No. 788,900. PATENTED MAY 2, 1905.

J. F. HARRISON.

GYRATING FLOUR BOLTER.

APPLICATION FILED MAY 14, 1904.

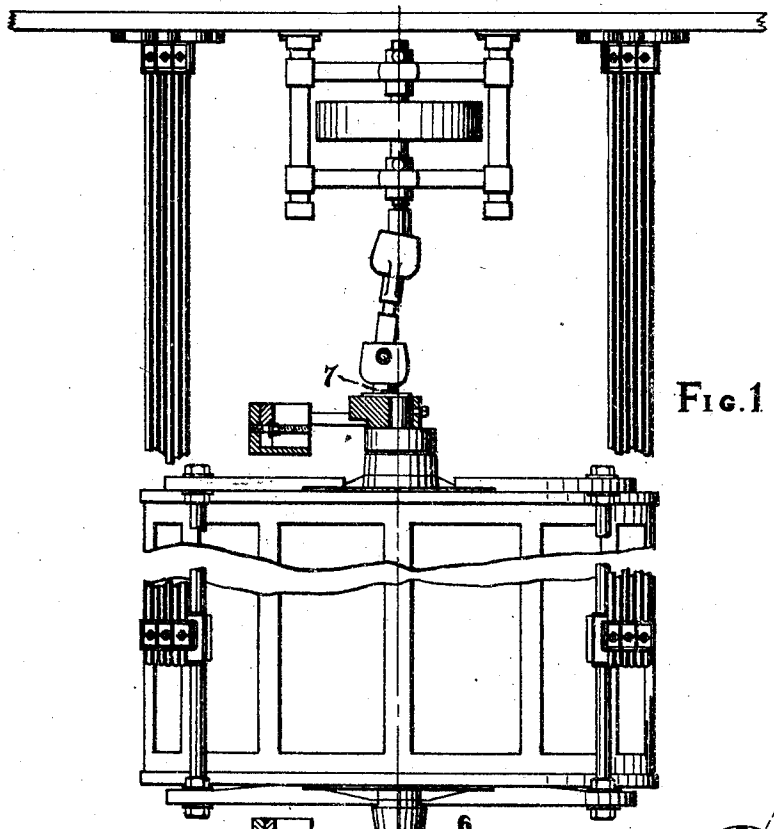


FIG. 1

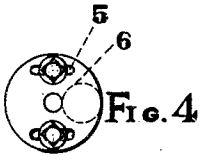


FIG. 4

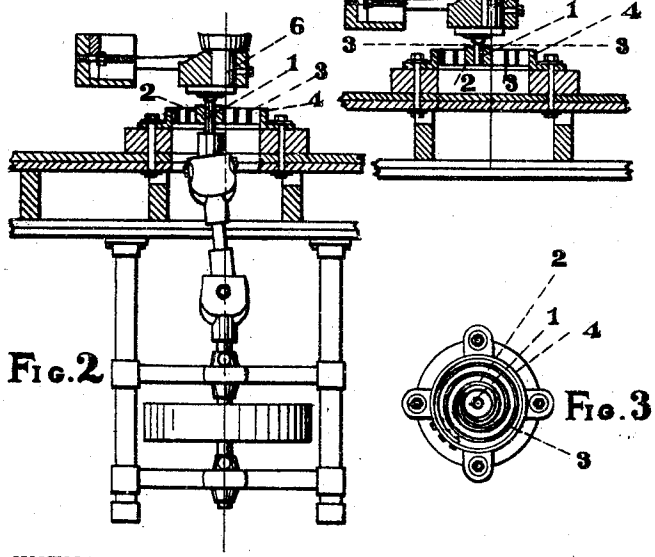


FIG. 2

FIG. 3

WITNESSES:

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No. 788,900. Patented May 2, 1905.

UNITED STATES PATENT OFFICE.

JOHN F. HARRISON, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO ALLIS-CHALMERS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

GYRATING FLOUR-BOLTER.

SPECIFICATION forming part of Letters Patent No. 788,900, dated May 2, 1905.

Application filed May 14, 1904. Serial No. 208,053.

To all whom it may concern:

Be it known that I, JOHN F. HARRISON, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Gyrating Flour-Bolters, of which the following is a specification.

