G. H. CRUM.

Feather-Renovator.

No. 208,673. Patented Oct. 8, 1878.

Fig. 1.

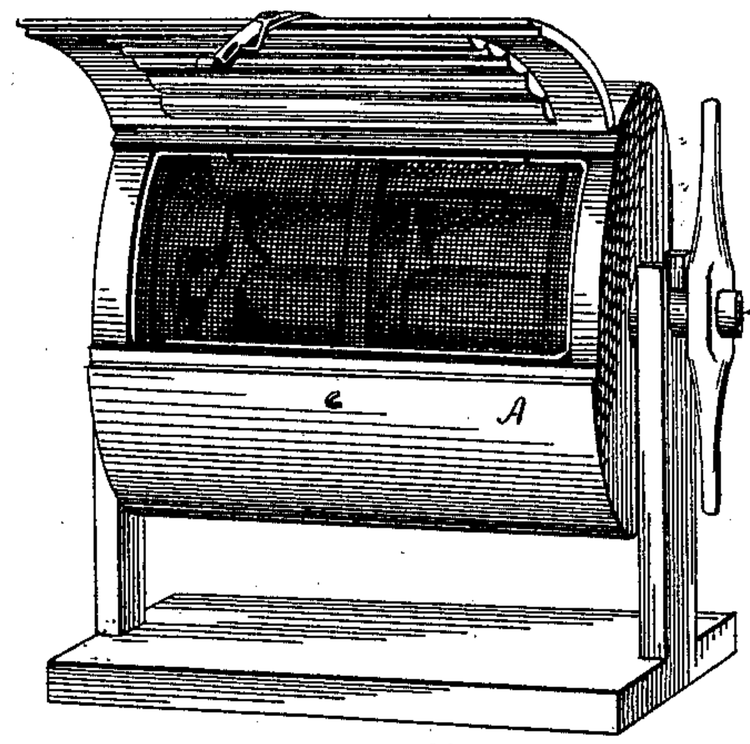


Fig. 2.

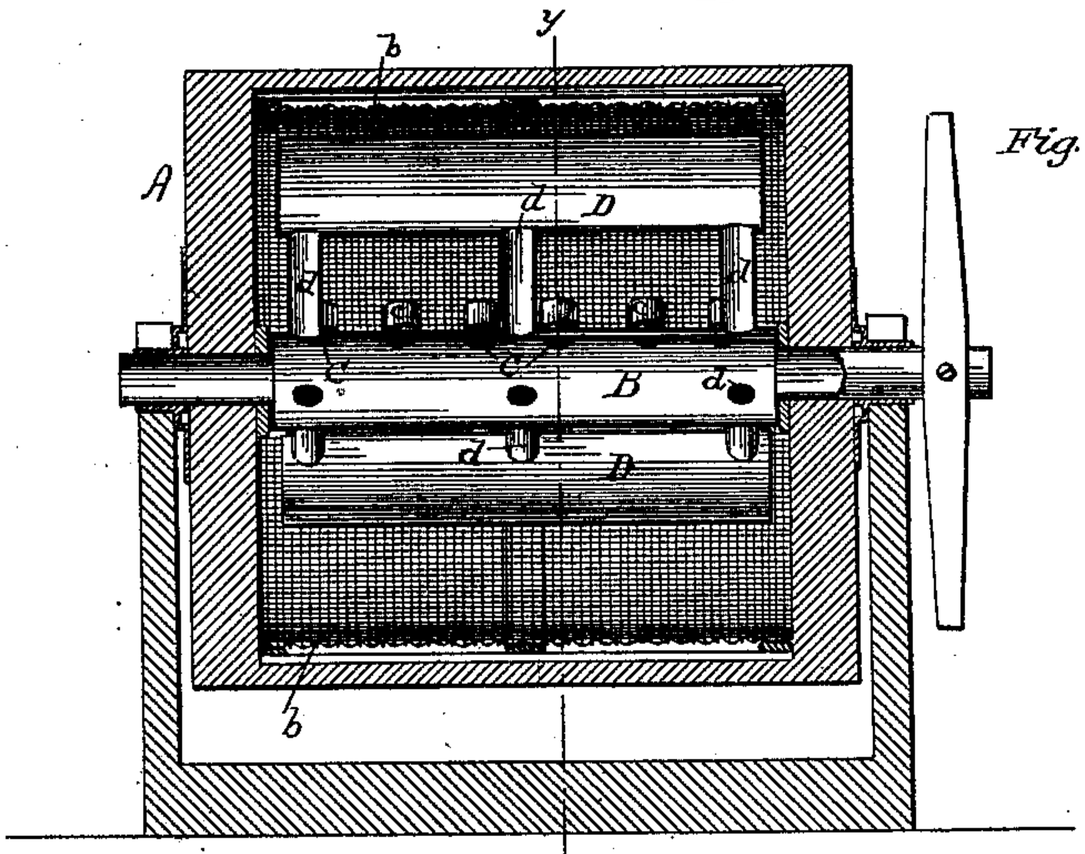
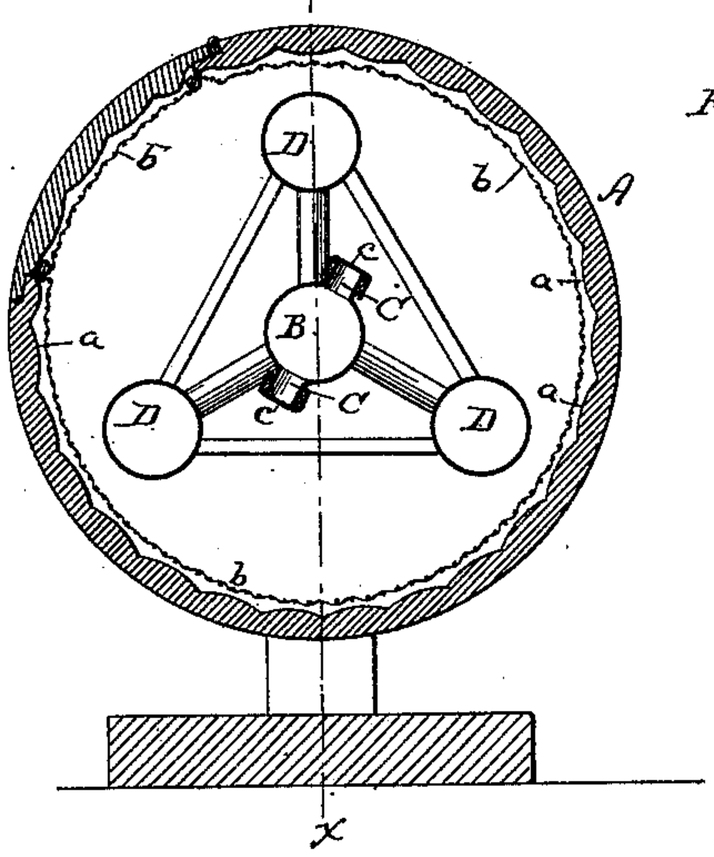


