(12) **United States Patent**
Wings

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(54) **SPINDLE & BUSH, RING & BALL, FOR MILLS**

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Warren P. Wing, of Greenwich Massachusetts

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Warren P Wing himself of his improvement. "in the mode of constructing the Mill Bush or Spindle box for Flour Mills, and also of making and fixing a ring and bale in the eye of the upper Stone.

To all whom it may concern. Be it known that I Warren P. Wing of Greenwich in the County of Hampshire and State of Massachusetts have invented certain improvements in the manner of fixing the mill Bush or Spindle box and of constructing a ring and bale to be fixed in the eyes of mill stones for the grinding of flour or other articles. and I do hereby declare that the following is a full and exact description thereof. I make a box usually of cast iron which I adapt in size to the eye of the Stone. For the sake of facility in description I will give the dimensions of one which I have made and which after a fair trial has been found to answer well in practice. The box has a lip which fits on to it like a snuff box. It is ten inches in diameter and five inches in depth. The outer rim being three fourths of an inch in thickness. The bottom and top are both perforated in the centre so as to allow the mill spindle to pass through them. This box is to contain three bearing pieces of block tin or of any proper mixed metal which are to be simultaneously forced up against the spindle and which are in contact with it for about three fourths of its circumference. the remaining fourth being exposed to the cooling influence of the air. These metal bearings are cast into a follower of cast iron. a birds eye view of which is represented in the Letter H. the under end of which receives the cam or eccentric by which the bearings are to be forced up against the Spindle Cells to receive these followers are formed with the box by six wings or ribs extending from the top to the bottom. the sides of each of the three cells thus formed being parallel to each other that the followers may slide readily and freely therein. these wings are of course cast with the box. The said specification then went on to

contact of air with the spindle, and one of them is to be used for another purpose to be presently described. Between the rims of the box and the cap bars of each of the followers. The bottom is perforated to allow the passage of round rods of iron. the upper ends of which are formed into cams or eccentrics for forcing up the followers and for this purpose extend up through the whole depth of the box. The lower ends of the above named round rods or spindles extend down sufficiently below the bed stone. to allow of their being acted upon conveniently. as they are all to turn at the same time. The turning them simultaneously may be effected in various ways. but that which I deem the most simple is by attaching each of the spindles to a wring by means of a jointed crank so that when the wring is made to revolve. the followers will all advance at the same time. other modes will occur to any skilful Mechanician and need not therefore be specified. The cover of the box I make somewhat convex. it need not be more than one fourth of an inch in thickness. besides the perforation in its centre for the spindle I usually drill or cast holes through it near the rim or edge which I fill with wood in order to nail the elastic collar more to. In order to lubricate or oil the spindle I drill a hole through the bottom of the box near the gearsheave. and in one of the angles formed by it and one of the before named wings or checks in one of the void spaces. And extend down through this hole in the manner of those attached to the eccentrics and this carries a leaf within the box to which a sponge containing oil or a lump of grease. of any suitable kind may be attached. By turning this rod the oil or grease is brought into contact with the spindle and lubricates it. and this may be done in a moment as often as it is found necessary. My improvement in the bale and wring consists in casting them in one entire piece. in such way that the wring may be let into and firmly affixed in the eye of the stone. The bale rises as a semicircle above the wring. or forming such other curve between ~~the~~ opposite points on the diameter of the wring as shall adapt it to the cant heads of spindles already made. Gains or notches are made under the ends of the bale in the wring to receive the drivers. What I claim as my improvement is the construction of a spindle Box in which the followers are in-

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ced up by eccentrics or cams without the necessity of stopping the mill and operating substantially in the manner described. I also claim the arrangement for lubricating as herein described. and likewise the manner of constructing the ring and tube in one piece, as herein set forth. not however intending to confine myself to the exact forms which I have described but to vary the same in any manner which I may think proper. whilst the like ends are obtained by means substantially the the same

Witnesses
Sam. Hutchings
D. S. Mitts.

Warren P. Wing

Exd
W.P.W

1008 words