(No Model.)

H. A. FRAMBACH.

Wood Pulp Machine.

No. 229,879. Patented July 13, 1880.

Fig. 1.

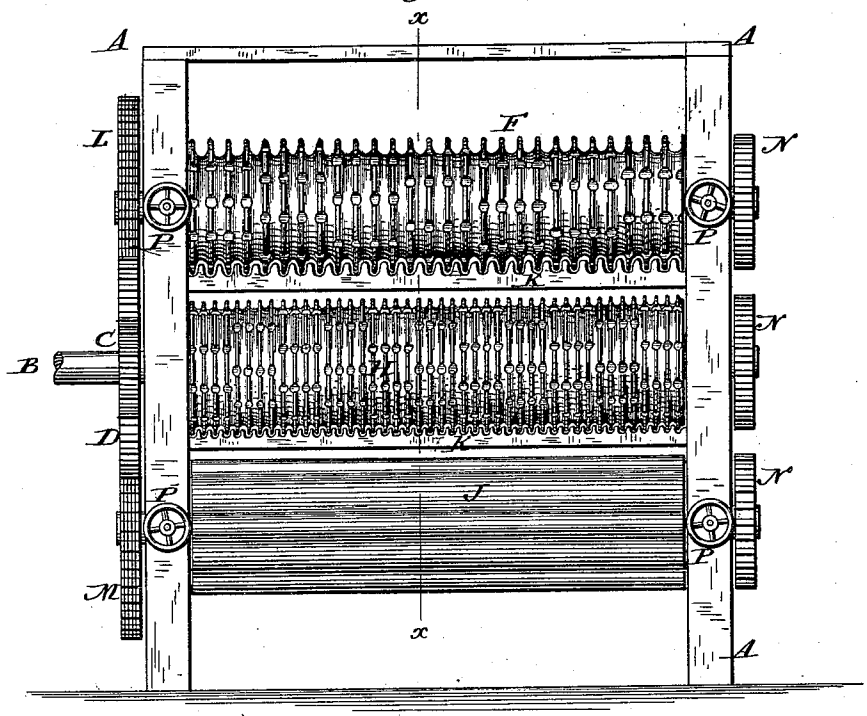
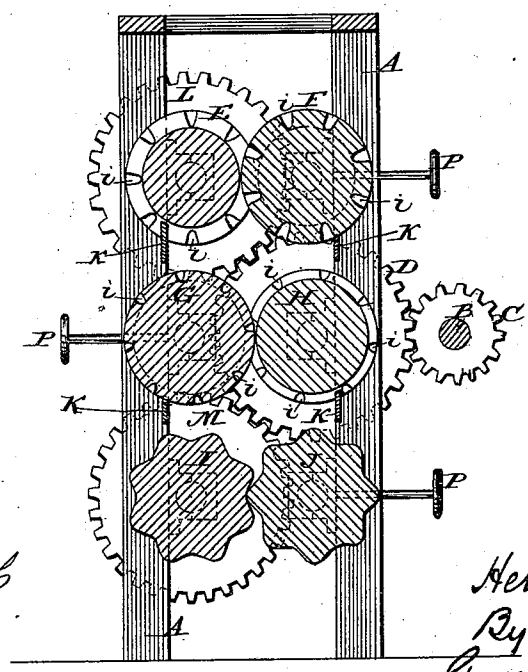


Fig. 2.



Attest.

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UNITED STATES PATENT OFFICE.

HENRY A. FRAMBACH, OF MENASHA, WISCONSIN.

WOOD-PULP MACHINE.

SPECIFICATION forming part of Letters Patent No. 229,879, dated July 13, 1880.

Application filed June 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. FRAMBACH, of Menasha, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Wood-Pulp Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a vertical transverse section on line *x x* of Fig. 1.

The same part is indicated by the same letter of reference wherever it occurs in the drawings.

My invention relates to mechanism for reducing wood to fiber, with a view to its subsequent treatment to prepare it for the manufacture of paper, or for any other purpose to which wood so reduced may be applicable.

My invention consists in improvements in the construction and arrangement of a series of pairs of crushing and reducing rollers having the general character and configuration of those described in my Patent No. 221,404, dated November 11, 1879, said improvements being intended to increase the feeding capacity of the machine and adapt it to the better performance of its work.

I have found, by practical trial of the machine described in my Patent No. 221,404, that grooved rollers constructed as therein described are deficient in feeding power, owing to the fact that they do not take a firm hold upon the wood, and are apt to slip upon it and fail to draw it in between them unless a strong lateral pressure is applied.

To correct this defect I have devised the present machine, wherein I have provided the rollers with serrations, indentations, or other friction-making devices for the purpose of taking a firm hold upon the wood, and have arranged the rollers in a series of pairs, one below the other, and made the machine to feed from the top downward, instead of laterally, as in my former patent, so as to aid the feed by the force of gravity.

Another improvement consists in the application to each pair of rollers of a bar, K, having fingers which project into the corrugations of the rollers in order to clear them of adhering material.

In the accompanying drawings, which clearly illustrate the invention, A marks the frame of the machine; B, the main shaft, to which the driving-power is applied; C, the driving-pinion, which meshes into gear D on the end of roller H, which engages with gears L and M on ends of the rollers E and I, respectively. To relieve torsion the rear ends of the rollers are geared together by the pinions N N N.

The upper pair of rollers are corrugated transversely, as shown, and their surfaces are provided with serrations or indentations *i*, to give them frictional hold upon the wood.

The second pair of rollers, G H, are similarly corrugated, except that the corrugations are narrower. They are provided with the same frictional indentations.

The third or lowermost pair of rollers, I J, are longitudinally fluted, as shown.

The rollers all turn in adjustable journal-boxes controlled by the screw-rods P P, by which the distance between the rollers of each pair can be regulated at will.

The machine represented has three pairs of rollers; but I do not confine myself to any specific number of pairs.

Having thus fully described my improvements, what I claim, and desire to secure by Letters Patent, is—

1. The mechanism, substantially as described, for dividing woody fibers longitudinally and compressing them transversely in a continuous operation, the same consisting of a series of pairs of corrugated and fluted rollers having the configuration and frictional indentation described and shown, and arranged each pair vertically below the preceding pair, so that the feed shall be from the top downward, all in the manner and for the purpose set forth.

2. In combination with the corrugated rollers of a wood-reducing machine, the bars K K, provided with clearing-fingers, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY A. FRAMBACH.

Witnesses:
P. V. LAWSON, Jr.,
J. MCCARTY PLEASANTS.