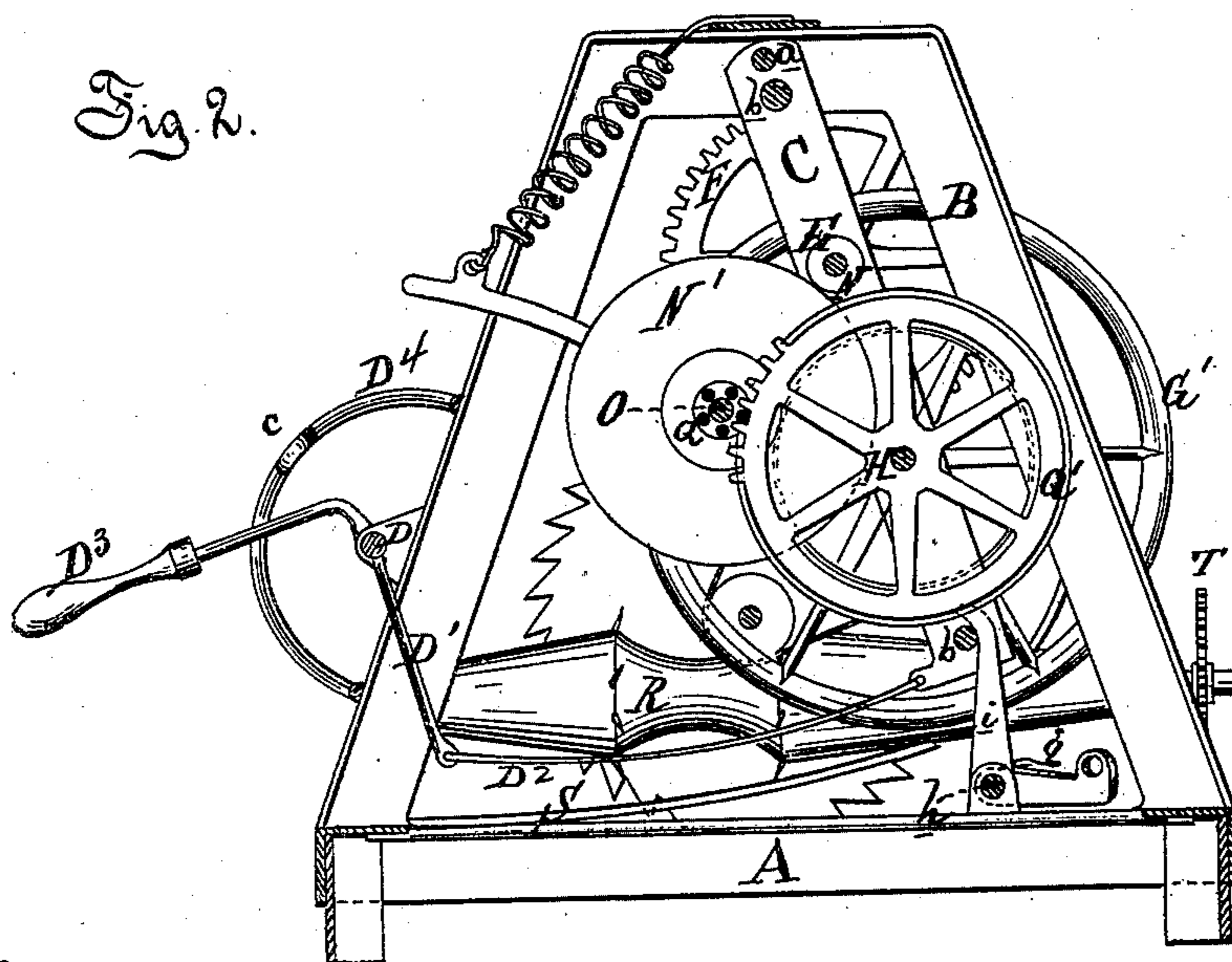
