2 Sheets—Sheet 1.

I. WINN.

Machine for Removing Bark from Wood.

No. 198,327. Patented Dec. 18, 1877.

Fig. 2.

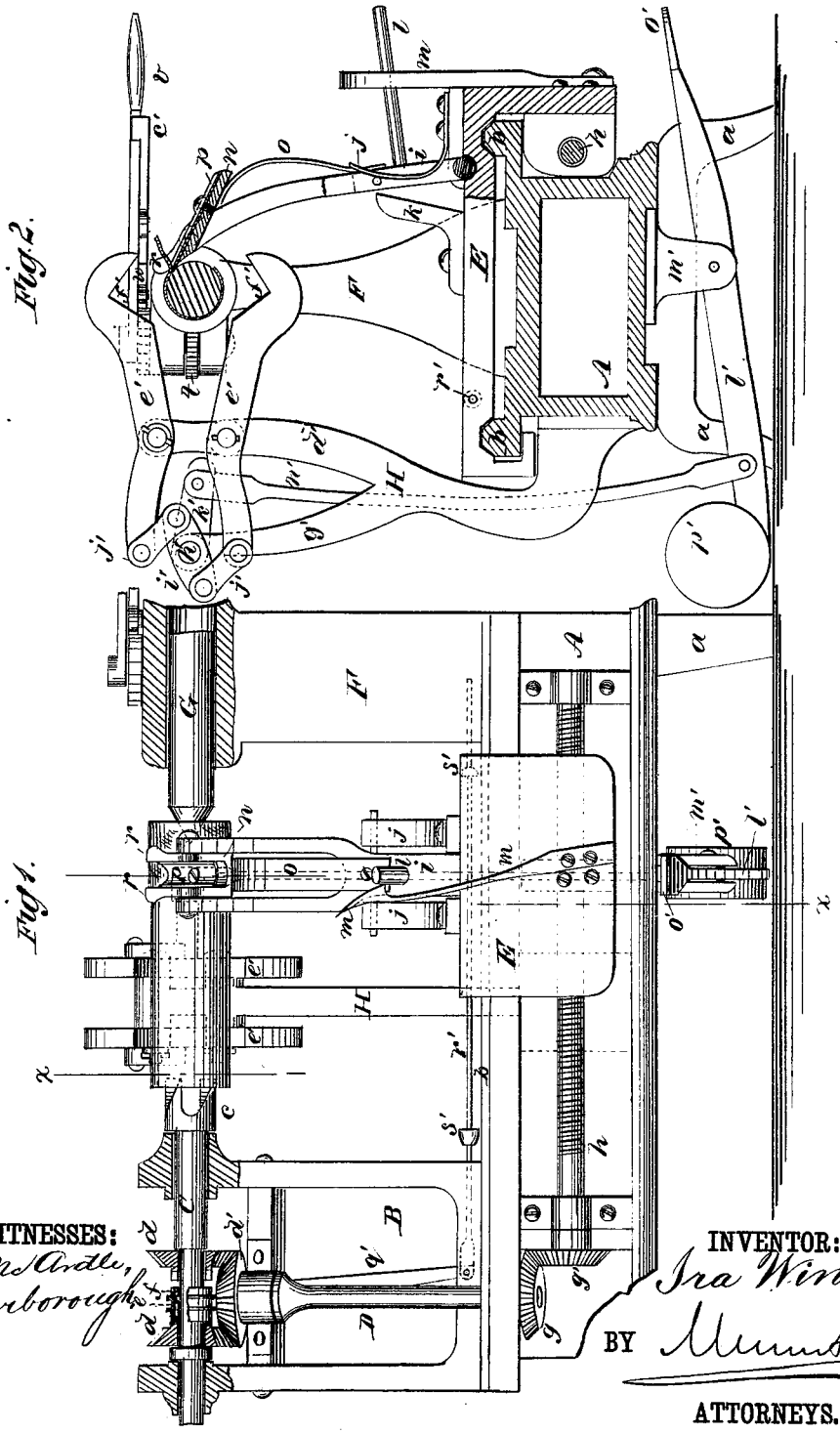

Fig. 1.

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2 Sheets—Sheet 2.

