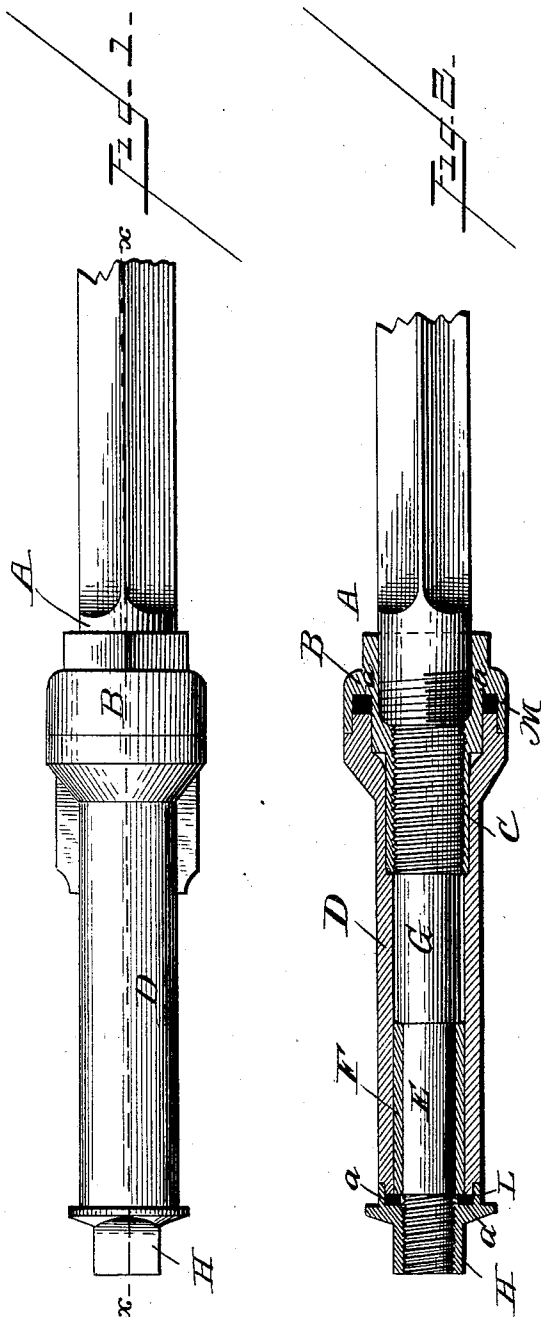


(No Model.)

W. H. MATTHEW.
AXLE.

No. 479,223.

Patented July 19, 1892.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM H. MATTHEWS, OF ZANESVILLE, OHIO.

AXLE.

SPECIFICATION forming part of Letters Patent No. 479,223, dated July 19, 1892.

Application filed March 22, 1892. Serial No. 425,893. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MATTHEWS, a citizen of the United States, and a resident of Zanesville, in the county of Muskingum and State of Ohio, have invented new and useful Improvements in Axles; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to new and useful improvements in axles, the object of the invention being to provide a perfectly-operating axle in which the axle-skein finds its bearing wholly on the movable parts and not on the axle proper.

The invention consists of certain novel features in the arrangement and construction of parts, all as hereinafter explained, and in forming the removable sleeves or bearing portions of the axle of brass, whereby to reduce the friction.

Referring to the accompanying drawings, in which my invention is fully illustrated, Figure 1 is a side elevation of the axle having the axle-skein thereon. Fig. 2 is a longitudinal sectional view taken on the line *xx* of Fig. 1, the axle proper not being shown in section.

The axle A is formed without the square shoulder at the inner end of the bearing portion to provide an abutting face for the hub; but it is at this point screw-threaded to receive an adjustable shoulder-sleeve B. This adjustable shoulder is provided with a screw-threaded portion C, which forms the main bearing of the axle-skein D on the axle.

The outer end E of the axle is reduced in size and fitted with a brass sleeve F of a thickness sufficient to extend above the sur-

face of the central portion G of the axle, and thereby cause the axle-skein to bear on the sleeves F and C and not on any part of the axle proper. These removable bearings are of brass, as is the end nut H for preventing the hub from being forced from off the axle, for by constructing these parts of brass, which are subject to the friction of the axle-skein, a better and more regular bearing-surface is present at all times, and when these bearings become worn down new ones can be readily applied with but little expense.

The nut H and the adjustable shouldered sleeve B are respectively provided on their inner faces with an annular recess L and M to receive the reduced ends of the axle-skein D, so that it will be impossible for any dust or other material to enter between it and the axle-bearing. These recesses L and M are preferably provided with washers *a*; but, owing to the adjustability of the shouldered sleeve B, they may be used of varying sizes, the shoulder being adjusted backward or forward, as may be required, to take up loose play.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the axle A, provided with a screw-threaded portion, the shouldered sleeve B C, adapted to engage the said screw-threaded portion and be adjusted thereon, and a sleeve or bushing F, adapted to fit the reduced portion E of said axle, substantially as described.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WILLIAM H. MATTHEWS.

Witnesses:

J. T. PALMER,
ALBERT SCHERER.