

S. B. ZIMMER,
Wood-Grinding Machines for Making Pulp.
 No. 141,976. Patented August 19, 1873.

Fig. 1.

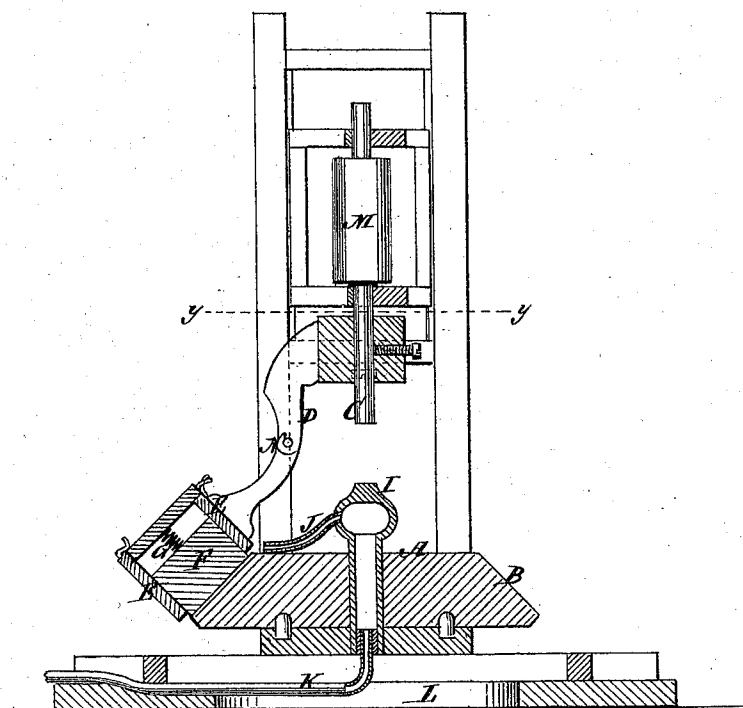
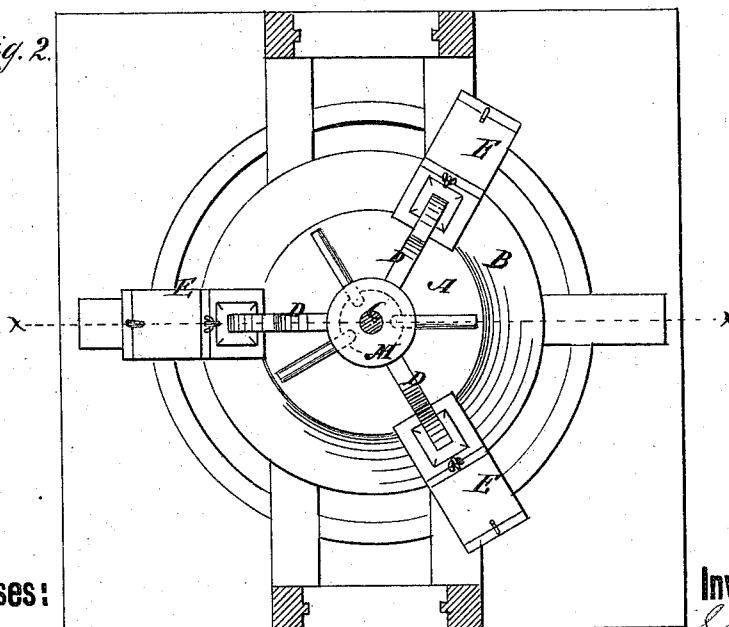


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

SØREN B. ZIMMER, OF ELKHART, INDIANA.

IMPROVEMENT IN WOOD-GRINDING MACHINES FOR MAKING PULP.

Specification forming part of Letters Patent No. 141,976, dated August 19, 1873; application filed June 21, 1873.

To all whom it may concern:

Be it known that I, SØREN B. ZIMMER, of Elkhart, in the county of Elkhart and State of Indiana, have invented a new and Improved Wood-Grinding Machine for Making Pulp, of which the following is a specification:

My improved wood-grinding machine consists of a large flat horizontal stone disk fixed stationary on the frame, with a bevel face inclining toward the axis above the stone, around which the wood is caused to revolve in boxes operated by arms projecting from a rotating shaft above the stone. The boxes contain springs, which press the wood onto the face of the stone. The arms are jointed to lower the boxes from time to time as the face of the stone wears away. The joints are clamped fast after adjusting them to make the arms rigid to hold the boxes off the stone. Water is discharged upon the face of the stone by tubes from a hollow pen-stock projecting up through the center, and connected by a pipe below with any suitable supply.

Figure 1 is a sectional elevation of my machine taken on the line *x x* of Fig. 2, and Fig. 2 is a horizontal section taken on the line *y y* of Fig. 1.

A represents a large stone disk laid flatwise on the foundation of the machine, and fixed so as not to revolve. B is the grinding-face, which is beveled from the lower edge upward toward the vertical axis of the stone, in which, a short distance above the said stone, the vertical driving-shaft C is arranged in suitable bearings. The shaft has three, more or less, jointed arms, D, which project down-

ward to the face of the stone at equal distances apart from each other, and have a box, E, attached and supported by them above the face of the stone, the joints of said arms being rigidly clamped together by the pivot-bolt.

The wood F to be ground is placed in these boxes and pressed on the face of the stone by springs G, which are attached to the covers with which they are provided, to open to put in the wood and close to retain it, and press the springs on the wood.

I is the pen-stock, which projects up through the center of the stone to supply the water to the face through the small pipes J attached to it. K is the pipe for supplying the water to the pen-stock. The water washes the pulp off the face of the stone into a tank, L, below. The power is applied to shaft C by a pulley, M. N represents the joints in the arms to adjust the boxes from time to time. They are to be arranged so that the arms can be made rigid by screwing up the joint-bolts and clamping the parts of the joints together.

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

1. The combination of the bevel-faced stationary stone A, rotating jointed arms D, boxes E, and springs G, substantially as specified.

2. The arrangement of the pen-stock I and water-pipes J K with the stone, substantially as specified.

SØREN B. ZIMMER.

Witnesses:

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