

(No Model.)

2 Sheets—Sheet 1.

B. G. LUTHER.  
SWING SAWING AND GROOVING MACHINE.

No. 589,003.

Patented Aug. 31, 1897.

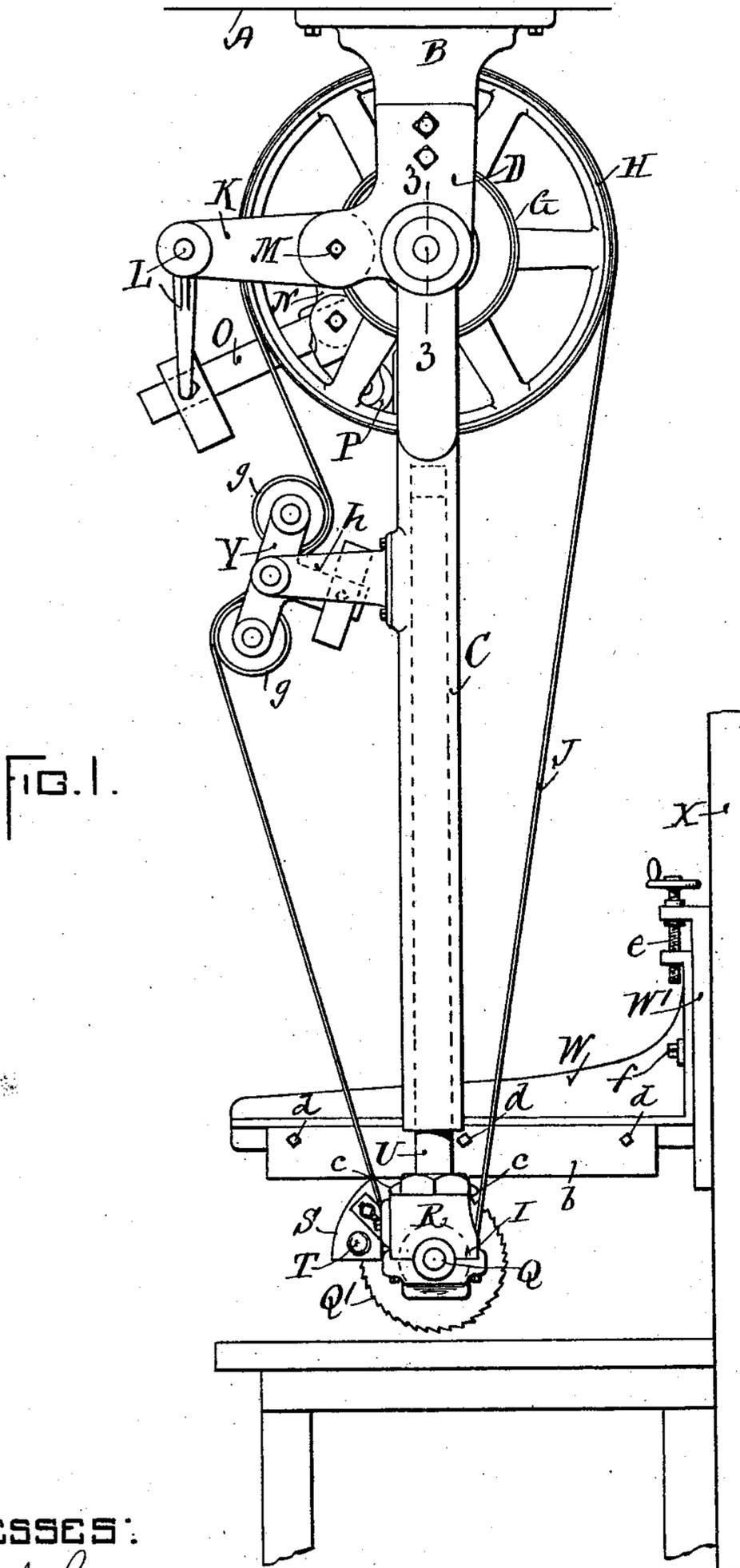


FIG. 1.

WITNESSES:

*Harry J. Garceau.*  
*James W. Beaman*

INVENTOR:

*Benjamin G. Luther*

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ATTY.

