

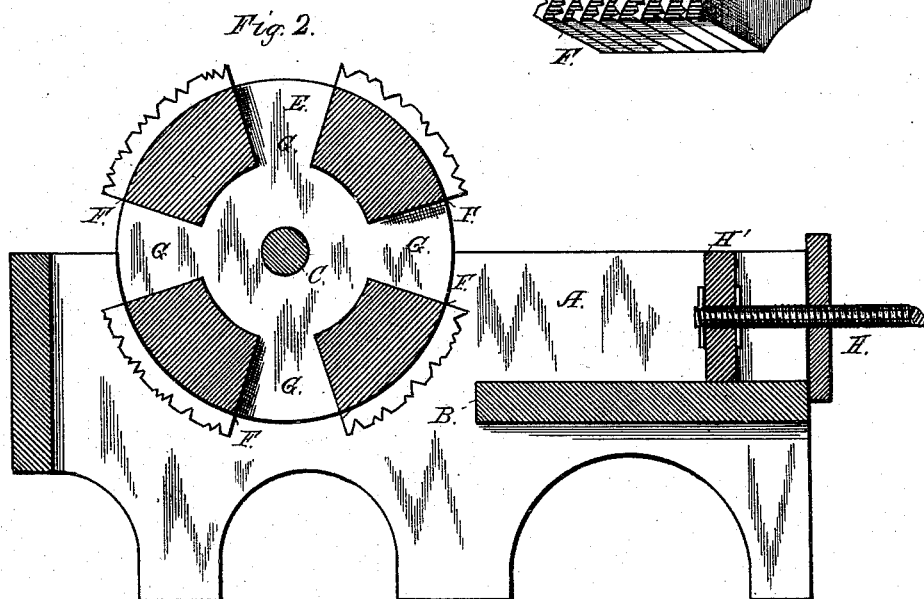
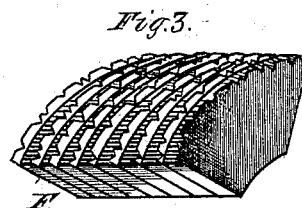
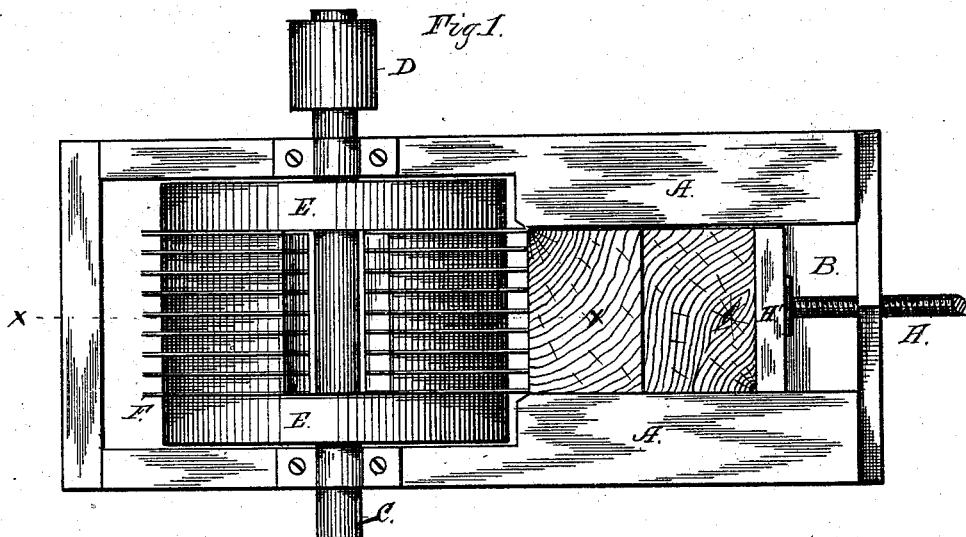
(No Model.)

W. N. CORNELL.

MACHINE FOR REDUCING WOOD TO STOCK FOR PAPER PULP.

No. 263,119.

Patented Aug. 22, 1882.



Attests;

J. Ellsworth Clark.
John C. Schroeder.

Inventor;

William N. Cornell
by Geo. W. Alger
att.

UNITED STATES PATENT OFFICE.

WILLIAM N. CORNELL, OF PULASKI, NEW YORK.

