A. K. KLOCK.
Feather Renovator.

No. 201,686. Patented March 26, 1878.

Fig. 1.

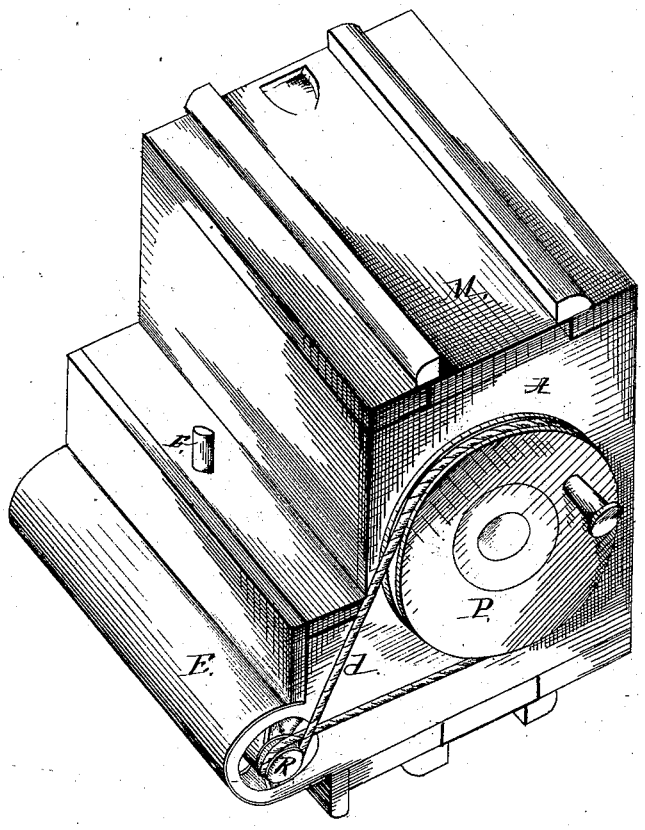


Fig. 2.

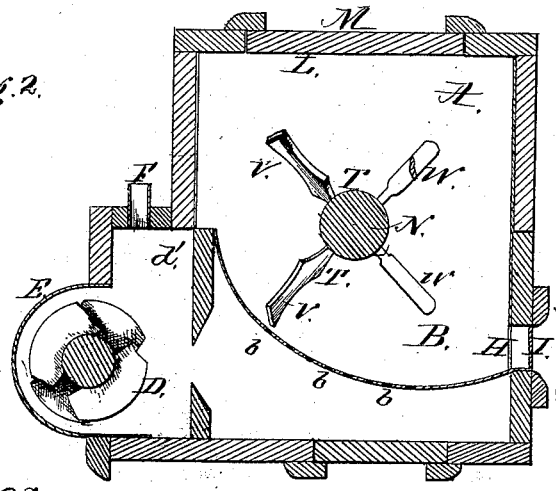


Fig. 3.

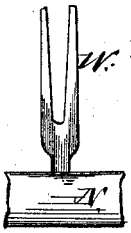
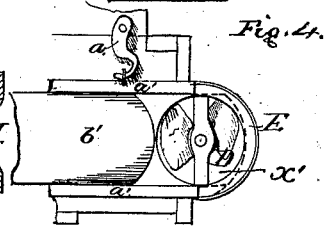


Fig. 4.



Witnesses;
F. Valles Fowler,
Chas. E. Gill

Inventor;
Amos K. Klock
By his Attys.
Cox and Cox

UNITED STATES PATENT OFFICE.

AMOS K. KLOCK, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **201,686**, dated March 26, 1878; application filed October 23, 1877.

To all whom it may concern:

Be it known that I, AMOS K. KLOCK, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and useful Improvement in Feather-Renovators, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improved feather-renovator; and consists in the devices hereinafter fully described.

The object of the invention is to provide a machine that will thoroughly and rapidly clean and dry feathers.

