

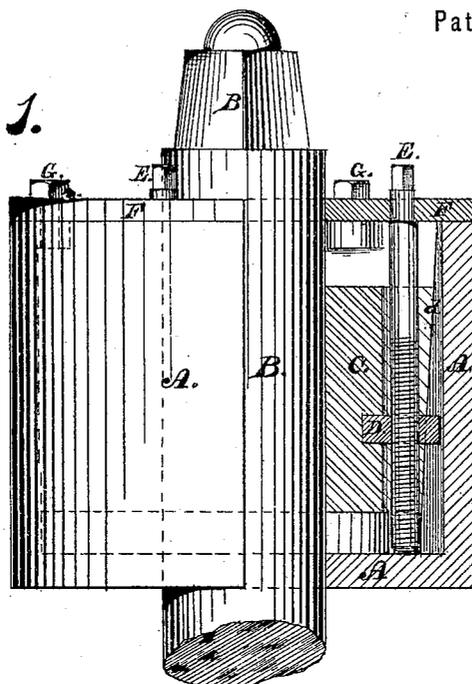
R. E. & F. A. HOWE.

Improvement in Bush for Mill-Spindles, &c.

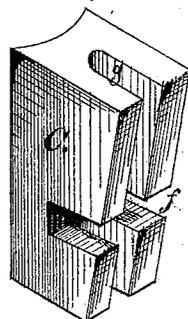
No. 130,373.

Patented Aug. 13, 1872.

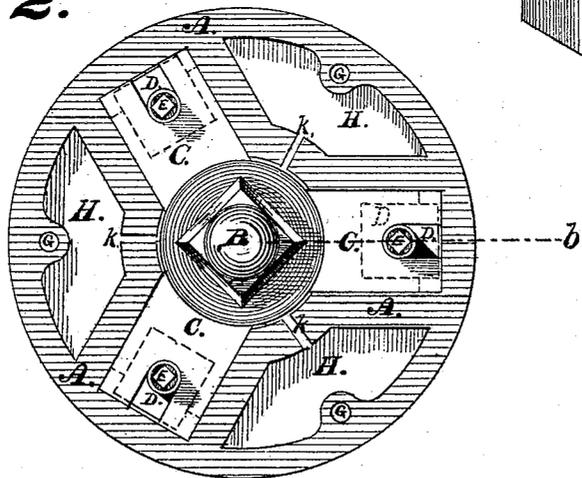
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BUSHES FOR MILL-SPINDLES, &c.

Specification forming part of Letters Patent No. 130,373, dated August 13, 1872.

### SPECIFICATION.

*To all whom it may concern:*

Be it known that we, ROBERT E. HOWE and FRANCIS A. HOWE, of the town of Somonauk, in the county of De Kalb and State of Illinois, have invented a new and Improved "Bush" or "Box" for Spindle or Flouring Mills and for other Upright Shafts; and we do hereby declare the following to be a full, clear, and exact description of the same, which will enable any one skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

In the drawing aforesaid, Figure 1 represents a side elevation and half section on the line B b, Fig. 2. Fig. 2 is a plan of the same. Fig. 3 is a perspective view of one of the "followers," as hereafter described.

Similar letters refer to the same parts in the different figures.

This invention relates to an improved bearing box or "bush" for the spindles of flouring-mills and for other upright shafts; and consists in constructing and arranging the several parts of the box or bush, so that each portion may be moved separately so as to compensate for any wear that may take place, and also that the parts may collectively be moved in a lateral direction for adjustment to the position of the shaft or spindle. Also, in so arranging these several parts that they may be operated in a simple and convenient manner, and, at the same time, with a great degree of accuracy. Also, in arranging the whole in a compact form, within a suitable case, which shall effectually protect the parts from derangement and dust.

The construction and operation of this "bush" are as follows: A represents the case, which is cast with a hole through its center, through which the shaft or spindle B is passed. At equal distances around this are three grooves, of proper width to receive the "followers," or portions of the box, C C C. The backs of these grooves are inclined, as shown by the line *d*, Fig. 1. In these grooves are fitted the three "followers" C C C, one of which is shown in in Fig. 3, each of which has its face cut out in the form of a circle to fit

the shaft, and faced with "Babbitt metal" or other suitable material. The back of the "followers" has the same inclination as the back of the grooves in which they are placed, as shown in Fig. 1. In the back of the "follower" C is cast a slot, *g*, through which the adjusting-screws E E E pass, while the nuts D D D on said screw are held in the slot *f*. The upper end of the adjusting-screws E pass through the top-plate F, by which they are held in place, while a shoulder on the screw, resting on the under side of the plate, prevents its rising out of position when operated. Above the top-plate the screws are "squared," to allow of their being turned by an ordinary wrench. It is evident from this arrangement of the parts that by turning the screw E the "followers" C C C may be raised or lowered, and, consequently, by their moving on the inclined backs of the slots, they will move up to or recede from the shaft or spindle, thereby furnishing the means of adjustment for wear, &c. In the case A are cast three apartments, H H H, which serve as oil-reservoirs. These are filled with oil, and wicks passing through the slots *k k k* furnish oil to the bearing, thus insuring perfect lubrication.

The top-plate F is firmly secured to the case by three bolts at G G G, and can be readily removed to refill the oil-reservoir when needed.

The advantages claimed for the bush are, that by the arrangement of the parts the adjustment of the "followers" is most easily accomplished.

In applying this bush to the spindles of flouring-mills it is bolted to or cast as a part of a plate under the lower "stone," and the case A being somewhat smaller than the "eye" of the stone has no connection with it. In applying it to other upright shafts it is only necessary that the "followers," oil-reservoirs, adjusting-screws, &c., should be arranged substantially as described, while the external shape may be to suit the position and conditions under which it is used.

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

1. In combination with a mill-spindle and

adjusting-screws E E E, the grooved and slotted followers C C C, and nuts D D D, as and for the purposes specified.

2. The screws E E E, nuts D D D, and wedge-shaped followers C C C, in combination with the top-plate F and the spindle, as and for the purposes described.

3. In combination with any upright shaft,

the followers C C C, nuts D D D, screws E E E, and top-plate F, all constructed as described, and for the purposes specified.

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