F. G. WALLACE.

MILLSTONE EYES.

No. 187,204. Patented Feb. 6, 1877.

Fig. 1.

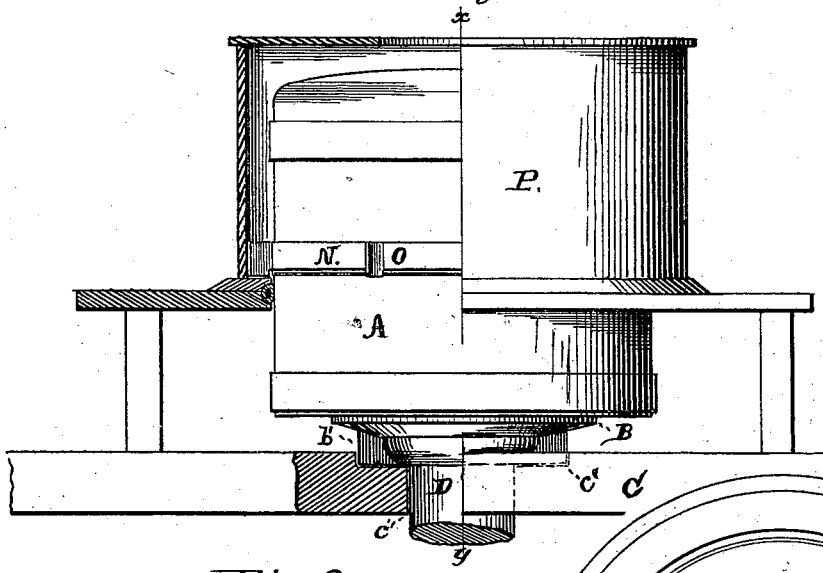


Fig. 2.

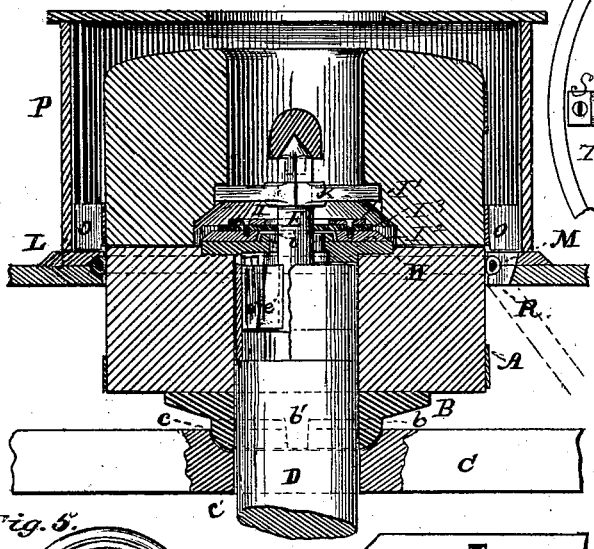


Fig. 3.

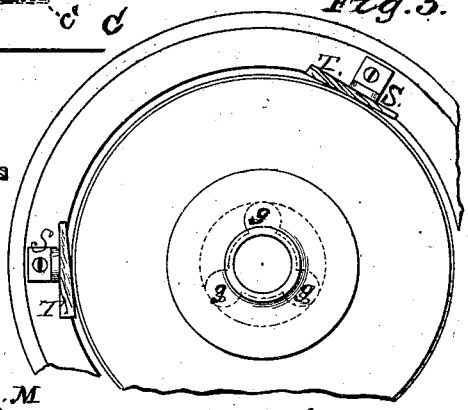


Fig. 4.

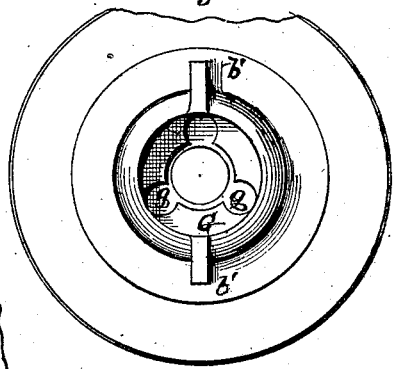


Fig. 5.

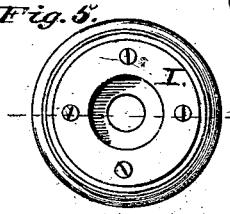
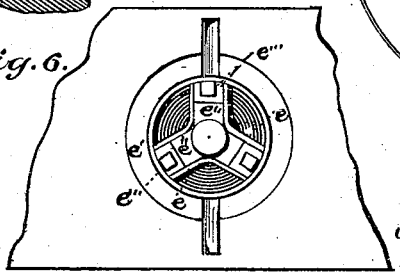


Fig. 6.



Inventor.

Ferrand G. Wallace

Attest:

H. L. Perrine.

Chas. L. Coombs

UNITED STATES PATENT OFFICE.

FERRAND G. WALLACE, OF RIPON, WISCONSIN.

IMPROVEMENT IN MILLSTONE-EYES.

Specification forming part of Letters Patent No. **187,204**, dated February 6, 1877; application filed January 18, 1876.

To all whom it may concern:

Be it known that I, FERRAND G. WALLACE, of Ripon, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful improvements in Millstone-Eyes, of which the following is a specification:

This invention relates to certain improvements in that class of mill-trams in which the bed-stone is set upon a universal or rocking joint, so as to enable the same to adjust itself perfectly to the face of the runner; and its object is to provide for the proper rocking or oscillating movement of the bed-stone in a more perfect manner than heretofore, and also to allow the spindle to rotate properly, and at the same time prevent the escape of flour or dust through the eye of the bed-stone, and between said bed-stone and its skirting.

