

B. F. Southgate,  
Reciprocating Saw Mill.

No 35,550.

Patented June 10, 1862.

Fig. 2.

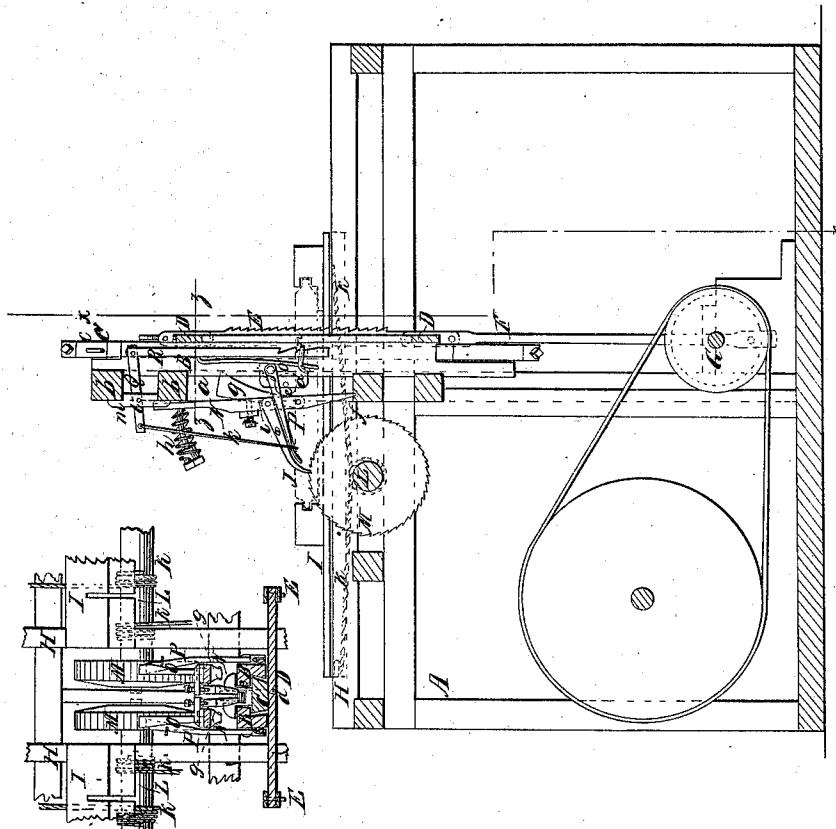
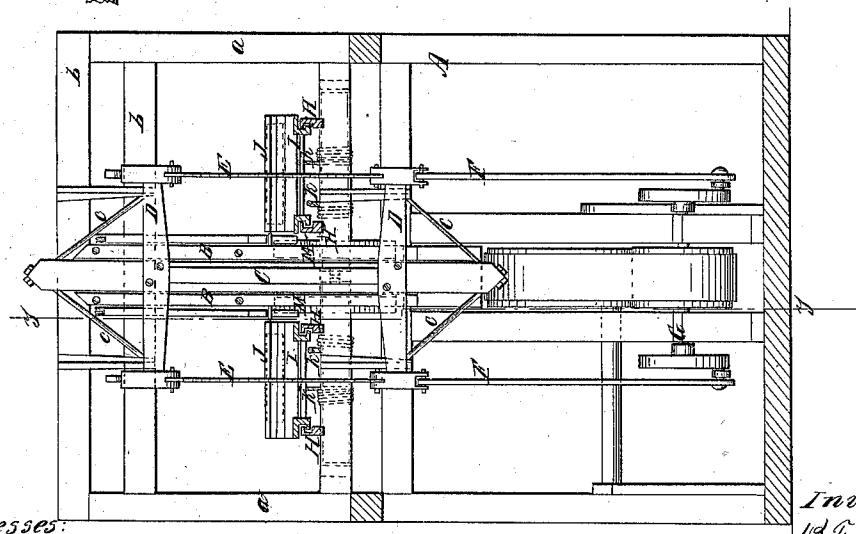


Fig. 3.



Witnesses:

J. W. Coombs  
R. Hawley

Inventor:

B. F. Southgate  
per M. M. H. & Co  
attorneys

# UNITED STATES PATENT OFFICE.

B. F. SOUTHGATE, OF BRIDGEWATER, VERMONT.

## IMPROVED SAWING-MACHINE.

Specification forming part of Letters Patent No. 35,550, dated June 10, 1862.

