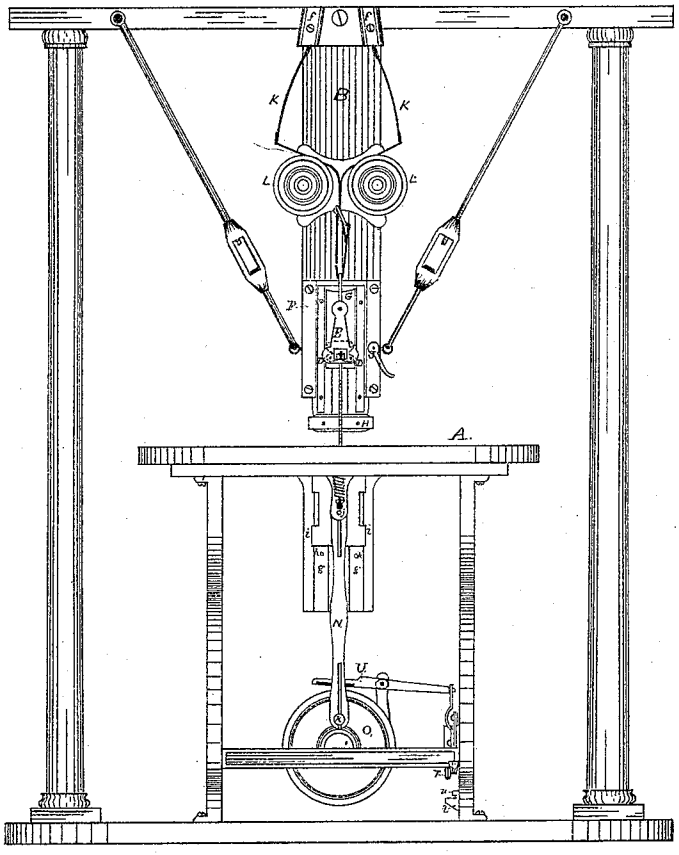
2 Sheets--Sheet 1.

J. W. ROWLINGSON.

Scroll-Saws.

No. 141,080. Patented July 22, 1873.

Fig. 1.



WITNESSES

H. C. Munick.
J. C. Roberts

INVENTOR

John W. Rowlingson

2 Sheets--Sheet 2.

J. W. ROWLINGSON.

Scroll-Saws.

No. 141,080. Patented July 22, 1873.

FIG. 2.

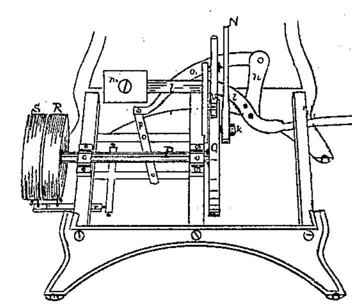


FIG. 3

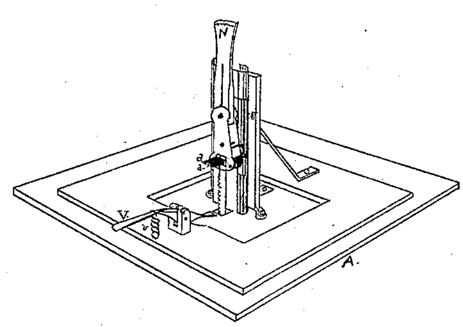


FIG. 4.

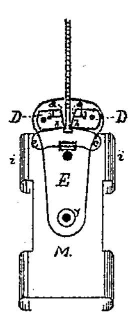
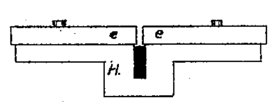


FIG. 5



WITNESSES

H. C. Mienck

J. C. Robie

INVENTOR

John W. Rowlingson

UNITED STATES PATENT OFFICE.

JOHN W. ROWLINGSON, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN SCROLL-SAWS.

Specification forming part of Letters Patent No. **141,080**, dated July 22, 1873; application filed May 26, 1873.

To all whom it may concern:

Be it known that I, JOHN W. ROWLINGSON, of the city of Binghamton, in the county of Broome and State of New York, have invented certain Improvements in Scroll-Saws, of which the following is a specification:

This invention relates to a series of improved devices for connecting and disconnecting the saw, lubricating the ways of the guides of the cross-head, adjusting the saw-guide plate to the different thicknesses of the work, shifting the driving-belt, and applying the brake with a single pedal, the construction and arrangement of which will be fully explained.

Figure 1 in the accompanying drawings is a front elevation of a machine embodying my invention. Fig. 2 is a side view with part of the table removed, showing the pedal, brake, and their connections with the driving and loose pulleys. Fig. 3 is a side view of an inverted section of the top of the table, showing the lever in position for opening the jaws for detaching the lower end of the saw. Fig. 4 is the cross-head detached from the guide-plate with the front jaw-plate removed, showing the jaws and the end of the saw between them. Fig. 5 is the removable upper guide-plate block, to which is attached the steadying-guides for the saw.

