

UNITED STATES PATENT OFFICE.

WILLIAM WALKER, OF TRIVOLI, ILLINOIS.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **186,966**, dated February 6, 1877; application filed December 22, 1876.

To all whom it may concern:

Be it known that I, WILLIAM WALKER, of Trivoli, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Feather-Renovators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in feather-renovators; and it consists in a spiral stirrer, having hinged paddles for stirring the feathers when wet, and which, upon being turned in the opposite direction, when the feathers are dry, acts as a blower to drive the feathers out into a tick or pillow-case, which is attached to the frame, as will be more fully described hereinafter.

The accompanying drawings represent my invention. *a* represents a circular frame, into which the feathers are placed to be renovated, and which is surrounded by another casing, *c*, so as to form the steam-space *d*. Steam being admitted into this space keeps the frame *a* constantly hot, and serves to dry the feathers very rapidly after they have been renovated. Journaled in the center of the frame *a* is the shaft *e*, which has the pinion *g* secured to its upper end, and which pinion receives its motion from the wheel *h*, placed on end of the handle-shaft *i*. Secured to the shaft *e* is the spiral stirrer *J*, which has a rigid paddle or vane, *l*, fastened to its lower end to sweep around the bottom of the frame and start the feathers upward, and two hinged vanes, *n*, placed at different elevations.

The feathers having been placed in the case, steam or steam and hot water are turned in upon them, and then the stirrer is started in motion. The spiral form of the stirrer gives

the feathers a constant upward lift or motion for its entire length, when they fall off its rear end, only to be carried upward again. Through the top of the case are made suitable openings *o*, covered with hinged lids, for the introduction of the feathers, and through its bottom are made a large number of small openings to let off the water, which openings are closed by the slide *r*. After the feathers have been sufficiently cleaned a bed-tick is fastened to the large side opening *s*, or a pillow-case to the small one, *t*, their slides opened, and then the stirrer is turned backward or in an opposite direction from what it is turned in cleaning the feathers, when the hinged vanes act as blowers to drive the feathers out of the machine into the tick or pillow-case.

Instead of the opening in the bottom of the frame being closed by the slide *r* it may be closed by the slide *s*², having the pipe *t*² formed on its outer end.

Having thus described my invention, I claim—

1. In a feather-renovator, the combination of a vertical shaft, having suitable gearing attached thereto, with a spiral stirrer, substantially as shown.

2. In a feather-renovator, a spiral stirrer, having hinged wings or vanes, which act as blowers to drive the feathers out into ticks or cases, substantially as described.

3. The combination of the case *a*, steam-jacket *c*, shaft *e* and its operating mechanism, spiral stirrer, having vanes *l n*, and side openings *s t*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of December, 1876.

WILLIAM WALKER.

Witnesses:

COURTLAND GILLET.

OSCAR B. WYKOFF.

J. S. WILSON.
PUMPING ENGINE.

No. 186,967

Patented Feb. 6, 1877.

Fig. 1

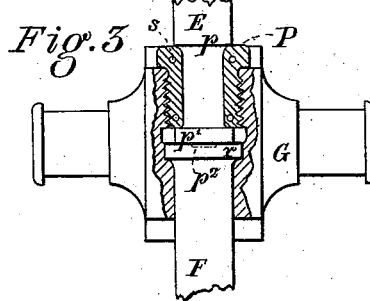
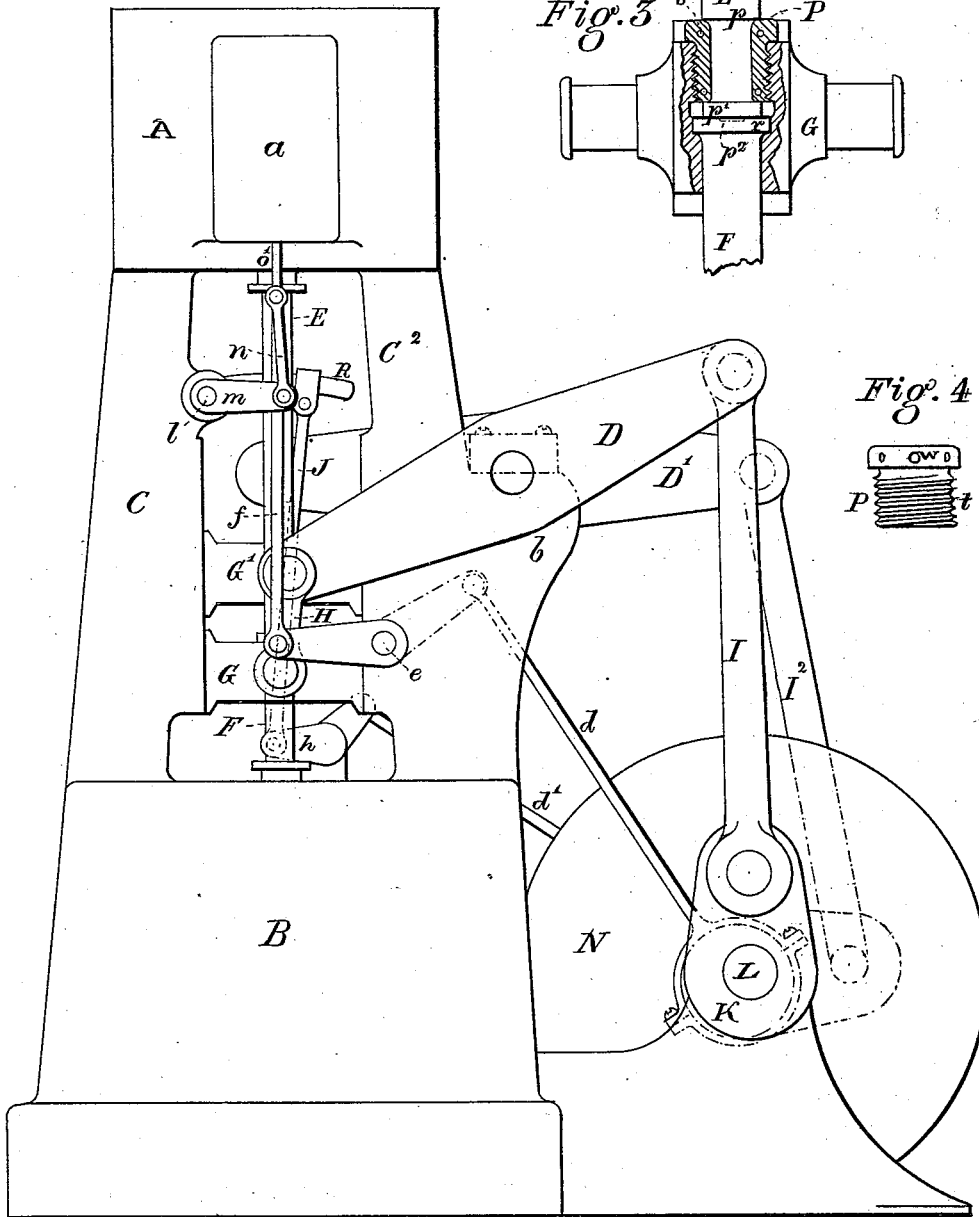
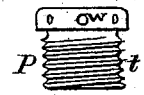


Fig. 4



Witnesses

John A. Grant
D. Louis Shivers

Inventor.

Joseph S. Wilson
per Edwin Brown
attorney