

Mill Spindle.

Patented Dec. 28, 1840.



UNITED STATES PATENT OFFICE.

DAVID PHILIPS, OF GEORGETOWN, PENNSYLVANIA.

IMPROVEMENT IN THE MODE OF CONSTRUCTING AND SECURING WING-GUDGEONS FOR MILLS.

Specification forming part of Letters Patent No. 1,917, dated December 28, 1840.

To all whom it may concern:

Be it known that I, DAVID PHILIPS, of Georgetown, in the county of Mercer and State of Pennsylvania, have invented a new and useful Improvement in Gudgeons and in the Mode of Securing Them, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the gudgeon. Fig. 2 is a view of one end of the shaft, showing the channels to receive the wings, arms, and keys of the gudgeon; Fig. 3, one of the wedges.

Similar letters refer to similar parts.

The nature of this invention and improvement consists in making the gudgeon with wings radiating from its periphery at right angles thereto, and with notched arms projecting from said wings nearly at right angles and in an opposite direction from that of the gudgeon, and which arms and wings are let into the shaft in channels made therein, the wings being let into the ends and the arms into the sides of the shaft, and which arms are secured by keys let into cross-grooves in the shaft and driven into the notches of the arms, which draw the gudgeons firmly against the ends of the shaft, and which are further secured by bands passed over the arms and shaft. The wings W radiate or start from the shaft or journal B in the same manner as in the common wing-gudgeon, to suit any-sized shaft desired. For a shaft one foot in diameter the wings may be about three inches long, and when let into the end of the shaft leaving all the journal clear. To each wing there is an arm, C, which extends back about a foot clear of the wings, and nearly at right angles, bearing outward a little, so that a band can be put over them conveniently. They may be about two inches wide and one inch thick, with a notch, D, cut out of the inside edge one inch deep, commencing about an inch from the ends and about two inches long, for a key, E, to draw the wings hard against the end of the shaft and to keep it to its place. The arms are let into the shaft flush by cutting out grooves F to receive them, and

transverse mortises G are cut in the shaft, at right angles to the longitudinal mortises, to correspond with the mortises or notches in the arms, and made to draw sufficiently to force the gudgeon home, as above described, by keys of iron or hard wood, and the notches made any size to admit keys sufficiently strong to hold it firm for any purpose or to suit circumstances.

The advantages of this improvement consist in the saving of metal in the casting of the gudgeon, and in the permanence with which the gudgeon can be attached to the shaft, and the convenience with which it can be taken off or fastened at pleasure and made true; also, in its not being liable to get loose from the contraction of the shafts, to the same extent of the wing-gudgeon, as it (the wing-gudgeon) divides the shaft into four equal parts the whole length. Each part contracts to a common center, and consequently leaves the gudgeon at every point, and it thus becomes loose. In my improvement the gudgeon will in this respect be affected but slightly. The wings being short, the wood will part as it shrinks, and must contract toward the wings in its general bearing, it being toward one common center of the shaft; and there may be a hole bored in the center of the shaft, extending as far back as the arms, or farther, and this would prevent the contraction almost entirely.

The shaft may be made round, square, or polygonal; but I would prefer the square form, as this will give more bearing to the keys.

There may be a band cast on the ends of the arms round, square, or polygonal; or it may be made separately, of wrought-iron, and driven over the arms and shaft.

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

The mode of attaching and securing the gudgeon to the shaft by means of the notched arms and keys, as before described.

DAVID PHILIPS.

Witnesses:

WM. P. ELLIOT,
E. MAHER.