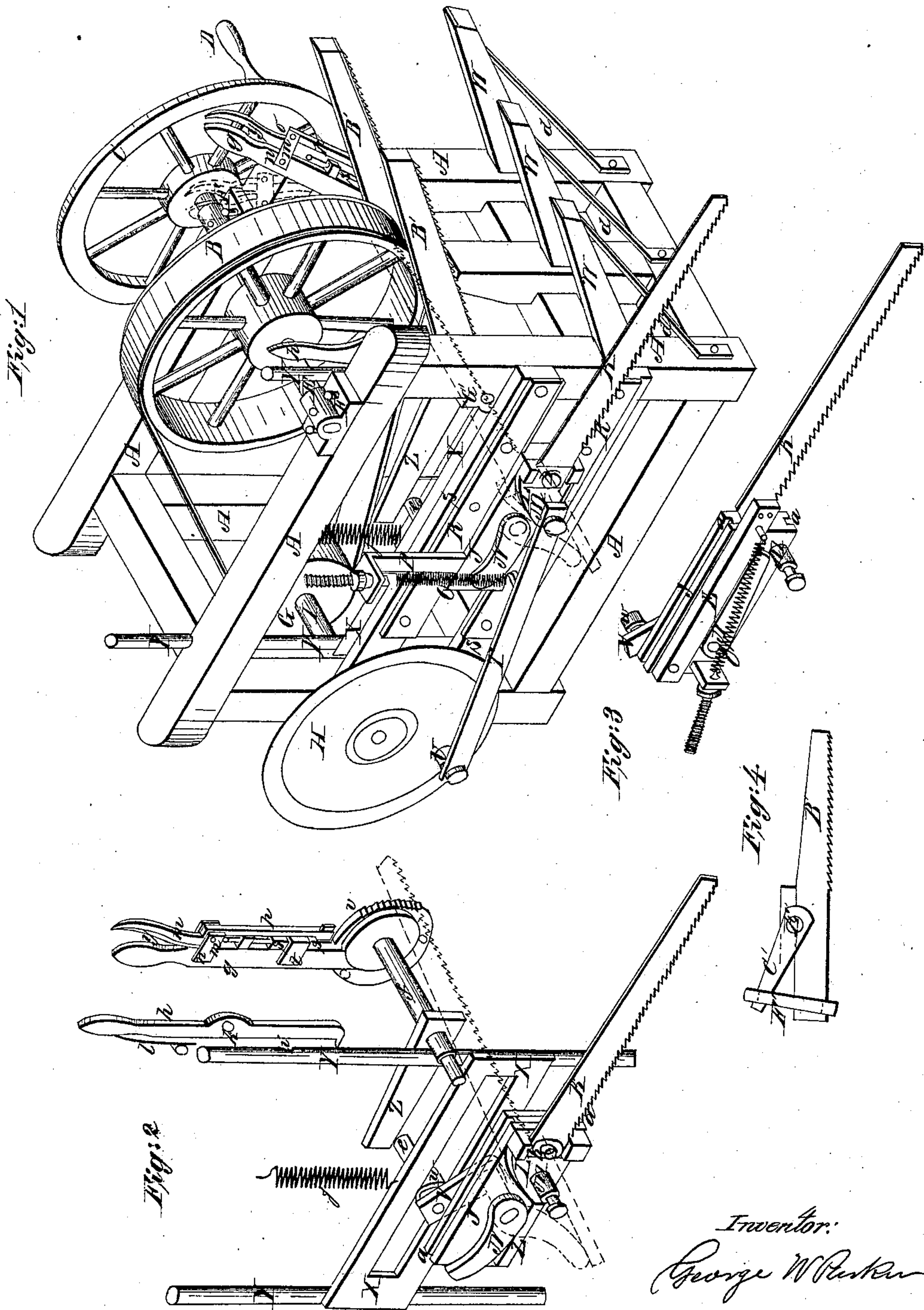


G. W. Parker,

Drag Saw.

N<sup>o</sup> 24,232

Patented May 31, 1859.



Inventor:  
George W. Parker



# UNITED STATES PATENT OFFICE.

GEORGE W. PARKER, OF FITZWILLIAM, NEW HAMPSHIRE.

## CROSSCUT-SAWING MACHINE.

Specification of Letters Patent No. 24,232, dated May 31, 1859.

*To all whom it may concern:*

Be it known that I, GEORGE W. PARKER, of Fitzwilliam, in the county of Cheshire and State of New Hampshire, have invented a new and useful Machine for Sawing Wood; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the whole machine; Fig. 2 a view more particularly of the arrangement for raising the saw; Fig. 3 a view of what I call a cross-head with a different arrangement of the several parts attached to it from that shown in Figs. 1 and 2; Fig. 4 represents an arm to hold the wood while being sawed, showing the arrangement for pressing the arm upon the wood.

