2 Sheets--Sheet 1.

I.B.LEWIS

Wood Sawing Machine

No. 121,636. Patented Dec. 5, 1871.

Fig. 1

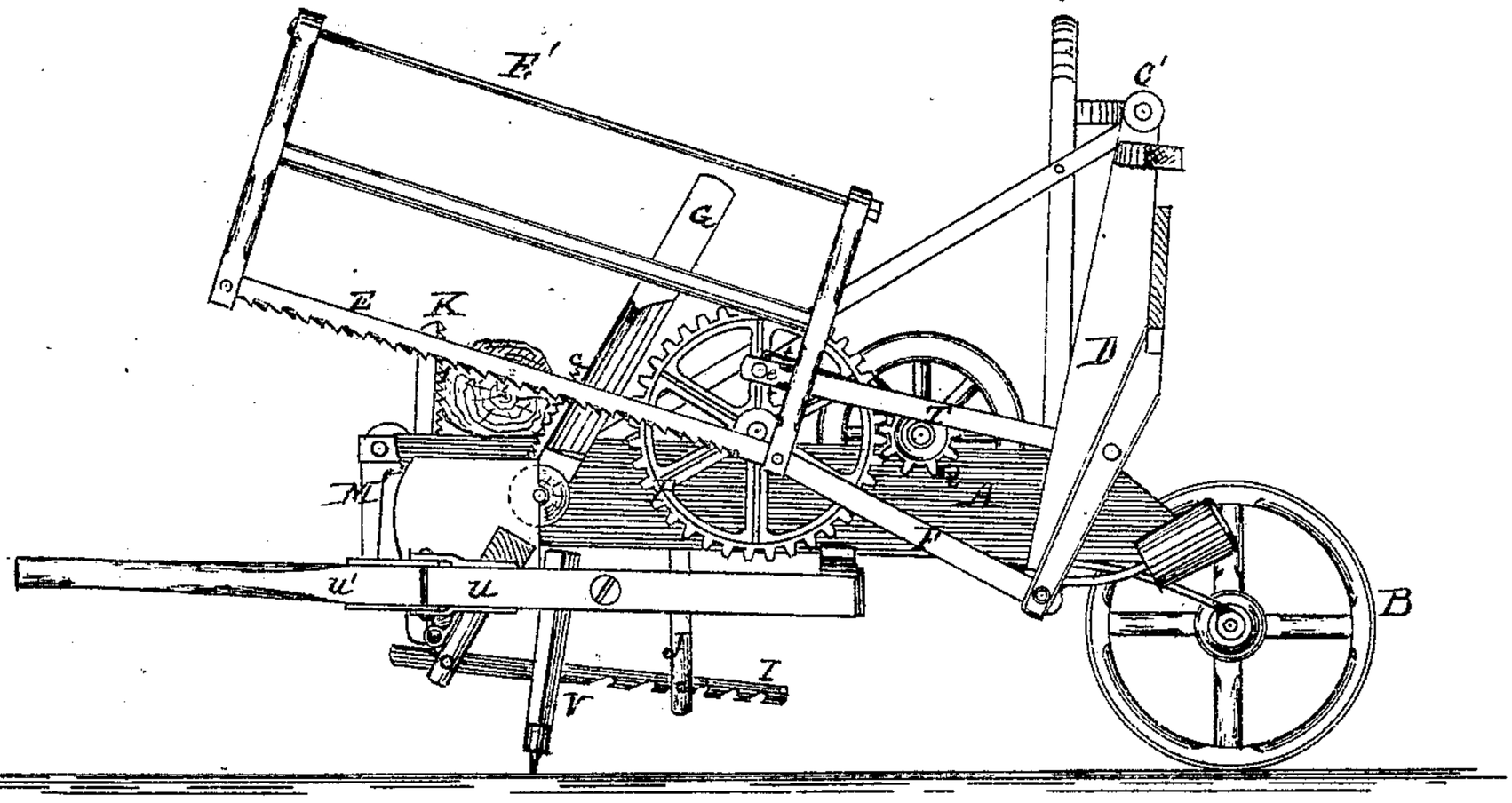
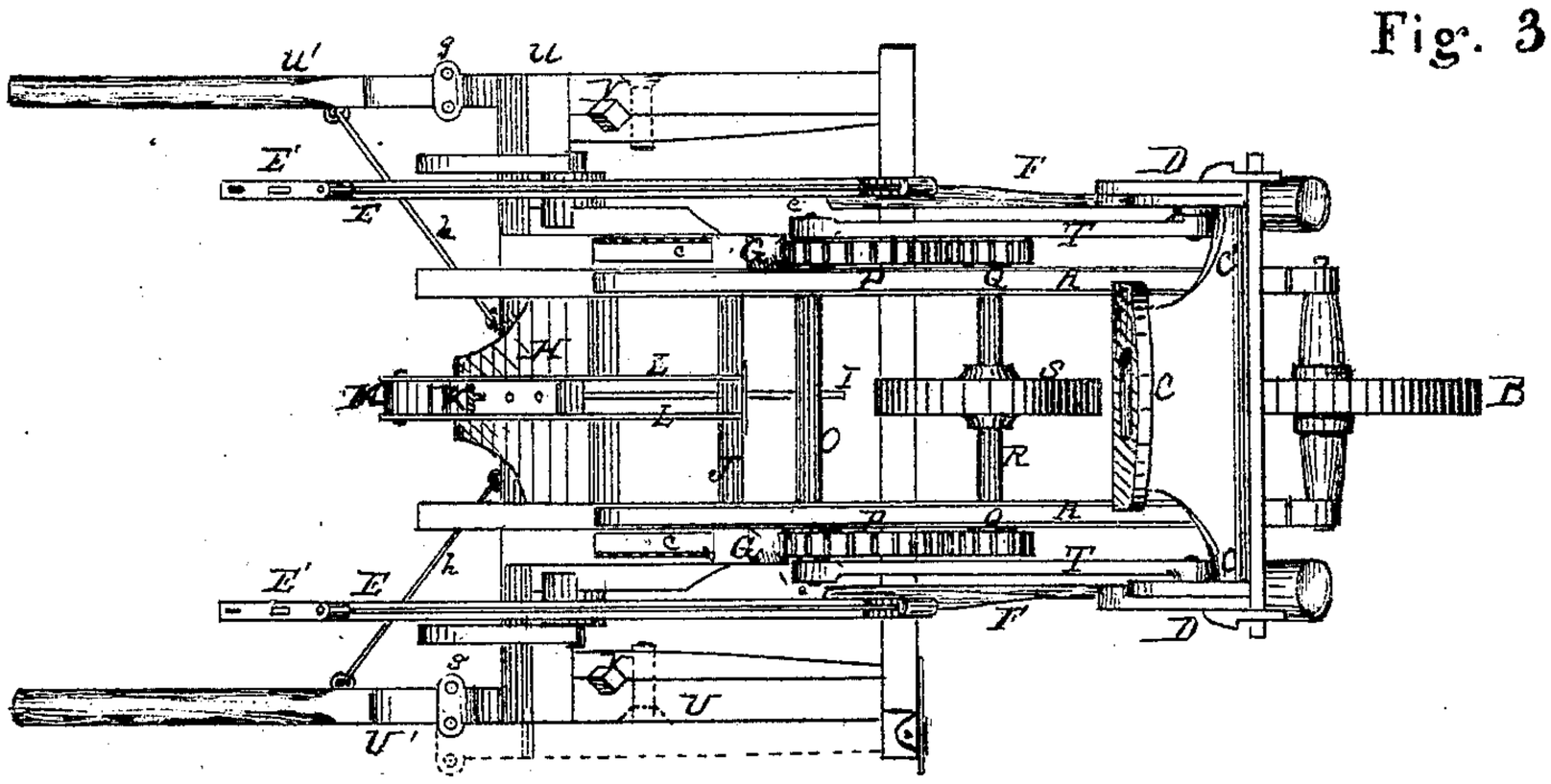


