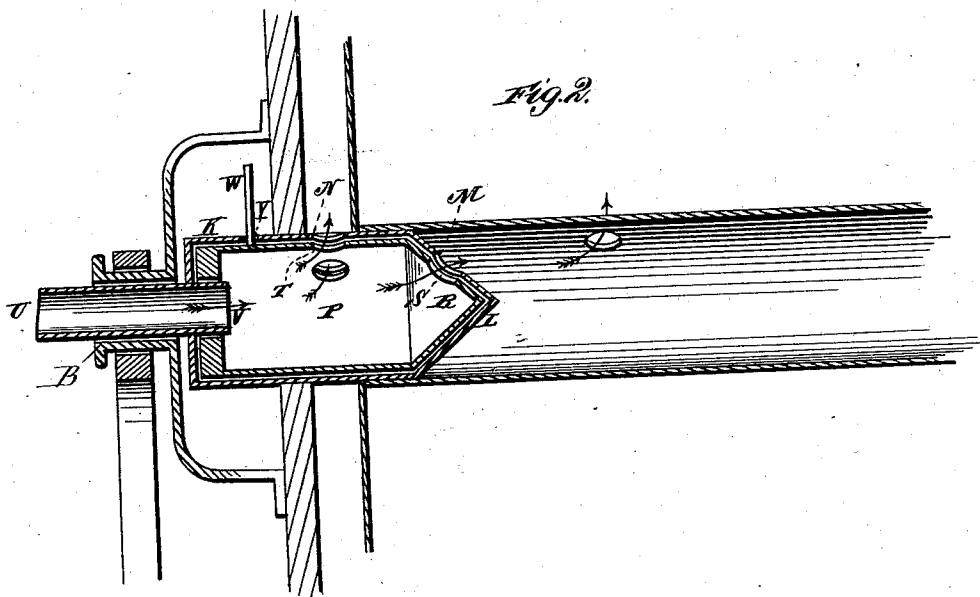
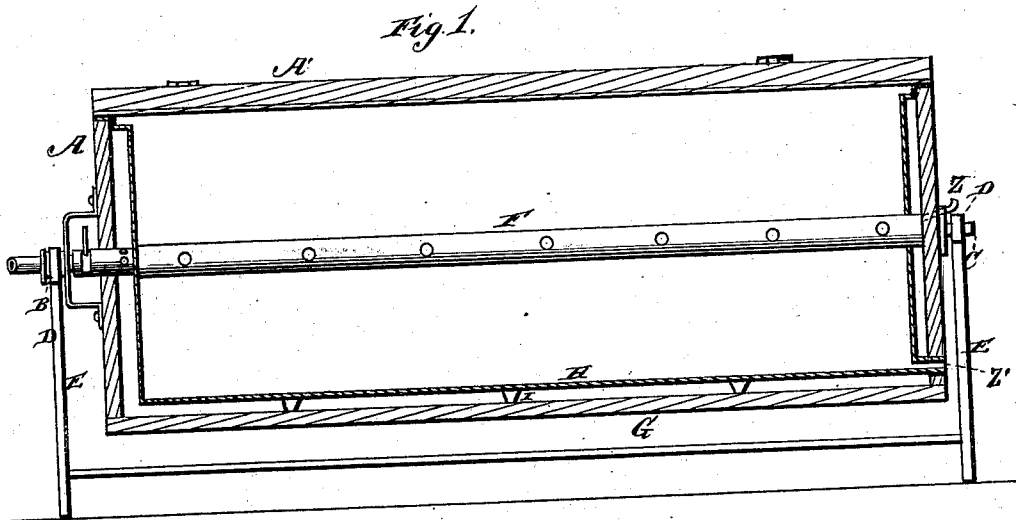


(No Model.)

W. R. SWEET.
Feather Renovator.

No. 231,864.

Patented Aug. 31, 1880.



WITNESSES
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WILLIAM R. SWEET, OF PERU, WISCONSIN.

FEATHER-RENOVATOR.

SPECIFICATION forming part of Letters Patent No. 231,864, dated August 31, 1880.

Application filed June 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. SWEET, of Peru, in the county of Dunn and State of Wisconsin, have invented certain new and useful Improvements in Feather-Renovators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to certain improvements in feather-renovators; and it has for its object to provide an improved valve, in combination with the same, whereby the steam may be simultaneously directed through a perforated pipe into the mass of feathers and into a steam-jacket surrounding the feathers, or may be cut off at will, and to provide for the uniform distribution of the steam throughout the jacket, as more fully hereinafter specified. These objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of my improved apparatus; and Fig. 2, a longitudinal vertical section, showing an enlarged view of the valve.

The letter A indicates a cylindrical or polygonal chamber, mounted horizontally, by means of gudgeons B and C at opposite ends, in bearings D in the vertical standards E.

The letter F indicates a hollow tube extending centrally in a longitudinal direction through the vessel or chamber. The said vessel or chamber is formed with double walls, constituting a steam-jacket, G, and also with double heads, forming a continuation of the steam-jacket, whereby the whole interior of the chamber may be surrounded by steam to uniformly and effectually dry the feathers.

The inner wall, H, of the chamber or vessel is constructed of metal in order to readily transmit the heat to the feathers, and the outer wall is preferably made of wood or other non-conducting material in order to retain the heat and prevent waste.

Between the walls of the chamber or vessel are located a series of cones or truncated cones, I, at suitable distances apart, the object of

which is to deflect the steam in its passage through the jacket and uniformly distribute it throughout the same.

The tube F is perforated at intervals throughout its length, and connects at one end with the conical end of the cylindrical valve-casing through which the steam is admitted.

The letter K indicates a cylindrical valve-casing with a conical extension, L, at one end, and perforated, as indicated by the letters M and N. Within said casing, and adapted to turn freely therein, is a hollow cylindrical valve, P, with a conical extension, R, the exterior of said valve and its extension corresponding in contour exactly with the interior of the valve-chamber, so as to fit closely therein.

The valve is provided with perforations ST, corresponding to the perforations in the valve-chamber, so that when brought opposite said perforations passage-ways will be opened for the escape of steam into the interior of the chamber and into the steam-jacket, and when the apertures of the valve and casing are thrown out of line the steam will be cut off.

The letter U indicates a steam-pipe passing through the gudgeon B and the bases of the valve-casing and hollow valve, and terminating at V, whereby steam may be admitted to the valve from a suitable boiler.

The letter W indicates a lever passing through a slot, Y, in the valve-casing, by means of which the valve may be operated.

The letter Z indicates an escape-pipe for the waste steam, and Z' a drip-pipe for the escape of water of condensation.

The chamber is provided with a hinged door, A', for the insertion of the feathers.

Instead of the apertures in the valve and valve-casing being arranged to admit steam simultaneously into the interior of the chamber and steam-jacket, they may be arranged to admit the steam first into the interior to steam the feathers, and then separately into the jacket in order to dry the feathers, if found convenient.

The operation of my invention will be readily understood, in connection with the above description, without further explanation of its operation.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

In combination with the vessel or chamber
having double walls and a central longitudinal
5 perforated tube, the valve-casing provided with
a conical extension and with apertures for the
escape of steam, and the hollow valve located
in said casing and provided with apertures
corresponding to the apertures in the valve-

casing, and the mechanism for operating the 10
valve, substantially as specified.

In testimony that I claim the above I have
hereunto subscribed my name in the presence
of two witnesses.

WILLIAM R. SWEET.

Witnesses:

A. VAN VALKENBERG,
J. D. ELDRIDGE.