

H. RICHARDSON.

Axle-Box.

No. 68,460.

Patented Sept. 3, 1867.

Fig. 1

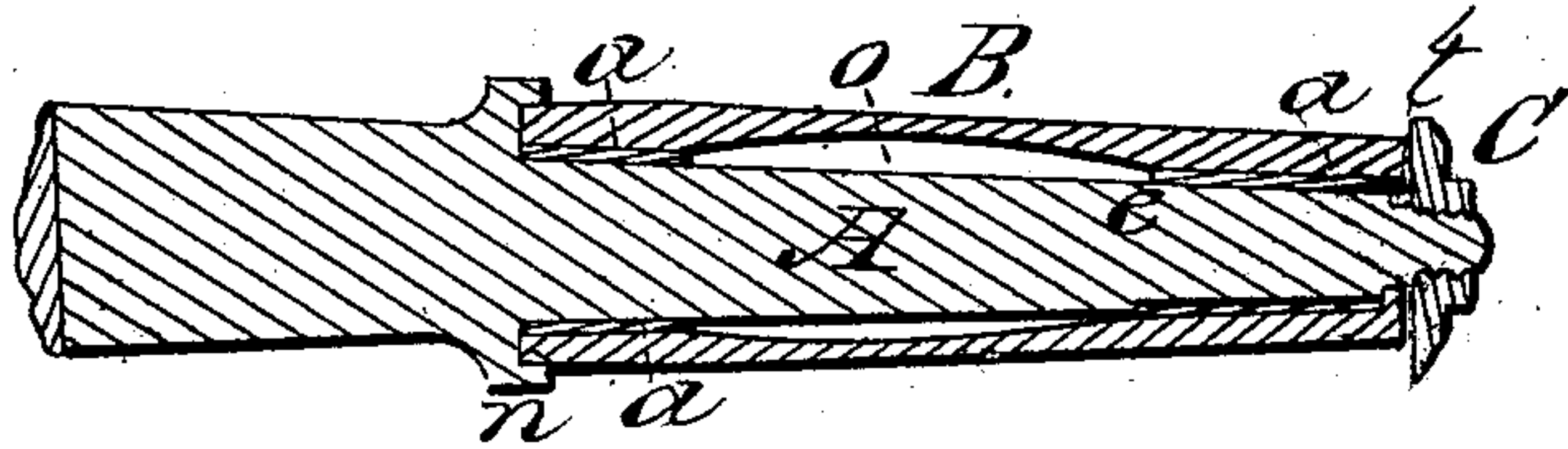


Fig. 2.

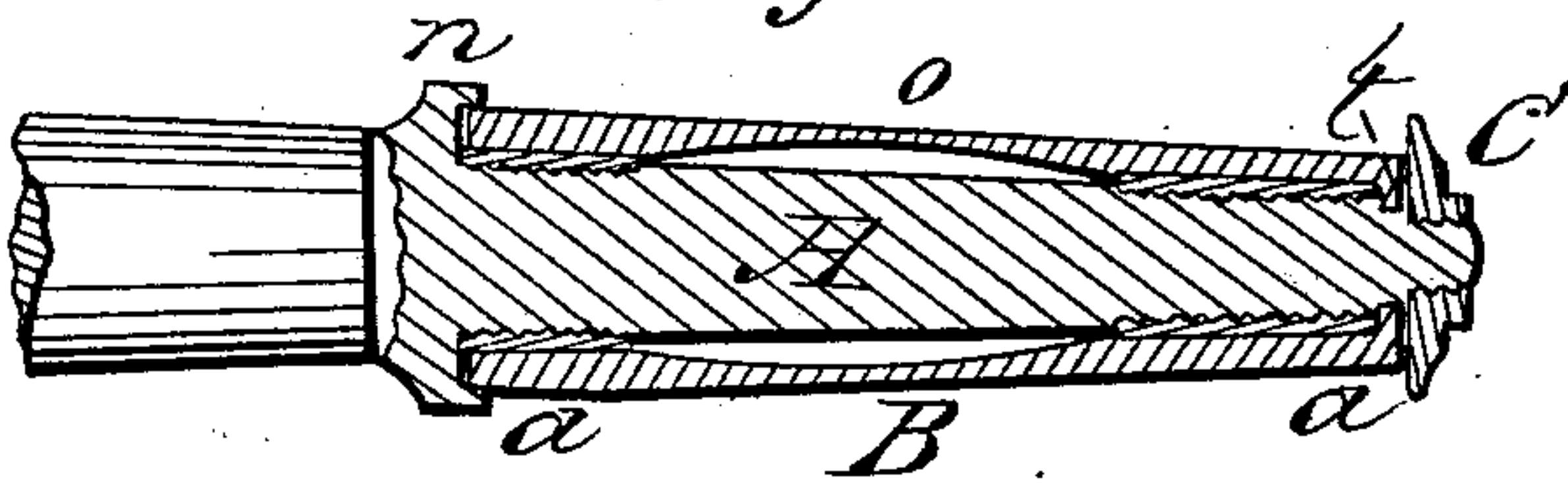
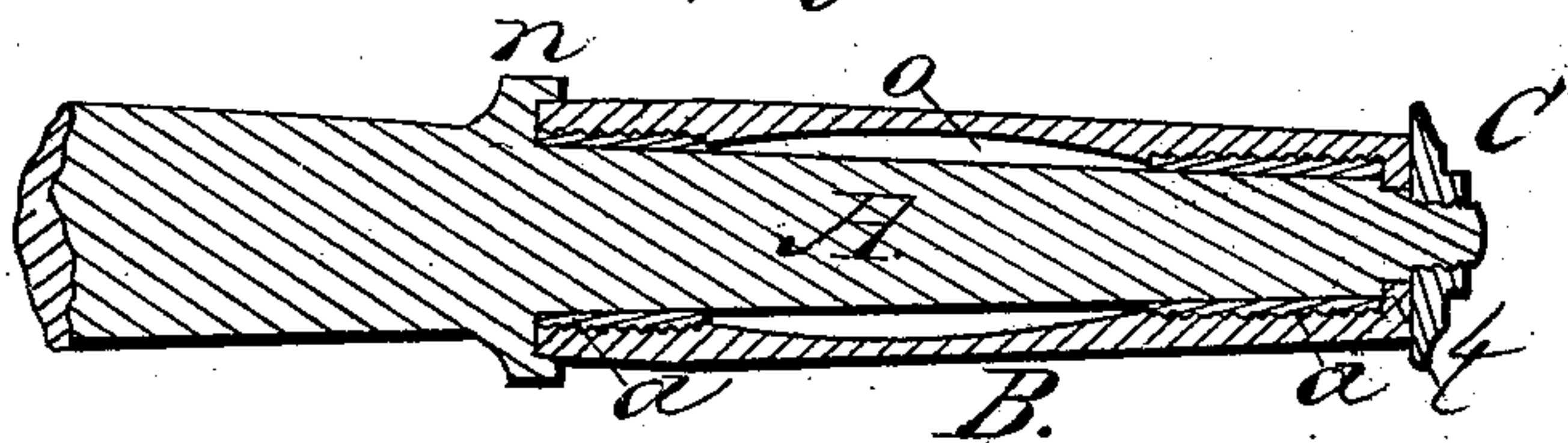


