J. W. PORTER.
Mill-Spindle.

No. 206,483. Patented July 30, 1878.

Fig. 1

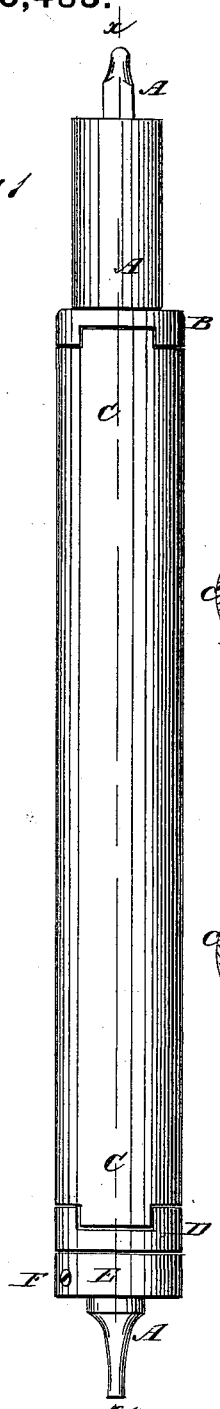


Fig. 2.

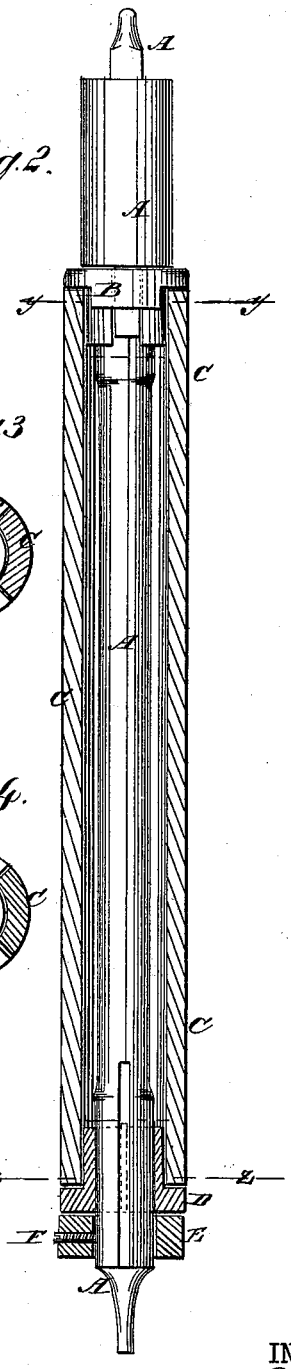


Fig. 3

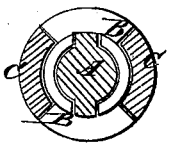
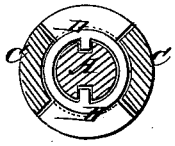


Fig. 4.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN W. PORTER, OF WESTPORT, CONNECTICUT.

IMPROVEMENT IN MILL-SPINDLES.

Specification forming part of Letters Patent No. **206,483**, dated July 30, 1878; application filed July 9, 1878.

To all whom it may concern:

Be it known that I, JOHN W. PORTER, of Westport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Anti-Vibration Millstone-Spindles, of which the following is a specification:

Figure 1 is a side view of my improved spindle. Fig. 2 is a longitudinal section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a cross-section of the same, taken through the line *y y*, Fig. 2. Fig. 4 is a cross-section of the same, taken through the line *z z*, Fig. 2.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish mill-spindles which shall be so constructed as to prevent their vibration, so that the stones will run truer and will grind the grain evener, making more and better flour than is otherwise practicable.

The invention consists in the combination of the sleeve, the clutches, and the collar with the spindle, as hereinafter fully described.

A represents an ordinary millstone-spindle, the lower end of which revolves in a step in the usual way. The upper part of the spindle A revolves in a bushing in the lower millstone, and its upper end carries the driver and the balance-rynd of the upper millstone. To the spindle A, just below the lower millstone, is keyed or otherwise secured a clutch, B, which engages with, and the hub of which projects into, the upper end of the sleeve C. The bore of the sleeve C is made larger than the diameter of the spindle A, so that the said spindle and sleeve will not touch each other. The lower end of the sleeve C engages with the clutch D, the hub of which enters and fits into the said lower end of the sleeve C. The clutch D is keyed or otherwise secured to the spindle A. The sleeve C and the clutches B D are kept from slipping apart by a collar, E, placed upon the lower end of the spindle A against the clutch D, and secured in place by one or more set-screws, F.

Power is applied to the spindle A by means of a pulley or gear-wheel attached to the sleeve C, and which is not shown in the drawings.

By this construction the vibration of the spindle A will be wholly prevented, so that the millstones will run with perfect accuracy when once properly adjusted, and will grind the grain uniformly over their entire faces.

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

The combination of the sleeve C, the clutches B D, and the collar E with the spindle A, substantially as herein shown and described.

JOHN W. PORTER.

Witnesses:

WALTER A. HOWARTH,
JOHN R. PALMER.