W. H. DOANE & W. H. DOBSON.

Scroll-Saws.

No. 135,099. Patented Jan. 21, 1873.

Fig.1

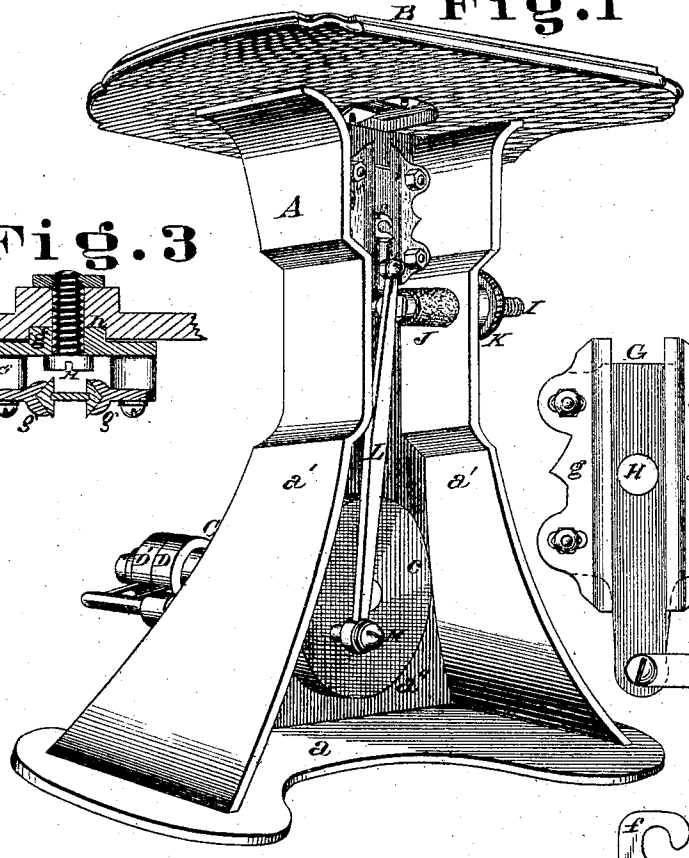



Fig.3

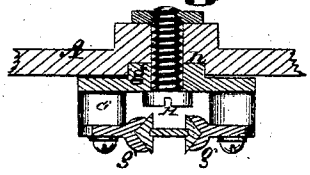



Fig.2

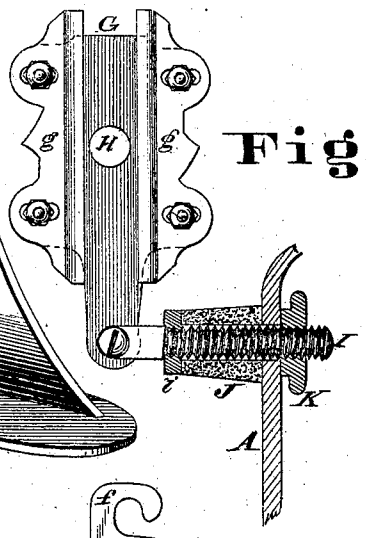



Fig.4

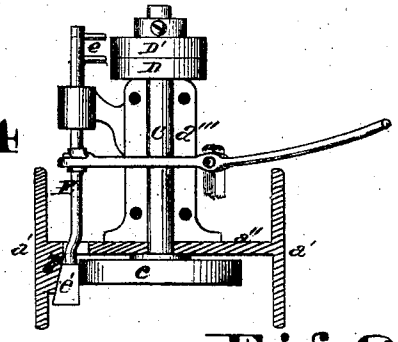



Fig.5

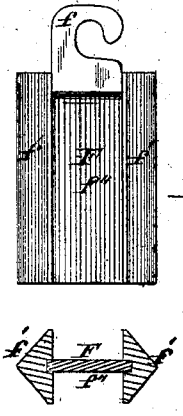
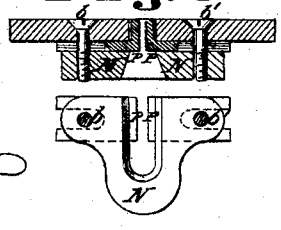



Fig.6




Attest

H. Ewing Millward

H. G. Webster

Inventors

Wm. H. Doane &

Wm. H. Dobson

By F. Millward

Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE AND WILLIAM H. DOBSON, OF CINCINNATI, OHIO, ASSIGNORS TO J. A. FAY & CO., OF SAME PLACE.

## IMPROVEMENT IN SCROLL-SAWS.

Specification forming part of Letters Patent No. **135,099**, dated January 21, 1873.

