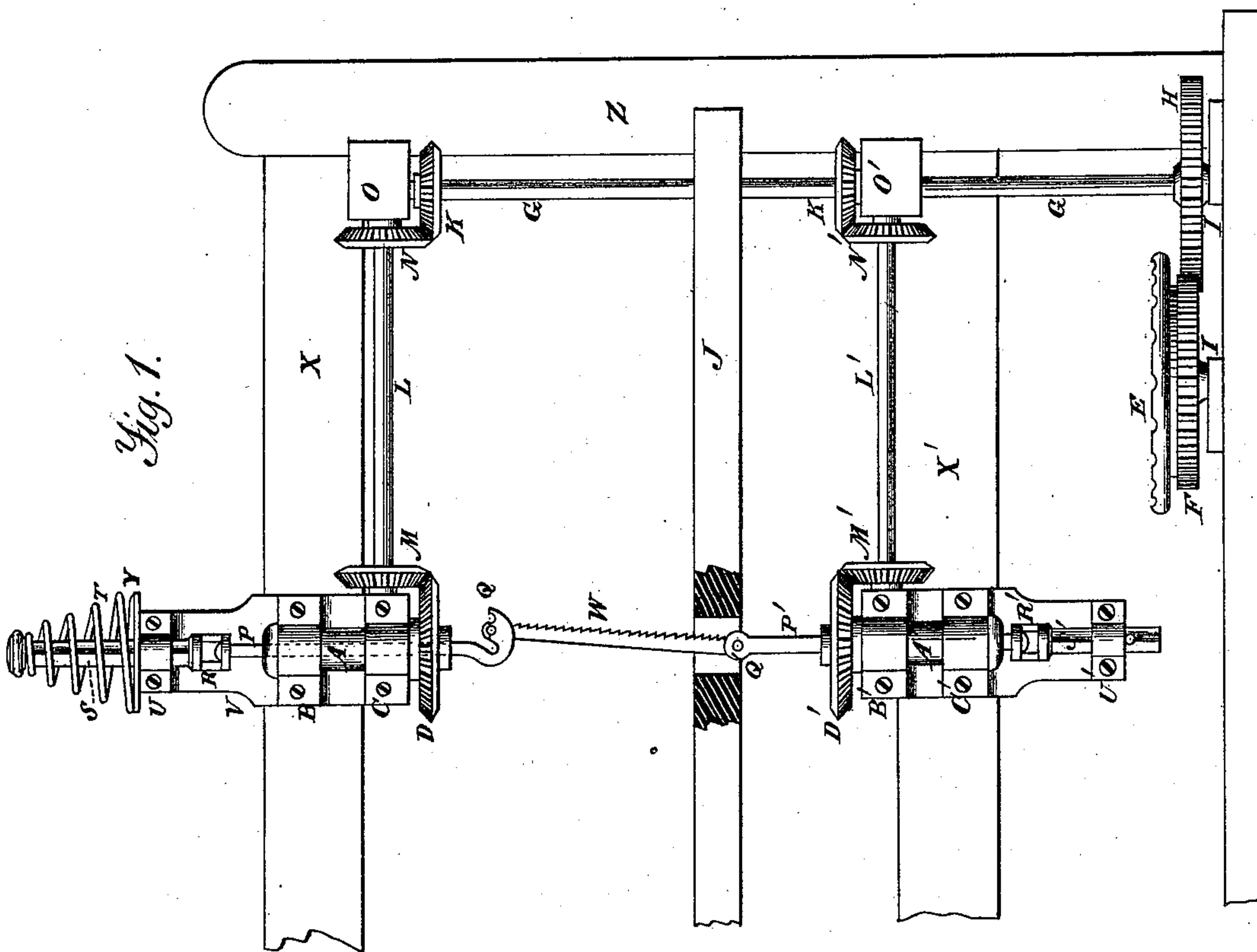
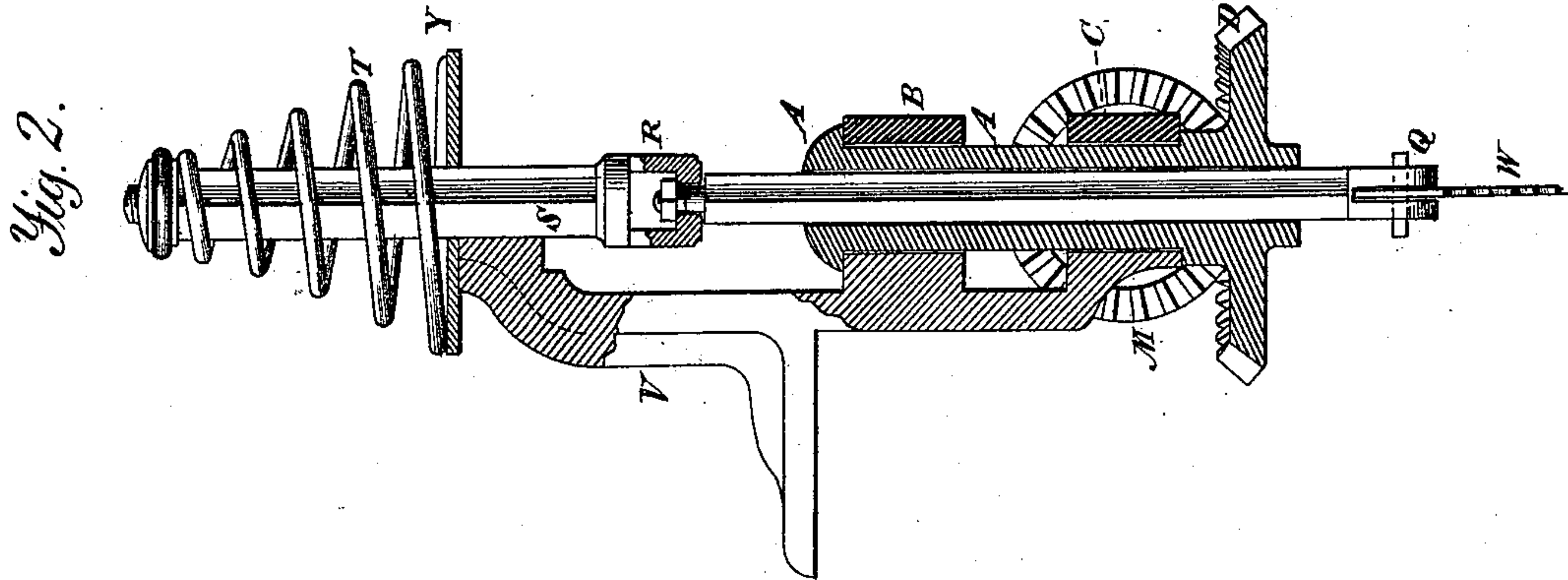


