2 Sheets—Sheet 1.

E. HARRISON.
Grinding-Mill.

No. 199,062. **Patented Jan. 8, 1878.**

fig 1

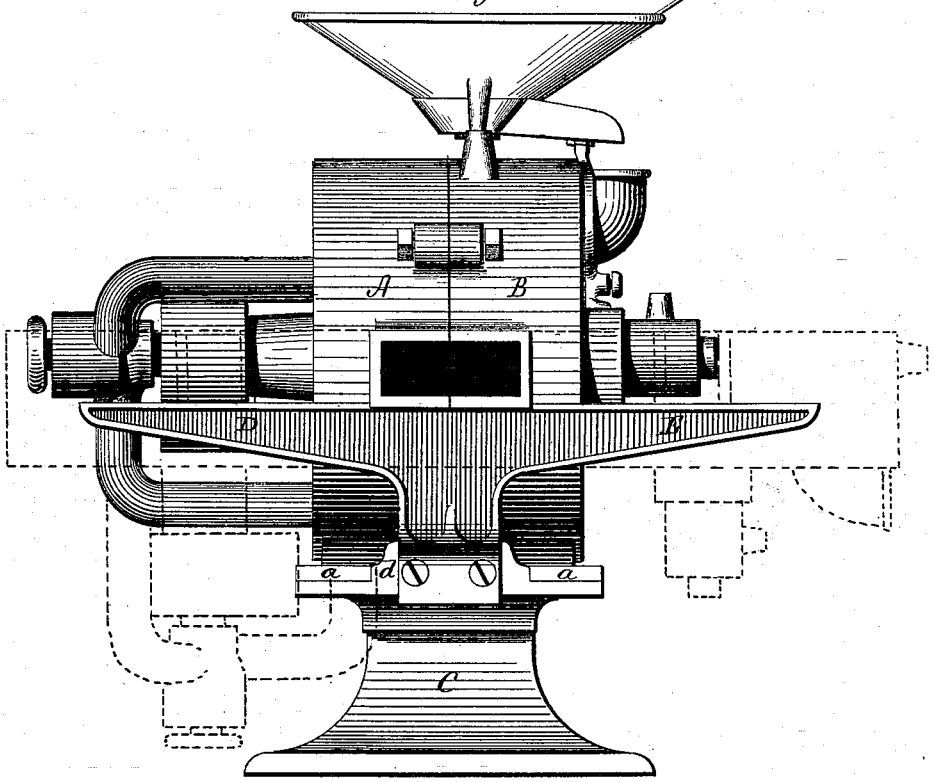
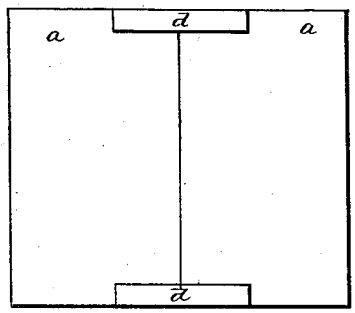


fig 2



Witnesses.

J. H. Shumway

Geo. A. Kitson

Edward Harrison
Inventor

By Atty.

Thos. D. Eagle

2 Sheets—Sheet 2.

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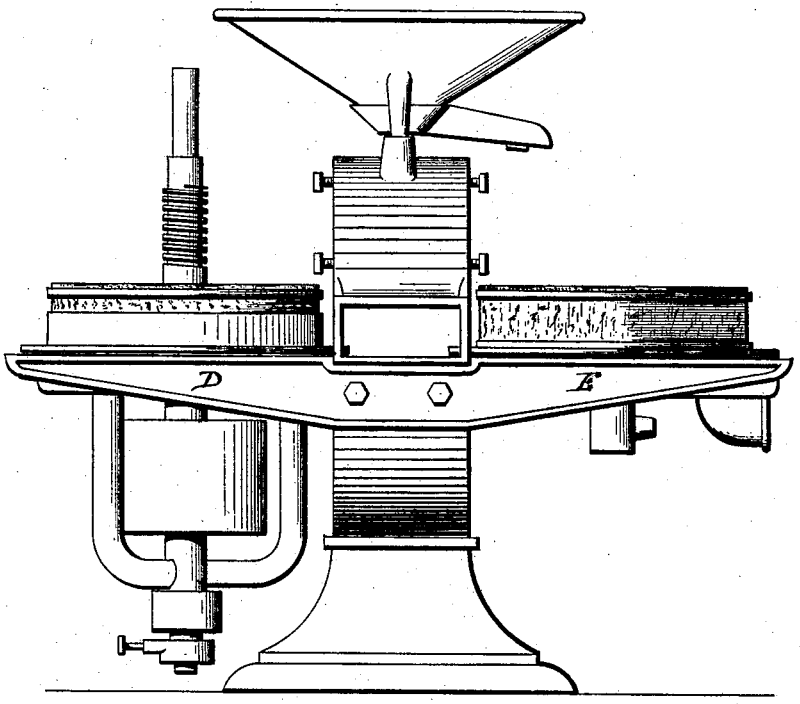
Fig. 3



