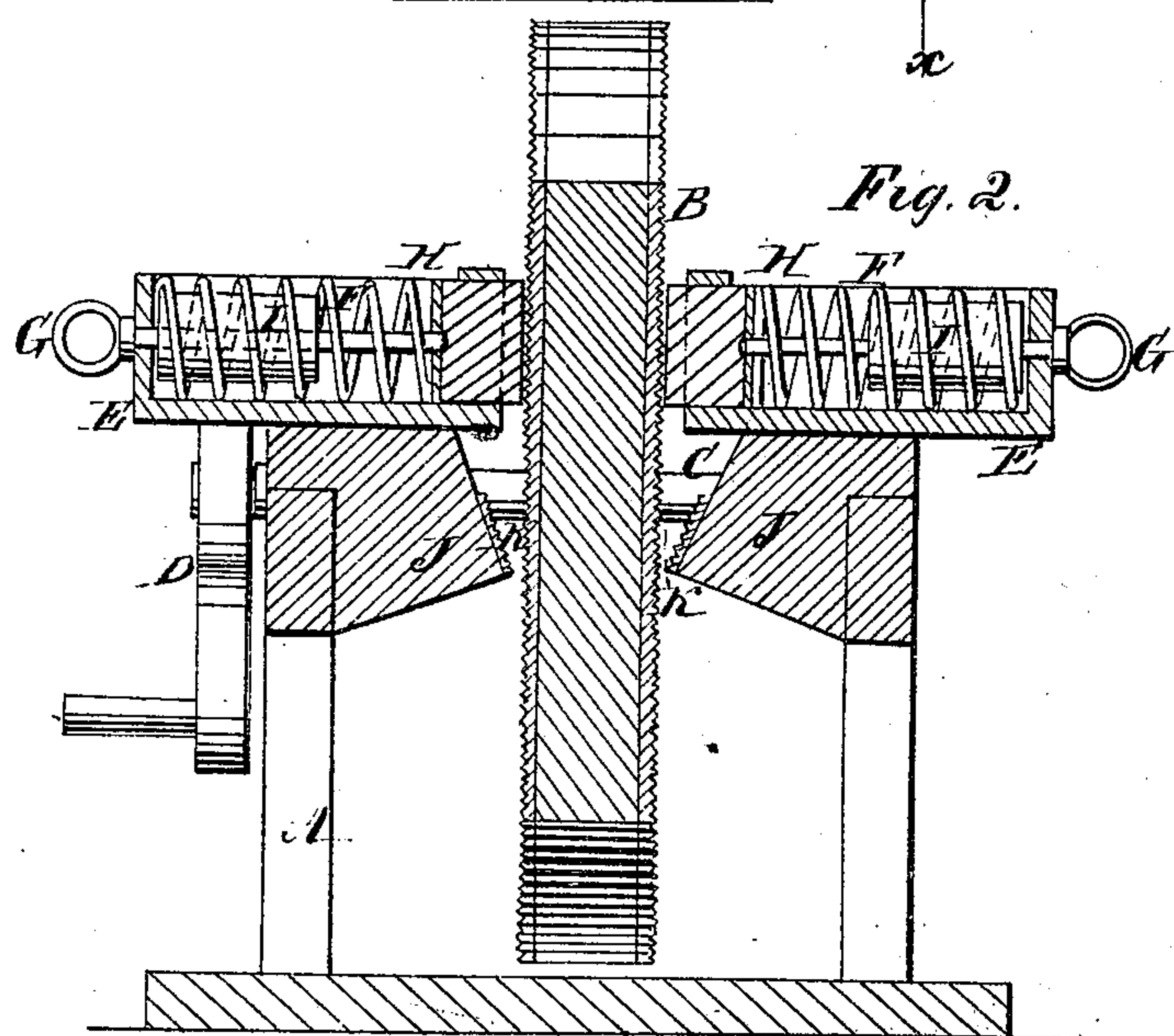
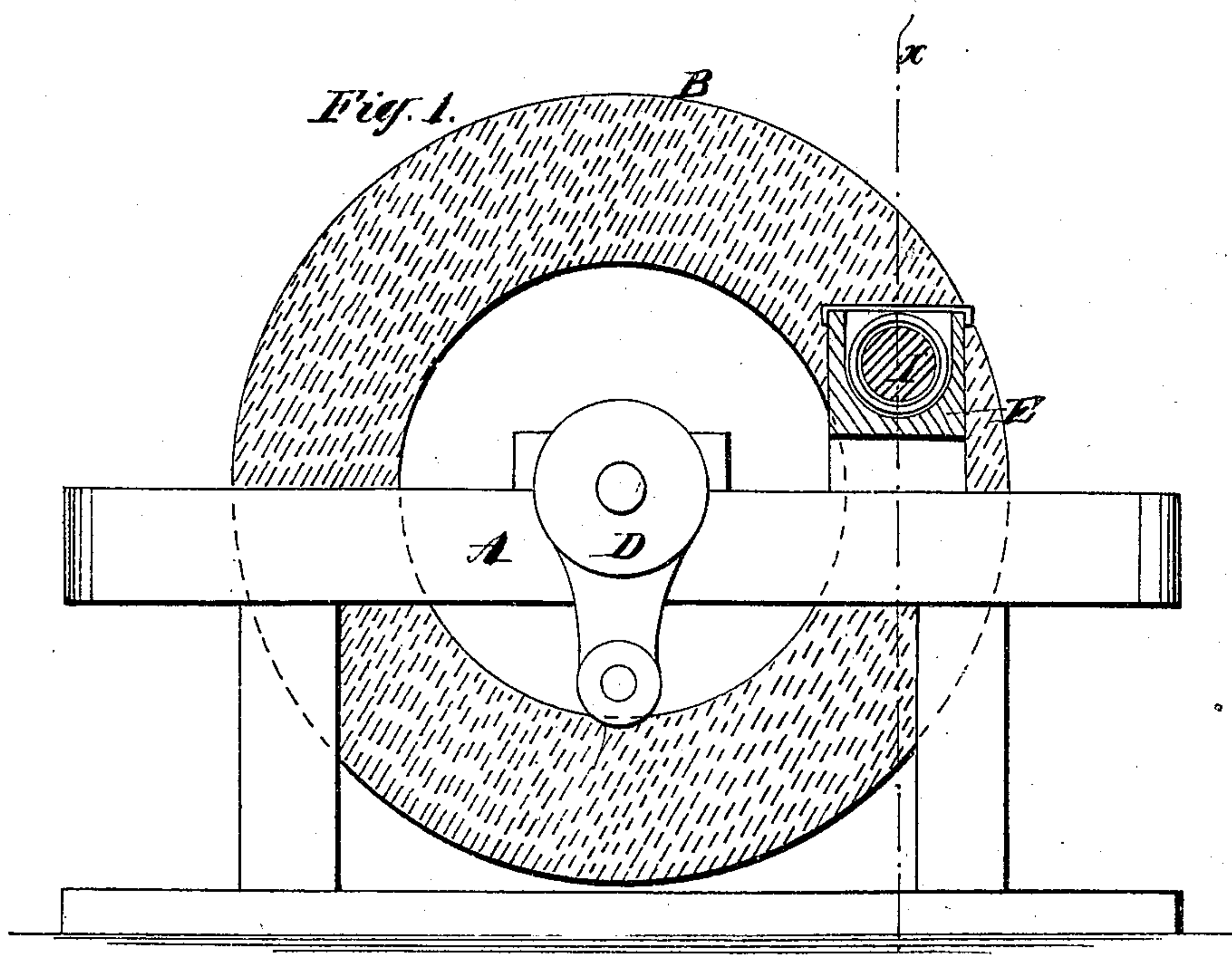


