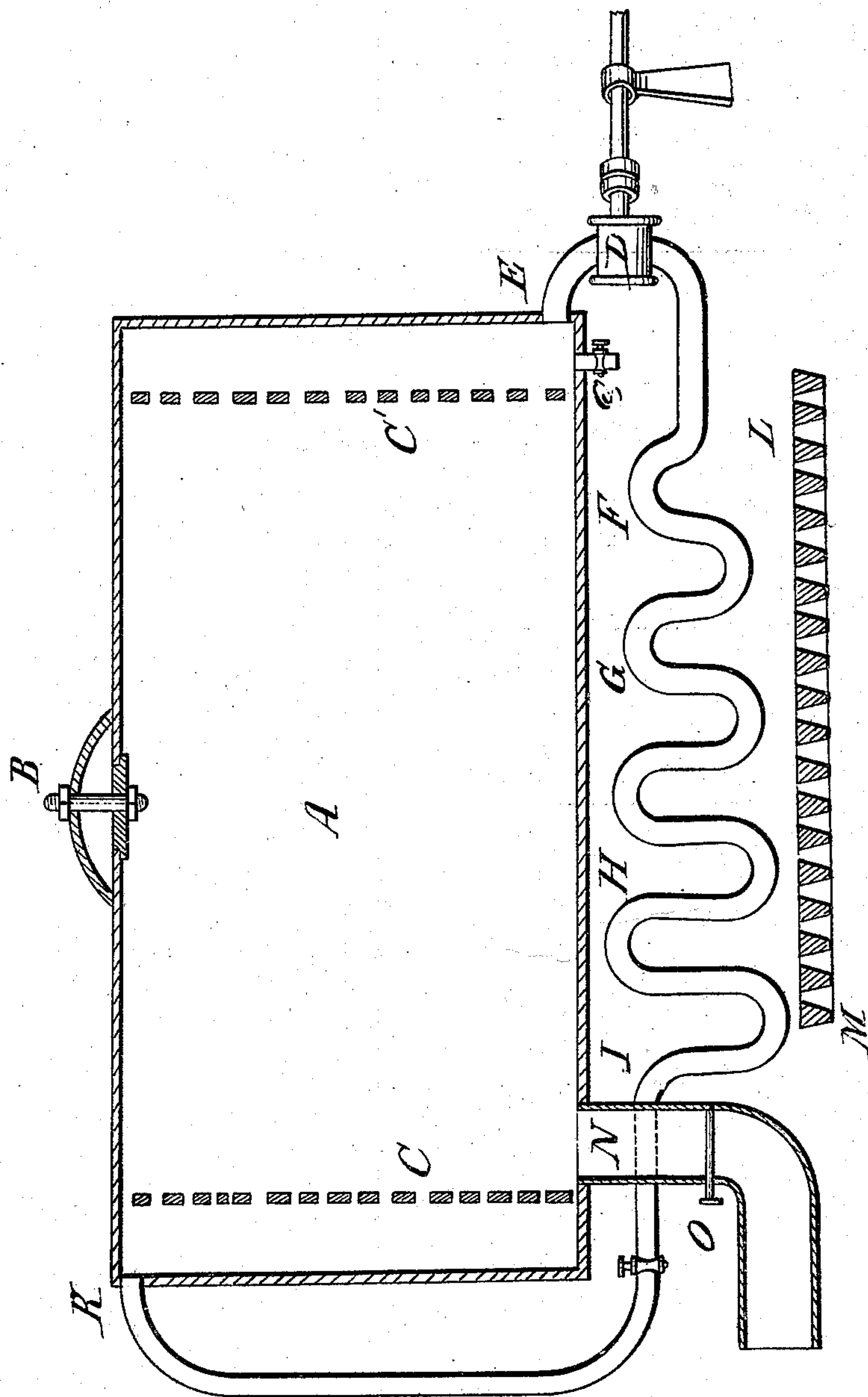


*J. W. Dixon.*

*Paper Bleaching App's.*

*N<sup>o</sup> 55,834. Patented Jun. 26, 1866.*



*Witnesses.*

*Geo. Buckley*

*Benj<sup>r</sup>. McManis. Ch.*

*Inventor.*

*John W. Dixon*

# UNITED STATES PATENT OFFICE.

JOHN W. DIXON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED APPARATUS FOR MAKING PAPER-PULP, FOR BLEACHING, AND FOR OTHER PURPOSES.

Specification forming part of Letters Patent No. 55,834, dated June 26, 1866.

*To all whom it may concern:*

Be it known that I, JOHN W. DIXON, of the city of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Making Paper-Pulp; and I do hereby declare the following to be a full and exact description of the same, reference being had to the annexed drawing, making a part of this specification, which represents a vertical longitudinal section of my improved apparatus.

My improvement has for its object the digesting wood, straw, or other vegetable fibrous material for making paper-pulp, and may be also used for boiling rags or bleaching or preparing flax or similar matters.

A is a stationary horizontal boiler of great strength, and to be closed and used as a digester. B is the man-hole, through which the material to be digested is introduced. C C' are two perforated diaphragms. E F G H I K is a pipe coiled at F G H I, and passing from the bottom of the boiler at E, and entering at the top of the boiler at the other end, K. Below the boiler and coil is a series of grate-bars. L M N is a tube of escape, having a valve, O.

The operation is as follows: The digesting-

liquor is forced by the pump D to circulate from the bottom of the boiler at E through the coil up to K, and then through the digester A. As it passes through the coil the liquor is heated constantly and forced continuously through the material in the digester. At Q is a draw-off cock, to remove the liquor when desired.

If it be desired to renew fresh water or fresh digesting-liquor while the digesting operation is progressing, it can be effected by having an injection-pump or injector placed on the digester A, and operated while the draw-off cock is opened to permit a corresponding escape of refuse liquid.

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

1. The combination of the digester A, the man-hole B, the diaphragm C, and the discharge-pipe and aperture N.

2. The combination of the digester A, the heating-coil, and the pump D, as described.

JOHN W. DIXON.

Witnesses:

BENJN. McMAKIN, Jr.,  
GEO. BUCKLEY.