(No Model.)

J. CARROTHERS.

Drag Saw.

No. 229,091. Patented June 22, 1880.

Fig. 1.

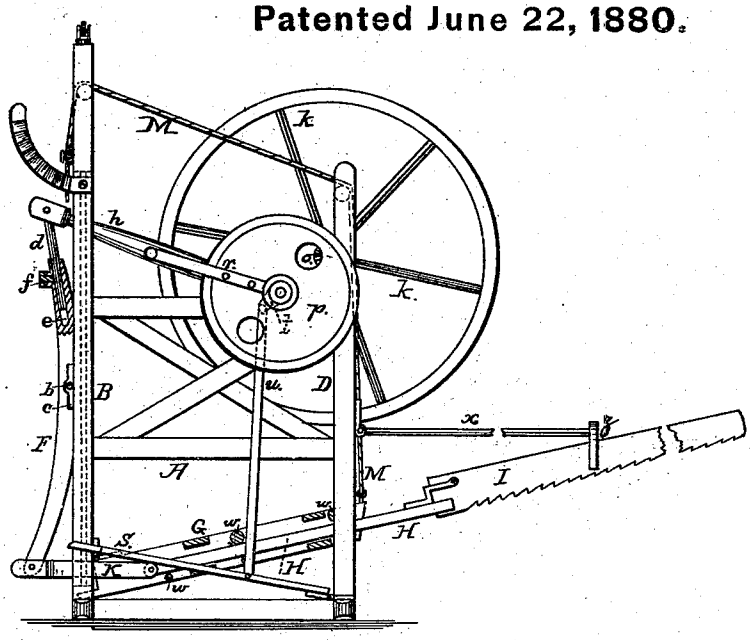


Fig. 2.

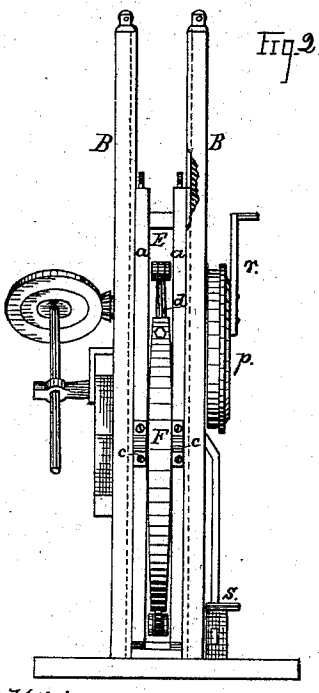


Fig. 3.

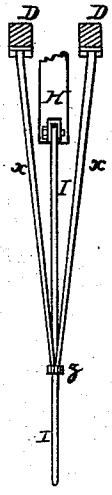
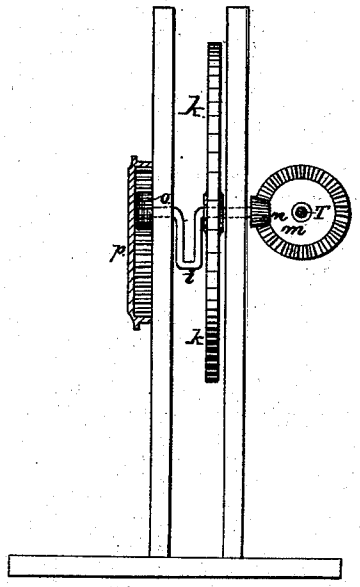


Fig. 4.



Witnesses;
Chas. O'Gill
William M. Reilly.

Inventor;
James Carrothers,
By his Attys
Cox and Lox.

UNITED STATES PATENT OFFICE.

JAMES CARROTHERS, OF SHANANDOAH, OHIO, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO DAVID S. DANEER, OF SAME PLACE.

DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 229,091, dated June 22, 1880.

Application filed March 25, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES CARROTHERS, of Shanandoah, in the county of Richland and State of Ohio, have invented a new and useful Improvement in Drag-Saw Machines, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improvement in saw-mills; and it consists in the devices hereinafter described, and pointed out in the claims.

The object of the invention is to produce an efficient and adjustable means for sawing logs or timber of different sizes.