Fig. 3



Witnesses:

Julius Wolk

H. F. Eberle

Inventor:

Ira B Lewis

By Thos S Sprague

his atty

Thos S Sprague

I. B. LEWIS

2 Sheets--Sheet 2.

Wood Sawing Machine

No. 121,636. Patented Dec. 5, 1871.

Fig. 2.

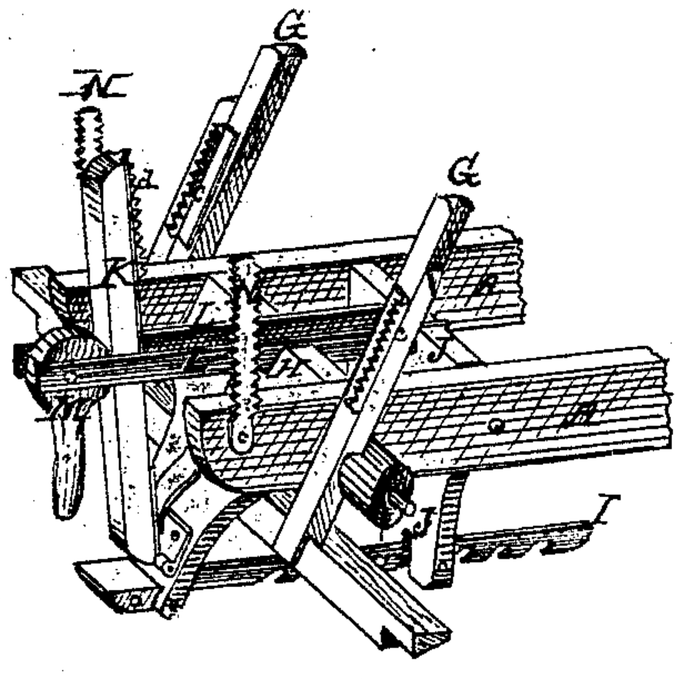
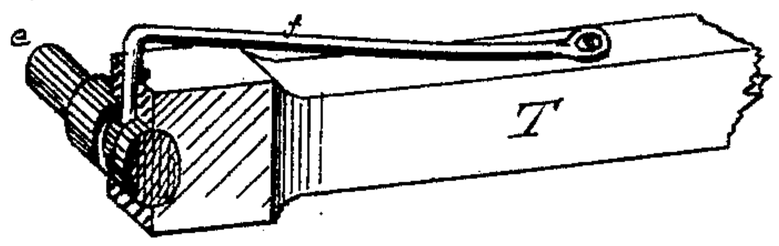


Fig. 4



Witnesses:

Julius Wicke

H. F. Eberts

Inventor:

Ira B Lewis

By Thos S. Sprague

his Atty

Thos S. Sprague

121,636

UNITED STATES PATENT OFFICE.

IRA B. LEWIS, OF BELVIDERE, ILLINOIS.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 121,636, dated December 5, 1871.

To all whom it may concern:

Be it known that I, IRA B. LEWIS, of Belvidere, in the county of Boone and State of Illinois, have invented a new and useful Improvement in Wood-Sawing Machines; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1, Plate 1, is a side elevation of my device. Fig. 2, Plate 2, is a detached perspective view of the wood-clamping mechanism. Fig. 3, Plate 1, is a plan of the machine; and Fig. 4, Plate 2, is a section of the pitman, showing the method of connecting the same with the wrist-pin.

Like letters indicate like parts in each figure.

This invention relates to a machine for sawing cord-wood into fuel by hand-power; and it consists in the peculiar construction and arrangement, in a light wooden frame, of a pair of saws pivoted to a vibrating frame, from the sides of which pitmen are coupled to wrist-pins, actuating intermediate gearing and a fly-wheel, so that power and motion applied to either saw-frame will be transmitted to the other; in a peculiar clamping mechanism, by means of which two sticks of cord-wood may be held and operated upon at the same time; also, in a novel arrangement of the pitmen upon their wrists to prevent their detachment, and in the arrangement of the various parts, as more fully hereinafter set forth; the complete machine being easily moved about like a wheelbarrow, being provided with a traction-wheel and handles for that purpose.

