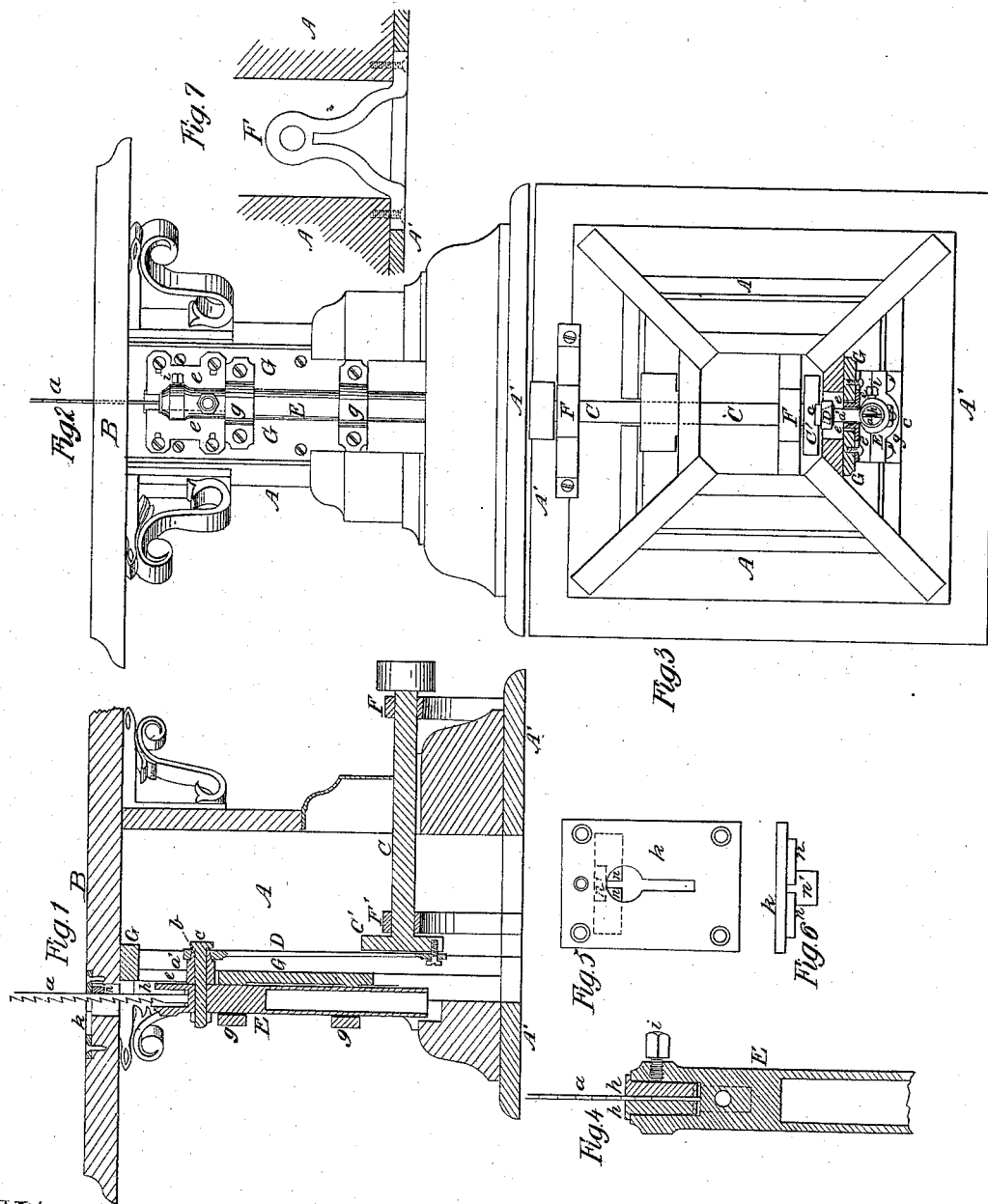


*W. H. Doane,*  
*Scroll Sawing Machine.*

*N<sup>o</sup> 48,161.*

*Patented June 13, 1865.*



Witnesses  
*R. T. Taylor*  
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# UNITED STATES PATENT OFFICE.

WM. H. DOANE, OF CINCINNATI, OHIO.

## IMPROVEMENT IN SCROLL-SAWING MACHINES.

Specification forming part of Letters Patent No. 48,161, dated June 13, 1865.

