

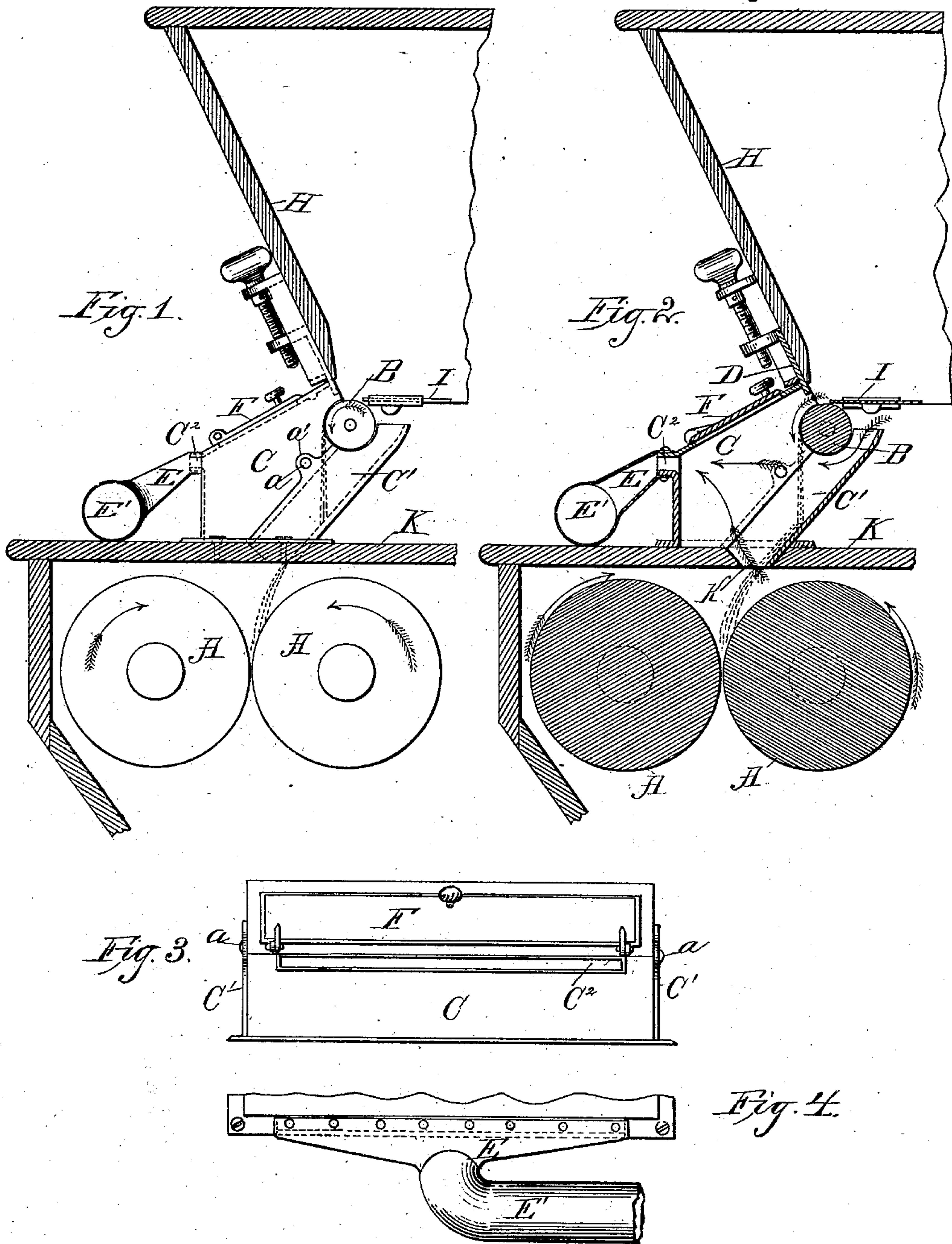
(No Model.)

J. LIVINGSTON.

ROLLER MILL.