Witnesses.
H. A. Ritsow

Edward Harrison
By Atty. Inventor
John E. Earle

UNITED STATES PATENT OFFICE.

EDWARD HARRISON, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **199,062**, dated January 8, 1878; application filed October 2, 1877.

To all whom it may concern:

Be it known that I, EDWARD HARRISON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Grinding-Mills; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, side view; Fig. 2, plan of the base; Fig. 3, a modification.

This invention relates to an improvement in the class of grinding-mills commonly called "vertical mills"—that is to say, a mill in which the stone revolves in a vertical plane, the spindle arranged horizontally, and with special reference to the mill known as the "Harrison mill," the object being a convenient arrangement for exposing the stones to be redressed; and the invention consists in a divided case combined with a base from which the case is removable, the base and case constructed with interlocking parts, so that the said interlocking devices locate the respective parts of the case in their proper relative positions, and at the same time secure the base and case together to prevent lateral or longitudinal movement; also, in the combination, with a mill-case supported on a base, of a pair of brackets, one at each side, extending, respectively, to the right and left, so that when the stones are separated they will turn into a horizontal position on the respective arms of the side brackets to expose the working-surface of the stones, and without removing the case, as more fully hereinafter described.

In Fig. 1 is represented a Harrison mill, the case divided vertically, and substantially in the plane of the stones, into two parts. Each of these parts of the case is constructed with a flange, *a*, at the bottom, and extending out in a horizontal plane, to support the mill.

Beneath the mill is a base, C, the object of which is to raise the mill to a greater height than if it stood upon the flange *a*, in the usual manner. This base C corresponds in size substantially to the flange *a*, and is constructed at each end with an upward projection, *d*. The flanges *a* are constructed to form a corresponding recess, so that when the two parts of the mill are set upon the base, as at Fig. 2, the flange of each part will set against the projection *d*, and thus locate the parts of the case upon the base in their proper relative position, and at the same time form a support to prevent the mill from moving longitudinally or transversely, and prevent any strain upon the bolts which secure the mill to the base, and on which the longitudinal and transverse strain would entirely come but for the projections *d* and corresponding recesses.

While the projections on the base and corresponding recess in the flanges is the better arrangement, it will be understood that the projection may be on the parts of the case and the recess in the base and accomplish the same result.

At each side of the mill, on the base, a bracket is attached, extending, in the form of arms D E, to the right and left. These arms set close up under the spout or other suitable projection, which will lie over the arms, as seen in Fig. 1.

When it is desired to expose the stones or open the mill for any purpose, the parts are separated, and either may be turned into a horizontal position, as indicated in broken lines, and without additional apparatus or devices.

In the case of mills in which the stones are arranged entirely on the heads of the mill, and so the division comes at each end of the mill-case, as in Fig. 3, the bracket-arms D E may be attached directly to the case, so that the heads, when turned down, will rest on the arms, as seen in that figure.

I do not wish to be understood as broadly claiming providing a mill with arms and with the device upon which the millstones may be removed to expose their working-faces, as such I am aware is not new; but

What I do claim as my invention is—

1. In a vertical mill, the combination of the base C and divided case, one constructed with stationary lugs, and the other with corresponding recesses to interlock the two, substantially as described.

2. In a vertical grinding-mill, the combination of the base, the case, and horizontal arms to the right and left, the case or heads constructed so as to be turned upon and supported by said arms without removing the case, substantially as specified.

EDWARD HARRISON.

Witnesses:

J. H. SHUMWAY,

H. A. KITSON.