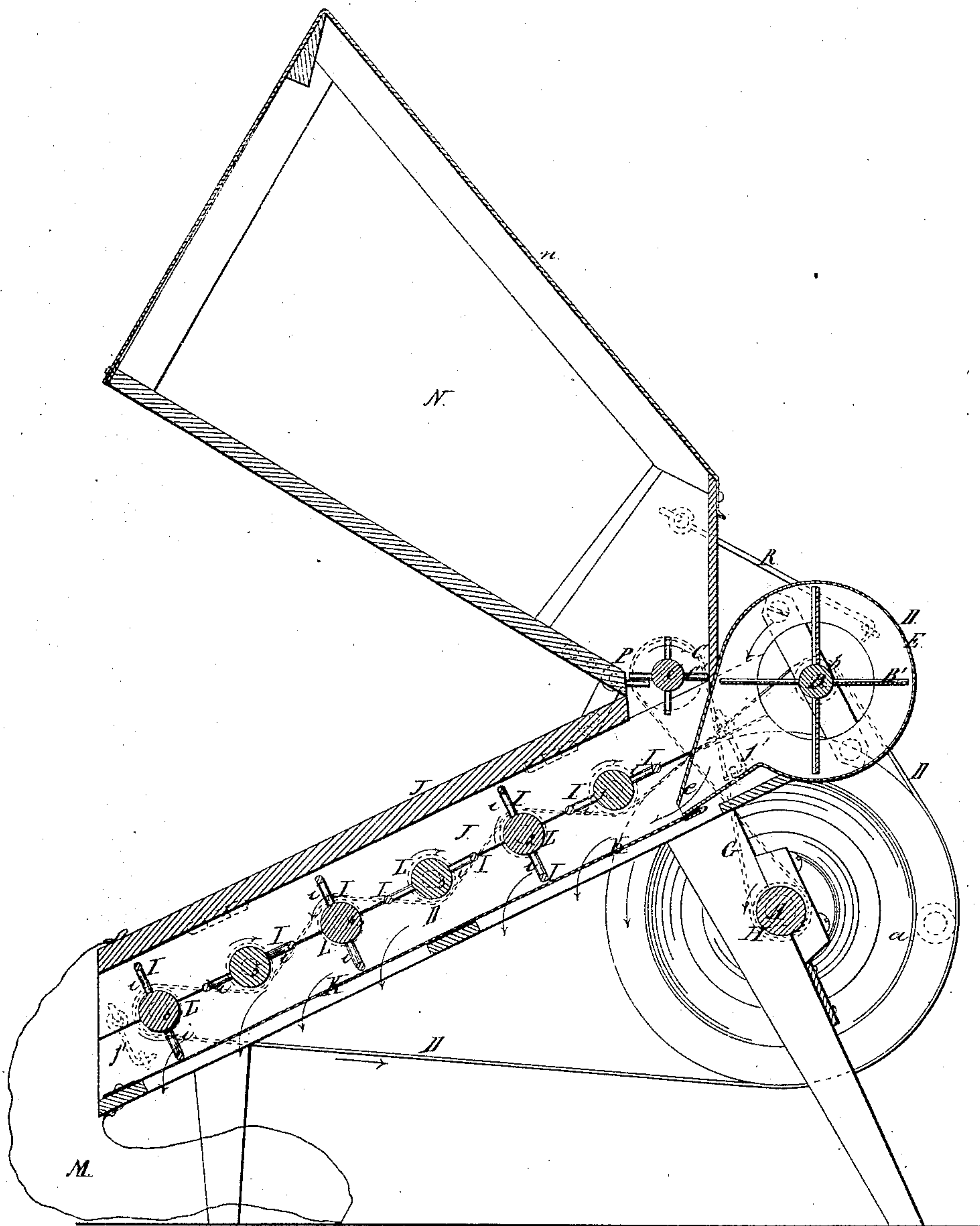


A. B. MOREY & W. SCARLETT.
MACHINE FOR DRESSING FEATHERS.

No. 35,773.

Patented July 1, 1862.



Witnesses.

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UNITED STATES PATENT OFFICE.

AMOS B. MOREY AND WILLIAM SCARLETT, OF AURORA, ILLINOIS.

IMPROVED MACHINE FOR DRESSING FEATHERS.

Specification forming part of Letters Patent No. 35,773, dated July 1, 1862.

To all whom it may concern:

Be it known that we, AMOS B. MOREY and WILLIAM SCARLETT, both of Aurora, in the county of Kane, in the State of Illinois, have invented a certain new and useful Improvement in Machines for Renovating Feathers; and we do hereby declare that the following is a full and exact description of the construction and operation of the same.

The accompanying drawing forms a part of this specification, and represents a longitudinal vertical section through the entire machine.

Our machine is intended to act on the feathers by mechanical agency alone. We have tested its results and found the feathers very fully, and it appeared permanently enlivened, without any injury to the material. The quantity of dust and foreign matter in various forms separated from the feathers during their passage through our machine is in some instances very great, and the elasticity of the feathers is always restored.

