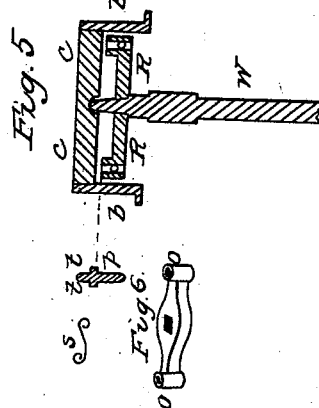
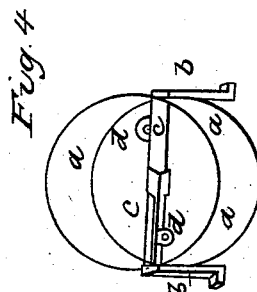
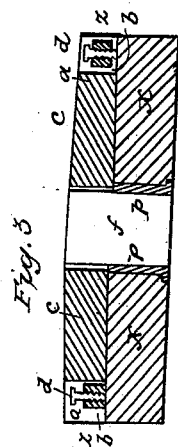
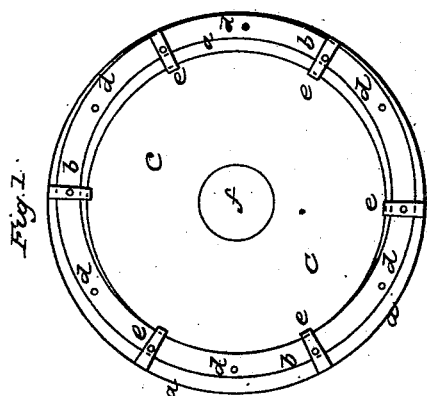
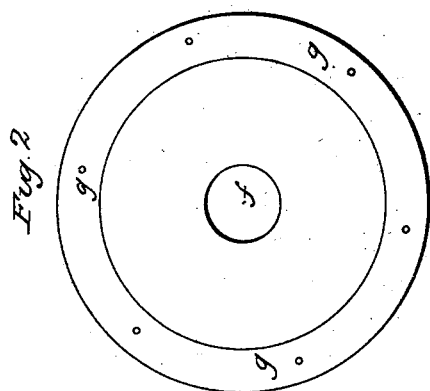


N. OAKLEY.
Hanging Millstones.

No. 5,893.

Patented Oct. 31, 1848.



UNITED STATES PATENT OFFICE.

NATHANIEL OAKLEY, OF BABYLON, NEW YORK.

HANGING RUNNER-STONES IN MILLS.

Specification of Letters Patent No. 5,893, dated October 31, 1848.

To all whom it may concern:

Be it known that I, NATHANIEL OAKLEY, of Babylon, Suffolk county, State of New York, have invented a new Mode of Balancing Runner-Millstones, and I hereby declare the following is a full and exact description of the same, reference being had to the annexed drawings, which make a part of this specification.

The object of this invention is to balance the runner stone of a mill for grinding wheat and other materials, so that when it is at rest or in motion it shall be level and parallel to the bed-stone.

I do not differ from the present mode of grinding, my improvement being confined to the hanging and balancing of the runner-stone. To effect this object, I introduce a flat thick metallic ring and place it in a groove or channel (wider and deeper than the ring) cut on the top face of the runner stone. This ring is wedged so as to fit tight in the groove, the runner-stone is then suspended on the point of the spindle in the ordinary way. If it be level as thus suspended, no alteration is needed, but, if it be out of level, then my invention is employed. To alter the center of gravity of the runner-stone so that it shall be in the center of the spindle I take out the wedges, and, thereby loosen the metallic ring, I then move the ring nearer to, or farther from the center till I obtain the required level of the runner-stone. The ring is then wedged so as to keep it in its place of adjustment. It will thus be seen how readily an adjustment can be obtained by moving the ring of metal.

If the stone were equal in all its parts the horizontal adjustment as before described would remain the same when the stone revolves; but as this is almost impossible, and as it is requisite that it should work level and parallel to the bedstone I again make use of the metallic ring to remedy the defect. Thus a stone may be balanced when at rest in the manner described, but occasionally it is dense in parts near the top face and in other parts porous, near the bottom, and consequently when it is in motion the centrifugal force throws it out of level;—to equalize these parts so that the stone shall work truly horizontal I raise or lower the metallic ring by screws which pass through it, in those parts where the stone is defective, and thus accomplish one of the

most important objects which can engage the attention of a miller. In addition to the above I have an improvement of the rynd or suspending bar the particulars of which I hereafter describe.

Figure 1, is a view of the top of the runner stone, *a, a, a*, the groove or channel, *b, b, b*, the iron ring showing it placed further from the center on one side than the other for the purpose of adjustment, the wedges are placed between the sides of the groove and the sides of the ring; *c, c, c*, the part of the stone covered with plaster of paris; *d, d, d*, screws which work in the ring and by which it is raised or lowered; *e, e, e* strips of iron to better secure the outer rim and of sufficient thickness to admit the screws of the iron cover plate to the runner stone; *f* the eye or opening. Fig. 2, is a view of the top of the runner with a sheet iron cover (*g, g, g*) over the groove and ring. This cover is secured by screws which pass through the iron strips *e, e, e*, Fig. 1. Fig. 3, is a section of the runner stone. *c, c*, the plaster of paris; *a, a, b*, the groove; *b, b*, the iron ring shown raised on one side, *d, d*, screws to raise or lower the ring (*x x*). The bar-stone (*z, z*). An iron rim (*p, p*). The groove, into which the rynd or suspending bar is slipped. Fig. 4 is an enlarged view of my improved rynd or suspending bar; *a, a, a*, is the circular rim of sheet iron corresponding with the eye of the runner stone; (*b, b*,) two guides with a flange at one end of each; *c, c*, is the rynd or suspending bar of the form shown; *d, d*, two eyes fixed on opposite sides and level with the point of suspension. Fig. 5 is a section of the rynd or suspension bar; *b, b*, the two guides; *c, c*, the rynd; *w, w*, the spindle upon which driver (Fig. 6) is fixed. The spindle is here shown with the rynd balanced and as it appears when the rynd is fixed in the grooves (*p, p*, Fig. 3). The rim of the rynd is secured to the eye of the stone by wedges and by this means additional convenience is given for its adjustment. Fig. 6, is a perspective view of the driver; *o, o*, hollow tubes, in which the pin (*p*) is dropped; its shoulder (*t*) resting on the top of the tube. The object of this pin (*p*) is to connect the driver with the rynd by one end of the link (*s*) passing over the top of the pin, and, the other hooked on to one of the eyes (*d, d*, Fig. 4). Either one, or two pins and

links may be employed. Thus, when the rynd is fixed on the eye of the runner-stone, to connect it with the driver, the link (*s*) connects them as described.

5 It is important that this link be horizontally placed which is effected by the eyes of the suspending bar being level with the top of the shoulder of the pin *p*; a steadiness of working the stones is thereby secured.

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

The balancing of runner mill stones when

at rest or in motion, by the introduction of a metallic ring as herein described in combination with the improved form of the rynd 15 or suspending bar and the mode of adjusting and fixing it in the eye of the runner stone, together with the mode of connecting the driver to the suspension bar, all as herein set forth.

NATHANIEL OAKLEY.

Witnesses:

T. SCOTT,

EDW. JONES.