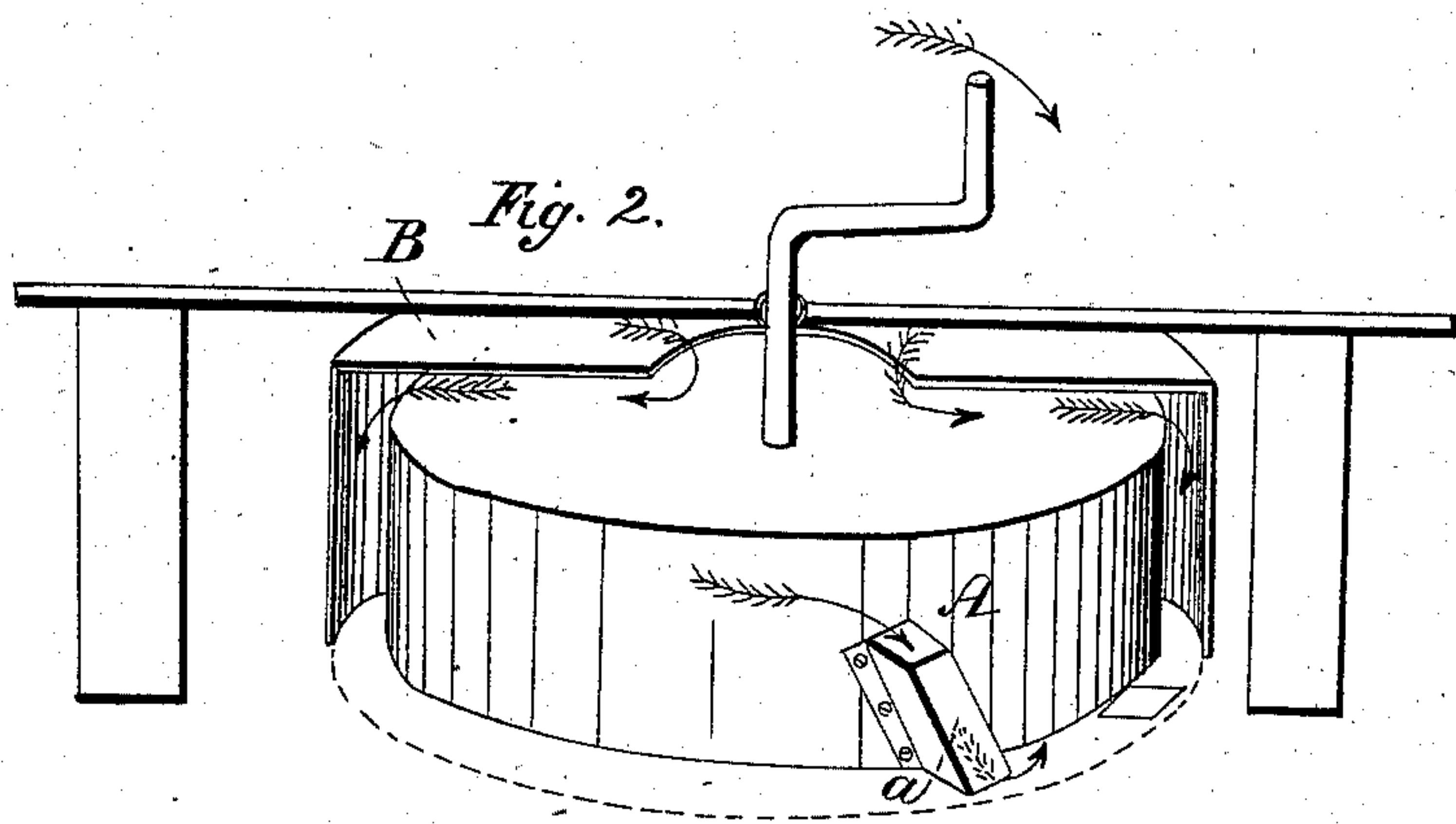