Our invention consists in means whereby the feathers are subjected to violent agitation, in suitable quantity, over a strainer under the influence of an active current of air passing downward through the strainer or perforated surface, the operation being made continuous by the gradual feeding in and withdrawal of the material.

Our invention also consists in certain means for transferring the feathers from a bed and supplying them to the working part of the machine.

To enable others who are familiar with the inventions and practices most nearly allied to this to make and use our invention, we will proceed to describe it by the aid of the drawing and of the letters of reference marked thereon.

A, B, C, 1, 2, 3, 4, 5, and 6 are horizontal axes or shafts mounted in a suitable framing, as represented; so that all are free to revolve, the bearings of each being guarded and lubricated in the ordinary manner. A is turned by a crank by hand, or by any convenient power, (not represented,) and carries a large pulley, *a*. B is provided with wings B' and with a small pulley, *b*, which latter receives a belt, D, from the pulley *a*. B B' is inclosed in a case, E, open at the center of each end, and also at the point *e*, as represented, these parts forming a

"blower" or revolving fan of a common construction. C is armed with pegs or teeth *c'*, which revolve between fixed teeth F on the fixed part of the machine, and carries a pulley, *c*, which receives a cross-belt, G, from a small pulley, H, mounted on shaft A on the farther side of the machine. The shafts 1 2, &c., are each provided with stout wings or beaters of wire, the major portion, I, of each wire lying parallel to the shaft, but each end being bent toward the shaft and firmly driven therein, as indicated by *i*. The shafts 1 2 3, &c., are arranged in an inclined series, as represented, and inclosed on the top and sides in a casing, J, which may be opened by releasing the hooks shown in dotted lines by *j*. On the lower side of this case J, and beneath the beaters, is a continuous wire-cloth, K, so arranged as to form the lower side of a rectangular inclined spout composed of the top and sides J and itself, which spout incloses the beaters I. The ends of the shafts 1 2, &c., of the beaters I extend outward through the side of the case J, and are provided with pulleys L, which receive motion equally with *b* from the belt D. The directions of the several motions are indicated by arrows, and it will be readily seen that all the parts described are operated by the rotation of A, which thus acts as a driving-shaft, while B and its connections act as a fan-blower. C and its teeth act as a feeding device, and 1 2 3, &c., act as a series of very efficient agitators, arranged so that 1, 3, and 5 act in opposite direction from 2, 4, and 6.

The feathers are fed down through C C', and pass through the agitators I under the influence of a strong current of air induced by the action of the fan B B', and which flows out through the interstices in the wire-cloth sieve or strainer K, carrying all the foreign material which it can seize in its passage and depositing it upon the floor beneath the machine, or in any suitable receptacle provided for the purpose. The feathers, after a thorough cleansing and enlivening by this process, pass out at the lower end of the inclined spout into a bag, M, which may be the same from which they were poured into the hopper, unless there exists some occasion for changing the feathers into a different sack or bed, either temporarily or permanently. A sufficient current of air

from the machine flows into the bag M and escapes through its interstices to aid the proper movements of the feathers.

The wires I i and the pegs or teeth C' do not touch any portion of the fixed work or go so near as to damage any feather which may be between the parts.

We will now describe the large hopper which is hinged to the machine and forms a feature of our invention. It is of sufficient size to contain an entire bed, and is composed of a light framing of wood covered with cloth, N. Its top n may be partially or entirely removed to allow the emptying of a sack therein, and the entire structure is hinged to the other parts of the machine at the point P, so that it may be lowered until its under surface rests upon the top of J, and again raised to its position for use. It is sustained in its elevated condition by the hooks R, which take in staples in the sides of the fan-case E.

All the feather-renovating machines in which heat is employed are liable to injure the feathers by an excess of temperature, and all in which steam or gases are employed to produce an effect upon the feathers, although producing a very enlivening effect upon the structure of the feather at first, have been found in practice to produce a brittle condition in the feather after a short period. We have endeavored in this machine to restore the feathers by means analogous to those by which they are presumed to become deadened—to wit, mechanical action and a transference of foreign matter. We believed that long-continued

mechanical compression and the addition of perspiration and the like having deadened the feathers, a proper amount of appropriate beating up and the removal of the foreign matter would restore the fibers to nearly or quite their original condition. We have found by trial that our hopes may be realized, and believe that we have developed in the machine described an arrangement of means for accomplishing these two desiderata very effectually and rapidly, and with less labor than any machine before known.

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

1. The within-described combination of a continuous feeder to supply the feathers from a suitable hopper, a fan or equivalent blower, a series of agitators acting within an inclosed case or spout, and a perforated bottom or screen, for the purpose herein set forth.

2. The employment on a feather-renovating machine of the movable hopper N, hinged at P, as represented, and adapted to be let down and to rest upon the surface J or its equivalent to facilitate the filling of the same, and to be sustained in the erect or elevated position to feed the feathers to the machine, as herein set forth.

AMOS B. MOREY.
WILLIAM SCARLETT.

Witnesses:

W. T. ELLIOTT,
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