(No Model.) 2 Sheets—Sheet 1.

C. H. SHATTUCK.

CAR AXLE BOX.

No. 317,680. Patented May 12, 1885.

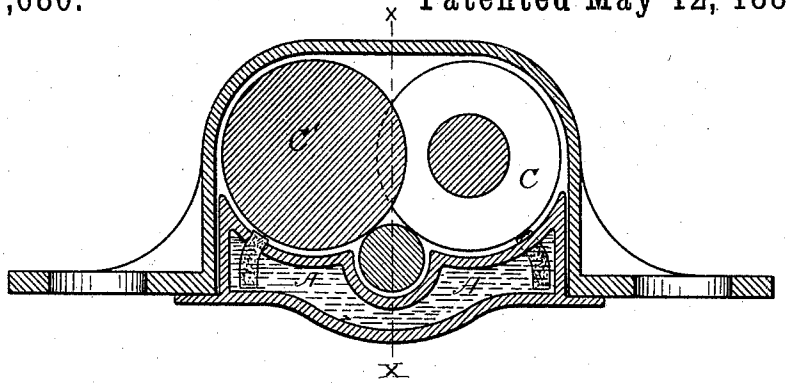

Fig. 1.

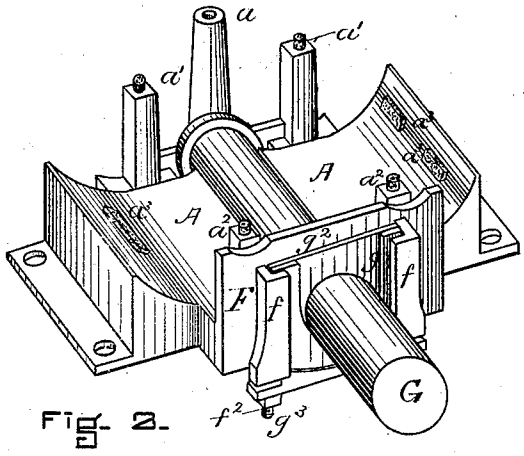

Fig. 2.

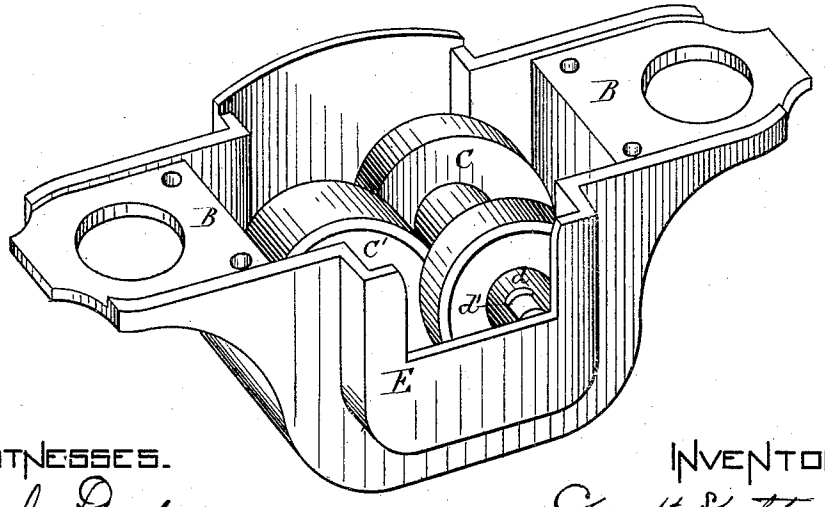

Fig. 3.

WITNESSES.

E. A. Parker

Fred. B. Dolan.

INVENTOR.

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by his attys

Clarke & Raymond

(No Model.) 2 Sheets—Sheet 2.

C. H. SHATTUCK.

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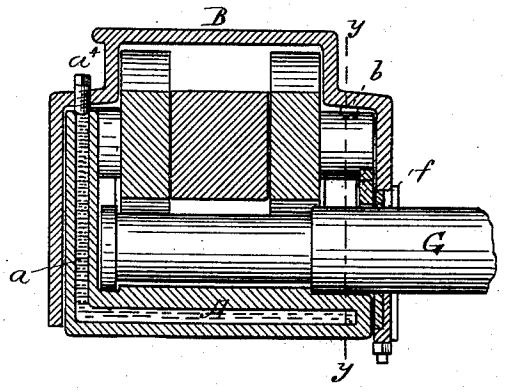

Fig. 4.

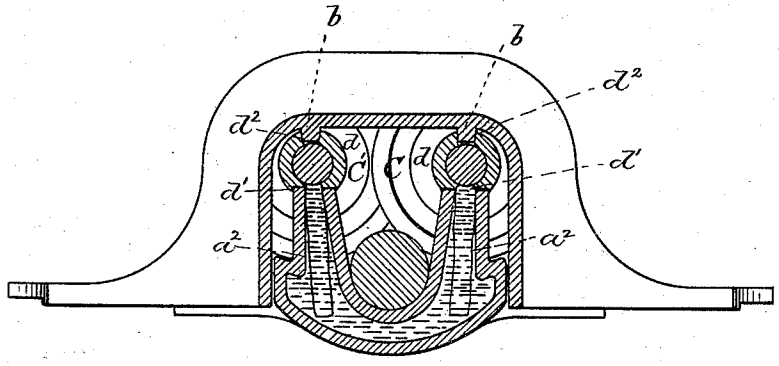

Fig. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

CHARLES H. SHATTUCK, OF BOSTON, MASSACHUSETTS.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 317,680, dated May 12, 1885.

