P. H. CHILDRESS.
Millstone Driver.

No. 207,014. Patented Aug. 13, 1878.

Fig. 1.

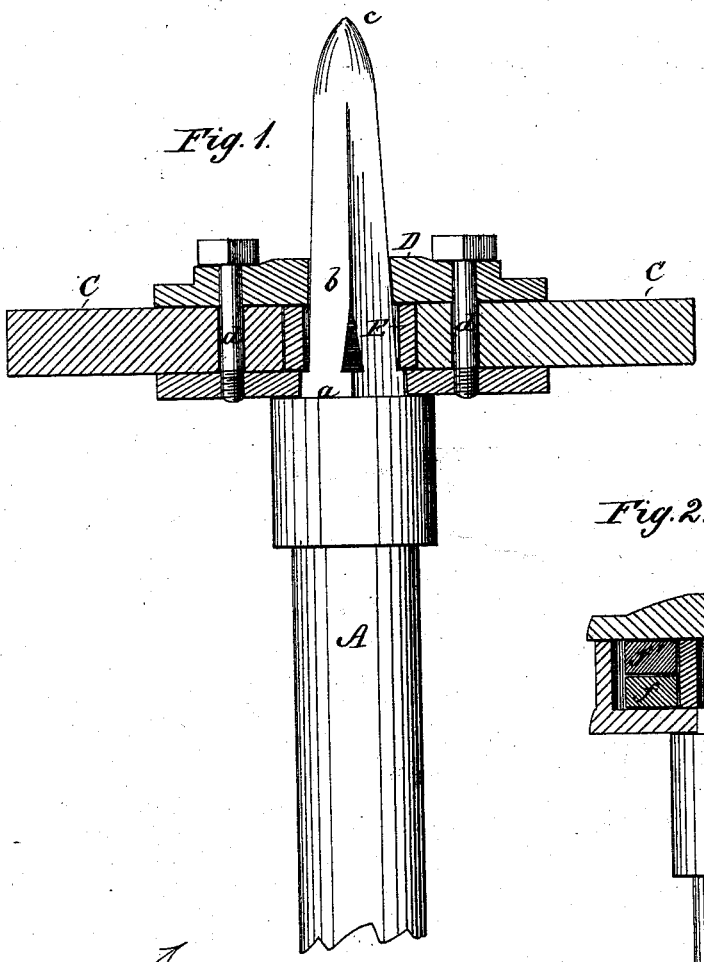


Fig. 2.

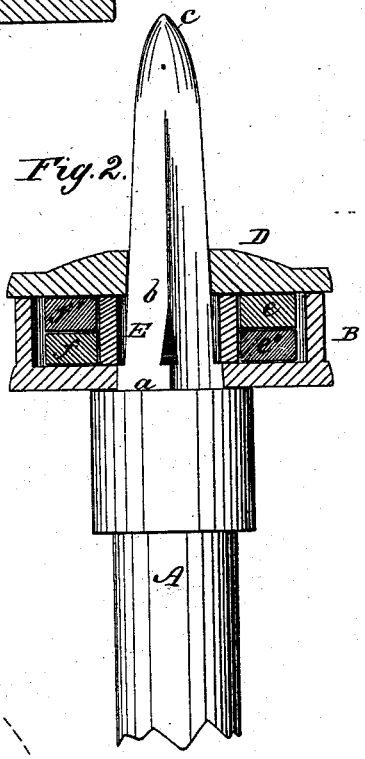
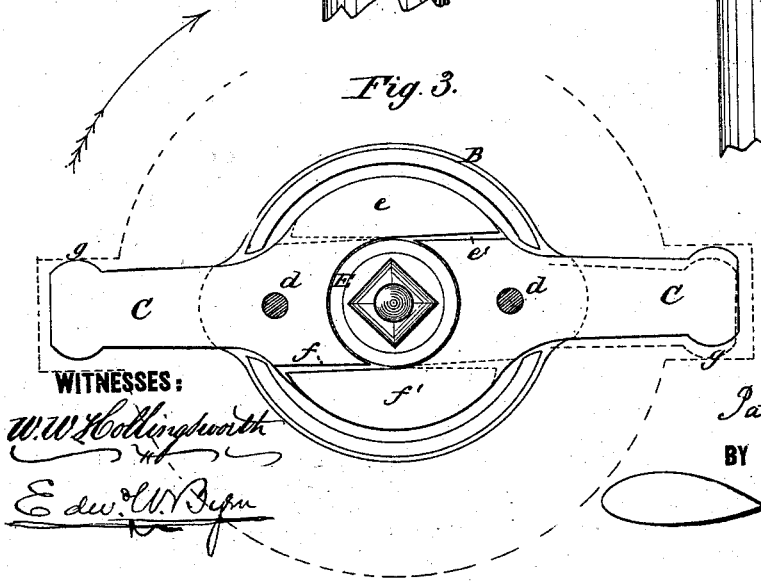


Fig. 3.



