H. T. ASHWORTH.

MILL-SPINDLE BUSHES.

No. 190,463. Patented May 8, 1877.

Fig. 1.

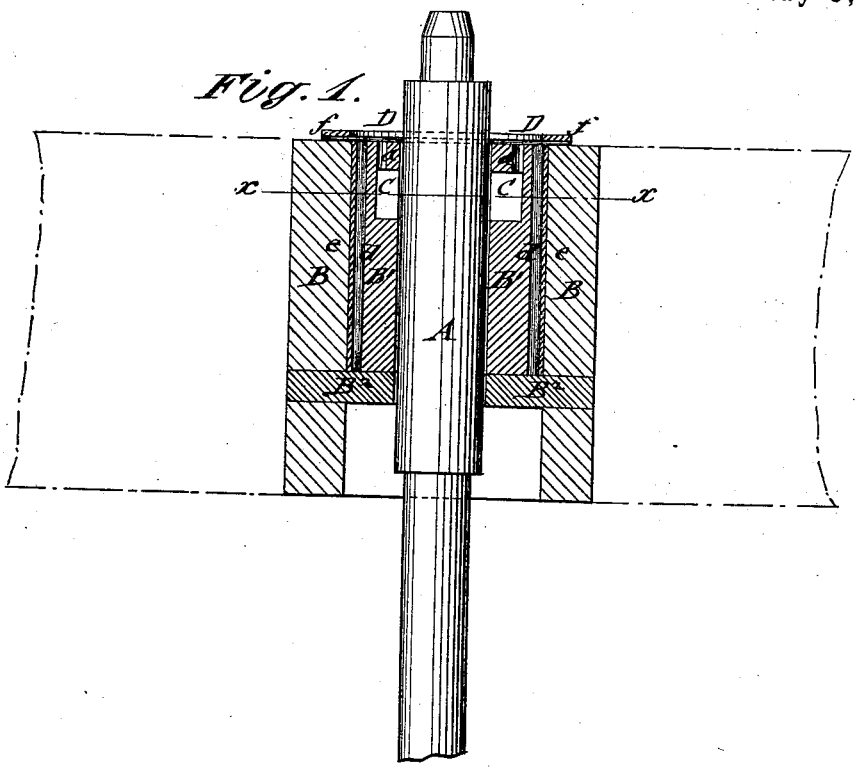
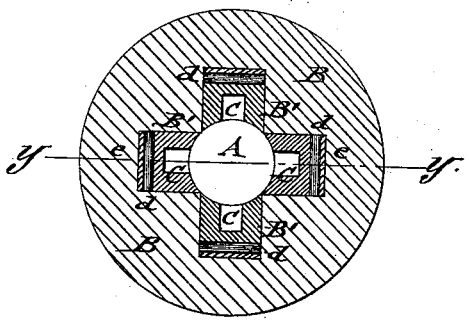


Fig. 2.



WITNESSES:

H. Rydquist

J. H. Scarborough.

INVENTOR:

H. T. Ashworth

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HARVEY T. ASHWORTH, OF CHATHAM, VIRGINIA.

IMPROVEMENT IN MILL-SPINDLE BUSHES.

Specification forming part of Letters Patent No. **190,463**, dated May 8, 1877; application filed March 12, 1877.

To all whom it may concern:

Be it known that I, HARVEY T. ASHWORTH, of Chatham, in the county of Pittsylvania and State of Virginia, have invented a new and Improved Millstone-Bush, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section of my improved self-lubricating millstone-bush on line *y y*, Fig. 2; and Fig. 2, a horizontal section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved self-lubricating millstone-bush that keeps the spindle supplied with the necessary grease for a considerable length of time, prevents the entrance of dust and other impurities to the journal-bearing, and provides in an effective manner for the expansion or contraction of the spindle.

The invention consists of a bush for the eye of the bed-stone, which is made of a block of hard wood or metal, and recessed for the reception of the cushioned journal-blocks or followers, that are recessed near the upper end, and filled with a suitable lubricating mixture. The top of the journal-block is tightly closed by a rubber cap fitting tightly around the spindle.

In the drawing, A represents the spindle that passes through the bed-stone, and revolves in the bush B, of hard wood or metal, that is secured in the eye of the same.

The interior of the bush is mortised for the reception of the radially sliding and guided journal-blocks or followers B^1, that constitute the bearing for the spindle, and are cut with the grain of the wood at right angles to the spindle.

Each journal-block B^1 has a recess, C, cut in the upper inside part, said recesses opening toward the spindle, and being filled with a suitable lubricating mixture—as, for instance, beeswax and tallow—which is poured in a melted state, through communicating top holes *a* of the followers B^1, into the recesses C. The holes are then corked or plugged up until they have to be again filled after the lubricating mixture has been spent.

Back of the follower B^1 are inserted rubber cushioning-pieces *d*, which act as springs to keep the blocks close to the spindle, and give way in case of expansion of the spindle by heat, insuring thereby equal wearing throughout the length of the box. For the purpose of adjustment, after wearing by use, one or more strips, *e*, of tin or other material, are placed behind each rubber cushion.

The journal-blocks B^1 are supported on radial blocks B^2, that are inserted into holes mortised at right angles to each other, in the same manner as the mortises of the blocks, but extended through the entire thickness of the bush B.

An india-rubber cap, D, is attached, by a metallic binding-ring, *f*, and fastening-screws, to the top of the bush, and is fitted tightly around the spindle, to prevent any dust or other impurities from entering the journal-box.

The millstone-bush is of cheap and simple construction, and may be run for a considerable length of time without refilling the lubricating recesses, being self lubricating and adjusting, and protected against the entrance of dust to the point of contact of the spindle with bush.

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

The combination of the millstone-bush B, having radial supporting-blocks B^2, and the followers B^1, having rubber cushions *d*, with the spindle inclosed by the elastic dust-cap described, substantially as shown and set forth.

HARVEY THOMAS ASHWORTH.

Witnesses:
J. G. SAUNDERS,
JOHN C. DICKENSON.