

J. J. VAN ALSTINE.
Feather Renovators.

No. 195,968.

Patented Oct. 9, 1877.

Fig. 1

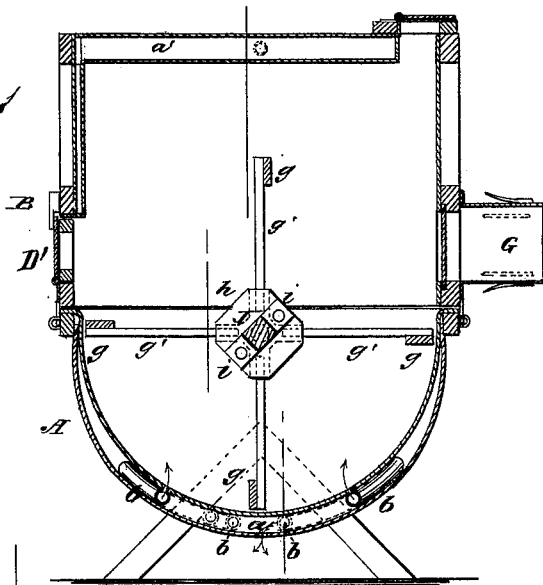


Fig. 2

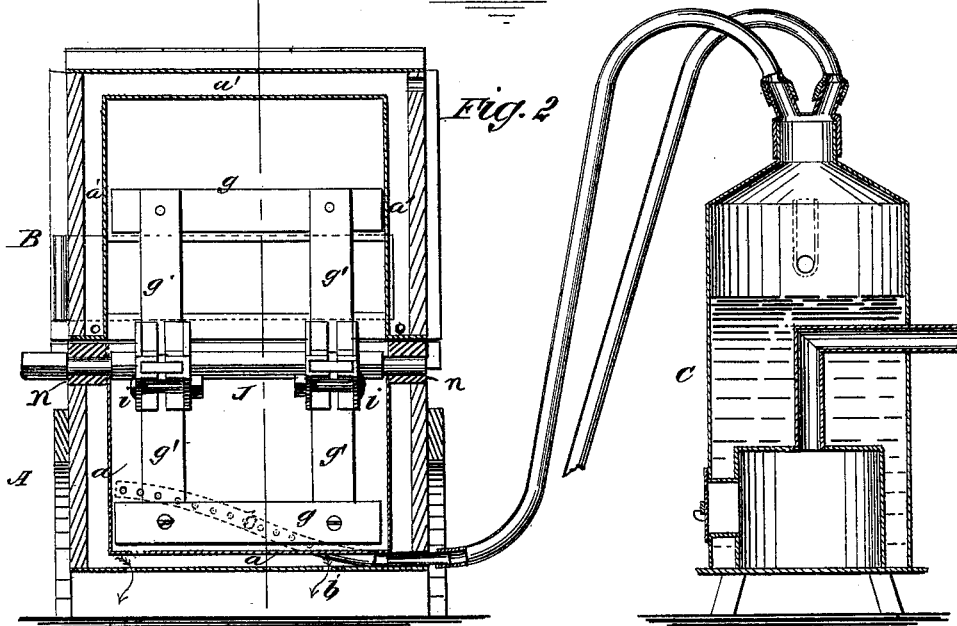
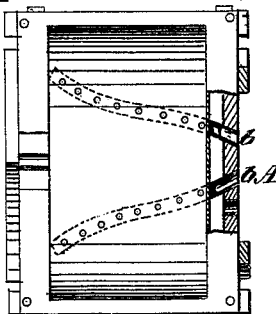


Fig. 3



WITNESSES:

Francis McAuley,
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INVENTOR:

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UNITED STATES PATENT OFFICE.

JAMES JAY VAN ALSTINE, OF BRISTOL, WISCONSIN.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. 195,968, dated October 9, 1877; application filed July 30, 1877.

To all whom it may concern:

Be it known that I, JAMES JAY VAN ALSTINE, of Bristol, in the county of Kenosha and State of Wisconsin, have invented a new and Improved Feather-Renovator, of which the following is a specification:

The invention has reference to that class of feather-renovators in which the feathers are subjected to the action of live steam and steam heat for cleaning and drying the same.

The invention consists in a double-walled bottom chamber, having a series of perforations and containing perforated steam-pipes, also provided with a double-walled or jacketed upper part, as will be hereinafter more fully set forth.

The invention also consists in constructing the reel employed for agitating the feathers of a series of beater-arms, which are held between flanged clamps on a prismatic shaft by means of transverse bolts.

In the annexed drawings, Figure 1 is a vertical transverse section through the machine. Fig. 2 is a vertical and longitudinal section, showing the steam-generator attached. Fig. 3 is a sectional detail, showing the perforated steam-pipes at the bottom of the machine.

Similar letters of reference indicate corresponding parts.

The letter A designates the semi-cylindrical lower section of the machine, and B the rectangular upper section, which may be tightly secured upon the lower section in any suitable manner.

The part A is mounted on legs and constructed with double walls, between which is a space, *a*, that is supplied with steam from a generator, C, by means of flexible pipes. (Shown in Fig. 2.) Between the two walls, at the bottom of the part A, are two pipes, *b b*, which are arranged obliquely on opposite sides of the center of the bottom in the form of the letter V, and communicate, by means of perforations, with the renovating-chamber.

When pipes leading from the generator C are connected to the pipes *b b*, steam will be injected into the renovating-chamber for the purpose of washing the feathers, and by the peculiar arrangement of pipes *b b* the feathers will not obstruct a free discharge of water

from the renovating-chamber after the feathers are washed. It is very important to get rid of all the water in the renovating-chamber after the washing process, and to dry the feathers as quickly as possible; hence I arrange the injecting-pipes as shown in Fig. 3. After washing the feathers, the pipes leading from the steam-generator are detached from the injecting-pipes *b b*, and communication between space *a* and said generator is established for drying the feathers.

The top part B of the machine is constructed with double walls, leaving a space, *a'*, between them, which receives steam from the generator during the drying operation. I thus greatly facilitate the drying of the feathers, as heat is radiated from the upper as well as the lower section of the machine. The water of condensation in the spaces *a a'* is allowed free escape through holes made for the purpose. D D are openings through the top and end walls of the upper section B for the introduction and removal of feathers, which openings are provided with hinged doors formed of perforated and unperforated sheet metal, as shown in Fig. 1.

The spout G, with its sliding door, is used for receiving a ticking, and the spurs on this spout serve to hold the tick in place.

The steam-generator C above referred to has an elbow-pipe leading from the fire-chamber through the boiler-shell, which pipe affords considerable heating-surface in the water-chamber.

Inside of the renovator is a reel or beater, which is composed of horizontal blades *g*, fixed to radial arms *g'*, that are rigidly held between clamps *h* on a prismatic shaft, J. The clamps are made in halves or sections suitably flanged to receive the ends of the radial arms *g'*, and the sections are drawn together by means of bolts *i*.

Shaft J has its bearing in boxes *n n* on the lower section of the machine, the caps of which boxes are removable to take out the reel.

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

1. The combination, in a feather-renovator, of the double-walled bottom chamber A, hav-

ing a series of perforations, the perforated shaft J and the beater-arms *g'*, as and for the purpose set forth.

JAMES JAY VAN ALSTINE.

Witnesses:

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2. The combination of the flanged clamps *h* and connecting-bolts *i* with the prismatic