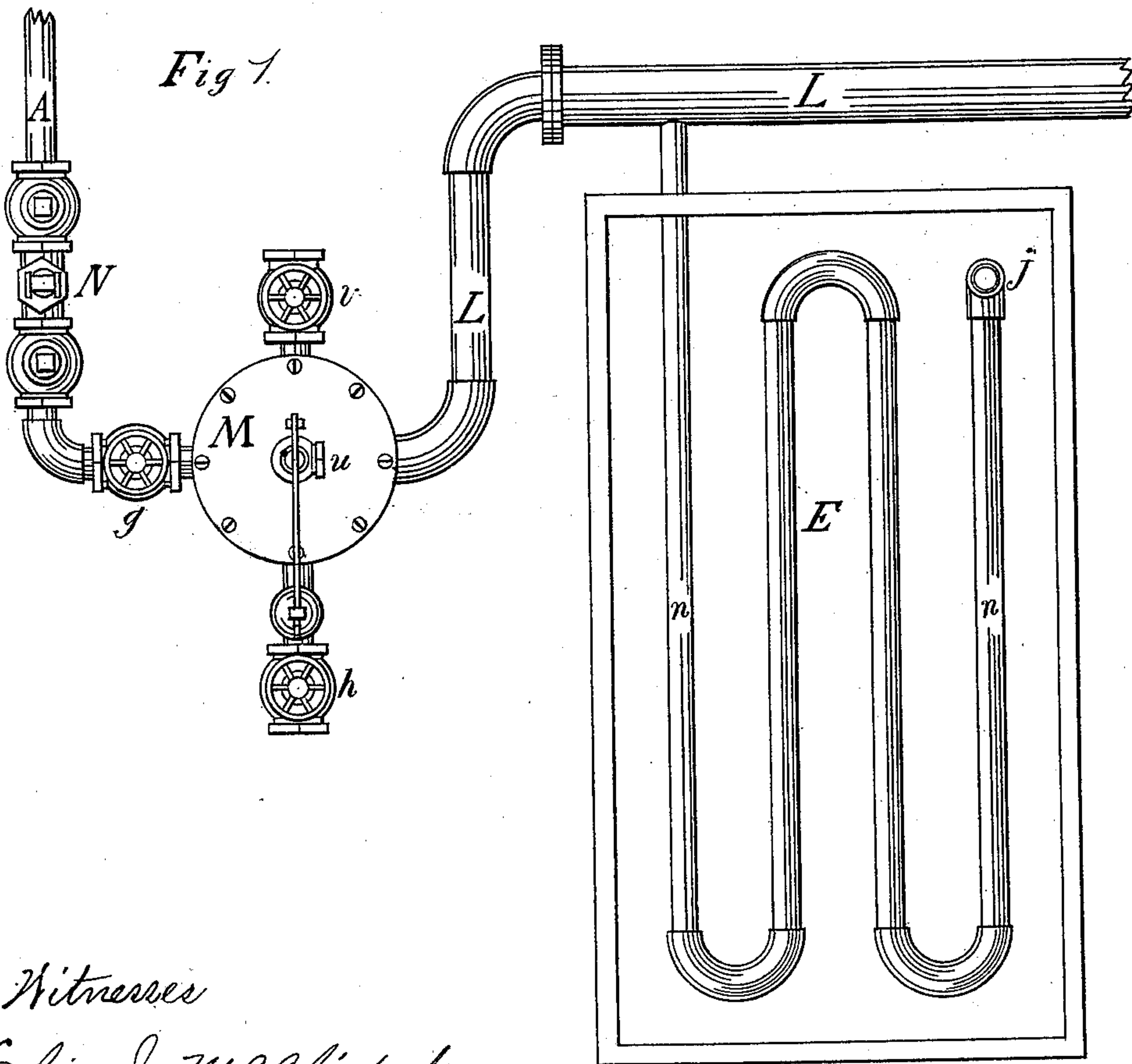