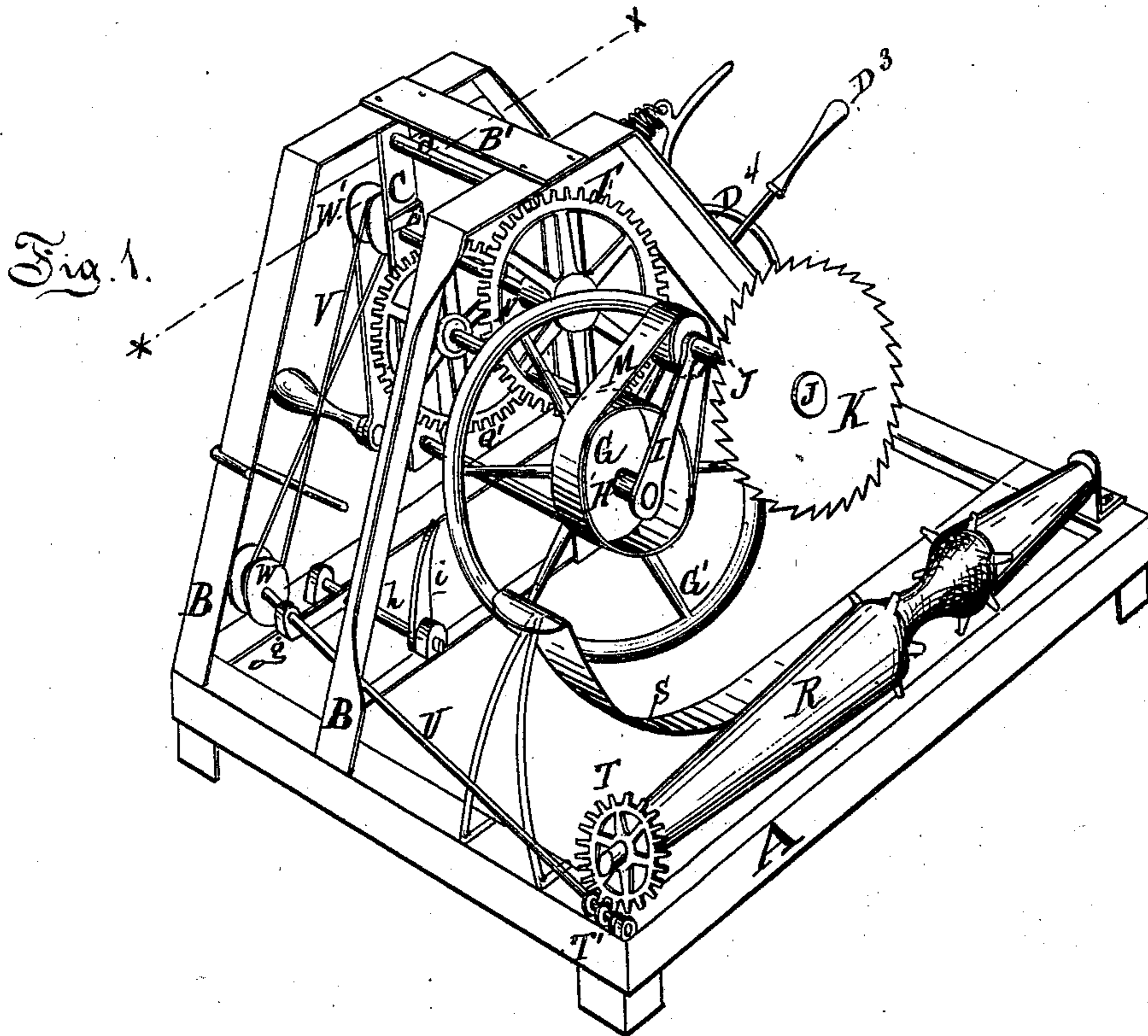


