

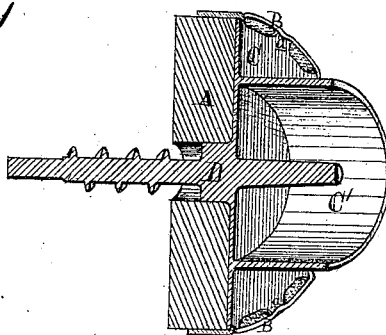
J. A. FORSMAN.

Flour Mill.

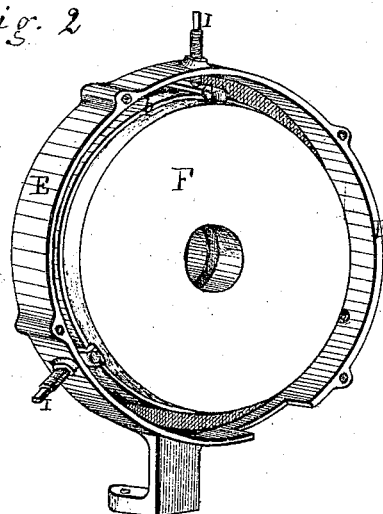
No. 107,353.

Patented Sept. 13, 1870.

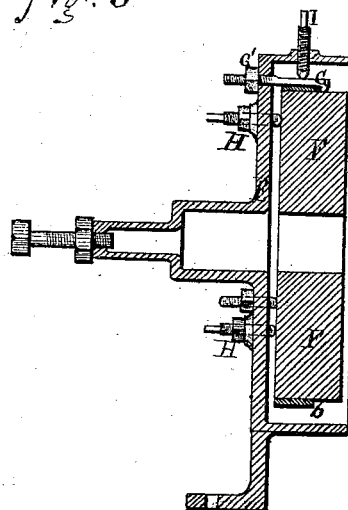
*fig. 1*



*fig. 2*



*fig. 3*



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOSEPH A. FORSMAN, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **107,353**, dated September 13, 1870.

### *To all whom it may concern:*

Be it known that I, JOSEPH A. FORSMAN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Grinding-Mills; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification, of which—

Figure 1 is a sectional perspective of the runner-stone from the rear side, showing the improved method of securing the back plate and spindle thereto. Fig. 2 is a perspective of the face side of the stationary stone, showing my improved method of securing the same in the case. Fig. 3 is an axial section of the last figure.

Like letters indicate like parts in each figure.

The nature of this invention relates to an improvement in the construction of grinding-mills; and it consists, first, in an improved method of securing the back plate, spindle, and driving-pulley to the runner-stone, whereby the same are more effectually secured in place and the bursting of the stone prevented from the causes inherent in such mills as heretofore constructed; second, in an improved method of securing the stationary stone in the curb or case by the interposition of screw-clamps between the adjusting-screws in the curb and hoop of the stone, the hook-points of said clamps engaging with the hoop or the stone, with their screw ends projecting through the back of the case, where they are provided with proper nuts, by means of which the stone is held in tram, the whole being more particularly designed as an improvement on the grinding-mill for which Letters Patent were issued to me on the 3d day of November, 1863.

In the drawings, A represents the runner-stone of my mill, having the iron hoop B shrunk on its periphery, but overhanging the back edge, as shown. C is a back plate or disk, having on its periphery a series of projections, *a*. C' is the driving-pulley, and D the spindle, all of which may be cast in one piece or in separate parts, the whole being properly secured together in any convenient manner. The disk C is laid against the back of the stone within the flange formed by the projecting edge of the hoop B. It will be noticed that the edges of the projections *a* are depressed from their corners toward the center on the outer face. The back plate is secured to the stone by riveting or peening the hoop B into

the depressions formed in the projections *a*. The above-described method of securing the parts together obviates all tendency to burst the stone—a not uncommon occurrence when the spindles are secured by wedges or otherwise in the eye of the stone.

E is the metallic case of the stationary stone, constructed substantially as described in said Letters Patent, and F is the stone, of which *b* is the rear band or hoop shrunk on its periphery.

G are screw clamps or hooks projecting through the back face of the case, where they are provided with proper nuts G'. The hook ends of the clamps engage with the edge of the hoop *b*.

H are the tram-screws passing through the back of the case, and passing against the back of the stone.

I are the adjusting-screws, each of which passes through the periphery of the case and exerts its pressure on the back of the screw-clamps G.

The object I have in the employment of the hooks G is to hold the stationary stone in place back against the tram-screws, the set-screws I serving to keep the hooks in engagement with the band of the stone, as well as to prevent the stone from being moved out of place in the case.

The spaces between the projections *a* of the disk or back plate, C, are designed to be used in balancing the stone by filling such of them with lead or other material as may be necessary to accomplish that end. I do not intend, however, to confine myself to the use of these spaces for that purpose, as the disk may be made solid and other methods of balancing employed.

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

1. The arrangement of the runner-stone A, the hoop B, the back plate, C, the projections *a*, the driving-pulley C', and the spindle D, when constructed as described and shown, and as and for the purposes set forth.

2. The arrangement of the stationary stone F, the case E, the edge *b*, the screw-clamps G, the nuts G', the tram-screws H, and the set-screws I, when constructed as described and shown, and as and for the purposes set forth.

JOSEPH A. FORSMAN.

Witnesses:

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