

PATENTED JUL 18 1871

J. Taylor's Wood Pulp Machine.

117122

Fig: 1.

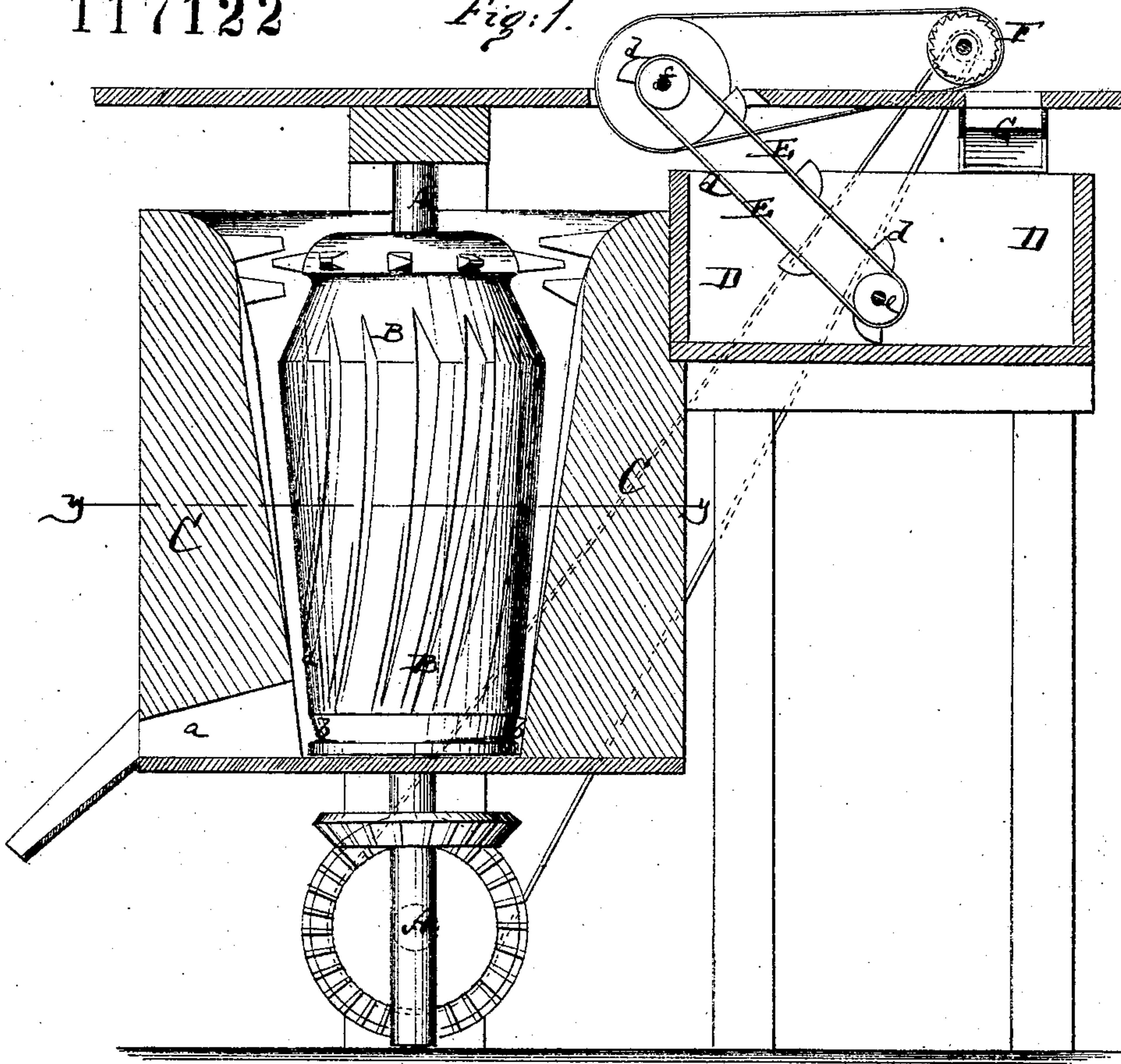
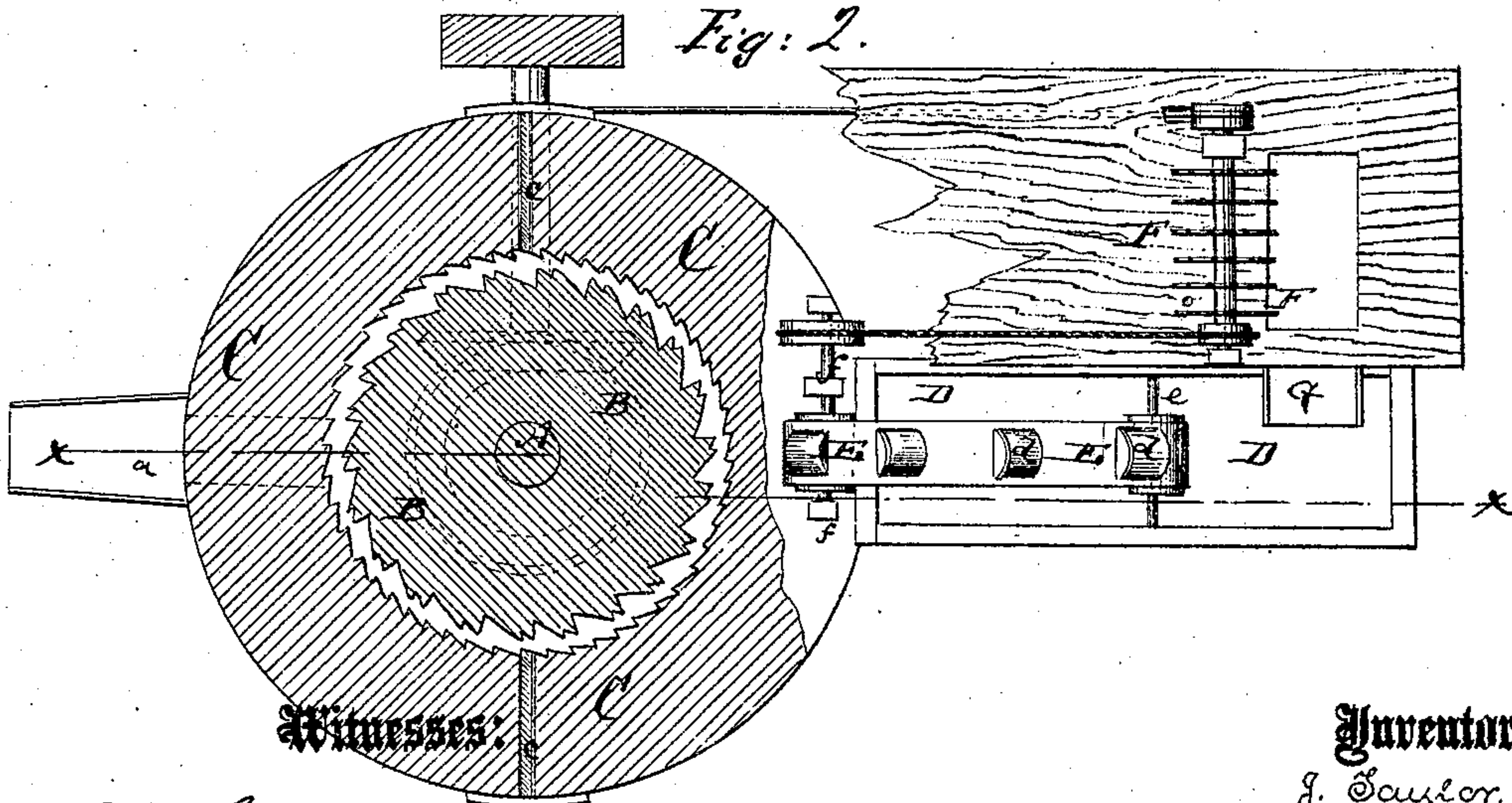


