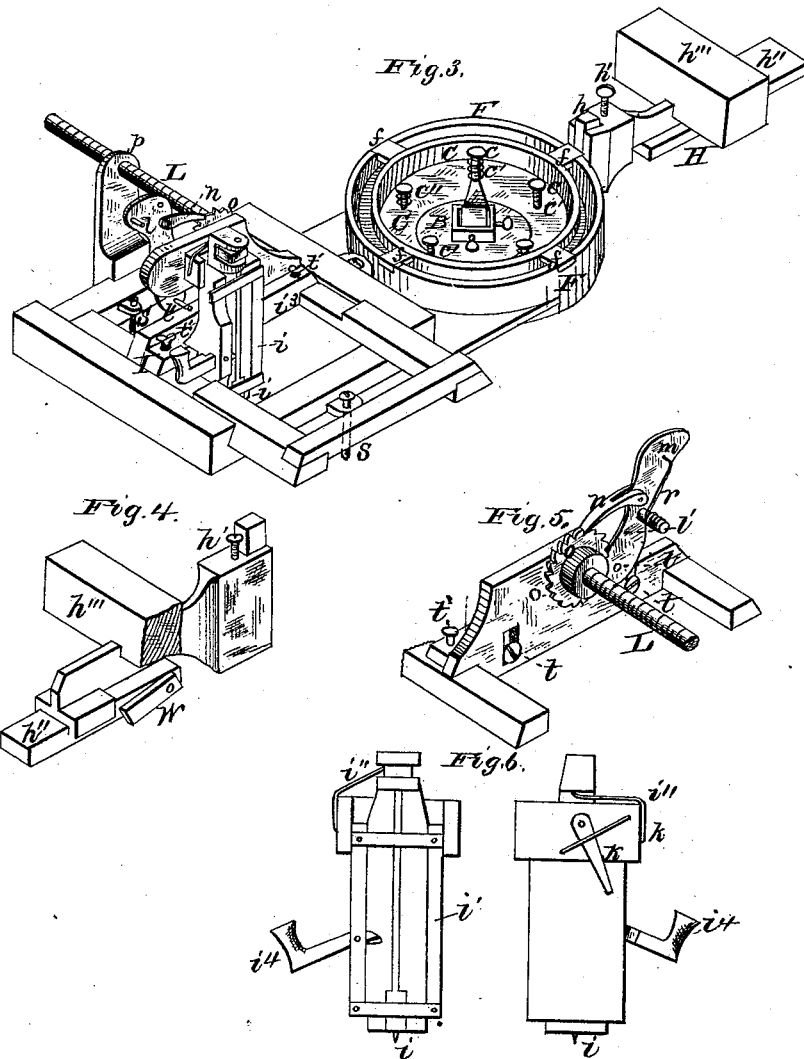


R. LYTLE.
Millstone Dressing Machine.

No. 199,839.

Patented Jan. 29, 1878.



WITNESSES

F. Renaud
J. M. Mickle.

INVENTOR

Robert Lytle
by *L. Deane*
ATTORNEY

UNITED STATES PATENT OFFICE.

ROBERT LYTLE, OF PINE FLATS, PENNSYLVANIA.

IMPROVEMENT IN MILLSTONE-DRESSING MACHINES.

Specification forming part of Letters Patent No. **199,839**, dated January 29, 1878; application filed October 13, 1877.

To all whom it may concern:

Be it known that I, ROBERT LYTLE, of Pine Flats, in the county of Indiana and State of Pennsylvania, have invented certain new and useful Improvements in Millstone-Dressing Machines, of which the following is a specification:

Figure 1 is a top-plan view of the base of the staff fixed on the millstone-spindle. Fig. 2 is a perspective view, showing the leveling-spider in position on the ring which moves on the base; also the screws and springs for adjusting and truing the ring on the base. Fig. 3 is a perspective, showing the millstone-dresser in position for use, and also red-staff. Fig. 4 is a detail to show means for reddening the millstone toward the edge. Figs. 5 and 6 are details to show the frame for carrying and mechanism connected with the diamond dress; and Fig. 7, a sectional view of spider, ring, and base.

The object of the present invention is to provide efficient means for dressing millstones; and it consists more particularly in securing a red-staff to the millstone, and for truing the same to a level position thereon; and also in adapting and using the same devices that carry the staff to carry the dress; and in the details of construction and arrangement of the several parts, all as will now in detail be more fully set out and explained.

In the accompanying drawings, A denotes a millstone, and *a* its spindle, upon which the base B of the staff fits, the spindle passing up through its eye or center. The said base is secured to the spindle by means of set-screws *b*, which pass through its upward-projecting flanges *b'*, which surround the spindle, and, if so desired, may also be further keyed by wedges or like means. Upon this base B the ring C is fitted, and secured by means of set-screws *c*, to which are fitted spring *c'*, and by means of this attachment there is not only a secure connection, but a certain degree of flexibility is allowed, which is of very considerable advantage in devices of this sort.