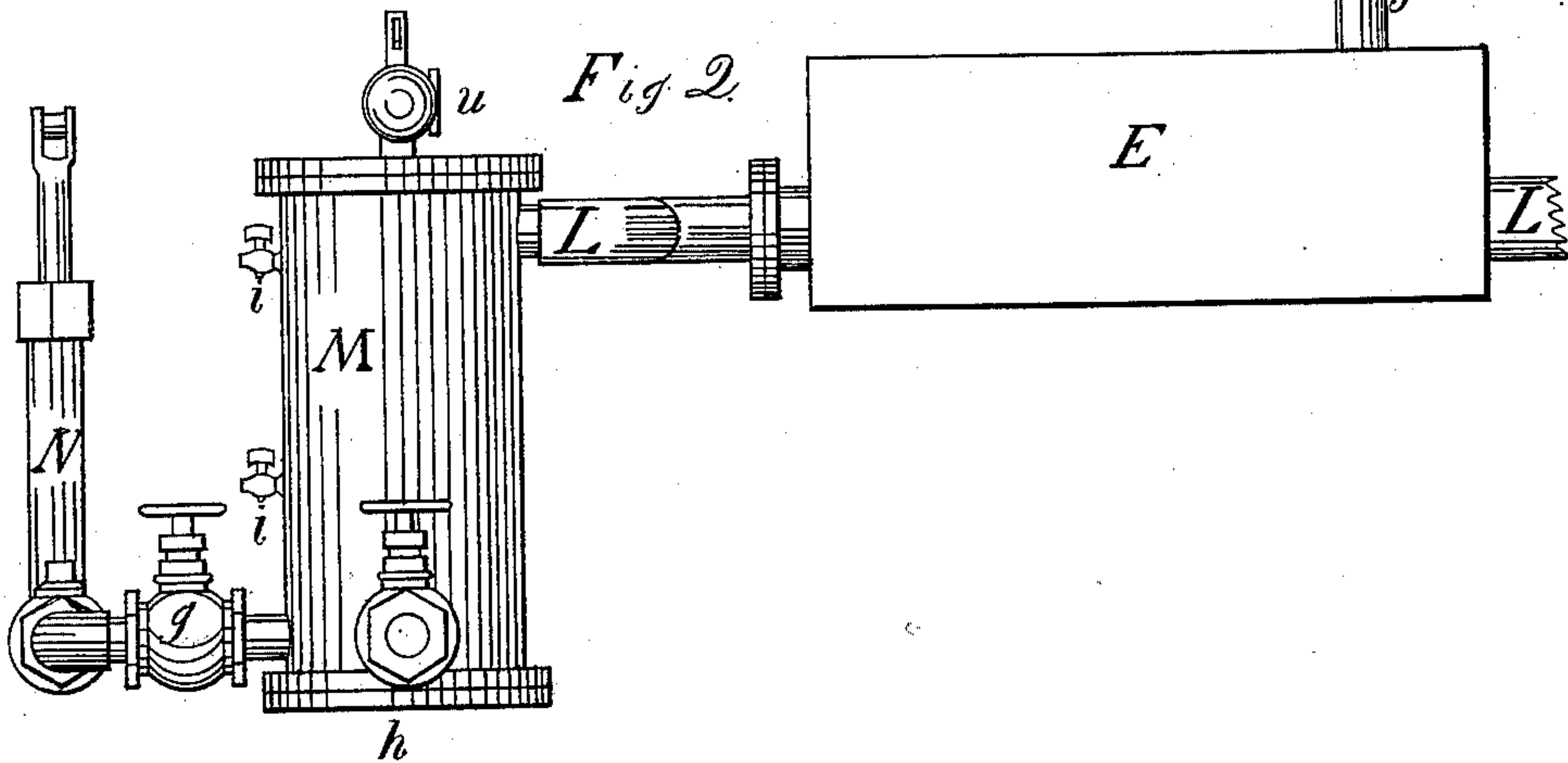


