B. F. Southgate,

Reciprocating Saw Mill.

No. 35,550. Patented June 10, 1862.

Fig: 2.

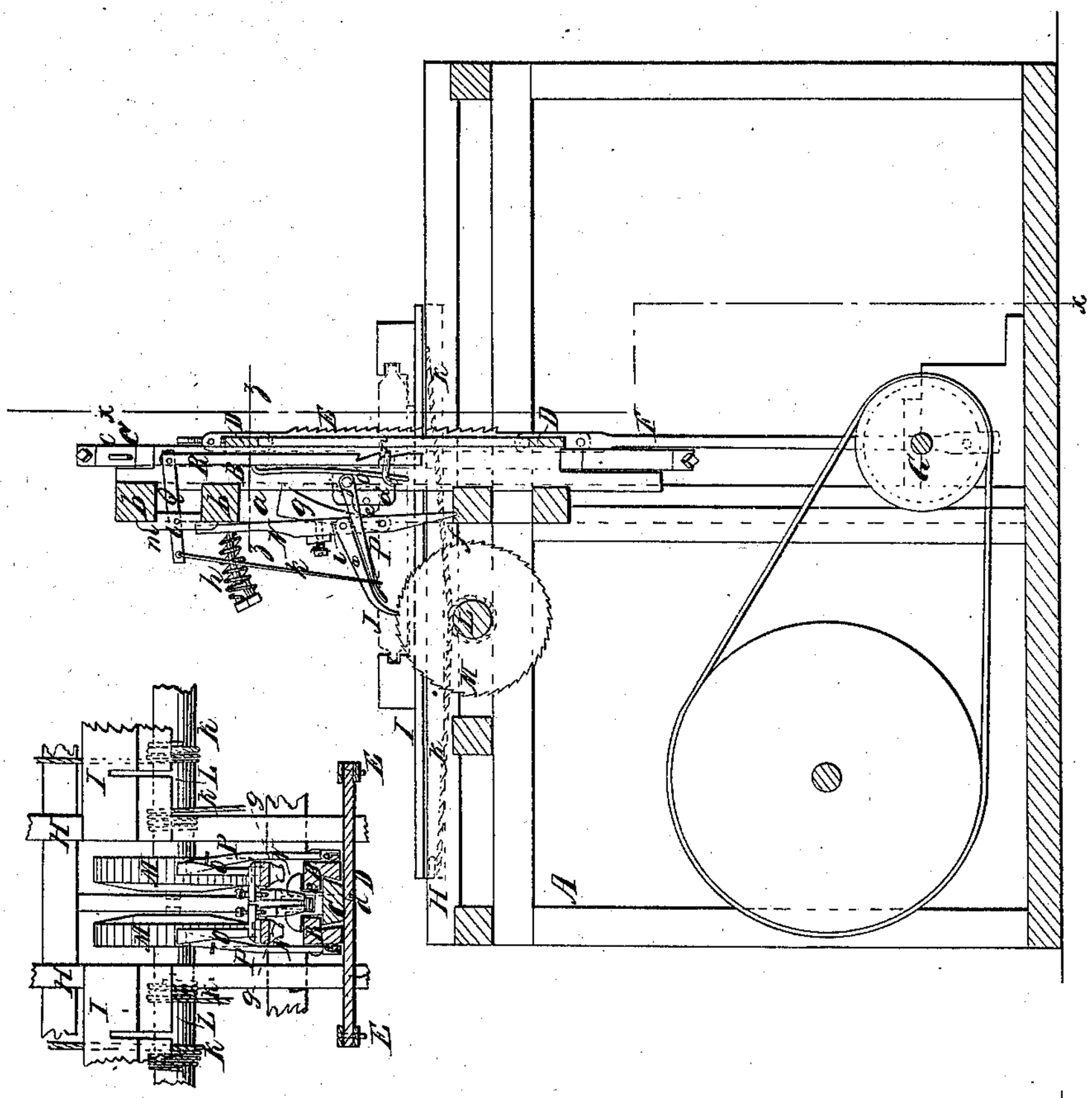
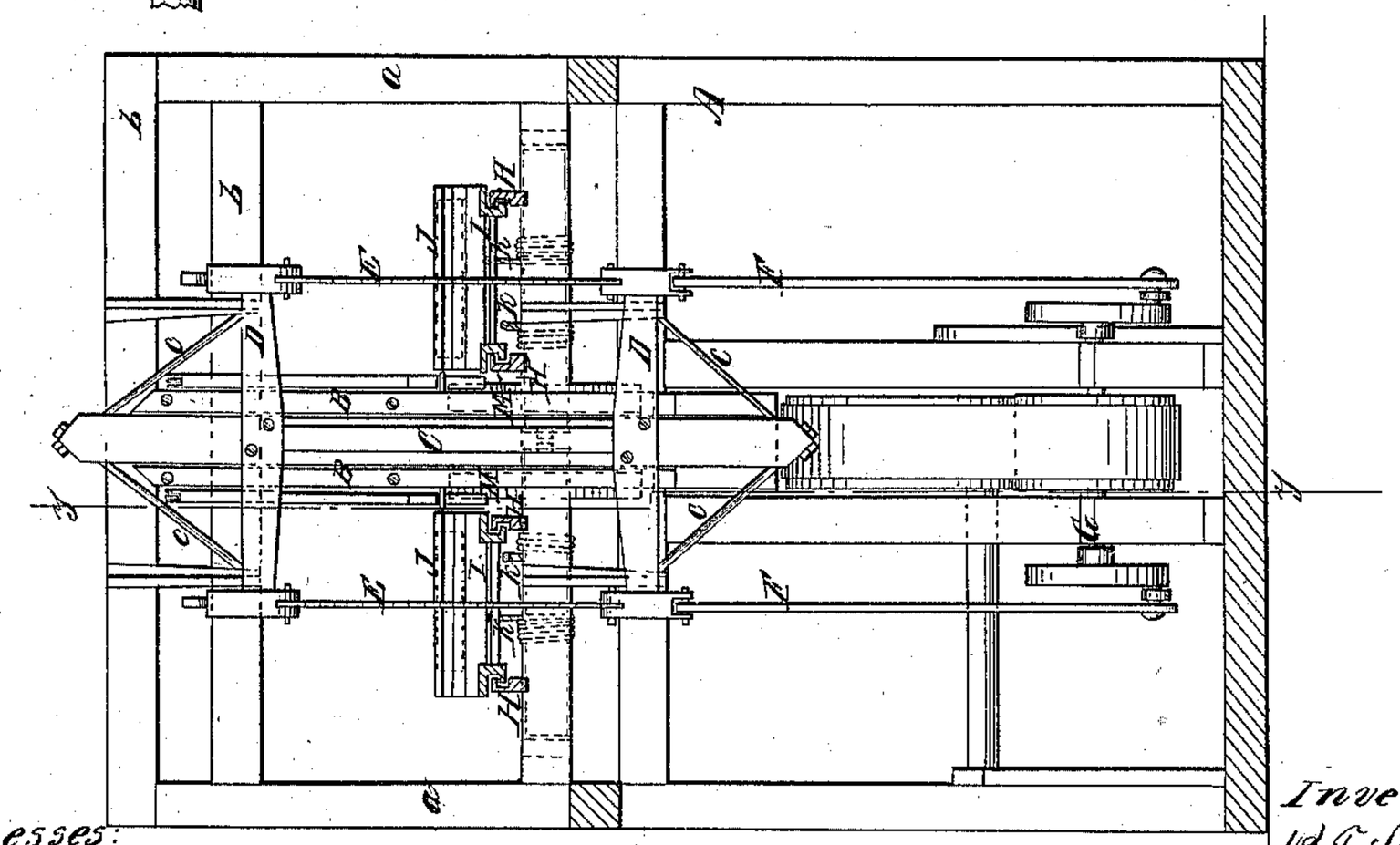


Fig: 3.

Fig: 1.



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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* 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.

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Witnesses:

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