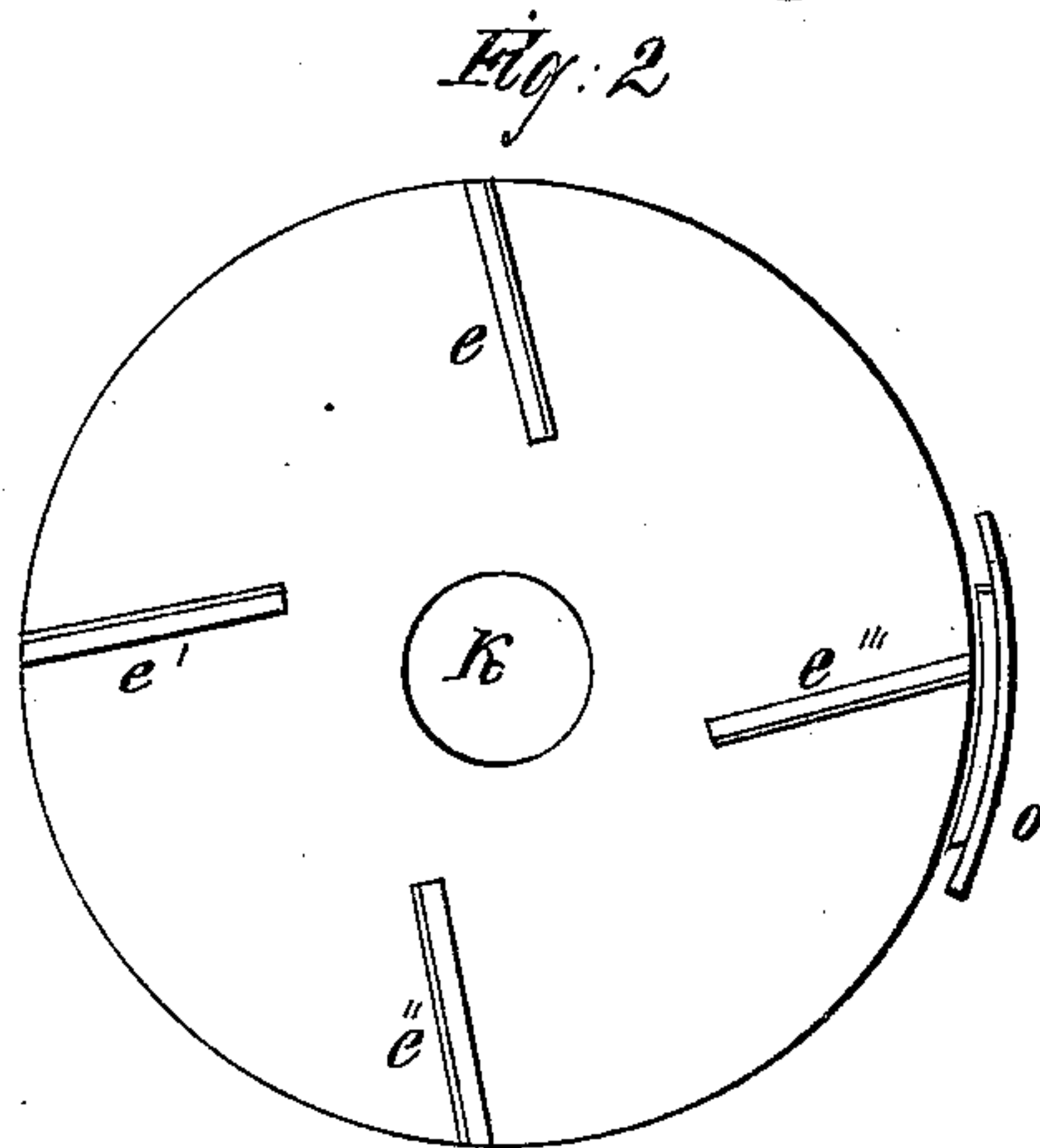
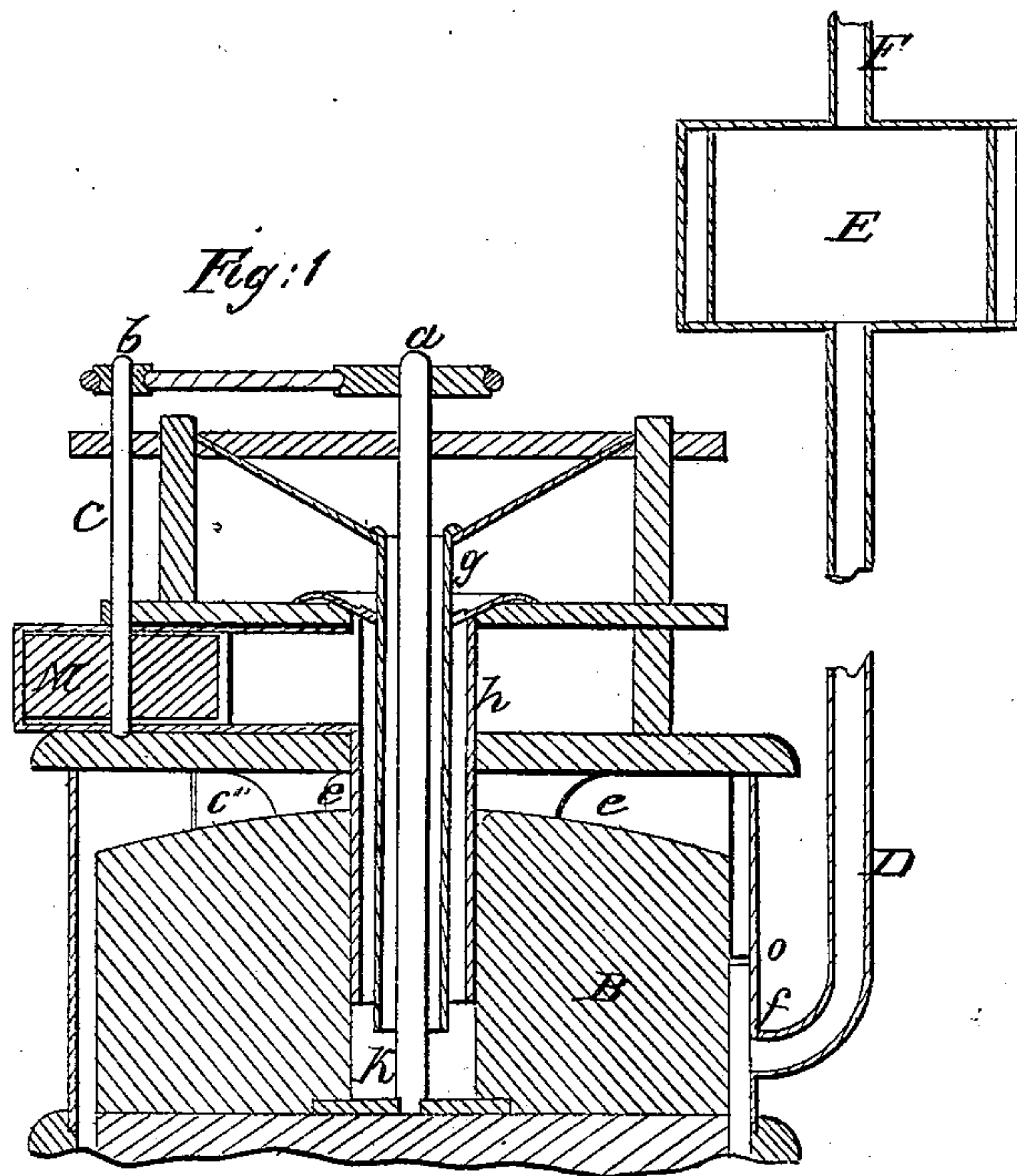


