

J. C. WEST.
Feather-Renovators.

No. 157,255.

Patented Nov. 24, 1874.

Fig. 1.

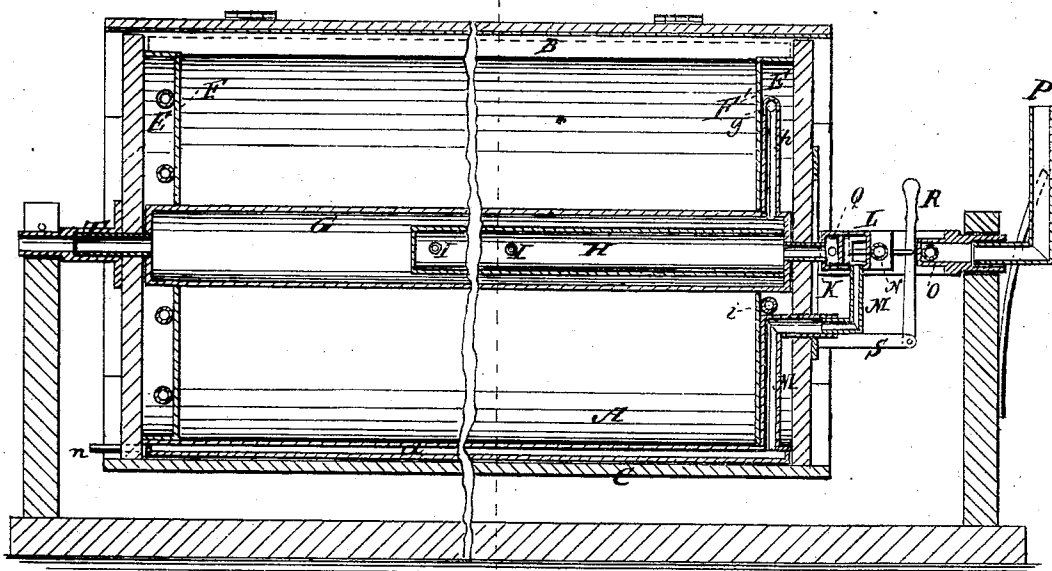


Fig. 2.

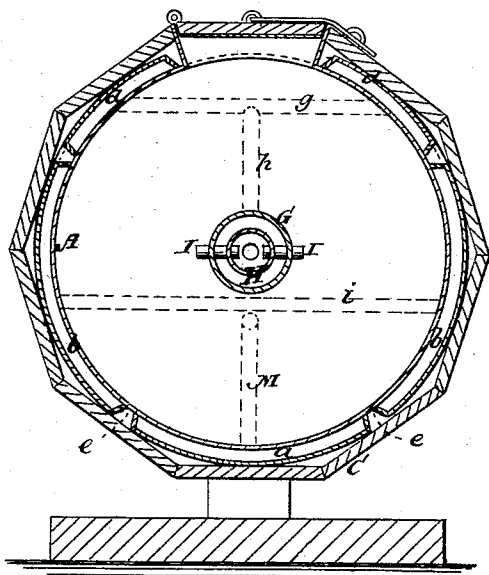
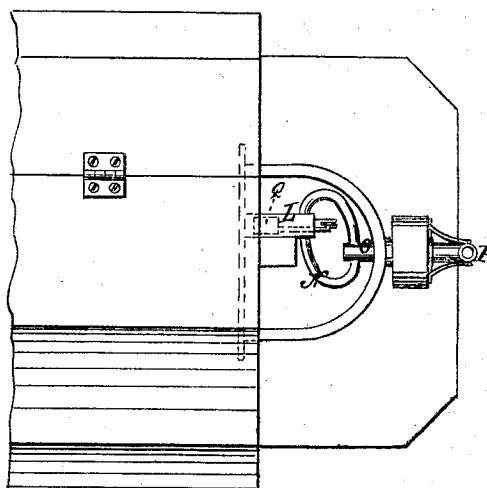


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN C. WEST, OF MORENCI, MICHIGAN.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. 157,255, dated November 24, 1874; application filed October 10, 1874.

To all whom it may concern:

Be it known that I, JOHN C. WEST, of Morenci, in the county of Lenawee and State of Michigan, have invented a new and Improved Feather-Renovator, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a longitudinal sectional elevation of a feather-renovator constructed according to my invention. Fig. 2 is a transverse section taken on the line *xx* of Fig. 1, and Fig. 3 is a plan view of a portion of the machine.

Similar letters of reference indicate corresponding parts.

A represents the drum, in which the feathers are to be placed for being steamed and dried. B is the space between the drum A and the jacket C, into which steam is to be admitted for drying off the feathers in the drum, said space being separated into five (more or less) longitudinal divisions, *a*, *b*, *b*, *d*, and *d*. E represents spaces between the heads of the jacket and the false heads F F' of the drum for the steam-pipes, which heat the false heads and connect the divisions of the jacket. G is a large tube extending through the drum longitudinally for the circulation of the steam for drying purposes. H is the pipe for admitting the steam to the drum for steaming the feathers. It extends from one of the heads F along the tube G a suitable distance, and connects with the drum by lateral pipes I, which project into it at J, so as to prevent the water that may be in the pipe H from running into the drum. Steam is admitted to this pipe G through the head F by the small pipe K connecting with the valve-chamber L, from which there is another pipe, M, leading into the space E, and along it to the lower jacket-space *a*. The steam enters chamber L from the coiled pipe N, which connects with the hollow journal O, to which steam is admitted from the boiler by the pipe P. The coil N allows the valve Q to slide forward and backward in the axis of the drum, to open and close the passages, being connected with the hand-lever R, which is pivoted to the arm S, projecting from the head of the jacket, so that the lever turns with the drum when the latter is revolved to stir the feathers about. The valve closes pipe K when moved forward

to shut the steam off from the drum, and at the same time open the passage into the drying-chambers, and when it is drawn back from pipe K to open it it closes the pipe M. T is a hollow journal for the escape of steam from the drying-chambers. The steam enters division *a* of the jacket, and passes along it to the opposite end, where suitable connections *e* are made with the two lower side divisions *b*, into which it passes, and then flows back to the end at which the steam enters, where it finds passages into the upper side division of the jacket, thus traversing the jacket so as to thoroughly heat the bottom and sides of the renovator when it is standing still, which it would not do if the jacket were not so divided, as the steam would flow at once to the upper portion of the jacket, where it would expend the principal portion of the heat, while the bottom would remain cold. As the feathers rest on the bottom they will not, in such a case, be materially heated. From the upper side chambers *d* the steam escapes through pipes *g* and *h* to the large central tube G, along which it passes to the exit T. The pipe *i* passes along the upper false head F', and connects divisions *b*, for the circulation of steam to heat the head. The other head, F, is heated by the horizontal pipes *j*, *k*, *l*, and *m*, traversing it and connecting the opposite divisions of the jacket, so as to allow the steam to circulate. The water formed by the condensation of steam in the jacket escapes at the waste-pipe *n*.

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

1. The combination, with connected bottom, side, and top steam-sections *a b d*, of the pipes M K, having a common valve, as and for the purpose specified.

2. The combination, with drum A, of the circumjacent steam-jacket having bottom section *a*, side sections *b b*, and top sections *d d*, the first connected with the second and the latter with the third, as shown and described, to cause a circulation of the steam, in the manner specified.

JOHN C. WEST.

Witnesses:

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E. B. RORICK.