*F Burghardt.*  
*Wood Grinder.*  
*Nº 97,041. Patented Nov. 23, 1869.*



*Witnesses.*

*A Bennemann*

*O. Hinckman*

*Inventor*

*F. Burghardt*  
*Mum*



# UNITED STATES PATENT OFFICE.

FREDERICK BURGHARDT, OF CURTISVILLE, MASSACHUSETTS.

## IMPROVED MACHINE FOR MAKING WOOD-PULP.

Specification forming part of Letters Patent No. **97,041**, dated November 23, 1869; antedated November 15, 1869.

*To all whom it may concern:*

Be it known that I, FREDERICK BURGHARDT, of Curtisville, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Machines for Making Wood-Pulp; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in machines for reducing wood to pulp for use in manufacturing paper; and consists in a wheel with one or both of its sides provided with grating, rasping, filing, or roughened surface, in contact with which the wood to be reduced is brought, as will be hereinafter more fully described.

In the accompanying plate of drawings, Figure 1 represents a side elevation of the machine. Fig. 2 is a sectional end elevation, showing the wheel and the method of applying the wood to be reduced thereto.

Similar letters of reference indicate corresponding parts.

A represents the frame by which the wheel is supported. B is the wheel. This wheel is hung on a central shaft, C, to which a crank or pulley, D, is attached for revolving it. One or both sides of the wheel are covered or partially covered with metal, roughened on its surface, for grating, filing, rasping, or reducing wood to a powder when the wheel is revolved and the wood is brought in contact therewith. In this example of my invention an annular space on each side of the wheel is so covered. Instead of covering the wheel, or any portion of it, with metal, the surface of the wheel itself may be made rough with emery or emery-paper, or in any other manner, so that the wood in a dry state may be reduced when brought in contact therewith.

E represents boxes for containing the blocks of wood which are to be reduced to powder. The block is forced up to the wheel by means of spiral springs F. Any other spring or a weight may be used for this purpose, if found more convenient. When a block is placed in the box the spring is drawn back by means of the rod G, which is attached to a plate, H.

I represents blocks within the back ends of the spring, which serve to guide the springs and keep them in position.

Beneath the boxes E are adjustable blocks J, with inclined sides and with roughened surfaces, as seen at K, for receiving the reduced wood as it leaves the wheel, and keeping it in contact therewith as the wheel revolves for a limited length of time, thereby aiding the wheel more or less in reducing the wood.

I do not confine myself to using these blocks J in this arrangement, as they may be used or not, as may be deemed best.

The wood for thus making pulp for paper should be well dried and free from gum, so that the reducing-surface of the wheel may not be injuriously affected.

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

1. A revolving wheel with one or both sides provided with a grating, filing, rasping, or roughened surface, substantially as and for the purpose herein shown and described.

2. The adjustable block J, with the filing, grating, rasping, or roughened surfaces K, in combination with the wheel B, substantially as described.

FREDERICK BURGHARDT.

Witnesses:

D. C. DAVIS,  
J. G. O'NEILL.