

L. W. MANNING.
FEATHER-RENOVATOR.

No. 175,126.

Patented March 21, 1876.

Fig. 1.

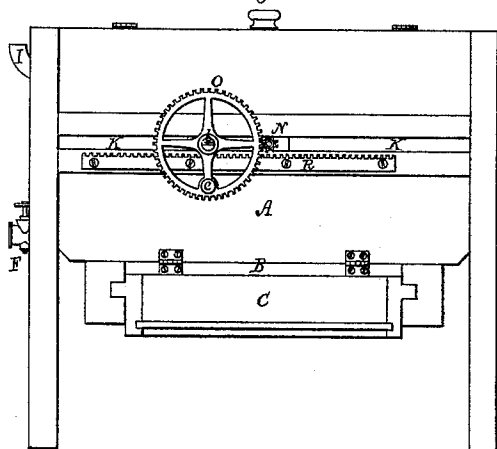


Fig. 2.

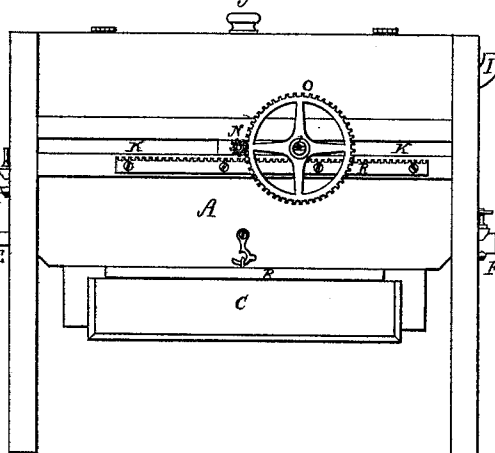


Fig. 3.

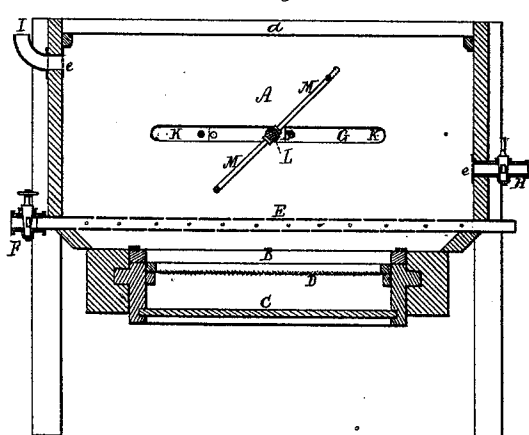


Fig. 4.

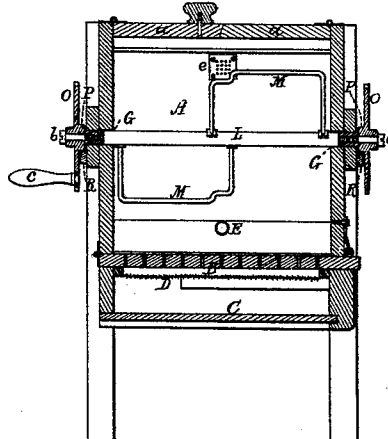
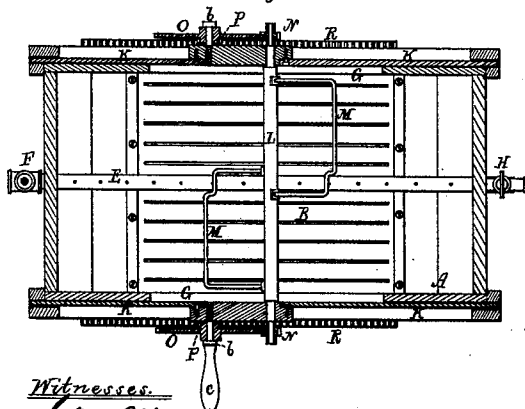


Fig. 5.



Witnesses.
S. W. Piper
L. H. Miller.

Leighton W. Manning.
by his attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE

LEIGHTON W. MANNING, OF SOMERVILLE, MASSACHUSETTS.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **175,126**, dated March 21, 1876; application filed February 21, 1876.

To all whom it may concern:

Be it known that I, LEIGHTON W. MANNING, of Somerville, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machinery for Renovating Feathers; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figures 1 and 2 are opposite side elevations, Fig. 3 a longitudinal and vertical section, Fig. 4 a transverse section, and Fig. 5 a horizontal section, of a machine embodying my invention.

The machine is, in many respects, like that for which Letters Patent of the United States No. 2,053, dated April 16, 1841, were granted to Nathaniel L. Manning.

My improvement consists in a new or improved mechanism for operating the beaters, and closing the shaft slots or openings in the sides of the drying or renovating case.

In this machine, the drying case or box shown at A, has its top composed of two doors, *a a*, hinged to the sides. In the bottom of the case is a movable grate, B, beneath which is a drawer, C, having a movable sieve, D, extending across its upper part, all being arranged as represented. There also extends through the box longitudinally, and just over the grate, a pipe, E, terminating at one end in a stop-cock, F, the said pipe where within the case being foraminous, or perforated with numerous fine holes for discharge of steam into the case. In each of the larger sides of the case is a long horizontal slot, G. Furthermore, there is to the case at one end an induct or pipe, H, for admission of hot air or carbonic-acid gas, or the gases from burning fuel, there being also to the case at the upper part of the other end an educt or pipe, I, the opening of each of such pipes H I into the case being provided with a foraminous cover or plate, *e*. To each of the side slots G there is a long slide or cover, K, which slides freely through the frame of the case, each of such slides being considerably longer than its slot. There is extended through the two slides a transverse shaft, L, provided with two beaters, M M, the shaft turning freely in the slides, and having fixed upon it near its ends two pinions or gears, N N, which engage with two larger gears, O O, that revolve freely on jour-

nals *b b*, projecting from the slides. There is fixed to the inner side of each gear O a pinion, P, which engages with one of two long-toothed racks, R R, fixed to and arranged on the opposite sides of the case in manner as represented. A crank, *c*, extends from one of the gears O. On taking hold of the said crank and revolving the gear in one direction, both gears O O, the shaft L, and beaters M M will be simultaneously revolved. The shaft and the slides K K will also be moved in a direction toward one end of the case. On revolving the crank the opposite way, opposite effects will be produced—that is to say, the shaft and beaters will be revolved in a direction opposite to what they were previously revolved, and such shaft and the slides will be moved in a direction toward the other end of the case, the slides serving to keep the slots closed while the shaft may be in movement, so as to revolve the beaters and cause them to travel from one end of the box or case to the other.

I do not claim, in a feather-renovating machine, the shaft provided with beaters and arranged to travel in slots in the case, and provided with belts, pulleys, gears, and a traversing-carriage, as represented in the aforesaid patent. Nor do I claim for keeping the slots closed, two bands working around vertical wheels. My mechanism for effecting rotation and traveling of the beater-shaft, and closing the slots in which said shaft moves, is much simpler and very much less liable to derangement by contraction and expansion, and it completely avoids the use of bands or belts. Furthermore, I am able to use steam in the case, and to discharge it with the hot air or gases by an educt, and therefore can renovate feathers to better advantage.

I claim—

In the described feather-renovator, the combination of the stationary racks R R, two spur-wheels, O O, four pinions; N N P P, the beater-shaft L, and the two slides K K, applied to the drying-case A, and the slots G G of the sides thereof, and arranged in manner and to operate substantially as specified.

LEIGHTON W. MANNING.

Witnesses:

R. H. EDDY,
J. R. SNOW.