

(No Model.)

J. TIMMS.
CAR AXLE BOX.

No. 316,503.

Patented Apr. 28, 1885.

Fig. 1.

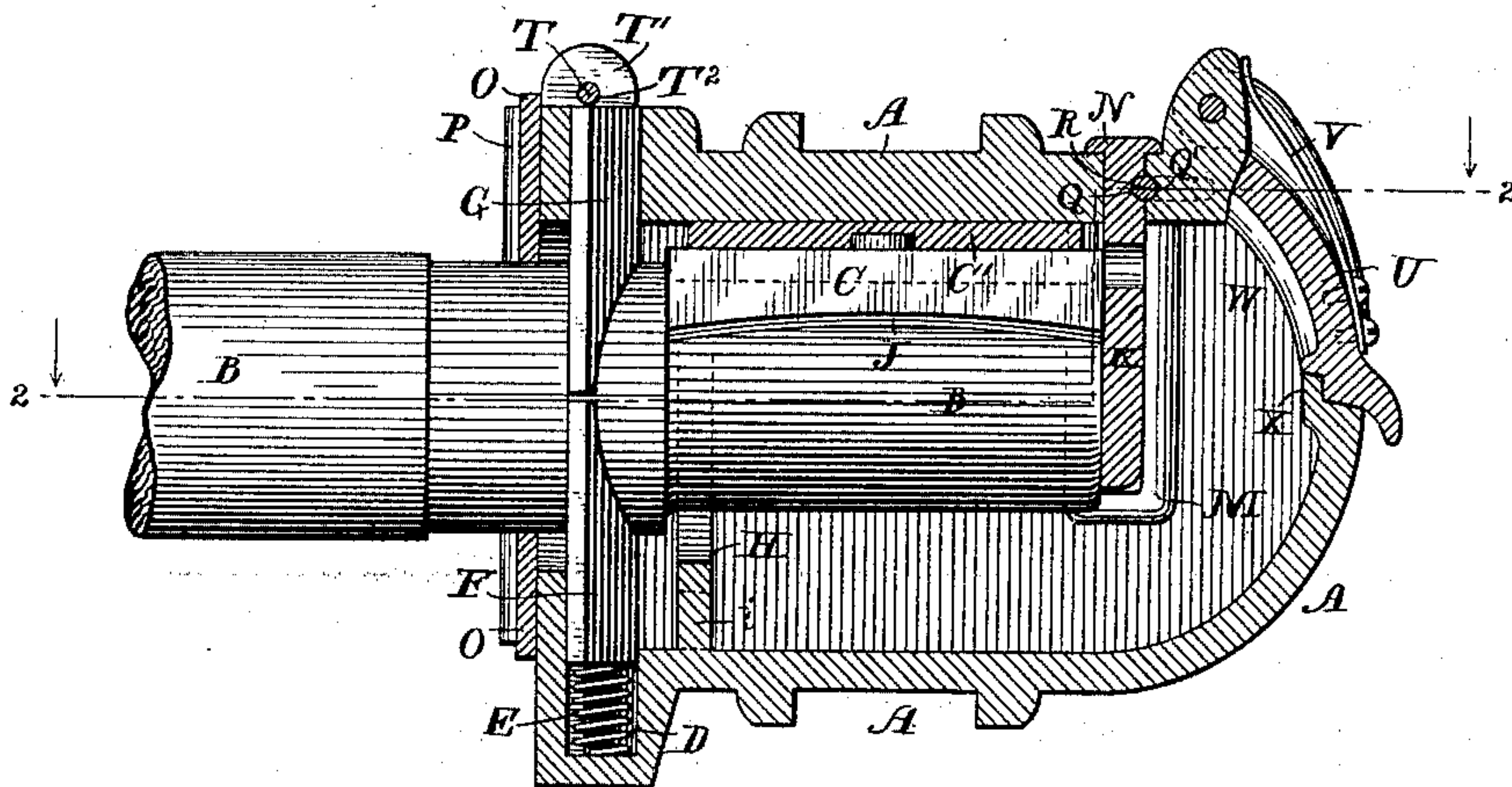
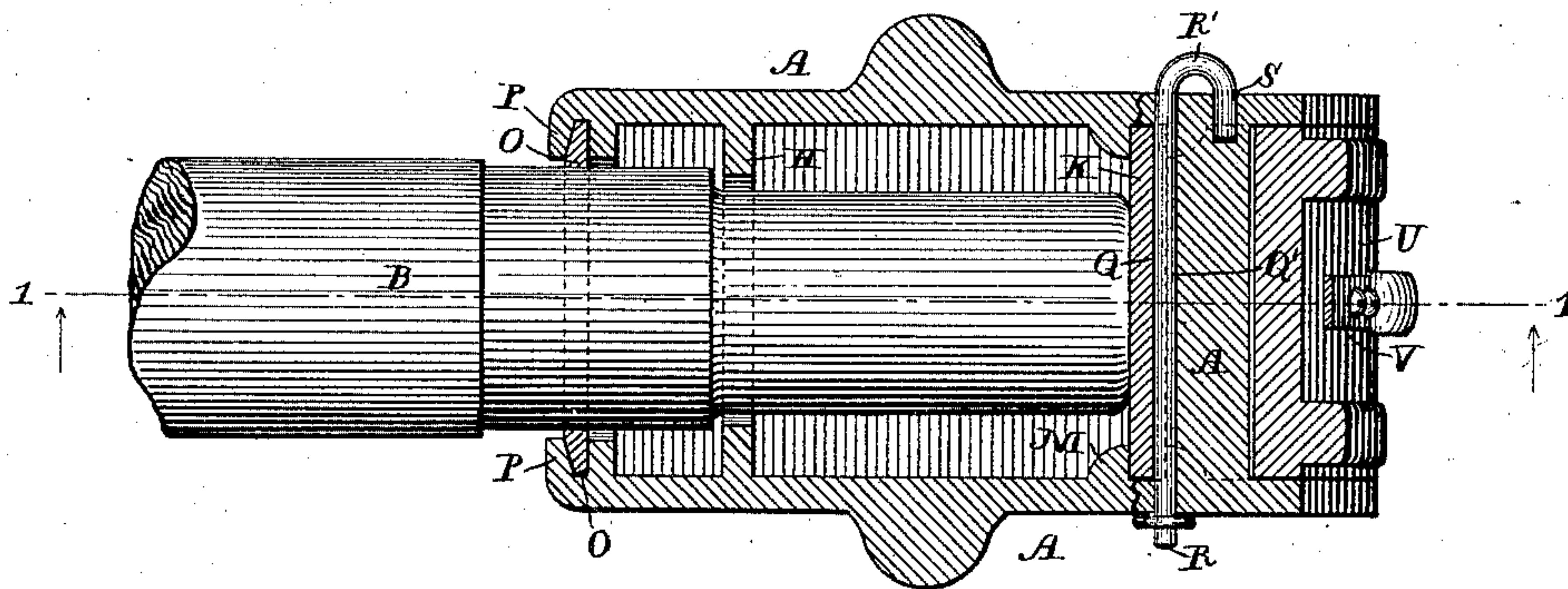


