

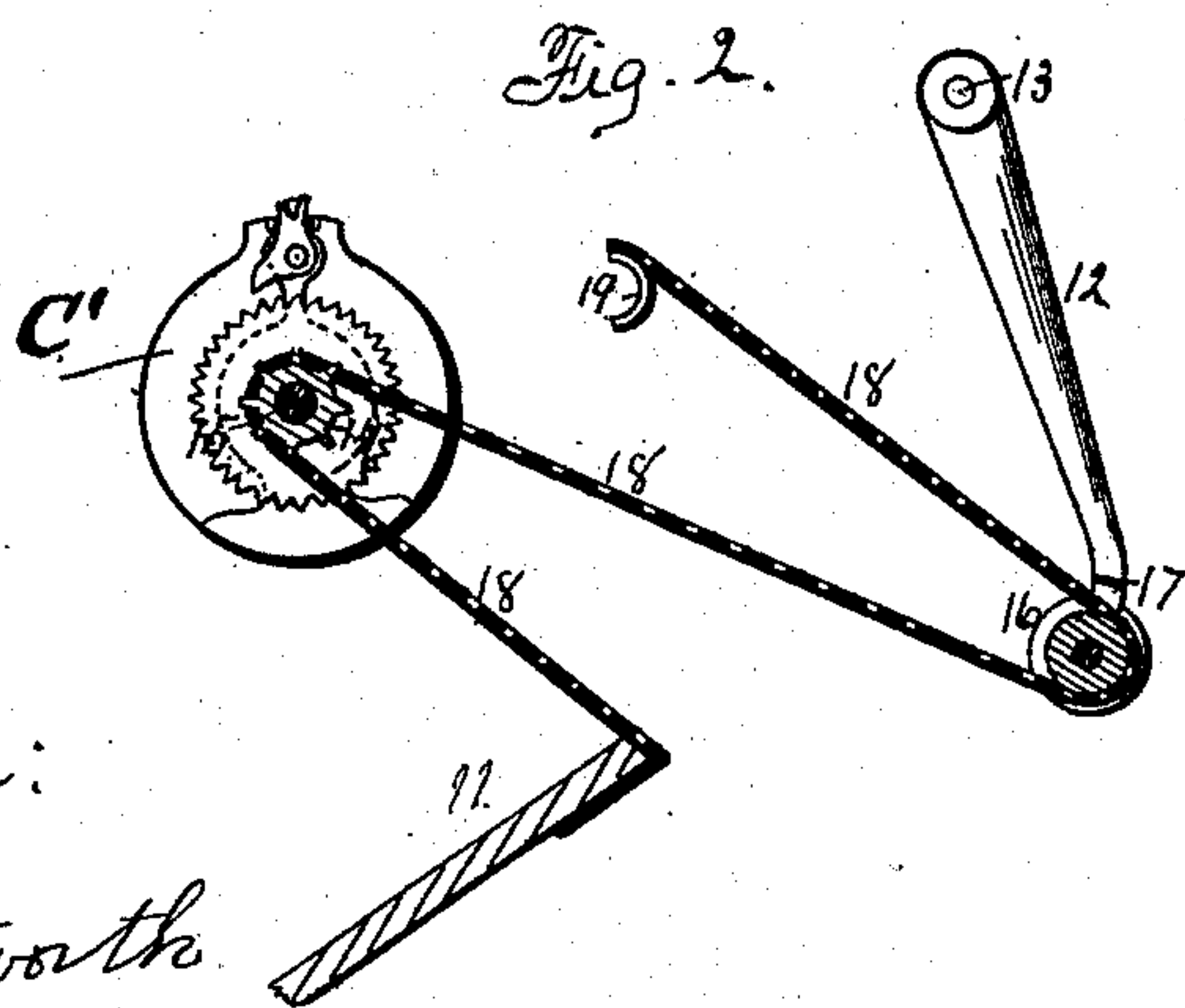
