

Nordyke & Marmon.

Grinding-Mill.

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PATENTED AUG 1 1871

Fig. 1

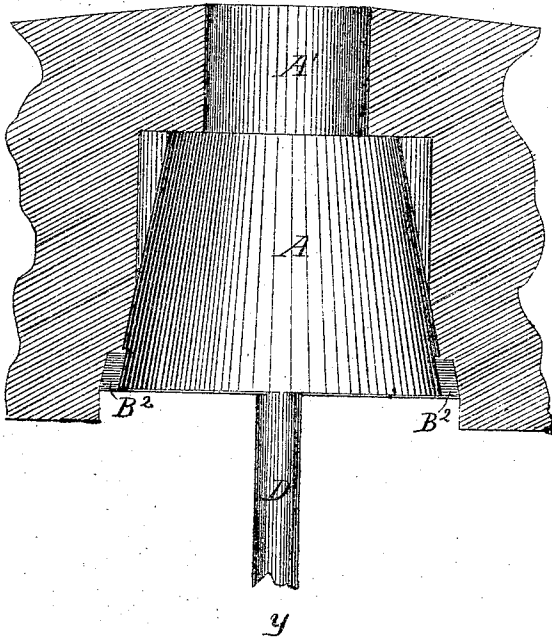
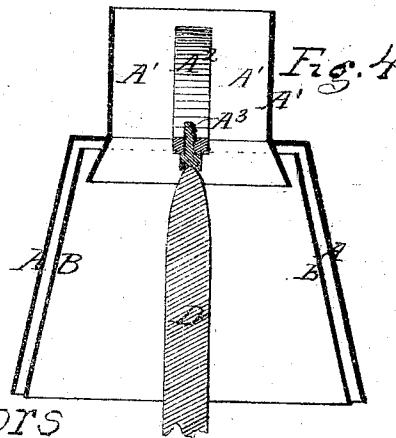
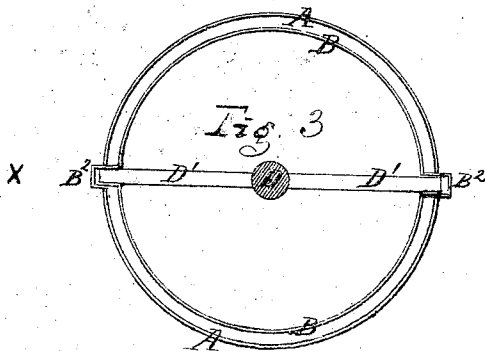
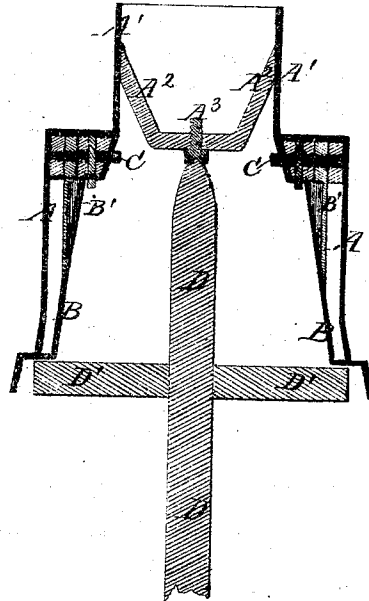


Fig. 2



Nordyke & Marmon

Attest
A. Ruppert
S. M. Pool

Inventors
D. P. Holloway & Co.
Atty

UNITED STATES PATENT OFFICE.

ADDISON H. NORDYKE AND DANIEL W. MARMON, OF RICHMOND, INDIANA.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. 117,667, dated August 1, 1871.

To all whom it may concern:

Be it known that we, ADDISON H. NORDYKE and DANIEL W. MARMON, both of Richmond, in the county of Wayne and State of Indiana, have invented a certain Improvement in Grinding-Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 is an elevation of our improved stone-balancing apparatus, showing also a portion of the running or revolving stone. Fig. 2 is a central vertical section on line *xx* of Fig. 3, showing the spindle, the cockeye, the fixed and the swinging or oscillating tubes, and the pivots upon which the oscillating one rests. Fig. 3 is a bottom view of the tubes and the sockets for the ends of the driver upon the spindle. Fig. 4 is a sectional elevation on line *yy* of Fig. 3.

