

A. QUERU.  
Rotary Evaporators.

No. 156,499.

Patented Nov. 3, 1874.

Fig. 1.

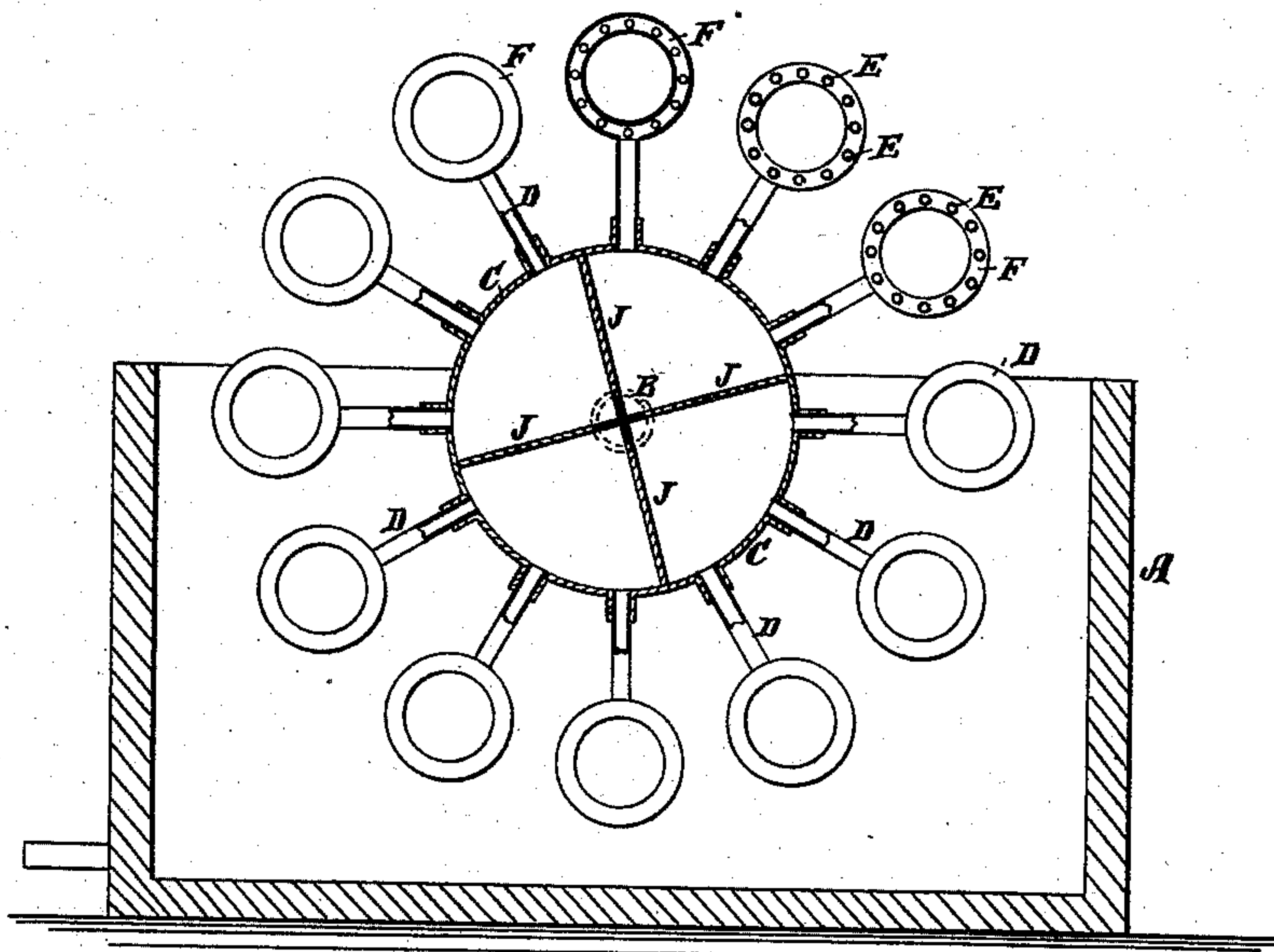
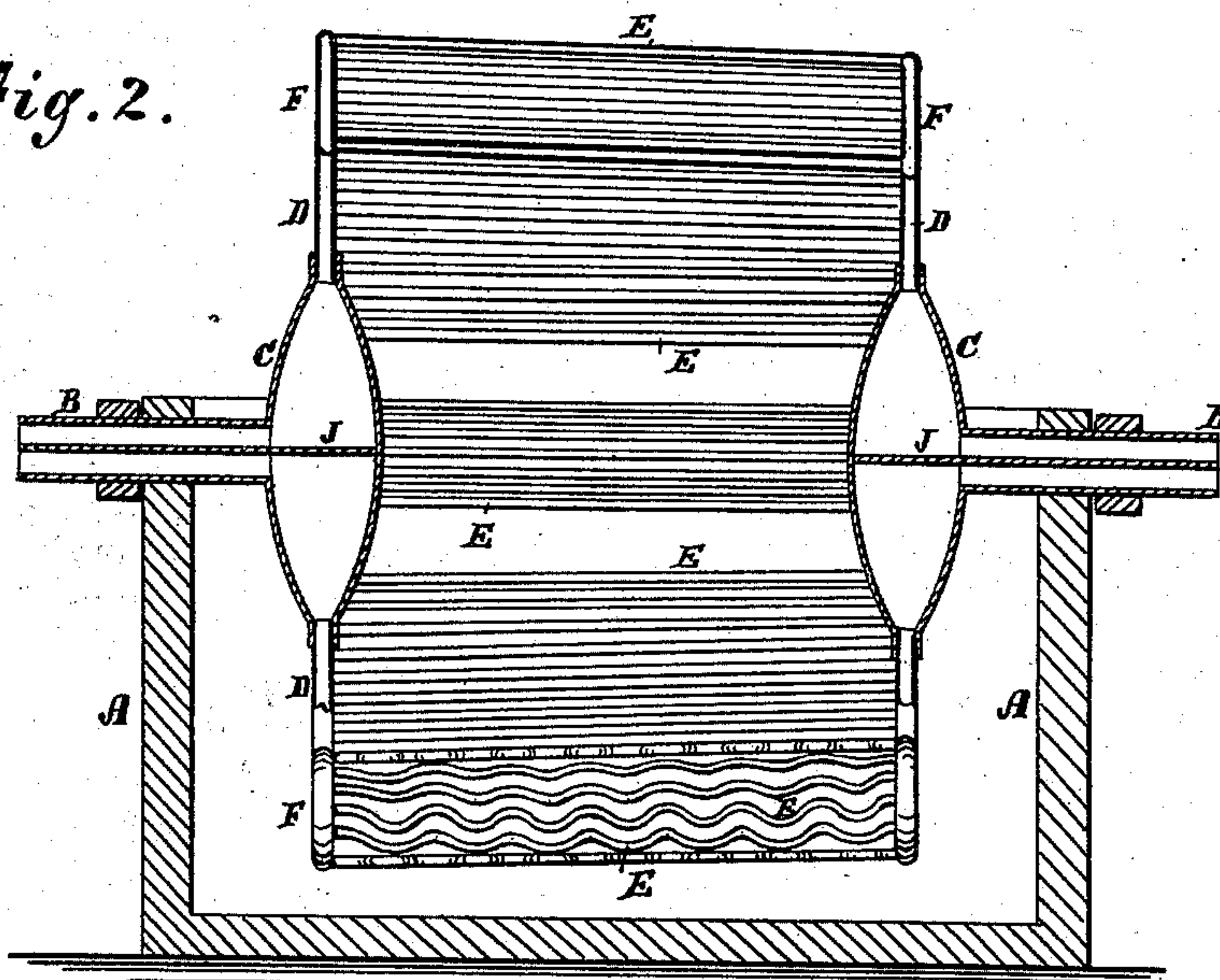


