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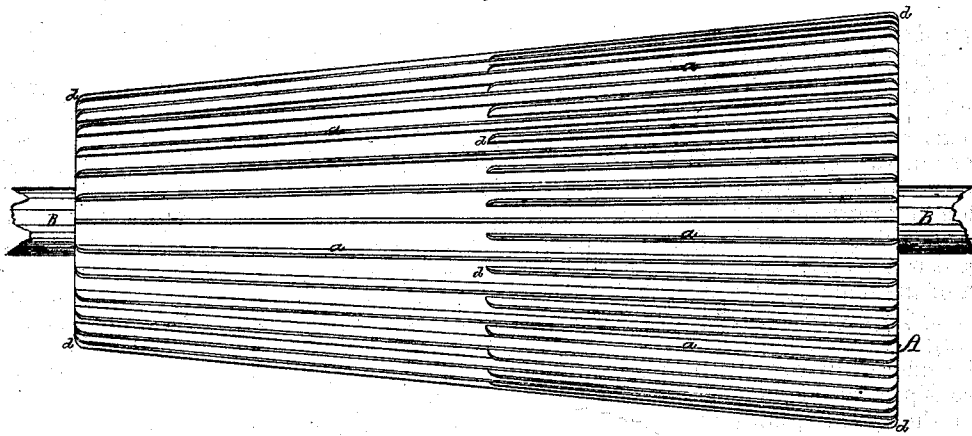
CHARLES SMITH.

Improvement in Paper Pulp Engine.

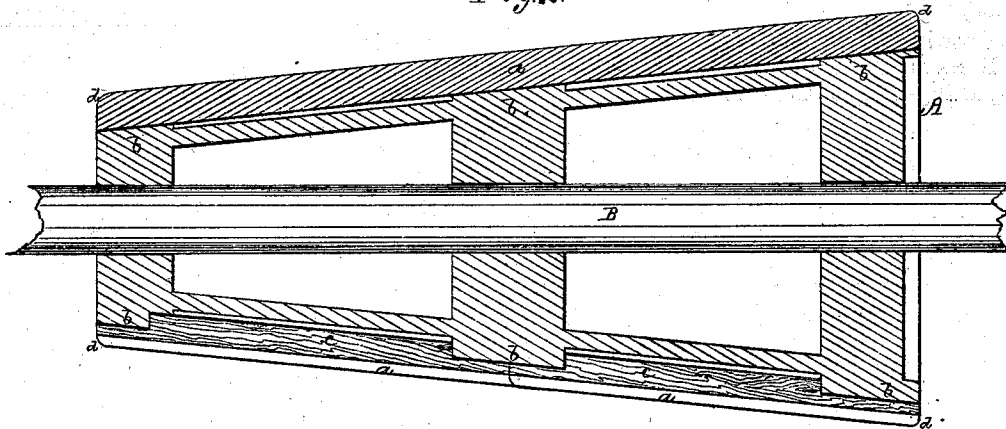
No. 121,970.

Patented Dec. 19, 1871.

*Fig. 1.*



*Fig. 2.*



Witnesses:

*S. A. Piper.*

*L. A. Moller.*

*Charles Smith.*

*by his attorney,*

*R. W. Wadsworth*

# UNITED STATES PATENT OFFICE.

CHARLES SMITH, OF SOUTH WINDHAM, CONNECTICUT, ASSIGNOR TO SMITH,  
WINCHESTER & CO., OF SAME PLACE.

## IMPROVEMENT IN PAPER-PULP ENGINES.

Specification forming part of Letters Patent No. 121,970, dated December 19, 1871.

*To all whom it may concern:*

Be it known that I, CHARLES SMITH, of South Windham, of the county of Windham and State of Connecticut, have invented a new and useful Improvement in the Paper-Pulp Engine known as the "Jordan pulp-engine;" and do hereby declare the same to be fully described in this my specification and represented in the accompanying drawing making part thereof, of which—

Figure 1 is a top view, and Fig. 2 a longitudinal section of the male grinder of such engine as provided with my improvement.

In carrying out my invention I construct each blade of the said grinder at either or each of its ends, where it projects above the outer surface of the body of the grinder, beveled or rounded so as to incline to the said surface in a manner to prevent the paper stuff from being caught and clogged against the end of the blade or knife, as it is liable to when the knife or blade has a square end or one at a right angle with the cutting-edge of the blade, as it has heretofore or before my invention been customary to construct such blades.

In the drawing, A denotes the body of the grinder; B, its shaft; *a*, the blades; *b*, their metallic supporting-ribs; *c*, the wooden bars inter-

posed between the blades. The beveling or rounding of the end of each blade is shown at *d*. When the end of the blade is beveled the paper stuff or fibers of the pulp will readily slip or be drawn off the bevel, and will not clog or gather thereon, as they do when the end is square to the edge of the blade.

The improvement avoids a serious evil incident to the operation of the Jordan engine as hereinbefore constructed and used.

It will readily be seen that the fibers may gather against the end of a blade to such extent as to nearly if not entirely close the channels on each side of such blades, and thereby estop the passage of the pulp through them, all of which would be very detrimental to the proper operation of the engine; but with my improvement such an evil is prevented.

I claim—

The male grinder, as constructed with each of its blades or knives beveled or rounded at each or either of its ends, such being substantially as and for the purpose as specified.

CHARLES SMITH.

Witnesses:

A. S. WINCHESTER,  
I. W. TIBBITS.

(108)