

H. H. ROBBINS.
Feather Renovator.

No. 81,294.

Patented Aug. 18, 1868.

Fig. 2.

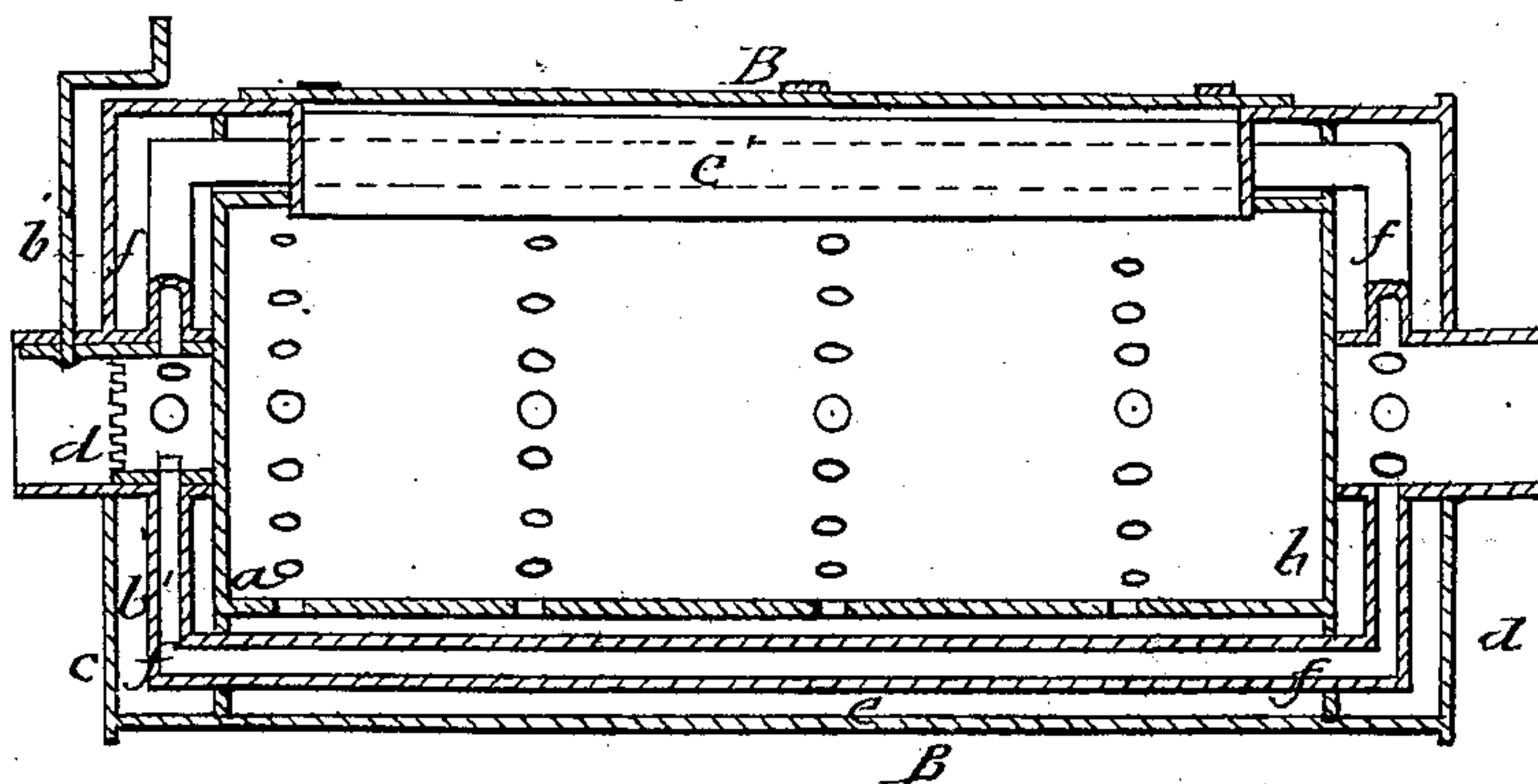


Fig. 1.