D. K. ALLINGTON.
Steam-Evaporating Apparatus.

No. 225,781.

Patented Mar. 23, 1880.



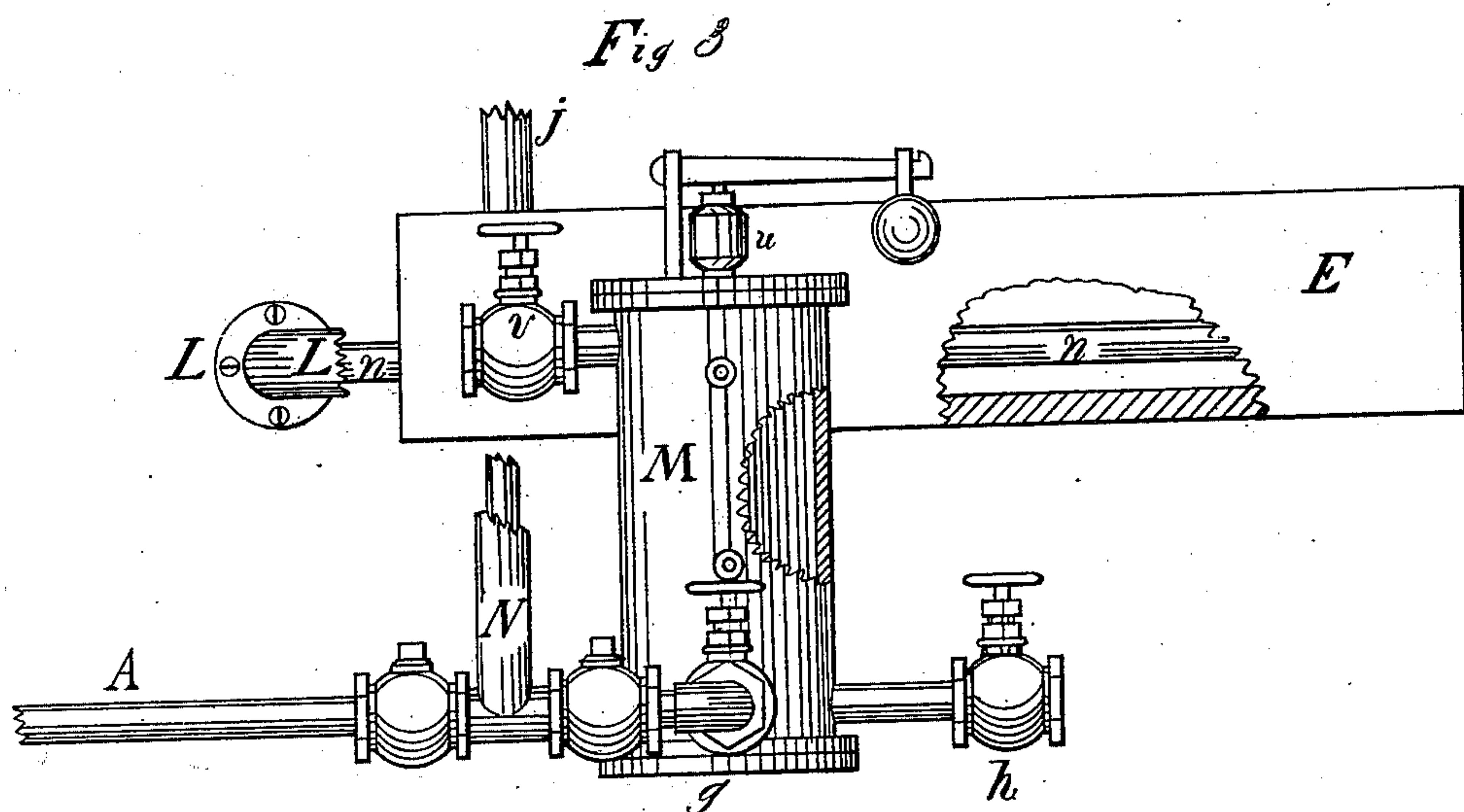
Witnesses
Elias J. McClintock
James D. Dunnington

Inventor:
David K. Allington

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Jas. R. Birmingham, Jr.

Inventor:
David K. Allington.

