

Feather-Renovators.

Patented Dec. 8, 1874.

Fig.1.

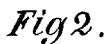
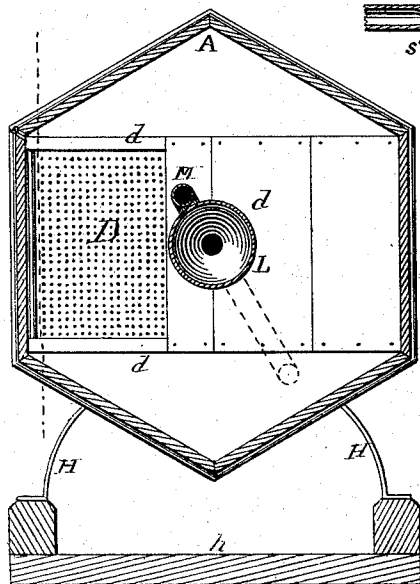


Fig.3.



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UNITED STATES PATENT OFFICE.

CHARLES J. FOX AND JOHN M. GROSS, OF HERKIMER, NEW YORK.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. 157,443, dated December 8, 1874; application filed October 24, 1874.

To all whom it may concern:

Be it known that we, CHARLES J. FOX and JOHN M. GROSS, of Herkimer, New York, have invented certain new and useful Improvements in Feather-Renovators, of which the following is a specification:

The invention relates to devices for renovating or cleaning feathers. It consists in providing a drum, which is suitably mounted to be rotated, and in the interior of which are the cleansing and drying pipes, arranged and constructed with relation to each other to fulfill their respective functions independently by means of a cock, the exact nature of which, as well as the other details, will appear with greater particularity in the description thereof hereinafter.

The object of the invention is to provide a convenient and effective device for cleansing feathers by steam; and, particularly, to provide a desirable means of rotating the drum or cylinder; an effective means of utilizing the steam for purposes of washing and drying; and a convenient arrangement of pipes and other incidents which enhance the merit of the machine as a whole.

Figure 1 is a front elevation of a device embodying the elements, with the door *a* open, and certain parts broken out, to disclose internal construction. Fig. 2 is a vertical central transverse section of same. Fig. 3 is a detached view of the parts adjacent the cock *K*. Fig. 4 is a similar view of the crotch-nut *B*.

A is the drum or cylinder, which is hollow, of any convenient size and shape, and provided with the door *a*, through which the feathers are delivered. In the center of one of its heads is the crotch-nut *B*, the arms of the crotch terminating in the circular bearing *b*, in which is screwed the crank *C*, by means of which the device is actuated. In the center of the opposite head is the bearing *b'*; and adjacent the heads, and parallel thereto, are the partitions *d*, in which are the screens *D*, which serve to distribute the cool air when it is admitted to the interior of the drum. *E* *E'* are pipes, conformed to fit easily upon the circular bearings *b b'*, the former having its outer extremity carried upward, and the latter its outer extremity carried downward. In the present instance they are provided with

elbows, their horizontal parts serving as boxes for the bearings *b b'*, being secured to the stands *H*, which are attached to the platform *h*, or provided with feet. In the vertical parts are cut suitable apertures for the crank *C* and screw-coupling *g*, hereinafter mentioned, above and below which, respectively, are the dampers *e*, which are employed to exclude or admit the air. The pipe *E'* is constructed so that the upper half of its horizontal part may be readily removed, so as to permit the manipulation of the cock *K*, by which the action of the steam is controlled. In the middle of the drum is the drying-pipe or chamber *L*, which is preferably larger at its center, its ends passing through the circular bearings *b b'*, terminating upon one side below the crotch-nut *B*, and upon the other at the cock *K*, where it is united with the washing-pipe *M*, the screw-coupling *g* being attached to deliver the steam according to the arrangement of the cock. The wash-pipe *M* is an ordinary pipe, which is carried into the drum through the bearing *b'*, and which terminates near the central parts of the drum, being perforated or otherwise constructed to effectually deliver the steam in an appropriate manner. To prevent accident in the use of the drying-pipe the safety-valve *m*, which is connected, by the conduit *n*, with the pipe *L*, is provided, being constructed in the present instance so as to be operated by a lever, which is tilted by the catch *o* when the drum is rotated, the lever being held so as to close the valve by a spring. The pipes *L* and *M* are joined, as has been stated; and at their junction, placed so as to control the mouths of both, is the cock *K*, which is a tubular stem provided with a thumb-piece at its upper, and a set-screw at its lower, extremity, and near its center, in line with and corresponding in size with the mouths of the pipes *L M*, with the apertures *s*, which are arranged, as shown at Fig. 3, to occupy equidistant points, ninety degrees apart, upon a plane of the tubular body of the cock, thus leaving a blank surface of about one hundred and eighty degrees. The pipes *L* and *M* have their mouths also separated by ninety degrees, being brought together so as to effect such a location.

By this construction the steam may be either

shut off or directed into both pipes at the same time, or into one only, by means of the cock K.

The operation of the device will be understood without explanation, and need not, therefore, be set forth herein.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The pipe L and perforated pipe M, in combination with the cock K, for the purpose of shutting off from or admitting steam and water to said pipes, substantially as set forth.

2. In a feather-renovator, the drum A, provided at each end with a screen, D, between which and the adjacent end of the drum a

heat-chamber is formed, substantially as set forth.

3. The conduit *n*, provided with the safety-valve *m*, in combination with the tripping-stud *o*, as shown and described.

In testimony that we claim the foregoing improvement in feather-renovators, as above described, we have hereunto set our hands and seals this 6th day of October, 1874.

CHARLES J. FOX. [L. S.]
JOHN M. GROSS. [L. S.]

Witnesses:

CHARLES A. FOX,
ANGUS MCGILLIS.