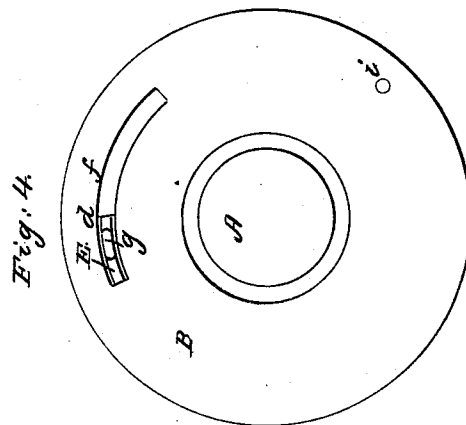
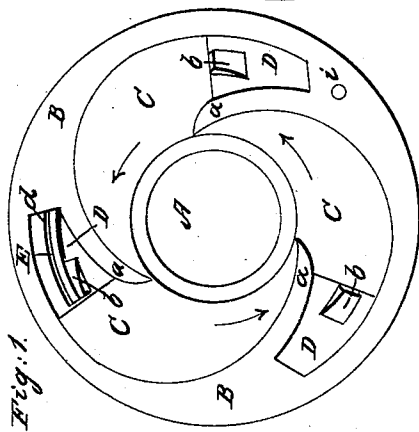
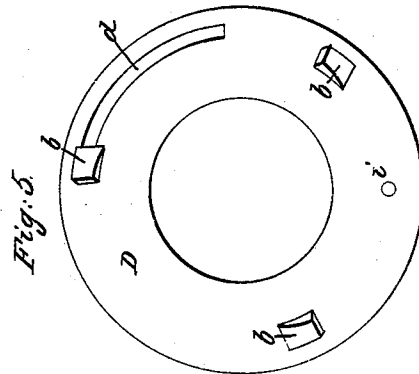
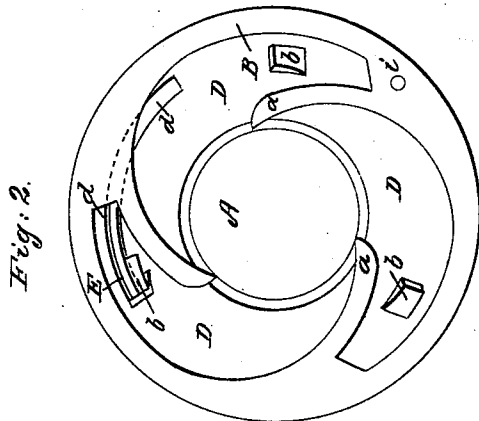
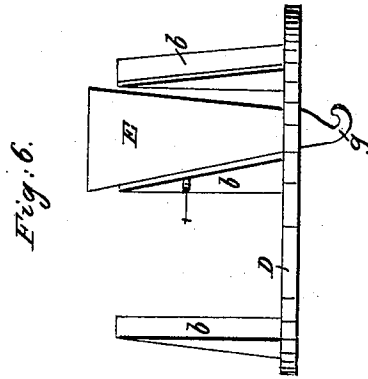
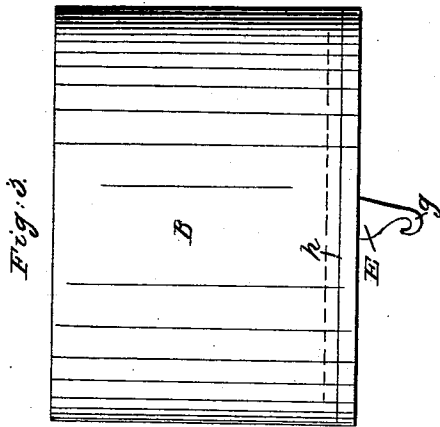


G. L. DULANEY.

Mill Spindle.

No. 13,029.

Patented June 12, 1855.



UNITED STATES PATENT OFFICE.

GEO. L. DULANEY, OF MOUNT JACKSON, VIRGINIA.

MILL-BUSH.

Specification of Letters Patent No. 13,029, dated June 12, 1855.

To all whom it may concern:

Be it known that I, G. L. DULANEY, of Mount Jackson, in the county of Shenandoah and State of Virginia, have invented
5 a new and useful Improvement in Mill-Bushes and other Journal-Boxes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings,
10 making part of this specification, Figure 1 being a plan of a mill-bush constructed in my improved manner; Fig. 2, a similar view, the wedge-cheeks being removed; Fig. 3, an elevation of the same; Fig. 4, a bottom view thereof; Fig. 5, a plan of the movable disk
15 which carries the wedge cheeks; Fig. 6, an elevation of the same, the tightening-wedge also being shown in place.

