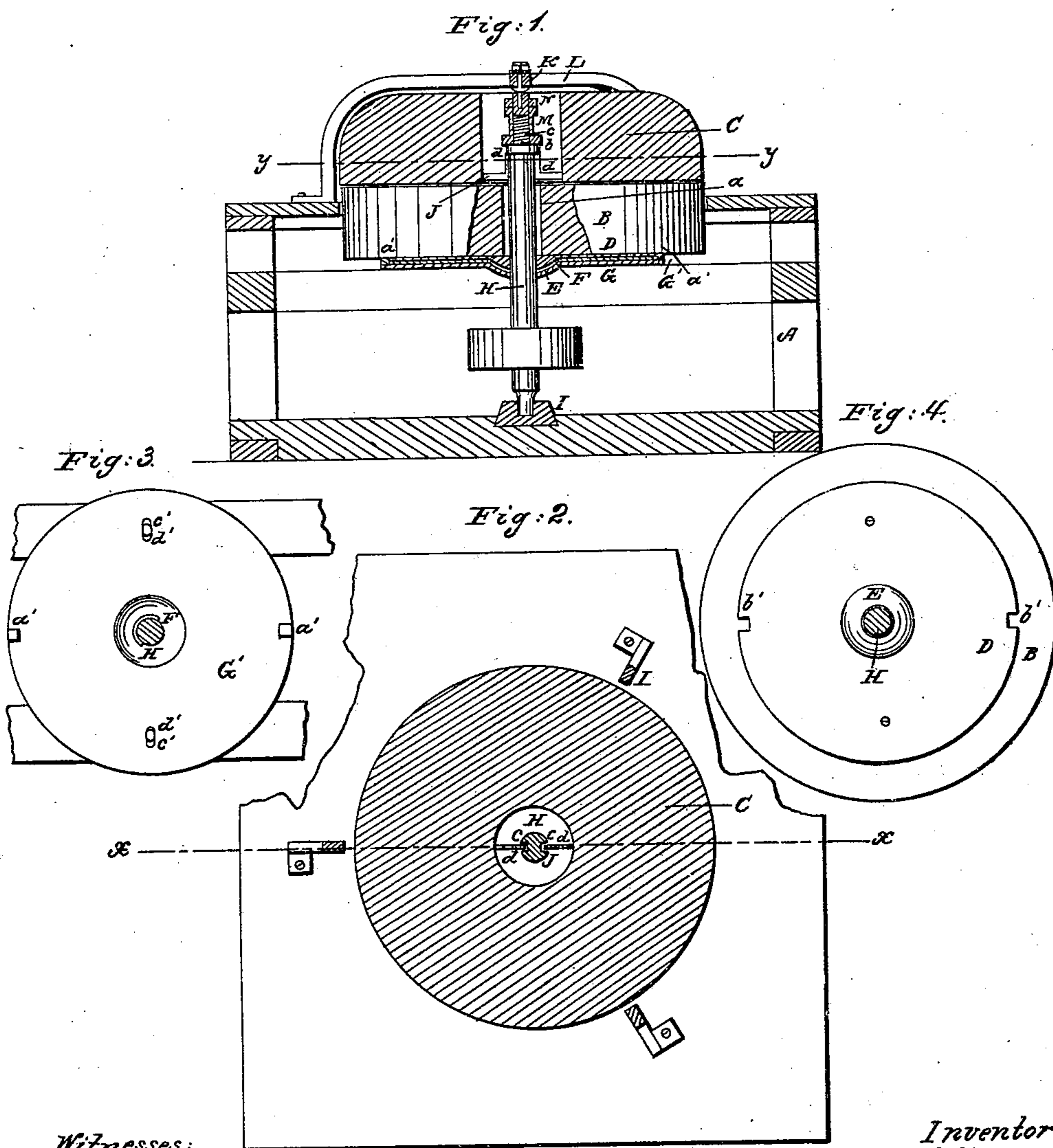


## Grinding Mill.

No. 50,646.

Patented Oct. 24, 1865.



Witnesses:  
Geo Tusch  
Wm Kewin.

Inventor:  
C. T. Weston  
per Munroe & Co.  
Atty's.

# UNITED STATES PATENT OFFICE.

CHARLES T. WESTON, OF SCRANTON, PENNSYLVANIA.

## IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. 50,646, dated October 24, 1865.

*To all whom it may concern:*

Be it known that I, C. T. WESTON, of Scranton, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Millstones; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1; Fig. 3, a plan or top view of a plate which forms an universal driver between the plates of the universal joint on which the bed-stone rests; Fig. 4, an inverted plan of the under-stone or bed-stone, showing the upper plate of the universal joint.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved manner of hanging and arranging millstones, as hereinafter fully shown and described, whereby the parallelism of the two stones will always be preserved, the pressure of the upper stone or runner on the grain being ground regulated as desired, and the upper end of the spindle kept perfectly lubricated at all times, without any trouble or difficulty whatever.

A represents a framing which supports the pair of millstones, B being the under or bed-stone, and C the upper stone or runner.

To the under side of the bed-stone B there is firmly bolted a circular plate, D, at the center of which there is a projection, E, which is in the form of a section of a sphere. This projection E is fitted in a corresponding cavity or socket, F, in a plate, G, which is secured in a horizontal position in the plane A. Both plates D & G have a circular opening made centrally in them, for the spindle H to pass through, said openings being at the center of the projection E and socket F. Between these two plates D & G there is placed a circular plate, G', having a circular opening at its center for the projection F to pass through, and this plate G' has two upright pins, *a'*, at its edge at opposite sides of its center, to fit in notches *b* in the edges of the plate D. The plate G' has

two slots, *c'*, made in it at opposite sides of its center, to receive two pins, *d'*, on the plate G, as shown clearly in Fig. 3.

The lower end of the spindle, H, is stepped in a bridge-tree, I, in the framing A, and it passes up through a hole, *a*, made centrally in the bed-stone B, and also up through a hole, *b*, made centrally in the upper stone or runner, C, the hole *b* in the runner being considerably greater in diameter than the hole *a* in the bed-stone, as will be seen by referring to Fig. 1.

The spindle H has two grooves, *c c*, made vertically in it at opposite sides of its periphery, and these grooves receive the sides *d d* of the bail J, which is secured in the hole or eye *b* of the runner. In consequence of the sides *d d* of the bail fitting in the grooves *c c* in the spindle, the runner is connected with the spindle, and made to rotate with it. The upper part of the spindle has a screw-thread, *e*, cut on its exterior, and the upper part of the spindle is tubular, and has a tubular rod, K, fitted in it, said rod being secured in and depending from the centre of a frame, L, which is secured on the framing A, and extends over the runner C. By this arrangement the upper end of the spindle is kept in a perfectly lubricated state, as oil is poured directly into the upper end of the tubular rod K, which extends through the center of frame L, and has its upper end exposed. The trouble and labor, therefore, of raising the upper stone or runner in order to lubricate the spindle, as is required, is avoided.

M is a collar provided with an internal screw, and fitted on the screw on the upper part of the spindle. This collar bears on the upper part of the bail J, and above there is a nut, N. By adjusting this collar M and nut N the pressure of the upper stone or runner, C, on the grain may be regulated as desired. In consequence of having the lower or bed stone, B, provided with a projection in the form of a portion of a sphere, and working in a corresponding-shaped socket, as described, the bed-stone is allowed to adjust itself to the runner C, and the parallelism of the faces of the two stones will be always preserved, as the bed-stone rests upon or is supported by a universal joint.

Other forms of universal joints might be used and the same end attained. This is a very important feature, as it keeps the faces

of the stones in good working condition and enables them to operate upon the grain in a perfect manner, so as to produce superior flour or as good as is capable of being manufactured from the grain being ground.

By having the bail arranged, as shown, it is made to serve as a bail and driver.

The bed-stone B is prevented from rotating with the runner C in consequence of the plate G' placed between the plates D G, which plate G' forms a universal device, and is self-adjusting, and equally rigid, under all circumstances, so far as rotation is concerned.

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

1. The universal joint E F, constructed and arranged, substantially as herein described, for supporting the bed-stone B, so as to make it self-adjusting.

2. The combined bail and driver, arranged on the spindle, in connection with the screw-collar, to operate in the manner substantially as and for the purpose set forth.

3. The tubular rod fitted into the upper end of the spindle and attached to a frame which extends over the runner, for the purpose of keeping said end of the spindle in a proper lubricated state, substantially as described.

4. The intermediate plate, G', between the two plates D G of the universal joint, provided with pins *a' a'* to fit into notches *b' b'* in the plate D, and having slots *c' c'* made in it to receive pins *d'* on the plate G, substantially as and for the purpose specified.

CHARLES T. WESTON.

Witnesses:

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