

(No Model.)

2 Sheets—Sheet 1.

L. J. VOISARD.
PORTABLE SAWING MACHINE.

No. 581,796.

Patented May 4, 1897.

Fig. 1.

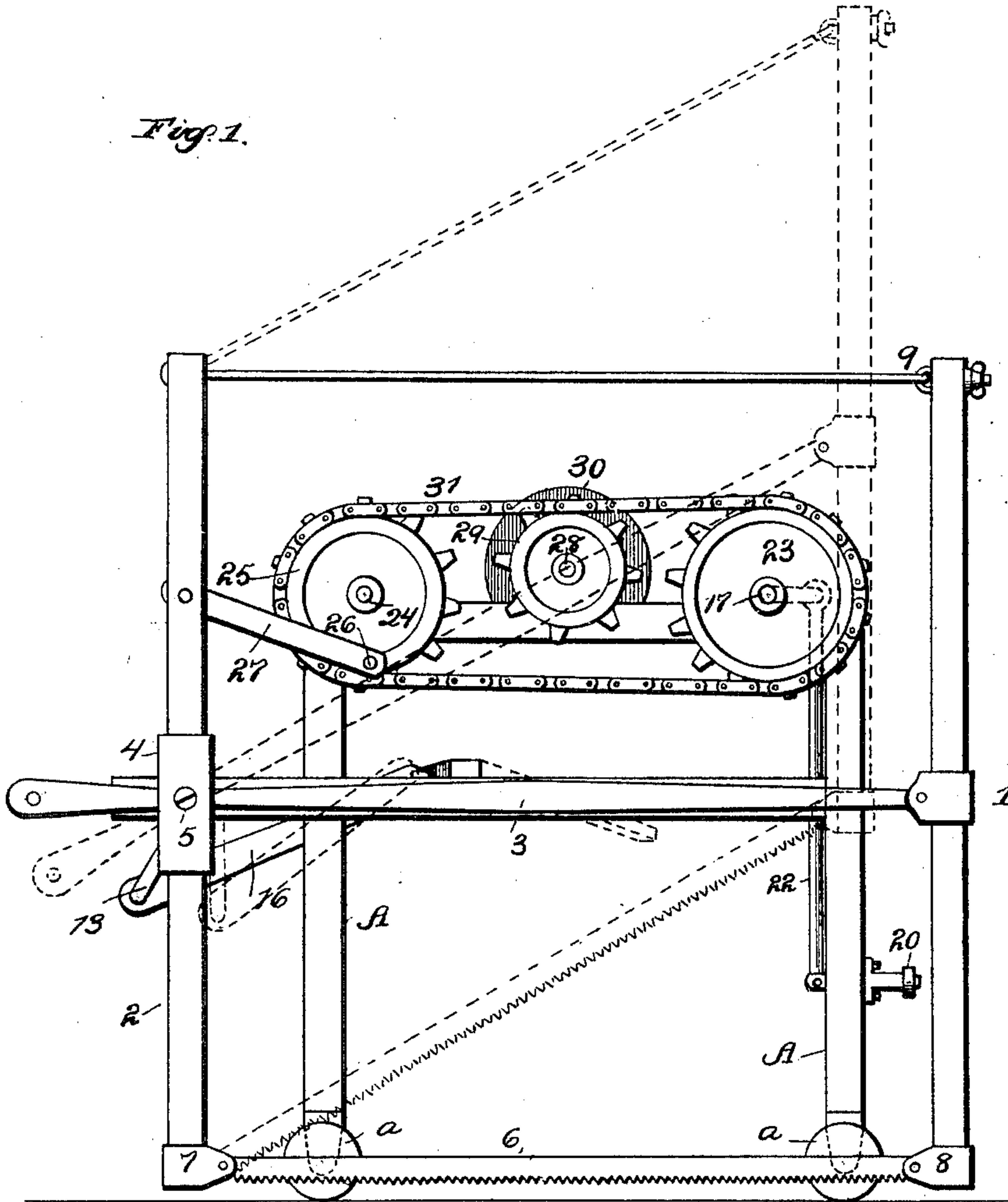
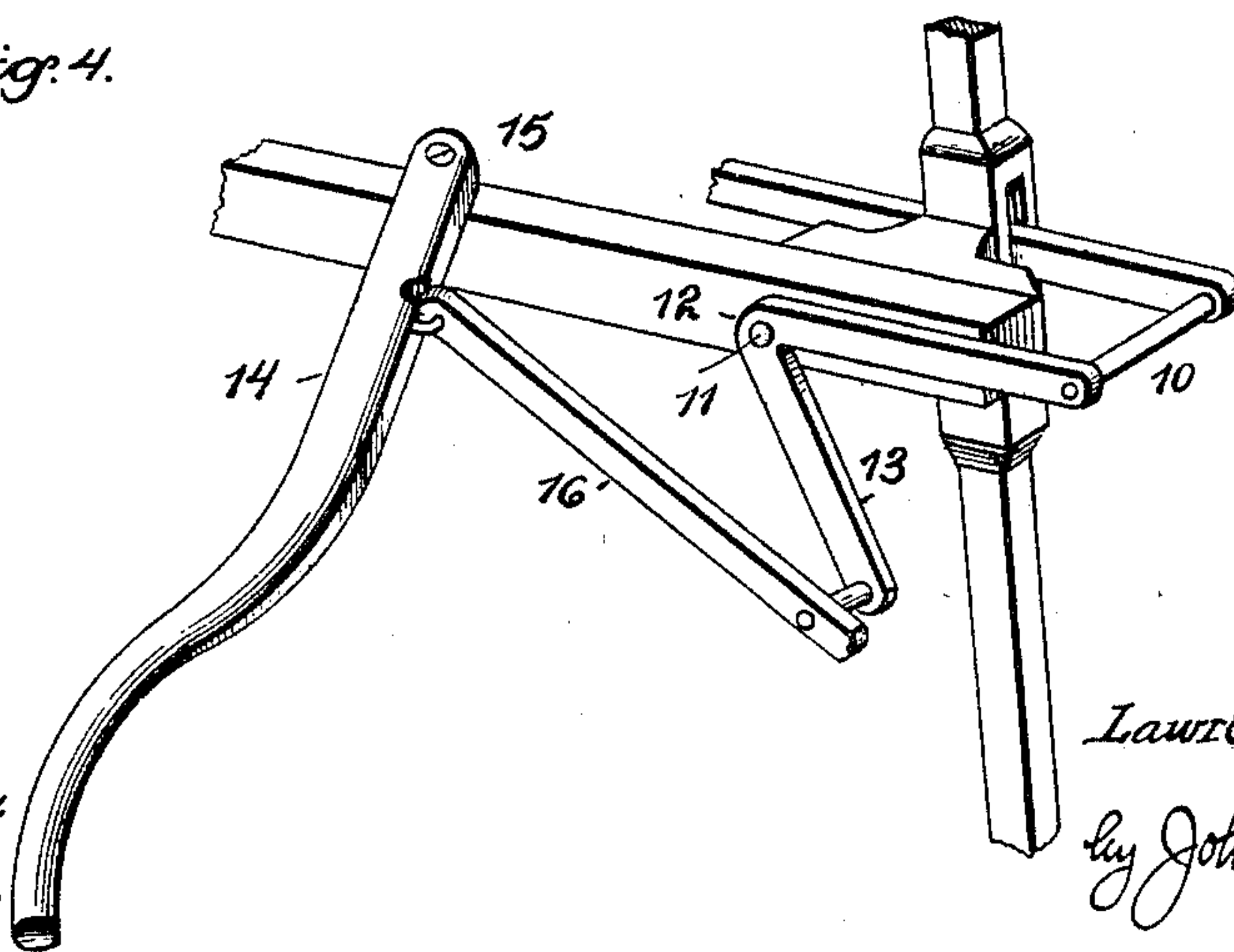


Fig. 4.