The invention consists, first, in a packing device for the runner-spindle, consisting of an annular plate attached to the bed-stone with an upwardly-projecting collar around its central opening, and an annular plate provided with a flexible or pliable packing-disk attached to the spindle, and having a recess on its lower face, in such manner as to set over and work loosely upon the plate attached to the bed-stone, as more fully hereinafter set forth.

Second, the invention also consists of a rubber ring fitted between the edge of the stationary lower stone and the surrounding case, substantially on a line with the upper surface of said stone, as will be more fully herein described and shown.

Third, in the combination, with the bed-stone and the skirting, of two or more angle-irons attached to the skirting, at a slight distance from the bed-stone, between which can be secured suitable wedges to hold the bed-stone in position, as hereinafter more fully set forth.

In the drawing, Figure 1 represents a view, partly in elevation and partly in section, of my improved apparatus. Fig. 2 represents a vertical section through the center of the same. Fig. 3 represents a view of the upper face of the bed-stone and the packing-plate attached thereto. Fig. 4 represents a view of the lower face of said bed-stone with the spindle and its bushing removed. Fig. 5 represents a detached view of the packing-plate secured to the spindle; and Fig. 6 a top view of a portion of the bed-plate upon which the bed-stone is supported, with the bushing and spindle secured to the same.

The letter A represents the bed-stone, having secured to its lower face an annular plate, B, around the aperture, and on the lower side of which is formed an annular rounded shoulder, *b*. The bed or supporting plate is represented by the letter *c*, and is provided with an aperture at its center for the reception of the bush D of the bed-stone, and around the upper edge of said aperture with a rounded groove or recess, *c'*, in which the rounded shoulder *b* on the plate B sits, when the stone is in position, forming a ball-and-socket or universal joint for the stone, which will allow of a proper rocking or oscillating motion to the same. The letters *b' b'* represent lugs or ears formed on opposite sides of the lower face of the plate B, which sit in correspondingly-shaped recesses *c'* in the bed-plate *c*, and prevent the bed-plate from rotating.

The spindle is represented by the letter E, and extends up through the bush D, which is secured in the lower part of the eye of the bed-stone, as usual. The upper part of said bush is made tubular in shape, the inside of the tubular portion being provided with three radial recesses, *e*, for the reception of the adjustable bearing-blocks *e'*, which are beveled at the rear sides, and are confined in place by the wedges *e''*, which are adjustably secured in the recesses by means of the screws *e'''* passing vertically through them and into the body of the bushing. G represents an annular plate, secured in a recess around the upper edge of the eye of the stone, flush with its upper face. Said plate is provided with three circular apertures, through which the screws *e'''* may be reached, for adjusting the bearing-blocks.

The letter H represents an annular plate secured to the annular plate G, or to the top of the bed-stone, and provided with an annular shoulder around the central opening on its upper face. The openings through both plates G and H are of sufficient size as to sit loosely around the spindle F. The letter I represents an annular plate, consisting of two annular plates of metal, I^1 and I^2, with an interposed

disk of flexible material, I^3, such as rubber or leather, which hugs the spindle closely. The lower plate I^2 forms a downwardly-projecting annular rim, which sits loosely over the upwardly-projecting rim around the central opening in the plate H, the two sliding upon each other and preventing the escape of flour, and at the same time allowing of the free lateral movement of the plate I, the flexible disk forming part of the same, providing for the rocking motion of the bed-stone, and preventing the plate I from being lifted as the said bed-stone oscillates. The letter K represents the bridge or balance-rynd sitting in the eye of the runner A in the usual manner, by which the runner is supported upon the spindle.

The letter L represents the skirting of the lower stone, and M an annular elastic packing of rubber, canvas, or other suitable material, secured around the inside of said skirting in a suitable groove for the purpose, to prevent the escape of flour between the bed-stone and skirting.

The letter N represents a band secured around the lower edge of the runner, and pro- with one or more wings or flights, O, sitting in the space between the runner and the hoop or casing P, to carry the flour or meal to the discharge-spout R—Fig. 2 of the drawing.

As thus constructed it will be perceived that the lower stone is free to oscillate or rock to accommodate or adjust its face to the face of the runner, and by means of the packing-plates I^1, I^2, I^3, and H, working closely in contact with each other, all escape of meal or flour through the eye of the bed-stone will be prevented, and the packing around the skirting will prevent the escape of flour at that point.

By means of the adjustable bearing-blocks and the wedges the bed-stone can be readily adjusted in relation to the spindle, and by means of the flights or wings attached to the band around the runner the meal or flour, as ground, is delivered to the spout, and its discharge insured thereby, preventing the clogging of the stones, as sometimes happens.

The letter S represents a series of two or more angle-irons secured to the skirting about one inch from the bed-stone, and T a series of keys driven between said irons and the sides of the bed-stone, to assist in keeping it in position and prevent it from rocking over so as to pull down the packing M, which would cause leakage around the skirting, between the same and the bed-stone.

What I claim, and desire by Letters Patent, is—

1. The packing device for the runner-spindle, consisting of an annular plate attached to the bed-stone and provided with an upwardly-projecting rim around its central opening, in combination with an annular plate above, consisting of two metallic annular plates with an interposed flexible disk surrounding the spindle, the whole constructed to operate substantially as described.

2. The rubber ring fitted between the edge of the stationary lower stone and the surrounding case, substantially on a line with the upper surface of said stone, the whole being combined for operation essentially as set forth.

3. In combination with the bed-stone and the skirting two or more angle-irons secured to the skirting at a slight distance from the bed-stone, for the insertion of wedges to hold the bed-stone in position during the operation of dressing, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand in the presence of the subscribing witnesses.

FERRAND G. WALLACE.

Witnesses:
LEWIS A. DOUBY,
JEROME H. HOWARD.