J. H. HOPKINS.

Scroll-Sawing Machines.

No. 210,607. Patented Dec. 10, 1878.

Fig. 1.

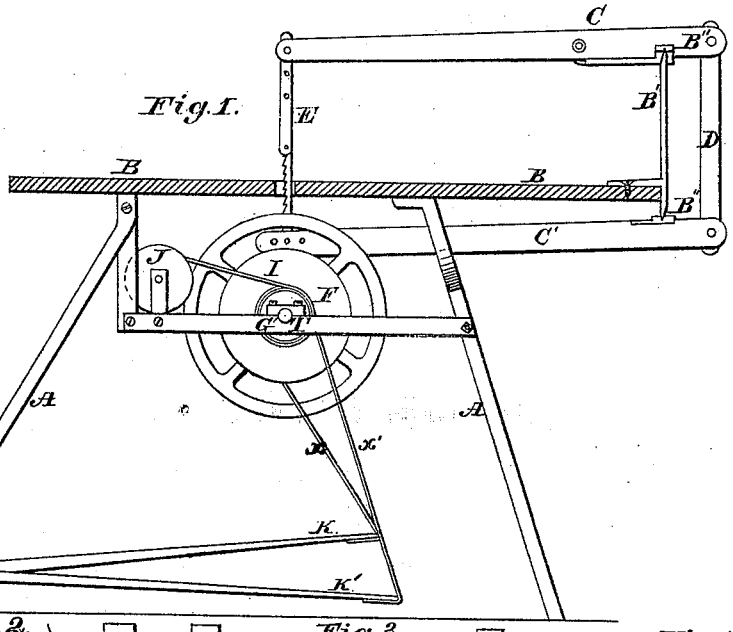

Fig. 2.

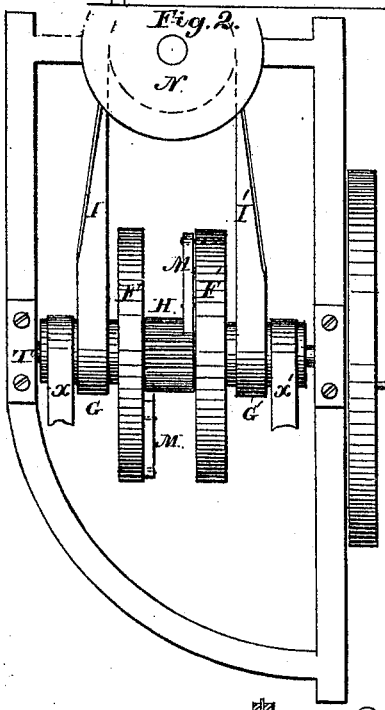

Fig. 3.

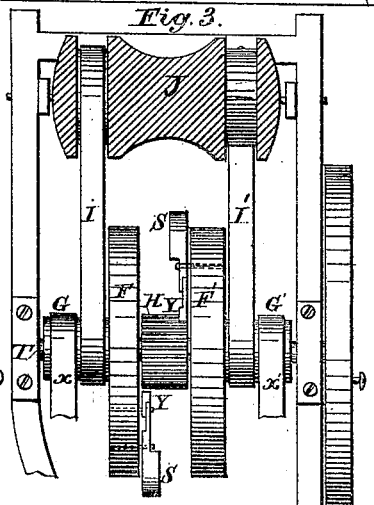

Fig. 4.

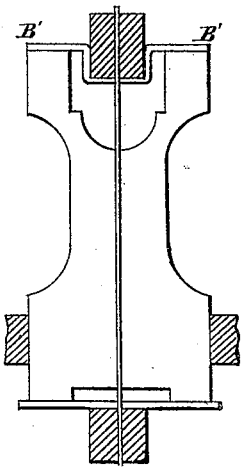

Fig. 5.

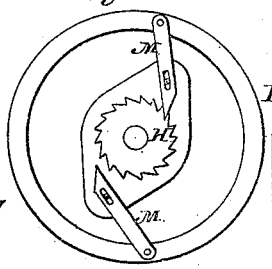

Fig. 6.

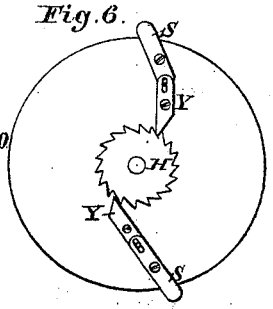

Fig. 7.

Fig. 8.