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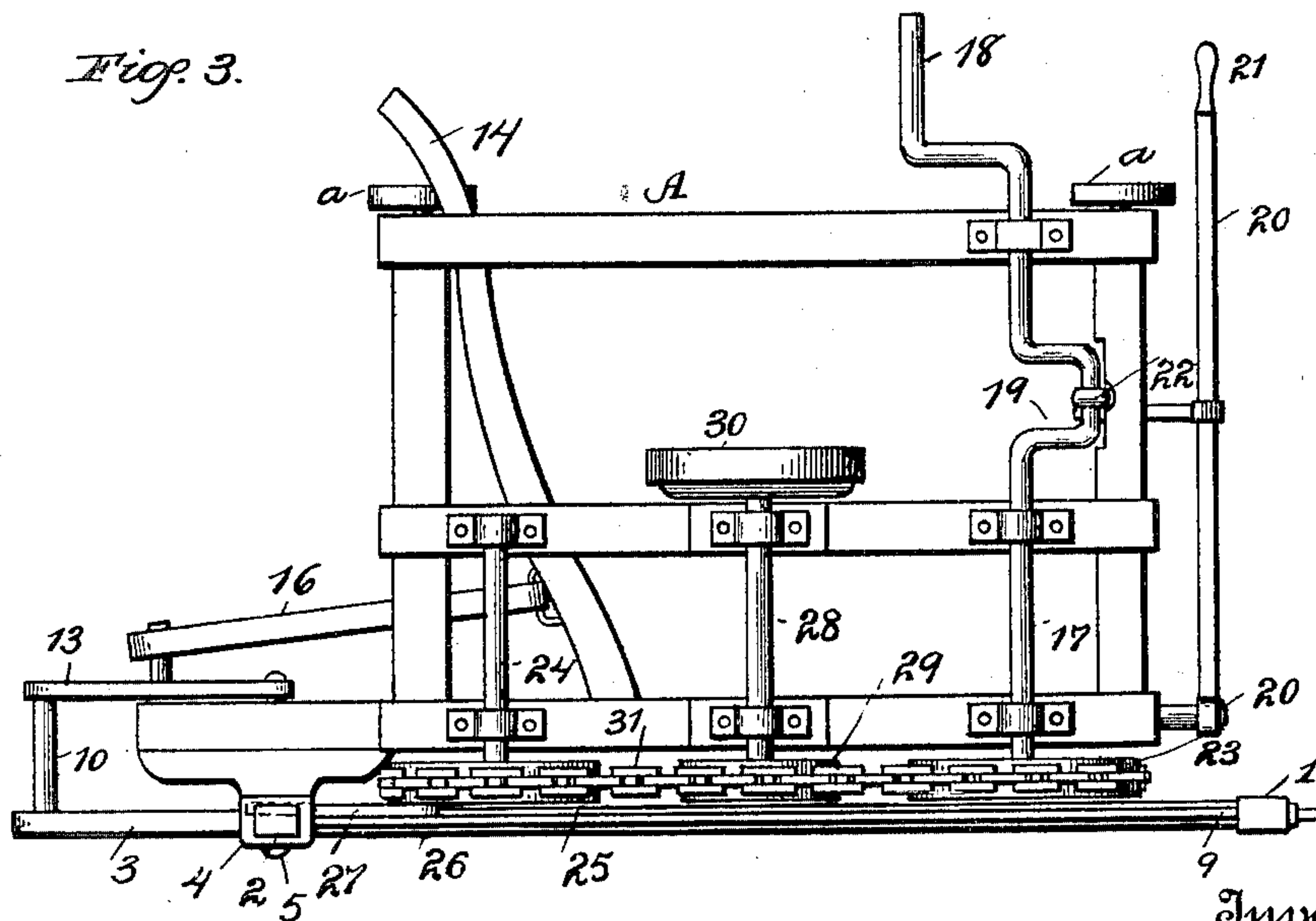