No. 275,675.

Patented Apr. 10, 1883.



Witnesses:

E. G. Amus
E. G. Bohm.

Inventor:

John Livingston
By Stret & Underwood

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN LIVINGSTON, OF DAYTON, OHIO, ASSIGNOR TO STOUT, MILLS &
TEMPLE, OF SAME PLACE.

ROLLER-MILL.

SPECIFICATION forming part of Letters Patent No. 275,675, dated April 10, 1883.

Application filed August 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN LIVINGSTON, of Dayton, in the county of Montgomery, and in the State of Ohio, have invented certain new and useful Improvements in Roller-Mills for the Reduction of Grain and Middlings; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to what are known as "roller-mills;" and it consists in a peculiar construction of feed-box, and the combination therewith of a suction attachment for carrying off the branny matter and fluff before the grain enters between the grinding-rolls, as will be fully described hereinafter, and pointed out in the claims.

In the drawings, Figure 1 is an elevation of my device in position between the hoppers of a roller-mill, only a portion of the latter being shown. Fig. 2 is a vertical section of the same. Fig. 3 is a front view of the feed-box with the suction-pipe removed, and Fig. 4 is a portion of the same with the suction-pipe in place.

A A are the grinding-rolls, and K is the hopper that incloses them.

B is the feed-roll, suspended in the mouth of the feed-box just under the mouth of the upper hopper, H. The flow of grain from the hopper H is regulated by the usual slides, D and I.

C is the feed-box, through which the grain must pass on its way from the upper hopper, H, to the lower hopper, K. It is securely fastened to the lower hopper, and, for convenience, I make it in two parts—that is, I provide it with a trough, C', the flanges of which are secured to the sides of the front or main portion by a tap screw, a, passed through ears a' in the flanges of the trough and through the sides of the main portions of the feed-box, this connection admitting of the removal of the trough to give access to the feed-box. The upper portions of both the box C and its trough are concaved out, so as to admit the feed-roll B between them. The top of the trough C' is left open and falls short of the bottom of hopper H to permit air to enter the feed-box behind the feed-roll.

k is a countersunk opening in the top of the hopper K to admit the lower end of the trough C' and allow the grain to fall to the feed-rolls.

I provide the feed-box C with a flanged

opening, C², in its front, and over this opening I secure the funnel E of a suction-pipe, E', and I connect this pipe E' with a blower, or any other apparatus conveniently situated. To give access to the feed-box from above, I provide it with a door, F. Where several mills are arranged in line and run together, all their feed-boxes may be connected with a single main pipe, and therefore one blower may serve to carry off the dust from all the mills.

The operation of my device is very simple, and is as follows: As the grain falls from the hopper H it is carried down into the feed-box C by the feed-roll B, and on its way to the hopper K it is subjected to the action of a current of air, which enters through the top of the trough C', and, passing through it, is drawn out through pipe E' by the blower, (which latter I have not deemed it necessary to show,) and this current, uniting with another from the interior of hopper K, carries everything that is lighter than the grain off through said pipe E' to the dust-bin of the building in which the mill is situated, allowing the grain only to reach the rolls. The current from the interior of hopper K also carries off the heat that is generated by the action of the rolls, and thus prevents the injury to the product that is liable to result from overheating.

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

1. In combination with the grinding-rolls A A, upper hopper, H, of a roller-mill, and the lower hopper, K, inclosing the grinding-rolls, the feed-box C, having detachable trough C', open at top and communicating at bottom with opening k in hopper K, feed-roll B, funnel E, and suction-pipe E', all substantially as set forth.

2. The feed-box C, having door F, detachable trough C', and flanged opening C², in combination with funnel E, suction-pipe E', hoppers H K, slides D I, feed-roll B, and grinding-rolls A A, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, on this 31st day of July, 1882, in the presence of two witnesses.

JOHN LIVINGSTON.

Witnesses:

ATLAS L. STOUT,
S. M. SULLIVAN.