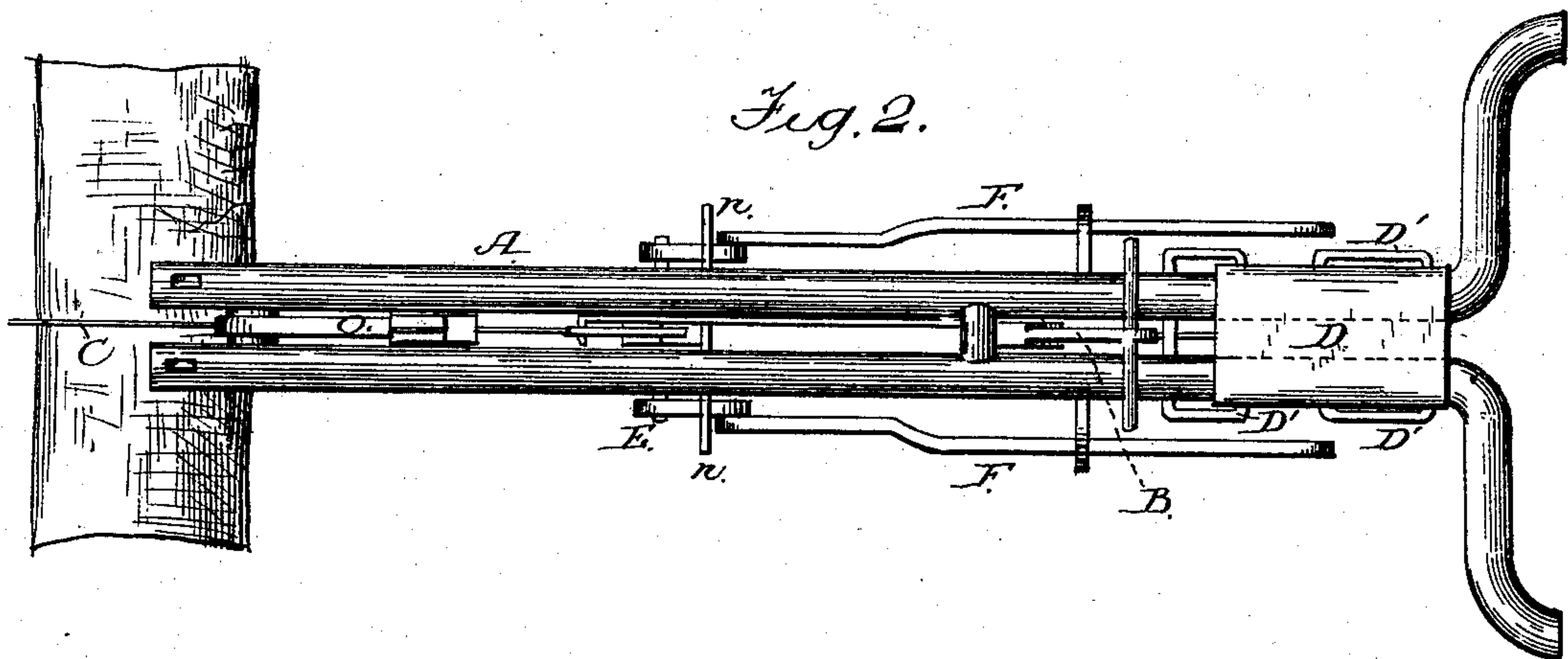