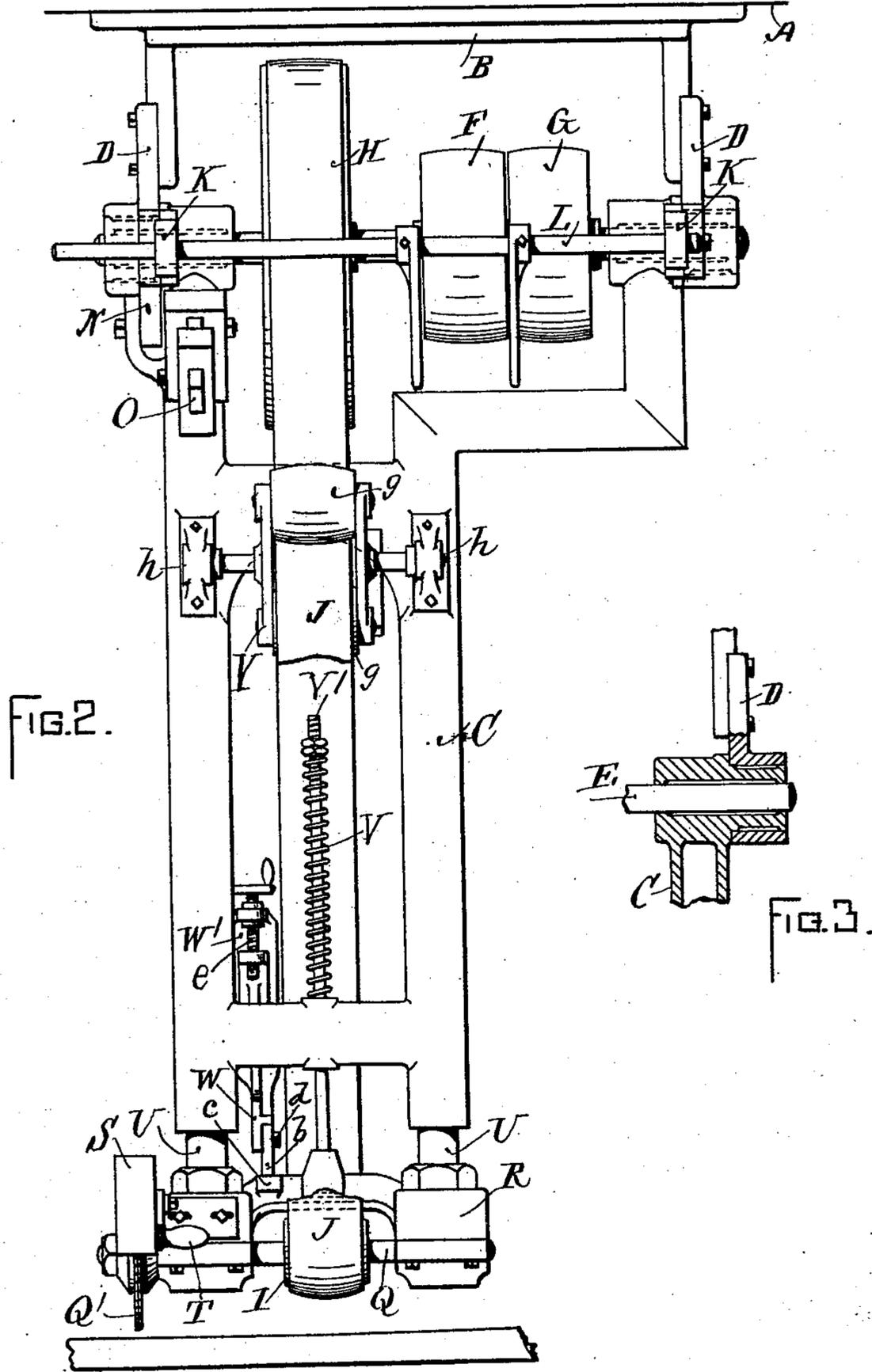
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2 Sheets—Sheet 2.

B. G. LUTHER.  
SWING SAWING AND GROOVING MACHINE.

No. 589,003.

Patented Aug. 31, 1897.



WITNESSES:

*Harvey J. Garman*  
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INVENTOR:

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BY

# UNITED STATES PATENT OFFICE.

BENJAMIN G. LUTHER, OF WORCESTER, MASSACHUSETTS.

