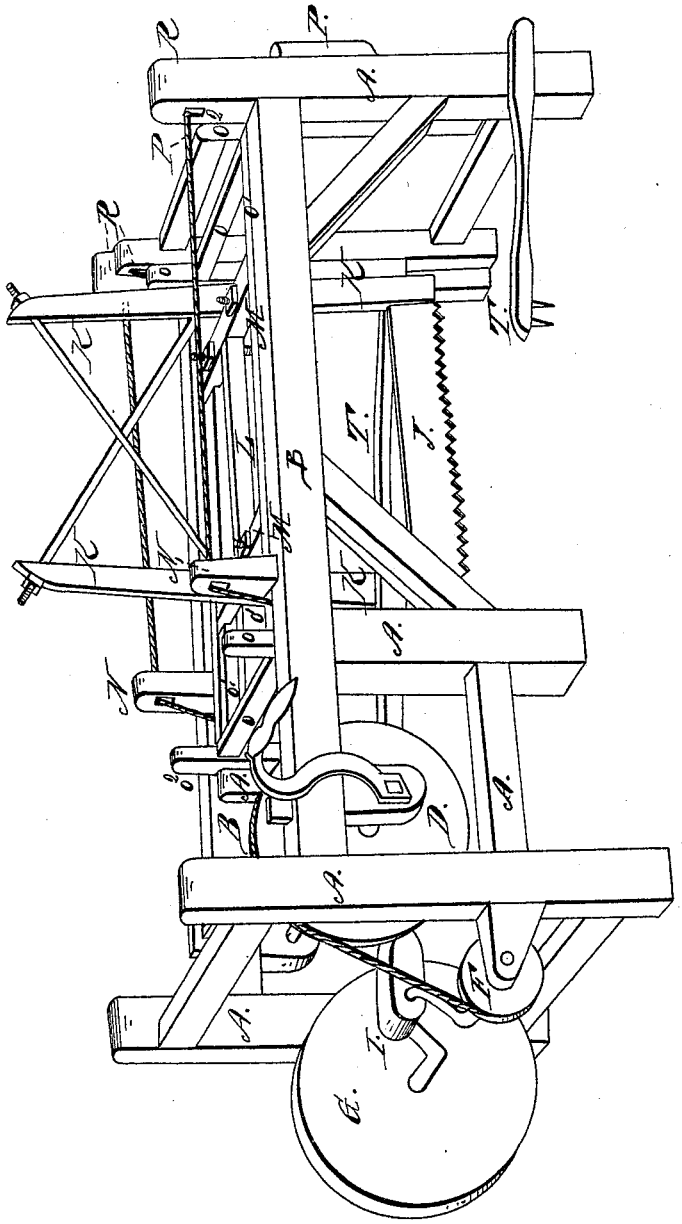
H. Burger,

Drag Saw.

No. 2,012. Patented Mar. 18, 1841.

Fig. 1



UNITED STATES PATENT OFFICE.

HENRY BURGER, OF DANVILLE, INDIANA.

MACHINE FOR CROSSCUT SAWING.

Specification of Letters Patent No. 2,012, dated March 18, 1841.

To all whom it may concern:

Be it known that I, HENRY BURGER, of Danville, Hendricks county, State of Indiana, have invented a new and useful Improvement in the Mode of Using the Crosscut-Saw, the description of which is in the following words, reference being had to the drawings accompanying this description, and making a part of the same.

Figure 1 represents a perspective view of the machine.

Similar letters in this description correspond with those in the drawings.

This machine is composed of the following parts: 1, the frame; 2d, the vertical sliding frame O; 3d, the horizontal sliding gate or frame; 4th, the driving wheel D; 5th, the axle containing the double crank fly wheel G and small grooved band wheel F.

The frame of this machine is composed of two side pieces (B, B) one on each side; and tenoned into the four uprights. These uprights A, A, A, A, extend above the forementioned side piece, any desired length and reach down to the flow, on which they rest and support the body of the machine. The two uprights just mentioned at each end of the frame, are connected together by cross pieces or girths, one near the top, and the other near the bottom.

The end of the machine where the power is applied, I call the front, and the opposite, the back end. The inside corners of the back end uprights are rabbeted their whole length, to admit the vertical sliding gate. Near the top of these uprights, two mortise holes R R are cut in each of them in which are placed rollers for purposes hereinafter mentioned; adjacent to the forward end of the sliding gate, is placed pieces of timber (marked A^2) projecting vertically downward from the under side of each side piece (B) of the frame. The size of this stick of timber corresponds with the uprights (A) before mentioned. Each of these timbers extends as far down as the uprights of the vertical sliding stock or gate. At one of the corners of each of the timbers (A^2), it being the corner nearest to the sliding stock, &c. A square rabbet is cut out, extending from the top to the bottom of each of the said timbers in which slide the forward end of the sliding stock or gate. These timbers are braced diagonally to the side pieces B, and opposite the foot of the brace aforesaid, a horizontal stick of timber A^3 extends to and tenoned into the uprights A in front. A short distance back of these timbers, are two small uprights (N, N,) one extending from the top of each of the side pieces (B.) Mortise holes are cut in each of these uprights, in which are placed rollers for purposes herein to be mentioned. The foot of each of these uprights are made so as to project, about $\frac{1}{2}$ their width at bottom, from the interior vertical side of the side pieces B. This projection prevents the sliding stock &c. rising too high. The uprights, or timbers A^2 have a cross piece connecting them about $\frac{1}{4}$ of their length downward.

