(No Model.)

R. B. LANE.

Machine for Making Paper Pulp from Wood.

No. 239,807. **Patented April 5, 1881.**

Fig. 1.

Fig. 2.

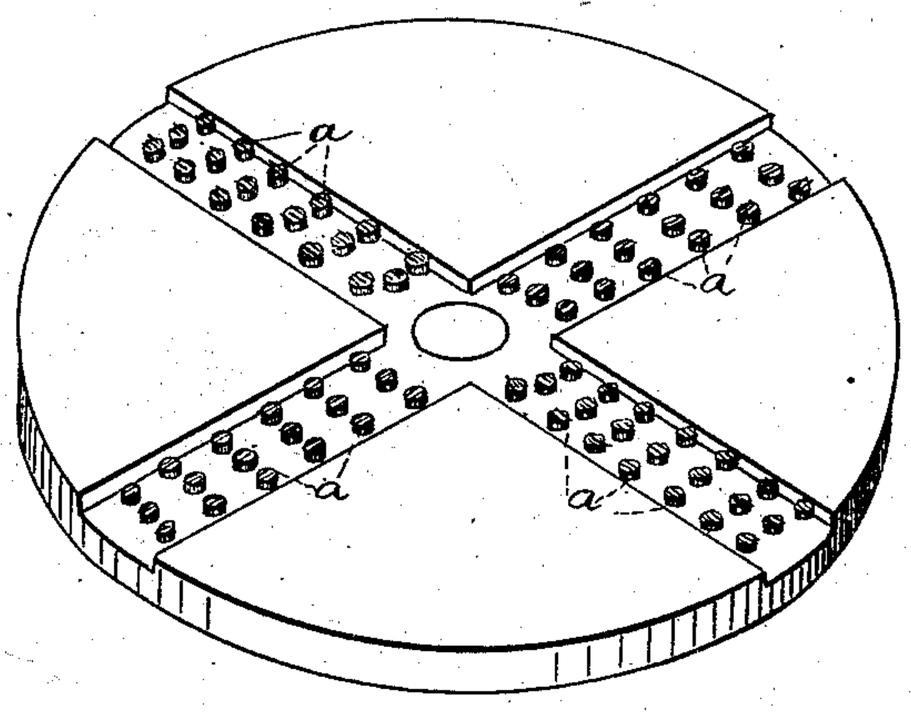
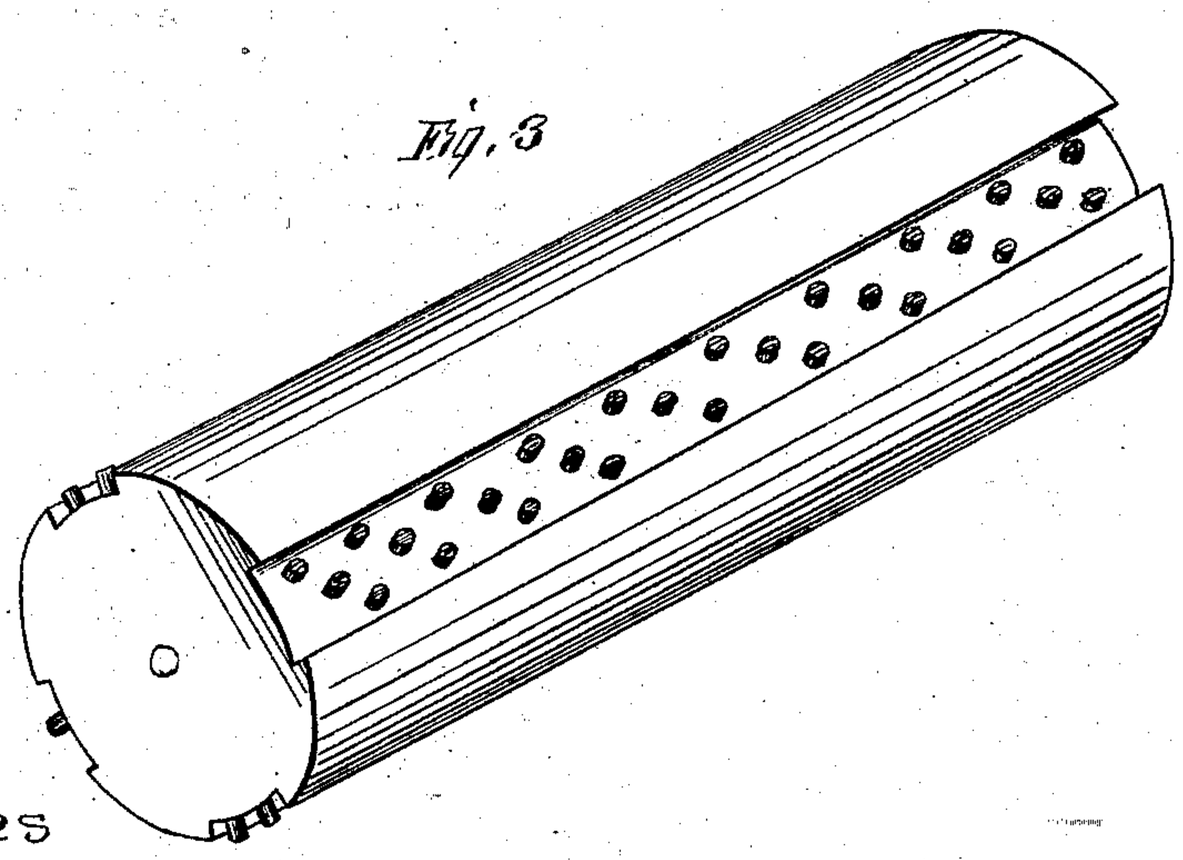