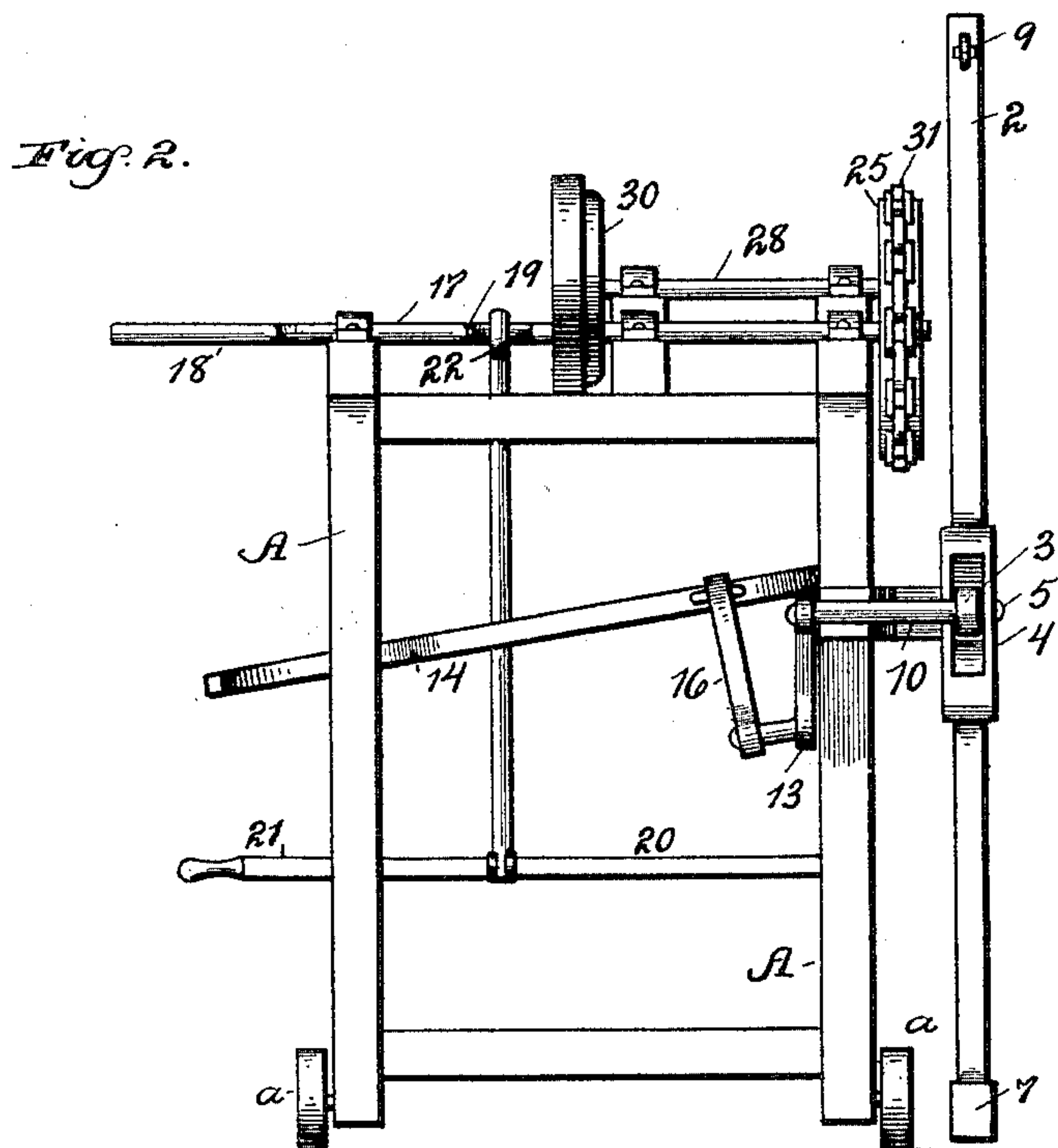
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2 Sheets—Sheet 2.