My invention relates to improvements in gyrating flour-bolters, and is a further improvement on the device shown in my application, Serial No. 188,977, filed January 14, 1904.

It has been found in actual practice that the gyration of the bolter is more smooth and even when the drive is attached to an eccentric-pin located at a distance from the center of the shaft and bolter equal to one-half of the desired throw. The driving can take place from either the top or the bottom of the bolter, the suspension being near the center.

The invention is described in the following specification and shown on the accompanying drawings, in which—

Figure 1 is an elevation showing the entire bolter partly in section and partly broken away. Fig. 2 is a similar view of the lower portion of a bolter, illustrating the bottom drive. Fig. 3 is a plan view of the cushioning-spring, taken below line 3 3, Fig. 1. Fig. 4 is an enlarged inverted plan view of the eccentric-pin mounting, taken above line 3 3, Fig. 1.

Referring to Figs. 1 and 2, it will be seen that the eccentric-pin 1 is attached to the bottom of the shaft and carries a friction-roller 2, which barely bears against a coil-spring 3 when the bolter is in its ideal position. This coil-spring 2 is fastened at one end to an annular ring 4, firmly bolted to the mill-floor. A similar eccentric-pin 7 is mounted upon the upper part of the bolter and in line with eccentric-pin 1. The friction-roller and pin pass through the open center of this coil-spring, for which any other spring device may be substituted. The driving means (which, as shown, consists of a shaft having a double universal joint and a driving-pulley, these parts being rotatably mounted in a suitable framework) is applied to either eccentric-pin. Consequently when power is applied the pin, together with all the attached parts, is rotated. The pin and its friction-roller will at first abut against the spring, throwing the bolter outward in the direction of the weight until the critical speed has been reached, when it will move in the opposite direction until the center lines of the pins and the driving-shaft coincide and the friction-roller is in the center of the spring device, freely rotating therein. The bolter will thus move smoothly and evenly, the universal joint being only for the purpose of taking care of possible vibrations. As shown in Fig. 4, the plate carrying the pin is movable in slots 5, so that the distance from the center of the shaft 6 can be changed at will, and, if desired, the throw may thus be altered. The bottom drive is shown in a similar manner in Fig. 2, and the cushioning device may be located either at the top or bottom.

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

1. In a bolter, a sieve-box freely suspended for gyration, a driving-shaft, an eccentrically-weighted central shaft loosely mounted in the sieve-box, an eccentric-pin on the central shaft, and a flexible driving connection between the eccentric-pin and the driving-shaft.

2. In a bolter, a sieve-box freely suspended for gyration, a shaft loosely mounted therein, an adjustable eccentric-pin on the shaft, a driving means, and a flexible driving connection between the pin and the driving means.

3. In a bolter, a sieve-box freely suspended for gyration, an eccentrically-weighted shaft loosely mounted in the sieve-box, an eccentric-pin on the shaft, means for rotation applied to the eccentric-pin, and a cushioning device applied to the pin.

4. In combination, a bolter freely suspended for gyration, an eccentrically-weighted shaft loosely passing therethrough, an adjustable eccentric-pin mounted on the shaft, a cushioning device coacting with the pin, a flexible connection applied to the pin, and a driving means applied to the pin through the flexible connection.

5. In a gyrating bolter, a sieve-box freely

suspended for gyration, a shaft loosely therethrough, an eccentric means on the shaft, a weight, the shaft and weight being on opposite sides of the center line of the eccentric means, and driving means applied to the eccentric means.

6. In a gyrating bolter, a sieve-box freely suspended for gyration, a shaft loosely therethrough, an eccentric means on the shaft, a weight, the center line of the shaft and eccentric means and the center of gravity of the weight lying in the same plane, and driving means applied to the eccentric means.

7. In a bolter, a sieve-box, suspension-rods attached thereto for free gyration of the sieve-box, a rotatable shaft in the sieve-box, an eccentric-pin on the shaft, a weight on the shaft in the radial plane through the eccentric-pin, and a driving means applied to the eccentric-pin.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. HARRISON.

Witnesses:
G. M. HUBBARD,
FRED SUTER.