The same letters refer to the same parts in the several figures.

Most of the parts shown in red ink are of wood, and those in black ink are of iron. A, A, A, Fig. 1 represents the frame of the machine, B is the driving wheel, C is a balance wheel having a handle D to take hold of with the hand to give motion to the machine. Both the wheels B and C are upon the same arbor E, which turns in suitable bearings E, F. A belt conveys motion from the wheel B to the pulley G which with the balance wheel H are upon the same arbor I, which turns in proper bearings.

J is the cross-head, and is a plain piece of iron of about one foot long, six inches wide, and one inch thick, grooved upon each edge as shown in Figs. 2 and 3 at *a, a*, to slide upon the ways. It has a horizontal reciprocating movement sliding upon the ways R, R, see Fig. 1. It is for the purpose of attaching the parts to raise the saw, and to hold and keep the saw in proper position and to move it aright across the wood to be sawed.

K is the saw which is fastened to the piece L, by a bolt and nut at *b*. The piece L is shaped as shown in the Figs. 1 and 2, and is held to the cross-head by the pin M which passes through the piece L into the cross-head, and holds the piece L against the side of the cross-head so as not to allow the saw to play side ways, but to move freely up and down turning upon the pin M.

The piece L extends nearly the length of the cross-head so that the arm N can bear upon it to raise the saw. A small pin projects sufficiently from near the farther end of the piece L to have the spring O, which is fastened to it, clear the working of the arm N. The other end of the spring is attached to a screw passing up through a hole in the top of the piece P, which is fastened to the cross-head, and by turning the nut *c* working on the screw the tension of the spring O is increased or diminished, and thereby the saw K is pressed more or less hard upon the wood, to make it cut faster or slower as desired. The arms N and V are fastened to the ends of a short arbor passing through the cross-head as shown Fig. 2 by the dotted lines, so that when one of the arms are moved, the other is also moved, one of the arms being on one side of the cross-head, and the other one on the other side. By turning down the arm V, the arm N is also turned down, and the arm bearing upon the piece L the piece L with the saw attached to it is moved to the position as shown by the dotted lines in Figs. 1 and 2, and the saw is thus raised out of the way while the wood is being placed and secured. Near the end of arm V, is a friction roller *w* see Figs. 2 and 3. This friction roller works in the slot in the piece X see Fig. 2. The slot is long enough so that as the cross-head is moved to and fro, the friction roller will not strike the ends of the slot, or instead of a slot being made in a piece as shown, two bars parallel to one another, and the proper distance apart, would answer the same purpose. The piece X is for the purpose of working the arms V and N to raise the saw, which it does by being moved up and down, when it is moved down, it turns down the arms V and N, and the arm N bearing upon the piece L, raises the saw as before shown. The piece X is fastened to the rods Y, Y, which are for the purpose of supporting and keeping it in place as it is moved up and down, the rods Y, Y, having boxes near their ends to slide in, and no matter in what part of its movement the cross-head may stop the piece X operates equally well to work the arms V and N to raise the saw. The piece X is moved down by the arm Z striking against the pin *e* which projects from X, and is drawn up by the spring *j*.

The arm Z is worked by the handle *g*, they



both being fastened to the same shaft *f*, see Fig. 2. The handle *h* is to keep the piece X down and the saw raised up while the wood is being placed and secured. This is done by the lower end of the handle *h* catching into the notch *i* in the rod Y. By pushing against the top of handle *h* its lower end is moved out of the notch *i*, and the piece X is drawn up by the spring *j*, and the saw falls upon the wood. The handle *h* turns upon a pin passing through it at *k* which secures it to the frame. *l* is a spring fastened to it to throw it into the notch *i*. The handle *g* is for the purpose of working the arm Z to raise the saw, and the arms B', B', to hold the wood upon the arms W, W, W, while being sawed, see Fig. 1. The handle *g* and arms Z and B', B', are upon the same shaft *f*, see Fig. 2, but the arms B', B', are not shown in Fig. 2 as their position would obscure the showing of handle *g*, but are shown in Fig. 1, and one end of shaft *f* is shown at G'. The handle *g* has a handle *m* attached to it by a pin at *n* making a joint upon which it turns. Fastened to handle *m* by a pin making a joint at *o*, is the rod *p* the other end of the rod being fastened to the catch *s* by a pin making a joint. The catch *s* is kept in place against the edge of handle *g* by a band *t* passing around it, or by some other suitable means, see Fig. 2. The catch *s* then is worked by the handle *m*. When handle *m* is closed upon handle *g* the catch *s* is raised; when it is released the spring *y* forces it away from *g*, which forces the catch *s* into the notches in the circular piece *v*. The piece *v* is circular, having notches in its circumference, and is fastened to the framework of the machine, the shaft *f* passing through its center. The piece *v* is to hold the handle *g* in any position it is placed in by means of the catch *s* working in its notches. Upon the shaft *f* are the arms B' B', see Fig. 1. These arms are not fastened to shaft *f* but turn freely upon it. The shaft *f* extends horizontally across the front of the machine from side to side, one bearing of it being shown at G'. By the side of each of the arms B', B', is a short arm fastened tight to shaft *f*. One of these arms and an arm B' are shown in Fig. 4, showing how they are arranged together. The shaft *f* passes through the arms at E', the arm B' turning freely upon the shaft and the arm C' being fastened tight to it.

