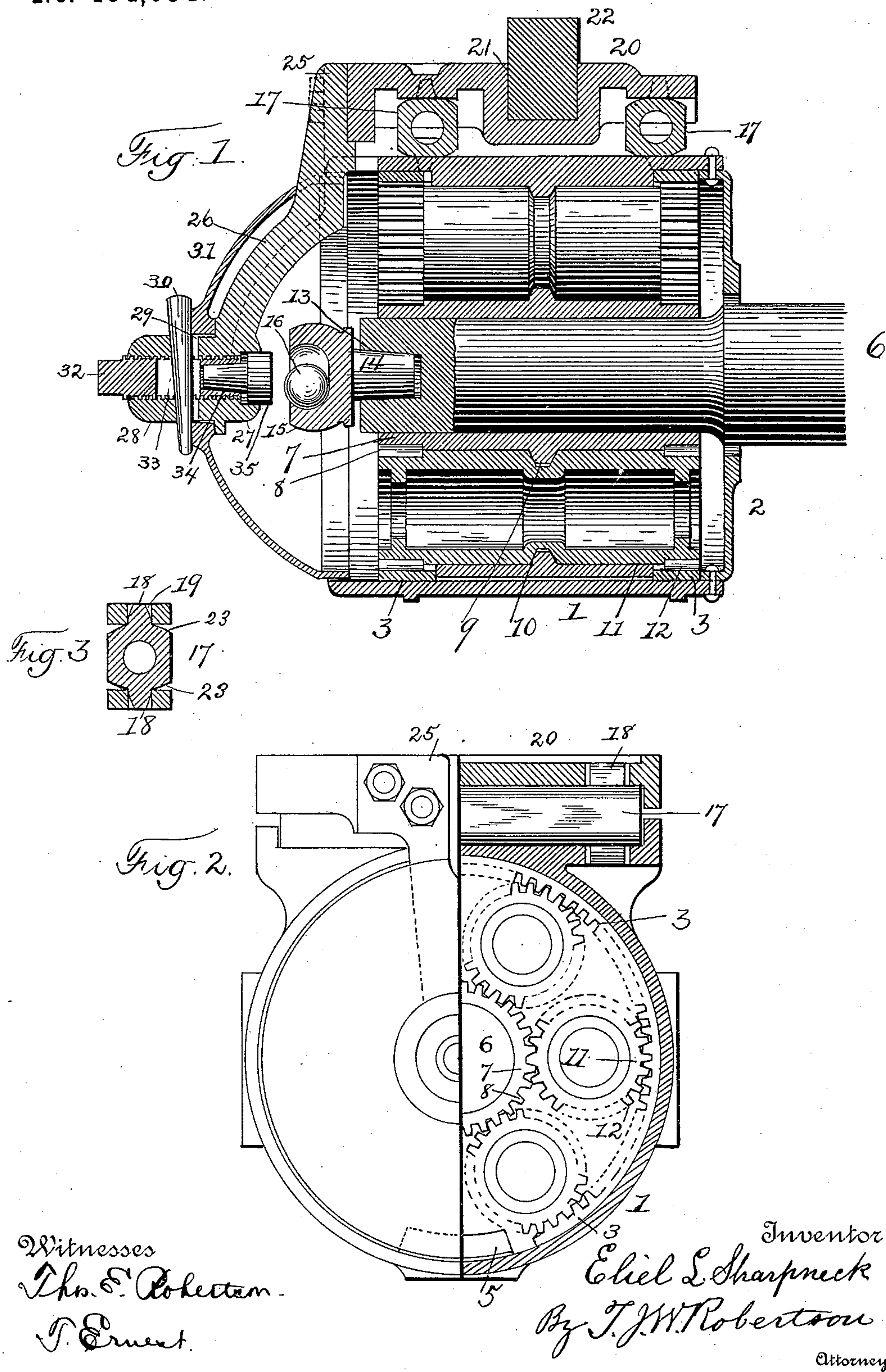


(No Model.)

E. L. SHARPNECK.  
CAR AXLE BOX.

No. 484,054.

Patented Oct. 11, 1892.





# UNITED STATES PATENT OFFICE.

ELIEL L. SHARPNECK, OF CHICAGO, ILLINOIS.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 484,054, dated October 11, 1892.

Application filed January 6, 1892. Serial No. 417,189. (No model.)

