J. T. HOPKINS & M. H. SMITH.

FEATHER-RENOVATOR.

No. 187,630. Patented Feb. 20, 1877.

Fig. 1.

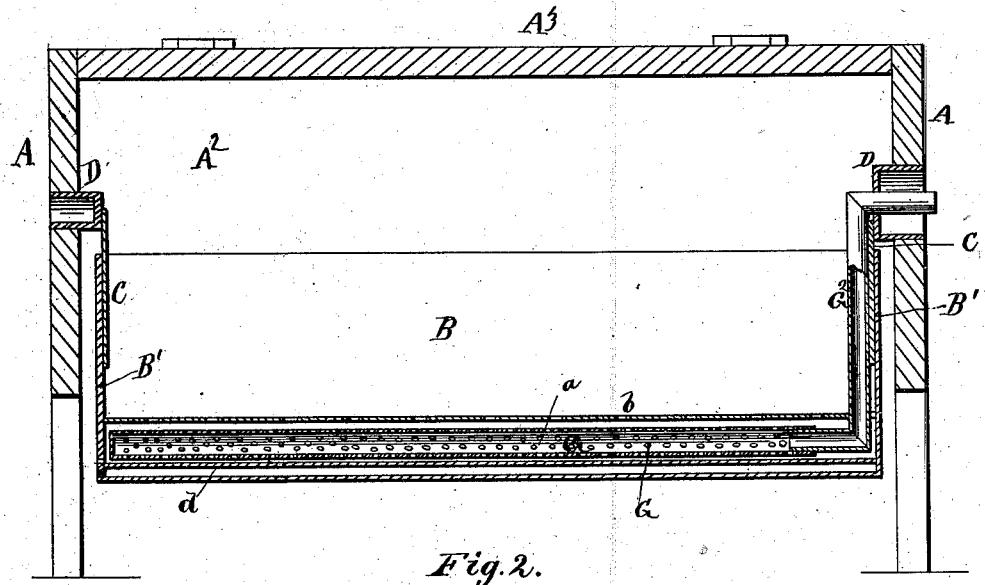
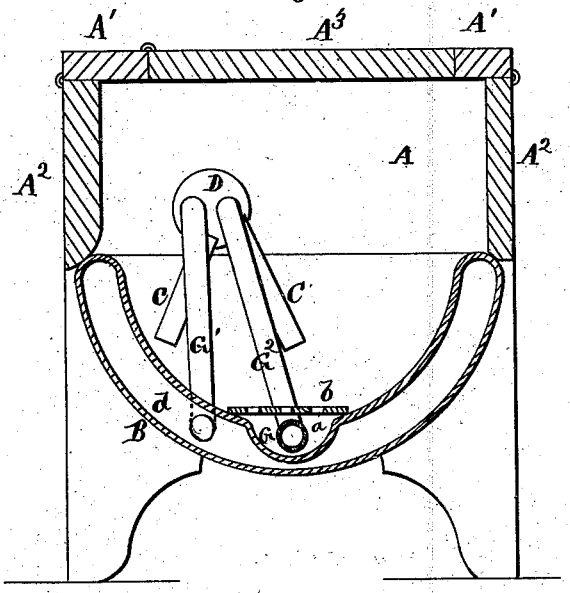


Fig. 2.



WITNESSES

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JOHN T. HOPKINS AND MERRITT H. SMITH, OF FORT MADISON, IOWA.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **187,630**, dated February 20, 1877; application filed October 12, 1876.

To all whom it may concern:

Be it known that we, JOHN T. HOPKINS and MERRITT H. SMITH, of Fort Madison, in the county of Lee, and in the State of Iowa, have invented certain new and useful Improvements in Feather-Renovators; 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 feather-renovator, 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 longitudinal vertical section of our feather-renovator. Fig. 2 is a transverse vertical section of the same.

The frame-work of our machine consists of two end pieces, A A, connected at the top, front, and rear edges by means of cross-bars A^1 A^1. From these cross-bars depend front and rear hinged doors A^2 A^2, and the top of the frame is closed by a hinged lid, A^3.

The pan in which the feathers are placed is composed of a double semi-cylindrical shell, B, forming an interior steam-space, *d*, and attached to end pieces B′ B′, which are connected, by strips C C, with hollow bearings D D, supported in corresponding openings made for that purpose in the end pieces A A of the frame. This construction isolates the steam-pipe from the wood-work, and thus prevents the possibility of fire by overheating of the pipe.

In the center of the double or hollow pan B is made a longitudinal recess, *a*, which is covered by a grating, *b*, as shown. Below this grating, in the recess *a*, is placed a perforated pipe, G, extending the entire length of the pan and closed at one end. At the other end is an angular pipe, G^2, passing out through one of the hollow bearings, and the outer end of this pipe is to be connected with the steam-boiler by a suitable flexible pipe. Through the same hollow bearing passes another pipe, G^1, also to be connected, by a flexible pipe, with the boiler; and this pipe G^1 enters the steam-space *d* of the pan, as seen in Fig. 2. In the pipes G^1 and G^2, outside of the bearing D, are to be suitable stop-cocks, for shutting off and admitting steam, as required, either to the one or the other pipe. The pan B, being hung upon the bearings D D, can be swung backward and forward with perfect ease. The feathers are first placed in the pan B, and the steam admitted through the pipe G^2 into the pipe G, from whence it, passing out and through the grating *b*, will permeate the entire mass of feathers, so as to loosen the dirt therein, which dirt, with the condensed steam, passes down through the grating into the recess or chamber *a*. The steam is then shut off from the pipe G^2 and admitted into the pipe G^1, to enter the chamber *d* to heat and dry the feathers. When thoroughly dry the feathers are emptied by opening the doors A^2 and tilting the pan either backward or forward, as desired. The feathers are admitted from the top by opening the lid A^3.

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

In a feather-renovator, the combination of a stationary frame, provided with hinged side doors A^2 A^2 and hinged lid A^3, the semicircular hollow pan B, suspended from the bearings D by one or more straps, C, at each end, and the pipes G^1 G^2, passing through the bearing at one end, and their lower ends entering into the chamber in the pan and into the perforated tube G, respectively, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 16th day of September, 1876.

JOHN T. HOPKINS.
M. H. SMITH.

Witnesses:
J. M. CASEY,
JNO. D. HUFF.