3 Sheets--Sheet 1.

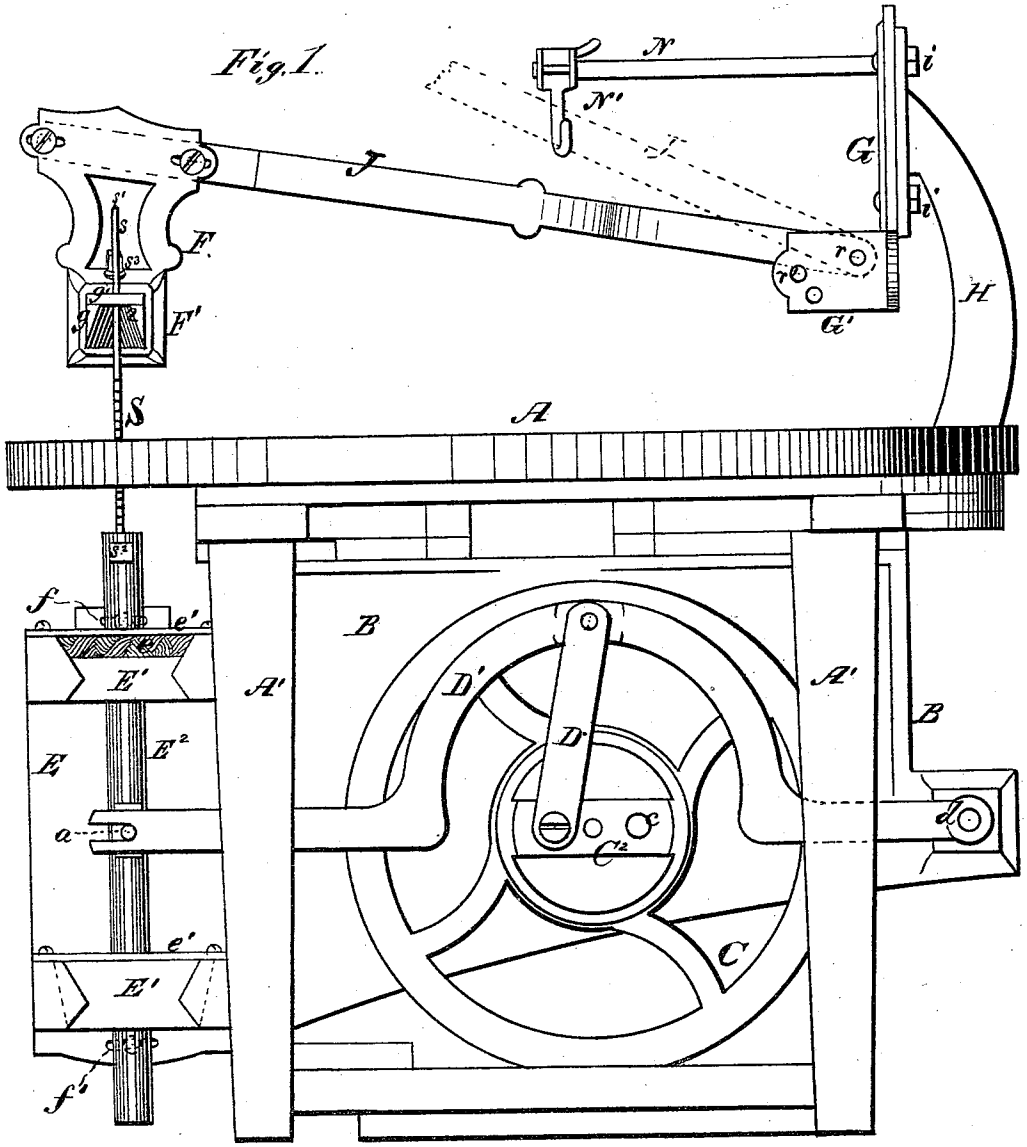
C. T. FORD.

Scroll-Saws.

No. 148,684.

Patented March 17, 1874.

Fig. 1.



Witnesses.
E. H. Bates.
Geo. E. Upham.

Inventor.
Charles T. Ford,
Chipman & Fosmire & Co,
Attys.

