J. B. BOOKER & M. C. GREEN.

Improvement in Feather-Renovators.

No. 129,390. Patented July 16, 1872.

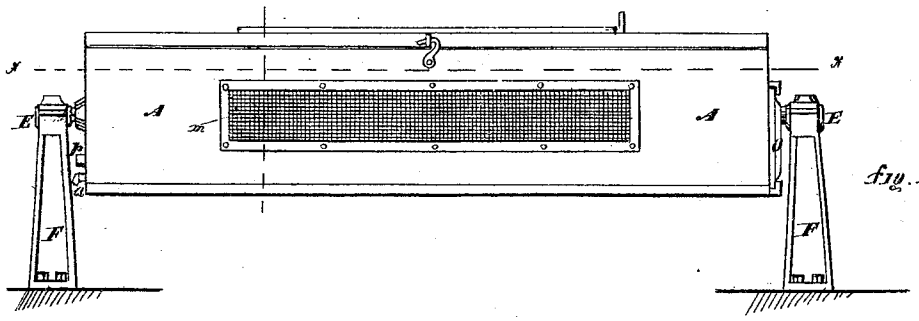

fig. 1.

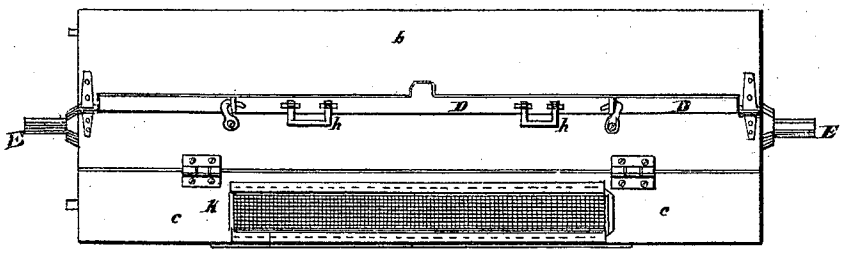

fig. 2

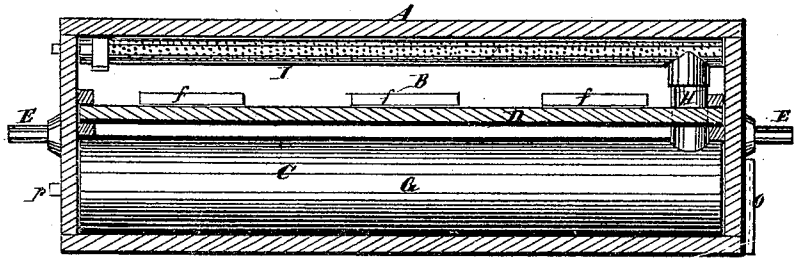

fig. 3.

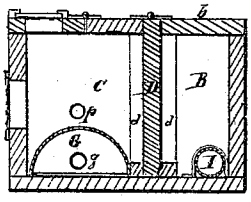

fig. 4.

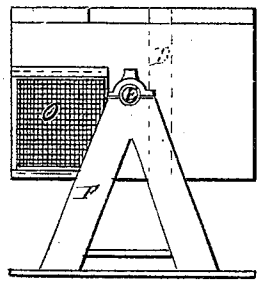

fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH B. BOOKER, OF CHICAGO, AND MILTON C. GREEN, OF PARIS, ILL.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. 129,390, dated July 16, 1872.

SPECIFICATION.

To whom it may concern:

Be it known that we, JOSEPH B. BOOKER, of Chicago, in the county of Cook and State of Illinois, and MILTON C. GREEN, of Paris, in the county of Edgar and State of Illinois, have invented certain Improvements in Machines for Cleansing and Renovating Feathers; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which, together with the letters and figures marked thereon, form part of this specification, and in which—

Figure 1 represents a side elevation of our invention. Fig. 2 represents a top or plan view of the same removed from its bearings. Fig. 3 represents a section taken on the line *x x* of Fig. 1. Fig. 4 represents a section taken on the line *y y* of Fig. 1; and Fig. 5 represents an end view of the machine.

Like letters of reference made use of in the several figures indicate like parts.

