the saw is lowered and rod N at its fullest height the inner end of treadle T is raised enough to throw arm P² out of contact
90 with rotating shaft Q; or the arm P² may be made so short as to just clear the shaft under above condition, thus accomplishing the desired result.

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

1. The combination of a vertically-sliding rod operating a mechanism for raising and
lowering the saw, with a forked arm pivoted
100 on the said rod, a treadle operating on the said forked arm, and a rotating shaft actuat-

ing the said pivoted arm, substantially as shown and described.

2. The combination, with a rotary shaft, of a vertically-sliding rod, N, operating the mechanism for raising and lowering the saw, a forked arm pivoted on the said sliding rod, and means, as described, for throwing the arms of the said pivoted arm alternately in frictional contact with the said rotating shaft, substantially as shown and described.

3. The combination of the vertically-sliding

rod N, operating the mechanism for raising and lowering the saw, and the arm P, pivoted on the said rod N and provided with the arms P' and P², with the rotating shaft Q and the treadle T, provided with the pins or rollers T' and T², and the weight U, substantially as shown and described.

EVERELL S. COLLINS.

Witnesses:

GEORGE LEWIS,
JAMES GILFILLAN.