Figure 1 is a perspective view of a device embodying the elements of the invention. Fig. 2 is a central vertical section of same. Fig. 3 is a detached view of one of the forks W, and Fig. 4 is a similar view of the slide *b'*.

In the accompanying drawings, A represents a case lined with metal, so as to be steam-tight, or nearly so, which case is divided into two parts, the lower forming the bowl B, the upper being a cover secured to the lower part of the case by means of hooks, one shown in Fig. 4, or in any other suitable manner. The lower rear parts of the bowl B are furnished with the perforations *b*, beyond which a fan-blower, D, enveloped by the shell E, is secured on the lower rear part of the case, a pipe, F, leading down from the upper part of the case to the shell of the fan-blower, the operation of which forces air into or extracts it from the interior of the case. That part of the casing A above the fan-blower D, and beneath and about the lower end of the pipe F, constitutes a chamber, *d'*, in which hot air can be stored for the purpose of assisting in the operation of drying feathers. Opposite the perforations in the bowl B is provided the outlet H, covered by a slide, I, working in guides. The top of the case is furnished with the inlet L, covered by the slide M. The center of the case is traversed by the shaft N, working on journals in the sides of the case, beyond one of which it projects, and is supplied with the crank band-wheel P, connected by the band *d* with the band-wheel R on the end of the fan-shaft.

The shaft N inside the case is provided with agitators T, which stand at right angles to the shaft, and have at one end a paddle, V, the blade of which stands transversely to the axis of the shaft, the opposite end of the agitator forming the fork W. The ends of the agitators come in close relation to the face of the bowl B when the shaft is rotated.

One end of the casing E is provided with an aperture, *x'*, and above and below this with guides *a'*, between which the slide *b'* is placed, and has a free horizontal movement therein. The purpose of the slide is to either open or close the aperture, and thus either prevent or allow the admission of air in a heated or cold state to the fan D, which forces it through the apertures *b* into the bowl containing the feathers.

The inlet-slide M being opened, the feathers are deposited in the case, and the slide then closed. Steam is now admitted through the pipe F, and the crank-wheel P being rotated, the steam is injected through the perforations *b* among the feathers, which, at the same time, are thoroughly beaten and opened by the action of the paddles V, which operate as beaters, while the forks W serve as openers. After the feathers have been thoroughly treated in this manner, the passage of steam is cut off, when the slide *b'* is opened to permit the entrance of either hot or cold air, according to the wish of the attendant, and the fan-blower D and shaft N, with agitators T, set in motion for the purpose of drying the feathers, which is accomplished by the heat from the chamber *d'*, the passage of air through slide *b'*, and the operation of the agitators.

To remove the feathers after drying, it is simply necessary to open the slide I, when the blast from the fan D will force them through the outlet H into a bag or other properly-placed receiver.

I am aware that a slide for preventing or allowing the admission of air in a heated or cold state to the feathers is old, as it is shown in Letters Patent No. 179,151; but in this patent the slide is arranged upon the lower front convex portion of the bowl and within the casing of the renovator. Thus it is liable to choke by the deposition of steam, dust, and fine feathers, and when it is withdrawn its end

will protrude beyond the side of the renovator, and is exposed to the action of passing objects.

In my device the slide is upon the outside of the renovator-casing, and, when either opened or closed, is not liable to clog or be injured.

I do not, therefore, claim the construction set forth in said patent; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a feather-renovator, the casing E, provided on its end with the aperture x' and guides a', in combination with the slide b', fan D, and chamber d', substantially as shown and described.

2. The casing E, provided on its end with the aperture x' and guides a', in combination with the slide b', fan D, apertures b, and bowl B, and agitating device T, substantially as specified.

In testimony that I claim the foregoing improvement in feather-renovators, as above described, I have hereunto set my hand this 15th day of October, 1877.

AMOS K. KLOCK.

Witnesses:
HIRAM BRIGHT,
ROBT. H. WILES.