A is the table, the frame and top of which are similar to others now in use. B is the suspended standard over the table, which standard supports the springs and other appliances for the operation of the saw. D D are the jaws for holding the ends of the saw, which jaws have a rounded face, *a*, for the reception of the ends of the saw, which are slightly upset, so that the tension of the saw, drawing the upset end against the plane projecting surface *b* of the jaws, shall close them securely upon it. For the purpose of instantly closing the jaws when the end of the saw is entered between them, springs *c c* are attached to the guide-plate E, which act upon the projecting surfaces *b b*. These jaws are provided with projections *d d*, which extend at a right angle from the sides through an opening in the front guide-plate E to allow the removal of the saw. F is the bed-plate of the adjustable guide-plate G. The lower end of this plate is provided with a removable block, H, shown by Fig. 5. To this block is attached steadying-guides *e e* and a hardened piece of steel for the back of the saw to run on. This block is held in place by a set-screw, so that if the guide-plate G should by accident be set too high the starting of the machine would disconnect it by contact of the guide-plate E, and thus prevent further damage, while by the ordinary method of attaching the steadying-guides *e e* to the plate itself serious accidents to parts of the machine frequently occur. The guide-plate G is adjusted to the required thickness of the work by the cam and lever J, which cam works in one of the ways of the bed-plate F. This way vibrates on a screw at the upper end, and a transverse slot for the screw at the lower end allows it to be moved in or out by the cam and lever J, securely holding the plate G at the required elevation or depression. K K are the springs, which are attached to lugs *f f* at the top of the suspended standard B. Straps are attached to the free ends of the springs, which straps work over two pulleys, L L, and connect, by a buckle or otherwise, with the guide-plate E. M is the cross-head, which works on two hollow cylindrical ways, *g g*. These ways are filled with felt or other suitable material saturated with oil, which passes out through holes *h h* and lubricates the guides *i i*, which embrace the outer half of the cylindrical ways *g*. N is the connecting-rod, which works on a pin, *j*, and cast-steel sleeve *y*, in the cross-head, and the crank-pin *k* projecting from the brake-wheel O. P, in Fig. 2, is the main shaft. R is the fast pulley, and S the loose pulley. T is the pedal, which is used to stop, start, and brake the machine. This pedal has an arm, *l*, projecting from its fulcrum, which carries a counteracting weight, *m*. It also has an arm, *n*, which connects, by a connecting-rod, *o*, with a lever, *p*, for shifting the driving-belt. The end of this lever connects with a slide, *r*, which is provided with two upright pins, *s s*, for changing the belt from one pulley to the other. The pressure of the foot upon the pedal shifts the belt from the fast to the loose pulley, and the counteracting weight, when the pedal is disengaged, changes it from the loose to the fast pulley. U is the brake, which is operated by the pedal, as shown by Fig. 2,

which brake engages with the top of the wheel O. The stop *t* and catch *u* will be explained hereafter. V, in Fig. 3, is a lever attached to the under side of the table for detaching the lower end of the saw from the jaw D in the cross-head M. A spiral spring, *v*, placed under the lever outside of the fulcrum, presses the inner end of the lever against the table, so that when the crank-pin is at the upper point of its throw the end of the lever, by depressing the spring *v*, will engage with the projections *d d* of the jaws D, which will open them and relieve the end of the saw. The back standard-brace (not shown) has right and left hand screw terminations, which work in nuts with circular bearings and transversely-slotted holes for screws to hold them in position, which allows of their adjustment to the angle of the brace, which may be adjusted by simply turning it to the right or left for the purpose of regulating the rake and feed of the saw.

The guide-plate G is adjusted to the required thickness of the work by loosening up the cam and lever J, and when adjusted the lever is turned down, which secures the plate in position. The brake U is then relieved by touching the pedal T with the foot, which starts the machine. When the brake is to be applied the pedal is pressed down to the catch *u*, at which point the driving-belt is changed from the fast to the loose pulley. The pedal is then pressed down to stop *t* and secured under the catch *u*.

When the saw is to be changed from one opening in the work to another the lever V is pressed up by the hand, which engages the inner end with the projections *d d* on the jaws and relieves the end of the saw. The springs K K then elevate the saw far enough to clear the work, when it is placed into another opening and reattached by passing the end between the cross-head jaws, when the operation is resumed. This obviates the necessity of raising the work from the table and entering the top of the saw, as now practiced by the ordinary method, thereby greatly facilitating the operation.

The upper end of the saw is detached by placing the finger under the projections *d d* and opening the jaws by an upward pressure.

Having thus described my improvement, I claim as my invention—

The combination of the jaws D D and springs *c c* with the guide-plate E and adjustable guide-plate G, cam and lever J, removable block H, and their connections on the suspended standard B, all being constructed as herein shown and described, for the purpose set forth.

JOHN W. ROWLINGSON.

Witnesses:

J. C. ROBIE,

D. E. ROWLINGSON.