

N. A. PATTERSON & W. C. HALE.
Grinding Mill.

No. 231,354.

Patented Aug. 17, 1880.

Fig 1,

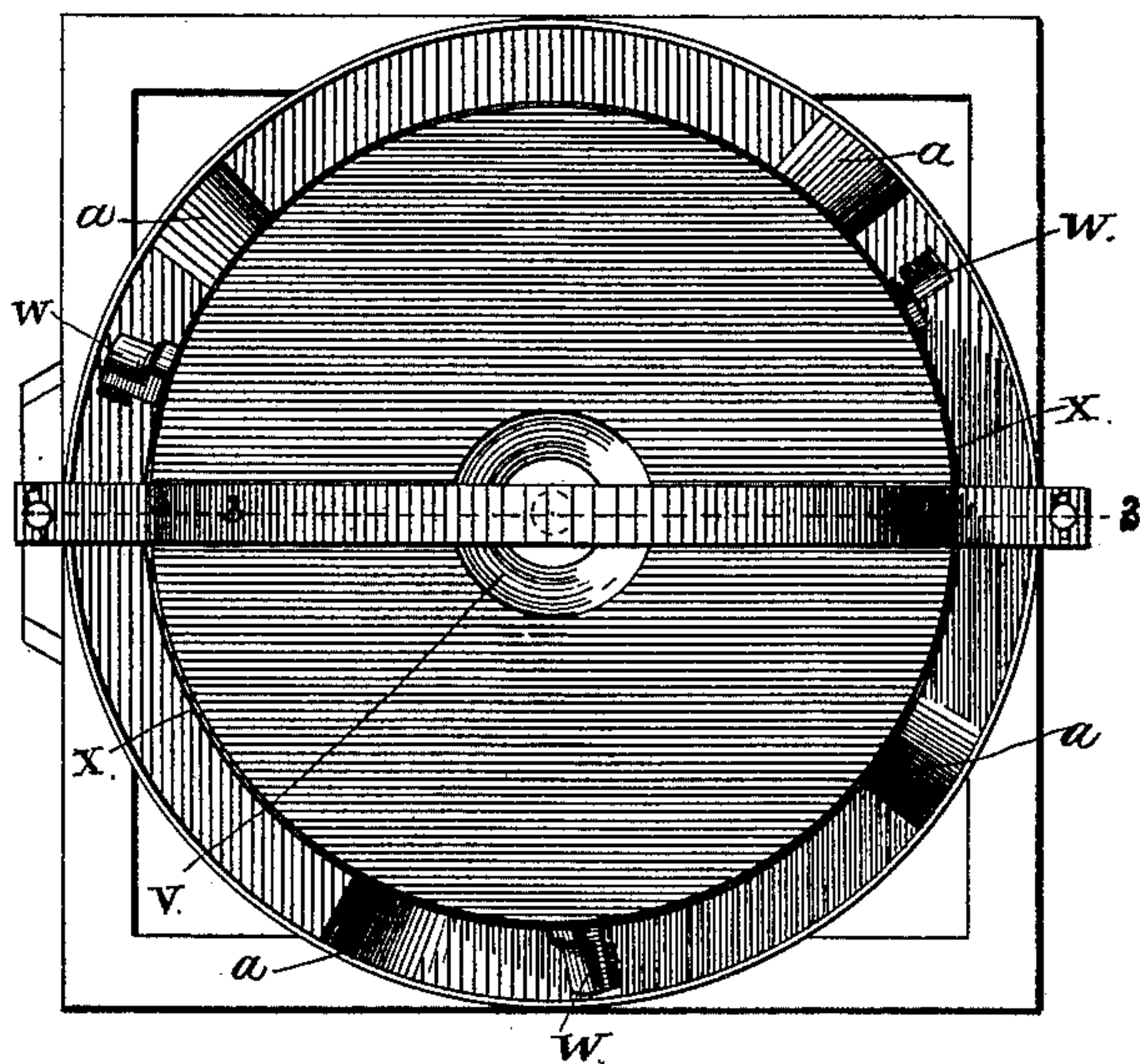
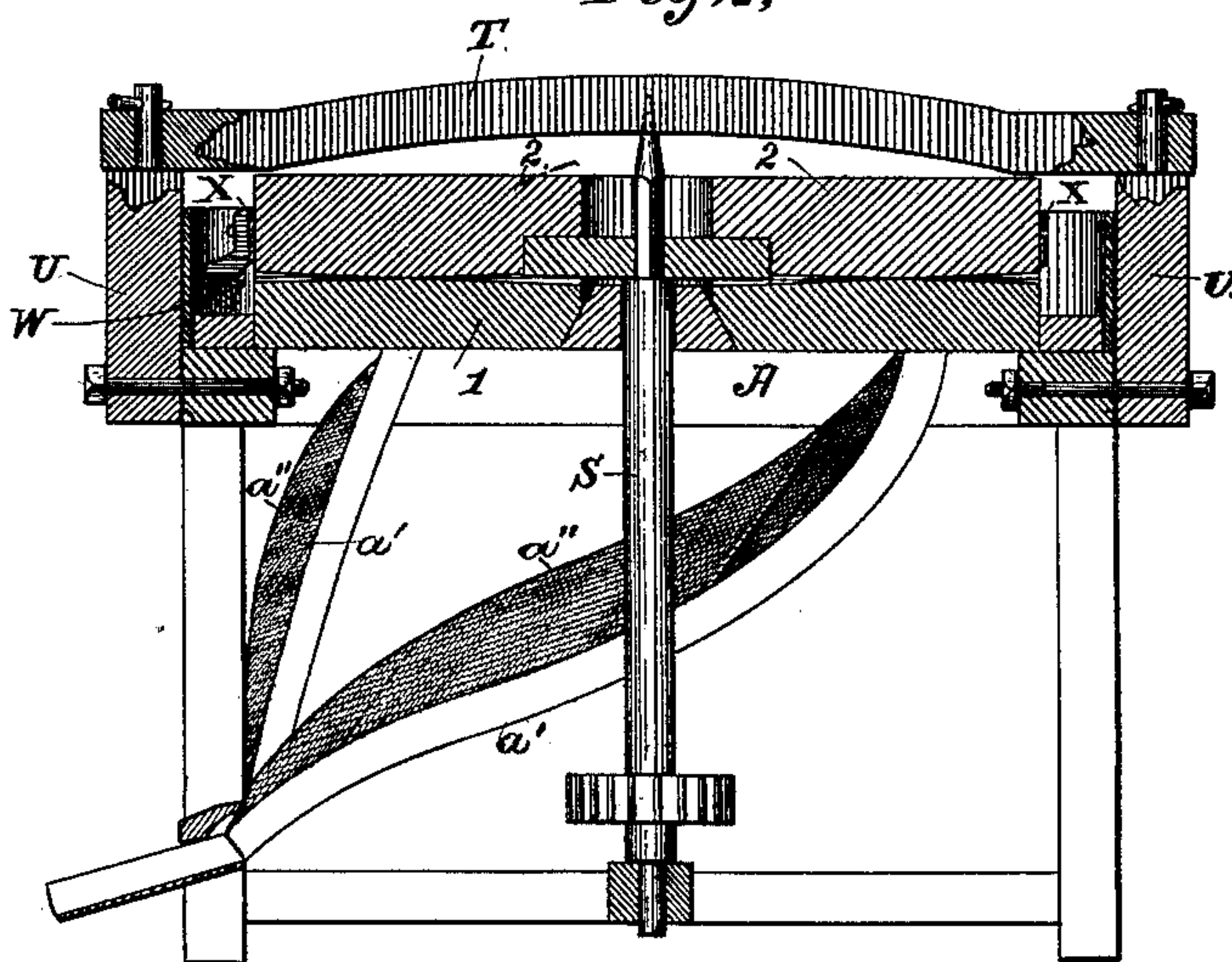


