(No Model.)

# H. A. FRAMBACH.

## Feed for Wood Pulp Mills.

No. 233,611. Patented Oct. 26, 1880.

Fig. 1.

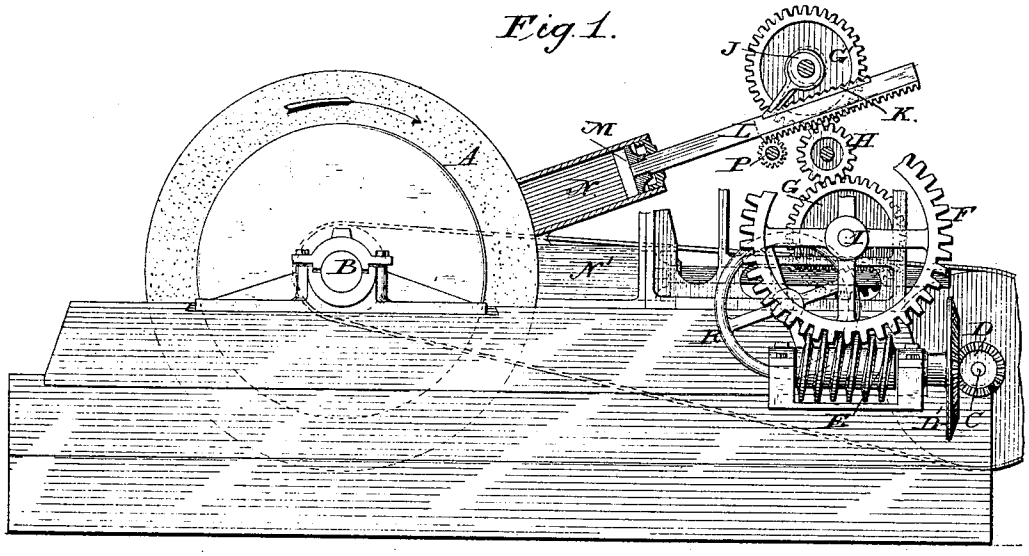
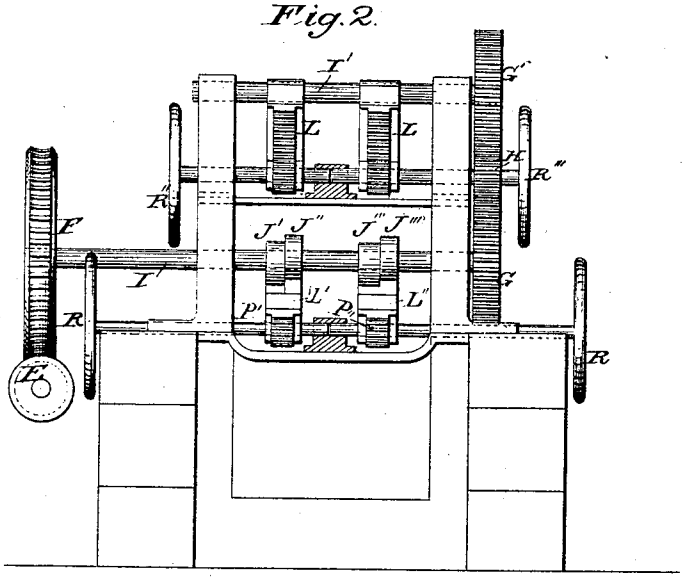



Fig. 2.




Attest.

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# UNITED STATES PATENT OFFICE.

HENRY A. FRAMBACH, OF MENASHA, WISCONSIN.

## FEED FOR WOOD-PULP MILLS.

SPECIFICATION forming part of Letters Patent No. 233,611, dated October 26, 1880.

Application filed August 17, 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 Feed for Wood-Pulp Mills; 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 longitudinal central section, partly in perspective, of my improved feed, and Fig. 2 is an end view of part of the same.

The same letter indicates the same part in both the figures.

My invention relates to that class of wood-pulp mills in which the wood is fed to the abrading-wheel by means of plungers working in cells opening upon the grinding-surface.

It consists in operating the plunger by means of a ratchet attached to the piston-rod and worked by pawls attached to eccentrics on a shaft receiving motion from worm-gear driven from the grinder-shaft, all as hereinafter more particularly set forth.

In the drawings, A marks the grindstone turning in the direction of the arrow on its shaft B. A pulley on this shaft, by means of a belt, drives a pulley on shaft C.

On the end of C is a bevel-pinion, D, meshing into bevel-gear D′ on the end of the shaft of worm E. This worm engages with the teeth of gear F and imparts a slow motion to it.

On the opposite end of shaft I is gear G, which drives gear G′ by means of intermediate gear H.

On the shaft of G′ are a pair of eccentrics, J J, to which are strapped two pawls, which engage with a ratchet, K, on the upper side of piston-rod L. The eccentrics are so timed that while one pawl is operating to advance the piston-rod the other is being drawn back to engage with another tooth of the ratchet.

To the piston-rod is attached the piston or plunger M in the cell N. The cell N may be of any desired shape or size adapted to receive the wood to be reduced to pulp.

When the piston has completed its stroke it is drawn back by means of a pinion, P, engaging a rack on the lower side of the piston-rod L. The pinion is attached to a shaft operated by a hand-wheel, R″. (See Fig. 2.)

In Fig. 2 the eccentric-pawls J′ J″ J‴ J⁗ are shown on the shaft of worm-wheel F, operating the piston-rod L′ of the plunger of the lower cell, N′, and that of L″, another piston working in a cell, not shown. P′ P″ are the pinions, engaging racks on these piston-rods to retract them, when desired, by means of hand-wheels R R′.

Any number of cells that the grinding-wheel will accommodate may be used, either placed side by side or one above the other, or both, as may be preferred, the operating mechanism being substantially the same in every case.

What I claim, and desire to secure by Letters Patent, is—

The combination of the worm E, driven as described, the gears F H G, eccentric-pawls J J′, ratchet K, piston-rod L, plunger M, and cell N, all constructed and operating substantially in the manner specified.

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

HENRY A. FRAMBACH.

Witnesses:
P. V. LAWSON, Jr.,
J. C. KERWIN.