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

GEORGE H. CRUM, OF LADIESBURG, MARYLAND.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **208,673,** dated October 8, 1878; application filed September 23, 1878.

To all whom it may concern:

Be it known that I, GEORGE H. CRUM, of Ladiesburg, Frederick county, and State of Maryland, have invented certain new and useful Improvements in Feather-Renovators, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a representation of a feather-renovator with my improvements attached. Fig. 2 is a longitudinal section of the same through *x x*. Fig. 3 is a cross-section through *y y*.

My invention relates to that class of feather-renovators in which steam is introduced; and it consists in the several combinations of devices hereinafter explained and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the drawings, A is the cylinder in which the feathers are placed. This cylinder is made of a smooth outer surface, as in ordinary cases, but with an interior fluted or corrugated face, *a*, as shown in Fig. 3. The purpose of these corrugations is to gather and hold the dirt which may be deposited on them during the cleansing process. This dirt may be afterward washed or "flushed" by means of the steam, or cleaned by any well-known means. I have also discovered by actual experiment that I can use with great efficiency an interior lining of wire netting, *b*, as shown in Fig. 3, leaving a space between the wire netting and the corrugated surface, whereby I am enabled to keep the feathers from contact with the dirt which may be deposited on the corrugations, while the netting does not interfere with the free depositing of the dirt. The space between the netting and the corrugated surface of the cylinder also acts as a chamber for the escape of the foul steam from the feathers, which, after passing around the body of the feathers, escapes through the perforated door.

Through the center of the cylinder A passes the hollow steam-cylinder B, the steam passing in as shown by the arrow. Longitudinally on each side of cylinder B are adjustable short pipes C for the admission of steam to the cylinder A for cleansing the feathers. Each of the pipes C is provided with a screw-cap, *c*, for closing it when the cylinder B is to be converted into a heater for drying the feathers.

When the caps are removed from pipes C the exit for the steam in cylinder B may be closed by any well-known device; but when the pipes C are closed the exit for the steam is opened, and the passage of the steam through the cylinder converts it into a heater. To increase its heating power and render it efficient in drying the feathers, I have found it necessary to add the heating-drums D, connected with the cylinder by means of the pipes *d*. These drums, in addition to serving as heaters, also act as stirrers while the feathers are being cleansed and dried.

I am aware that the central steam-pipe and the supplementary steam-drums are not new, and these I do not claim, broadly.

I am also aware that perforated linings have been employed in renovators for leaving a space between the lining and the outer wall, and this I do not claim.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the cylinder A, provided with the inner corrugated surface *a*, the cylinder B, pipes C, provided with the caps *c*, and the drums D, connected with the steam-cylinder by the pipes *d*, all constructed and arranged to operate substantially as and for the purpose set forth.

2. In combination with cylinder A, provided with the inner corrugated surface *a*, the interior lining *b* of wire netting, substantially as and for the purpose set forth.

GEORGE H. CRUM.

Witnesses:
JOS. C. CRUM,
W. F. MORSELL.