

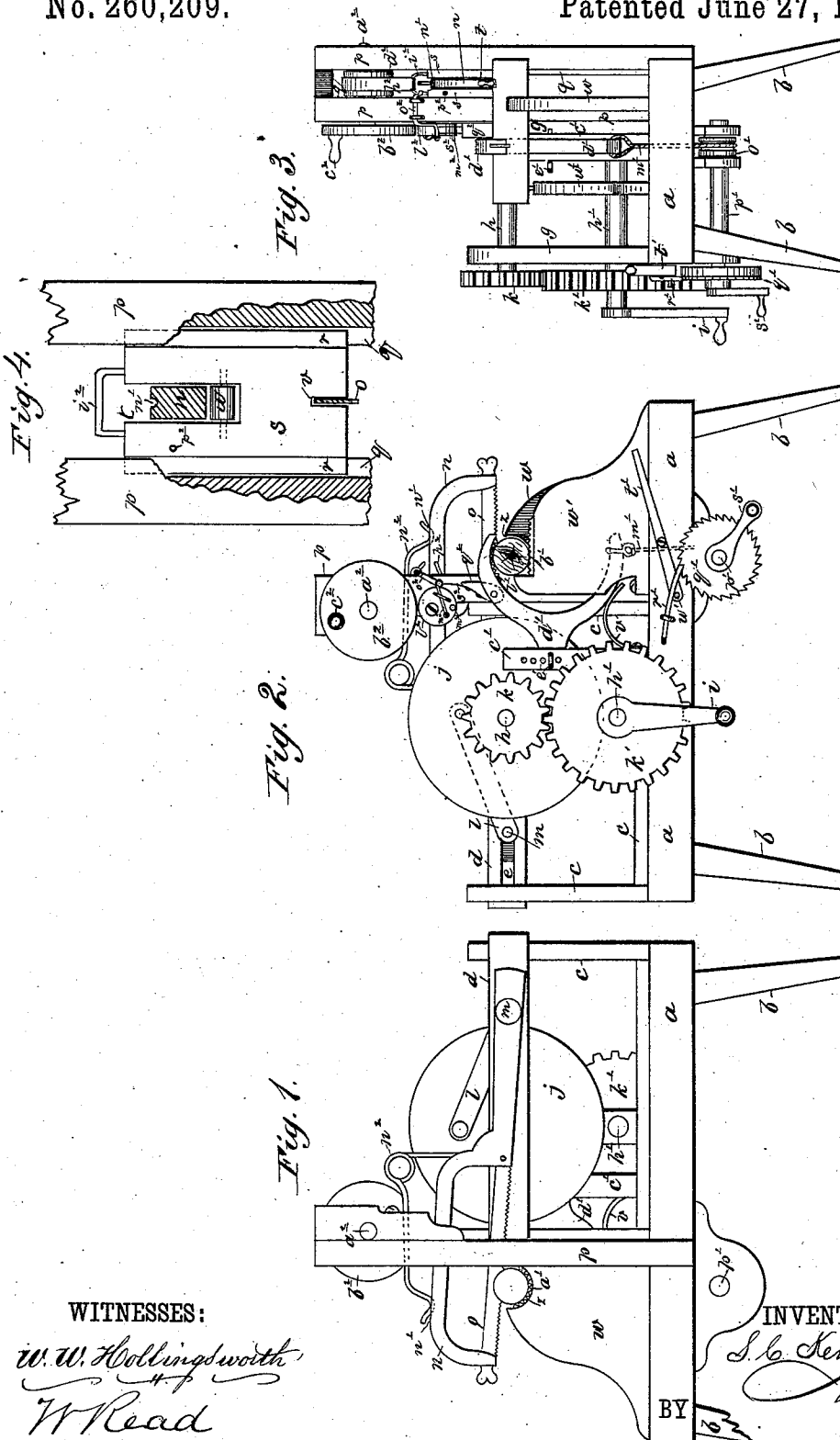
(No Model.)

S. C. KENNEDY.

SAWING MACHINE.

No. 260,209.

Patented June 27, 1882.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL C. KENNEDY, OF WORTHINGTON, INDIANA.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 260,209, dated June 27, 1882.

