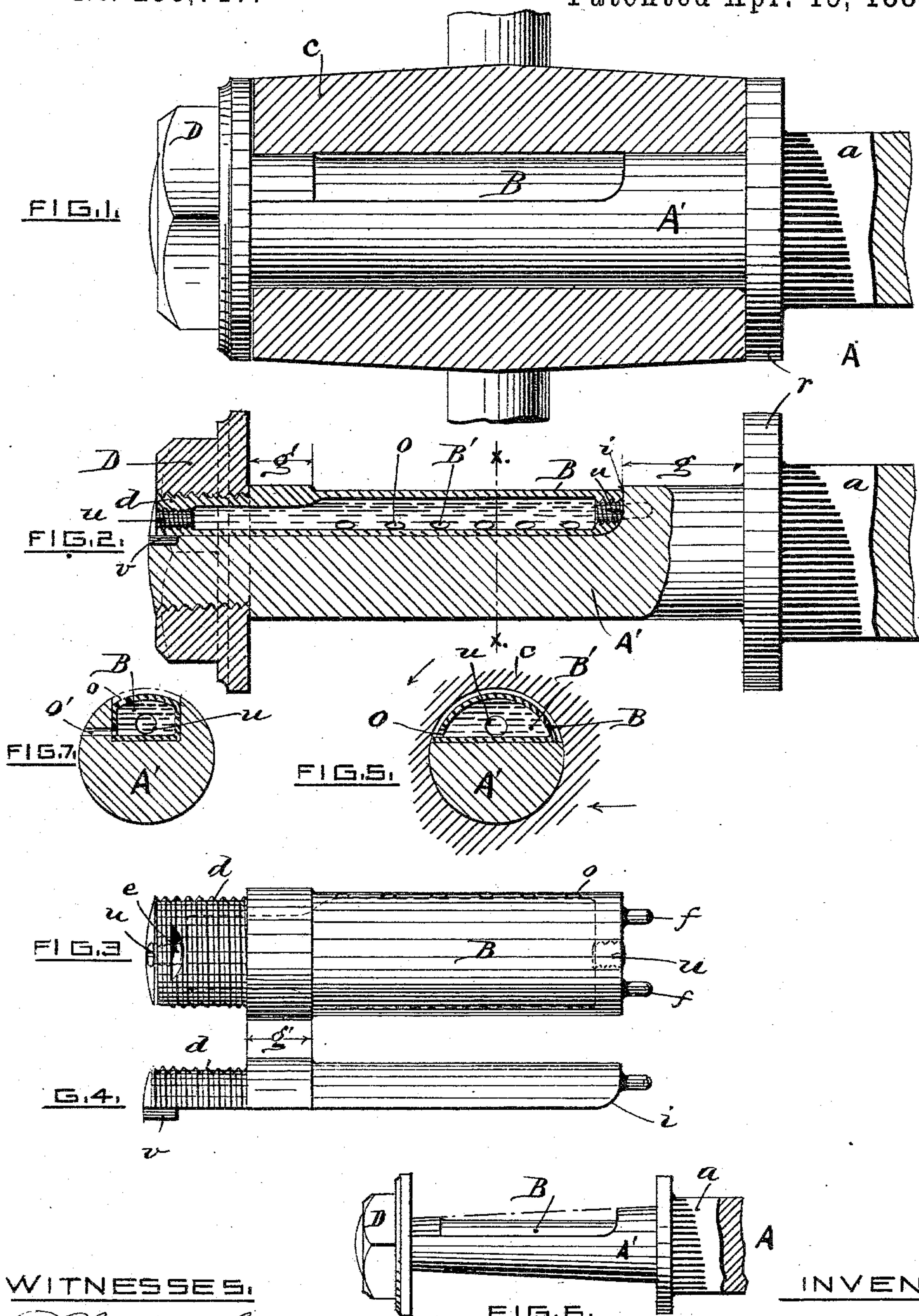


(No Model.)

E. E. BAKER.  
SELF OILING AXLE.

No. 296,717.

Patented Apr. 15, 1884.



WITNESSES.

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Atty.



# UNITED STATES PATENT OFFICE.

ELIJAH E. BAKER, OF OLNEYVILLE, RHODE ISLAND.

## SELF-OILING AXLE.

SPECIFICATION forming part of Letters Patent No. 296,717, dated April 15, 1884.

