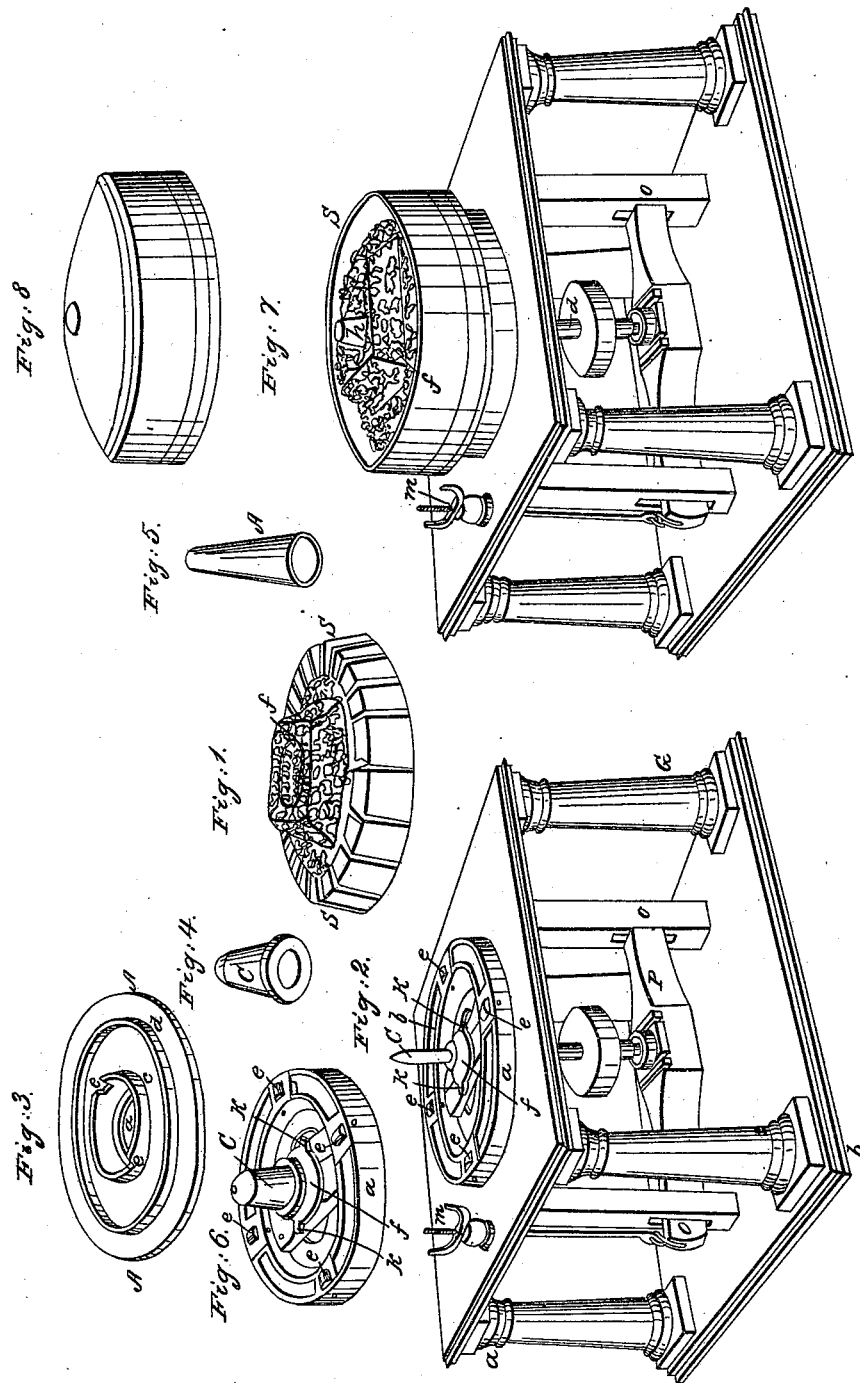


E. MUNSON.
Balancing Millstones.

No. 6,639.

Patented Aug. 7, 1849.



UNITED STATES PATENT OFFICE.

EDMUND MUNSON, OF UTICA, NEW YORK.

FORMING AND BALANCING MILLSTONES.

Specification of Letters Patent No. 6,639, dated August 7, 1849.

To all whom it may concern:

Be it known that I, EDMUND MUNSON, of the city of Utica, in the county of Oneida and State of New York, have invented a new and Improved Mode of Balacing and Finishing Millstones; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in the construction of a machine or apparatus on which the millstone after it is blocked up is suspended upon its center and in balancing it there in the course of filling up and finishing, instead of filling up the same without the means of testing the accuracy of its balance, leaving that to be done by the millwright (as is usually the case) in hanging the stone for actual use in the mill.

To enable others skilled in the art to make and use my invention, I will proceed to describe my apparatus, and the manner of finishing and balancing the millstone thereon, reference being had to the annexed drawings, making a part of this specification.

Figure 1 represents a millstone in which the blocks forming its face and eye are put together and cemented in the usual manner. The stone is here left in the state where my process of balancing in connection with the further finishing of the stone commences. The upper surface of the stone is here left quite uneven with a encle hole for the eye in the center at *f*.