3 Sheets--Sheet 2.

C. T. FORD.

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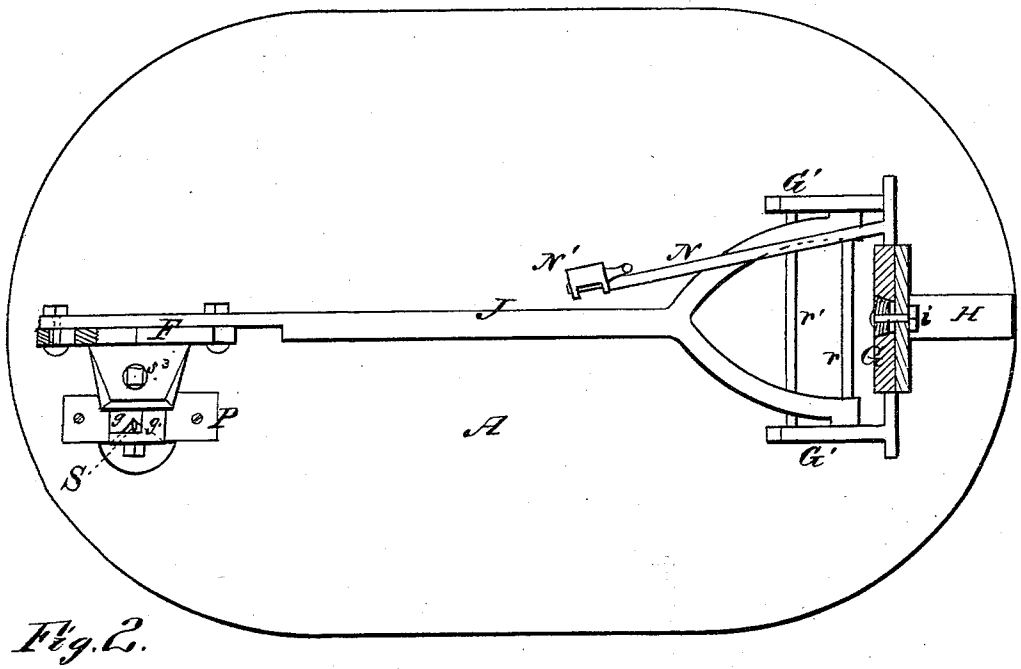


Fig. 2.

Fig. 8.

Fig. 4

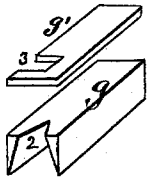


Fig. 5

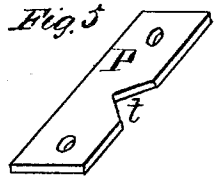


Fig. 6

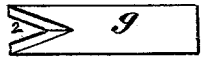
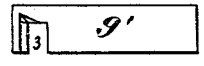


Fig. 7



Witnesses.
E. H. Bates.
Geo. E. Upham

Inventor.
Charles T. Ford,
Chipman & Fosmer & Co,
Attys,

UNITED STATES PATENT OFFICE.

CHARLES T. FORD, OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN SCROLL-SAWS.

Specification forming part of Letters Patent No. **148,684**, dated March 17, 1874; application filed January 3, 1874.

To all whom it may concern:

Be it known that I, CHARLES T. FORD, of Salem, in the county of Essex and State of Massachusetts, have invented a new and valuable Improvement in Scroll-Saws; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my scroll-saw. Fig. 2 is a plan, and Fig. 3 a sectional view, of the same. Figs. 4, 5, 6, 7, and 8 are detail views.

This invention relates to certain novel improvements in sawing-machines which are especially designed for scroll-work; and it consists in novel means for adjusting, guiding, sustaining, and actuating the saw; also, in a mode of lubricating the saw-bar, and preventing dust from getting into the guides thereof, all as will be hereinafter explained.

