W. N. CORNELL & C. TOLLNER.

Machine for Reducing Wood to Paper-Pulp.

No. 208,890. **Patented Oct. 15, 1878.**

Fig. 1.

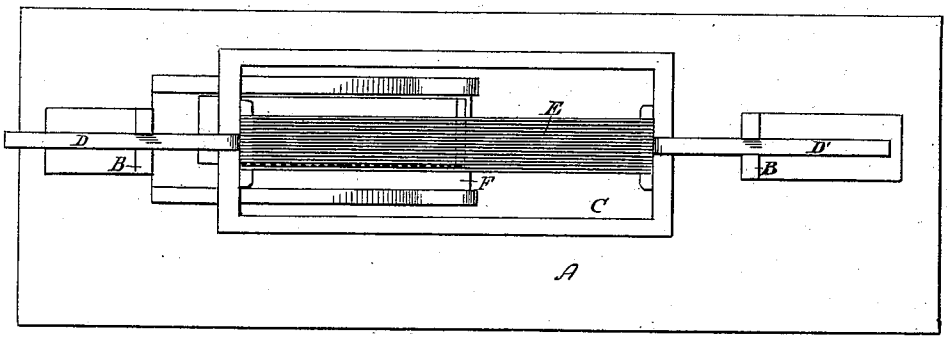


Fig. 2.

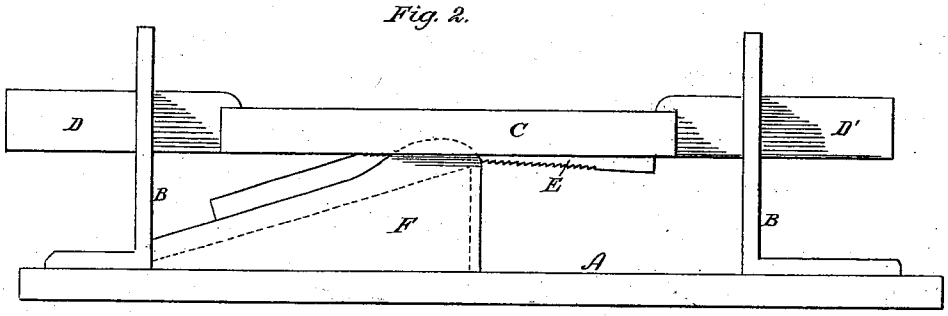
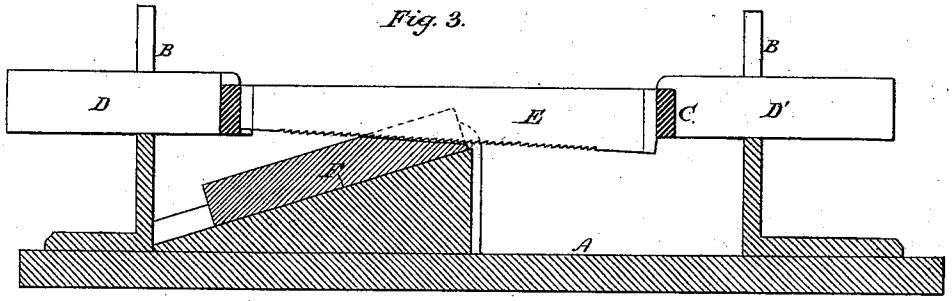


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM N. CORNELL AND CHARLES TOLLNER, OF PULASKI, NEW YORK, ASSIGNORS TO THEMSELVES AND J. T. AND L. H. STEVENS, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN MACHINES FOR REDUCING WOOD TO PAPER-PULP.

Specification forming part of Letters Patent No. **208,890**, dated October 15, 1878; application filed July 10, 1878.

To all whom it may concern:

Be it known that we, WILLIAM N. CORNELL, of Pulaski, in the county of Oswego and State of New York, and CHARLES TOLLNER, 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 Paper-Pulp; and we 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.

The object we have in view is to produce a machine for reducing wood to "stock" suitable for paper-pulp, the wood being cut lengthwise of its grain, and the desired length of fiber being retained, which machine will be simple in its construction and will work rapidly, so as to reduce a large amount of wood at a small cost; and our invention therein consists, mainly, in presenting the blocks of wood to the reciprocating saws used for this purpose at an angle to the plane of the saws, so as to regulate the length of the fiber; and, further, in the combination of the principal operative parts of our machine, as fully hereinafter explained.

In the drawings, Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a central section, of our improved machine.

Like letters denote corresponding parts.

A is the base of the machine, upon which are mounted, a suitable distance apart, two standards, B B′, slotted vertically down to near the highest point of the feed-table. C is the saw-frame, situated between the standards B B′, and having arms D D′, which rest and slide in the slots in such standards. One of these arms is connected with a pitman, and the saw-frame reciprocated through connection with the power. In the saw-frame is mounted a gang of saws, E, placed close together, nearly or quite in contact with each other.

The saws may have teeth of such form that they will cut or tear the wood either in one or in both directions, as may be desired. Below the saw-frame is placed the table F, with inclined upper surface, so as to present the blocks of wood at an angle to the saws. This table is stationary, and preferably has side flanges, as shown, and the block of wood is secured to it by wedges or clamps and screws, or any other suitable means.

The saw-frame is raised before the block is placed on the table, and after it is secured the frame is dropped and the saws reciprocated till the arms D D′ reach the bottom of the slots in the standards, when the operation is stopped. The saw-frame is then raised and the block adjusted to a new position, when the operation is continued as before.

If the saws cut the whole width of the block, it is simply moved farther up on the table at each adjustment; but if they only operate upon a portion of the width of the block, at every adjustment it is moved laterally, so as to use up the whole block. The angle of the presentation of the wood to the saws can be changed, if desired, by wedging up the table at either end; or such table may be mounted on a pivot and the angle of its upper surface adjusted by means of screws or otherwise.

The saw-frame C may be constructed with the arms D D′ extending directly through its center, and with a set of saws on each side of the same; but the construction shown is preferred.

The principal features of our invention being the use of reciprocating saws for reducing wood to stock for paper-pulp, which cut or tear the wood lengthwise of the grain, and the presenting of the blocks of wood to be cut at an angle to the plane of the saws, it is evident that the parts of the machine could be quite differently arranged without departing from the spirit of our invention. For instance, the saw-frame could be mounted at an angle to the base, and the block to be cut held parallel to such base, or at a different angle than the saw-frame; or the saw-frame could be arranged to reciprocate vertically, and the block presented at an angle to the plane of the saws. Therefore we do not wish to be restricted to the exact construction and arrangement of our machine.

Having thus fully described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. In a machine for reducing wood to stock for paper-pulp by means of reciprocating saws cutting the wood lengthwise of its grain, presenting the blocks of wood to be cut at an angle to the plane of the reciprocating saws, substantially as described.

2. In a machine for reducing wood to stock for paper-pulp, the combination of the reciprocating saws and frame and slotted standards with the inclined feed-table, substantially as described and shown.

This specification signed and witnessed this 3d day of July, 1878.

WILLIAM N. CORNELL.
CHARLES TOLLNER.

Witnesses:
SIMON FALK,
THOS. M. STONE.