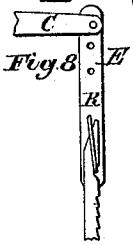

Fig. 9.

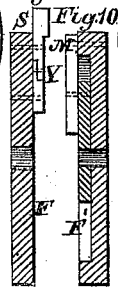

Fig. 10.

Attest.

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UNITED STATES PATENT OFFICE.

JOHN H. HOPKINS, OF REYNOLDSVILLE, PENNSYLVANIA.

IMPROVEMENT IN SCROLL-SAWING MACHINES.

Specification forming part of Letters Patent No. **210,607**, dated December 10, 1878; application filed June 13, 1878.

To all whom it may concern:

Be it known that I, JOHN H. HOPKINS, of Reynoldsville, in the county of Jefferson and State of Pennsylvania, have invented certain new and useful Improvements in Scroll-Sawing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in a scroll-sawing machine for which Letters Patent were issued to me under date of May 29, 1877, and numbered 191,239; and consists in the substitution of certain devices, whereby the working of the machine is greatly improved, and the construction simplified and made more economical, as will be hereinafter more fully described.

Figure 1 is a longitudinal elevation, partly in section. Fig. 2 is an enlarged modification of the device whereby the motion of the main shaft is transferred. Fig. 3 is also an enlarged partial horizontal section; and Figs. 4, 5, 6, 7, 8, 9, and 10 are details, which will be referred to in the general description.

A A represent the frame of the machine, upon which the table B and other parts are supported, made sufficiently strong to bear the work to be sawed. C is the upper, and C′ the under, vibrating lever, supported upon a standard, B′, which is secured to the table at the bottom by a flange. These levers are connected at their rear ends by an extension-bar, D.

The standard B′ is supported at top and bottom by knife-edges in plates B″ in V-grooves, which are let into the levers C and C′. E is the saw-link, which is pivoted at top to the upper lever, C, and has several holes in it for extension, as may be required. The saw is attached to the lower end of link E by means of a loop, R, as seen in Fig. 8. F F′, Figs. 2 and 3, are disk-wheels running loosely on a shaft, T.

In Fig. 3 is represented the method of transmitting motion from two treadles, K K′, (seen in elevation in Fig. 1,) by means of straps *x x′*, which are carried over pulleys G G′. Other straps, I I′, are carried from pulleys G G′ over a spool, J, as seen in Fig. 3, the strap I being above the spool, and strap I′ below.

On the shaft T is a ratchet-wheel, H, firmly attached to the shaft, and on the inner faces of the wheels F F′ are ratchet-pawls S S, which are shown in detail in Figs. 6, 9, and 10. A modification of them is also shown in Figs. 2 and 5, at M.

The ratchet-pawls S have a loose sliding piece, Y, which forms a toggle-joint by a pin and slot. The pieces S and Y are pivoted, and the slot is for the purpose of accommodating the movement of each on the arc, so that when S is moved the two come into a straight line, and consequently Y moves the ratchet around, while the pawl on the other wheel, being reversed, allows the ratchet to move when, by the other treadle, it comes into action.

R is a loop fastened to the connecting-link E, by which the upper end of the saw is held in place, the lower end of the saw being pivoted to the lever C′.

In Fig. 2 is shown a spool, N, which has its axis placed vertically on the frame, and may be used thus, instead of the spool J, whose axis is horizontal.

The operation of the machine is as follows: When one treadle, K, is moved, its strap *x* rotates the pulley G, on which is fastened the wheel F, and the pulley carries also the band I, which rotates also the spool J in the same direction.

The wheel F carries around the pawl S, and it moves the ratchet H. The other strap, I′, being reversed, is carried in the opposite direction, and it moves the other pulley, G′, and with it the wheel F′, and also the strap *x′*, which pulls up the other treadle, K′, ready for the foot to press it down at the proper moment.

In my former machine these movements were effected by a loose beveled pinion placed between the wheels, which had on their peripheries beveled cogs, so that when o e the wheels was rotated in one direction the

beveled pinion moved the other wheel in a contrary direction. The wearing of these cogs by friction is a disadvantage, and I obviate that by the use of the bands, which can easily be supplied when worn out.

What I claim is—

The combination of the treadles K K′, straps x x', pulleys G G′, wheels F F′, with the ratchets S S, ratchet-wheel H, straps I I′, and spool J, substantially as shown and described.

J. H. HOPKINS.

Witnesses:

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N. CATHER.