Fig 2,



Attest:
Geo. T. Smallwood Jr.
Walter Allen

Inventors:
Newton A. Patterson
William C. Hale
By *Knight Bros* Attys.

UNITED STATES PATENT OFFICE.

NEWTON A. PATTERSON AND WILLIAM C. HALE, OF JOHNSON CITY, AS-
SIGNORS OF ONE-HALF OF THEIR RIGHT TO GEORGE F. GAMMON, JR.,
OF AUSTIN SPRINGS, AND JOHN WHITE, OF JOHNSON CITY, TENNESSEE.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 231,354, dated August 17, 1880.

Application filed November 20, 1879.

To all whom it may concern:

Be it known that we, NEWTON A. PATTERSON and WILLIAM C. HALE, both of Johnson City, in the county of Washington and State of Tennessee, have invented new and useful Improvements in Grinding-Mills, of which the following is a specification.

The invention relates to a brush and evaporation and cooling tube attachment for grinding-mills.

Our improvement consists in providing the running burr with peripheral brushes which sweep the chop to the exits of the channel, in combination with chutes having a covering of fibrous material to permit the heated air to escape while the flour is passing from the stones, as hereinafter set forth.

In order that the invention may be more fully understood, we will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a top view of the improved grinding-mill, showing the varying angle of the brushes. Fig. 2 is a vertical section on the line 3 3, Fig. 1.

A may represent the supporting-plate, on which rests the bed-stone 1, and having exits *a a a a* connecting with transmitting tubes or channels *a' a' a' a'* for the pulverized material.

2 is the upper millstone or runner, secured to the vertical shaft S, journaled in the lower stone, 1, and the top T of the casing, which rests on the curb U. A hopper, V, is located over the eye of the upper millstone.

The upper burr is furnished with brushes W, of any suitable material, and rigidly secured to the band X. These brushes are applied in such a way as to sweep the channel at

different angles, so as not to create a too strong current of air.

The exits *a* are provided with chutes *a' a' a' a'* leading to a suitable receptacle beneath. These chutes are constructed of suitable sheet metal or wood in their bottoms and sides, but have their upper sections covered with a fine wire-gauze or suitable textile fabric, *a''*, so as to allow an easy escape of the heat and combustible material separated from the flour by the currents of atmospheric air generated by the brushes.

It is found that with a level covering to the spouts or chutes the air-currents, though broken and small, created by the brushes cause the flour to "fag out" down where the miller's hand is inserted to test the grinding, and, although almost imperceptible, yet in a few days the surroundings are whitened and coated with flour. We have arranged the covering in an arched form, which obviates this difficulty fully and greatly enlarges the surface of the covering, so as to well and fully allow the air and combustible material to escape, avoiding all air displacement at the lower exit.

Having thus described our invention, the following is what we claim as new therein and desire to secure by Letters Patent:

The running burr provided with peripheral brushes which sweep the chop to the exits of the channel, in combination with the chutes having a covering of fibrous material to permit the heated air to escape while the flour is passing from the stones, as set forth.

N. A. PATTERSON.

WILLIAM C. HALE.

Witnesses:

G. F. GAMMON, Jr.,

J. C. BOWMAN.