F. G. WALLACE.

CAP FOR MILL STONES.

No. 172,594. Patented Jan. 25, 1876.

Fig. 1.

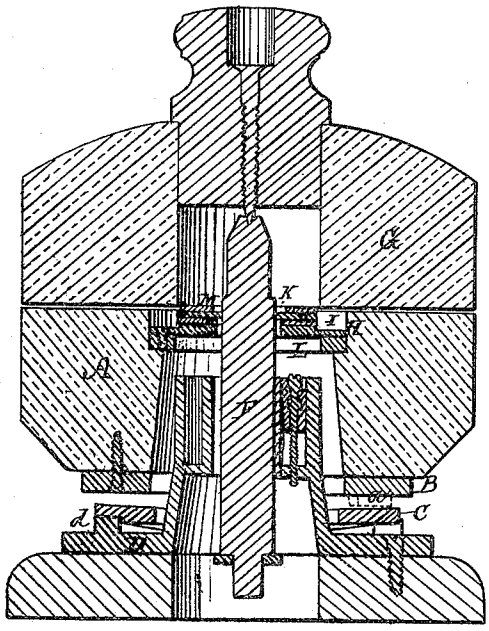


Fig. 3.

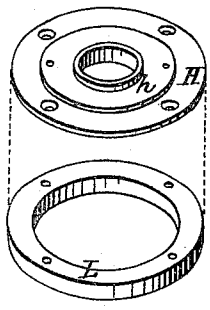


Fig. 4.

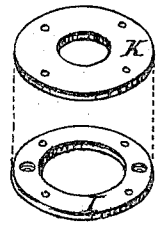


Fig. 2.

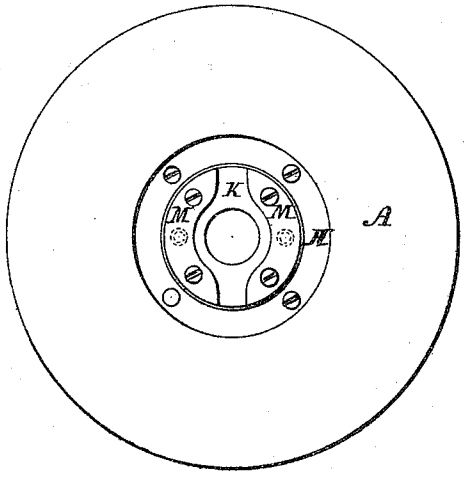
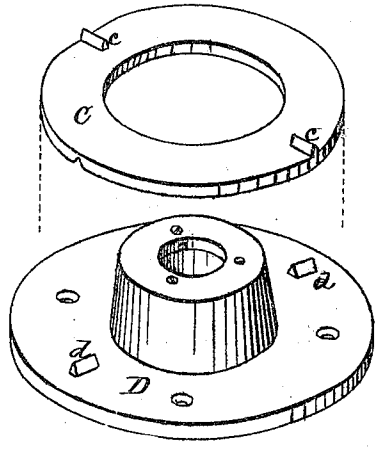


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

FERRAND G. WALLACE, OF WATERLOO, IOWA.

IMPROVEMENT IN CAPS FOR MILLSTONES.

Specification forming part of Letters Patent No. **172,594**, dated January 25, 1876; application filed November 9, 1875.

To all whom it may concern:

Be it known that I, FERRAND G. WALLACE, of Waterloo, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Cap for Millstones, 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 rocking joint, so as to enable the same to adjust itself perfectly to the face of the runner; and the object of the invention is to provide means whereby the proper oscillating movement of the bed-stone may take place without interfering with the rotation of the spindle, so that no flour or wheat can pass down below the bed-stone at the point where the spindle passes through the same.

The invention consists of a packing device for the runner of the spindle, consisting of two annular metallic plates surrounding the spindle, the lower one being secured to an annular collar cemented within the eye of the millstone about one inch below its face, the upper one being attached to the lower side of an annular disk of leather, rubber, or other pliable or elastic packing material, which sets around and closely hugs the runner-spindle, the adjacent faces of the two plates being set in contact with each other, and truly planed to prevent the passage of dust or wheat between, one plate sliding upon the other, as the millstone rocks or oscillates, as will be more fully hereinafter set forth.

In the drawings, Figure 1 represents a vertical section of a pair of millstones, having my improvements applied thereto. Fig. 2 is a top view of the lower millstone, showing the spindle and packing device. Fig. 3 represents detached views of the lower packing plate or ring, and the annular ring by means of which it is secured in the eye of the millstone; Fig. 4, detached views of the upper packing plate or ring, and the annular leather, rubber, or other elastic or pliable disk to which it is attached, and Fig. 5 a detached view of the rocking plates upon which the lower stone is mounted.

The letter A represents the bed-stone which bears on its lower side a plate, B, having projections *a*, with V-shaped notches, which fit on correspondingly shaped projections on the upper surface of the working-plate C. The rocking or oscillating movement of this plate is secured by providing it with bottom projections *c*, having V-shaped knife-edges *d* of a fixed bottom plate, D. The notches and knife-edges are so located that the bed-stone can rock independently of the rocking plate C, in one direction, and with the same in an opposite direction, so as to produce a perfect universal motion designed to permit the bed-stone to adjust itself perfectly to the face of the runner. The bed-stone is provided with an enlarged central opening for the reception of a central tubular bush, E, having adjustable bearing-blocks *e*, which encircle the spindle F, passing up through said bush. The runner G is mounted on the top of the spindle in the usual manner, and it will be perceived that the bed-stone can oscillate or rock without affecting the movement of the runner. The top of the eye of the bed-stone is enlarged or provided with a shoulder or ledge for supporting an annular ring, L, which is cemented, or otherwise secured to the bed-stone about one inch below the top of the same. A horizontal annular plate, H, is secured to this ring by means of screws, or both may be formed in one piece. Said plate encircles the spindle, a space of about one-quarter of an inch being left between the sides of the opening through the plate and the spindle. The top surface of said plate is accurately planed, or otherwise truly surfaced, and around the opening through its center is formed an annular ledge or shoulder, *h*. I represents an annular plate somewhat smaller in diameter than the plate H, the central opening through which is made somewhat larger in diameter than the shoulder *h* on the plate H, so that when the plate I is placed on the upper face of the plate H, it will be capable of a slight lateral movement thereon. The lower face of the plate I is planed or surfaced similar to the upper face of the plate H, in order that the faces of the two when brought together will lie in intimate contact with each other, and prevent the entrance of wheat or flour between the two. The plate I is secured to the lower face of an annular disk, K, of

leather, rubber, or other pliable or elastic material, which encircles the spindle F, the central opening through said disk being of such size that it will hug the spindle closely, and prevent the passage of wheat or flour between the two. M M represent two metallic segments, which set upon the top of the leather or rubber disk, and serve as a body to hold the screws by which the plate I is secured to said disk K.

It will be perceived that the packing, as thus constructed, will yield in all directions whenever any rocking movement of the bed-stone takes place, so as not to interfere with the proper rotation of the spindle, the upper plate sliding freely upon the lower plate, and accommodating itself readily to the changes of position of the same, by reason of its elastic attachment to the spindle.

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

In combination with the rocking bed-stone A, runner G, spindle F, and bush E, and the spindle-packing device, consisting of an elastic or pliable disk encircling and hugging the spindle, to the bottom of which is secured an annular metallic plate, I, and an annular metallic plate, H, applied to the stone, the adjoining faces of the two plates being accurately planed and adjusted to slide upon each other, substantially as and for the purpose 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:

CHAS. T. SHEPARD,

A. K. SHEPARD.