Corresponding letters refer to corresponding parts in all the figures.

This invention relates to that class of devices which is used in the eyes of millstones for the purpose of hinging and balancing the revolving one; and it consists in the construction, combination, and arrangement of its parts, as will be more fully explained hereinafter.

In constructing devices of this character we use what we shall term an outer shell or tube, A, which is conical in form throughout a portion of its length, and is secured in the eye of the revolving stone by means of plaster of Paris or other suitable material. Upon the upper end of this shell or tube (which will generally be of cast metal,) there is placed a cylindrical portion, A¹, which is of sufficient length to extend from the upper end of the conical part A to the upper surface of the stone, as shown in Fig. 1. This extension may be cast in one piece with the conical portion, or it may be made in a separate piece and bolted thereto, but in either case it is to be made to extend downward below the upper surface of the conical portion for the purpose of forming an unobstructed passage for the grain to the grinding-surfaces of the stones. This downwardly-projecting flange also forms a bearing for the inner ends of the pivots, upon which the stone oscillates. Upon two portions of the surface of the conical portion of this case or tube there are formed projections for the reception of the pivots C C, and inside the cylindrical portion

is cast, or otherwise permanently secured, the balance-bail A², it being supplied with a cockeye, A³, which rests upon the upper end or the cock-head of the spindle. Within the case or tube A there is placed another and smaller conical tube, B, the upper portion of which is provided with projections upon its outer surface through which the pivots or pins pass, as shown in Fig. 2, while upon or in its lower edge it has formed pockets B² B² for the reception of the cross-bar upon the spindle. The spindle D is constructed as shown in Fig. 2, it having upon its upper end a cock-head which enters the cockeye in the bail A³. The arms D' project from the vertical portion of the spindle D, and furnish the means by which motion is given to the revolving stone.

Some of the advantages due to this improvement may be stated as follows: The case or tube A, being constructed as described, admits of its being firmly secured in the revolving stone, and forms an unobstructed passage for the grain through it, and, at the same time, furnishes the means for suspending the stone in such a manner that it can oscillate in two directions upon the spindle, while its combination with the case or tube B provides the means for the requisite oscillation in the opposite directions, from the fact that the weight of the stone rests upon the spindle, and the pockets in the interior case are deep enough to permit such oscillation without coming in contact with the upper surface of the cross-arms of the spindle. The pivots C C being placed in a plane parallel, or nearly so, with the base of the tube A, said plane passing through the point in the cockeye around which the stone would rotate, if it should rotate across the tubes it follows that, as power is applied to the spindle and through it to the case or shell B, the faces of the two stones will remain parallel to and at the same distance from each other, even though the plane which passes through the cockeye and that which passes through the spindle-arms be not parallel; or, in other words, if the spindle should stand in such a position that its cross-arms were not parallel with the face of the stone, the above-described arrangement of parts would still permit the faces or grinding-surfaces of the stones to remain parallel throughout the entire revolution of the revolving stone. Another advantage is that the power is applied to the case or tube A in a plane parallel to its face, said plane at

the same time passing through the cockeye, and hence there is no tendency to tip the stone, as is the case where there is not a double adjustment whenever the spindle gets out of tram with the face of the bed-stone. Should the spindle spring or tremble in running, this arrangement will allow the running stone to adjust itself to the bed-stone in such a manner as not to be affected thereby.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of a case or tube having in it a fixed receptacle for the upper end of the spindle, and the oscillating or swinging tube or case B, substantially as and for the purpose set forth.

2. The downwardly-projecting flange upon the

cylindrical portion of the case or tube A, in combination with the swinging tube B, substantially as shown.

3. The tube B, when provided with the projections B¹ B¹ and the pockets B² B², for the purpose set forth.

4. The combination of the case or tubes A and B and the cross-arms D' of the spindle, the parts being constructed and arranged substantially as and for the purpose specified.

In testimony of which invention we hereunto set our hands.

ADDISON H. NORDYKE.
DANIEL W. MARMON.

Witnesses:

JAMES SPEER,
CHARLES A. NORDYKE.