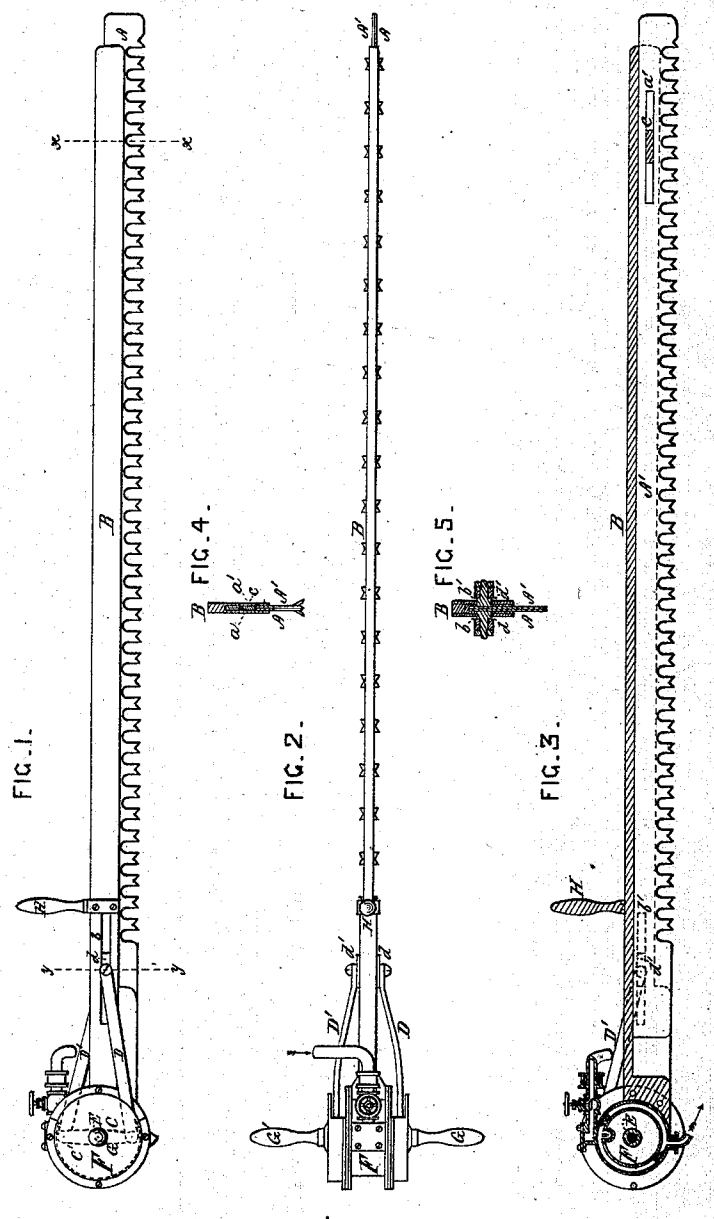
S. SCHOLFIELD.

Saws.

No. 139,426. Patented May 27, 1873.



WITNESSES

George H. Rogers:

Alba R. Abbott

Socrates Scholfield.

UNITED STATES PATENT OFFICE.

SOCRATES SCHOLFIELD, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SAWS.

Specification forming part of Letters Patent No. **139,426**, dated May 27, 1873; application filed November 25, 1872.

To all whom it may concern:

Be it known that I, SOCRATES SCHOLFIELD, of Providence, in the county of Providence and State of Rhode Island, have invented an Improvement in Saws for Logging, of which the following is a specification:

The nature of my invention consists in the employment of two reciprocating saws placed side by side, and arranged to operate within the same kerf by being moved simultaneously in opposite directions. Heretofore, in all attempts to fell trees and saw off logs by the use of steam or other power, it has been found necessary to employ a frame-work which was required to be attached to the tree or to the ground, thus rendering machines of this nature extremely liable to accident, for the reason that in some cases it would be impossible to remove the machine out of the way of a falling tree in time to prevent serious injury to the apparatus.

The necessity for the employment of the frame-work referred to arises from the unbalanced action of a single saw, which in all cases requires a fixed point outside of the saw-kerf from which to base its operation. But, instead of operating from an outside fixed point, as above mentioned, I obtain the desired counter-resistance within the saw-kerf itself, by which means I am enabled to entirely dispense with the permanent fastening or attachment to the tree, as heretofore, and can therefore take the saw out of the kerf at any instant, when necessary, to remove the machine from danger. Either steam or compressed air may be readily employed as the motive power for operating the saws, the principal requirement being a light and simple engine. In the accompanying drawing the machine is represented as driven by a rotary steam-engine of my own invention, which appears to be well adapted for the purpose. But I also contemplate operating the saws by means of two reciprocating pistons.

Figure 1 is a side view of my improved sawing-machine and engine by which it is operated. Fig. 2 is a top view of the same. Fig. 3 is a longitudinal section taken in the center line. Fig. 4 is a transverse section taken in the line *x x*. Fig. 5 is a transverse section taken in the line *y y*.

In the drawing, A A′ represent two saw-blades, placed side by side, and held together loosely by means of the holding-guide B. The blades A A′ are slotted at *a a′* for the reception of the fixed guide-plate *c*, which serves to retain the saws in their proper relation to the holding-guide B. The slots *b b′* are arranged to receive the guide-plates *d d′*, which are rigidly attached to the blades A A′. Connection is made, by means of the connecting-rods D D′, between the blades A A′ and the cranks C C′, which are placed diametrically opposite each other upon the shaft E of the rotary engine F. Upon the rotation of the shaft E the blades A A′ will move in opposite directions, and, each having an equal hold upon the fibers of the wood, will cause the action of one of the blades so to balance the action of the other that there will be no tendency to react upon the person that holds the machine. He can therefore hold the machine and guide the saws with comparative ease and be instantly prepared in case of danger to remove the machine to a place of safety.

In operating the machine with steam, I employ a movable boiler, temporarily stationed in a suitable locality, from which the steam is to be transmitted to the machine through a flexible hose or pipe. I give to the blades A A′ a stroke of from four to eight inches, and require the person guiding the saws to move them back and forth in the kerf as in ordinary sawing by hand. The movement of the blades in opposition to each other will be sufficient to do the cutting, while the movement otherwise imparted by the workman is merely for the purpose of discharging the sawdust with greater rapidity than would be possible when relying upon the action of the blades alone, owing to the comparative shortness of their strokes and their opposite movement within the same kerf. On account of the additional stiffness imparted by the holding-guide B the blades A A′ may be made somewhat thinner than common in single saws, and, in order to have them run together properly when placed in close contact, the teeth should be set or deflected upon the outer sides of the blades, as shown in Fig. 4. The machine is to be furnished with suitable handles at G G and H, in order that it may be easily operated and controlled by the workman under all necessary conditions.

The holding-guide B may be constructed and applied to operate either between or outside of the saws.

I claim as my invention—

1. The combination, substantially as described, of two saws arranged side by side for operation in the same kerf.

2. The combination of the saws A A′ with a holding-guide, B, substantially as described.

3. The combination of the saws A A′ with a holding-guide, B, shaft E, opposite cranks C C′, and connecting-rods D D′, substantially as described.

SOCRATES SCHOLFIELD.

Witnesses:

GEORGE H. ROGERS,

ALBA R. ABBOTT.