Like letters designate corresponding
20 parts in the several figures.

The nature of my invention consists, in surrounding, the mill spindle, or journal, with wedge-shaped cheeks *c, c, c*, all converging laterally in the same direction
25 around it; and in causing said cheeks to automatically close against the spindle, or journal, as it wears loose, by means of a self-acting wedge *E*, pressing against a disk *D*, which carries said cheeks, and is movable in
30 a circle around the spindle, or journal, substantially as hereinafter set forth.

The bush is essentially composed of a shell *B*, generally cast in a single piece; of a disk *D*, situated in a recess in the bottom
35 of the shell, where it is allowed to turn freely; of a self-acting wedge *E*, arranged so as to be able to move said disk, around the spindle; and of a number of wedge-shaped cheeks *C, C, C*, occupying spaces of a similar shape in the shell *B*, fitting around the
40 spindle *A*, and resting upon the said movable disk. The number of cheeks employed is not essential, three being the most convenient. They are substantially of the shape
45 represented in Fig. 1, with the inner sides fitting the spindle and of such size as, together, to nearly or quite surround it. The exterior side of each is curved in such a manner as to meet the inner curve at one
50 edge and leave it thick at the other edge, thus giving it a wedge shape. These cheeks fit into spaces in the shell *B*, of corresponding shape, but having additional room not occupied, at the backs thereof, sub-
55 stantially as shown in Figs. 1 and 2. Be-

tween these spaces are wings *a, a, a*, curving in from the outer portion of the shell, to the spindle, where each converges to an edge, as represented. The cheeks rest upon the disk
60 *D*, which may be confined in its recess by a plate *h*, (Fig. 3,) or in any other convenient manner. It should be fitted so as to turn easily in its place. It is provided with a number of projections *b, b, b*, or their equivalents, equal to the number of cheeks. They
65 are so situated as all to bear uniformly against the backs of said cheeks respectively, as represented in the drawings; so that as the disk is caused to turn in the direction indicated by arrows in Figs. 1 and 6, the
70 cheeks will be caused to move in the same direction. Through this disk is a concentric slot *d*, so situated, that one end terminates at or near the back of one of the cheeks. A corresponding aperture *f*, (Fig. 4,) is made
75 in the bottom of the shell *B*. Into said slot, is inserted a wedge *E*, one edge of which bears against the shell *B*, (as shown in Figs. 1, 2 and 4,) and the other edge acts against the disk *D*. For convenience, one of the
80 projectures *b*, may be of a shape corresponding to said wedge, and the wedge bear against it. The wedge by its weight causes the disk *D* to move in the direction indicated by the arrows in Figs. 1 and 6, and
85 consequently move all the cheeks *C, C, C*, simultaneously in the same direction; which causes them to closely wedge in the spindle *A*, as fast as it wears so as to allow them to do so. The spindle is thereby kept
90 from wobbling, an indispensable desideratum in grinding mills. At the same time the wedge *E*, does not act with such power as to cause the cheeks to bind the spindle tightly, and its wedge form is so gradual
95 that it cannot be forced back by the action of the spindle. The wedge may be furnished with a hook *g* at its lower end, for suspending weights, so that any desired degree of pressure may be exerted upon the
100 spindle. If it is desired to prevent the cheeks pressing against the spindles, a pin may be inserted through the hole *i* which will hold the disk *D* immovable.

The above described improvement is also
105 applicable to journal boxes for vertical shafts, or spindles, generally. It may also be applied to horizontal journals, with slight, obvious modifications, to adapt it to that position. The wedge *E*, in that case,
110

may be operated by means of a cord passing over a pulley, and a weight attached to the end thereof.

5 In order to admit of the oiling or lubrication of the spindle, or journal A, holes or openings may be formed, in the shell B, Fig. 4, similar to I.

What I claim as my invention and desire to secure by Letters Patent, is—

10 The wedge cheeks C, C, C, movable disk D and self-acting wedge E, or their equiva-

lents, combined and operating substantially in the manner and for the purposes herein set forth.

The above specification of my new and 15 useful improvement in mill bushes and other journal boxes signed by me this 5th day of May 1855.

GEORGE L. DULANEY.

Witnesses:

C. K. MOORE,
JOHN C. THOMPSON.