Application filed January 2, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ELIJAH E. BAKER, a citizen of the United States, residing at Olneyville, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Self-Oiling Axles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain improvements in carriage-axle journals; and it consists, essentially, in dividing a portion of the journal longitudinally above its center in a horizontal plane, the said upper portion being provided with a chamber having orifices therein, and adapted to receive oil or other suitable lubricants, whereby a wheel mounted upon the journal in revolving is automatically oiled or lubricated. Said chambered portion of the journal is further adapted to be removable for the purpose of refilling, &c., all as will be more fully hereinafter set forth.

In the annexed sheet of drawings, Figure 1 represents in elevation a vehicle-axle provided with my improved self-oiling journal. Fig. 2 represents a view of the same in longitudinal section. Figs. 3 and 4 represent top and side views of the removable and chambered portion of the journal. Fig. 5 represents a cross-sectional view on line *xx* of Fig. 2. Fig. 6 represents my improvement applied to a tapering journal. Fig. 7 represents in cross-section another form of my improvement.

The following is a detailed description of my invention and the manner of using the same.

A in the drawings represents a portion of a vehicle-axle provided with the journal A', the latter divided longitudinally above the center, as shown. B represents the chambered and removable portion of said journal, and constituting the upper portion of the same, the outer end of the piece B terminating in the screw-threaded portion *d*, adapted to receive the nut D. The chamber B' is adapted to receive suitable lubricants therein, which, by means of the slots or openings *o* at the edge thereof, is adapted to exude therefrom. If desired, a packing or

absorbent filling may be employed within the chamber, to retard the flow of oil.

Instead of cutting the journal A' throughout its length, I prefer leaving a certain proportion thereof at its inner end, to consist of the solid cylindrical portion *g*, (see Fig. 2,) thereby retaining increased strength and stiffness. At *i*, where the oil-receiver B abuts against the said portion *g*, is formed suitable locking means for retaining the inner end of said receiver in position, consisting of pins *f* and corresponding sockets. I, however, do not restrict myself to this specific device. At the outer end of the journal I have represented a tongue or pin, *y*, secured to the under side of said receiver B, which serves to hold the same laterally. (See Fig. 2.)

I prefer to make the convex surface of the piece B of less radius than the other portions of the journal, thereby forming a partial chamber when combined with the wheel-hub *c*, as fully shown in Fig. 1.

In Fig. 7, I have represented in cross-section another form of the receiver B, adapted to be used herewith, the oil-passages *o* being located at the upper edge or at the lower edge, or both, as shown. In case the lower series of passages are used, openings *o'* are drilled through the journal A' adjacent to the same.

The following is the operation of my invention when applied to the axles of a vehicle: The chamber B' of the removable portion B is first filled with any suitable lubricating oil or material, and secured therein, when necessary, by stoppers *u*, after which the receiver is inserted within the hub *c* of the wheel and secured in position by means of the nut D. The openings *o* of the receiver are formed upon the forward edge or side of the same, whereby the wheel revolving in the arrow direction, Fig. 5, causes the oil to automatically flow from said openings and around the under side of the axle or journal. This result is obtained by means of a partial vacuum being formed within the hub due to its rapid revolution; or, in case heavier lubricants are used, the slight heating of the journal due to friction causes the oil, &c., to become more limpid, thus adapting it to exude from the openings *o*.

\* With my invention I am enabled to save considerable time and trouble in oiling axles, as it is not necessary to remove the wheel for such



purpose. The receiver B, after first removing the nut D, is adapted to be withdrawn by means of the notch *e*, Fig. 3, for the purpose of inspection and recharging. I prefer making the receivers right and left, thereby adapting the openings *o* thereof to lie parallel with the forward side of the axle. I do not restrict myself to the use of any specific material or metals composing the said receiver B.

10 I am aware that self-oiling journals have been used before, and I therefore do not claim such, broadly; but

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

15 1. The improvement in carriage-axle journals herein described, which consists in removing a portion of the upper surface of the journal, said cut extending from the outer end of the axle to or nearly to the collar, and adapted  
20 to receive a chambered and apertured oil-re-

ceiver, the outer end of the latter being provided with a screw-thread, thereby adapting the receiver to be retained in position by means of the axle-nut, all substantially as shown and for the purpose set forth.

25 2. In a carriage-axle journal, cut away as shown and described, the removable chambered and apertured oil-receiver B, provided with means for retaining the same in position laterally, and further provided at its outer end with the threaded portion *b*, adapted to engage  
30 with the axle-nut, substantially as shown and set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

ELIJAH E. BAKER.

Witnesses:

GEO. H. REMINGTON,  
CHARLES HANNIGAN.