F. EISENDICK.

SCROLL-SAWING MACHINE.

No. 192,686. Patented July 3, 1877.

Fig: 2.

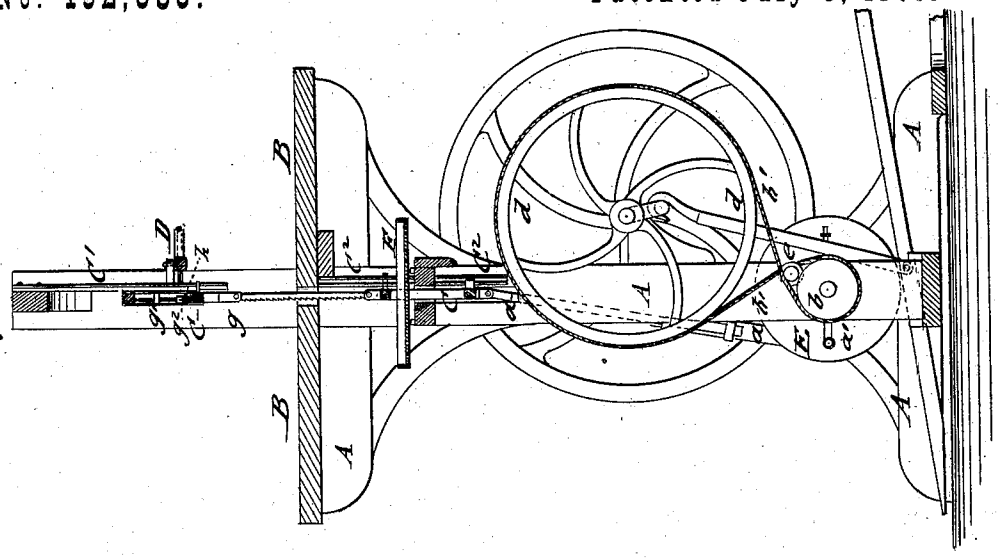


Fig: 1.

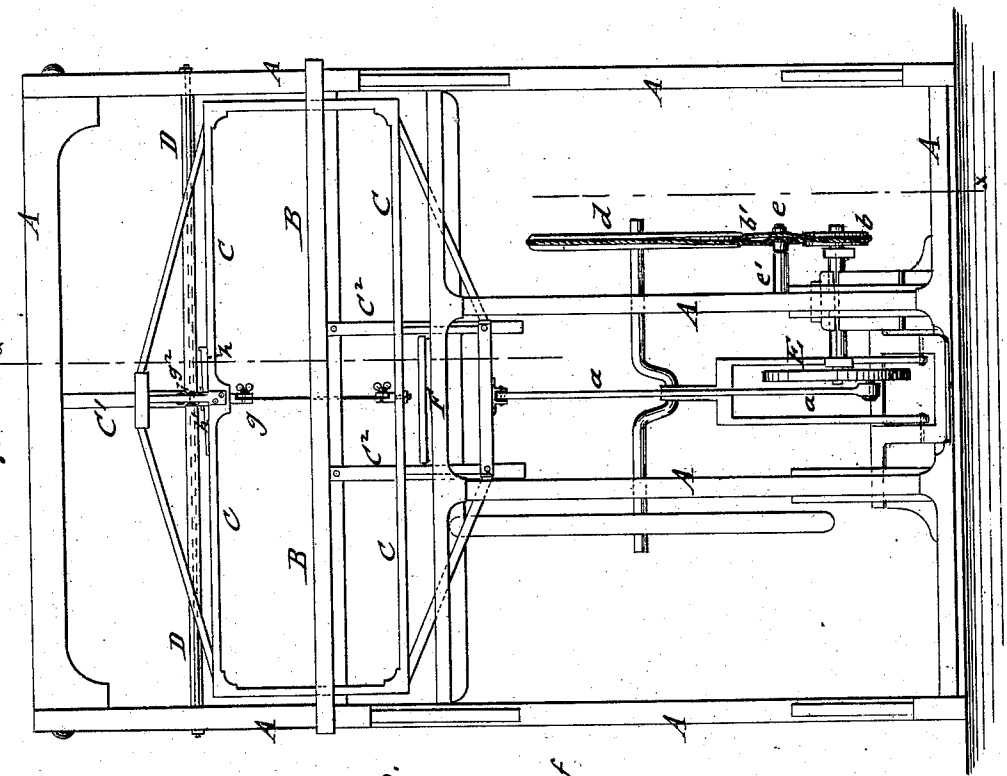
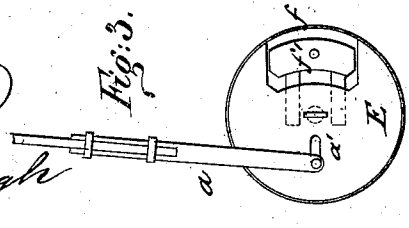


Fig: 3.



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# UNITED STATES PATENT OFFICE.

FRANZ EISENDICK, OF NEW YORK, N. Y.

