(Model.)

J. M. STEWART.

Machine for Preparing Wood for Paper Pulp.

No. 236,856. **Patented Jan. 18, 1881.**

Fig. 1.

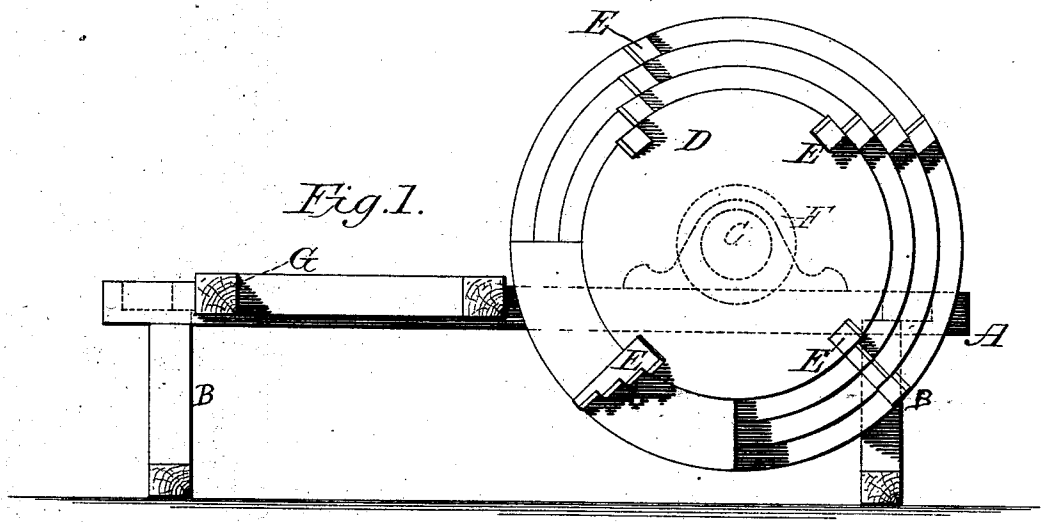
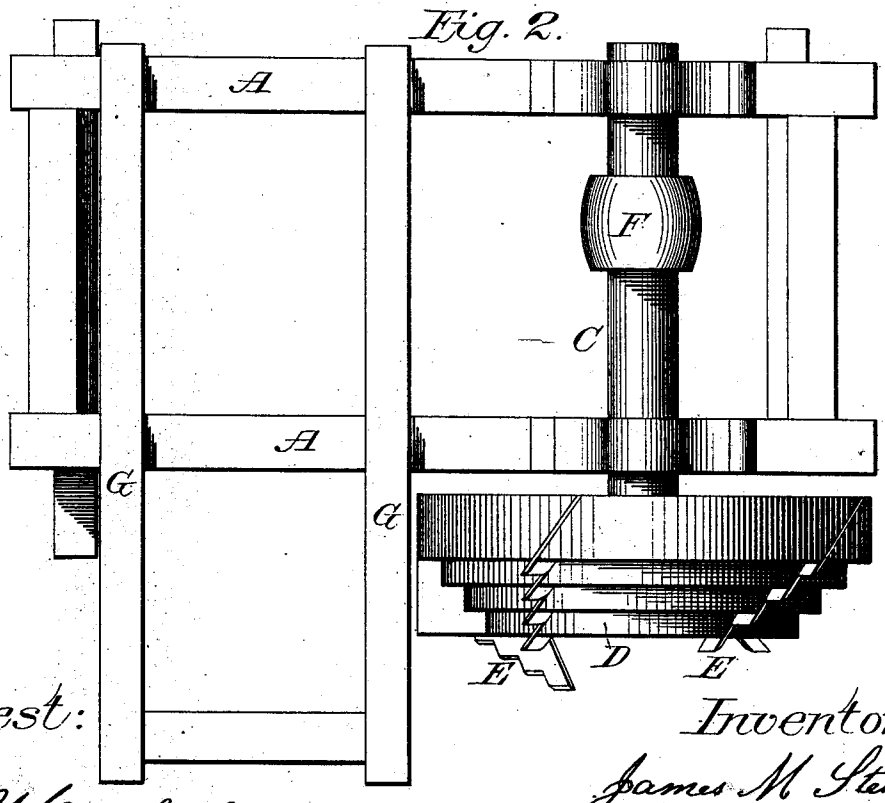


Fig. 2.



Attest:

Inventor:

James M Stewart

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES M. STEWART, OF TICONDEROGA, NEW YORK.

MACHINE FOR PREPARING WOOD FOR PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 236,856, dated January 18, 1881.

Application filed April 1, 1880. (Model.)

To all whom it may concern:

Be it known that I, JAMES M. STEWART, of Ticonderoga, in the county of Essex and State of New York, have invented a new and useful Improvement in Machines for Preparing Wood for Paper-Pulp, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a front view of my machine. Fig. 2 is a top view of the same.

The object of this invention is to furnish an improved machine for preparing wood for paper-pulp which shall be so constructed as to prevent the formation of splinters, and which will reduce the wood to such a state that it may be readily prepared for refining; also, so as to enable timber of any desired or convenient size or thickness to be operated upon.

My invention consists in cutting or shaving off the wood from the block by means of a series of small chisel-shaped cutters or bits fastened to or adjustable to the face of a disk-shaped cutter-head, and extending from some point without the center of the said cutter-head to the periphery of the same. These chisel-shaped cutters are so placed that they descend to the face of the cutter-head as they approach the periphery—that is to say, that each succeeding cutter, commencing with the one nearest the center, is lower than the preceding one.

C is a mandrel, which revolves in bearings attached to the top of the frame A, and to it is attached a pulley, F, to receive the driving-belt in the usual way. Upon the forward end of the mandrel C is attached the cutter-head D. Upon the face of this cutter-head are formed, or to it attached, several series of chisel-shaped cutters, E. These cutters E, any desired number of which may be used, descend, by a succession of circular steps, from the upper part of the cutter-head D (usually a cone-shaped disk) to the outermost part of the same.

Instead of placing the cutters on ring-steps, as described above, a regular disk may be used and the step form produced by lengthening the cutters, one by one, as they recede from the periphery.

The cutters E are bolted either onto the face of the cutter-head or are inserted into slots and bolted from beneath.

B represents a suitable frame-work for supporting the feed-table, which runs on the rails G, between the points H and H.

The machine being arranged as shown in the drawings, the wood, cut up into blocks two or three feet in length, is placed across the feed-table, with one end of the block overlapping the cutters. When the block is placed in this position the grain of the wood is perpendicular, or nearly so, to the axis of rotation of the cutter-head.

As suggested above, different styles of cutter-heads may be used, and the cutters may be grouped together in order and at regular intervals, as shown in the drawings, or placed irregularly. Further, the cutters are placed at any angle, according as it may be desired to produce a shaving or a more finely-divided material.

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

1. In a machine for preparing wood for paper-pulp, the combination, with a cutter-head provided with a series of slots, of a series of cutters arranged in steps, substantially as described, and for the purpose set forth.

2. The cutter-head D, composed of a series of concentric circles diminishing in diameter from the base outward, and provided with slots for the cutters, in combination with the adjustable cutters E, arranged to form a succession of steps, substantially as described, and for the purpose set forth.

3. The combination, with the cutter-head D, provided with a series of slots, and adjustable cutters E, both constructed as set forth, of the frame A, shaft C, and rails G, substantially as described, and for the purpose set forth.

JAMES M. STEWART.

Witnesses:
J. M. COOLIDGE,
W. W. D. JEFFERS.