W. H. Doane,

Scroll Sawing Machine.

No. 45,981. Patented Jan. 24, 1865.

Fig. 1

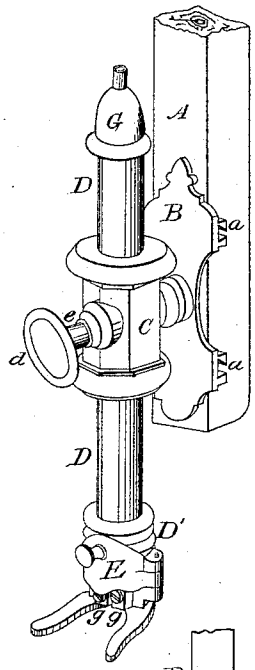


Fig. 2

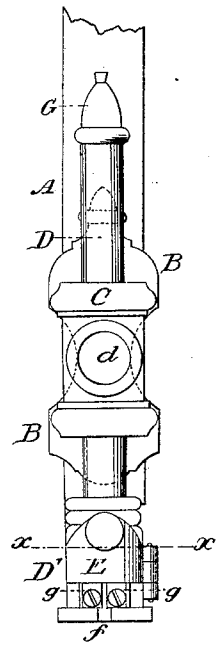


Fig. 3.

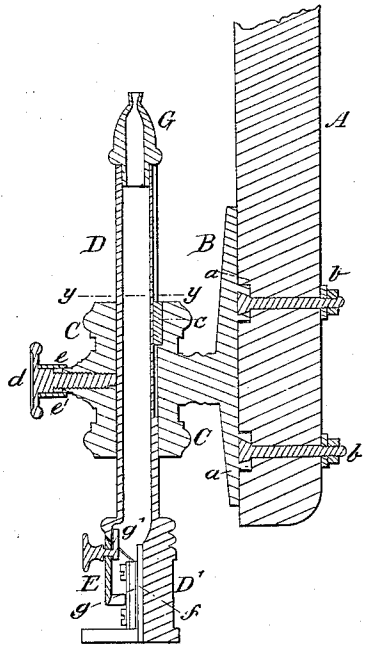


Fig. 6

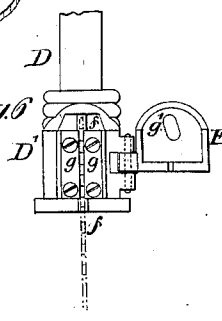


Fig. 5

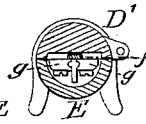
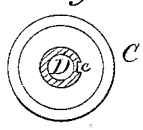


Fig. 4



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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE, OF CINCINNATI, OHIO.

IMPROVEMENT IN SCROLL-SAWS.

Specification forming part of Letters Patent No. **45,981**, dated January 24, 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 Guides for Scroll-Saws; 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 perspective view of the improved guide applied to its pendent post. Fig. 2 is a front view. Fig. 3 is a vertical central section. Fig. 4 is a horizontal section taken at the point *y y*, Fig. 3. Fig. 5 is a horizontal section taken at the point *x x*, Fig. 2. Fig. 6 is a view of the lower portion of the guide with the hinged door thrown open.

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

This invention relates to certain novel improvements on scroll-sawing machinery wherein a sash, gate, or spring for straining the saw are dispensed with, and the saw guided and supported at its back and sides by means of hardened steel plates applied to an adjustable foot-stock.

The object of my invention is to simplify and to render more compact the devices for guiding the saw, holding the work down upon the table, and conducting currents of air to the saw, and also to the stuff being sawed, for cooling the former and keeping the latter always clear of sawdust, 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 represents the pendent post to which the saw-guide is attached. This post is secured by suitable braces in a rigid position over the table through which the saw plays.

B represents a plate, having projections *a a*, in which are dovetailed mortises. These projections extend across the plate B, and they are parallel to each other. The dovetail slots, being made in a direction with the length of said projections, are adapted for receiving the dovetail heads of bolts *b b*, which pass through the post A and receive nuts on their ends, by means of which the plate B can be secured rigidly to its post, as represented in Fig. 3. In order to give additional steadiness to the plate B, the projections *a* are let into slots, which are made in the post A. This brings the back of said plate up snugly against the face of this post.