Application filed April 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SHATTUCK, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Car-Axle Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification in explaining its nature.

This contrivance is an improvement on the well-known Higley gear, which is designed for horse-cars, but is suitable, also, for other kinds of cars, and it is designed to furnish a convenient method of lubricating the rolls and axle, and also a method of construction much more convenient than the boxes hitherto made.

In the drawings, Figure 1 is a longitudinal vertical section of the box in position. Fig. 2 is a perspective of the bed portion of the box containing the oil reservoir. Fig. 3 is a perspective of the hood turned upside down with the rolls in position. Fig. 4 is a transverse section on the line *x x* of Fig. 1. Fig. 5 is a longitudinal section on the line *y y* of Fig. 4.

Like letters denote like parts in all the figures.

As will be seen by Fig. 1, the friction-rolls, which have bearings in the housing of the box, support the weight of the car upon the axle very much as the weight of a grindstone is supported on the friction-wheels of its running gear. A hollow casting, having the exterior shape shown in Fig. 2, is provided. The two wings of this (marked AA′ in Fig. 2) are hollow, as shown in Fig. 1, and this cavity is an oil-vessel. A tube, *a*, ascends from this oil-vessel to the top of the hood upon the outside, and can be opened by unscrewing a plug, a^4, in the top of the hood, as shown in Fig. 4, so as to supply the oil-vessel with oil. This screw-plug is shown in Fig. 4. Two wick-tubes, a' a^2, ascend on each side of the axle, and three perforations, a^3, are made in the top of the reservoir, and the cavities of the uprights a' a^2 are intended for the reception of the wicks which extend into the oil-reservoir. The hood B of the axle-box has the exterior shape shown in Fig. 3, and a cross-section of it through the center on the line *x x* is as shown in Fig. 4; and a longitudinal section on the line *y y* is as shown in Fig. 5, another longitudinal section through the center being as shown in Fig. 1. Two sets of rolls C C′, are provided in the interior of this hood, the rolls C being near the ends of a spindle and the roll C′ in the center of its spindle, and the roll C′ being twice as wide as either of the rolls C. The journals of these rolls at either end have the sleeves *d*, that pass over them, and these sleeves have slots made in them, d' d^2. On the interior of the hood on each side opposite the place where the slot d^2 comes, is a knob, b^2, cast upon the interior of the hood, which knob fits the slot d^2 and fixes the rolls in position in the box. The slot d', in the sleeve *d*, rests over one of the four wick-tubes a' a^2, and the wick coming up through said tube is projected into the slot so as to touch the journal *c* of the rolls C C′, thus oiling them constantly. A wick also is passed from the oil-reservoir up through each of the slots a^3, and the end of the wick touches the edge of one of the rolls C or C′, thus oiling it completely. The hood B upon its back side has a partly-open recess, (shown in Fig. 2 at E,) intended to accommodate the projection F from the side of the base plate, and a pair of grooved brackets, *f*, project from the side of the projection F for the reception of a dust-washer around the wheel-axle. This dust-washer, *g*, fits very closely the axle G, which is passed through the hole in the upright plate F, which hole, as will be seen at *f′*, Fig. 4, is slightly larger than the axle G. In order, therefore, to keep the dust out of the box the dust-washer *g* must be pressed tightly upon the outer face of the upright plate F, and this is done by making the groove in the dust-washer slides *f* as a slightly tapered key-way, and passing into it over the edges of the dust-washer *g*, a wedge, g^2, which bears against the surface of the dust-washer *g* and presses it against the upright plate F. This wedge is in the shape of a three-sided frame, and is held in place by nuts g^3, which engage with screw-bolts which project downward from the dust-washer ways *f*, and pass through the yoke of the wedge g^2. By this construction the box is made quite dust-proof, and the journals and rolls and axle are all nicely and continuously oiled, and the oil can be easily replenished, and will last a long time.

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

1. The combination of the sleeve-bearings *d*, slotted at d^2, with the hood B, and the seating-knobs b^2, substantially as described.

2. The combination of the sleeve-bearings *d*, slotted at *d'*, with the wick-tubes a' a^2, and oil-reservoir A, substantially as and for the purposes described.

3. The base plate containing the oil-reservoir A, provided with the wick-tubes a' a^2 a^3, and filling-tube *a*, substantially as and for the purposes described.

4. In combination with the upright back plate, F, of the base-plate, the dust-washer ways *f*, dust-washer *g*, and wedge g^2, substantially as and for the purposes described.

CHARLES H. SHATTUCK.

Witnesses:
F. F. RAYMOND, 2D,
J. M. DOLAN.