S. W. C. ADAMS.
SAWING-MACHINE.

No. 170,797.

Patented Dec. 7, 1875.



Attest:
Edward Barthel.
Wm. P. Shalving

Inventor:
S. Wm C. Adams
By Atty
Ph. S. Sprague

S. W. C. ADAMS.
SAWING-MACHINE.

No. 170,797.

Patented Dec. 7, 1875.

Fig. 3.

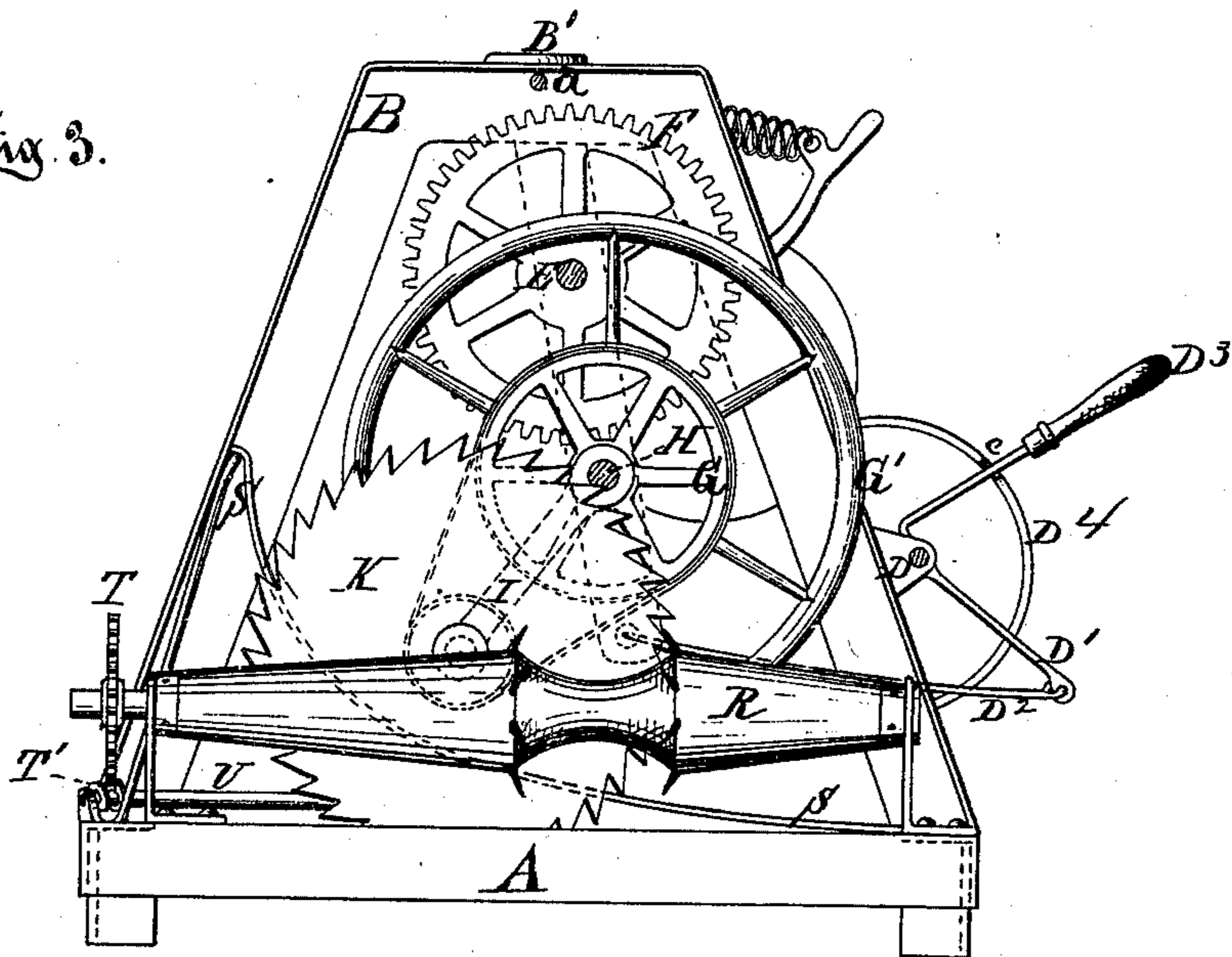
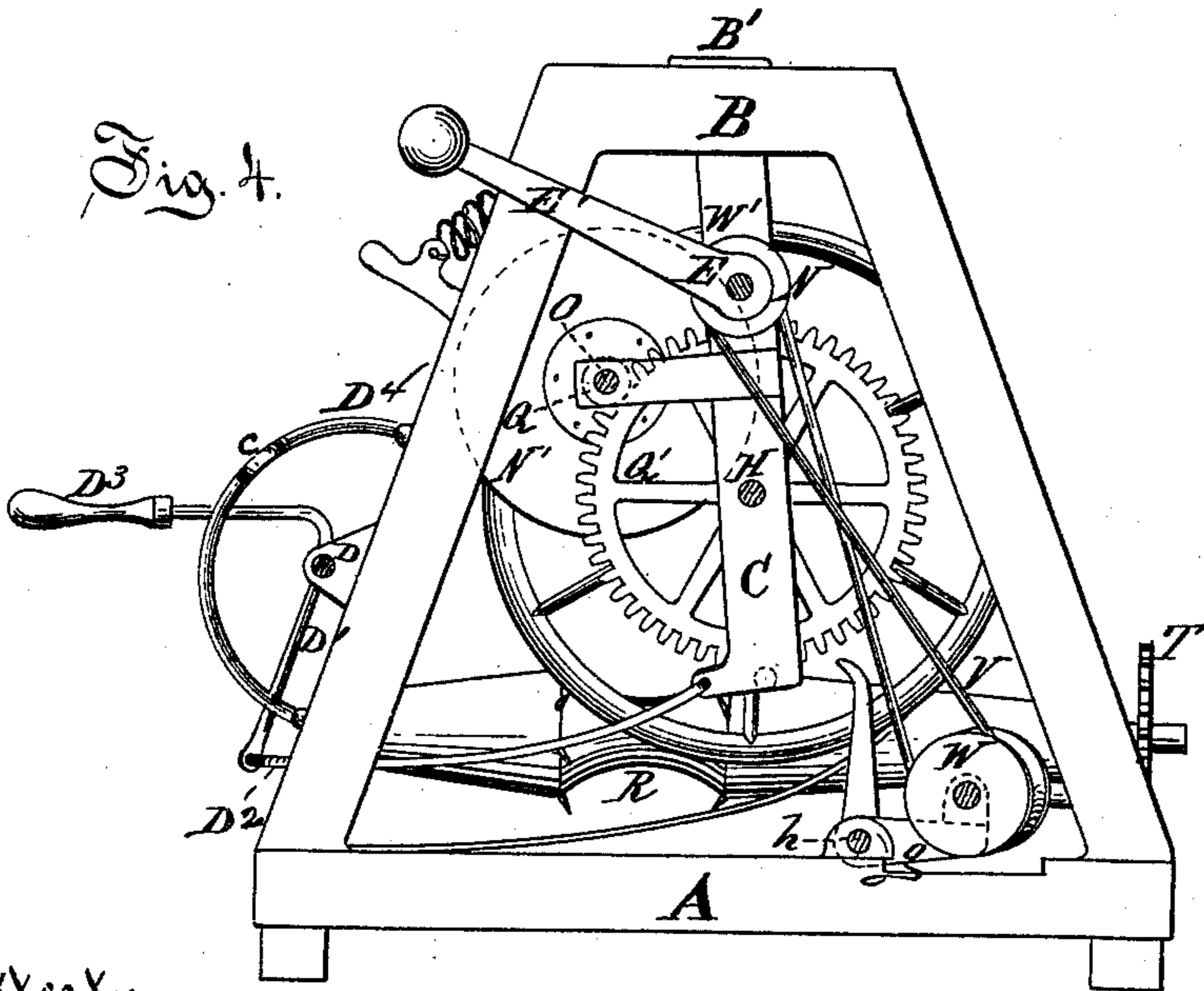