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No. 581,796.

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UNITED STATES PATENT OFFICE.

LAWRANCE J. VOISARD, OF RUSSIA, OHIO.

PORTABLE SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,796, dated May 4, 1897.

Application filed August 14, 1896. Serial No. 602,795. (No model.)

To all whom it may concern:

Be it known that I, LAWRANCE J. VOISARD, a citizen of the United States, residing at Russia, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Portable Sawing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to portable sawing-machines of the type that are operated by hand.

My object is to provide a more simple portable sawing-machine which can be operated by hand and will be more easy to run.

A further object is to provide an improved crosscut-sawing machine adapted for manipulation by hand and one wherein novel means are employed for raising or lowering the saw.

Having these objects in view, my invention consists of a sawing-machine comprising a saw-frame of novel and improved construction, in connection with improved mechanism for operating the same by hand, and a novel device for raising or lowering the saw.

The invention further consists of certain novel features and combinations of parts appearing more fully hereinafter.

In the accompanying drawings, Figure 1 is a view in elevation looking toward the saw, which is shown in full lines as lowered and dotted lines as raised. Fig. 2 is an end elevation; Fig. 3, a plan view, and Fig. 4 a detail perspective view.

A designates the framework of the machine, and suitable rollers or casters *a a* are connected to the front legs of this framework, so that the machine can be wheeled from place to place.

The numerals 1 and 2 designate the vertical beams of the saw-frame, and 3 the cross-bar thereof. This cross-bar is pivotally connected to beam 1, and it passes through an iron 4, connected to beam 2, and is pivoted on a bolt 5, which passes through said iron and beam and into an extended portion of the frame of the machine.

The numeral 6 designates an ordinary cross-cut-saw, which is pivotally connected to the lower ends of the respective vertical beams

of the saw-frame by irons 7 and 8. The usual adjusting device for drawing together the upper ends of the vertical beams and regulating the tension on the saw is designated by the numeral 9. A bell-crank lever 12 is pivoted on a bolt 11, connected to the frame, and has a leg which is connected to the free end of the cross-bar of the saw-frame by a rod 10, while this bell-crank lever also has a depending leg 13.

The numeral 14 designates an adjustment-lever which is pivotally connected to the machine-frame by means of a bolt 15, while 16 designates a link which connects this lever with the depending leg 13. When the adjustment-lever is moved in one direction, it raises the saw. Means are thus provided so that the saw can be fed down through the lumber being cut and can also be raised out of the cut after it has been completed, so that the machine can be transported to any desired point.

The drive-shaft is designated by the numeral 17, and this shaft is suitably journaled in boxes connected to the top of the machine-frame and is provided with a crank-handle 18 and a crank-loop 19.

The numeral 20 designates an operating-lever, which is pivotally connected at one end to the front portion of the machine-frame and is provided at its free end with a transversely-extending handle 21. A pitman 22 connects this operating-lever with the crank-loop of the main shaft, so that either reciprocating or rotary motion can be used to drive the saw. On the front end of the drive-shaft there is located a large drive-sprocket 23.

The numeral 24 designates a short shaft which is journaled in suitable boxes connected to the top of the machine-frame and carries on its outer end a sprocket-wheel 25 of somewhat less diameter than the drive-sprocket. This sprocket-wheel is provided with a wrist-pin 26, and a pitman 27 connects this wrist-pin with the vertical beam 1 of the saw-frame. There is an additional shaft, which is located between the drive-shaft and the shaft just described, being mounted in suitable boxes connected to the machine-frame, and a small sprocket 29 is connected to the front end of this shaft, while a fly-

wheel 30 is connected to its rear end. A sprocket-chain 31 passes around the two largest sprockets and over the top of the smallest sprocket.