Fig. 3



Witnesses

H. F. Dexter

Frank A. Brooks

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Attys

UNITED STATES PATENT OFFICE.

RUFUS B. LANE, OF STOCKTON, CALIFORNIA.

MACHINE FOR MAKING PAPER-PULP FROM WOOD.

SPECIFICATION forming part of Letters Patent No. 239,807, dated April 5, 1881.

Application filed September 30, 1880. (No model.)

To all whom it may concern:

Be it known that I, RUFUS B. LANE, of Stockton, county of San Joaquin, State of California, have invented an Improvement in Machines for Making Paper-Pulp from Wood; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in machines for making paper-pulp from wood, and it is more especially applicable to an apparatus upon which Letters Patent were granted to me October 12, 1880, No. 233,105.

My present improvement relates to the pins which project in rows from the depressed channels in the face of the disk or cylinder, and which serve to wear off the face of the block of wood, so as to produce the pulp.

In my practice with the machine I have found that when the pins are made with plain flat ends the cutting-edges become less effective with use.

My present invention is designed to provide an improved cutting or wearing end for the pins, which will do its work better than the plain-ended pins, and which may be removed or sharpened whenever necessary, as will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is an elevation of one of the cutting-pins. Fig. 2 shows the pins applied to a cutting-disk. Fig. 3 shows the pins applied to a cutting-roller.

a a are a series of pins, which are set in channels in a disk or cylinder, these channels being formed radially within the face when a disk is employed, and longitudinally upon the periphery of the cylinder, as shown in the drawings, when a cylinder is used. These pins stand with their outer ends slightly above the line of the circumference of the cylinder, so that they will constantly strike the face of the wooden blocks as they are held against the cylinder, and will thus wear them away. These pins are set into the channels in diagonal rows, so that while there is considerable space left between the pins for clearance the pins stand in such relative positions to each other that the whole surface of the wood will be evenly abraded by them.

In order to provide the proper cutting or abrading surface to the ends of these pins, I form a series of transverse grooves and ridges, *b*, upon the end of each pin, these ridges standing lengthwise of the cylinder and at right angles with the line of motion. Each of these ridges is formed with a cutting-edge, as shown in the enlarged view, Fig. 3, and the woody pulp which is abraded by them will be removed from the pins by the water, as described in my former application.

The ridges are formed upon the pins and are kept sharpened, in proper condition for cutting, by means of a machine provided with planing-tools, which may be secured so that the tools will be made to traverse the tops of the pins, and thus recut them and put them in the proper condition, as will be readily understood by any one familiar with tools.

By my present improvement I greatly increase the effective action of the pins for abrading the wood and forming pulp.

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

In an apparatus having a revolving disk, cylinder, or surface, with channels formed below the surface for the reception of pins, the pins *a*, set in said channels in diagonal rows, and having their outer ends formed into series of ridges and grooves *b* to cut away an opposing surface, substantially as herein described.

In witness whereof I have hereunto set my hand.

RUFUS B. LANE.

Witnesses:

FRANK MILLER,

GEO. C. TURNER.