Referring to the accompanying drawings, Figure 1 is a side view of a device embodying the elements of the invention. Fig. 2 is a front view of same. Fig. 3 is a detached plan view of the saw-guard. Fig. 4 is a detached rear view, showing the different methods of applying motion to the crank-shaft *i*.

A indicates the frame of the mill, consisting of a base and two vertical sides, at the front end of which are two guide posts or beams, B, and at the rear end the posts or beams D. Between the guide-beams B is mounted, so as to have a vertical movement when desired, the slide E, consisting of two vertical bars, *a*, upon the front face of which, and at about their center, is secured the rocking beam F by means of the short axles *b* on said beam and the boxes *c*. The rocking beam F has, when operated, an oscillatory movement on the axles *b* between the sides of the slide E, and is supplied upon its upper end with the arm *d*, which may be adjusted vertically in the socket *e* by means of the set-screw *f*, for the purpose of shortening or lengthening the stroke of the saw I, hereinafter mentioned.

To the upper end of the arm *d* is pivoted the front end of the pitman-rod *h*, the rear end passing toward the rear of the frame and being mounted on the crank-shaft *i*, which is furnished with a suitable balance-wheel, *k*, and to which power may be applied through the bevel-gear *m*, secured on a tumbling-rod, T, and pinion *n*, or by the pinion *o* traveling in the internally-toothed wheel *p*. The wheel *p* may be driven by a suitable belt, by the crank-handle *r*, or by the treadle *s*. In the latter construction there is a small crank, *t*, rigidly secured to the axle of the wheel *p*, which crank is connected with the upper end of the pitman-rod *u*, the lower end of the rod being connected with the treadle, so as to receive the usual movement therefrom when the latter is operated.

To the lower end of the slide E is hinged or otherwise secured the saw-box G, which is supplied with the anti-friction rollers *w*, and in which slides, when the machine is in operation, the saw-beam H, to the front end of which is firmly secured the saw I, while the rear end of same is connected by a rod, K, with the lower end of the rocking beam F, whereby it and the saw I receive their motion.

Upon the rear surface of the posts D are hinged or otherwise suitably secured the rods *x*, which extend rearward and have their outer ends connected by and supporting the guard *z*, which preserves the saw I in a true vertical position and prevents it twisting or making an irregular cut.

The saw I may be elevated or depressed, according to the size of the log to be cut, by means of the cord M attached to the saw-box G. The length of the movement of the saw may be governed, as hereinbefore observed, by the elevation or depression of the arm *d* in the socket *e*.

The log to be cut being in proper position, and the saw I being adjusted to suit it, motion is imparted to the crank-shaft *i* either through the treadle or gearing, as hereinbefore described. The movement of the shaft *i* operates through the rod *h* to rock the beam F, which, by means of the rod K, alternately forces rearward and retracts the saw-beam H and saw I, thereby cutting the wood.

The lower end of the rocking beam F is curved outward, in order that the operation of the machine may not be impaired when the saw I is elevated.

When a large log is to be cut the heel of the saw may be raised by elevating the slide E.

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

1. In a machine for sawing, the slide E, adjustable vertically and carrying the rocking beam F, in combination with the connecting-rod *h*, crank-shaft *i*, box G, hinged to the lower

end of slide E, the rod K, beam H, and saw I, substantially as set forth.

2. In a machine for sawing, the slide E, adjustable vertically and carrying the rocking beam F, in combination with the rod *h*, shaft *i*, box G, hinged to the lower end of the slide E, the friction-rollers *w*, the saw I, connected with the lower end of and deriving its movement from the beam F, and the cord M, substantially as set forth.

3. The rocking beam F, adjustable as to its length by means of the arm *d*, set in a socket, *e*, in its end, and secured by a set-screw, *f*, in combination with the rod K and saw I, and with the rod *h* and crank-shaft *i*, substantially as specified.

In testimony that I claim the foregoing improvement in saw-mills, as above described, I have hereunto set my hand this 4th day of March, 1880.

JAMES CARROTHERS.

Witnesses:
T. E. BURROWS,
M. MCDERMOTT.