## IMPROVEMENT IN SCROLL-SAWING MACHINES.

Specification forming part of Letters Patent No. **192,686**, dated July 3, 1877; application filed May 12, 1877.

*To all whom it may concern:*

Be it known that I, FRANZ EISENDICK, of the city, county, and State of New York, have invented a new Improvement in Scroll-Sawing Machines, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation of my improved scroll-saw; Fig. 2, a vertical transverse section of the same on line *x x*, Fig. 1, and Fig. 3 a detail view of the stroke-regulating crank-disk.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved scroll-saw to be employed in the cutting out of marquetry, inlaid work for furniture, and other fine work, the saw being constructed with a view to steady work, and so as to be adjustable to different lengths of strokes and sizes of saw-blades.

The invention consists, essentially, of a lateral saw-frame that is guided on top and bottom rails, and made adjustable to different lengths of stroke by a radially-slotted and adjustably-weighted crank-disk. The upper saw-clamp is raised or lowered by a screw-rod and set-nut for the length of the saw, and the tension adjusted by a sliding wedge-key. A pan below the saw serves as receiver for the sawdust.

In the drawing, A represents the supporting-frame of my improved scroll-saw, and B the table of the same, which is provided with end recesses for the passage of the lateral saw-frame C.

The saw-frame C is guided at the upper end along a central vertical top rail, $C^1$, which is secured to the upper part of frame A, and to a lateral-trussed brace-piece, D, above the table B, and guided at the lower end on two vertical rails, $C^2$, one at each side of the saw.

The saw-frame C is braced in suitable manner to receive the required stiffness, and is reciprocated by a crank-rod, *a*, pivoted to the saw-frame and to a radial slot, *a'*, of a crank-disk, E, which is revolved by a pulley, *b*, at the end of the shaft of the crank-disk, cross-belt *d'*, and driving-wheel *d*.

Motion is imparted to the driving-wheel either by a foot-treadle and pitman-connection with the crank-shaft of the driving and balance wheels, or by steam or other power, as desired. The cross-belt *b'* that transmits the motion to the pulley of the crank-disk shaft is arranged at the point of crossing with a separating disk-pulley, *e*, that turns loosely on a fixed arm, *e'*, for the purpose of preventing the chafing and wearing out of the belt at that point.

I reserve the right to make a separate application on the interposed disk-pulley, by which the contact of the belt portions at the point of crossing is prevented.

By adjusting the crank-rod *a* in the slot of the crank-disk E nearer to or farther from the center, the stroke of the saw-frame is made shorter or longer, the crank-rod being also adjustable as to length by being made of two sections, of which one slides within the other, so as to raise the saw-frame for a shorter saw.

The crank-disk E is provided at a point diametrically opposite to the radial slot *a'* with a guide-recess, *f*, and sliding weight *f'*, that is adjusted in the recess by means of a clamp-screw either closer to or farther from the center, as shown in Fig. 3, for the purpose of balancing the weight of the saw-frame and crank-rod, facilitating the running of the same, and stopping the saw at any point without admitting the lowering of the saw-frame to the lowermost point, which would be the case when no provision for balancing its weight were made. This forms an important point of my scroll-saw, as it brings the saw more fully within control of the operator and allows the stopping of the same at any point, and the instant starting from the same point without the dropping of the saw and eccentric to the lower dead-point.

The saw-frame C is arranged with a device for adjusting the upper clamp *g* to the length of the saw. This is accomplished by providing the clamp *g* with a threaded stem portion, $g^1$, and adjusting the same by means of a screw-nut, $g^2$, that raises or lowers the clamp according to the length of the saws.

A slotted wedge-piece, *h*, is placed below a correspondingly-tapering and threaded washer, *h'*, of the adjusting-nut, and serves to give the proper tension and steady position to the saw. By turning the saw-clamps sidewise

large pieces of wood may be cut with great facility.

A flat dish or receiver, F, for the sawdust is arranged between the lower guide-rails to take up the sawdust and prevent the dropping of the same and clogging of the operating parts below.

The steady and exact motion of the saw-frame, together with the adjustment to the stroke of the saw and to length of saw, adapts the machine for the finest as well as the coarsest kind of work, cutting the same with facility and rapidity.

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

1. The combination of the reciprocating saw-frame with a central top guide-rail and lower guide-rails placed at both sides of the saw, to provide space for the sawdust-receiving pan, substantially as set forth.

2. In a scroll-saw, the combination of the guided and reciprocating saw-frame C by a pivoted crank-rod, with a revolving crank-disk, E, having radial stroke-adjusting slot *e*, and adjustable saw-frame-balancing weight, *f'*, substantially in the manner and for the purpose set forth.

3. The combination of the saw-frame C with the upper clamp, adjustable by screw stem and nut, and with the adjustable sliding crank-rod, to adapt the saw-frame to any length of saw, substantially as set forth.

4. The combination of the upper saw-clamp *g*, having adjusting screw stem and nut, with a slotted tension-adjusting key, *h*, and screw-washer *h'*, substantially in the manner and for the purpose specified.

FRANZ EISENDICK.

Witnesses:

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ALEX. F. ROBERTS.