W. B. TAYLOR.
Feather-Renovator.

No. 206,644. **Patented July 30, 1878.**

Fig. 1.

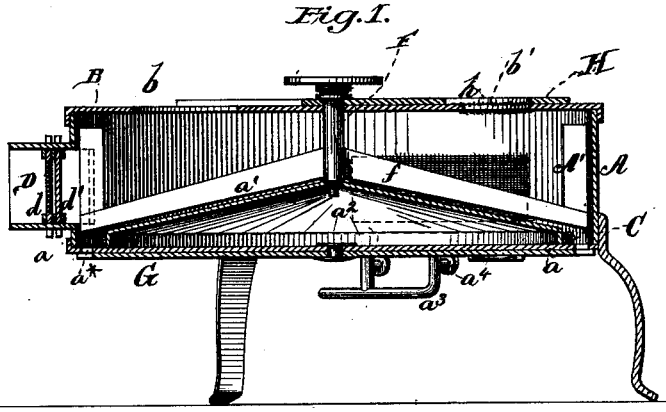
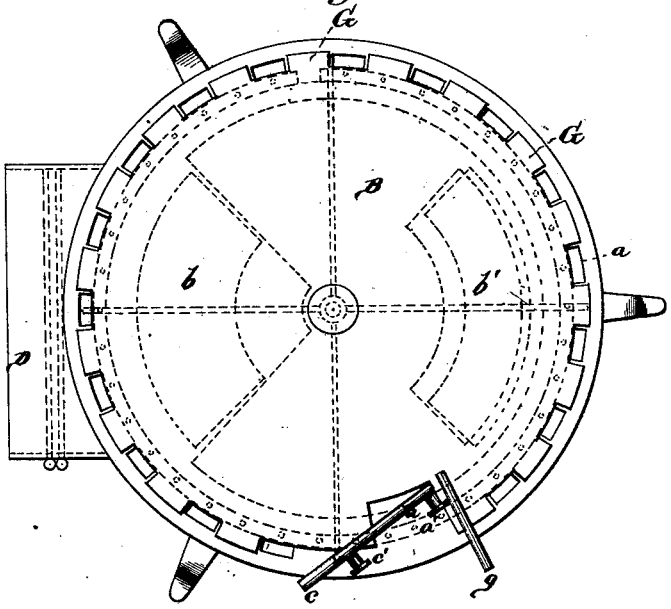


Fig. 2.



WITNESSES

John W. Ellis.
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WARREN B. TAYLOR, OF SHARON, PENNSYLVANIA.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **206,644**, dated July 30, 1878; application filed June 22, 1878.

To all whom it may concern:

Be it known that I, WARREN B. TAYLOR, of Sharon, in the county of Mercer and State of Pennsylvania, have invented a new and valuable Improvement 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.

Figure 1 of the drawings is a representation of a vertical central section of my feather-renovator, and Fig. 2 is a bottom-plan view of the same.

The object of my invention is to renovate, purify, and cleanse feathers by steam, to dry the same, remove the dirt, eliminate the foul or contagious gases, and to evaporate all dampness.

To this end my invention consists in a cylinder provided with a conical steam-chamber swept by radial arms from a revolving central shaft.

Steam is introduced into the feather-chamber by means of a perforated steam-pipe governed by suitable stop-cocks. The cover of the cylinder is removable, is provided with a segmental orifice, through which the feathers are fed to the cylinder, and with a revolving adjustable segmental gage or valve, by which any condition of temperature or ventilation may be secured. Suitable screened openings in the sides of the cylinder are controlled by slides working in guides for adjustable ventilation, and an exit-flue provided with an imperforate slide; and a screen is also formed in the side of the cylinder, through which the dry clean feathers may be blown out.

Orifices in the bottom are provided around the conical steam-chamber, through which small matted particles and coarse dirt may pass, and these orifices are controlled by an annular valve which operates on them all simultaneously. A lever, rigid with this annular valve, extends outward from the bottom, so as to be readily in reach away from the heat.

One pipe supplies both the steam-chamber and the perforated pipe with necessary steam, each section having stop-cocks, allowing the operator to shut it off or let it on in either compartment.

The central shaft may be revolved by any motive power, and the radial arms or stirrers may be of any desired number and any suitable form.

Referring to the drawings, A represents the cylinder, and B the removable cover. The bottom *a* of the cylinder proper and a conical portion, a^1, secured thereto form a steam-tight chamber, a^2, fed by a steam-pipe, a^3, controlled by a stop-cock, a^4.

C represents a perforated steam-pipe, fed by a pipe, *c*, controlled by a stop-cock, *c'*, which admits steam within the cylinder A. A' represents ventilating-orifices in the sides of the cylinder, covered with screens and controlled by slides working in guides.

D represents the exit-flue through which the dried feathers may be blown out, and it is provided with a removable screen, *d*, and an imperforate slide, *d'*, both working in guides and operated from the outside of the flue.

In the cover B is a feed-opening, *b*, of segmental form, about one-fourth of a circle, and opposite such feed-opening is a screened opening, *b'*, for ventilation, of corresponding form. Pivoted at the center to this cover is a valve, H, provided with a screened segmental orifice, *h*. This valve is about three-fourths of a complete circle, the fourth being cut away to allow open space over the feed-orifice *b* when the valve is thus turned. When in that position the screen *h* is directly over the screen *b'*, and when turned one-half around from that position the screen *h* is over the feed-opening *b*, and the cut-away portion of the valve allows free ventilation from the screen *b'*.

From this latter position it is obvious that if the valve be turned in either direction one-fourth around the ventilation is entirely closed, and at any point intervening but partial ventilation is allowed. This construction furnishes a very convenient and efficient means of adjustment for the ventilation.

F represents a central revolving shaft, provided with radial arms *f*, adapted to sweep the conical top of the steam-chamber.

Between the sides of the cylinder and the periphery of the steam-chamber are holes *a**, of any number and form, through the bottom *a*,

and these holes are controlled simultaneously by an annular valve, G, provided with lever *g*. Through these holes *a** the coarse dirt, matted lumps, &c., gravitate, and are separated from the valuable feathers.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the conical steam-chamber a^2 a^3 a^4 with the cylinder A and shaft F *f*, as specified.

2. The perforated bottom *a*, in combination with the annular valve G *g* and conical steam-chamber, as and for the purpose specified.

3. The cylinder A, the conical chamber a^2, the surrounding perforated pipe C, and the perforated bottom *a* and valve G *g*, combined and arranged as herein specified, for the purpose set forth.

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

WARREN BURTON TAYLOR.

Witnesses:
HERMON GAYLORD WOOD,
DAVID PORTER STEWART.