The following is a description of my improvement:

In the annexed drawings, A designates the top of a frame, A′, on which the stuff is adjusted while it is being sawed. B represents a strong casting, which is rigidly secured to the frame A′ in a vertical position, and which is constructed with a horizontal arbor, C^1, on which turns a balance-wheel, C. The hub of this wheel C has a bridge-bar, C^2, extending diametrically across its end, through which a number of holes, *c*, are made for the lower pivotal attachment of a link, D, the upper end of which is pivoted to the arched portion of a vibrating arm, D′. By adjusting the said pivoted attachment of link D into the different holes *c*, the strokes given to arm D′ can be shortened or lengthened. One end of arm D′ is pivoted at *d* to an offset of the casting B, and the other end of this arm is slotted vertically and horizontally, and receives through it the saw-bar E^2 and a connecting-pin, *a*. (Shown in Fig. 1.) The bar E^2 plays freely through bearing-guides E^1 E^1, which are formed on an adjustable casting, E, and which are recessed to receive cotton-waste *e*, or other suitable material which will retain oil about the bar E^2 for a long time, and keep this bar well lubricated. The cotton-waste *e* is covered by leather pieces *e′*, through which the bar E^2 closely passes, which pieces will prevent sawdust from getting into the bearings E^1. The casting E is secured to the front face of the casting B by means of two screws, *f f′*, the lower one, *f′*, of which passes through a slot made through casting E, so that by loosening this last-named screw, the casting E can be adjusted and set in a line perpendicular to the table-top A, or fixed at any desired angle thereto. By loosening the said screws *f f′*, the casting E can be adjusted for giving any desired rake to the saw, in which position the casting can be maintained by inserting narrow pieces of leather or other suitable substance between its upper end and the casting B. The saw S is rigidly secured into the upper end of the bar E^2 by means of a set-screw, s^2, and its upper toothless portion *s* plays vertically between the guides *g g′*. P designates a plate which is secured in the top A, flush with the surface thereof, and which is constructed with a V-shaped notch, *t*, in one edge, against the sides of which the back edge of the saw is guided. J is an arm, to which a bracket, F, is adjustably secured, which arm is connected by a pivot-rod, *r*, to two ears, G′, on a plate, G. The arm J is thus allowed to rise and descend, and when raised, as indicated in dotted lines, Fig. 1, it is sustained by a gravitating-hook, N′, on an overhanging rod, N. When arm J is down, it is supported by a horizontal rod, *r′*, fixed to the ears G′ of plate G. The plate G is secured rigidly to a bracket, H, by means of bolts *i i*, which pass through a slot made vertically through plate G, and also through beveled clamp-blocks. When the bolts *i i* are loosened, the plate G, together with the pivotal end of arm J, can be adjusted vertically. The bracket F on the free end of the arm J has a right-angular extension, F^1, formed on its lower end, through which extension is a quadrilateral hole for receiving the two guides *g g′*. These guides *g g′* are removable, adjustable together or separately, and when they are properly adjusted they are rigidly secured to the bracket F by means of a set-screw, s^3. The lower guide *g* has a V-shaped notch, 2, in its end, the sides of which flare downward, for allowing the saw S to readily

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find its proper position in the notch when the arm J is brought down to the position shown in full lines, Fig. 1. The guide g', on top of guide g has a rectangular notch, 3, made into one of its side edges, through which the saw passes. The upper portion s of the saw S presents parallel toothless edges, which terminate at the upper end of the blade in a beveled point, s^1. The lower portion of the saw is toothed, and otherwise constructed like the well-known scroll-cutting saws. The back edge of the saw S is held against the angular edges of the guides P and g by means of one of the edges forming the quadrilateral guide g, and when it is thus held it is prevented from lateral vibration. At the same time it is firmly sustained both above and below the stuff which is being sawed. For thin stuff the upper guides $g\ g'$ may be omitted or raised out of the way.

In practice I shall construct the casting B with a receptacle, R, communicating with the interior of the hub of the balance-wheel C, as shown in Fig. 3, in which receptacle cotton-waste will be packed and kept well saturated with oil, thus allowing the balance-wheel or pulley C to run free.

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

1. The adjustable casting E, constructed with guides E^1, recessed and packed, as described, and covered with leather e', in combination with the reciprocating saw-carrying bar E^2, substantially as described.

2. The arm J, pivoted at r to a vertically-adjustable plate, G, in combination with the adjustable bracket F, carrying upper guides for the saw S, substantially as described.

3. The downwardly-flaring **V**-shaped guide g, combined with the holding-guide g', and made adjustable in the bracket F, substantially as described.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

CHARLES T. FORD.

Witnesses:
JOHN W. PORTER,
WEBSTER F. PUTNAM.