The ring may also be trued or leveled on said base by means of the set-screws *c''*.

The shape of the base is preferably such as now shown, its projecting central part *b''* fit-

ting into the ring with some degree of closeness.

Upon the upper edge of the ring C is a rabbet or shoulder, *c'''*, which affords a seat and way for the annulus F of the red-staff and for the points *e* of the ring of the spider E. This spider is adapted to be supported and moved on said rabbet by its points *e*, and thus its legs *e'* may be carried over the surface of the stone, as shall be desired in setting or truing up the ring C, preparatory to putting thereon the red-staff. The spider has on the lower face of the leg ends points made by set-screws *e''*.

The movement of the three legs of the spider over the face of the stone will be of advantage in showing very quickly the proper level of the ring C.

The annulus F has attached to one arm the red-staff H, and at the other the frame I, which carries the dress. This annulus is mounted on the ring C in any desired way, to secure safe and regular motion, and this is now shown as accomplished by means of lugs *f*, inwardly projecting from its upper edge, which serve to sustain said annulus for this purpose upon the shoulder or rabbet on the upper edge of C.

The red-staff is detachably set upon its supporting-lug on F, and this is now shown by the slide-joint at *h*; but any convenient method or means for carrying out this may be used. The staff may be raised or lowered by means of set-screw *h'*, which will operate on some projection on the inside of said joint, or from the ring F. The marking portion of the staff is the under side of the part *h''*, which comes immediately over and upon the surface of the stone. The staff and the base and ring heretofore described can be used as a complete device, if so desired.

The frame I may be attached to the ring F in any secure manner, and this should be done in such a way that the connection may be easily separable, if desired. The parts are now shown as secured by a screw, which passes through the flanges projecting from each, one overlapping the other.

The frame is constructed and adapted in any usual way to carry the diamond and its

operative mechanism. This diamond *i* is secured in and to a frame, *i'*, in any desirable manner, so that it may have a vertical spring movement by means of the spring *i''*, attached to the upper end of the part that carries it; but any convenient attachment may be provided. This frame is adapted to be worked on its guide-bar *i³* back and forth horizontally in the frame by handle *i⁴*.

In these back-and-forth motions the diamond dresses the face of the stone, and as it passes in this way the trip *k* on the inner face of its frame, striking on a pin, *l*, projecting from arm *l'* of the screw *L*, communicates motion to the arm *m* controlled by a spring, *r*, and to which is hinged the pawl *n*. This pawl then will operate the ratchet *o* each time the diamond is moved as above, and thus serve to true the screw *L*, which, working in its standard *p*, draws the frame along over the stone in regular procession at nearly right angles to the motion of the diamond.

By means of set-screws *s*, or any like device, the frame may be held steady on the face of the stone while the diamond is being moved in dressing the stone, so that no injury to the diamond or error or damage in its working will be caused.

To counterbalance the frame and mechanism of the dress it may sometimes be necessary to use a weight, *h'''*, on the red-staff arm. This may be moved back and forth along the arm to give the required balance.

The guide-bar on which the frame carrying the diamond is moved may be adjusted at will by means of the screws *t* and *t'*, the one holding the said bar laterally upon the frame and the others operating to help true it up. In order to redden toward the eye of the stone with more certainty than is possible by the staff *h''*, there is attached to the side of *h''*, close to or near its inner end, a hinged arm, *w*, which can be readily operated for this purpose.

By this invention is afforded a device that will operate in the surest manner to dress a millstone, and its construction and operation

are such as will readily be understood, so that by means of it the operation heretofore so difficult of truly dressing a millstone can be accomplished easily, quickly, and certainly.

No independent novelty or claim is now urged for the flexible combination of the base and ring above it and means for truing said ring on the base, for these features constitute the subject of another application made by me for patent.

What I claim as my invention is—

1. The base-plate *B*, supporting and carrying the ring *C* on its upper edge, as described, its eye having an upwardly-projecting flange, *b*, adapted to be secured to the stone-spindle by set-screws, substantially as and for the purposes set forth.

2. In combination with base *B* and ring *C*, as described, the red-staff *H*, fitting on the dovetailed slide-joint *h*, and adapted to be trued by set-screws *h'*, substantially as and for the purposes set forth.

3. In a red-staff, the spider *E*, adapted to be used upon the ring *C*, which carries the mill-staff, substantially in the manner and for the purposes set forth.

4. In combination with the red-staff *H*, the hinged arm *w*, substantially as and for the purposes set forth.

5. The millstone-dressing frame *I*, as described, capable of being freely moved over the stone, and provided with the sustaining-screws *s*, whereby it is adapted to be held steady while the diamond is worked, substantially as set forth.

6. The combination of guide-bar *i³* with frame *I*, so that it is adjustable thereto by screws *t* and trued by screws *t'*, substantially as described.

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

ROBT. LYTTLE.

Witnesses:

THOMAS C. CONNOLLY,
GEO. R. BYINGTON.