Fig. 4.



Attest:
Edward Barthel.
Wm. P. Spalding

Inventor:
S. W. C. Adams
By Atty.
Wm. P. Spalding

UNITED STATES PATENT OFFICE.

S. WILLIAM C. ADAMS, OF NORTH LANSING, MICHIGAN.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **170,797**, dated December 7, 1875; application filed June 3, 1875.

To all whom it may concern:

Be it known that I, S. WILLIAM C. ADAMS, of North Lansing, in the county of Ingham and State of Michigan, have invented an Improvement in Sawing-Machines, of which the following is a specification:

My invention has for its object to so construct a cut-off sawing-machine as that the saw will revolve about the log that is being cut up, whereby I am enabled to cut a log of a given diameter with a saw of half the diameter of a stationary saw, with a corresponding reduction of gage, weight, and power required to drive it.

The invention consists, primarily, in the manner of hanging the saw, and in the mechanism for driving it, while it also gives it a planetary motion; and, secondly, in the devices for operating the spiked roller, on which the log lies, to feed it up to the saw.

Figure 1, Sheet 1, is a perspective view. Fig. 2 is a vertical section, at $x x$, in the same figure. Fig. 3, Sheet 2, is an elevation of the front or "saw" side of the machine. Fig. 4 is an elevation of the rear or opposite side of the same.

In the drawing, A represents the bed-frame of the machine, across the rear end of which is erected a pair of frame-standards, B B, connected at the top by a girt, B', directly under which is suspended from a pivot-shaft, a , a pendulum-frame, composed of two flat bars, C C, united at top and bottom by girts $b b$. This frame carries the operative parts of the sawing machinery. D is a rock-shaft journaled across the rear sides of the frame-standards, and is provided with an arm, D¹, whose end is connected to the lower end of the pendulum-frame by rods D². A lever, D³, oscillates the rock-shaft to throw the pendulum-frame back, or draw it forward to the normal position seen in Fig. 3, where it is locked by springing said lever into a notch, c , in a quadrant, D⁴, projecting from one of the standards. E is the driving-shaft, journaled through both pendulum-bars C, and is provided with a crank, E', for rotating it by hand. To its front end is keyed a large spur-wheel, F, which meshes with a pinion (not seen) on the inner end of the hub of a pulley, G, which is sleeved on the outer end of a shaft, H, jour-

naled through the pendulum-bars C. The hub of said pulley G carries also a fly-wheel, G'.

On the extreme front end of the shaft H is keyed an arm, I, with a sleeve-bearing at its outer end, through which passes the saw-arbor J, carrying a circular saw, K, at its front end, and a pulley, L, at its rear end, from which a belt, M, passes around the pulley G.

It will thus be seen that by rotating the crank-shaft E the saw-arbor will be given a high speed.

N is a friction-pinion on the shaft E between the pendulum-bars, which pinion gives a slow motion to a counter-shaft, O, through a large friction-gear, N', on the latter. At the other end of the counter-shaft O there is a pinion, Q, which meshes with a spur-wheel, Q, on the shaft H, journaled through the pendulum-frame, as hereinbefore mentioned, and which has sleeved on it the pulley G, outside of which the arm I is keyed.

It will be readily seen that when the saw is in motion the shaft H will have a slow axial rotation given it through the means described, thereby giving the arm and saw-arbor a circular orbit, described about the axis of said shaft H, thus causing the saw to travel around the axis of the log to be cut off, passing first under and then over it, the teeth of the saw overlapping the axis of the log, however.

R is a spiked roller, journaled across the front end of the bed in suitable supports, and on it rests the log, whose overhanging end is to be cut off, which, when out, falls on a curved incline, S, off which it rolls clear of the machine-frame. T is a worm-gear on the back end of the roller R, with which meshes a worm, T', on a feed-shaft, U, diagonally journaled at its front end in a bearing, f , at the corner of the frame, while its other end passes through a box on an arm, g , on a rock-shaft, h , journaled on the bed-frame. The shaft h has a tappet, i , which is struck by the lower girt of the pendulum-frame when the latter is swung back, which, in turn, depresses the back end of the feed-shaft to tighten the slack crossed belt V, running over a grooved pulley, W, on the back end of said feed-shaft, and over a similar one, W', above on the back end of the driving-shaft, which act sets the feed-shaft into motion, and through it the roller R,

to feed forward the log as far as may be necessary to cut off a bolt of the required length.

What I claim as my invention is—

1. In a cut-off sawing-machine, substantially as described, a circular saw, whose arbor is rotated or driven in a bearing or sleeve at the end of a revolving arm, substantially as shown and set forth.

2. The combination, with the bed and pen-

dulum-frame, of the feed-shaft, a means for raising and lowering it, the worm and the worm-gear for actuating the spiked roller which carries the log, substantially as described.

S. WILLIAM C. ADAMS.

Witnesses:

EDGAR W. CLARK,

J. Q. ADAMS.