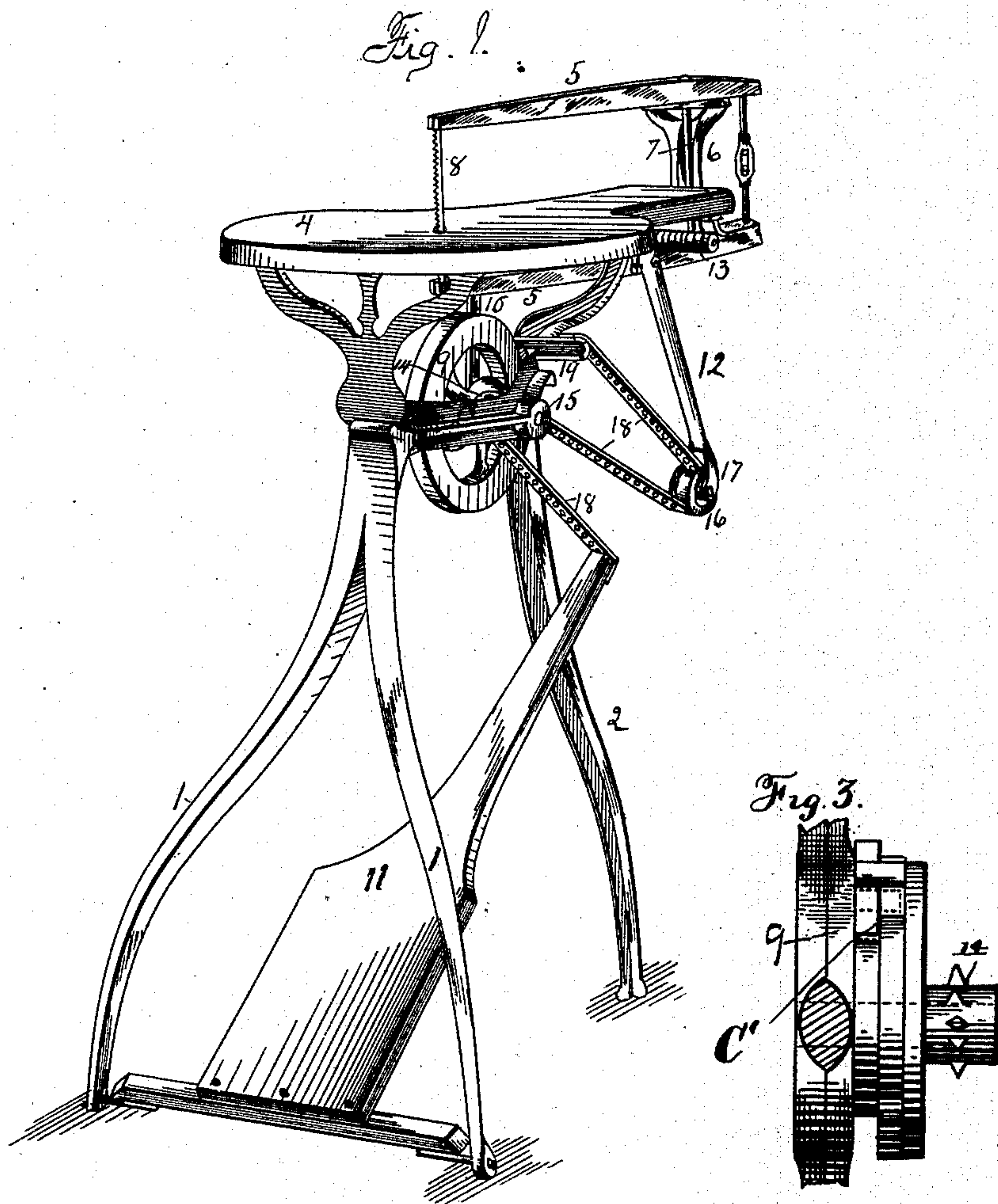
(No Model.)

