E. Bancroft,

Shaft Hanger.

No. 6,780, Patented Oct. 9, 1849.

Fig. 3.

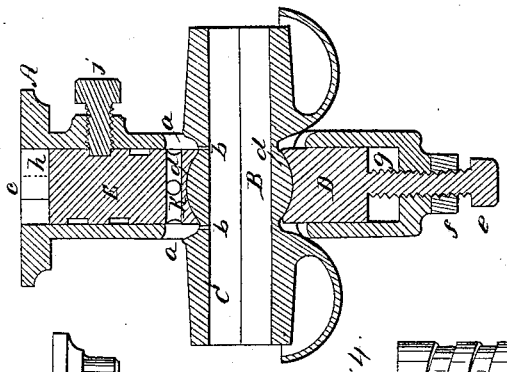


Fig. 4.

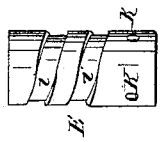
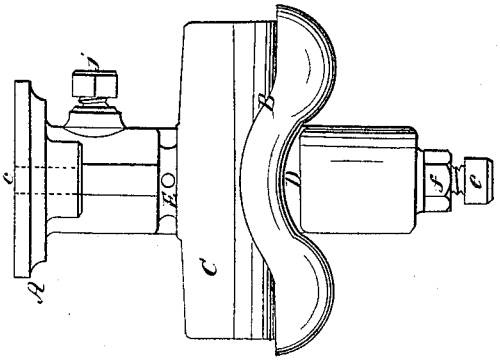


Fig. 2.

Fig. 1.



UNITED STATES PATENT OFFICE.

EDW. BANCROFT, OF PHILADELPHIA, PENNSYLVANIA.

HANGING SHAFTS IN MILLS.

Specification forming part of Letters Patent No. 6,780, dated October 9, 1849; Reissued May 12, 1857, No. 463.

To all whom it may concern:

Be it known that I, EDWARD BANCROFT, of the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Mill-Shafting; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a geometrical front elevation of a complete hanger; Fig. 2, a side elevation thereof; Fig. 3, a transverse section of the same; and Fig. 4, a representation of the upper and binding part of the socket, by means of which the box is held securely in its proper place, when adjusted.

The improvements referred to, consist in making the bearings or supports for shafts, whether hangers or pillow-blocks, in such a manner that they shall at all times and under any circumstances, conform accurately to the journals of the shafts; also in being susceptible of easy and accurate adjustment, in a vertical direction, in case of any sinking or settlement of the walls or timbers to which they may be attached; and, at the same time, not be more liable to be thrown "out of line" than bearings of the ordinary construction; and further, in making the oil-catcher form a part of the box of the hanger or pillow-block, by casting it thereto, thus giving it additional strength without unnecessarily increasing its weight. Said hanger is constructed of five main-parts (more or less, as the case may require), viz: the pedestal or principal part A; the lower part B of the box, to which the oil-catcher is attached; the upper part or cap C of the box, in which is the reservoir *a* and oil conducting orifices *b*, the lower socket D, which sustains the box; and the upper socket E, which by its action retains the box securely in its place when adjusted.

The pedestal A of the hanger is attached to the floor or timbers of the mill, by means of screwbolts passing through the holes *c* (indicated by dots) near its extremities. The form of this part may be varied in order to adapt it to the situation in which it may be used, whether suspended from the underside of a beam, attached to the side of a post, or resting on the floor or upper surface of a wall; the form will vary according to the situation, in order that the securing-bolts may be properly applied.

The shaft governs the position of the box with respect to itself, by means of the common ball and socket-joint *d*, as shown in section in Fig. 3. The vertical adjustment of the box is obtained by means of a set-screw *e* and pinching-nut *f* acting on the underside of the lower socket D, which latter is accurately fitted into a cylindrical cavity *g* in the lower part of the pedestal A. The box is firmly retained and held in its place by the upper socket E, which is also accurately fitted in a similar cylindrical cavity *h* directly over and in a line with the lower cavity which holds the socket D, the spherical portion of the box being thus embraced between these two sockets.

The socket E is furnished with a spiral groove *i* cut or cast in its upper portion, into which groove the end of the setscrew *j* enters, acting therein as a nut; and two holes *k* are drilled through said socket at right angles near its lower extremity. These holes are for the purpose of introducing a lever and screwing the socket E down on to the box after it has been adjusted, when it is retained and prevented from unscrewing by the setscrew *j*, which is screwed up tight against the bottom of the spiral groove or thread *i*. By slacking the set-screw *j*, the socket E may be run up out of the way to allow of the cap of the box being taken off, for cleaning or any other purpose. The shaft may also be taken out and the lower part of the box may be also removed, without altering in any manner the adjustment of the parts, and the whole may be replaced in their original position with certainty and ease. That part of the box and cap which is embraced by the sockets D and E is made a segment of a true sphere by means of a tool properly adapted for the purpose, and the concavities of the sockets are accurately made of a corresponding size, so as to insure a close and perfect fit in whatever position the box may be thrown by the governing action of the shaft.

The advantages possessed by this arrangement are: that it may safely be used for the largest and heaviest kind of mill-work, by merely proportioning the parts to the size of shafts, and the box may be renewed, when worn out, at a very little cost, without altering or disturbing any other

part. In cases where a quick speed is required on shafting of considerable weight, a bearing of any desired length may be used by these means with a certainty of a beneficial result.

I do not claim the suspending a box or bearing for a shaft by means of the ball and socket joint, nor the making the same in several parts; but

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

The general arrangement and construction of the complete hanger or pillow-block, with or without the oil-catcher forming a part thereof, made substantially in the manner and for the purposes herein above described.

EDWARD BANCROFT.

Witnesses:
WM. BANCROFT,
WM. SELLERS.

[FIRST PRINTED 1913.]