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES TAYLOR, OF LUZERNE, NEW YORK.

IMPROVEMENT IN WOOD-PULP MACHINES.

Specification forming part of Letters Patent No. 117,122, dated July 18, 1871.

To all whom it may concern:

Be it known that I, JAMES TAYLOR, of Luzerne, in the county of Warren and State of New York, have invented a new and Improved Wood-Pulp Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a vertical longitudinal section of my improved wood-pulp machine taken on the plane of the line *x x*, Fig. 2. Fig. 2 is a horizontal section of the same taken on the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to several improvements in wood-pulp machines, and more particularly to a new means for preparing and mode of supplying the wood to the grinding apparatus. My invention consists in improving wood-pulp machines, as hereinafter fully described and subsequently pointed out in the claims.

A in the drawing represents the upright shaft of the grinding-mill. Upon it is mounted the grinding-core B, made of metal or stone of inverted conical or other suitable shape. C is the stationary grinding-shell surrounding the core and supported on a suitable stationary frame. The shell is also made of stone or metal, and has its inner face toothed or roughened to conform to the equally-toothed or roughened grinding face of the core. The teeth are larger and coarser at the upper end of the core and shell, and become gradually smaller toward the lower end of the same. The wood to be ground is fed to the top of the mill, and is first crushed by the coarse teeth, and finally ground down to the requisite degree of fineness. It is as pulp discharged from the lower part of the shell through an opening, *a*, in the same, the lower part of core or shell being grooved, as at *b*, to facilitate the discharge of the pulp. The shell is made in halves, of semi-conical or semi-cylindrical form. Pieces *c c* of rubber or other elastic material are interposed

between the edges of the halves. Suitable clamps, bands, or screws hold the latter together. When the grinding-surfaces are worn the halves of the shell can be brought nearer together by reducing the thickness of material at *c*. The mill can, by making the shell in sections, be easily taken apart for re-sharpening the grinding-faces. D is a water-tank, sustained near the upper end of the shell C on a suitable frame-work. An endless band, E, carrying buckets *d d*, and laid around rollers *e* and *f*, of which the former is within the latter above the tank, constitutes an elevator for feeding the wood to the mill.

The wood is in pieces of suitable size thrown into the tank and fed by the elevator, together with the requisite amount of water, to the mill, where it is ground to pulp. This arrangement of tank and elevator is very important, as it does the wet part of the work automatically, and does not wet and injure the attendants, which is the chief objection to most other pulp-mills now in use.

Near the tank D is arranged a gang of saws, F F, to cut large blocks of woods into small pieces, which are, together with the sawdust, fed to the tank by a spout, G. The wood is thus easily prepared for a mill of the described kind, and need not be applied to the grinders in large blocks, as hitherto. The sawdust being fed to the tank is brought to the mill with the water and not lost.

Motion is applied to the saws and elevator, as well as to the grinders, by suitable machinery.

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

1. The saws F F, combined with and made part of a wood-pulp machine, substantially as and for the purpose herein shown and described.

2. The grinding-shell C, made in two pieces and provided with the elastic strips *c* between the edges, substantially as and for the purpose herein shown and described.

JAMES TAYLOR.

Witnesses:

G. F. ROIDER,
M. E. SAVOY.