*To all whom it may concern:*

Be it known that I, ELIEL L. SHARPNECK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

This improvement relates to that class of journal-boxes in which geared antifriction-rollers are employed; and the invention consists in the peculiar construction, arrangement, and combination of parts hereinafter more particularly described and then definitely claimed.

In the accompanying drawings, Figure 1 represents a vertical central transverse section of a journal-box constructed according to my improvement. Fig. 2 is an end view, partly in section. Fig. 3 is a sectional detail, which will be hereinafter more fully explained.

Referring now to the details of the drawings by figures, 1 represents the case having a head 2, riveted or otherwise secured therein, and provided with internal toothed rings 3 3, which are fixedly secured in the case in any suitable way. On the inside of the case is cast a bearing-surface, which extends all around the inside, except for a short distance at the bottom, where a removable filling-piece 5 is inserted, for a purpose hereinafter explained.

The axle 6 is provided with a sleeve 7, tightly fitted thereon, and having teeth 8 at each end, and a rib 9 surrounding it, which rib engages in grooves 10 in the rollers 11, which rollers are preferably cast hollow, as shown, and have teeth 12 on each end engaging with the teeth of the rings 3 and the teeth 8 of the sleeve 7. In the end of the axle is a tapering hole 13, which receives the tapering stem 14 of the cup 15, carrying a ball 16. Resting upon the top of the case are two bearers 17, having at each end teeth 18, (see Fig. 3,) setting in holes 19, cast to receive them in the top of the case and in a casting 20, resting on the bearers, provided with a recess 21, to receive the equalizing-bar 22 of the truck. These bearers have flat places on their bottoms on which they normally rest on the case and have corresponding flat places at top, on

which the casting 20 rests. At each side of these flat places are curved surfaces 23, having the line of the curve set tangentially to the center of the bearer. These bearers may be cast hollow, as shown, or solid, if preferred. Any endwise motion of these bearers is prevented by ribs on the case 1 and casting 20. Firmly bolted to the casting 20 is a depending arm 25, having a strengthening-rib 26 and terminating in a threaded boss 27, having a shoulder 28 and slots 29, through which slots is inserted a key 30, which holds a cap 31 fast against the shoulder 28, which cap passes within the case and is sufficiently smaller than the same to have free play therein under all the varying positions that the case and cap will assume with respect to each other during travel.

At 32 is shown a screw having a slot 33 to allow of the passage of the key 30 through it and having a tapering hole 34 to receive the wearing-plug 35.

In "assembling" the parts of this box it is necessary to leave out the filling-piece 5, and then, having set in the inner ring 3 and axle 6, to insert the rollers one after the other (turning the axle as they are inserted) until the rollers assume the position shown in Fig. 2, when the filling-piece 5 can be inserted between the rollers and the second ring 3 set in place, after which the arm 25 may be bolted on and the cap 31 secured in place by the key 30. By taking out the key 30 the screw 32 can be adjusted to carry the bearing-plug farther in or out, as desired.

When this box is in use under a car, any sidewise motion of the truck will cause the bearers 17 to roll off of the flat surfaces onto their tangential surfaces, which will tend to slightly raise the car, and the weight of the car will react upon the bearers, causing them to immediately resume their normal position.

From this construction it will be seen that I have produced an antifriction journal-box that will be comparatively simple, very durable, easy to make, and not liable to get out of order.

What I claim as new is—

1. The combination, with the case 20, having the bearing-surface 4 and the toothed rings 3, of the rollers 11, having teeth engag-

ing with the toothed rings and with teeth surrounding the axle and the filling-piece 5, substantially as described.

2. The combination, with an axle and a box  
5 for the same, of the casting 20, the bearers 17, set between the box and support and having flat surfaces at the top and bottom and tangentially curved at each side of said flat surfaces, substantially as described.
- 10 3. The combination, with the case 20, having the bearing-surface 4, the filling-piece 5, and the toothed rings 3, of the axle 6, having a toothed sleeve 7, and the toothed rollers 11, engaging with the teeth on the sleeve 7 and  
15 with the teeth on rings 3, substantially as described.

4. The combination, with the axle 6, hav-

ing a tapering hole in the end, of a ball-carrying cap 15, having a tapering stem 14, substantially as described.

5. The combination, with an axle swinging in a suitable box and having a ball-carrying cup, of an arm 25, supported at the end of said box, a screw set therein, and a tapering wearing-plug set in the screw, substantially  
25 as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 2d day of January, 1892.

ELIEL L. SHARPNECK.

Witnesses:

HERMANN ZITZEWITZ,  
MAX HERTEL.