C represents a tubular sleeve, which is cast with the supporting-plate B, after the manner of a bracket. It will be seen that my device B C constitutes in itself the sustaining-plate, by which the tubular guide-stock is adjusted laterally and held in any desired position, as well as the sleeve through which the stock is adjusted vertically and retained in any desired position. In a word, I do not fit the sleeve to the sustaining and laterally-adjusting plate by means of screws and slots, but cast the plate and sleeve in one piece. The sleeve is supported in a vertical position, and it can be adjusted laterally by loosening the nuts on the dovetail head-bolts *b b* and moving the plate B, after which the nuts are set up again and the whole secured in the desired position.

Through the axis of sleeve C passes a tubular foot-stock, D, which is prevented from turning by means of a tenon, *c*, which projects from the bore of the sleeve and enters a long groove that is made in the stock D, as shown in Figs. 3 and 4. Thus it will be seen that while the stock can be moved up or down through its sleeve it cannot be turned about its axis. In order to establish this foot-stock at the desired point a tightening-screw, *d*, is tapped through the side of the sleeve C and screwed tightly against the stock D, which holds it firmly in the desired position. By loosening this screw *d* the stock can be adjusted up or down, according to the thickness of the work to be sawed. This screw *d* is formed with a tubular shank, *e*, which is intended to receive the stem *e'*, projecting from the sleeve, and cover that portion of the thread which does not enter said stem. The lower end of the stock D has an enlarged semi-cylindrical foot-piece, D', formed on or attached to its lower end, terminating at its base in two flaring toes, which constitute the foot of the stock, for holding the work down on the table of the machine during the operation of sawing. The vertical flat surface of the foot-piece D' is slotted to receive the hardened-steel strip *f*, which forms the back guide for the saw, and on each side of this back guide are two vertical plates, *g g*, which constitute

the side guides. Above these steel guides there is an opening made through the piece D′, communicating with the hole through the stock D, by means of which air can be forced down through the stock D and on each side of the saw, which I have represented in Fig. 6 in red lines.

The upper portion of the face of the foot-piece D′ is covered by a hinged door, E, which is secured when closed by catch-pin *g′*. The bottom of this door is adapted to fit snugly over the side guides, *g g*, and a slot which is made through this bottom corresponds with that which is formed between the two plates *g g* when the door is closed, and thus allows the saw to reciprocate freely. The door E closes the lower end of the foot-stock, with the exception of spaces on each side of the saw formed by grooving the edges of the guides *g g*, as shown in Figs. 3 and 5, through which the descending currents of air can escape and impinge upon the work being sawed in such manner as to keep it free from sawdust at the point where it is desired to inspect it. Another object of this door E is to afford ready access to the saw-guides.

In order to prevent the door E from obstructing the view of the workman during the operation of sawing, its lower end is curved, so as to form a narrow nose or point, as shown in Fig. 1.

The top of the foot-stock D has an acorn-shaped cover, G, with a hole through its axis, and the upper end of this cover terminates in a short tube, to which a flexible tube is attached. This latter tube communicates with a small fan-blower arranged in any suitable locality where it can be conveniently operated, and by this arrangement currents of air are impelled downward through the hollow foot-stock D, and through the slot in the bottom of the door E, thus being conducted directly in front of the saw, to prevent any accumulation of sawdust.

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

1. The combination of the devices A B C *a b*, the same being adapted for and constituting a portion of a scroll-sawing machine or saw-mill, substantially as herein set forth.

2. The combination of the tubular sleeve C, key *c*, screw *d*, recessed or tubular shank *e*, and guide-stock D, substantially as and for the purpose set forth.

3. A tubular foot-stock, D, with a guide-holder, D′, on its lower end, the said holder being constructed and having guides fitted upon it, substantially as and for the purpose set forth.

4. The combination of the tubular sleeve C, the stock D, feather *c*, and set-screw *d*, substantially in the manner and for the purpose described.

5. The employment of a door, E, or its equivalent, in combination with a foot-stock, D D′, substantially as and for the purpose described.

W. H. DOANE.

Witnesses:

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