2 Sheets—Sheet 1.

L. RUEL.

FIRE WOOD SAWING MACHINES.

No. 182,712. Patented Sept. 26, 1876.

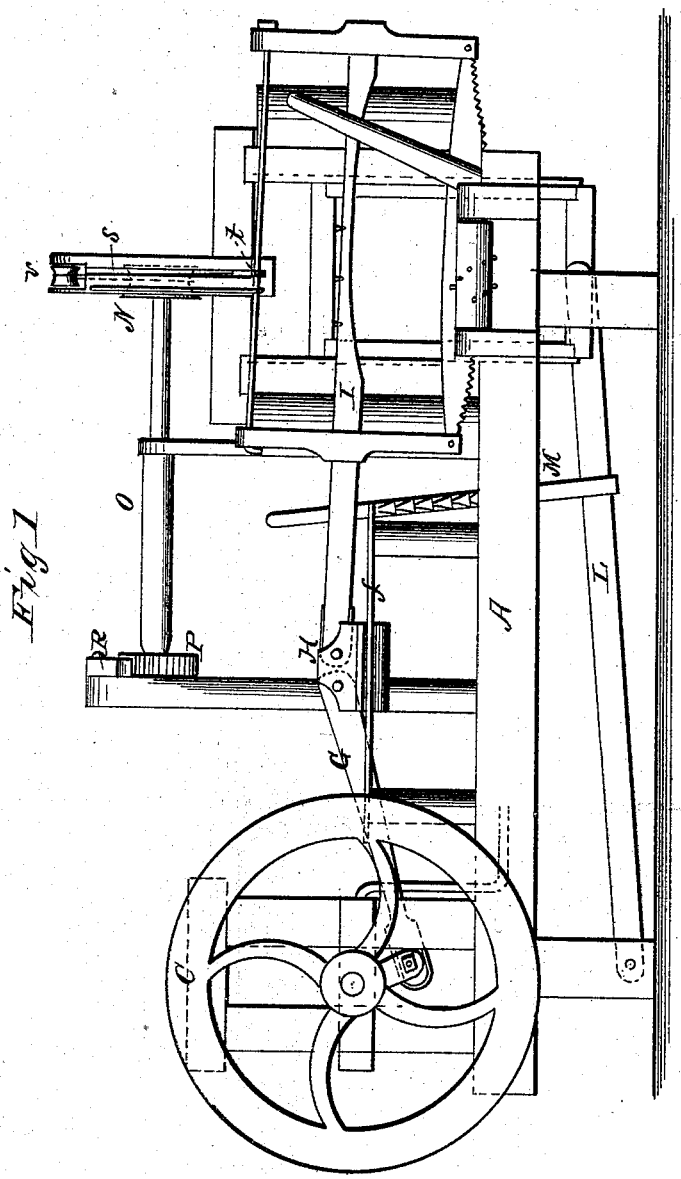

Fig. 1.

WITNESSES
Francis L. Durand
C. L. Evert

INVENTOR
Laurent Ruel
By Alexander Hudson
Attorneys

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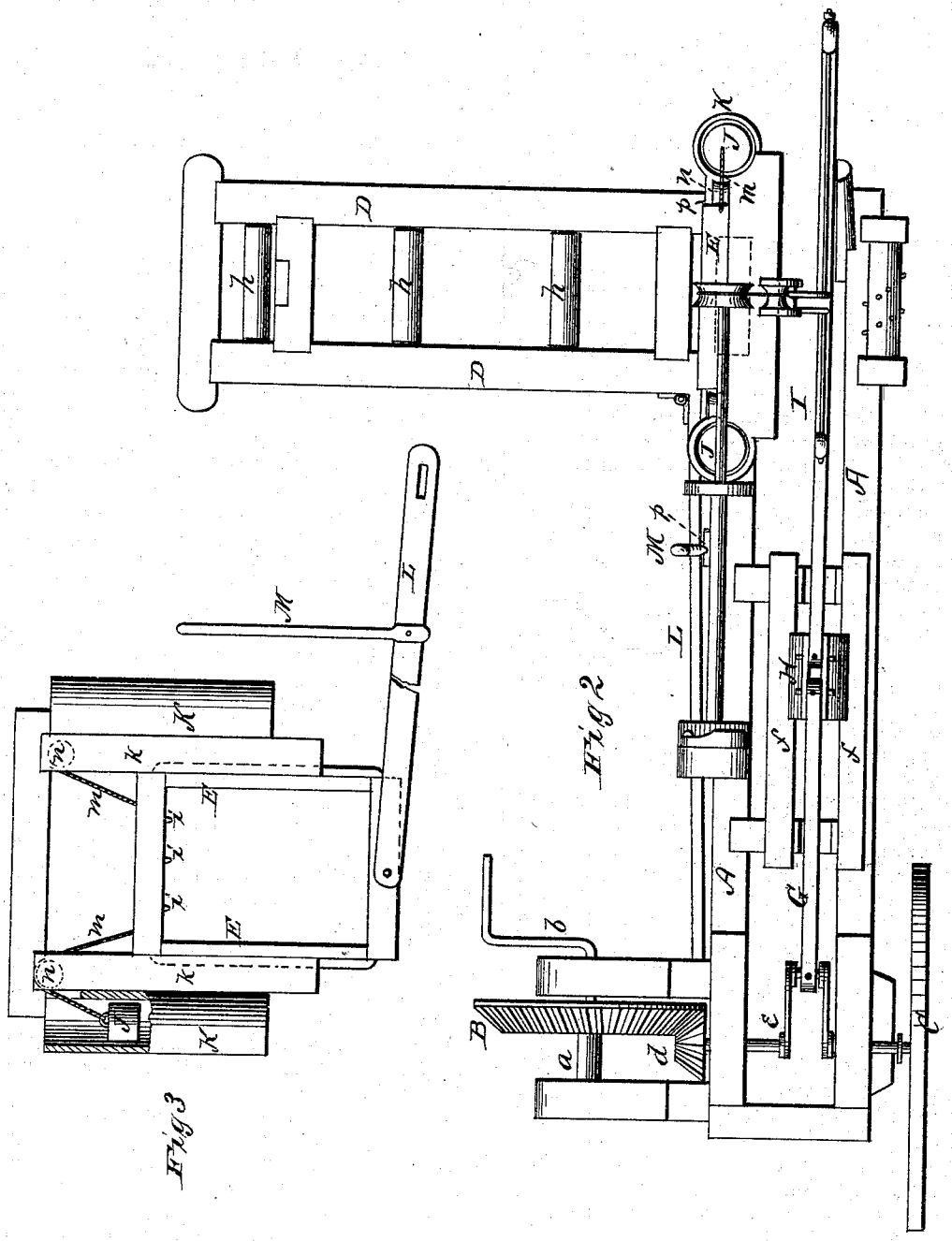