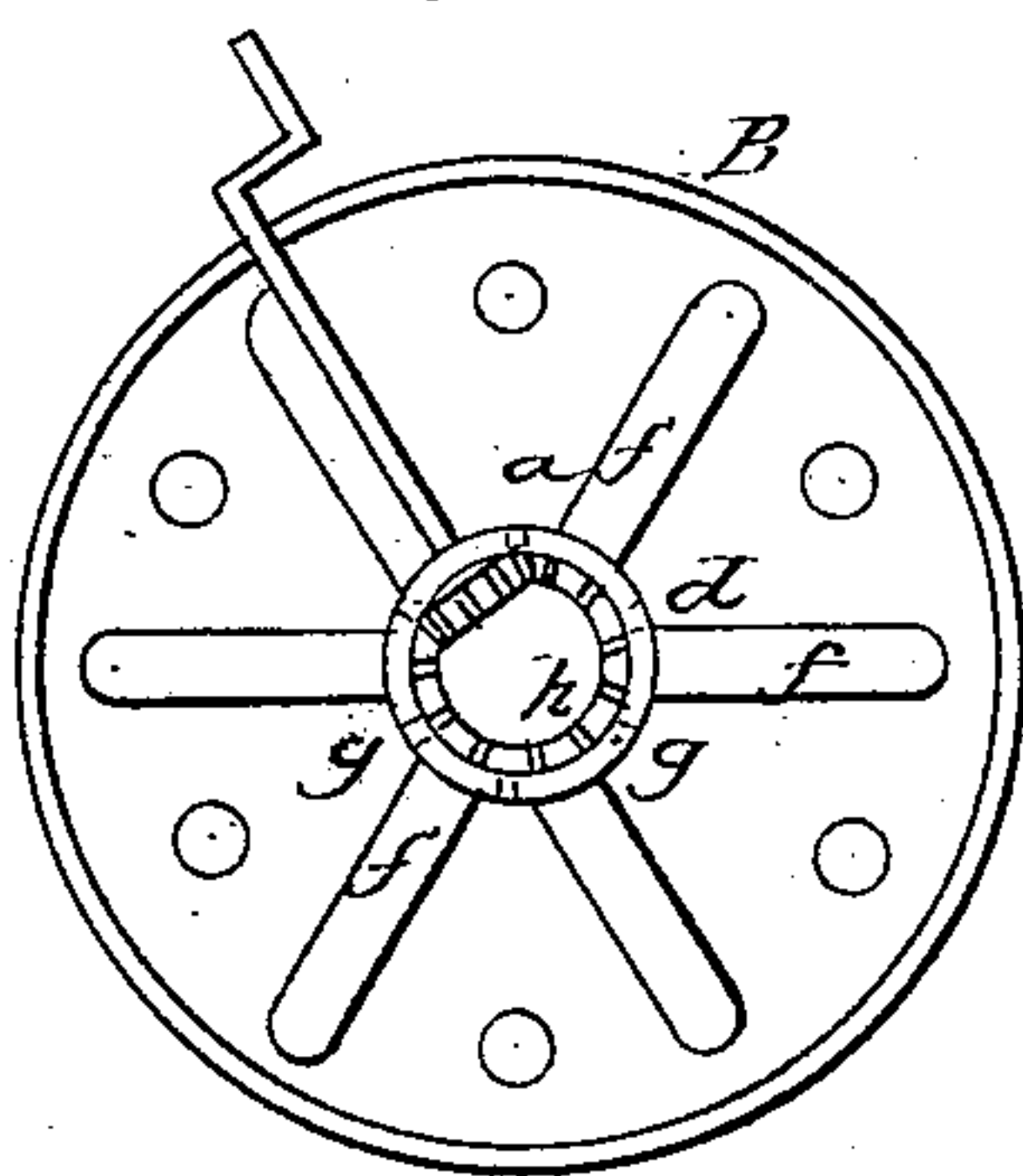