*To all whom it may concern:*

Be it known that I, B. F. SOUTHGATE, of Bridgewater, in the county of Windsor and State of Vermont, 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, making a part of this specification, in which—

Figure 1 is a transverse vertical section of my invention, taken on the line  $x x$ , Fig. 2; Fig. 2, a longitudinal vertical section of the same, taken on the line  $y y$ , Fig. 2; Fig. 3, a horizontal section of a portion of the same, taken on the line  $z z$ , Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved sawing-machine of that class designed more especially for sawing small stuff or work, as, for instance, fellies for wheels, scroll-work, and the like.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the framing of the machine, which may be constructed in any proper manner to support the working parts, and  $a a$  are two uprights, one at each side of the framing, and projecting a considerable distance above it, and connected by horizontal bars  $b$ , as shown clearly in Fig. 1.

$B B$  are two vertical guides, which are attached centrally to the bars  $b$ , and between which a slide,  $C$ , is fitted and allowed to work up and down freely.

$D D$  are two bars, which are attached centrally and horizontally to the slide  $C$ , one near its upper and the other near its lower end. (See more particularly Fig. 1.) These bars  $D D$  are secured in proper position by diagonal braces  $c$ , attached to them and the slide  $C$ , and between the ends of said bars saws  $E E$  are secured and strained in the ordinary or any proper way. The saws  $E$  may be of the kind usually employed for sawing scroll-work, fellies, &c. The slide  $C$  and bars  $D D$  form the saw gate or sash, and it may be driven by connecting-rods  $F F$  from a crank-shaft,  $G$ , as shown clearly in Fig. 1.

$H H$  are parallel ways, which are placed

longitudinally on the framing  $A$ , and on each pair of ways there is placed a carriage,  $I$ , to or on which the stuff  $J$  to be sawed is placed and secured in any proper way. There is a carriage,  $I$ , for each saw  $E$ , and each carriage has two cords or chains,  $K$ , attached to it, one at each end, and these cords or chains pass around shafts  $L$ , on the inner ends of which ratchet-wheels  $M$  are placed.

The shafts  $L L$  are placed transversely on the framing  $A$ , and in line with each other, and to the back side of the slide  $C$  there is attached a block,  $d$ , which projects beyond the back surfaces of the guides  $B B$ , and has a friction-roller,  $e$ , fitted in it. (See Fig. 2.)

$N N$  are two levers, the lower ends of which are fitted in steps or notches  $f f$  on the framing  $A$ , and have each a curved block,  $g$ , secured to their inner sides, the curved surfaces of said blocks being made to press or bear against the friction-roller  $e$  by means of springs  $h$ , which bear against the upper ends of the levers  $N N$ , as shown in Fig. 2. Each lever  $N$  has a pawl,  $O$ , attached to it by a pivot,  $i$ , and said pawls, when at work, engage with the ratchets  $M M$ .

$P P$  are arms, which are attached one to the outer side of each guide  $B$  by pivots. The outer ends of these arms are connected by wires  $k k$  to the back ends of levers  $Q Q$ , the fulcrum-pins  $l l$  of which pass through uprights  $m$ , between the upper bars,  $b b$ , which connect the two uprights  $a a$ . The front ends of the levers  $Q Q$  are connected to vertical rods  $R R$ , which are at the outer sides of the guides  $B B$ , and are notched at their lower parts, and catch over guides  $n$  by means of springs  $o$ . (See Fig. 2.) The arms  $P P$  project underneath the pawls  $O O$ , and by raising said arms through the medium of the levers  $Q$  and rods  $R$  the pawls  $O$  may be disengaged from the ratchets  $M$  when desired.

The operation is as follows: When the pawls  $O$  are engaged with the ratchets  $M$  and power applied to the shaft  $G$ , a reciprocating motion will be imparted to the slide  $C$ , and consequently to the saws  $E E$ , the latter operating on the stuff in the carriages  $I I$ . Each time the slide  $C$  and the saws  $E E$  rise the friction-roller  $e$  acts against the blocks  $g g$ , and shoves them and the levers  $N N$  outward, and there-

by actuates the pawls O, which move the ratchets M, the latter turning the shafts L L, and the cords or chains K move the carriages I and feed the stuff J to the saws. In sawing straight work the stuff is secured to the carriages; but in sawing scroll or any curved work the latter is held on the carriages and turned by the operator. In case of one saw only requiring to be used, a rod or bar may be placed at one end of the bars B. The carriages may be gigged back by hand, or any suitable mechanism employed for the purpose.

I do not claim a reciprocating saw gate or sash provided with a saw at each end irrespective of the construction herein shown and

described, for such device has been previously used; but

I do claim as new and desire to secure by Letters Patent—

The levers N N, provided with the pawls O, and operated from the saw gate or sash, as shown, in combination with the ratchets M M, shafts L, and the cords or chains K, or their equivalents, all arranged substantially as shown, for giving the feed-movement to the carriages I, as set forth.

B. F. SOUTHGATE.

Witnesses:

CH. S. RAYMOND,  
SOLOMON WARREN.