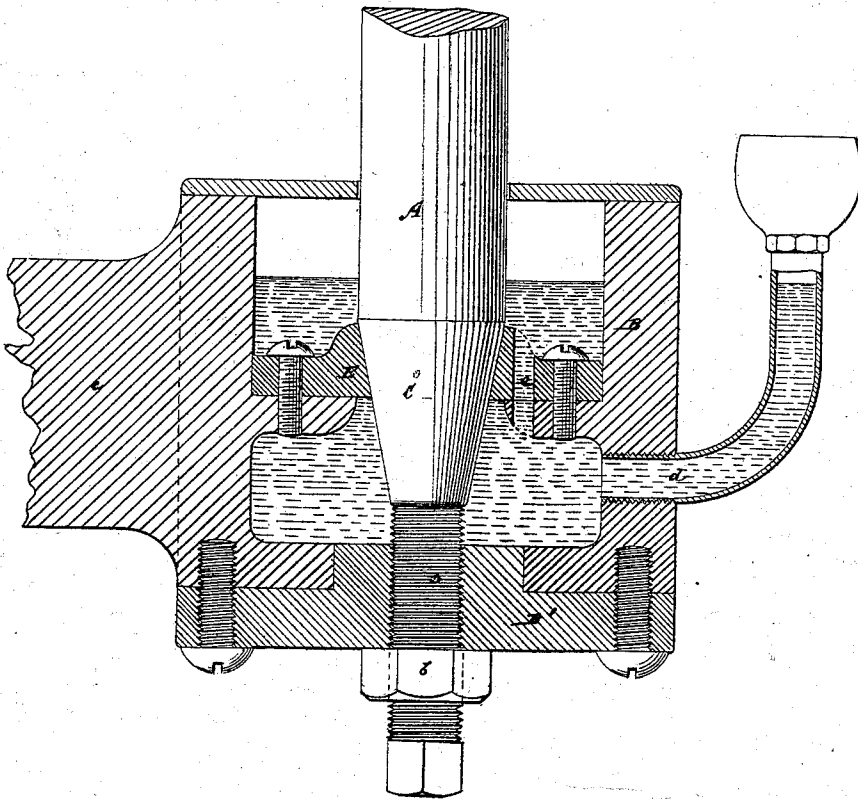


G. M. BALL.
Shaft-Bearings.

No. 135,506.

Patented Feb. 4, 1873.



Witnesses
Fred Hays
Fred Ruch

George M. Ball
per Brown & Allen
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE M. BALL, OF GREEN POINT, BROOKLYN, ASSIGNOR TO ISAAC HERMAN, OF NEW YORK, N. Y.

IMPROVEMENT IN SHAFT-BEARINGS.

Specification forming part of Letters Patent No. 135,506, dated February 4, 1873.

To all whom it may concern:

Be it known that I, GEORGE M. BALL, of Green Point, in the city of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Step-Bearings for Upright Shafts, of which the following is a specification:

This invention consists in a combination of a stationary, perforated, conical collar with a cone at the base of the shaft, and step-screw arranged to project up within an oil-box, in which said collar and the cone of the shaft fitting the collar are placed, whereby, on supplying oil to the box, it passes through the collar and lubricates the whole step-bearing surfaces of the shaft; also provides for the lateral support of the shaft in an adjustable manner within or through the collar, substantially as hereinafter described.

The accompanying drawing represents a sectional elevation of my improved step-bearing, with upright spindle therein.

A is an upright spindle or lower portion thereof, arranged to project down within an oil-box, B, for rotation therein, and formed with a cone, C, at its lower end, where it is supported on a step-screw, D, which is entered through the bottom or base bonnet B' of the oil-box, and is adjustable from below, subject to the control of a jam-nut, b, to provide for raising or lowering the spindle, as required. The oil-box B may be carried by an arm, c, or in any other suitable manner, and is in communication by a pipe, d, near its base, or below a stationary collar-bearing, E, with an oil-reservoir or supply device that will furnish a head or pressure sufficient to carry the oil

above the collar-bearing, and which may be fitted with a cock to regulate the supply. The collar-bearing E, which serves as a lateral bearing for the spindle, is constructed with a conical eye to fit the cone C of the spindle, and is secured in a stationary manner within the oil-box near the upper portion of the cone when the spindle is in its place. Said collar-bearing has one or more perforations, e, through it, or is otherwise made open, to allow of the oil passing through it and lying both above and below the collar, whereby the whole spindle works in oil so far as its step-bearings, both lateral and vertical, are concerned, thus insuring an easy run of the spindle and preventing heating. Furthermore, by reason of the conical eye of the collar-bearing E, arranged to fit the cone C of the spindle, provision is afforded, as the exigencies of wear or other circumstances require, for adjusting the support of the spindle laterally within the collar-bearing, by simply adjusting the step-screw D to raise or lower the spindle, whereby the spindle, regardless of wear, may always be supported laterally, free from excessive friction, and the step-screw be caused to carry the heft of the spindle.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination, with the oil-box B, of the perforated conical collar-bearing E, the cone C of the spindle, and the step-screw D, substantially as specified.

GEO. M. BALL.

Witnesses:

FRED. HAYNES,
MICHAEL RYAN.