Fig. 3.



Witnesses:

R. J. Dodge

Inventor:

*H. Richardson,
by his attys
Dodge & Munn.*

United States Patent Office.

HAMILTON RICHARDSON, OF JANESVILLE, WISCONSIN.

Letters Patent No. 68,460, dated September 3, 1867.

IMPROVEMENT IN AXLE-BEARINGS FOR WAGONS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HAMILTON RICHARDSON, of the city of Janesville, in the county of Rock, and State of Wisconsin, have invented a new and useful Improvement in Axle-Bearings for Wagons; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section of an axle and box having the friction-rings loose on the axle.

Figure 2 is a similar view showing the rings made fast to the axle, and

Figure 3 is a similar view showing the rings secured to the box.

As ordinarily constructed the axles of wagons and carriages after being used for a time become worn, and have then to be replaced by new ones at considerable expense. The object of my invention is to remedy this evil by so constructing the axle and boxes of the vehicle that by a very simple, cheap, and speedy operation, they can be repaired and made as good as new, or nearly so.

In order to accomplish this object, and at the same time lessen the friction of the wheel, I construct an iron axle, A, in any of the usual methods, and make a projecting flange, *n*, at the shoulder to shut over the inner end of the box to exclude dust and mud. Upon the axle A I then fit two rings *a*, one near the shoulder and the other near the outer end, as shown in fig. 1, these rings being preferably made of steel or brass, or of a different metal from the axle and box in order to lessen the friction. The outer ring is held in place by a shoulder on the axle, while the inner one is held on by a shoulder on the inside of the box B, as represented in fig. 1, the rings being fitted nicely to the axle and the box, but so as to turn loosely on the axles, thus operating like friction-rollers between the surfaces of the axle and box. The box B is formed with a cavity, *o*, along its central portion between the rings *a*, as shown, to receive and retain any suitable lubricating material, the cavity being preferably filled with some fibrous material saturated with the lubricant. At its outer end the box B is provided with a radial flange or collar, *t*, fitting over a shoulder formed on the axle near its outer end to exclude the dirt and prevent it from working in upon the rubbing surfaces, the box B being held on by a nut, C, as shown. The rings *a*, instead of being fitted to turn loosely, as above described, may be secured to the axle by being screwed thereon, as represented in fig. 2, in which case they form the bearing points on which the box revolves. Or, if preferred, the rings may be secured to the box B by being screwed therein, as represented in fig. 3. In either case it will be seen that whenever the parts become worn the rings may be removed and new ones substituted, by which the parts will be rendered nearly or quite as good as new, and by having extra sets of rings provided and fitted, this change may be made by any person in a few minutes without taking the wagon to a shop, and the loss of time required by the usual method of repair.

Having thus described my invention, what I claim, is

1. I claim the axle A, having its arm or journal composed of the single solid piece with the friction-rings or ferrules *a* applied thereto at its opposite ends, as herein shown and described.

2. I claim the axle A, provided with the flange *n* projecting over the inner end of the box, when used in combination with the box B having the collar *t* arranged to shut over the shoulder on the outer end of the axle, as shown and described.

HAMILTON RICHARDSON.

Witnesses:

S. D. LOCK,

G. H. WILLISTON.