2d. *The vertical sliding frame O.*—This frame is composed of two side pieces (O′), and four uprights (O^2), and is to be made large enough to move with ease vertically between the side pieces (B,) and the rabbets before mentioned in the timber (A, A^2). Each end of this frame has two vertical uprights connected together near their upper ends by cross pieces of like dimensions. The side pieces O′ connecting these end pieces, are inserted at or about the same place as the before mentioned cross pieces. Each of these side pieces, is about twice as deep as it is thick—about the midway of its depth a square groove is cut its entire length in which slide the bars, M, M, of the horizontal sliding gate or frame to be mentioned. From each of the uprights O^2 of this frame, braces are passed to the side and end pieces (O′ and O) adjacent thereto, to give it strength and stability. To enable this frame to be suspended into the area as before mentioned, ropes are passed from near each corner of this frame, over rollers, to the weights P P on the back end of the frame. The rope from each corner in the forward end of the frame O, passes over the rollers in the uprights N, N, and then over the rollers, in the outermost mortise of the back end uprights A, and is afterward connected to the weight P P. The rope from each corner of the frame O at the back end, passes up and over the rollers in the innermost mortise of the upright A to the weights P, aforesaid.

3d. *The horizontal sliding gate or frame, having with it the saw J.*—This horizontal gate is composed of two bars (M, M) and a center piece L of like dimensions joining them. Each end of the said bars, are tenon shape to be admitted into the horizontal

square groove in the side pieces of the before mentioned vertical sliding frame. In a line with the center piece L on the outside of each bar M, M, is placed vertically the strips K, K, which combined may be called the saw frame. They reach as high above the bars M, M as they extend below them. The lower ends of each of the said strips is so arranged that the saw J which is horizontal can be fixed to them. Their upper ends are connected together by iron rods crossing each other diagonally. Each of the said iron rods extends through the strip K at or just above the bar M, and passes over diagonally to the top of the strip K opposite where it passes through, and is long enough to have thereon a screw and a nut.

At any suitable distance below the bars M, M, an iron rod is passed through the center of each of the strips K, K, and bent upward in a curve on both sides, and passed through the bars M, M, at points at an equal distance on each side of the said strips. The upper ends are provided with a screw and a nut. The object of this arrangement is by screwing one or the other side of this bolt, to give a proper position to the saw, vertically, when out of it.

The driving wheel D is made of wood or other suitable material, and is grooved on its periphery, to receive a rope or band, the axle of this wheel rests in little blocks projecting downward from each side piece B. The axle is iron or other suitable material, and extends across the width of the machine, and if necessary, another driving wheel can be fixed thereon, on the opposite end. This driving wheel is worked by a crank, by hand or other convenient power.

The axle with the double crank fly wheel G and small band wheel F.—The ends of this axle rest in supports which are extending horizontally from the uprights A adjacent thereto. On one end of this axle is the fly wheel G, to be made of wood or metal, on the opposite end is the small band or grooved wheel F adjacent to the driving wheel D before mentioned. This small wheel is about ¼ the size of the driving wheel D, and the rope or band passes from the said wheel D to the circumference of the small wheel F. Between the wheels G and F is the double crank, to which is connected the front end of the pitman rod I, the other end of which is connected to the vertical strip K on the forward end of the saw frame.

The dogs or sheers T T, are two in number, one on each side of the main frame, one end of which dog or sheer, is fastened at any suitable point on the outside of each upright A at the back end of the machine, it then turns upon a pin inserted horizontally in said uprights. The other end of the said dogs, etc., are provided with two or more large pointed spikes, at right angles to it, which are driven into the log, when placed in position under the saw.

Operation.—The log being put in its proper place, and secured there by the dogs or sheers H H, the hand or power is applied to the crank of the driving wheel D, which gives motion to the small wheel F, and thence to the double axle to which is attached the pitman rod I, which brings along with it the saw J. As the frame O with its combinations as described is intended to be somewhat lighter than the weights P P the downward motion of the said frame is effected during the operation by the pitman rod I in one point of its course with the double crank exerting a vertical strain, this strain being a necessary consequence of the said position.

All that I claim as my invention and desire to secure by Letters Patent is—

The vertical sliding frame, provided with cords or ropes and counter weights, in combination with the horizontal gate which slides in it for the purpose and in the manner specified.

HENRY BURGER.

Witnesses:
THOMAS H. DEWITT,
E. MAHER.