5 The operation is as follows: When the machine has been wheeled to the proper position, the adjustment-lever is moved and the saw lowered down upon the lumber to be cut. Manual power can now be applied either to
10 the crank-handle of the drive-shaft or to the operating-handle, and when this is done the drive-sprocket is set in motion, and this motion is communicated by the sprocket-chain to the two other sprockets, so that the sawing-
15 frame is set in reciprocation. The fly-wheel is employed so that inertia will be stored up and the machine made easy to run. After the cut has been made through the lumber the adjustment-lever is moved in the oppo-
20 site direction and the saw raised out of the cut made, so that the machine can be wheeled to any desired point.

It is obvious that slight and immaterial changes might be resorted to in carrying out
25 the present invention, and it is to be understood, therefore, that I do not limit myself to the precise construction herein shown and described, but consider that I am entitled to all such variations as come within the spirit
30 and scope of the invention.

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

1. In a sawing-machine, the combination
35 with the machine-frame, of a saw-frame comprising a cross-bar having one end pivotally connected to the machine-frame, a vertical bar or beam pivotally connected to the free end of the cross-bar, a second bar or beam
40 pivotally connected to the cross-bar and also pivotally connected to the machine-frame, a saw pivotally connected to the vertical bars or beams, mechanism for imparting reciprocating movement to said vertical bars or
45 beams and the saw, and means for raising the end of the cross-bar so that the vertical beam or bar connected to the free end thereof, and also the saw, can be lifted.

2. In a sawing-machine, the combination
50 with a machine-frame, of a saw-frame comprising a cross-bar having one end pivoted to the machine-frame, additional vertical bars pivoted to the cross-bar, at the ends thereof,

a saw connecting the lower ends of the vertical bars, tension mechanism connecting the
55 upper ends of the vertical bars, mechanism for imparting reciprocating rocking motion to the saw-frame and saw, and a pivoted lever operatively connected to the cross-bar of the saw-frame, whereby the said frame and
60 saw may be tilted upwardly.

3. In a sawing-machine, the combination with a machine-frame, of a saw-frame comprising a cross-bar pivotally connected to the machine-frame, an auxiliary bar pivotally
65 connected to the cross-bar, another auxiliary bar also pivotally connected to the cross-bar on the pivotal connection of the latter, and a saw pivotally connected to the auxiliary bars, tension mechanism for drawing together
70 the said auxiliary bars, a drive-shaft provided with a wheel, a pitman connecting said wheel with that auxiliary bar of the saw-frame which is pivoted on the pivotal connection of the cross-bar, said drive-shaft being provided
75 with a crank-handle and a crank-loop, a pivoted operating-lever, and a pitman connecting said operating-lever with the crank-loop of the drive-shaft.

4. In a sawing-machine, the combination
80 with a machine-frame, of a saw-frame comprising a cross-bar pivotally connected to the machine-frame, an auxiliary bar pivotally connected to the free end of the cross-bar, an additional auxiliary bar also pivotally con-
85 nected to the cross-bar on the pivotal connection of the latter, a saw pivotally connected to the auxiliary bars, means for moving the cross-bar whereby to raise or lower the auxiliary bar pivoted to the free end thereof, and
90 the saw, a drive-shaft, mechanism for operating said drive-shaft, a sprocket on the drive-shaft, a second shaft also carrying a sprocket, a pitman connecting the latter sprocket with that auxiliary bar of the saw-frame which is
95 pivoted to the machine-frame, an additional shaft carrying a fly-wheel and a sprocket, and a sprocket-chain operatively connecting the sprockets.

In testimony whereof I have signed this
specification in the presence of two subscribing witnesses.

LAWRANCE J. VOISARD.

Witnesses:

S. M. CHRISTIAN,
LEWIS BEY.