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UNITED STATES PATENT OFFICE.

PATRICK H. CHILDRESS, OF WAYNESBOROUGH, VIRGINIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO HUGH L. GALLAHER, OF SAME PLACE.

IMPROVEMENT IN MILLSTONE-DRIVERS.

Specification forming part of Letters Patent No. **207,014**, dated August 13, 1878; application filed March 28, 1878.

To all whom it may concern:

Be it known that I, PATRICK H. CHILDRESS, of Waynesborough, in the county of Augusta and State of Virginia, have invented a new and Improved Millstone-Driver; and I do hereby declare the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a side view of the spindle with the driving devices in longitudinal section. Fig. 2 is a similar view with the driving devices in transverse section. Fig. 3 is a plan view of the driving devices with the top plate removed, the relation of the parts to the millstone being indicated by dotted lines.

My invention relates to an improved self-adjusting and equalizing millstone-driver, designed principally to cause the driver to bear equally at both ends upon the runner, so as to cause the same to be driven in balance and without wabbling.

It sometimes happens, from various causes, that the millstone-driver bears upon the runner at one end only, and this causes the runner to wabble. Among the efforts to prevent this is to construct the driver in the form of two levers, pivoted upon opposite sides of the spindle, and to connect the inner ends of said levers with the spindle by a forked coupling embracing the spindle.

My improvement consists, first, in arranging about the spindle, and between the spindle and the forks of the jointed driver, a ring or collar, which affords a bearing for the inner ends or forks of the driver-sections, and, by allowing said inner ends to swivel about the same, secures an equal and more direct movement between the sections of the driver, obviates lost motion, and yet does not require the forks to touch the spindle.

My improvement consists, secondly, in pivoting the sections of the driver upon the same bolts which secure the cap or cover of the casing, as hereinafter more fully described.

In the drawing, A represents a mill-spindle having a seat, *a*, a squared portion, *b*, and a point, *c*, upon which latter rests the cockeye of the balance-rynd which supports the runner. B is a cup, which rests upon the seat *a* of the spindle, and which has in its bottom a square perforation, which fits the squared portion of the spindle, and causes said cup to rotate rigidly with the spindle. C C are the levers which constitute the driver, the same being pivoted upon the vertical bolts *d*, which secure the cap D of the cup. The outer extremities of these two levers constitute the bearing-points of the driver, and enter recesses in the runner or balance-rynd to impart motion to said runner. The inner ends of these levers are inclosed in the cup by the cap-piece, and are coupled for the compensating movement in a peculiar manner. Each inner end of said levers is formed in the shape of a fork, the branch *e* of one lever upon one side overlapping a corresponding branch, *e'*, of the other lever upon the same side, while upon the opposite side the branch *f* of the first lever is overlapped by the branch *f'* of the other lever. These forks are of circular outline, to fit in the case formed by the cup and its cover, and in the center leave a circular space, in which is arranged a loose ring, E, through which the spindle projects. This embrace of the ring by the forks constitutes a peculiar coupling for the inner ends of the levers, which, it will be seen, causes the movement of the outer ends of the levers in the same direction, or the general movement of the levers upon their pivots to be in reverse direction, the levers having at all times only a limited motion, such as is permitted by the loose connection of the forks.

Now, in describing the operation of the device, it will be seen, referring to Fig. 3, that when the runner is revolving in the direction of the arrow the faces *g g'* at the extremity of the jointed driver are the points which bear against and actuate the stone. Now if, from any cause, one end of the driver *g'*, for instance, should not bear against the stone, then, if the driver be rigid and inflexible, the runner would simply be driven by the face *g*, and the stone, being actuated upon one side of its center, would be thrown out of balance.

With my arrangement of jointed and flexible driver, it will be seen that, if the driver bears only at *g*, the driver will bend in the center by the swiveling of the forks about the ring E, and the opposite lever will be deflected upon its

pivot-bolt in the reverse direction, and its outer end, *g'*, will be advanced, as shown in dotted lines, so that it will be in bearing contact with the runner, and cause the latter to be driven upon both sides of its center and by both ends of the driver, thus keeping the stone in balance.

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

1. The loose ring E, located about the spindle and within the forks of the pivoted driver-sections, and combined with the same, substantially as shown and described.

2. The bolts *d* combined with the case, the cover for the same, and the driver-sections, as shown and described, so as to secure the said cover, and at the same time form pivots for said driver-sections.

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