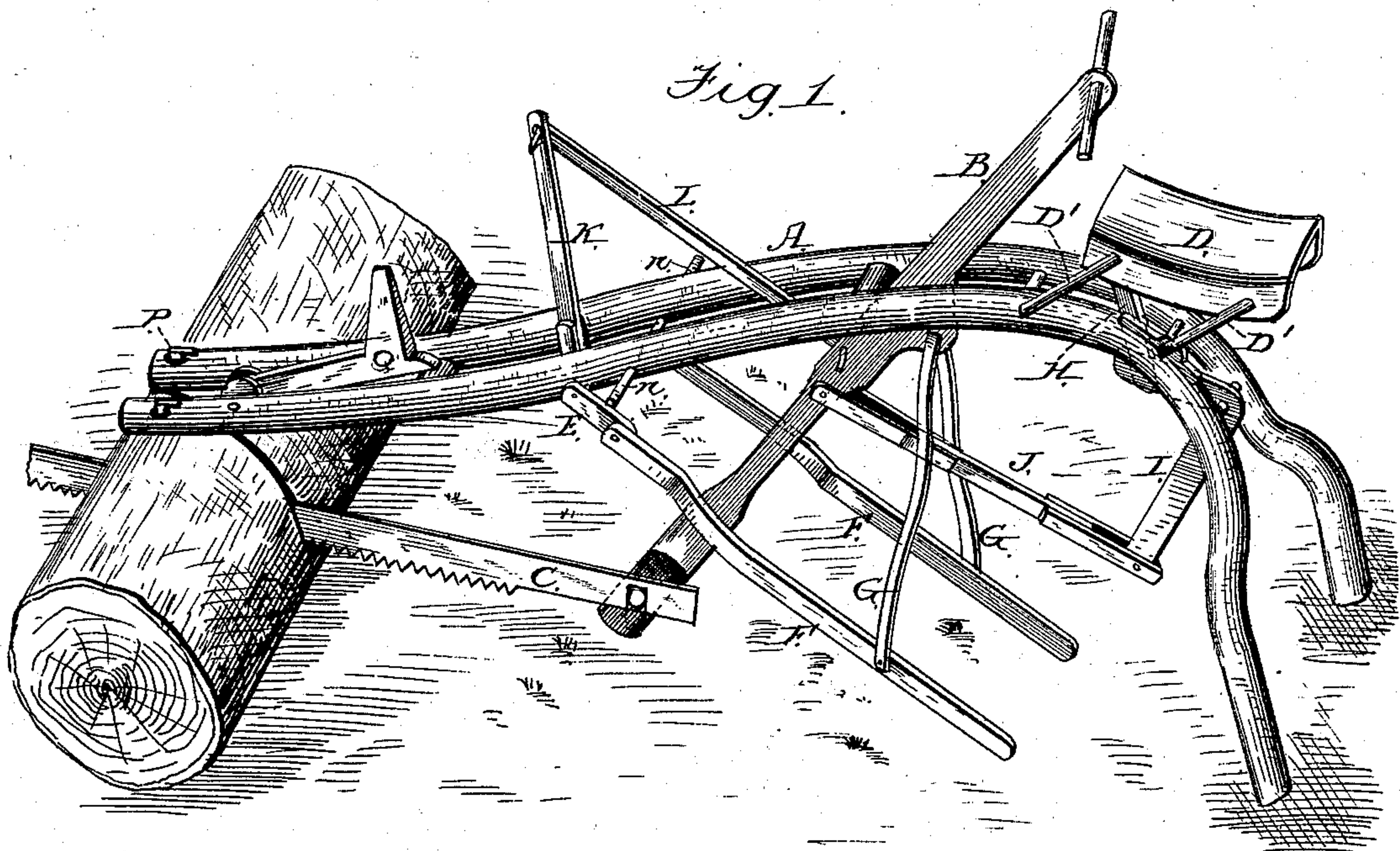