W. F. BARNES.

MECHANISM FOR OPERATING SCROLL SAWS, &c.

No. 413,475.

Patented Oct. 22, 1889.



Witnesses:
E. Behel
J. D. Southworth

Inventor:
William F. Barnes
By A. O. Behel
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. BARNES, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE W. F. & JOHN BARNES COMPANY, OF SAME PLACE.

MECHANISM FOR OPERATING SCROLL-SAWS, &c.

SPECIFICATION forming part of Letters Patent No. 413,475, dated October 22, 1889.

Application filed January 11, 1889. Serial No. 296,057. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BARNES, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Mechanism for Operating Scroll-Saws, &c., of which the following is a specification.

The objection raised to saws of this class is the slipping of the belt upon the small driven pulley, thereby limiting its use to very light work.

The object of this invention is to overcome this difficulty and provide means for positively driving the saw.

In the accompanying drawings, Figure 1 is an isometrical representation of a scroll-saw embodying my improvements. Fig. 2 is a section in skeleton, showing the connections of the belt; and Fig. 3 is an enlarged view of the clutch, showing the position of the sprocket-wheel 14.

The scroll-saw represented in the drawings in the main is the same as secured by Letters Patent No. 328,377, granted October 13, 1885, and consists of legs 1 1 and a rear leg 2, connected by a transverse bar 3, forming a tripod support to the table 4, fixed thereon, the parallel arms 5 of the saw-frame, their bracket-support 6, the connecting-rod 7, saw 8, balance-wheel 9, its wrist-pin and pitman 10, treadle 11, clutching mechanism connecting the driving mechanism with the balance-wheel to impart motion to the saw, also the belt-tension mechanism consisting of the spring-actuated oscillating arm 12, supported to oscillate upon a spring supporting-shaft 13. The clutching mechanism C' may be of any ordinary construction, or of the construction shown in Patent No. 146,636, granted to me January 20, 1874, which is shown in the accompanying drawings. This clutch mechanism is provided with a sprocket-wheel 14, which moves therewith and is mounted to revolve upon the shaft 15. A sheave 16, having its periphery grooved to receive the flat perforated belt, is supported to revolve on journal-bearings within the forked free end 17 of the oscillating arm 12. A flat belt 18

is perforated at suitable intervals to correspond with the sprockets of the wheel 14. This belt is connected at one end to the support 19, connected with the main frame and passed around the sheave 16, over the sprocket-wheel 14, and secured to the free end of the treadle 11. By this construction of the parts, downward motion being imparted to the treadle will impart a forward rotary motion to the sprocket-wheel, and by reason of its clutch-connection with the balance-wheel will impart a forward rotary movement to the balance-wheel, and in turn will cause the saw-frame to vibrate by its pitman-connection. This downward movement of the treadle will cause the oscillating arm to yield against its spring action. In releasing the treadle the spring oscillating arm will take up the slack of the belt, and by reason of the sprockets of the sprocket-wheel engaging the perforations of the belt will cause the sprocket-wheel and the clutch mechanism to rotate backward, placing the parts in position to be again operated.

By the employment of the perforated belt and a sprocket-wheel carrying the clutch mechanism a positive movement is imparted to the saw, and all slipping of the belt prevented, thereby greatly enlarging the usefulness of the saw.

I claim as my invention—

1. The combination of a sprocket-wheel, a clutch mechanism carried by said wheel, a perforated belt engaging the sprockets of the wheel, mechanism for imparting motion to the belt intermediate its ends, and a take-up for the belt, substantially as set forth.

2. The combination of a sprocket-wheel, a clutch mechanism carried by said wheel, a perforated belt engaging the sprocket of the wheel, a foot-treadle for imparting motion to the belt, and a spring-actuated oscillating take-up arm engaging the belt intermediate its ends, substantially as set forth.

WILLIAM F. BARNES.

Witnesses:

JOHN BARNES,
A. O. BEHEL.