In the drawing, A are longitudinal wooden strips, framed together, and have journaled in or under their front ends the traction-wheel B. *a b* are bars, transversely framed under and projecting laterally from the strips A. C is a frame standard, erected near the front end of the frame, properly braced and having a projecting arm, C′, at each side. D is a vibrating frame, pivoted at the upper ends to the arms C′. E are double-cutting drag-saws, mounted in suitable straining-frames E′, to each of which a connecting-rod, F, is rigidly secured, and the other end of which is pivoted to the lower end of the vibrating frame D in such a manner that the saw-frames may be thrown up to nearly a vertical position and there held, so that one saw may be used and the other not, if desired. G is a pair of bearing-blocks, erected at the back end of the frame and slanting forward, and having secured to their faces the serrated plates *c*, which dog into the wood laid against them. H is an inclined board, secured between the front ends of the strips A, projecting below them in the manner of a stationary jaw of a carpenter's vise, and having pivoted in its lower end the rack-bar I, which engages with a bolt in a vertical slot in the lower end of a plate, J, pivoted to and between the strips A on the other side of the board H. K is a clamp-jaw with its lower end pivoted to the board H, and is provided with a serrated plate, *d*, on its face. L are iron straps, pivoted to the top of the plate J, passing through a loop on the sides of the clamp-jaw with an eccentric lever, M, pivoted between their rear ends, which eccentric bears upon the back edge of the clamp-jaw. A light leaf-spring is arranged between the board and jaw to throw the latter back when released. N are iron dogs, serrated on both edges and pivoted to the strips A, the same being used when two sticks are to be sawed, being interposed between them so that they may be firmly held by the clamps and affording a chance for the sawdust to clear between them and not clog the saws.

To clamp a stick of wood the operator with his foot depresses the projecting end of the rack-bar to disengage it from the plate J, and with his hand draws the straps L toward him, leaving the lever of the cam elevated; the dogs N are turned down out of the way, and the stick laid against the bearing-blocks G; he now pushes the clamp-jaw and straps forward until the former bears against the wood, the plate engaging with the rack-bar below, when the clamping is completed by pressing down the cam-lever, which forces the serrated plates into the wood. If two sticks of wood are to be clamped the dogs N are interposed between them. The saws are now brought down upon the wood and the cutting process proceeds by vibrating one or both of the saw-frames by hand, cutting the stick into three lengths of stove wood, as will readily be understood on reference to the drawing. To maintain and equalize the power applied to either or both saws on top of the strip A I transversely journal the shaft O, carrying at each end a spur-wheel, P, meshing with and giving motion through the pinions Q to

the countershaft R, transversely journaled on top of the strips in front of the shaft O and carrying a fly-wheel, S. These shafts are rotated in the vibration of the frame D by a pitman, T, pivoted to a wrist-pin, *e*, on each spur-gear and to the side of said vibrating frame, so that the attendant may apply power and give motion to one saw-frame, which will be transmitted to the other, while the fly-wheel equalizes the motion of the parts.

The handles of the barrow-frame are made in two parts, U U′, so jointed by the hinges *g* that the extremities may be folded out of the way in sawing. A hook-brace, *h*, also serves to stiffen them when extended, and to lock them when folded, as shown. To raise and lower the back end of the machine to the most convenient plane for the operator, the part U is in two pieces held together by a screw, and the squared head of the leg V clamped in a V-shaped socket in each piece, which affords a ready means of adjustment. The wrist-pins of the spur-wheels being made without collars or flanges, to reduce their cost, the pitman is prevented from working off by a spring hook, *f*, secured to the upper side of the pitman, with its point passing down the oil-hole of the pitman and resting in a groove turned in the wrist-pin.

The entire device need not weigh over one hundred and thirty pounds; hence, it can easily be moved about.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction and arrangement of the strips A, wheel B, frame standard C, vibrating frame D, rods F, saws E, saw-frames E′, the clamping parts G, H, I, J, K, L, and M, or their equivalents, the shafts O R, gears P Q, fly-wheel S, pitman T, and handles U U′, substantially as and for the purpose set forth.

2. The spring-hooks *f*, as and for the purpose specified.

3. The hinged or folding handles U U′ and legs V, when constructed, arranged, and operating in the manner and for the purpose set forth.

Witnesses: IRA B. LEWIS.

H. F. EBERTS,

W. S. ROGERS.

(130)