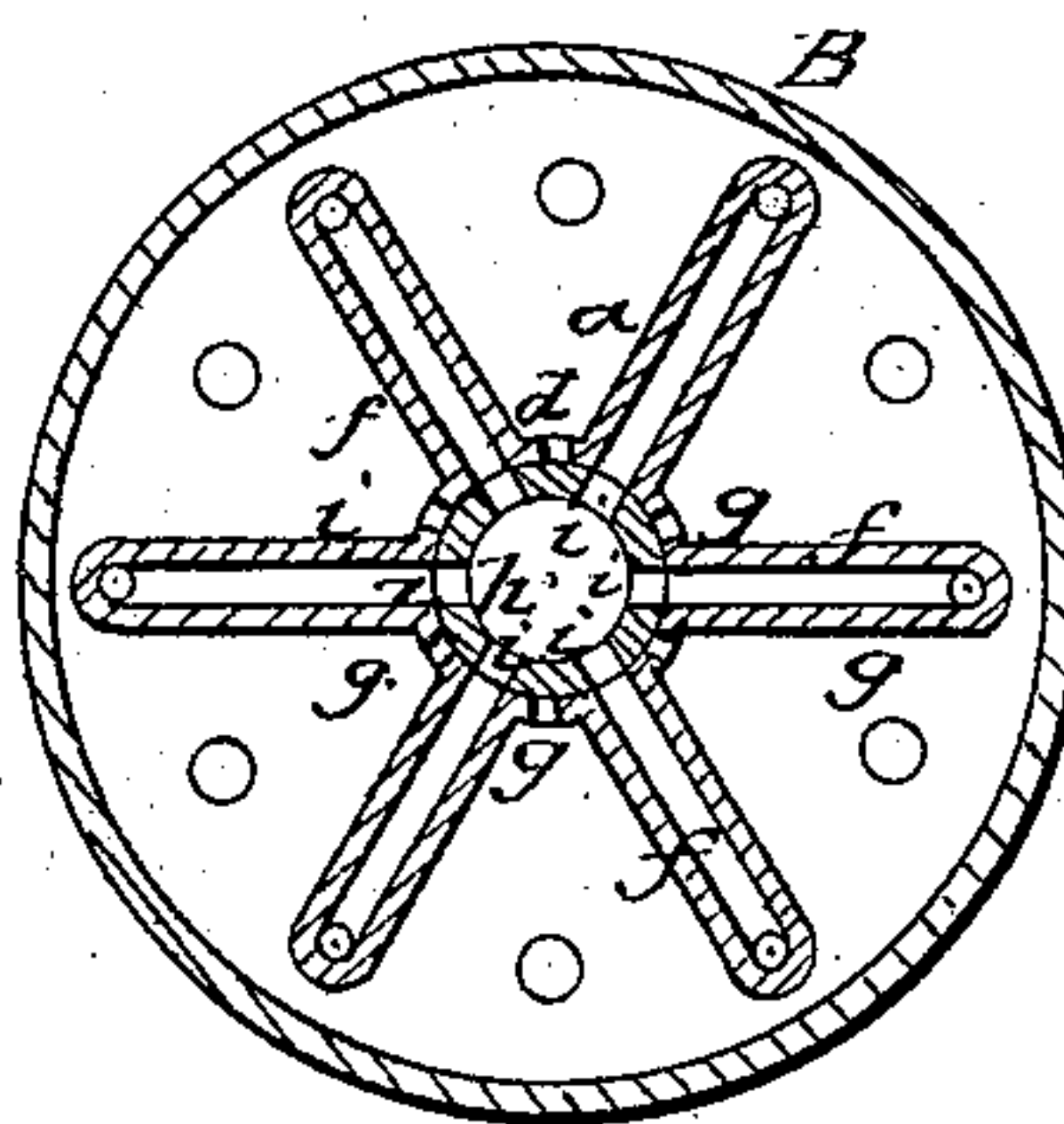