R. SYMES.
Ventilating Millstones.

No. 79,517.

Patented June 30, 1868.



Witnesses;
Sam'l. S. Boyd
Henry J. Carter

Inventors;
Robert Symes
per
Boyd & Co. Attys

United States Patent Office.

ROBERT SYMES, OF ST. CHARLES, MISSOURI.

Letters Patent No. 79,517, dated June 30, 1868.

IMPROVED DEVICE FOR VENTILATING MILLSTONES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ROBERT SYMES, of the city and county of St. Charles, State of Missouri, have invented a new and useful Improved Method of Ventilating Millstones, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 represents a vertical section of my invention.

Figure 2 represents a back view of the runner-stone.

Similar letters indicate like parts.

My mill, hopper, hopper-frame, &c., are constructed in the ordinary manner. The spindle is extended to the point *a*, fig. 1, and has at its extremity a pulley, which, by means of a belt, is connected with a smaller pulley at *b*, on the extremity of the upright driving-shaft C, the pulley at *b* being so much smaller than that at *a*, as to revolve about seven times as fast. The "runner" B, figs. 1 and 2, has upon its back wings *e e' e'' e'''*, fig. 2, (*e e'* and part of *e'''* being shown in fig. 1,) which are curved at the top in the direction of its revolution, and made so high above the surface of the "runner" as to fit closely against the cover of the "meal-hoop." At *f*, fig. 1, a pipe, D, opening into the "meal-hoop," leads to a condenser, E, which is enclosed in a jacket filled with cold water. The water may be made to flow continually through this jacket, thereby quickening the condensation. A pipe, F, connects the condenser with the outer air, and its extremity may be covered in any manner most suitable to increase the draught, and exclude rain and snow.

At the mouth of the pipe D, on the inside of the "meal-hoop," a metal shield, *o*, figs. 1 and 2, is placed at an angle of about twenty degrees from the perpendicular, leaving space enough only between it and the "runner" to allow the latter to revolve freely. The wheat-tube *g*, fig. 1, extends below the cold-blast tube *h*, fig. 1, into the eye *k*, figs. 1 and 2, of the "runner."

The mill being in motion, the natural suction of the "runner" is assisted by the blower M, fig. 1, worked by the shaft C, sending a blast of cold air down the pipe *h*, through the "dress" of the "runner," and out into the "meal-hoop," till, striking against the shield *o*, it is driven up the pipe D into the condenser E.

To prevent the air from passing up the cold-blast tube, a covering is made to fit closely over the top of same, while the natural suction of the stone through the eye prevents the air from passing up the wheat-tube. This cold blast assists the falling of the wheat from the hopper; drives the meal and dust through the "dress" of the "runner," preventing it from clogging, and also lessens the frequency of renewing the "dress." It also takes with it, up the pipe D, the hot air and dust, the latter being deposited in the condenser, from which it is removed through two hand-holes in the same.

The advantages of my invention consist in removing the fine particles of flour from the "dress," causing the stone to work on the grain faster, and preserving the flour from any friction more than necessary to its manufacture. The flour being cooled, is sooner ready for packing, and not so liable to become damp and sour by standing.

I do not claim to be the original and first inventor of a method of ventilating millstones; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The blower M, cold-blast tube *h*, fans *e e' e'' e'''*, tube D, and condenser E, all arranged substantially as shown and specified.

ROBERT SYMES.

Witnesses:

FREDRICK MELKERSMAN,
DANIEL CURRIE.