

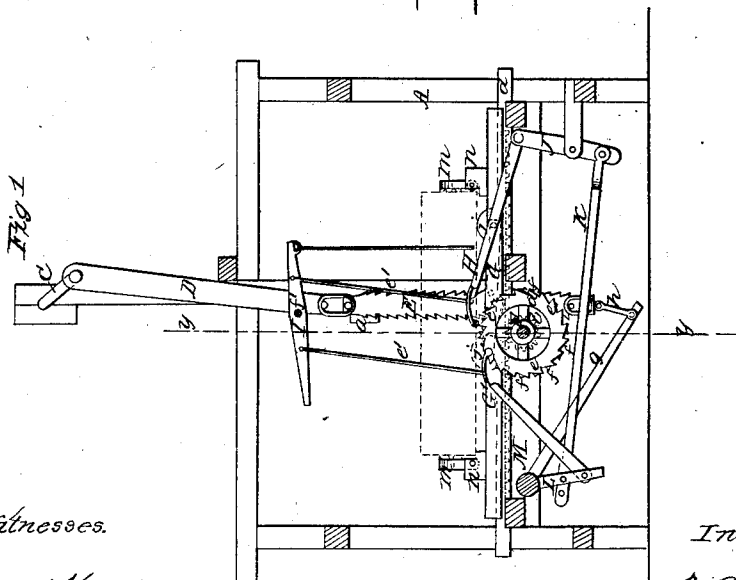
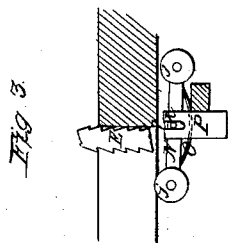
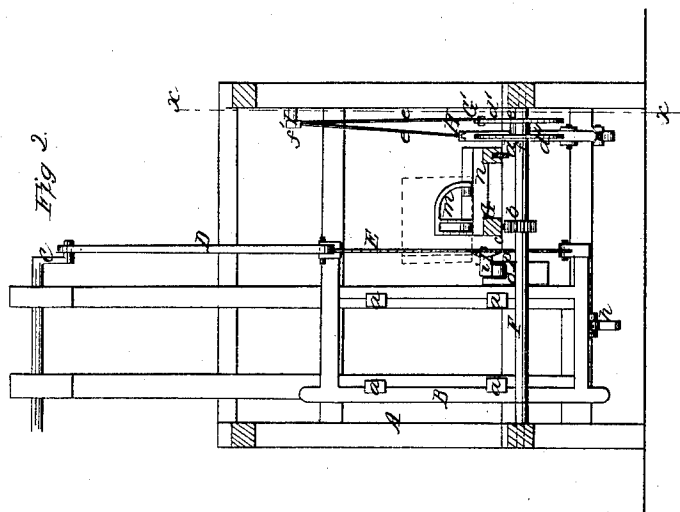
*This specification in this patent
is not to be printed.*

R. B. Brown

Reciprocating Saw Mill,

No 26,746,

Patented Jan. 10, 1860.



Witnesses.

*Humphreys
C. H. & O. H. & Co.*

Inventor.

R. B. Brown

UNITED STATES PATENT OFFICE.

R. B. BROWN, OF CAMBRIDGE, VERMONT.

SAWING-MACHINE.

Specification of Letters Patent No. 26,746, dated January 10, 1860.

To all whom it may concern:

Be it known that I, R. B. BROWN, of Cambridge, in the county of Lamoille 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 annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of a sawing machine constructed according to my invention, *x, x*, Fig. 2, indicates the plane of section; Fig. 2, a vertical section of the same, taken in the line *y, y*, Fig. 1; Fig. 3, a section of the same showing the operation or function of one part of the invention.

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

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

A, represents a framing which may be constructed in any proper way to support the working parts of the machine.

B, is a saw sash which is fitted in proper guides *a*, and has a reciprocating movement given it by means of a crank C, and connecting rod D.

E, is a saw fitted in the sash B, and toothed at each side as shown clearly in Fig. 1.

In the lower part of the framing A, a shaft F, is placed, said shaft having a pinion *b*, placed on it, which pinion gears into a rack *c*, attached to the under side of a carriage G, which is fitted on a proper guide *d*, in the framing. On one end of the shaft F, two ratchets *d'*, *d''*, are placed, the teeth *e*, of one ratchet being in a reverse position to those *f*, of the other, as shown clearly in Fig. 1.

G', H, represent two pawls, which engage respectively and alternately with the ratchets *d'*, *d''*. The pawls are attached by cords *e'*, *e'*, to a lever I, in the upper part of the framing A,—*f'*, being the fulcrum pin of said lever. Each pawl G', H, is attached to a lever, both of which are shown in Fig. 1. The pawl H, has its lever J, connected at its

lower end to one end of a rod K, which is attached at its opposite end to the lower end of a lever L, which is secured to a rock shaft M, which receives its motion from the saw-sash B, by means of an arm *g*, and link *h*, as shown clearly in Fig. 1.

In the framing A, and parallel with the carriage G, a bar N, is placed, said bar resting on a semi-elliptic spring O, which, as well as the bar N, is fitted in a proper bearing P. At each end of the bar N, there is a projection *i*, at right angles to it, and to the end of each projection a wheel *j*, is attached. These wheels *j*, *j*, are beveled at their back sides, as shown clearly in Fig. 2. The bar N, has a pin *k*, passing through its center, the ends of said pin fitting in vertical guide slots *l*, see Fig. 3.

The operation is as follows:—The log to be sawed, shown in red, is placed on the carriage G, and properly secured thereon by dogs *m*, attached to blocks *n*, as usual. Power is applied to the crank shaft in any proper manner, and as the saw moves up and down a feed motion is communicated to the carriage G, through the medium of the arm *g*, rock shaft M, lever L, rod K, lever J, pawls G', H, and ratchets *d'*, *d''*, a reciprocating movement being given the carriage by shifting the lever I, at the end of each movement of the carriage, so that the pawls G', H, will gear alternately into the ratchets *d'*, *d''*, one pawl of course rotating the shaft F, in a reverse direction to the other.

The saw E, in consequence of being toothed at each edge or side, cuts while the log is moving in either direction, and the wheel *j*, at the back of the saw E, works into the saw kerf and operating like a wedge forces out the board from the log so that it cannot be marred by the action of the teeth at the back or opposite edge of the saw. The other wheel *j*, bears against the under side of the log and thereby keeps the one first mentioned within the saw kerf. The spring O, allows the wheel at the under side of the log to yield or give to compensate for the inequalities of the surface of the log. The wheels *j*, *j*, enter the saw kerfs alternately, the one which acts as a wedge when the log is moving in one direction and the other as a roller below the log, have their condition reversed when the movement of the log is reversed.

I am aware that reciprocating saws have been provided with teeth at both edges or sides so as to cut as the log moved in either direction, and I am also aware that circular wedges have been employed to throw off the board from the log while the former was

being sawed therefrom. I therefore do not claim broadly and irrespective of the arrangement herein shown such devices, but, having thus described my invention

5 What I do claim as new and desire to secure by Letters Patent, is—

1. Operating the carriage G, by means of the pawls G', H, connected with the adjusting lever I, and actuated from the saw-sash
10 B, through the medium of the link h, arm g,

rock shaft M, levers L, J, and rod K, substantially as shown and described.

2. The wheels j, j, when attached to the yielding bar N, and arranged to operate as described, for the purpose of keeping the
15 work from the saw as it is cut from the log.

R. B. BROWN.

Witnesses:

HENRY STOWELL,
ELIAS BLAIR, Sr.