Fig. 2.



WITNESSES:

A. Benneken  
Schulz

INVENTOR:

A. Queru  
BY Hunt & Co.

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ADRIEN QUERU, OF MARLBOROUGH, NEW YORK.

## IMPROVEMENT IN ROTARY EVAPORATORS.

Specification forming part of Letters Patent No. **156,499**, dated November 3, 1874; application filed June 13, 1874.

*To all whom it may concern:*

Be it known that I, ADRIEN QUERU, of Marlborough, in the county of Ulster and State of New York, have invented a new and Improved Rotary Evaporator, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claim.

Figure 1 is a longitudinal sectional elevation of my improved evaporator, and Fig. 2 is a transverse sectional elevation.

Similar letters of reference indicate corresponding parts.

A represents the tank to contain the liquor to be evaporated; B, the hollow shaft; C, the hollow hubs; and D, the tubular arms of the revolving carrier of the heating-pipes E, which I propose to make either straight or corrugated, and arrange parallel with the shaft, so that the water will flow back to the hub, and also in clusters, which I accomplish by connecting them at each end to a hollow ring, F, on the arms, the ring and arms being of large size to afford ample inlet capacity for supplying all the pipes of a cluster faster than the steam will condense with low pressure, thus insuring the presence of steam throughout the whole range of pipes, to heat the pipes alike or nearly alike in all parts. J represents the partitions in the hubs and hollow axle to

prevent the water of condensation from running back into or remaining in the lower portions of the hubs; also to separate the steam on entering the pipes. The water will in this arrangement escape directly from the heating-pipes by gravity, and thus offer no obstruction to the entrance of the steam; but it will not escape until the pipes rise above the horizontal plane of the axis, so that the partitions will keep it from falling to the bottom of the hubs, and will cause it to flow out at the escape side through the hollow shaft. By the separation of the hub into which the steam enters, the steam is divided and applied equally to all parts of the evaporator. The steam enters at one side, and the water escapes at the other.

This apparatus is applicable to use in vacuum-pans, both as a heater and agitator.

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

The heating-pipes of a revolving evaporator arranged in clusters, and connected, independently of each other, to the arms by hollow rings, substantially as specified.

A. QUERU.

Witnesses:

A. P. THAYER,

ALEX. F. ROBERTS.