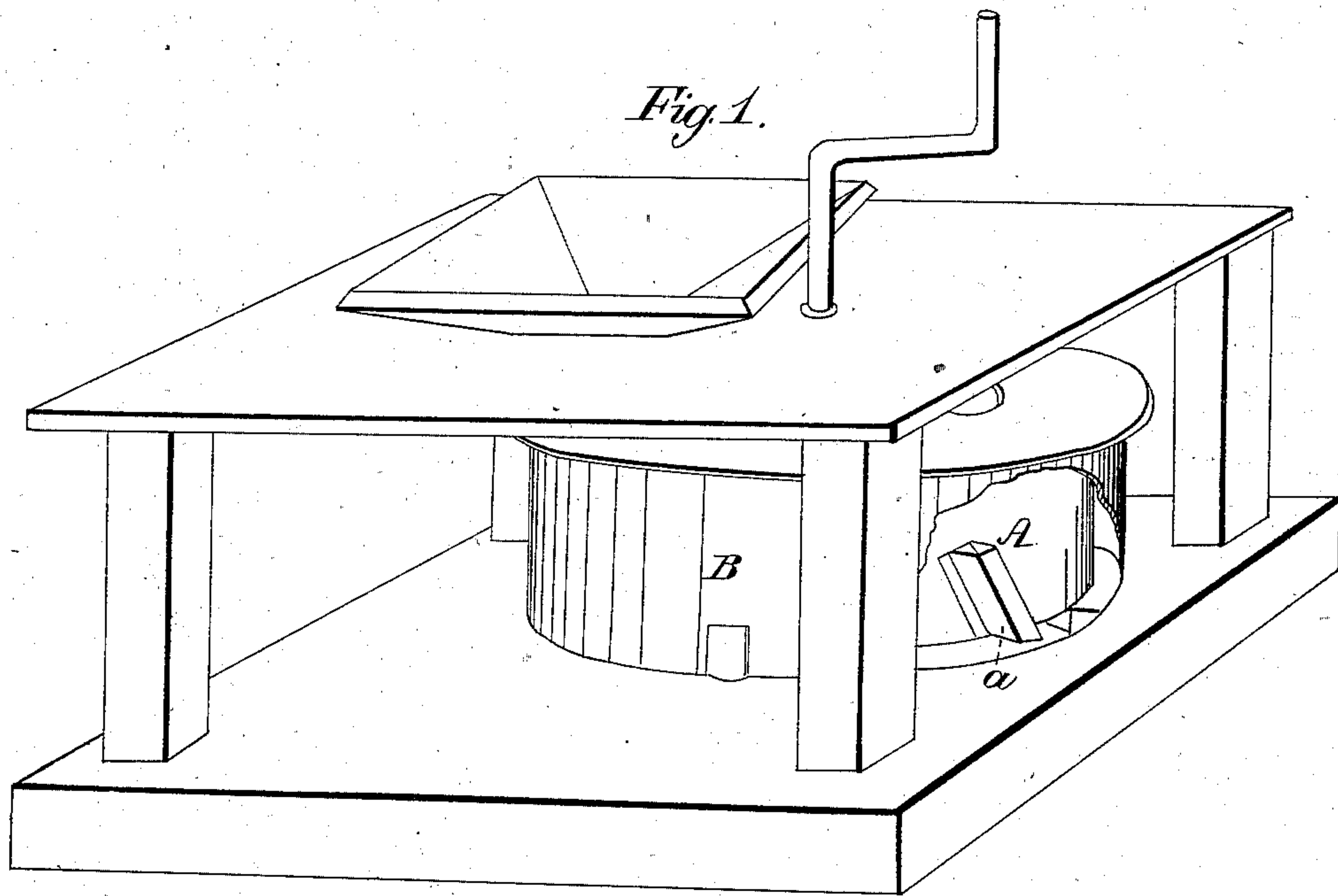


