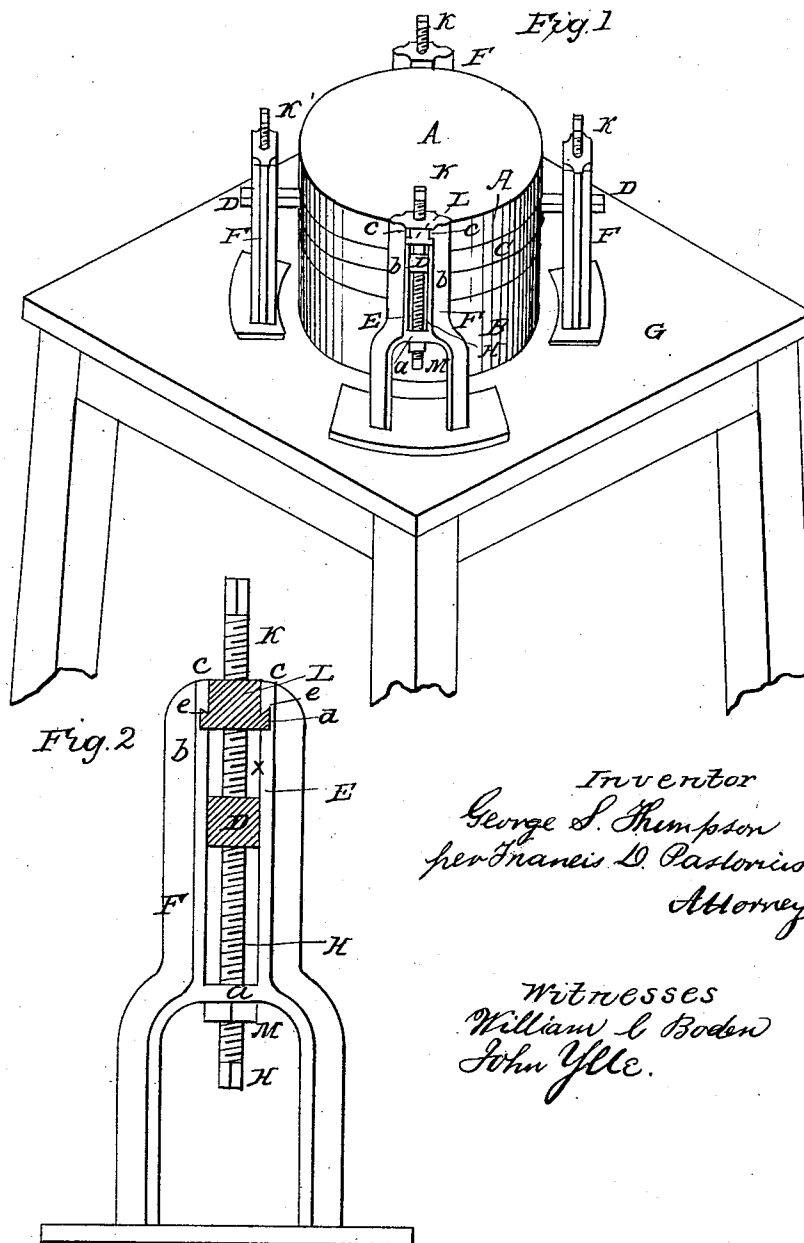


G. S. THOMPSON.

Balancing Millstones.

No. 97,134.

Patented Nov. 23, 1869.



Inventor
George S. Thompson
per Francis D. Pastorius
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Witnesses
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United States Patent Office.

GEORGE S. THOMPSON, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 97,134, dated November 23, 1869.

IMPROVEMENT IN BALANCING 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, GEORGE S. THOMPSON, of the city and county of Philadelphia, and State of Pennsylvania, have made certain Improvements in Mills for Grinding Grain, Mineral Substances, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying sheet of drawings, and to the letters of reference marked thereon.

My invention consists in adjusting the upper stone of a mill, in which the lower stone is the runner, by the use and application of upper and lower adjusting-screws, in connection with adjustable nuts, having dovetailed tenons which take into corresponding mortises in the housings of the same, whereby the upward pressure of the upper stone is prevented from spreading and cracking the housings.

On reference to the accompanying sheet of drawings, making part of this specification—

Figure 1 is a perspective view, and

Figure 2 is an elevation of the housing.

Similar letters refer to similar parts in the several views.

A great drawback in mills for grinding, and which in a great measure affects their efficiency, is the difficulty experienced in adjusting the stones at the proper distance apart, and balancing them to run perfectly true and even. I accomplish the operation of levelling and adjusting or setting the stones at the required distance apart, by means of levelling adjusting-screws, as follows: (As before stated, the lower stone is the runner, the upper one being fixed.)

A B are the upper and lower stones of a mill. The lower one turns with a spindle, as usual; the upper one has a horn-band, C, shrunk on it.

This band has a suitable number, four being shown in this instance, of horns D, projecting from it, for carrying the stone.

These horns take into the slots E, of the housings F, on the table G of the mill, and are carried on the ends of the upwardly-projecting screws H, which take through correspondingly-tapped openings in the cross-pieces *a* of the housing. The ends of the downwardly-projecting screws K bear on the upper sides of the horns, and are prevented from lifting by means of the nuts L in the slots E. The points of the horns, where the upper and lower screws bear, are recessed to stiffen the ends of the same.

To level and adjust the upper stone A, the top or

downwardly-projecting screws K are backed or unscrewed, and the lower screws H either raised or lowered by turning in the cross-pieces *a*, until the stone is perfectly true and level, and set at the required distance from the runner-stone B. The jam-nuts M on the same screws are then screwed against the cross-piece *a*, to keep them from unscrewing, after which the upper screws K are screwed firmly on the top of the horns, to keep the upper stone from lifting.

The upward pressure of the stationary stone A is very great, and varies with the grain or other article to be ground, the tendency of which, acting on the nuts L, through the horns D and the screws K, is to spread the sides or guides *b* of the housings, when the flanges or projections of the nut are level, and bear squarely against the ledges or projections *c* at the top of the guides, to prevent which, and make the housings capable of sustaining any upward pressure commensurate with the size of the mill, I construct the nut L with dovetailed tenons *d*, which take into corresponding mortises *e* in the housings, so that when the pressure of the stone is brought upon the nut, the tenons will be forced firmly into the mortises, thereby keeping the sides or guides *b* from spreading apart and cracking at their intersection with the cross-piece *a*.

I am aware that mills have been constructed with one levelling and adjusting-screw for each horn, as shown in the patents of J. Straub, May 28, 1867, and H. P. Straub, March 20, 1866; and a rolling-mill, having a pressure screw-nut with projecting flanges, is exhibited in the patent of Josiah Holmes, July 18, 1865, the tenon-and-mortise device not being shown.

My invention is designed to tram or level and adjust the stones of a mill, and, at the same time, to correct the effect of the upward pressure of the upper stone.

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

The horns D, the upper and lower upwardly and downwardly-projecting screws H K, the nuts L, with their tenons *d*, and the housings F, with their mortises *e*, substantially as shown and described.

In testimony whereof, I hereunto sign my name to this specification, in presence of two subscribing witnesses.

GEORGE S. THOMPSON.

Witnesses:

FRANCIS D. PASTORIUS,
JOHN H. LIBBON.