(No Model.)

C. M. TRAUTMANN.

Sawing Machine.

No. 241,449. Patented May 10, 1881.

FIG. I.

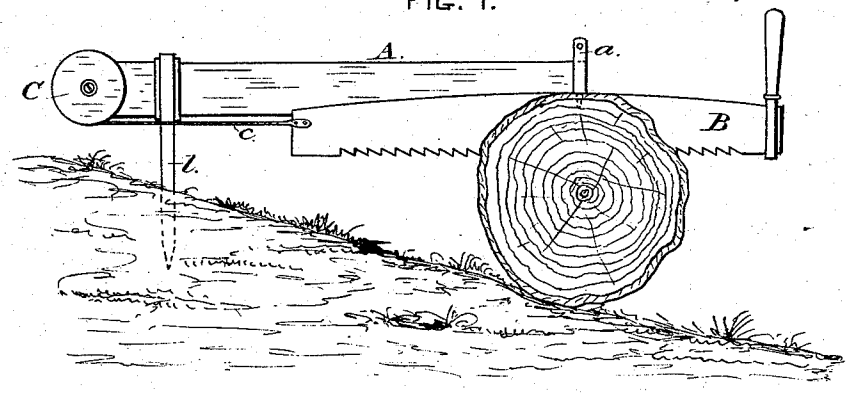


FIG. II.

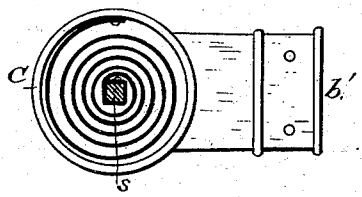


FIG. III.

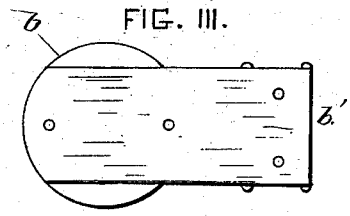


FIG. IV.

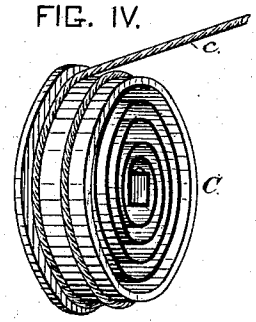


FIG. V.

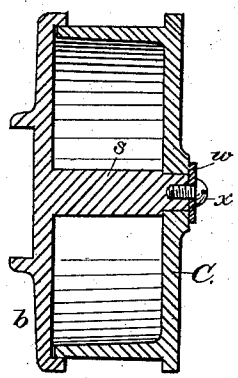
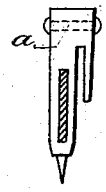


FIG. VI.



WITNESSES:

J. A. Rutherford

A. H. Norris.

INVENTOR:

Charles M. Trautmann,

By L. McHoed

Attorney.

UNITED STATES PATENT OFFICE.

CHARLES M. TRAUTMANN, OF TRAUTMAN, ASSIGNOR TO FARMERS' MANUFACTURING COMPANY, OF CINCINNATI, OHIO.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 241,449, dated May 10, 1881.

Application filed September 21, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. TRAUTMANN, a citizen of the United States, residing at Trautman, Hamilton county, Ohio, have invented new and useful Improvements in Sawing-Machines, of which the following is a specification.

My invention relates to that class of devices for facilitating the operation of a crosscut-saw in which a spring is employed to aid its reciprocation in one direction while the operator moves it in the other. Heretofore in such constructions a dilating-spring in some form has been used, secured upon the exterior of the frame-work, exposed to injury, and which also involved the use of idler-pulleys or other mechanism for changing the direction of the force, to adapt it to the reciprocation of the saw. In all these machines considerable friction and many useless parts were inevitable.

My invention consists, generally, in a spring sawing-machine of extreme simplicity and cheapness of construction, combining, essentially, a supporting-frame, the saw, and a spring arranged so that its retractile force is directly expended in the line of reciprocation of the saw with which it is connected.

It consists, more particularly, in the employment, as a means of aiding the reciprocation of the saw, and in connection therewith, of a spring-actuated rotating drum or pulley attached to the supporting-frame in line with the saw; and it also consists in the construction of the parts whereby the actuating mechanism is protected from injury, and economy of cost and durability secured.

My invention is embodied in mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my sawing-machine in position for use. Fig. 2 is a front view of the spring drum-plate with the spring in position. Fig. 3 is a rear view of the drum-plate. Fig. 4 is a detached view of the rotating drum with the spring in position and the saw-cord attached thereto. Fig. 5 is a vertical cross-section of the drum-plate and drum with the spring removed; and Fig. 6 is an end view of the machine, showing the saw-guide.

Similar letters refer to similar parts throughout the drawings.

Referring now to the drawings, A indicates the frame of the machine, B the saw, C the rotating drum, and *c* the cord connecting the drum and the saw.

The frame A is supported from the ground at one end by a leg, *l*, and at the other is secured to the log by a spike at the lower end of a cleat, *a*, constructed, as shown in Fig. 6, to form, also, a guide for the saw in starting the kerf.

At the rear end of the bar A, I attach a flat circular plate, *b*, having a lateral extension, *b'*, and provided on its rear side with parallel ribs to assist in securing it more firmly upon the bar A, with which it is connected by screws or bolts.

The circular plate is cast with a stud, *s*, extending laterally from the center, which is of square section, excepting near the outer end, where it is cylindrical.

The rotating drum C is a shallow open-ended cylinder, fitted to revolve upon the rounded end of the stud *s*, being secured thereupon by a washer, *w*, and screw *x*. The spring by which the drum is actuated is a flat band of steel, bent at one end to slip over and engage the square stud *s*, and riveted at the other to the inner periphery of the drum C. The cord *c*, for transmitting the motion of the drum to the saw, may be a small rope of steel wire or hemp, or a band of steel, secured at one end to the periphery of the drum and at the other to the saw.

In the operation of the machine the withdrawal of the saw in the kerf by the operator rotates the drum and winds up the spring, which gives out its accumulated force in the opposite direction and aids the operator in thrusting the saw forward. It will be observed that by the location of the spring mechanism in the line of the saw no idler-pulleys or other intervening mechanism are required. It will be also observed that this construction of parts is economical and durable, and that the spring is entirely inclosed and fully protected from injury.

It will be obvious that the machine may be used with the saw in a horizontal plane in felling standing timber, in which case the leg *l* may be made extensible and support the machine upon its side at any convenient height.

Having described my invention, I claim—

1. A hand crosscut-sawing machine, consisting, essentially, of a crosscut-saw having a

handle at one end for its manipulation, a cord or band attached to the opposite end and connecting directly with a spring reacting in the line of reciprocation of the saw, and a frame or bar supporting the spring, adapted to be adjusted at one end upon the log and at the other on the ground, substantially as and for the purpose specified.

2. The combination of a crosscut-saw provided at one end with a handle for its manipulation, and a cord connecting its other end with a spring-rotated drum attached to a frame adapted to be secured to a log to be cut, the whole constituting a portable machine for sawing logs upon the ground, substantially as specified.

3. The plate *b b'*, provided with stud *s*, and adapted to be secured upon the bar or frame A, in combination with the hollow drum C and the actuating-spring and saw-connecting cord, constructed, arranged, and operating as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES M. TRAUTMANN.

Witnesses:
L. M. HOSEA,
C. F. HESSER.