Fig 2

Fig 3

WITNESSES
Franck L. Durand
C. L. Evert

INVENTOR
Laurent Ruel
By Alexander Mason
Attorneys

UNITED STATES PATENT OFFICE.

LAURENT RUEL, OF WHITEFIELD, NEW HAMPSHIRE.

IMPROVEMENT IN FIRE-WOOD-SAWING MACHINES.

Specification forming part of Letters Patent No. **182,712**, dated September 26, 1876; application filed July 12, 1876.

To all whom it may concern:

Be it known that I, LAURENT RUEL, of Whitefield, in the county of Coos, and in the State of New Hampshire, have invented certain new and useful Improvements in Fire-Wood-Sawing Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a wood-sawing machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a plan view of the same. Fig. 3 is a detail view of a part thereof.

A represents the main frame-work of the machine, constructed in any suitable manner to receive the various working parts, as hereinafter described. Parallel with the frame, near one end, is a shaft, *a*, provided with a crank, *b*, for turning the same. On this shaft is secured a large bevel-gear wheel, B, which meshes with a pinion, *d*, on one end of a shaft, *e*, running transversely across the frame. On the other end of the shaft *e* is the balance-wheel C. The shaft *e* is further formed with a crank, on which is placed a pitman, G, running longitudinally with the frame, and connecting with a cross-head, H, upon two parallel guides, *f f*. To this cross-head the saw I is pivoted, as shown, said saw being of the form ordinarily used for sawing wood, and provided with an arm that is attached by a pivot to the cross-head. Opposite the saw, to the front of the frame A, is hinged another frame, D, which may be turned along the side of the main frame when the machine is not in use; but when the machine is in use, the frame D is to be thrown out at right angles, as shown in Fig. 2. The frame D is provided with a series of rollers, *h h*, over which the wood or log is pushed toward the saw.

The wood is held in place while the saw operates thereon by means of a vertically-sliding gate, E, having pins or teeth *i* in the under surface of its upper cross-bar. This gate slides in vertical guides *k k*, and is raised automatically from the log by means of weights J J, connected to the gate by cords *m m*, passing over pulleys *n n* at the top of the guides *k*, and the weights running in tubular casings K K, as shown.

To the lower end of the gate E is attached one end of a lever, L, the other end of which is connected to one of the rear legs of the machine. This lever is provided with a ratchet-handle, M, by means of which the lever is operated so as to lower the gate E, the handle being then caught upon a plate, *p*, thus locking the gate on the log. By simply releasing the handle from the plate the weights J will at once raise the gate from the log.

The saw is raised up from the log by the following means: The top brace or rod of the saw passes through a perforated plate, *t*, to which is attached a cord or chain, *s*, and this cord or chain passes over a pulley, *v*, and is attached to a wheel, N, secured upon the end of a shaft, O. At the other end of this shaft is a ratchet-wheel, P, and a pawl, R, takes into the same, for holding the saw when raised.

The crank *b*, handle M, and shaft O, are all in close proximity to each other, so that the operator can easily manipulate them as required.

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

1. The combination of the toothed gate E, cords *m*, weights J, casings K, lever L, ratchet-handle M, and plate *p*, all as and for the purposes herein set forth.

2. The combination of the saw I, plate *t*, cord *s*, pulley *v*, and shaft O, with pulley N and pawl and ratchet P R, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 29th day of May, 1876.

LAURENT RUEL. [L. S.]

Witnesses:

C. L. EVERT,

IRA S. M. GOVE.