## SWING SAWING AND GROOVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 589,003, dated August 31, 1897.

Application filed September 19, 1896. Serial No. 606,443. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN G. LUTHER, a citizen of the United States, residing at Worcester, in the State of Massachusetts, have invented a new and useful Improvement in Swing Sawing and Grooving Machines, of which the following is a specification.

In swing sawing-machines as heretofore constructed the saw has been made to swing in the arc of a circle, and such a machine has not been adapted for grooving purposes, which is a feature of my invention; and my invention consists in making the swinging frame automatically extensible and controlling such extension, as hereinafter fully set forth.

In the accompanying drawings, Figure 1 represents a side elevation of a swing sawing and grooving machine embodying my invention. Fig. 2 represents a front elevation of the same with the driving-belt broken away to show the spring employed to hold the saw or cutter frame against the under side of the pattern-guide. Fig. 3 represents a detail section taken in the line 3 3 of Fig. 1.

In the drawings, A represents the ceiling, to which the machine is attached; B, the attaching base, to which the swinging frame C is pivoted by means of the brackets D D, the said frame being made hollow and journaled in brackets D, as shown in the detail section, Fig. 3. Upon the shaft E, which is journaled in the swing-frame C, are placed the fast and loose pulleys F and G and the pulley H, which latter serves to drive the pulley I upon the saw-arbor Q by means of the belt J, and to the inner side of the brackets D D are attached the radially-adjustable brackets K K for holding the sliding belt-shipper L, the said brackets K being each secured to its bracket D by means of a single bolt M.

To the ear N, at the lower portion of one of the brackets D, is pivoted the weighted bell-crank lever O, carrying the antifriction-roller P, which bears against the forward side of the frame C, the function of the said lever being to automatically carry the frame C back to its rearward position.

The saw or cutter arbor Q is journaled in a frame R, which supports an adjustable hood S, extending over the edge of the saw or cutter

Q', and to the side of the hood S is attached the handle T, by means of which the swinging frame is operated.

The arbor-holding frame R is slidingly connected with the hollow swinging frame C by means of the parallel bars or tubes U U, which are suitably secured to the frame R and held for sliding movement in the cavity of the frame C, a spring V, held upon the rod V' and bearing at its lower end against the frame C, being provided to draw the frame R upward against the lower side of the pattern-guide *b*. The frame R is provided at each side of the centrally-arranged rib of the frame with a projection *c*, the upper surface of which is turned off concentric with the axis of the arbor Q to form a suitable bearing against the under side of the pattern-guide *b*, the said pattern-guide being secured, by means of the bolts *d d*, to the side of the sliding bracket W, which is held in the fixed slide W', attached to the side wall of the room or to a post X, the said bracket being made adjustable in height by means of the hand-operated screw *e* and firmly clamped in its set position by means of bolts *f*.

The driving-belt J passes around the rollers *g g* of the gravitating belt-tightener Y, which is pivoted in the bracket-arms *h h*, secured to the side of the frame C, whereby the belt J will be always held at the proper degree of tightness during the back-and-forth movement of the saw or cutter Q'.

In operating the machine the cutter is to be brought forward by the operator, who takes hold of the handle T, and as the cutter Q' moves forward it will be caused to move in a line which will be determined by the form of the lower or bearing edge of the pattern-guide *b*, which may be of any form required.

As shown in the drawings, the swinging movement of the frame C will be accompanied by a rectilinear movement of the cutter-frame and cutter, thus producing a groove of uniform depth across the board.

I claim as my invention—

1. In a swing sawing and grooving machine, the combination of the cutter-arbor, the arbor-frame, the swing-frame and sliding connection between the arbor-frame and the swing-frame and the driving-shaft, with the station-

ary pattern-guide, and means for holding the arbor-frame in guiding engagement with the pattern-guide, substantially as described.

2. In a swing sawing and grooving machine,  
5 the combination of the cutter-arbor, the arbor-frame, the swing-frame, and sliding connection between the arbor-frame and the swing-frame and the driving-shaft, with the stationary pattern-guide, the adjustable bracket for

holding the pattern-guide, and means for holding the arbor-frame in guiding engagement with the pattern-guide, substantially as described. 10

BENJAMIN G. LUTHER.

Witnesses:

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