Fig. 3.



WITNESSES:

Edward Griffith
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INVENTOR:

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by his Attorney
Frederick Custer

United States Patent Office.

HIRAM H. ROBBINS, OF LYNN, MASSACHUSETTS.

Letters Patent No. 81,294, dated August 18, 1868.

IMPROVEMENT IN FEATHER-RENOVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, HIRAM H. ROBBINS, of Lynn, in the county of Essex, and State of Massachusetts, have made an invention of a new and useful Machine or Device for Renovating Feathers; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is an end elevation of the device, with its outer plate removed.

Figure 2, a vertical central and longitudinal section.

Figure 3, a vertical and transverse section through its regulating-valve.

This invention relates to means for steaming and restoring the feathers to their natural form and size, and subsequently drying them.

The invention consists in the employment of two closed cylinders, of suitable metal and construction, one enclosed within the other, the two cylinders being provided with a steam-pipe, and a tubular valve, and series of steam-ports, in such manner as to allow steam to enter the inner cylinder, for the purpose of dampening and "bringing out" the feathers enclosed therein, and of subsequently allowing the steam to be shut off from communication with the interior of the inner cylinder, and to circulate about its exterior, and between such exterior and the outer cylinder, the whole being as hereinafter explained.

In the drawings above mentioned as illustrating my invention, A denotes a metallic cylinder or drum, with closed heads, *a b*, the circumference or periphery of this cylinder being perforated with numerous small holes, for the admittance of steam to the interior of the same.

The drum A is enclosed within a second cylinder or jacket, B, also having heads, *c d*, and being of such a size as to leave an annular steam-circulating space or chamber, *e*, between the two, there being, further, a passage-way or opening, *e'*, leading from the exterior of the jacket B to the interior of the drum A, for allowing feathers to be introduced into the latter.

A short reservoir or tube, *d*, is affixed to the outer face of each of the heads of the steam-drum A, such cylinder extending through the adjacent head of the outer cylinder or steam-jacket B, and, when the apparatus is in practical operation, one of these reservoirs is to be coupled or otherwise connected to a steam-pipe, leading from a boiler or other steam-reservoir.

One of the reservoirs, *d*, between the heads of the two cylinders A and B, is provided with a series of steam-conduits, *f f f*, leading radially from it, and at equal distances apart, these conduits being given a slight angular bend, and carried into and extended through the steam-circulating chamber *e*, and subsequently given a return bend, and carried into the opposite reservoir, as shown in the drawings. Furthermore, a series of ports, *g g g*, &c., equal in number to the conduits *f f* before mentioned, are made through the periphery of the reservoir *d*, and between and in alignment with the said conduits, a tubular valve, *h*, being disposed within the reservoir, and having a number of orifices, *i i*, &c., made through its periphery, corresponding in size, disposition, and number with the ports *g g* of the reservoir.

This valve is rotated, as occasion requires, by means of a peripheral rack cut upon one end, and meshing into a pinion, supported upon a suitable shaft, provided with a crank for rotating it; but I make no special claim to this arrangement, as the valve may be actuated in any suitable manner.

A series of steam-inlets or apertures, *j j*, &c., is made through one of the heads of the drum A, or that marked *c*, and preferably situated between the conduits *f f*, as shown in the drawings.

The passage-way *e'*, before mentioned, is to be closed by a suitable door, for the purpose of preventing escape of steam or hot air from the inner drum A.

The operation of the above-described device or apparatus is as follows: It being supposed that a steam-pipe, from a suitable source, and containing steam at a suitable pressure, is connected with the reservoir *d*, a quantity of feathers to be treated is placed within the drum A, and the door of its entrance closed.

The tubular valve *h* is now turned to such a point as to close the entrances of the conduits *f f*, &c., and open the ports *g g*, &c.

Steam is now let into the reservoir *d*, and flows through the ports *g g* into the space *b'*, between the heads of the cylinders A and B, from whence it flows into the annular chamber *e*, and into the interior of the cylinder or drum A, through the perforations in its periphery, and serves to moisten and throw out the fibres of the feathers, and restore them to their original shape.

When this has been accomplished, the valve *n* is to be again partially turned, until the ports *g g* are closed, and the entrances of the conduits *f f* are opened.

Under this position of parts, the steam is cut off from entering the chamber *e*, and is caused to circulate or flow through the conduits *f f*, and exhaust through their opposite ends, thus giving up its latent heat to warm the interior of the drum A, and to dry the feathers contained therein, which, having been thus dried, are to be removed, and others substituted.

I claim as my invention, and desire to secure by Letters Patent of the United States—

The above-described device for restoring feathers, consisting of the two cylinders A and B, constructed and arranged as described, in combination with the steam-conduits *f f*, &c., and the ports *g g*, &c., such conduits and ports being regulated by the tubular valve *h*, and the whole operating in manner and for the purpose as before explained.

HIRAM H. ROBBINS.

Witnesses:

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N. EVERETT SILSBEE.