D. FELLENBAUM.

Balancing Millstones.

No. 29,869. Patented Sept. 4, 1860.

Fig. 1.

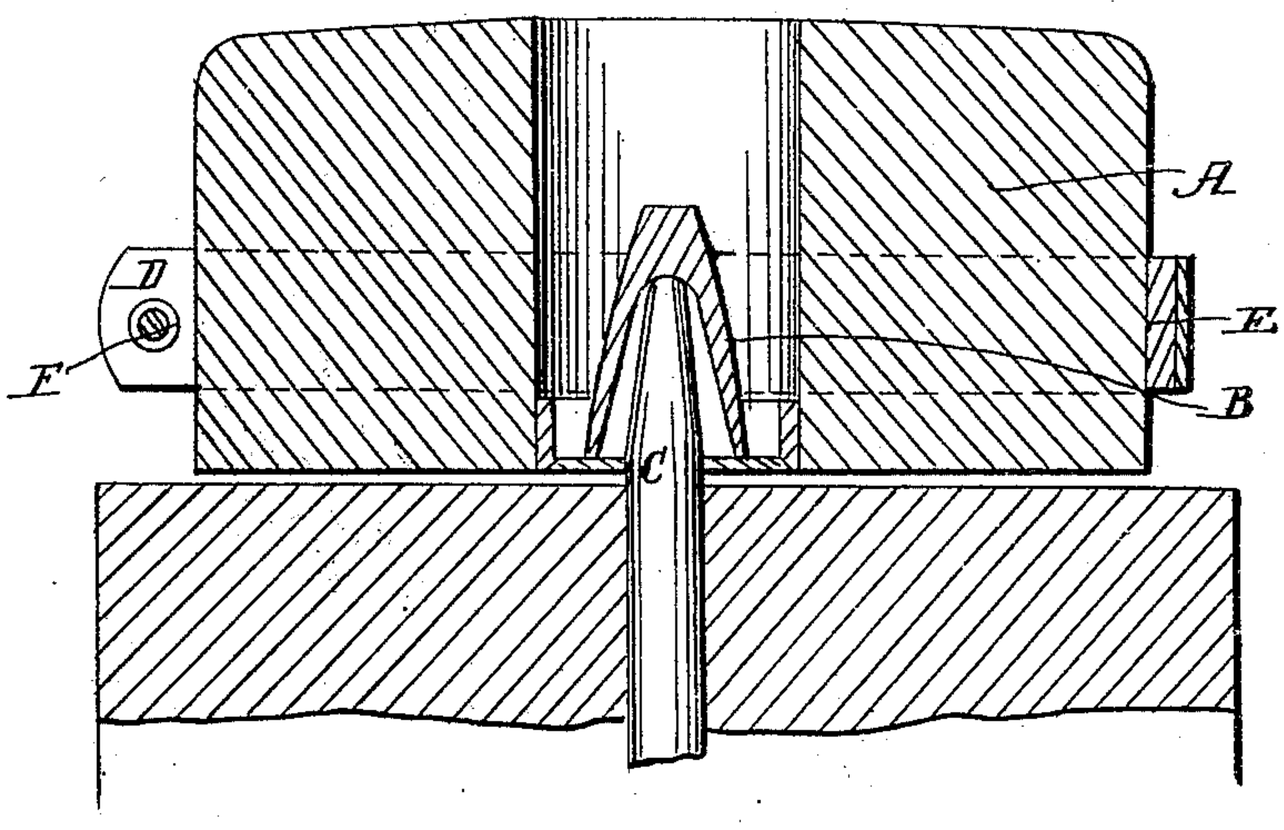


Fig. 2.

