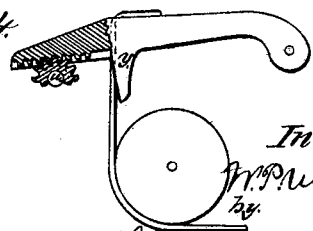
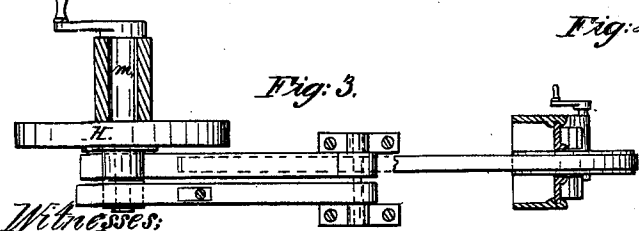
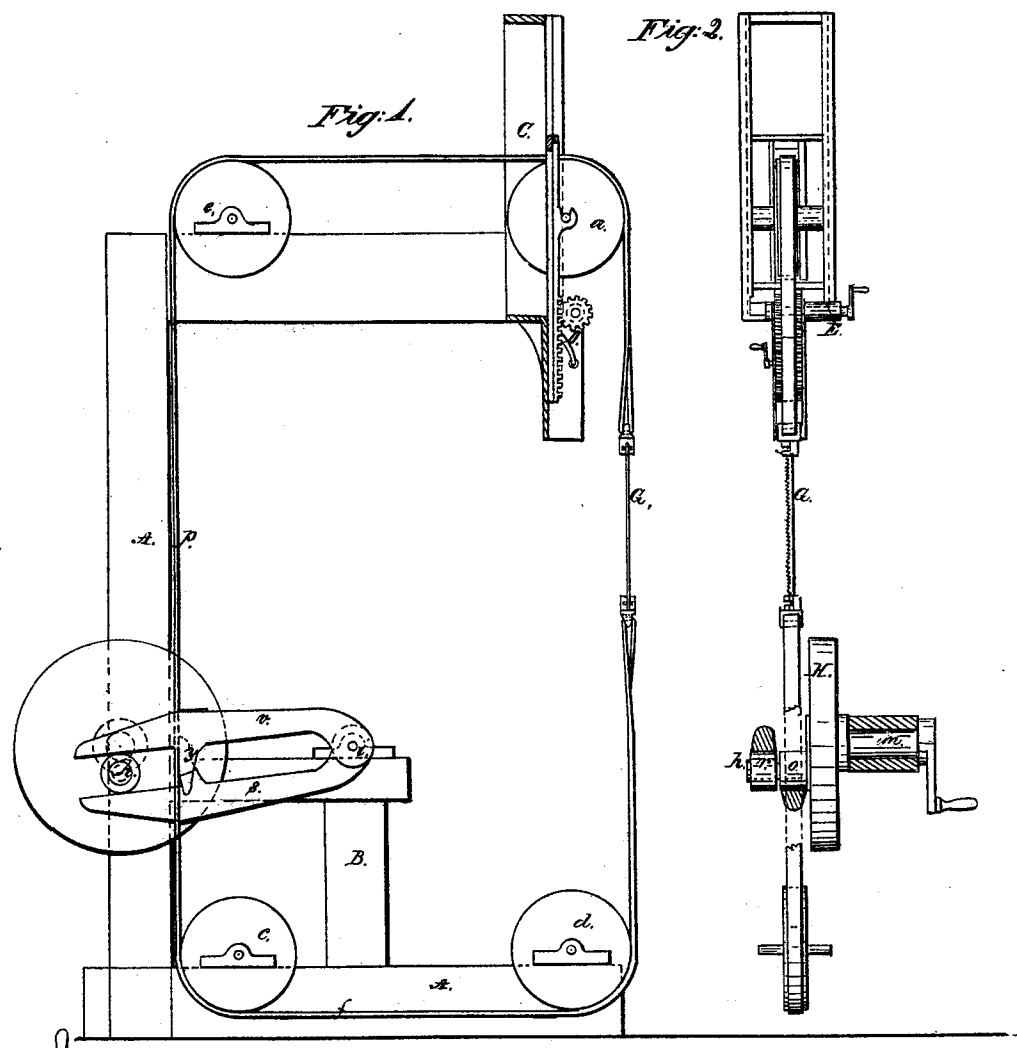


M. P. Uhlinger.

Sawing Mach.