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Fig. 3

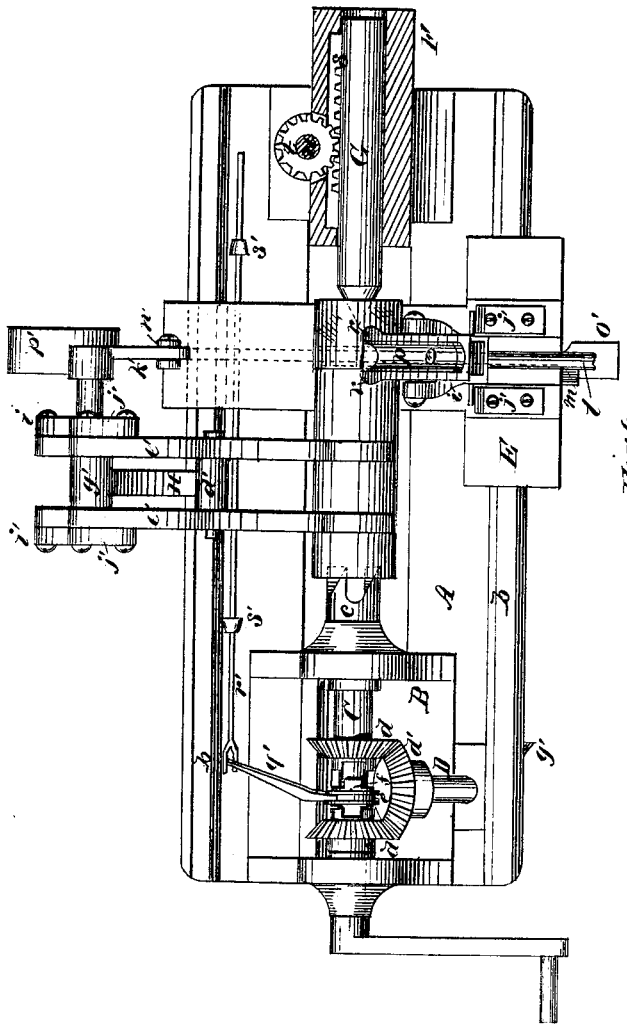
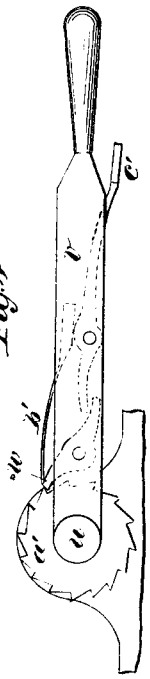


Fig. 4



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UNITED STATES PATENT OFFICE.

IRA WINN, OF FALMOUTH, MAINE.

IMPROVEMENT IN MACHINES FOR REMOVING BARK FROM WOOD.

Specification forming part of Letters Patent No. **198,327**, dated December 18, 1877; application filed September 22, 1877.

To all whom it may concern:

Be it known that I, IRA WINN, of Falmouth, (Cumberland Centre P. O.,) in the county of Cumberland and State of Maine, have invented a new and Improved Machine for Removing Bark from Wood, of which the following is a specification:

Figure 1 is a front elevation of my improved machine. Fig. 2 is a vertical section on line *x x* in Fig. 1. Fig. 3 is a plan view, partly in section; and Fig. 4 is a detail view of the lever for operating the spindle.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide a machine for quickly and effectually removing the bark from sticks of wood used in the manufacture of paper-pulp, or for any purpose for which bark has to be removed from wood.

The invention consists of a revolving and a fixed spindle for supporting and rotating the stick to be denuded, a centering device for holding the stick until it is engaged by the spindles, a yielding knife for removing the bark, and a stop for shifting the feed.

Referring to the drawing, A is the bed of the machine, supported on legs *a*, and having ways *b*. A head-block, B, in which the spindle C is journaled, is fitted and fastened firmly to the bed. The spindle has upon its inner end a spur-chuck, *c*, and between the two uprights of the head-block two miter-wheels, *d*, having clutch-lugs on their bosses, are loosely placed. Between the miter-wheels *d* a sleeve, *f*, having clutch-lugs at each end and a groove, *e*, at its center, is placed. This sleeve slides longitudinally on the spindle, but is prevented from turning thereon by a slot in the sleeve and a feather in the spindle.