F' is an india rubber band passing around the ends of arms B' and C' which when the arm B' meets with no resistance holds the two arms close together, but when B' strikes upon a stick of wood and shaft *f* is turned so as to raise arm C' it will stretch the india rubber band F' which will pull up on that end of arm B' and press the other end of B' hard upon the wood and thus hold it fast while being sawed. The arms B' and C' are

worked by handle *g* which holds the arm B' pressed upon the wood by the catch *s* sliding into the notches in the piece *v*. Any other kind of spring besides an india rubber one can be used, with some different arrangement, but the principle of action would be the same, as for instance instead of the arm C' a steel spring might be fastened to shaft *f* and extending to the end of arm B', and being connected to it by a short strap so as to allow a little play as the spring bends, would answer the same purpose. The under side of arms B' B' are roughened to secure a better hold upon the wood to keep it from turning by the movement of the saw.

The arms W, W, W, are those on which the wood is placed, and *d*, *d*, *d*, are braces to support and strengthen them.

Fig. 3 shows a different arrangement of the parts attached to the cross-head from that before shown and described. J is the cross head, L is the piece to the other end of which as shown the saw is fastened. The piece L is fastened to the cross-head by a bolt near its farther end on which it turns. The arms V and N are the same substantially as before shown and described, but the arm N extends forward instead of back, and is under the piece L' to which the saw is fastened instead of above it, so that on turning down the arm V, the arm N is turned up, and bearing against the piece L' raises the piece L' and saw. O' is a spiral spring for the same purpose as before described, one end of it being fastened to a pin in L', and the other end to the screw as shown. This is the best arrangement of the two shown and described, as the saw being hung farther back works more evenly across the stick of wood, not rocking so much, and the spring operates more uniform in regulating the cut of the saw. M is the pin to attach the pitman to move the cross-head. T is the pitman, see Fig. 1, connecting the crank pin U in wheel H to pin M in the cross-head. The cross-head is thus moved back and forth sliding upon the ways R, R.

The machine is operated as follows. The handle *g* is pushed back to the position shown by the dotted lines, Fig. 1. This will raise the arms B', B', as much as the handle *g* has been changed in position. The arm Z striking upon pin *e* in piece X pushes down X which turns down arms V and N and raises the saw as shown by the dotted lines. All this is accomplished by the pushing back of the handle *g* which works the arms Z and B', B', these arms being all of them upon the same shaft with handle *g*. The arms W, W, W, being now clear the sticks of wood to be sawed are placed upon them one after another, their ends projecting as far beyond the saw as it is desired to cut them off. Now by bringing down the handle *g*, the arms B', B', are brought down upon the wood,



and pressing down the handle *g* hard the arms *B'*, *B'*, are pressed upon the stick of wood by means of the arm *C'* and rubber spring as shown in Fig. 4, and the arms *B'*,  
5 *B'*, are kept pressed upon the wood by the catch *s* attached to handle *g* sliding into the notches in piece *v*. During the securing of the wood the saw has been kept raised by the handle *h* as before shown and described. By  
10 pushing on the top of *h* it is thrown out of notch *i*, and the piece *X* is drawn up by the spring *j*, and the saw allowed to fall upon the wood. Now by taking hold of the handle *D* and turning, the wheel *B* is moved,  
15 and by means of a belt around wheel *B* and pulley *G*, motion is given to pulley *G* and balance wheel *H*, and the cross-head *J* being connected to crank pin *U* in wheel *H* by the

pitman *T* the cross-head *J* is thus moved to and fro, and the saw being attached to the  
20 cross-head, is drawn back and forth across the stick of wood which is soon cut off.

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

I claim the cross-head, and the several  
25 parts attached to it, whether arranged as shown in Figs. 1 and 2, or as in Fig. 3, together with the piece *X*, or its equivalent, to work the arms *V* and *N* to raise the saw, and the handle *h* to hold the saw when  
30 raised.

GEORGE W. PARKER.

Witnesses:

A. A. PARKER,  
A. S. KENDALL.