MACHINE FOR REDUCING WOOD TO STOCK FOR PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 263,119, dated August 22, 1882.

Application filed February 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NORRIS CORNELL, of Pulaski, in the county of Oswego and State of New York, have invented a new and useful Improvement in Machines for Reducing Wood to Stock for Paper-Pulp; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in the construction of machines for reducing wood to "stock" suitable for use as paper-pulp; and it consists principally in the employment of a revolving hollow drum suitably mounted and provided with sectional cutting-plates, by means of which the fiber, which is cut or torn from the wood nearly parallel with its grain, is necessarily of a greater length and superior quality than that obtained by the use of circular saws or other similar devices; and, further, by the use of this hollow drum, with its sectional cutting-plates, the stock is freely deposited into the center thereof and discharged therefrom at each revolution, thus greatly facilitating its operation, all as more fully hereinafter described.

For the better understanding of my invention, and to enable those skilled in its relative art to know how to construct and use it, I will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 represents a plan view of the top of the machine, with blocks of wood being fed to the hollow drum; Fig. 2, a central vertical section taken on the line *xx* of Fig. 1, omitting the blocks of wood; and Fig. 3, a detail view, in perspective, of one of the gang or series of sectional cutting-plates.

Like letters denote corresponding parts in each figure.

A represents the supporting-frame, provided with the feed-table B, secured to and between the sides of the frame about midway their depth, and terminating at a point sufficiently distant from the opposite end of the frame to leave a space or recess for the reception of the revolving hollow drum, presently to be described. On this supporting-frame a shaft, C, is journaled, as shown, which shaft is provided with a suitable drum, D, for connection, by belt or

other means, with any mechanism suitable for driving the shaft. Upon this shaft, and between the two sides of the supporting-frame, is mounted the hollow drum, consisting of two heavy drum-heads, E E, between and to which are secured the sectional cutting-plates F by means of bolts or other suitable means. Each of these drum-heads should be from four to six feet in diameter and weigh not less than one thousand pounds, so as to give momentum to the sectional cutting-plates when running the drum at a slow rate of speed. The attachment of these cutting-plates in sections to the drum-head is accomplished by means of layers of wood or other suitable material cut in sections, with their exterior and interior edges made to conform in contour with the periphery of the drum-heads and shaft, respectively, as shown in Figs. 2 and 3. Between each layer and its adjoining one and that next each drum-head is inserted one of the cutting-plates, of like shape, irregularly notched, and projecting beyond the outer surface of each layer of wood a distance sufficient to obtain effective results. Each section thus constructed constitutes a gang or series of cutting-plates, which are secured between the drum-heads at points equidistant apart, to leave between each section an unobstructed opening or passage, G, to the center of the drum of a diameter equal to about half the length of each section. Through these openings or passages G the stock, after being cut or torn from the wood, is admitted to the center of the drum and discharged therefrom at each revolution, thus greatly facilitating its operation.

The wood to be reduced to fiber is fed and pressed against the revolving drum by the feed-screw H and its cap or head plate H', as shown in Fig. 1. When all the wood on the feed-table is reduced to fiber the feed-screw and head-plate is run back and the table again supplied with wood for reduction. This feed-screw and head-plate for advancing the wood to the drum may be adapted to operate by hand-power, or by any other suitable means desired.

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

1. Providing a machine for reducing wood to stock for paper-pulp with a revolving hol-

low drum adapted to receive the stock in its center and discharge it therefrom at each revolution, substantially as and for the purpose set forth.

5 2. In a machine for reducing wood to stock for paper-pulp, the combination, with a supporting-frame and suitable mechanism for operating it, of a revolving hollow drum provided with a gang or series of cutting-plates arranged in sections and located apart from one
10 another, substantially as and for the purpose set forth.

3. In a machine for reducing wood to stock for paper-pulp, the combination, with the sup-

porting-frame and feed-screw and head-plate, 15 substantially as described, of the revolving hollow drum and sectional cutting-plates, whereby the fiber is cut or torn from the wood nearly parallel with the grain and discharged into the drum and out at each revolution, substan- 20 tially as described.

This specification signed and witnessed this 28th day of January, 1882.

WILLIAM NORRIS CORNELL.

Witnesses:

W. B. DIXSON,
JOHN W. RICHARDS.