

THOMAS NUGENT.

Improvement in Paper Making Machinery.

No. 124,612.

Fig. 1.

Patented March 12, 1872.

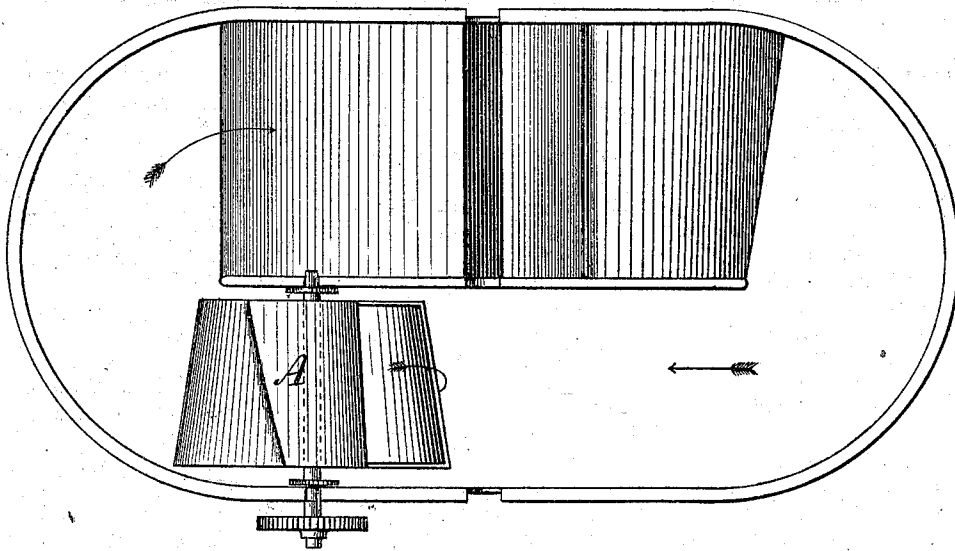
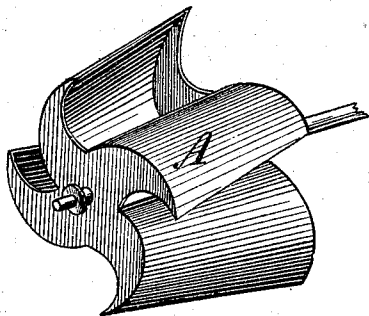


Fig. 2.



Witnesses.
A. Ruppert
P. Edgar Cils

Thomas Nugent
Inventor.
D. R. Holloway & Co.

UNITED STATES PATENT OFFICE.

THOMAS NUGENT, OF WHIPPANY, NEW JERSEY.

IMPROVEMENT IN PAPER-MAKING MACHINERY.

Specification forming part of Letters Patent No. 124,612, dated March 12, 1872.

Specification describing certain Improvements in Paper-Making Machinery, invented by THOMAS NUGENT, of Whippany, in the county of Morris and State of New Jersey.

The nature of this invention consists in the combination, with a machine for reducing paper-stock to pulp, of a propeller placed in the vat to cause a constant current of the stock therein, to hasten its reduction by the beaters and knives and cause the machine to make pulp of a better, because more uniform, quality, than is produced by the ordinary machines now in general use. It further consists in making this propeller of a tapering form and with spiral blades, which enables it to give to the current of the stock a greater velocity along the outer wall of the vat, where it should travel the fastest, and causes its blades to dip into the stock and rise out of the same without splashing or carrying over any.

Figure 1 is a plan view of so much of a machine for making paper-pulp as is necessary to illustrate my invention. Fig. 2 is a perspective view of the propeller.

The same letters of reference are used in both figures in the designation of identical parts.

In the ordinary machines for making paper-pulp no automatic means is provided to give motion to the stock other than the knife-blades projecting from the surface of the beating-roll or cylinder; and when first furnished the stock, owing to its long state, moves so slowly in the vat that it requires to be propelled by the attendant with a stick or paddle, which, besides being a very laborious operation, is done in a very imperfect manner, for only a few minutes at a time. The want of an automatic propeller is still more felt when two or more kinds—hard and soft—of stock is used, in which case the hard stock lags behind and the soft or light stock floats ahead, making irregular pulps, unless the stock is constantly stirred by the attendant.

These difficulties are wholly overcome by the

use of a propeller, A, which may be driven from the washing-cylinder, (not shown,) and raised and lowered together therewith. The propeller should be set in motion as soon as the washing-cylinder has performed the functions allotted to it, which will cause the stock to move with the desired velocity around and around in the vat under the beating-roll until it has been properly reduced to pulp. The current is so much faster, and the stock is operated upon with so much greater regularity, by the use of this propeller, that it will be reduced to pulp in a much shorter space of time than in the ordinary machine, and the product will be greatly improved in quality.

The propeller is made, preferably, of the tapering form illustrated, and placed in the vat with its smallest end nearest to the center thereof, so that as its surface travels with the greatest speed where its diameter is greatest, it will give to that portion of the stock the greatest velocity which has to travel over the longest route. The blades are curved, as best seen in Fig. 2, with their outer edges cut diagonally to their axis, so that they will dip into the stock and rise out of the same without much resistance, and without splashing or carrying over any.

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

1. In combination with a machine for reducing paper-stock to pulp, the propeller A, substantially as set forth.

2. The propeller A, made of tapering form and with curved and diagonal blades, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS NUGENT.

Witnesses:

WM. ADAMSON,

WM. S. NEWMAN.