Fig. 2 represents a quadrangular frame *a, b, G* with the necessary apparatus on which the millstone is to be raised and poised for finishing.

Figs. 3, 4 and 5 are movable parts of this machine which are here shown separately, but which are added to Fig. 2 before putting the millstone thereon.

Fig. 6 is identical with the ring *a, b*, and pivot or cockhead *C* (Fig. 2) with the cap *C* (Fig. 4) placed upon it. This cap is a hollow cone closed at the top and is suspended loosely on the pivot or cockhead (Fig. 2) in such a manner as to rest on the top of the pivot. This is shown at *C* (Fig. 6). The ring *a, b* (Fig. 2), has four friction rollers *e, e, e, e*, set in its upper surface, which project slightly above the surface. These are also seen at *e, e, e, e* (Fig. 6).

Fig. 3 is a circular plate designed as the base or platform on which the stone is to rest, when suspended on the machine. The

underside of this circular plate or platform is here shown, the opposite side on which the stone is to rest is perfectly plane and level. It has two projecting circular collars *c* and *d* cast upon it. The inner circle *c* incloses the eye or aperture *a* and is of just sufficient compass to inclose the driver *f* (Fig. 6), the notches *e, e* (Fig. 3), embracing the ears *h, h* (Fig. 6). The circular driver *f* (Fig. 2) is fitted and keyed to the spindle *c, d*, so that when the platform *A, A* (Fig. 3), is placed upon it as above described, and the spindle or cockhead *C* (Fig. 2) is turned, it carries the platform with it and consequently the stone also, if laid upon it. The collar *d* (Fig. 3) of the platform, is just sufficient in compass to rest on the friction rollers *e, e, e, e* (Fig. 2), so that when the platform *A, A* (Fig. 3), is turned over from the position there shown, and laid on the circular frame *a, b* (Fig. 2), it rests on these friction rollers, and also on the cockhead or spindle *C* by the use of the cap *C* (Fig. 4) as before described. The spindle *c, d* (Fig. 2), is movable in a vertical direction by the use of the common lighter screw *m* raising and lowering the bridge tree *O, P*, on which the spindle *c, d*, stands. By this means the platform *A, A* (Fig. 3), when placed on the machine, as before described, may be raised from the friction rollers and held suspended on the cockhead *C* alone; or it may be suffered to rest entirely on the friction rollers by lowering the spindles or cockhead in the same manner.

The cap *C* (Fig. 4) being placed upon the spindle or cockhead *C* (Fig. 2), and the platform *A, A* (Fig. 3), also being laid on as described, the hollow cone *A* (Fig. 5), which is designed to form the eye of the millstone is then set on the top of the platform, over the cap *C*, and the unfinished millstone *S, S* (Fig. 1), is then raised by the use of a common crane, and is set upon and adjusted to the platform. The appearance then exhibited by the machine with the millstone upon it is shown in Fig. 7, where the cone *A* (Fig. 5), is seen protruding through the eye of the stone at *h* (Fig. 7), and the iron band *f, s*, is added. Previous to this band being put upon the stone, and after the latter is placed upon the machine, the skirt of the stone having been coated over with plaster, the platform and the stone thereon, are set in motion by the application of motive power to the pulley *P*, and the

skirt of the stone is here turned off perfectly true. It is then ready to receive the band. This band is wide and extends above the edge of the stone in its unfinished state, 5 showing the usual vacancy between the eye $\frac{1}{2}$, and the band, which is to be filled up in the finishing. It is in this filling up and finishing of the stone that the balancing of it is performed. The means being here afforded as described of raising the stone free 10 from the friction rollers and holding it, through the agency of the cap C (Fig. 4), suspended on the spindle or cockhead C (Fig. 2), and in that condition observing its 15 balance when at rest; or by the application of motive power to the pulley P (Fig. 7), of communicating to the stone a swift motion and in that condition of observing its balance, it can very accurately be ascertained 20 which side of the stone preponderates and where to apply the heaviest filling. This test may be resorted to from time to time as the filling up and finishing the millstone progresses. When the filling is completed 25 the stone is again set in motion and the top is nicely turned off and the stone is complete, while during the whole process the means are afforded of testing its balance both at rest and in motion so that when the

process of construction is complete and the 30 finished millstone shown in Fig. 8 is produced it is not only constructed otherwise favorable to the perfection of the stone and with great saving of labor over the modes of finishing now in use, but the stone is also 35 thoroughly balanced and ready for use.

What I claim as my invention, and desire to secure by Letters Patent is—

1. The mode herein described of testing and balancing millstones, by being enabled by 40 the means here described to observe the balance of the stone while the same is in motion as well as at rest, and at the same time to correct the inaccuracies of its balance during the progress of construction. 45

2. I also claim the use of the machine here described for turning off the exterior of the millstone in finishing the same as herein mentioned, in combination with the use of the same machine in testing the balance of 50 the stone as above set forth.

The whole being arranged and combined substantially as herein set forth and described.

EDMUND MUNSON.

Witnesses:

WM. BAKER,
RUFUS C. BAKER.