Application filed November 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. KENNEDY, of Worthington, in the county of Greene and State of Indiana, have invented a new and Improved Sawing-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of one side of my improved sawing-machine. Fig. 2 is an elevation of the opposite side, and Fig. 3 is an end elevation. Fig. 4 is a detail view of the slide.

My invention relates to improvements in sawing-machines; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth.

In the accompanying drawings, *a* represents the top of a bench supported by legs *b b*.

To the upper face of the top *a* of the bench is secured the open rectangular frame *c*, the upper longitudinal side, *d*, of which is provided with the horizontal slot *e*.

g g represent posts secured to the upper face of the top *a* of the bench and lying opposite each other, in which posts *g* are journaled the parallel horizontal shafts *h h'*, the former carrying the small cog-gear *k*, which meshes with the larger cog-gear, *k'*, on the lower shaft, *h'*, to which rotary motion is imparted by a crank, *i*, or in any other suitable manner, to drive the saw.

To the inner end of the upper shaft, *h*, is secured the balance-wheel *j*, to which is eccentrically pivoted the pitman *l*, the outer end of which is provided with a wrist-pin, *m*, which passes through the slot *e* in the upper side, *d*, of the open rectangular frame *c*, and thence passes through a hole in the horizontal part of the saw-frame *n*, preferably made of iron to give it more weight to keep the saw pressed down to the timber to be sawed. The saw-frame *n* has its inner end horizontal for a short distance, and is then curved upwardly and then downwardly, as fully shown in the drawings, the saw *o* being inserted in the usual manner in the opposite ends of the curved part of the saw-frame *n*.

To the front end of the saw-frame is secured a thumb-screw, by means of which the saw may be strained as desired.

p p represent two opposite parallel posts, secured to the top *a* of the bench, each provided on its inner face with a vertical groove, *q*.

The vertical grooves *q q* on the inner faces of the posts *p* lie opposite each other, and receive vertical tenons *r*, formed on the longitudinal sides of a guide, *s*, adapted to be vertically reciprocated between the posts *p*.

The upper end of the guide *s* is provided with a recess, *t*, in the lower end of which is journaled, on a horizontal axis, the friction-roller *u*, on which the curved portion of the saw-frame *n* rests in its reciprocations.

v represents a vertical kerf cut in the lower end of the guide, through which the upper edge of the saw *o* passes, the kerf guiding the saw in its reciprocations.

The upper face of the curved portion of the saw-frame *n* is provided with a groove, *n'*, which receives the free end of a spring, *n''*, secured at its opposite end to the upper side, *d*, of the rectangular frame *c*, whereby the saw is prevented from bouncing or moving upwardly when a rapid reciprocating motion is imparted to it. By this construction it will be seen that when a rotary motion is given the lower shaft *h'* by its crank *i* or by other suitable means a rapid horizontally-reciprocating motion is imparted to the saw-frame and saw, which are guided in their reciprocations by the slot in the upper end of the guide and the kerf in its lower end.

If it is desired to give a slower motion to the saw, the cog-gears *k k'* are reversed, the smaller cog-gear being secured to the lower shaft, *h'*, and the larger cog-wheel secured to the upper shaft, *h*.

The support or buck for the piece of timber to be sawed consists of two parallel opposite uprights, *w w'*, secured to the upper face of the top *a* of the bench.

The upper face of the upright *w* is provided with a circular recess, *z*, in which the log to be sawed rests, and a plate, *a'*, provided with serrations on its upper edge, is attached to the inner face of the upright *w*, so that its serrations will project slightly above the bottom of the circular recess *z* and bite the log resting therein. The opposite upright, *w'*, is provided with a longitudinal slot in its upper face, in which is inserted and secured a plate, *b'*, having serrations on its upper edge projecting

slightly above the upper face of the upright w' and adapted to bite a log resting thereon.

c' represents a post secured to the upper face of the top a of the bench and lying opposite the opening between the uprights $w w'$. The post c' is provided with a vertical longitudinal slot for the reception of the shank of a dog, d' . The shank of the dog is provided with a hole for the passage of a pin, e' , which passes also through holes made in the opposite faces of the post c' , a series of holes being made in the post c' , whereby the dog d' is pivoted to the post c' and may be vertically adjusted thereon as desired.

The dog d' is made in the form of an arc of a circle or similar curve, and is provided at the upper end of its curve with a plate, l' , secured to the end of the dog and provided with serrations adapted to bite the log when the dog is brought down upon it, as hereinafter explained.

