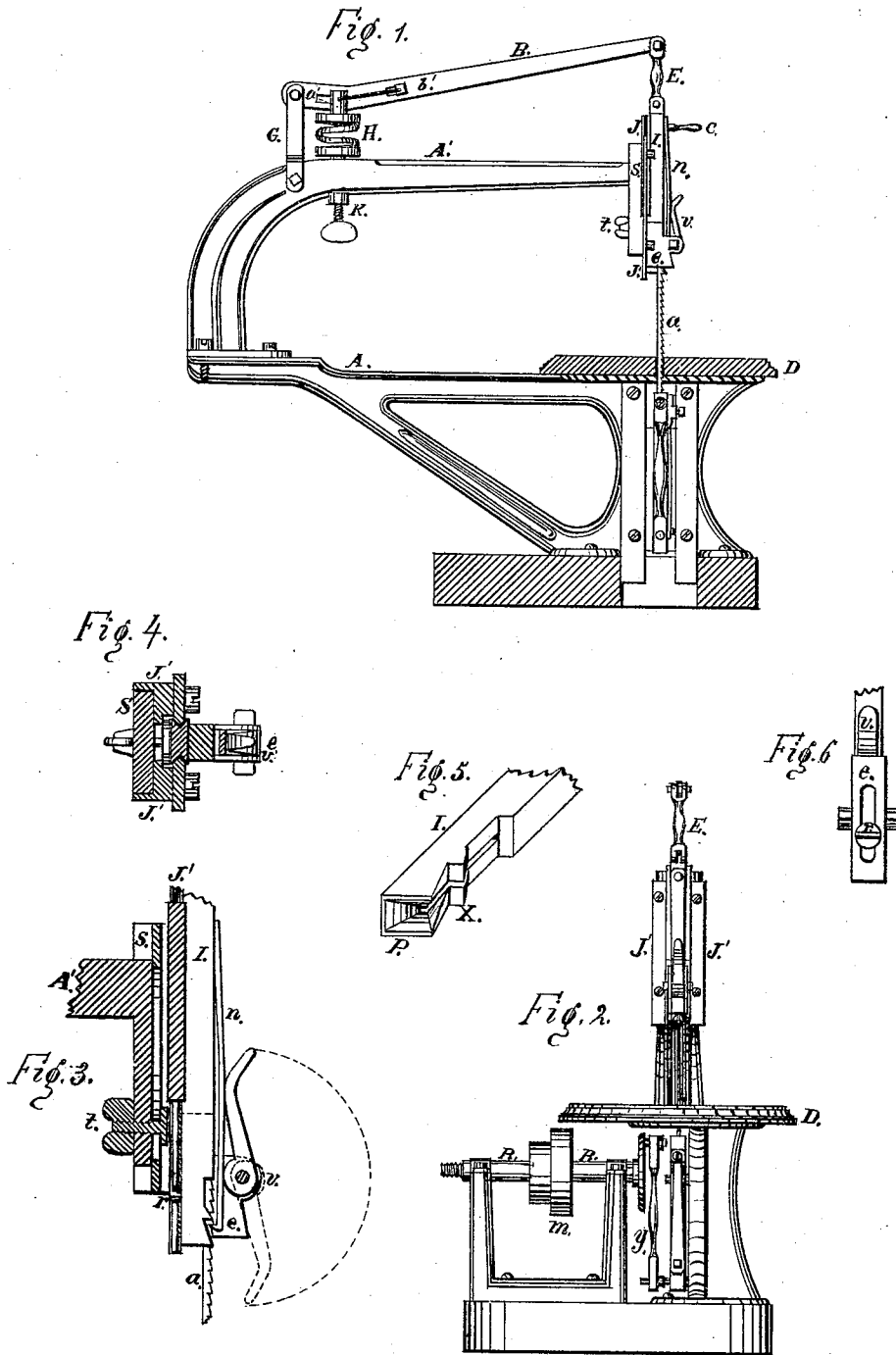


W. HESSMAN.
SCROLL-SAWING MACHINE.

No. 178,295.

Patented June 6, 1876.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM HESSMAN, OF RICHMOND, INDIANA.

IMPROVEMENT IN SCROLL-SAWING MACHINES.

Specification forming part of Letters Patent No. **178,295**, dated June 6, 1876; application filed May 15, 1876.

To all whom it may concern:

Be it known that I, WILLIAM HESSMAN, of the city of Richmond, county of Wayne and State of Indiana, have invented an Improvement in Scroll-Sawing Machines, of which the following is a full and complete description, reference being had to the accompanying drawing.