UNITED STATES PATENT OFFICE.

DAVID K. ALLINGTON, OF EAST SAGINAW, MICHIGAN.

STEAM-EVAPORATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 225,781, dated March 23, 1880.

Application filed September 12, 1879.

To all whom it may concern:

Be it known that I, DAVID K. ALLINGTON, of East Saginaw, Saginaw county, Michigan, have invented certain Improvements in Steam-
5 Evaporating Apparatus, of which the following is a specification.

The object of my invention is to construct a drip-reservoir and pump in combination with the feed-water pipe to a nest of steam-boilers,
10 or the boilers of a steam saw-mill or other steam manufactory, and the drip-pipe and the pipe in the vats or grainers of a steam salt-block, so that when the boilers are nearly on the same level with the salt-works the condensed steam or drip will not flow back to the
15 boiler of its own weight—it will flow to a reservoir and pump and be forced into the boilers by the pump; and so that the pipes in the vats can take steam direct from the boilers and be placed under pressure at night or any
20 time that the mill or manufactory is not running, and when the mill or manufactory is running the exhaust-steam from the engines may pass through the pipes, and any surplus that is not condensed can escape, relieving the
25 engines of back-pressure, and the condensed steam or drip be returned to the boilers; and so that if the pipes in the vats should leak when they are not under pressure, so as to salt
30 the drip water and unfit it for use, it can be run to waste, as hereinafter more fully explained.

In the drawings, Figure 1 is a plan view; Fig. 2 a front end elevation, and Fig. 3 a
35 side elevation.

Like letters denote corresponding parts in all the figures.

In the different figures, E represents one of a number of vats placed side by side. They
40 are filled with salt-brine, which is evaporated by steam passing through the pipes *n n*. The steam enters the pipes at J and passes through them, and discharges the condensed steam or drip into the drip-pipe L L, which conducts to and discharges into the condensed-steam or
45 drip reservoir M, or its equivalent, when it flows to the pump N, or its equivalent, and is forced into the boilers through the feed-water pipe A by the pump N.

50 The reservoir M is furnished with the globe-valves *v*, *h*, and *g*, or their equivalents, and

the safety-valve *u*. When running the manufactory and using the exhaust-steam from the engines the globe-valve *v* is opened, allowing the engine to exhaust through the pipes with-
55 out back-pressure, and the condensed steam or drip will flow to the pump through the globe-valve *g*, which is to gage the amount that is to flow to the pump, so that the top of the water will stand at a point between the
60 try-cocks *i* and *i*, and the pump N will force the water to the boiler through the feed-water pipe A.

Should the condensed steam or drip become salted from leaks in the pipes, it can be run to
65 waste through the globe-valve *h*.

When the engines are not running the manufactory the globe-valve *v* will be closed and the steam pass through the pipes direct from the boilers, and place the pipes in the vats under pressure, which pressure is regulated by
70 the safety-valve *u* on the reservoir M. When the boilers are under greater pressure than is desired to have on the pipes in the vats the condensed steam or drip is forced back
75 into the boilers by the pump N from the reservoir M through the feed-water pipe A, as before.

It will be seen that I can use a steam-pump in place of the plunger-pump N, and that any
80 surplus steam discharging from the valve *v* and safety-valve *u* can be conducted back to the works and the drip returned to the reservoir M.

The reservoir M may lie in a horizontal position and form a section of the drip-pipe L, and the globe-valves *v*, *h*, and *g*, and safety-
85 valve *u* be connected with any part of the pipe L, for the purpose as above described.

I do not claim as my invention the pump N, 90 feed-water pipe A, and connected reservoir M, as I am aware that they have been used before in connection with evaporating-pans.

What I claim as my invention is—

The reservoir M, provided with the globe-
95 valves *v*, *h*, and *g*, and safety-valve *u*, in combination with the pipes *n* and evaporating-vats E, substantially as shown and described.

DAVID K. ALLINGTON.

Witnesses:

ELIAS J. MCCLINTOCK,
JOSEPH STRINGHAM, Jr.