

C. W. WELD.
Wood-Grinders.

No. 150,209.

Patented April 28, 1874.

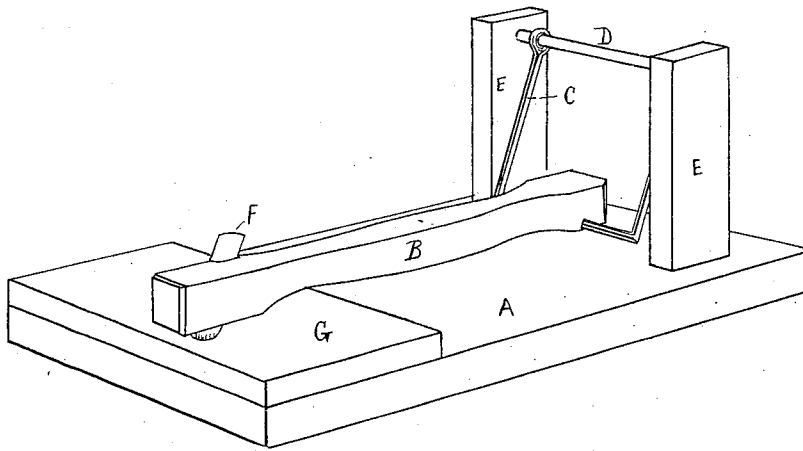


FIG. 1

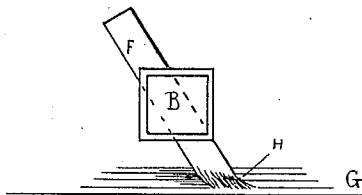


FIG. 2

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UNITED STATES PATENT OFFICE.

CHARLES W. WELD, OF SOUTHBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN WOOD-GRINDERS.

Specification forming part of Letters Patent No. 150,209, dated April 28, 1874; application filed March 14, 1874.

To all whom it may concern:

Be it known that I, CHARLES W. WELD, of Southbridge, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Wood-Grinders; of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view of my improved machine. Fig. 2 is a sectional view of the same.

Like letters refer to like parts in the different figures of the drawing.

My invention relates to that class of paper-pulp machines which are used for converting wood into pulp by abrasion; and consists of a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which new and important results are effected.

The extreme simplicity of my invention renders an elaborate description unnecessary.

In Fig. 1, A is the bed-piece of the machine; B, the block-holder; C, the pendulous link, to which the holder is attached; D, the cross-bar or shaft for supporting the link; E, uprights, in which the cross-bar is disposed; G, the grinding-stone, and F the block from which the pulp is produced. The block is inclined to the plane of the stone G, and arranged diagonally in the holder B, as shown in Fig. 2.

From the foregoing, the nature and operation of my invention will be readily understood by all conversant with such matters.

In ordinary paper-pulp machines, in which poplar and similar woods are converted into pulp for the manufacture of paper, the wood is usually ground either directly across

the grain, or against it. This I have found, in actual practice, breaks up and destroys the fiber of the wood, rendering the paper made from it inferior both in looks and strength. To obviate this, I confine the block F, as shown, or so that when the holder B is caused to move back and forth over the stone G, by power applied to the link C, the cut or abrasion will not be directly against the grain, nor directly across it, but on a line between the two, the block being also inclined, or set an angle of about forty-five degrees to the grinding-surface, over which it is moved, or by which it is ground.

By this arrangement, when the block is moved forward over the stone, the fibers of the wood are rolled up, and partially separated from the block, the operation being completed by the return or opposite movement, without breaking up and destroying the fibers to such an extent as occurs in other processes of grinding.

It will be understood that the block may be secured in the holder B by screws, or any convenient means, and that power can be applied to vibrate the holder B, as preferred. The block may be secured in substantially the same position described, and ground on a wheel, without departing from the spirit of my invention; but I prefer the method shown.

Having thus described my invention, what I claim is—

In a wood-pulp machine, the vibratory holder B, provided with means for holding the block diagonally inclined, as described, and combined to operate, with the stone G, substantially as and for the purpose set forth.

CHARLES W. WELD.

Witnesses:

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