To enable those skilled in the art to make and use our invention, we will proceed to describe the same with particularity, making use in so doing of the aforesaid drawing by letters of reference thereto.

General Description.

The oblong box A is divided into two compartments, B and C, by the longitudinal partition D, which is made removable at pleasure. Of these compartments B is the cleansing and C the drying compartment. The box A may be made of any material desired, wood being quite as good as anything, and is furnished at each end with a central trunnion or axis, E, to rest in bearings in the standards F. G is a semi-cylindrical steam-chamber occupying the lower portion of the compartment C, being connected, at *g*, to a steam-generator, not shown in the drawing. This connection is attachable and detachable to permit of the rotation of the machine upon its trunnions. At the other end the chamber G is provided with the pipe H, which passes into the compartment B and enters the perforated tube I, placed in the bottom of the compartment B, so that steam admitted at the connection *g* fills first the semi-cylindrical chamber G; then passes by way of the tube H into the perforated tube I, and through the perforations thereof into the compartment B. The partition D, between the compartments B and C, should be practically steam-tight, so that no steam or vapor may pass from the compartment B into the compartment C. This is accomplished by fitting the said partition to slide in grooves at each end formed by the parallel pieces *d d*, and to rest against the piece *e* at the bottom, coming between said piece *e* and the short pieces *f* parallel thereto. The inner face of these pieces *f* are made inclined, and the lower edge of the partition D upon this side likewise beveled, so that when said partition is pressed home it will be wedged or forced by the incline to lie close against the piece *e*, forming a close joint. The feathers to be cleansed are placed in the compartment B through the cover or lid *b*, which opens the entire length thereof; and steam is admitted at the aperture *g*, through the chamber G and pipe H, to the perforated tube, from whence it escapes in fine jets and permeates the mass of feathers. The water of condensation is drawn off from time to time by a drip-cock, *a*. After the feathers have been thoroughly and effectually cleansed the partition D is raised by means of the handles *h* and the machine partially rotated upon the trunnions, causing the mass of wet feathers to be dumped of their own weight into the adjoining compartment C to be dried. Another charge of feathers is immediately placed in the compartment B after the partition has been replaced and the box rotated back; and now the cleansing and drying is carried on at the same time and by the same steam. The steam in passing through the chamber G parts with a portion of its heat sufficient to warm up the compartment C and dry the feathers, after which it escapes into the cleansing-compartment B. The compartment C is provided with a hinged cover, *c*, having an aperture, *k*, cut therein, provided with a slide of perforated metal or wire-cloth, and a second aperture, *m*, exists at the side, also covered with perforated metal or wire-cloth. An opening, O, covered with a slide of wire-cloth or perforated metal, is at the end of the compartment C, for removing the feathers therefrom after being dried. A connection, *p*, above the connection *g*, is for the purpose of introducing a blast of dry cold

air to the compartment C to assist and complete the drying of the feathers. The vapor from the mass of feathers lying in the compartment C passes freely out of the wire-cloth or perforated metal-covered apertures *k m* O, and they are made perfectly dry before being taken from the machine.

In all the machines hitherto in use with which we are acquainted it has been necessary to spread the feathers out in an open room to complete the drying thereof, which is very inconvenient, as the slightest breath of air blows them about and quantities are thus lost.

In our invention the feathers are cleansed and thoroughly dried by the same steam before leaving the machine; and they may be removed from the machine by placing a sack at the opening O and removing the slide and raking them along thereinto. All loose feathers not readily reached by the rake may be blown into the bag by closing the compartment and turning on the air-blast.

Claims.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the compartment C containing the steam-radiating chamber G, and the compartment B containing the perforated tube I, connected to the chamber G, so that the same steam employed for cleansing is utilized for drying the feathers previously cleansed, substantially as specified.

2. The combination of the chambers B C separated by a removable partition, D, when the whole is pivoted upon trunnions E, substantially as specified.

3. The combination and arrangement of the box A swung upon trunnions E, the removable partition D, the steam-chamber G, pipe H, perforated tube I, the wire-cloth or perforated metal-covered apertures *k m* O, and the air-blast *p*, substantially as specified.

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Witnesses:
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