W. W. GILES.  
Drag-Sawing Machine.

No. 219,635.

Patented Sept. 16, 1879.



Witnesses;

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# UNITED STATES PATENT OFFICE.

WILLIAM W. GILES, OF CINCINNATI, OHIO.

## IMPROVEMENT IN DRAG-SAWING MACHINES.

Specification forming part of Letters Patent No. **219,635**, dated September 16, 1879; application filed June 2, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM W. GILES, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Drag-Sawing Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, which will enable others skilled in the art to which it appertains to make and use it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the machine constructed in accordance with my invention, and Fig. 2 is a top-plan view of the same.

Similar letters of reference denote the same parts in the several figures of the drawings.

My invention relates to that class of portable sawing-machines wherein the saw is reciprocated by the weight and muscular strength of the operator, who occupies a sitting position upon a rising and falling seat of some kind, so as to move the operating-lever with his hands and feet and the weight of his body when sitting upon the seat. Such machines are usually constructed with a base-frame, which is used to support the parts carrying the working mechanism, or with an elevated frame composed of several pieces bolted or mortised together. These forms of construction are defective, because the base-frame unnecessarily adds to the weight and cost of the machine, and the jointed frame becomes loose and rickety when in use, and is therefore liable to twist or bind the saw in the log.

My improvements in the frame are designed to overcome these defects; and to this end consist in constructing a single frame, preferably of gas-pipe, bent or arched upward, so that its rear end shall stand upon the ground, while the front end bears upon the log to be cut, the bend affording sufficient space under it to receive the working parts, which are operated by the person sitting upon a seat articulated directly upon the frame.

The invention also consists in the application of the operating parts to a frame of this construction.

It also consists in connecting the treadles and operating-lever by means of a crank-shaft and connecting-rod, for the purpose of increasing the leverage.

In the accompanying drawings, A represents the frame, preferably composed of two pieces of gas-pipe secured together at intervals, and bent upward in the form of a bow or arch in the direction of their length, and spread apart at their rear ends to form two legs to rest upon the ground, while the front end rests upon the log to be cut. This construction produces a strong, light frame, sufficiently rigid to support the operating mechanism, while the upright legs prevent it from slipping upon the ground when in use.

B is the operating-lever, pivoted between the bars of the frame, and carrying the saw C at its lower end. D is a saddle, pivoted by parallel crank-arms D' to the frame in rear of the lever. E is a double crank-shaft, having its bearings in the frame some distance in front of the lever; and F F are treadles hung to the arms of the shaft E, and connected by links G G to the rear side of the operating-lever under the frame.

The saddle is connected by a rod, H, to an angle-lever, I, hung between the bars of the frame in rear of the saddle, and the lever I is joined to the operating-lever, below the point at which the links are pivoted thereto, by a rod, J.

An arm, K, rises from the crank-shaft, to which it is rigidly fastened, and is connected by a rod, L, to the operating-lever between the pivotal points of the links and the lever I.

To operate the machine the operator seats himself upon the saddle straddling the frame, with his feet upon the treadles and grasping the operating-lever with his hands. By pressing upon the treadles with his feet, and pulling back the operating-lever, the saw is thrust forward, and the saddle permitted to rise, because the downward push upon the treadles pulls forward the lower end of the operating-lever through the medium of the links and their pivotal point in the rear side of the lever, and at the same time throws upward the arms of the crank-shaft, turning the latter so that the upright arm and rod L shall assist in pulling the lever forward. The backward pull upon the upper end of the lever also aids in throwing the saw forward and to raise the saddle above the frame. The saw is drawn backward when the operator throws his weight upon the saddle and pushes forward the upper



end of the operating-lever. When this occurs the treadles are relieved of his weight and again rise, throwing back the upright arm of the crank-shaft, while the saddle swings backward and downward, turning the angle-lever and pulling back the lower end of the operating-lever by means of the connecting-rod J. The saw is thus reciprocated to cut the log or other object to be sawed.

If desired, the crank-shaft and connections may be dispensed with, in which case the treadles should be pivoted to the frame at the point *n*; but I prefer the crank-shaft attachment, because of the increased leverage it affords.

The legs of the frame may each be provided with a step at such height as to assist the operator in mounting to the saddle.

O is a wedge, hung between the front ends of the frame-bars, to enter the kerf in the log, for the purpose of preventing the latter from binding the saw, and P is a pointed pin passing downward through one of the bars for dogging the machine to a log.

Having thus described my invention, what I claim is—

1. A sawing-machine frame composed essentially of two pieces of gas-pipe or other material bent into the required shape, substantially as described, to carry the operating parts, for the purpose of producing a rigid, in contradistinction to a jointed, frame.

2. The combination, with the single rigid bent frame A, of the vertical lever, the pivoted treadles, and the rising and falling saddle articulated directly upon the frame, substantially as described.

3. The crank-shaft, hung in the rigid frame and carrying the upright arm, in combination with the operating-lever and treadles, substantially as described, for the purpose specified.

4. The rigid frame A, constructed with the upward bend in the direction of its length, so that one end shall rest upon the ground and the other upon the log to be cut, provided with an operating-lever within the bend, and a saddle articulated upon said frame, so as to rise and fall above it.

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Witnesses:

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