### *To all whom it may concern:*

Be it known that I, W. H. DOANE, of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Scroll-Saw Machinery; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical longitudinal section through the center of the pedestal-support for the driving mechanism for the saw. Fig. 2 is a front elevation of Fig. 1. Fig. 3 is a top view of Fig. 2 with the pedestal-top removed. Fig. 4 is a diametrical section through the saw-stock, having its lower end broken off. Fig. 5 is a top view of a table-guide for the saw. Fig. 6 is an end view of this guide.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements in constructing, guiding, and driving the saw-stock of scroll-cutting saws; also to improvements in supporting the driving or crank shaft, and connecting this shaft to the saw-stock in such manner that a much longer stroke thereof can be obtained in a very low table, all as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the accompanying drawings, A A' represent a pedestal, which is intended to serve as a support for the top B, and also the mechanism used to drive the scroll-saw *a*. This pedestal A A' is hollow, being cast in two parts, and receives within it that end of the driving-shaft C which carries the crank-wheel C', and also the pitman D, which communicates a reciprocating motion to the vertical saw-stock E. The shaft C is supported in a horizontal position by means of two pillow-blocks, F F', one of which, F, is mounted on the top of the detachable base-piece A' of the pedestal, and the other is arranged within this pedestal and bolted to the bottom surface of said base, as shown in Figs. 1 and 7. The lower end of the pitman D is suitably pivoted to the face of the crank-wheel C' and eccentric with its axis, and the upper end of this pitman is pivoted to a flat-sided slide, *a'*, which forms a part of the saw-stock and an offset from its back side. This

slide has a conical wrist-pin, *b*, formed on its end, which fits into a corresponding hole made through the upper end of the pitman D. A bolt, *c*, having a head on one end, is now passed outward through a hole which is made through the center of the combined slide and wrist-pin *a' b* and the solid portion of the saw-stock E, and receives a nut on its outer end, which draws the head of this bolt snugly against the end of the cone *b*, and thus prevents the pitman from becoming detached therefrom. The conical wrist-pin *b* is of greater diameter near its base than the seat in which it fits, in order that it shall not enter the seat the full extent of its length when the parts are first adjusted for use, and thus when the seat or pitman-eye enlarges and the parts work loose, the connections may be tightened up by means of the bolt *c*. The location of the combined slide and wrist-pin *a' b* is as near the upper end of the saw-stock E as it can be placed, and hence I can give this stock a long stroke and still bring the mechanism for operating it into a very compact vertical space, which enables me to reduce the height of the table and thus make it more convenient for the workman; and it will also be seen that I confine all the driving parts for the saw-stock within the compass of the pedestal A, and thus get them out of the way and out of sight. The slide *a'* works up and down between two adjustable jaw-guides, *e e*, which are bolted to a removable face-plate, G, as shown in Figs. 1, 2, and 3. The screws or bolts which secure the guides *e e* to the face-plate G pass through oblong slots through the guides, and when these screws are loosened the guides can be set up closely to the flat sides of the slide *a'*, and thus the saw-stock can be adjusted at any time with little or no trouble, so as to set the saw and keep it in its proper position.

The saw-stock E is cylindrical, and reciprocates in bearing-blocks *g g*, which are bolted to the face of the removable plate G, as shown in Figs. 1 and 2, and, as this stock is very long, that portion of the pedestal directly beneath its lower end is cut away to allow it to make its descending strokes unobstructedly. The stock E is hollow with the exception of a short portion through which the bolt *c* passes, and this is solid. By thus making the cylindrical stock hollow or tubular I secure lightness without detracting materially from its strength.

The upper end of this saw-stock is adapted to receive the lower end of the saw in the usual manner—*i. e.*, it is recessed to receive the split plug *h*, between which the end of the saw is confined by means of a tightening-screw, *i*, which is tapped through the stock, as shown in Fig. 4.

The face-plate *G* is bolted or otherwise secured rigidly to the outside of the pedestal, and it can be readily removed from the latter at pleasure, together with the saw-stock and the guide-plates, when it is desired to get at the parts on the inside of the pedestal.

The saw passes up through a hole which is made through the top *B* and also through a hole which is made through the metal plate *K* that is affixed to the table. On the bottom side of this plate, which is let into the table-top so as to be flush with its upper surface, I secure a slotted piece of steel, *n*, having a back piece, *n'*, formed on it. The saw passes through the slot in *n*, and its back edge touches *n'*. By this arrangement the saw has a back support and also side guides which prevent any buckling or straining when sawing very thick stuff, as said guides and support are thus brought very close to the work placed upon the top *B*.

It is a matter of much importance to have scroll-saws and their connections applied to a firm structure in order to obviate bad defects in the work done, due to shaking or vibrating of the machine. I have found that a hol-

low pedestal gives the desired firmness of support, and it, at the same time is comparatively light and cheap when compared with a solid support. It also answers to inclose the pitman and its immediate connections almost wholly, and by being constructed open at one side and with a removable face-plate over such open side, access to the pitman connections is rendered easy.

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

1. Connecting the pitman *D* to the upper end of a scroll-saw stock by means of the conical bearing *b* on the end of the slide *a'*, and a bolt, *c*, passing through the stock, substantially in the manner and for the purpose described.

2. The combined conical wrist-pin and slide *a' b* formed on or attached to the saw-stock, substantially as described.

3. The hollow cylindrical stock *E*, in combination with a combined wrist-pin and slide, which works in guides at the back of the stock, substantially as and for the purpose described.

4. The arrangement of the back and side guides, *n n'*, on a plate, *k*, attached to the table *B*, substantially as described.

W. H. DOANE.

Witnesses:

WILLIAM C. HARD,  
W. A. CROSS.