*To all whom it may concern:*

Be it known that we, WILLIAM H. DOANE and WILLIAM H. DOBSON, both of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Scroll-Saws, of which the following is a specification:

*Nature and Objects of Invention.*

Our invention consists, first, in a peculiar device for simultaneously shifting the driving-belt for stopping the machine, and applying a brake to the revolving driving-shaft for the purpose of preventing any movement of the saw after the belt is on the loose pulley; second, in a peculiar construction of the lower slide of the machine by which a durable surface, great lightness and stiffness are secured with but little expense in construction; third, in the peculiar construction of the stationary guides for the lower slide, and in the manner of its attachment to the frame of the machine, by which the "rake" of the saw can be adjusted to great nicety, this part of our invention being an improvement upon the machine patented by W. H. Dobson May 16, 1871.

*Description of the Accompanying Drawing.*

Figure 1 is a perspective view of a scroll-saw machine complete with the exception of saw and the usual stretching mechanism for the upper end of the saw, the said figure illustrating our improvements. Fig. 2 is an elevation of the lower guide for the saw-slide and a portion of the frame of the machine in section, showing the device for adjusting the rake of the saw. Fig. 3 is a cross-section of the lower saw-guide, showing its attachment to the frame. Fig. 4 is a cross-section of the machine illustrating the device for shifting the belt and "braking" the shaft. Fig. 5 is a detached view in elevation and section of the saw-slide. Fig. 6 is a view in section and plan of the device for guiding the saw at the face of the saw-table.

*General Description.*

The frame A of the machine is cast in one piece, and is composed of base-plate *a* for attachment to the floor, converging curved sides *a' a'* to connect with the table B, and interior web *a''* for the convenient attachment of the driving and guiding mechanism of the saw. The driving-shaft C of the machine is journaled in the bearing *a'''* in the manner shown. D is the tight pulley, and D' the loose pulley. E is the shifter-rod, fitted at one end with the customary fork *e* for receiving and moving the belt, and at the opposite end with a wedge-block, *e'*, one side of which presses at certain times on the periphery of the crank-plate *c* and the other side against the inclined projection *a''''* of the frame. The movement of the shifter toward the loose pulley serves to enable the block *e'* to act as a brake, and thus check the rotation of the shaft C, and the movement of the same in the opposite direction shifts the belt to the tight pulley, and at the same time releases the brake. The lower end of the saw is attached to the hook *f* of the slide F, which is constructed as follows: A square bar of steel is severed diagonally to form the side pieces *f' f'*. These are grooved centrally and fitted with a thin plate of steel, *f''*, soldered or brazed to the sides *f'* and hook *f*. This construction enables the convenient use of steel, gives great lightness, (a desideratum for high speed,) and makes a very stiff, durable slide. The guide G for this slide is provided with adjustable ways *g g* and a round boss or trunnion, *g'*, which is fitted to a corresponding recess or counter bore, *h*, in the frame A, the guide being held in place by bolt H. A screw-threaded rod, I, is attached to the lower end of the guide G, this having a collar, *i*, inside of the frame, and an adjusting-nut, K, on the outside. Between the collar *i* and the frame A a rubber spring, J, is inserted.

In the operation of adjusting this guide the nut K serves to move it in one direction and the spring J in the other, so that the "rake" of the saw can be adjusted while in motion, and to the greatest nicety.

The pitman L through wrist M gives the requisite reciprocating motion to the saw. Below the table a yoke, N, is supported by screws *b b'*, which serves to secure two guides, P P, which are located between the said yoke and the table, and project through the saw-aperture in the table in the manner shown in Fig. 6.

By simply unslacking the screws *b b'* the guides P P can be set close up against the saw on each side, and when the screws are again

tightened the guides serve fully to support the saw laterally.

We are aware that a shipper has heretofore been so combined with a brake that, simultaneously with shifting the belt from the fast to the loose pulley, the brake is applied to stop the motion of the saw. Our claim relating to this feature is therefore limited to the special combination of devices shown and described.

*Claims.*

1. In combination with the frame A $a''''$ and driving shaft and pulleys C $c$ D D′, the shifter-rod and wedge-brake E $e$ $e'$, substantially as and for the purpose described.

2. The slide F when formed by the combination of grooved slides $f'$ and inserted web $f''$, connected substantially as and for the purpose specified.

3. The combination of swiveling guide G, rod I, washer $i$, adjusting-nut K, and spring J, substantially as and for the purpose specified.

In testimony of which invention we hereunto set our hands.

WILLIAM H. DOANE. [L. S.]
WM. H. DOBSON. [L. S.]

Witnesses:
JOS. H. LITTELL,
THOS. H. WRIGHT.