

A. ONSLOW.
Car-Axle Box.

No. 219,009

Patented Aug. 26, 1879.

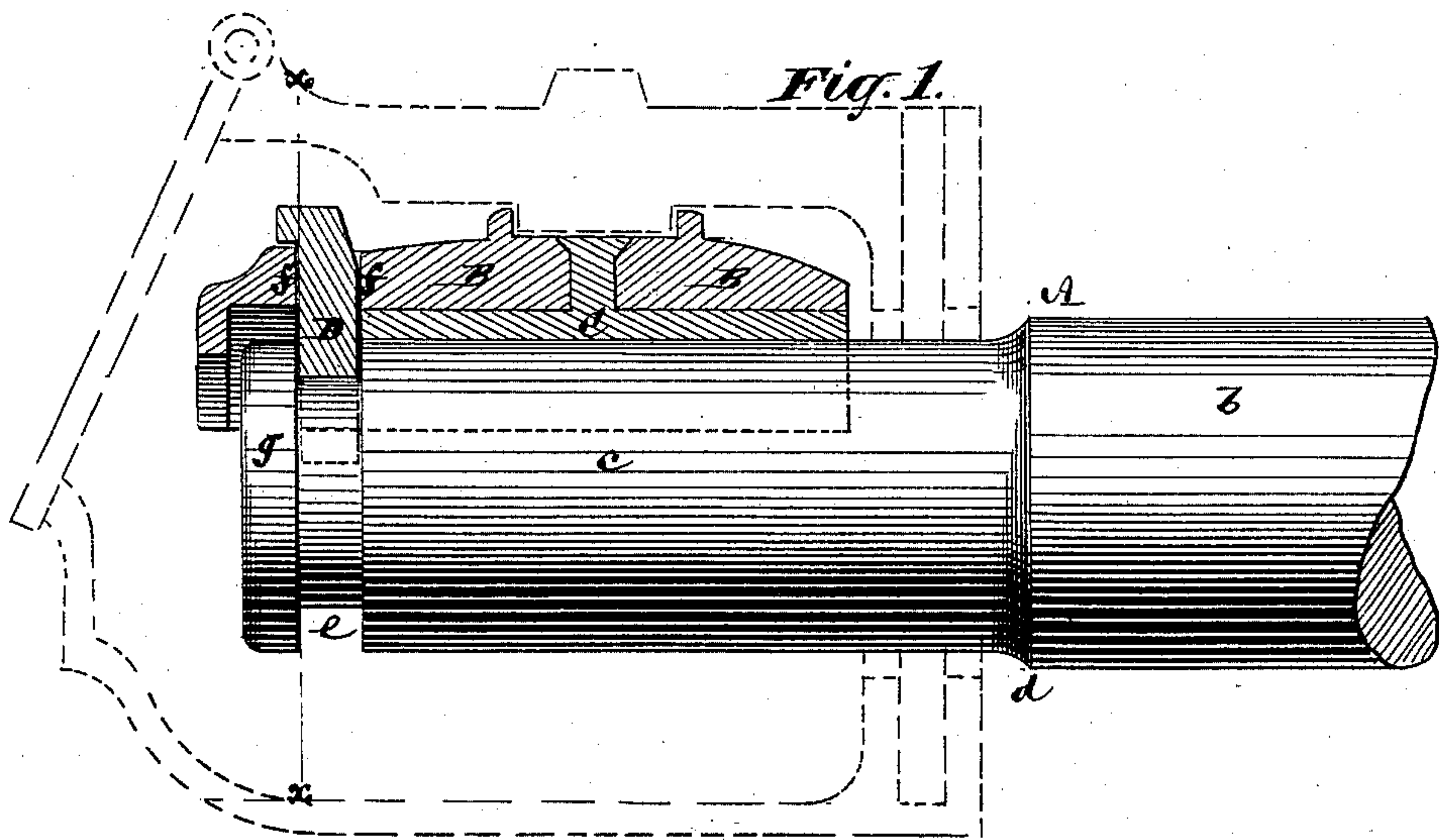
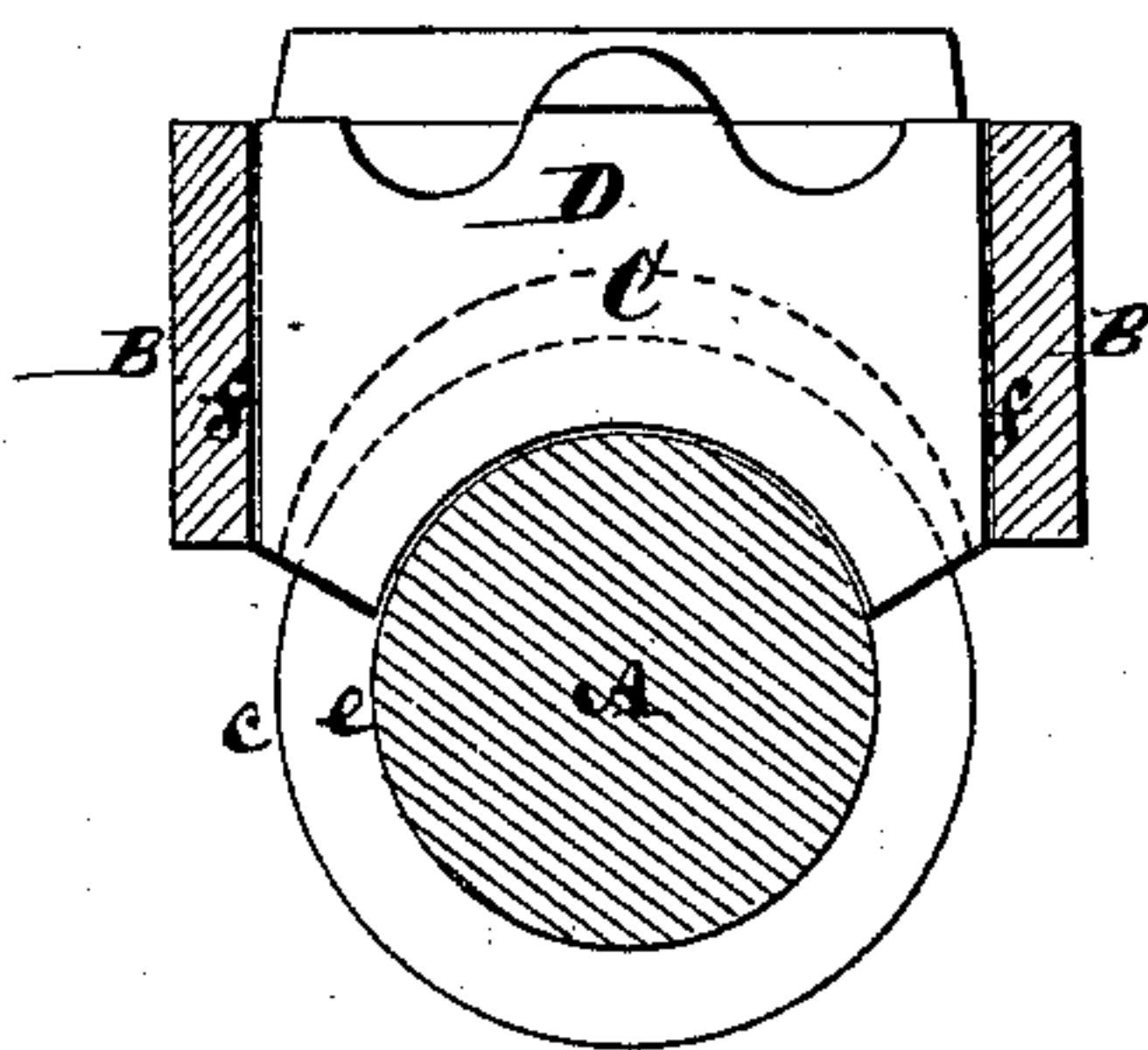