E. NUNAN.
Scroll Sawing Machine.

No. 229,908.

Patented July 13, 1880.



Witnesses.
A. Ruppert,
J. H. Mason,

Ed. Nunan
Inventor.
D. P. Holloway & Co
Atty

UNITED STATES PATENT OFFICE.

EDWARD NUNAN, OF SAN FRANCISCO, CALIFORNIA.

SCROLL-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 229,908, dated July 13, 1880.

Application filed December 8, 1879.

To all whom it may concern:

Be it known that I, EDWARD NUNAN, of the city and county of San Francisco, and State of California, have invented a new and useful
5 Improvement in Scroll-Sawing Machines, of which the following is a specification.

The object of this invention is to revolve a scroll-cutting saw without giving motion to the table or frame in which the saw may be
10 held, so that it may cut in any direction, avoiding the necessity of turning the lumber being cut, which is often difficult when it is long or heavy. This difficulty is avoided in this invention by having the saw-rods work through
15 loose sleeves and made to turn with them, the sleeves being turned by means of gearing. The upper and lower ends of the saw-rod work with a swivel, allowing it to be turned in the direction required. The direction is regulated
20 by means of a disk provided with radial grooves that gear to a driving or intermediate rod. This disk is placed so that it can be worked with the hand, foot, or leg, as most convenient to the operator.

25 In the annexed drawings, making a part of this specification, Figure 1 is a front elevation. Fig. 2 is a vertical section, showing the sleeve and saw-rod working in it.

30 The same letters are employed in all the figures in the indication of identical parts.

The sleeves A A', one above and the other below the table, are made of a cylindrical piece of material (wood or metal) hollowed out in the center to allow the saw-rod to pass. These
35 sleeves turn in the bearings B and C, B' and C', which are made fast to the cross-pieces X and X' of the frame. Said sleeves are made to revolve by means of friction-wheels, gear-

ing, or endless chain, connecting them with and driving them by a driving or intermediate rod, to which is connected the adjuster E. 40

The saw-rods P and P' are made to swivel at R and R', so that while they play longitudinally through the sleeves A A' they will turn with them, as hereinbefore described. To and 45 between said rods P and P' the saw W is adjusted.

Instead of the disk shown, a drum or platform may be substituted, extending the entire length of the frame, so that it may be operated by the sawyer standing at any part of the table. 50

The machine, as illustrated, shows the adjuster connected with the sleeves through the train of gearing F M N N' M' K K D D'; but 55 the construction may be varied by the substitution of other equivalent and well-known devices.

The mechanism for operating the saw and for attaching the same, as shown at Q Q' P 60 P' S, is well known and need not be particularly described, as the same forms no part of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is— 65

The combination of the adjuster E, sleeves A A', saw W, rods P and P', and intermediate gearing, constructed to operate substantially as shown and described.

In testimony whereof I have signed my name 70 to this specification in the presence of two subscribing witnesses.

EDWD. NUNAN.

Witnesses:

J. W. REAY,

A. J. SHRADER.