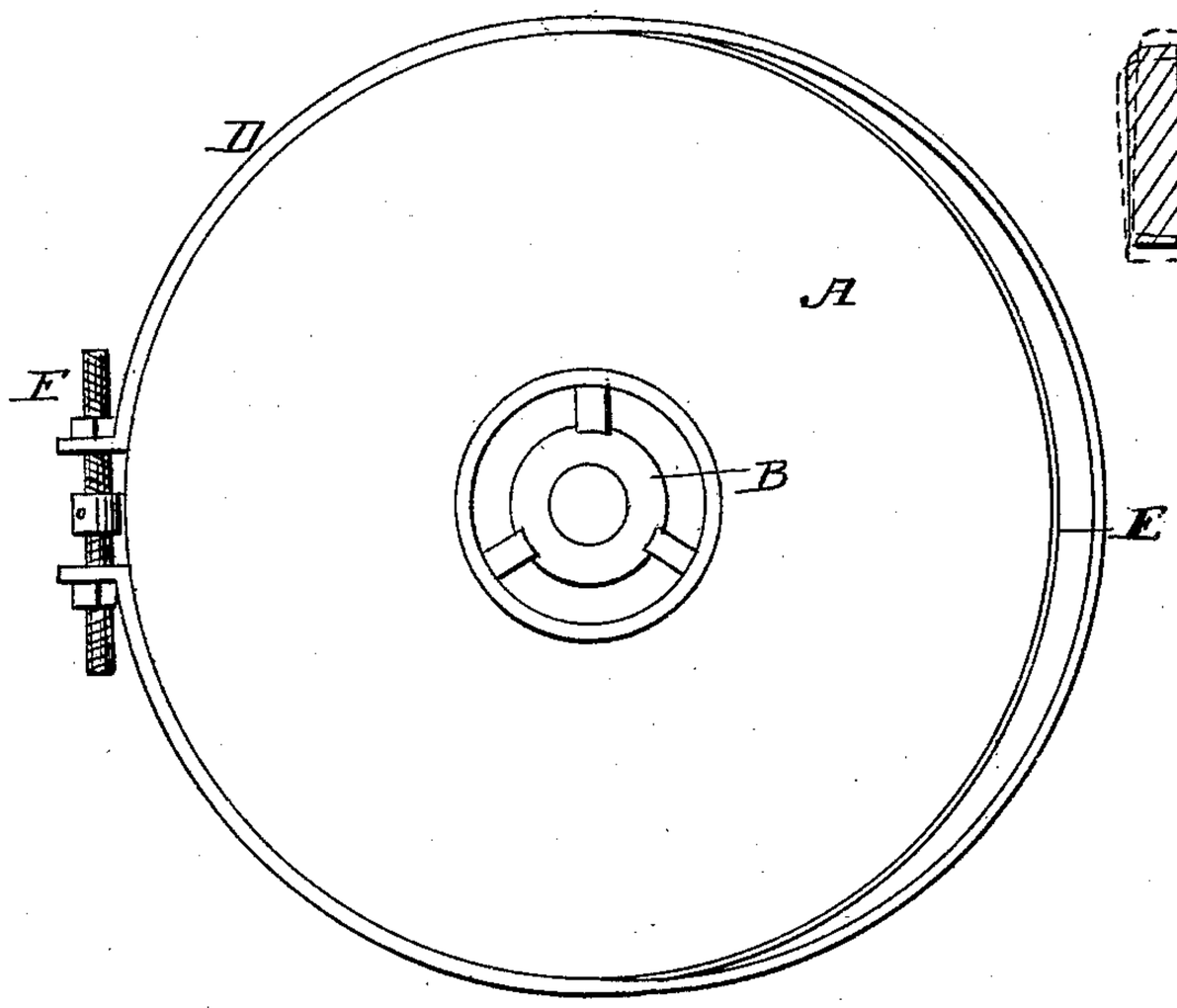
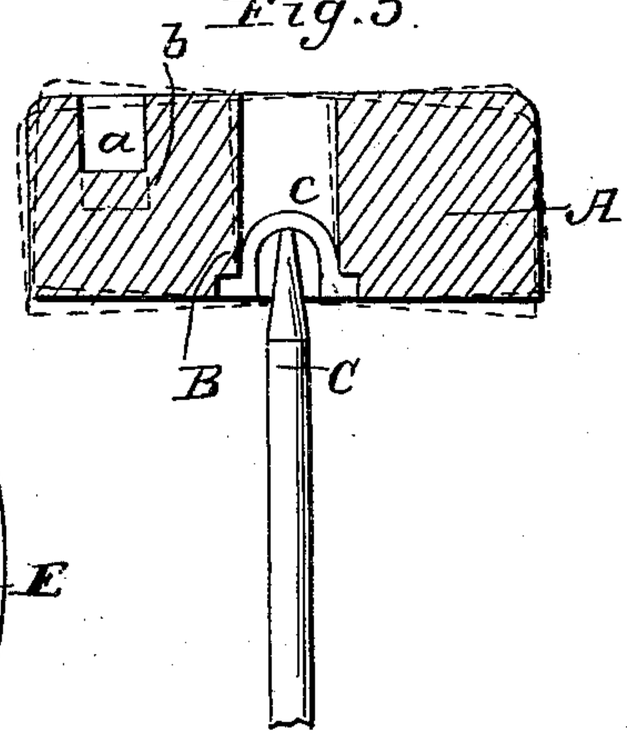