Fig. 2.



Witnesses

John Becker
Fred. Haynes

Inventor

Adolphe Onslow
by his Attorneys
Brown & Brown

UNITED STATES PATENT OFFICE

ADOLPHE ONSLOW, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **219,009**, dated August 26, 1879; application filed November 29, 1878.

To all whom it may concern:

Be it known that I, ADOLPHE ONSLOW, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in the Journals of Railroad-Car Axles and the Boxes or Bearings therefor, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

This invention consists in an annularly-grooved construction of the end or journal portions of the axle, whereby collars of greater diameter than the journals may be dispensed with, and in certain combinations, with such an axle, of a journal-bearing and a stop fitted thereto, arranged to engage with the groove in the axle, whereby numerous advantages are obtained.

In the accompanying drawings, Figure 1 represents a longitudinal view of one end portion of a railroad-car axle and journal-bearing, with a stop bar or device applied thereto in section, the whole being constructed in accordance with my invention. Fig. 2 is a transverse section of the same on the line *x x*.

A is the axle, in part, the main portion of which, up to and including the wheel-seat *b* at each end, is or may be constructed like the car-axles in ordinary use, but lighter or of reduced diameter throughout the greater portion of its length, especially at the wheel-seats, as each journal *c* has no collar of greater diameter than itself. From the shoulder *d* of each wheel-seat out to the adjacent end of the axle the diameter of the latter is of uniform size, and an annular groove, *e*, is turned in it at or beyond the outer end of the bearing portion of the journal.

B is the bearing, and C the lining or seat proper, both of which may be of like construction at opposite ends of the axle.

Said journal-bearing may be of any suitable exterior construction, according to the housing or car-box it is designed to fit, but which has a transverse slot, *f*, in it opposite or immediately outside of the outer-end portion of the journal *c*. This slot serves to receive a stop or stop-bar, D, which, when dropped to its place or inserted within said slot, enters the annular groove *e* in the axle, and governs or checks the strains on the axle which are incidental to lateral thrust.

To remove the journal-bearing from the axle it is only necessary, after the housing has been jacked up, to raise the stop or stop-bar D sufficiently high to clear the outer collar, *g*, of the axle formed by the groove *e*, when or after which the journal-bearing may be drawn or forced out over the end of the axle.

In some cases the bearing may be made of one piece, without lining, and with a slot at the outer end for the stop or stop-bar which enters the groove in the axle.

The advantages of my invention will be best explained by the following statement: Experience has established the fact that while the horizontal or longitudinal surface of a railroad-car-axle journal, as heretofore constructed, is sufficiently large to carry a given load without excluding a proper supply or stratum of oil between the rubbing surfaces, the collars usually formed on both ends of the journals to withstand the lateral pressure or thrust which is exerted when the car is rounding curves on the road are far from having surface enough to prevent the lubricant from being crushed or worked out between or past their respective revolving surfaces, and the collars and ends of the bearings with which the latter come in contact grind into or against each other, thereby causing the bearings, which are usually made of softer metal, to be rapidly cut away. This produces a gradual reduction of the journal-bearings in length, and leads to undue lateral shocks and often heating of the bearing.

My invention not only obviates this defect, but it enables me to use a lighter axle in the rough state, owing to the small amount of waste material which is necessary to finish it. Likewise it reduces the cut necessary for finishing the journal portions of the axle, and insures tougher outer or bearing journal surfaces by forming the same next to the "hammer-skin"—that is, the portion of the iron on which the blows of the hammer, in making the axle, have been most sensibly felt. Furthermore, by doing away with a shoulder on the axle next to or abutting against the inner end of the bearing of the journal, the axle is made safer when in service, or less liable to be bent in the act of removing the wheel, the journal itself, by reason of the absence of any pro-

truding collars, being made larger than usual, while the wheel-seats and intermediate portion of the axle may be of smaller diameter than is ordinarily the case. Thus the initial horizontal or longitudinal bearing-surface of the journal may be the same as heretofore, or even shorter, while the surface to resist lateral pressure is increased. Again, as there are no protruding collars over which the journal-bearing has to pass in being entered within the housing, the latter may have a much smaller bottom opening than usual, to afford protection against loss of oil and other losses or inconveniences.

Another advantage of my invention is that the stop-bar D requires no extraneous fastening to retain it in place. When the journal

and the brass or bearing B are in place in the journal-box the stop-bar D is effectually locked in place, and cannot jump out.

I claim—

The combination of the bearing B, slotted vertically near its outer end, the journal *c*, provided near its end with a circumferential groove, *e*, and the movable flanged stop D, passing through the slot in the bearing into the groove in the journal, all constructed substantially as and for the purposes herein set forth.

ADOLPHE ONSLOW.

Witnesses:

T. J. KEANE,
E. P. JESSUP.