W. S. BACON.
Millstone-Driver.

No. 208,281. Patented Sept. 24, 1878.

Fig. 1.

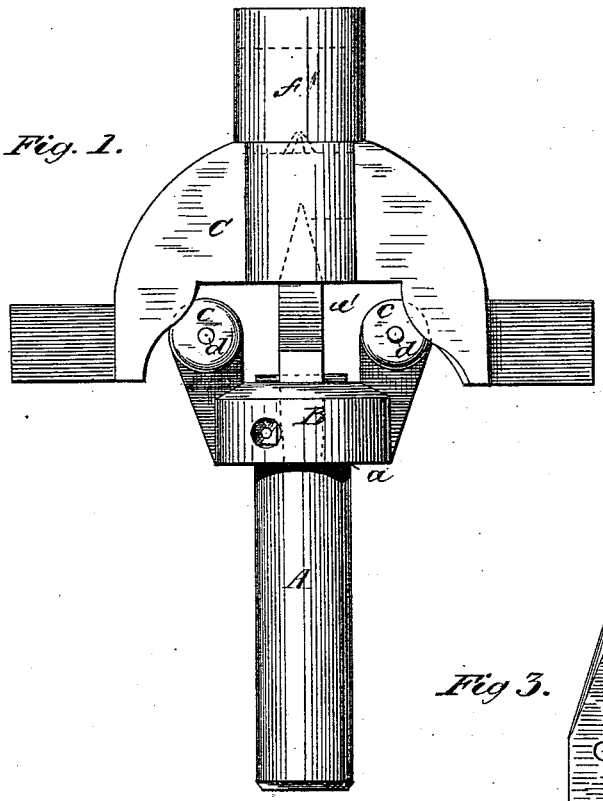
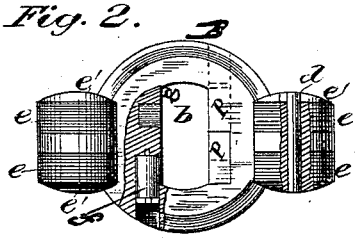


Fig 3.

Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM S. BACON, OF BLOOMVILLE, OHIO.

IMPROVEMENT IN MILLSTONE-DRIVERS.

Specification forming part of Letters Patent No. **208,281**, dated September 24, 1878; application filed May 20, 1878.

To all whom it may concern:

Be it known that I, W. S. BACON, of Bloomville, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Millstone Bail and Driver; 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 which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side elevation of my improved device for driving millstones or burrs. Fig. 2 is a plan view of the driver detached, showing the construction of its arms and interior cushions and rollers. Fig. 3 is a detached side view of the spindle.

Corresponding parts in the several figures are denoted by like letters.

My invention relates to an improvement in the driving and adjusting machinery of millstones; and consists in the construction and arrangement of the bail and driver to produce uniform distribution of the grinding-force proceeding from the upper or revolving stone, and consequent prevention of the usual tilting motion of the running stone, and inequality of force or greater pressure exerted on the grain on one side of the nether stone than the other; in providing elastic cushions or friction-rollers in the slot of the driver in such manner as to form, in connection with its arms, a practical universal joint, in order that the runner-stone may hang freely suspended on the spindle in such manner that if rotated in either direction it may freely adjust itself to the bail, the bail being driven by contact of the arms of the driver with the bail or its cushions therein provided.

In the annexed drawing, A refers to a spindle, shouldered, as at *a*, to support the driver B thereon, from which point, *a*, it is reduced and flattened upward, and provided with a conical point, *a'*, fitting in a correspondingly-shaped or oblong aperture or slot, *b*, in the driver. The slot or aperture *b* is somewhat elongated, to permit of the driver having a limited back-and-forth or lateral movement to enable the upper stone, mounted upon the bail, which is supported upon the driver, adapting itself to the face of the lower or bed stone.

The driver B is provided with two upwardly-projecting arms, *c c*, secured thereto at nearly right angles, they standing in a slightly outward-inclined position, and fitting up into the bail, the object of which is to remove the said arms and their points of bearing from dust, &c., to which they were exposed as heretofore arranged. Transversely through the free or elevated ends of the arms *c c* pass pins *d d*, provided upon each side of said arms with elastic cushions *e e*, secured upon said pins by convex disks *e' e'*, riveted to the latter. Further advantages from elevating the points of bearing of the arms are, greater or increased leverage is obtained, and the bail carrying the upper or revolving stone is enabled to be suspended, more evenly balanced upon its spindle A, promoting ease of driving and lessening friction.

In Fig. 2 the driver B is partially broken away to show the cushion *g* and metallic roller *f*, located longitudinally in the slot *b*, and on the opposite side of the slot the presence of a similar cushion and roller is indicated by dotted lines. A cushion and a roller—the rollers facing cushions, and the cushions facing rollers—are located on each side of the longitudinal walls of the slot. The elastic cushions are provided with a pin, located in the center thereof, having an elastic backing and facing the opening of the slot *b* in line with the peripheries of the rollers *f*, which latter, in conjunction with the cushions *g*, form in part the walls of the slot upon which the spindle impinges in its motion. The cushions and friction-rollers are inserted transversely in orifices formed in the lugs P P, which are indicated by dotted lines in Fig. 2, and the lugs or blocks are then rigidly secured in the longitudinal sides or walls of the slot of the driver B. In the driver B are provided suitable apertures for the reception of the rollers *f* in a line with the longitudinal walls of the slot *b*, which open on the longitudinal walls thereof. The rollers are provided with axles, and have suitable metallic bearings. The bearings are of the same diameter as the apertures provided for their reception, the rollers being somewhat smaller than the apertures.

The elastic cushions on the pins *d d*, whose convex disks or heads bear more or less sensitively upon the inner walls of the hollow

bail, enable the said pins to retain their proper position in the arms *c c*, and allow them to yield to side pressure, thus, with the movement of the driver at right angles to this movement obtained through the elongating of the spindle aperture or slot in the driver, and its movement adjusted by the cushions and rollers, an almost, if not entirely, universal adjustment to the varied movements and wabbling of the running stone is obtained, greatly reducing liability of the machinery getting out of order or breaking.

C is the bail, in the dome or tubular portion *f'* of which may be arranged an elastic or yielding bearing-surface for the point or upper end of the spindle A. From the dome *f'* of the bail the latter is curved or bowed downwardly into a casing, against the inner curved surface of which the cushioned pins *d d* of the arms *c c* bear, by which a limited rocking motion is obtained to conform to the similar movement of the running stone mounted upon the bail, its tubular portion or dome passing up into the eye of the said stone.

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

1. The spindle A and millstone-bail C, in combination with the driver B, provided with elastic cushions *g* and anti-friction rolls *f*, let into the longitudinal walls of the spindle-slot, as described, and having driving-arms *c c*, provided with cushions *e e*, in the manner substantially as shown, and for the purpose set forth.

2. The driver B, provided with slot *b*, in combination with anti-friction rolls *f*, cushions *g*, let into the longitudinal walls of the spindle-slot, and spindle A, having flattened driving-head, substantially as shown, and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM S. BACON.

Witnesses:
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JOHN M. MCKEE.