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

D. FELLENBAUM, OF LANCASTER, PENNSYLVANIA.

BALANCING MILL-STONES.

Specification of Letters Patent No. 29,869, dated September 4, 1860.

To all whom it may concern:

Be it known that I, D. FELLENBAUM, of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Mode of Balancing Mill-Stones and other Bodies Designed to Rotate in a Horizontal Plane; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of a revolving mill stone with my invention applied to it. Fig. 2, a plan or top view of the same; Fig. 3, a vertical central section of a revolving mill stone balanced in the ordinary way and illustrated in order to show clearly my invention.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a ready means by which the revolving stone may be balanced while both in motion and at rest and the parallelism of the faces of a pair of mill stones always preserved.

The "runner" or revolving millstone of a pair when hung on its spindle, after completion, will be found in an unbalanced state, and the plan has usually been to balance the stone by inserting a piece of lead into its top at the light side of it. This plan of course would balance the stone while at rest; but, when made to rotate the centrifugal force generated by its rotation and the position of the lead which is above the point of suspension of the stone, causes the latter to be out of a state of equipoise and hence the parallelism of the stones when at work is not preserved. Again, if the stone be balanced while in motion but out of balance or state of equipoise when at rest, the unequal density or disposition of weight relatively with the point of suspension would subject the spindle to a considerable lateral strain and it would be liable to heat and be injured by wear. In order to obviate these difficulties, I employ a band or strap which encompasses the "runner" circumferentially with a weight interposed between it and the side of the stone, the band or weight being in or about in a horizontal plane with the point of suspension of the stone, substantially as hereinafter described.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, Figs. 1 and 2, represents the "runner" of a pair of millstones.

B, is the balance iron and C, the spindle. These parts may be of usual construction and therefore do not require a minute description.

D, is a metal strap or band which encompasses the stone A, at a point about in line with the top of the spindle as shown clearly in Fig. 1.

E, is a weight which is interposed between the strap or band D, and the side of the stone. This weight may be of elongated curved form so as to fit snugly the side of the stone as shown clearly in Fig. 2. The stone is balanced perfectly on the spindle C, by adjusting the strap D, and weight E, on the stone. The ends of the strap may be connected by a right and left screw F, as shown in Fig. 2.

In Fig. 3, the old mode of balancing is shown; a hole *a*, being made in the top of the stone at the light side and a weight *b*, placed therein. This weight although balancing the stone while at rest, will, when the stone is put in motion cant it down in consequence of the weight being above the point of suspension *c*, of the stone. This result is due to centrifugal force generated by the rotation of the stone, and it will be seen that if the stone be not balanced when at rest by the weight *b*, but only balanced when in motion the spindle C will be subjected to a lateral strain, be liable to wear, and work loose in its bearing. By my invention it will be seen that these difficulties are avoided for the weight E, being in, or about in, the same plane with the point of suspension of the stone the weight will balance it while both in motion and at rest.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

Applying the weight E, to the side of the revolving stone or runner A, and in or about in a horizontal plane with its point of suspension by means of a metal strap or band D, or other suitable device, for the purpose specified.

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Witnesses:
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