My invention relates principally to the method of detaching and replacing the saw, and also to the manner of adjusting a tension-lever, and some of the mechanism connected therewith, and also some other minor details, as fully set forth.

Figure 1 is a side elevation, in section, through and below the table. Fig. 2 is a front elevation. Fig. 3 is a vertical section of the mechanism to which the upper end of the saw-blade is attached. Fig. 4 is a cross-section of the parts shown in Fig. 3. Fig. 5 shows the lower end of the slide-bar, in which the upper end of the saw, when in position, is placed. Fig. 6 shows a device to which a cam for securing the end of the saw is attached.

A represents the cast-iron body of the structure; D, the table, and *a* the saw-blade. The upper end of saw-blade *a* is secured in the slot in slide-bar I. (Shown in Fig. 5.) The lower end F of said slot is beveled, for the purpose hereinafter named.

The manner of securing the saw at its upper end is fully shown in Fig. 3, a bar or spring, *n*, being made to engage, by means of a hook at its lower end, with a tooth of the saw, thus securing said saw within the slot *x*, the band *e*, to which the cam *v* is attached, being placed over the end of bar I, and said cam made to operate on the spring *n* to secure it in position. Spring *n* has an outward tendency, and when cam *v* is turned down, as shown by dotted lines, Fig. 3, said spring disengages itself from the saw-blade. Bar I is attached, by means of a doubly hinged or pivoted arm, E, to the tension-lever B. Said tension-lever B is provided with a spring, H, which spring, in the present example, is a spiral wire, (though rubber may be used,) whose ends are located in cups above and below, said spring giving an upward tension to the saw-blade. On the

upper plate or cup of said spring is provided a slotted upright, *a'*, in which slot lever B rests. Said lever B at that point is slotted longitudinally, and through the slot connecting the two sides of upright *a'* a wire is passed and brought to *b'*, where its end is passed through another slot in said lever B and secured by a nut. The fulcrum-bar G is pivoted both to the bar *A'* and lever B. K represents a thumb-screw passing up through arm *A'*, and in contact with the lower end of spring H, said screw being provided with a lock-nut immediately under arm *A'*. S represents a bed-plate on the end of arm *A'*, and J J' slide plates or ways between which, and in V-shaped grooves located on their inner edges, the bar I plays up and down, the latter having its edges beveled to suit.

When it is desirable to place the blade within an inside scroll cam *v* is turned down, as shown in Fig. 3, (dotted lines,) and spring *n* permitted to disengage from the saw-tooth. This results in bar I being thrown upward by the action of spring H, and thus leaving the upper end of the saw exposed, when the work may be placed over it. Then by forcing bar I downward (for convenience in doing which handle *c* is provided) the saw is brought into position, being guided into slot *x* by reason of the bevel P, when cam *v* is again thrown up and the saw secured.

It is apparent that the above operation is readily and conveniently done.

Below the table the saw-blade is attached as at its upper end, excepting a set-screw is used to compress the spring instead of a cam, whereby the blade may be readily removed. The slide-bar below corresponding to bar I is provided with a wrist-pin, with which pitman *y* is connected, said pitman being also connected with a crank on shaft R, upon which latter are pulleys *m*, by means of which the saw is driven.

The screw *r*, Fig. 3, shows the means of securing the jaw or cap *e*, Fig. 6, to bar I, said cap *e* being slotted in the rear where screw *r* passes through, so that it may be raised or lowered on said bar I, whereby, when it is desirable, to use a larger or smaller saw, the cam *v* may be moved up or down with rela-

tion to its position over spring *n*, and thus give the latter greater or less latitude at its lower end.

When a longer or shorter saw-blade than the one represented is used, it becomes necessary, in order that arm *E* may operate as nearly as possible vertically, that lever *B* should be moved back or forward, as the case may require. To do this the bolts securing the fulcrum-bar *G* are loosened and the lever moved to suit, a corresponding change being made at *a'* and *b'* to preserve the vertical position of spring *H*, after which the nuts are again tightened and lever *B* secured. The slides *J J'* are secured by screws to bed-plate *s*, which latter is secured to bar *A'* by bolt and nut *t*, Fig. 3, which bed-plate, being

slotted vertically, is movable up and down, thus permitting the slides to be adjusted to suit the length of the saw-blade.

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

1. The combination of the bar *I*, with its bevel end *P*, spring *n*, and cam *v*, substantially as and for the purpose set forth.

2. The combination of lever *B*, connections *G* and *E*, and spring *H*, substantially as and for the purpose set forth.

WILLIAM HESSMAN.

Witnesses:

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