A shaft, D, one end of which is journaled in the bed and the other in the head-block, has upon its upper end a miter-wheel, *d'*, that meshes with the miter-wheels *d* on the spindle C, and upon its lower end a miter-wheel, *g*, that meshes into a similar wheel, *g'*, on the feeding-screw *h*, journaled at the front of the bed A.

E is a carriage fitted to the ways *b*, and provided with a tool-post, *i*, that is pivoted to it, and is thrown forward by springs *j*. A stop, *k*, projects from the carriage E, for limiting the forward movement of the post. An arm, *l*, projects from the pivoted tool-post *i*, for convenience in moving the post, and for receiving the spring-catch *m*, that is attached to the carriage, when it is desired to hold back the tool carried by the post.

The tool-post *i* is forked, and in it a tool-holder, *n*, is pivoted. A spring, *o*, attached to the lower portion of the tool-post, presses against the under surface of the tool-holder and throws its outer end upward, carrying the edge of the tool *p* in the tool-holder downward into contact with the stick to be operated upon. The tool-holder *n* is provided with two ears, *r*, that project beyond the tool *p*, and prevent it from entering the wood beyond a prescribed limit.

The tool *p* is made in the form of a gouge, and is ground back at its center, so as to cut near its sides first, making a drawing cut toward the center of the tool.

The carriage is provided with a nut that is fitted to the screw *h*, so that as the screw is rotated the carriage is moved.

The tail-block F is fitted to the bed, and through it the tail-spindle G slides. A rack, *s*, is formed on the side of the tail-spindle, that is engaged by a pinion, *t*, placed on the shaft *u*, that is journaled in ears of the side of the tail-block. To the shaft *u* a lever, *v*, is secured, which carries a pawl, *w*, which is thrown into engagement with a ratchet, *a'*, formed on the tail-block, by the spring *b'*, and is disengaged from the ratchet by the lever *c'*. The tail-spindle G is thrown forward into the end of the stick held between it and the head-spindle C by moving the lever *v*, and is held in place by the pawl and ratchet.

A forked standard, H, is attached to the back of the bed A, and is of the same height as the head and tail blocks. To each side of the inner branch *d'* of the fork two oppositely-arranged levers, *e'*, having V-notches *f'*, are pivoted. In the outer arm *g'* of the forked standard H a short shaft, *h'*, is journaled, to which, on each side of the arm *g'*, levers *i'*, having equal arms, are secured. These levers are connected by links *j'* with the outer ends of the levers *e'*.

An arm, *k'*, is attached to one end of the shaft *h'*, and is connected by a rod, *n'*, with a

foot-lever, l', that is pivoted between hangers m', attached to the bed A. The forward end of the lever l' is provided with a foot-piece, o', and upon the opposite end a weight, p', is placed.

A lever, q', which is forked, and fitted to the groove e of the sleeve f, is pivoted to a cross-bar in the head-block B, and is connected at its lower end with a rod, r', that extends through the carriage E, and is provided with collars s', one on each side of the carriage.

A stick to be denuded is clamped between the levers e' by pressing the foot on the lever i'. It is held and brought to the center by the V-shaped notches f'. The tail-spindle G is then thrown forward by moving the lever v, as before described. The spindle C being in motion, the stick is rotated, and the bark removed by the tool p, which is carried along by the screw h. The tool yields to the inequalities of the surface of the stick, and removes the bark quickly and completely. When the tool has traveled to the end of the stick, the carriage E strikes one of the collars s' on the rod r', moving the sleeve f and stopping the feeding mechanism. When another stick is placed in the machine, the rod s' is moved so as to start the feeding mechanism and cause the tool to traverse the stick in the opposite direction.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The tool p, pivoted holder n, and pivoted post i, in combination, substantially as herein shown and described.

2. The combination of the spring-catch m with the pivoted post i, having the arm l, substantially as shown and described.

3. The levers e', having notches f', the weighted lever i', and the connecting mechanism, in combination, substantially as herein shown and described.

4. The lever v, carrying the pawl w, disengaging-lever c', and pinion t, the spindle G, having the rack s, and the tail-block F, in combination, substantially as shown and described.

5. The combination of the lever q' and rod r', having collars s', with the carriage E and sleeve f, substantially as and for the purpose herein shown and described.

IRA WINN.

Witnesses:
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