

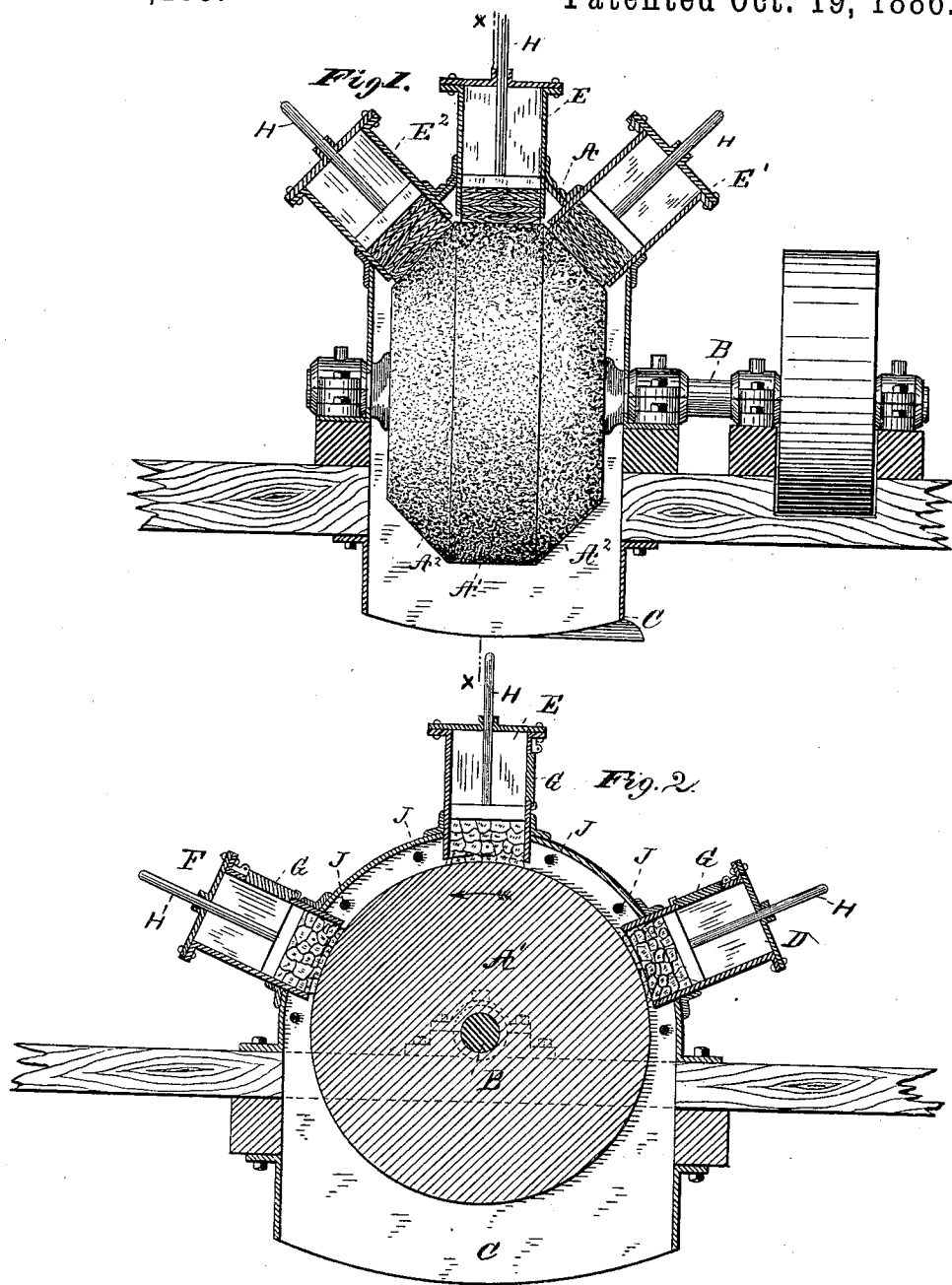
(No Model.)

A. H. RITCHIE.

MACHINE FOR THE REDUCTION OF WOOD TO PAPER PULP.

No. 351,285.

Patented Oct. 19, 1886.



WITNESSES:

Gabriel J. W. Galster
Samuel H. Knight.

INVENTOR

Alexander H. Ritchie

BY

Knight & Broz

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALEXANDER H. RITCHIE, OF BROOKLYN, NEW YORK.

MACHINE FOR THE REDUCTION OF WOOD TO PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 351,285, dated October 19, 1886.

Application filed August 25, 1885. Serial No. 175,275. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER H. RITCHIE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Machines for the Reduction of Wood to Paper-Pulp, of which the following is a specification.

My invention relates, primarily, to the construction and arrangement of the grinder or grinding-wheel, and, secondly, to the placing of the feed boxes or hoppers to conform to the shape of the grinder, as will be explained.

My invention consists in forming a wheel with beveled edges or corners, said beveled portions being sufficiently large to constitute grinding-surfaces, and in placing the emery or other grinding material upon these beveled surfaces and upon the periphery of the wheel.

The object of my invention is to produce a grinder whose grinding-surfaces are less liable to crack and fly off than those which employ broad peripheries with the emery or other grinding material on them alone. For instance, in this class of machines now in use grinding-surfaces sixteen or seventeen inches wide are employed. These are liable to, and in fact often do, break and fly off, owing to their great breadth. By dividing them up, as I do, and making the different grinding-surfaces about twelve inches wide, this difficulty is avoided.

Another advantage of my machine arises from the fact that the hoppers or feed-boxes may be placed farther apart, the result being that the grinder may be thoroughly cleaned by means of the water between the different boxes, thus preventing regrinding of the pulp. The boxes are arranged in gangs transversely of the grinder, and correspond in number to the number of grinding-surfaces.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 represents an end elevation of the grinder, with portions of the inclosing casing and the hoppers cut away. Fig. 2 is a sectional view on the line *x x*, Fig. 1.

The grinder or emery-wheel A is provided with a flat portion, A', on the periphery and beveled portions A² on both sides. These

three parts constitute the grinding-surfaces of the wheel; but they are not limited to this number, as they may be increased to four, five, or more without departing from the spirit of my invention.

The grinding-wheel turns on a suitably-journalled axle, B, and is inclosed by a casing, C. The bottom of the casing may be arranged in any suitable manner for withdrawing the pulp. Resting upon and extending into the casing nearly as far as the grinding-wheel are the hoppers or feed-boxes D D' D², E E' E², and F F' F². They are set in perpendicular positions corresponding to the grinding-surfaces against which they are set. The hoppers are provided with doors G, into which the wood, &c., to be reduced is fed, and with pistons and piston-rods H, to which pressure may be applied in any suitable manner. Water-pipes J open into the casing, and are so arranged that the grinding-wheel may be flooded just after it passes from beneath a hopper, so that all pulp may be washed from it and the aforesaid wheel or grinding-surface may be perfectly clear and clean by the time it reaches another hopper.

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

1. In a machine for the reduction of wood to pulp, a grinder or grinding-wheel having three or more grinding surfaces, as set forth and shown.

2. In a machine for the reduction of wood to pulp, the wheel having grinding-surfaces on the periphery and on the beveled portions, as and for the purposes set forth.

3. The combination of a grinder and the hoppers or feed-boxes arranged in gangs or rows transversely of the aforesaid grinder.

4. The combination of the casing having one or more rows of hoppers or feed-boxes set into it, as described, and the grinding-wheel having a grinding-surface on its periphery and grinding-surfaces on its beveled portions, as shown and described.

ALEXANDER H. RITCHIE.

Witnesses:

HERBERT KNIGHT,
WM. E. KNIGHT.