D. T. STAPLES.

Millstone Driver.

No. 202,069. Patented April 2, 1878.

Fig. 1.

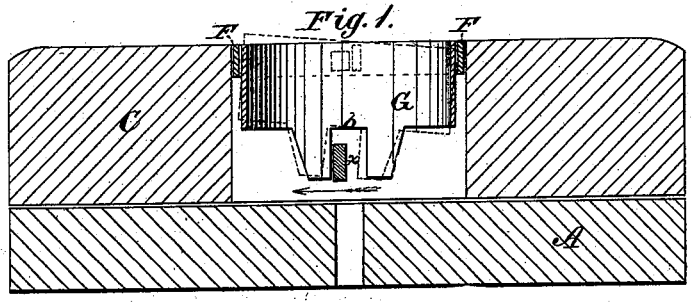


Fig. 2.

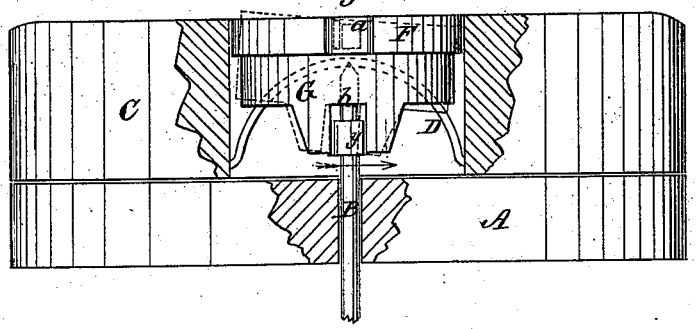
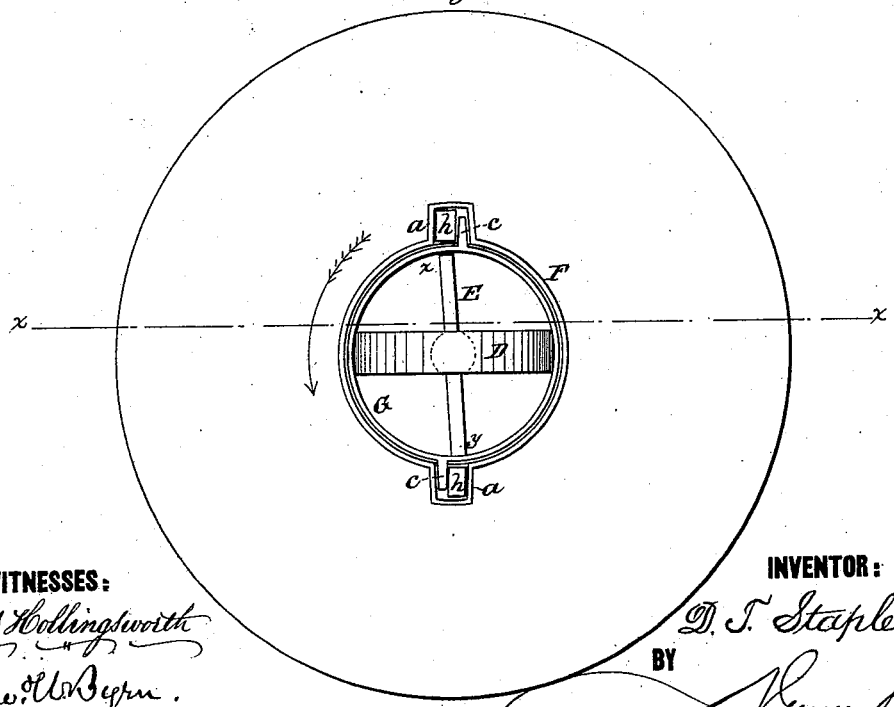


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVID T. STAPLES, OF GALT'S MILLS, VIRGINIA.

IMPROVEMENT IN MILLSTONE-DRIVERS.

Specification forming part of Letters Patent No. **202,069**, dated April 2, 1878; application filed February 8, 1878.

To all whom it may concern:

Be it known that I, DAVID T. STAPLES, of Galt's Mills, in the county of Amherst and State of Virginia, have invented a new and Improved Millstone-Driver; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view of the portion of the millstone and driving mechanism below the line *x x* of Fig. 3. Fig. 2 is a side view of the portion below the line *x x*, Fig. 3, looking in the same direction as in Fig. 1, and the stone being broken away to show an exterior side view of the driving devices. Fig. 3 is a plan view.

My invention relates to a self-adjusting and equalizing attachment to millstone-drivers, designed to make the driver bear equally at both ends.

It is well known to millers how difficult it is to get the driver to bear equally at both ends, and, after being made to do so, how frequently and easily it gets wrong again, necessitating the grinding off of one end. There are various causes which produce this inequality, such as the bed-stone getting out of level, the spindle getting out of "tram," one end of the driver being harder than the other, &c.

The invention consists in connecting the driver with the stone by a collar having seats for the driver, which collar is located in a frame rigidly fixed in the top of the stone, and is supported therein upon diametrical lugs, which enter recesses in the said frame, and cause the said stone to turn with the driver. These lugs allow the collar to oscillate slightly, to cause both ends of the driver to bear against the same.

In the drawing, A represents the bed-stone, B the spindle, and C the "runner," of any ordinary form of mill. In the eye of the runner is arranged the balance-rynd D, which rests upon the point of the spindle and supports the stone. E is the driver, which consists of a transverse metal bar rigidly fixed to the spindle.

In arranging the driver to rotate the stone in accordance with my invention, I fix firmly in the upper portion of the eye of the runner a circular metal frame, F, having opposite recesses *a a*, and within this frame I dispose a metal collar, G, having below forked seats *b*, to receive the ends of the driver, and at the top diametrical lugs *c*, corresponding to and supported in the opposite recesses *a* of the fixed frame. These lugs *c* form a rotating connection between the stone and the collar, while the forked seats form a rotating connection between the driver and the collar, so that they all turn together. Said lugs *c*, however, being loosely seated in recesses *a*, support the collar, as upon gimbals, and allow it a slight oscillation, so that if the end *x* of the driver strikes the forked seat of the collar in advance of the end *y*, the stone is not irregularly driven by one end of the driver only, but the collar is tilted upon its lugs by the end *x*, as shown in dotted lines, Figs. 1 and 2, until the forked seat upon the other side is brought into bearing contact with the said end *y*, and in this position the collar is made to transmit the force to the millstone from both ends of the driver, despite any slight irregularity or derangement of the parts.

To render the action of the driver upon the runner still more uniform, rubber blocks *h* are located in the recesses *a*, beside the lugs *c* of the collar, so as to receive the driving-strain of the same.

I am aware of the fact that it is not new to interpose a universal joint between the driver and the stone to secure the desired result of making both ends of the driver act together, and I therefore only claim, upon this feature, my particular construction and arrangement shown and described, the merit of which is, that the said devices may be attached to any of the ordinary forms of millstone without any material change in the construction and arrangement of the balance-rynd and driver.

Having thus described my invention, what I claim as new is—

1. The oscillating collar having supporting-lugs above and seats for the driver below, arranged in the upper portion of the eye of the runner upon its lugs, and combined with the said runner and the driving-iron, substantially as described.

2. The frame F, rigidly fixed in the upper portion of the eye of the runner, and having recesses *a a*, the oscillating collar having supporting-lugs *c*, resting in said recess, and seats *b* below, and the spindle, having a driver arranged with its ends in said seats, all combined substantially as shown and described.

The above specification of my invention signed by me this 31st day of January, 1878.

D. T. STAPLES.

Witnesses:
EDWD. W. BYRN,
CHAS. A. PETTIT.