PARK & STAATS.

Drying Flour.

No. 32,433.

Patented May 28, 1861.



Witnesses;
Leonard Bunn
Sarah Bunn

Inventors;
Staats N. Park
John A. Staats

UNITED STATES PATENT OFFICE.

S. N. PARK AND J. A. STAATS, OF SOMERVILLE, NEW JERSEY.

MACHINE FOR COOLING AND DRYING FLOUR.

Specification of Letters Patent No. 32,433, dated May 28, 1861.

To all whom it may concern:

Be it known that we, STAATS N. PARK and JOHN A. STAATS, of Somerville, New Jersey, have invented a new and Improved Method or Process of Cooling and Drying Flour; and we do hereby declare that the following is a full, clear, and exact description thereof and of its construction and mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in introducing a continued current of cool, fresh air around the upper stone or receiver of grist mills, and in so arranging the parts that the motion or revolutions of the receiver shall act as a blower to keep up a continued supply of such air, by means of which the flour is kept continually cool, and is dried as soon as ground, or while being ground, and thus all injury from being heated prevented.

Figure 1 is a view of the upper stone and its case, a part of the latter being removed or broken away to show the arrangement for causing the introduction and constant supply of the air. Fig. 2 is a sectional view of Fig. 1, but showing the runner.

To the sides of the runner or upper mill stone A, we attach one or more hollow tubes *a, a*, which may be wide enough to mostly fill the space between the stone A, and the case B. Such projections, as the stone revolves, have the effect to create a partial vacuum between the stone A, and the case B, in which it revolves into which air will rush through the opening in the top of the case B, and will pass or circulate around and down the sides of the upper stone or runner A. And the more rapid the revolution of the runner, the greater will be the quantity of air which will be constantly drawn in to act upon the stones and the flour. Such hollow tubes or fans *a, a*, are so inclined in respect to the sides of the stone A, that as the stone revolves a current of air will be continually forced or drawn from the top down toward the bottom of the stone A, and directly in contact with the flour, as it passes out from between the upper and lower stones.

A constant current of cool, fresh air is thus continually brought into immediate

contact with, and acts upon the flour, as it is discharged from between the stones, and before it passes through the conductor *c*, to the bolt. The effect of this constant supply of fresh, cool air is that the flour is cooled and dried when it is first ground, and is the most spread, and before it is gathered in much quantity, and therefore all danger of heating and sweating avoided. The introduction of this continued supply of cool, fresh air through and around the runner A, has also the further effect to keep the runner itself and to a great degree the lower stone, cool, so that the cause of the heating of the flour is to a very great extent removed, and its injurious effects prevented.

In the drawings the arrow near the crank shows the direction in which the runner A, revolves, and the other arrows show the passage of the current of air drawn in. As will be at once apparent the runner A, by the application of the projecting fans or tubes *a, a*, is made to perform the additional office of a blower, and the air supplied by it is caused to act with its greatest effect upon the flour when first ground, and when best to be acted upon. The arrangement of the tubes or fans *a, a*, and the current of air produced by them has also the effect to keep the space between the runner and case B entirely or mostly clear of flour, so that it does not stop or become packed there, and thereby become heated and sour and moldy, as is ordinarily the case.

We are aware that projecting plates or blocks have been attached to the sides of the runner stone of flouring mills, sometimes for the special purpose of acting as scrapers to clear the space between the runner and its case and for other uses but hollow tubes have never heretofore been used in connection with such runners, to act as fans and for the purposes set forth. The use of hollow tubes however materially assists in producing the result, inasmuch as the current of air through them toward the lower part of the runner causes fresh air continually to rush in, thus making it more effective both to cool the flour and prevent it collecting within the case. If plates instead of tubes are used, there is no downward current of the air continually being produced. The giving the parts *a, a*, the form of tubes also renders them less

likely to become clogged; and their effective power is also increased by giving them an inclined position.

We do not claim generally attaching projecting pieces to the sides of the runners of
5 flouring mills, but

What we claim as our invention and desire to secure by Letters Patent is—

The use and application of the tubular

fans *a, a*, in combination with or attached 10
to the runner of flouring mills, substantially
as and for the purposes set forth.

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Witnesses:

LEONARD BUNN.

SARAH BUNN.