N^o 91,185.

Patented Jun. 8, 1869.



Witnesses:
S. M. Pool,
Chas. Philip.

Inventor:
M. P. Uhlinger
by
Chipman Hanson & Co.
Attys.

United States Patent Office.

WILLIAM P. UHLINGER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 91,185, dated June 8, 1869.

IMPROVEMENT IN SAWING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM P. UHLINGER, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented a new and valuable Improvement in Sawing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1, of the drawings, is a representation of a longitudinal section of my device.

Figure 2 is an end sectional view of the same.

Figures 3 and 4 are details.

My invention relates to sawing-machines; and

It consists mainly in constructing and arranging a series of devices, by which a reciprocating movement is secured to the saw in a novel manner, without any change in the tension of the driving-belt upon its pulleys.

The letter A, of the drawings, represents a frame, and the letter B is a smaller frame attached thereto, as shown.

The letter C represents a grooved and slotted block attached to the end of the upper bar of frame A, in the slot of which I affix the pulley *a*, and in the lower side of which I affix the rack, pinion and pawl, represented at D on the drawings.

This rack, pinion, and pawl provide means for tightening or loosening the driving-belt, hereinafter mentioned. They are operated in conjunction with the crank and shaft marked E on fig. 2.

The letters *c*, *d*, and *e* are belt-pulleys, corresponding in size to the pulley *a*, above mentioned, all attached as represented.

The letters *s* and *v* are pivoted jaws, working upon the pivot-shaft *i*, and the letters *y* are radial levers attached thereto, respectively, in the manner shown. I sometimes cut teeth upon the jaw *v*, as shown in fig. 4, but this is not absolutely indispensable.

The letter *w* is a segmental pinion, which is intended to work with the teeth of jaw *s*, when such teeth are constructed thereon.

When desirable so to do, I substitute a roller, such as shown by the letter *o* on fig. 2, in place of the segmental pinion. I also place another roller, repre-

mented by *r*, on the crank, outside the pinion or roller above mentioned.

The letter H is a fly-wheel, affixed upon a crank-shaft, represented by letter *m*.

A pin, attached to the side of this wheel, shown by the letter *h*, serves the purpose of a crank, to move the jaws up, and thereby operate the saw, as hereinafter described.

The shaft *m* serves as the main driving-shaft of the machine.

The letter *f* is a belt, attached to the jaw *v*, in the manner shown. It passes under the pulleys *c* and *d*, and is affixed to the saw G, as shown.

The letter *p* is a belt, attached to the jaw *s*. It passes over the pulleys *e* and *a*, and is affixed to the saw at its upper end, as represented on fig. 1.

It will readily be perceived, that by communicating motion to the shaft *m*, the jaws are raised and lowered at each revolution, and that with them the belts and saw are forced to move up and down.

The pinion or roller between the jaws serves to lessen friction, and aids in producing the reciprocating movement.

By these devices combined, great speed may be communicated to the saw without great noise or jar, and with safety to the machinery.

This arrangement for procuring a reciprocating movement is applicable to a great variety of uses.

The radial levers *y* being of a curved form, allow the belts to be drawn upon their faces, up and down, without changing the tension thereof upon the pulleys.

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

The radial levers *y*, in connection with a crank or crank-pin, and segmental pinion or roller, and the jaws *s* and *v*, either toothed or smooth, to give a reciprocating motion, in a right or straight line, to bands, for the purpose of working saws, substantially as specified.

In testimony that I claim the above, I have hereunto subscribed my name, in the presence of two witnesses.

Witnesses: WILLIAM P. UHLINGER.
JAMES P. GREVES,
DENNIS D. KANE.