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO B. F. REES,
OF SAME PLACE.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 316,503, dated April 28, 1885.

Application filed September 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIMMS, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate to that class of axle-boxes disclosed in my United States Letters Patent No. 277,382, granted May 8, 1883, and I design to further perfect such boxes. They are, however, applicable to other boxes.

In the accompanying drawings, Figure 1 is a longitudinal vertical section, and Fig. 2 a longitudinal horizontal section, of a car-axle box containing my improvements.

Referring to the letters upon the drawings, A indicates the case of the axle-box; B, the axle; C, the brass or bearing; C', the cap or saddle-like holder for the brass, and D a hollow or recessed projection upon the lower side of the inner end of the box for the purpose of receiving the spring E of the spring-packing F.

G indicates the top packing, similar in construction to the spring-packing F.

At the lower end of the inner partition, H, is a small opening, *i*, to permit the lubricant to run inward from the packing-chamber into the oil-box proper, where it will be absorbed by the waste and applied again to lubricate the journal of the axle.

I cut away my brass or bearing upon its opposite sides, as indicated at J, so that its opposite edges shall incline inward toward its center for better lubrication.

In order to hold the brass in place and to prevent lateral motion of the journal under the bearing by the derangement of the relations of the journal and bearing, I provide a rigid plate or end bearing, K, against which the outer ends of the brass and journal impinge. This plate is inserted in an aperture in the top of the box, and is held in suitable guideways, M, upon either side of the inner walls of the box. It is provided with a flange or cap, N, at its top to fit dust and oil tight upon the box.

The foregoing parts are substantially the same in construction and operation as described and shown in my said patent.

My improvements are as follows: First, I provide an outer guard or slide, O, encircling the axle, or the dust-collar of the axle, and playing up and down with the axle in guide-ways P on either side of the axle-box. This supplemental dust-guard materially adds to the protection of the structure from the ingress of dust or foreign matter, as well as also aids in preventing the escape and waste of oil or lubricating substance.

In order to effectually secure the capped end bearing, K, firmly in place, I provide a semicircular groove, Q, extending horizontally across its face, and a corresponding semicircular groove, Q', in the case of the oil-box. When the cap K is in place in the box, these two grooves are coincident and form a circular hole for the reception of the bent rod R, which firmly locks the cap in place, and its bent or bowed end R' is inserted into a hole, S, in the outside of the oil-box. This prevents the rod from turning or rattling and getting loose, and furnishes at the same time a staple-like projection, by means of which the rod can readily be pulled or pried out whenever it is desired to take out the cap. This mode of securing the cap in place in the box firmly is of great practical security and convenience. I provide a similar rod, T, and lugs T', with rod-holes and a hole, T², in the oil-box for securing the spring-packings in place. Only one of the lugs T' is shown; but it will be understood that the other is similar and on the opposite side of the top of the box. I also provide a hinged spring-cap, U, to cover the oil-opening in the outer end of the box, so applied that the spring V serves to hold it upon and also to hold it shut, as is well understood.

I am aware that spring-caps have been applied before, so that the springs will hold them open and hold them shut, and I do not claim that; but the peculiarity of my improvement is that I form a recess, W, in the axle-box corresponding exactly with the thickness and dimensions of the cap, so that the cap will fit into it tightly, and also rest tightly upon the jambs or bearings X, forming a tight joint which will exclude dust. At the same time, when the cap is closed in place it is exactly flush with the circular surface of the end of

the box, and forms a smooth continuation of the body of the box. Then it is so adjusted and hinged as to fall exactly in place, all of its bearing-surfaces coming in contact with the bearing-surfaces of the box at the same instant, whereby the tightest possible joint is formed. Resting thus in its recess, the weight of the cap is not borne by the hinge or pivot, and all rattling and injurious wear upon the hinge are prevented.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, substantially as set forth, of the axle, the box, the yielding packings G and F, the slide O, made in one piece and closely encircling the axle and moving

up and down therewith, and the vertical guide-ways P, in which the slide moves.

2. In combination with the capped end bearing, K, having a semicircular groove, Q, and the oil-box having a semicircular groove, Q', the bent rod R, with its bowed end R' entering the hole S in the box, substantially as set forth.

3. In combination with the oil-box and spring-packings F and G, the lugs T' and bent rod T, substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

JAMES TIMMS.

Witnesses:

H. F. BARSTOW,
JOHN J. LENTZ.