To the lower end of the dog d' is secured a cord, m' , which passes thence through a slot in the top a of the bench and is secured at its opposite end to a grooved pulley, o' , fast on a shaft, p' , journaled in brackets secured to the lower face of the top a of the bench, and carrying a ratchet-wheel, q' , fast on the shaft, and a crank, s' , on its outer end.

r' represents a spring-pawl secured to one side of the top a , over the ratchet-wheel q' , and adapted to engage therewith.

t' represents a lever pivoted to the side of the top a and provided with a projecting pin, u' , lying under the spring-pawl r' . By depressing the outer end of the lever t' the pawl is raised from engagement with the ratchet-wheel.

v' represents a flat spring, secured at one end to the post c' , its opposite free end bearing against the lower face of the dog d' . By this construction it will be seen that by turning the crank s' the dog will be brought to bear against the log to be sawed, the latter being securely held in place by the serrations on the dog and uprights or supports, and that after the log is sawed by depressing the lever t' the pawl will be disengaged from the ratchet-teeth, when the spring v' will force up the dog d' , so that it will no longer bear upon the log.

In order to raise the saw-frame and saw when desired and hold them when thus elevated, I have invented the following devices:

a^2 represents a horizontal shaft, journaled in the posts $p p$ near their upper ends, and provided on its outer end with the wheel b^2 , provided with the handle c^2 , and carrying the pulley d^2 , fast on the shaft a^2 , and lying between the posts p , to which is secured one end of a strap, h^2 , the opposite end of the strap h^2 being secured to a staple, i^2 , driven into the upper end of the guide s , whereby the latter, carrying the saw-frame, can be readily raised and lowered, as desired, by turning the handle c^2 .

l^2 represents a wheel eccentrically pivoted to

the outer face of one of the posts p and lying directly under the wheel b^2 , so that in its normal position its periphery will not be in contact with the wheel b^2 , leaving the latter free to rotate, but when the wheel l^2 is partially revolved its periphery will bear against the periphery of the wheel b^2 and prevent it from rotating. The wheel l^2 is provided with a handle, m^2 .

n^3 represents a rod secured at its inner end to the outer face of the wheel l^2 and provided at its outer end with an eye, through which one end of a double-crank rod, o^2 , passes, the latter being pivoted in staples secured to one of the posts p and having its opposite end lying over and in the path of a pin, p^2 , secured in one of the side faces of the guide s .

q^2 represents a button secured to the front face of one of the posts p .

To the outer end of the button q^2 is secured a spring, s^2 , the outer free end of which bears against one end of the double crank o^2 to hold it away from the wheel l^2 while the saw is in motion. By this construction it will be seen that the saw-frame and saw can be raised, when desired, by turning the wheel b^2 , and in the upward movement of the guide s , carrying the saw-frame, the pin p^2 will strike one end of the double crank o^2 , revolving the latter, which, through the rod n^3 , will partially revolve the wheel l^2 , causing it to partially rotate and bite the wheel b^2 and prevent it from turning, thus holding the saw-frame and saw in an elevated position.

To lower the saw-frame the eccentric wheel must be turned back, the wheel b^2 being held stationary while the eccentric is turned back, and then lowering the saw-frame by turning the wheel b^2 .

What I claim as my invention is—

1. The combination, with the reciprocating saw-frame n , supported by a guide and provided with a groove, n' , in its upper face, of the rectangular frame c and spring n^2 , secured at one end to the stationary frame, and having its opposite free end pressing in the groove of the saw-frame, substantially as described, and for the purpose set forth.

2. The combination, with the pivoted curved dog d' , provided with a cord, m' , of the shaft p' , having grooved pulley o' and ratchet-wheel q' , spring-pawl r' , lever t' , having pin u' , and spring v' , substantially as described, and for the purpose set forth.

3. The combination of the guide s , having the pin p^2 , and adapted to slide in grooves in the posts p , and carrying the saw-frame n , shaft a^2 , carrying the wheel b^2 , pulley d^2 , strap h^2 , eccentric wheel l^2 , rod n^3 , and double-crank rod o^2 , substantially as described, and for the purpose set forth.

SAMUEL C. KENNEDY.

Witnesses:

ANDERSON F. FOX,
GEO. P. STONE.