C. RUSSELL & C. W. SEAMANS.

Feather-Renovator.

No. 159,222. Patented Jan. 26, 1875.

Fig 1

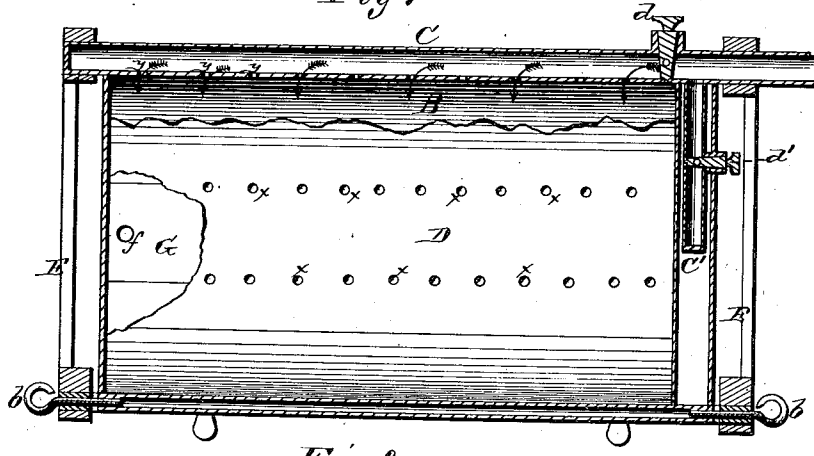


Fig 2

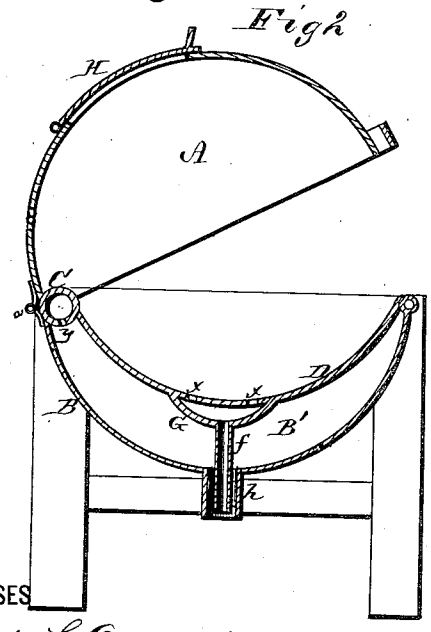
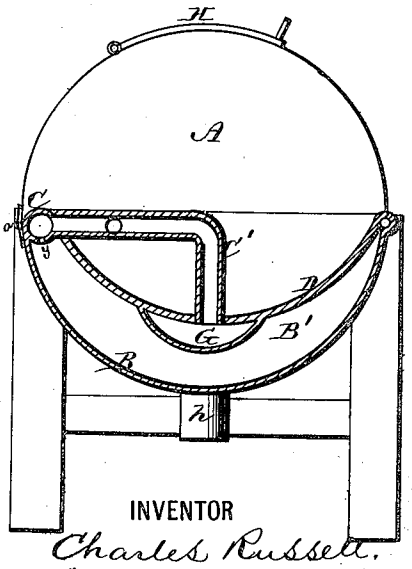


Fig 3



WITNESSES

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CHARLES RUSSELL, OF APPLETON, WISCONSIN, AND CHARLES W. SEAMANS, OF AURORA, ILLINOIS; SAID RUSSELL ASSIGNOR TO JOHN L. HOPKINS, OF OSWEGO, ILLINOIS.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **159,222**, dated January 26, 1875; application filed December 15, 1874.

To all whom it may concern:

Be it known that we, CHARLES RUSSELL, of Appleton, in the State of Wisconsin, and CHAS. W. SEAMANS, of Aurora, in the county of Kane and in the State of Illinois, have invented certain new and useful Improvements in Feather-Renovator; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a machine for renovating feathers, hair, moss, &c., as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a horizontal section, and Figs. 2 and 3 are transverse vertical sections, of our machine.

The machine is composed of two semi-cylindrical parts, A and B, hinged together at *a*, to form, when closed, a complete cylinder. Along the back edge of the bottom part B runs a steam-pipe, C, which projects beyond both ends, and said ends are placed in suitable bearings in a frame, E. The front of said bottom part B is supported in the frame by means of pins *b b*, as shown.

One end of the steam-pipe C is closed, and the other end is to be connected with a steam-boiler.

D is a false bottom arranged in the part B, forming below it a chamber, B′, and along the center of said bottom, on the under side, is formed a trough, G. The bottom D, above this trough, is perforated with a number of perforations, *x*, as shown.

The steam-pipe C is provided with a number of perforations, *y*, leading into the chamber B′, and near the inlet end of the steam-pipe C a branch pipe, C′, leads therefrom to the trough G. In this branch pipe is a stop-cock, *d′*, and in the pipe C, between said branch pipe and the first perforation *y*, is a stop-cock, *d*. From the chamber B′ extends a waste or outlet pipe, *h*, and through the same passes a similar pipe, *f*, from the trough G.

The feathers are placed within the machine through a door, H, in the top part A, on the bottom D, the stop-cock *d* closed and *d′* opened, when the steam will pass through the branch pipe C′ into the trough G, from which it will rise through the perforations *x x*, and permeate the mass of feathers.

While the feathers are thus being steamed and renovated they may be stirred by any suitable mechanical means. The condensed steam will pass out through the pipe *f*, carrying with it the dirt contained in the feathers.

As soon as the feathers are thus renovated, the stop-cock *d′* is closed and *d* opened, when the steam will pass through the perforations *y* into the chamber B′, and, heating the bottom D, will soon dry the feathers.

When dried, the pins *b b* are taken out, and the cylinder will drop down, turning upon the ends of the steam-pipe C as upon pivots, thereby facilitating the removal of the feathers.

Hair, moss, and other similar articles may be renovated in the same manner and by the same means.

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

1. The combination of the two semicircular parts A B, hinged together, the curved and perforated false bottom D, the trough G, chamber B′, pipe *h*, and the pipe *f*, leading into pipe *h*, all substantially as set forth.

2. The combination, with the frame E, of the two semi-cylindrical parts A B, hinged together, the perforated steam-pipe C at the back edge of the part B, and forming journals for the cylinder, and the pins *b b* at the

front of the cylinder *a e*, substantially as set forth.

3. The combination of the steam-pipe C, with stop-cock *d*, and forming journals for the cylinder-pipe C′, with stop-cock *d′*, bottom D, with perforations *x x*, trough G, cylinder A B, and outlet-pipes *f h*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 9th day of October, 1874.

CHARLES RUSSELL.
CHAS. W. SEAMANS.

Witnesses:
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