(No Model.)

S. A. BEMIS.

Car Axle Box.

No. 239,702. Patented April 5, 1881.

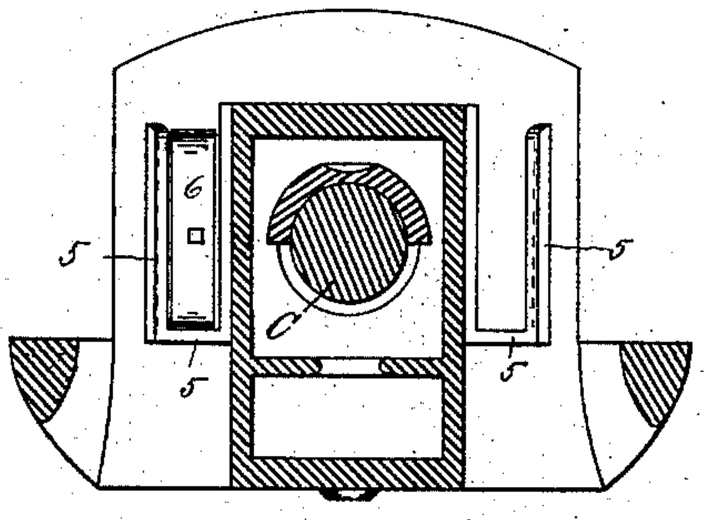

Fig. II.

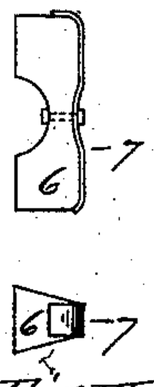

Fig. IV.

Fig. V.

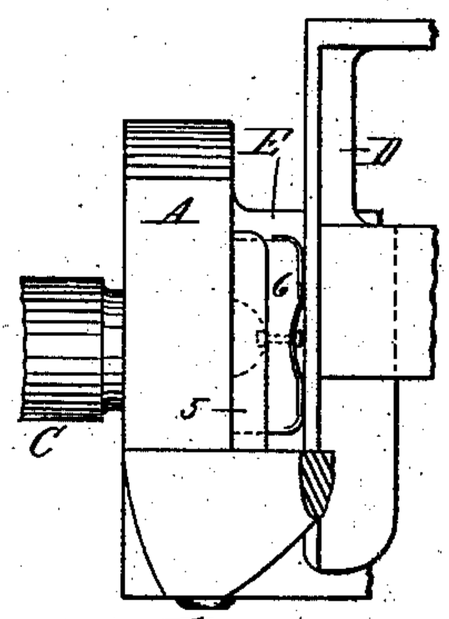

Fig. I.

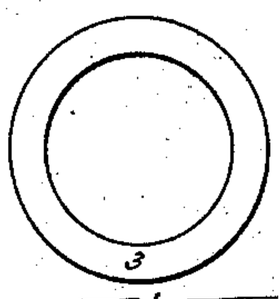

Fig. VI.

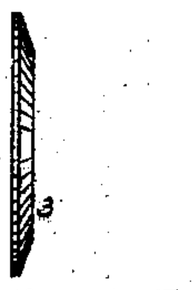

Fig. VII.

Fig. III.

Witnesses—

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UNITED STATES PATENT OFFICE.

SUMNER A. BEMIS, OF SPRINGFIELD, MASSACHUSETTS.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 239,702, dated April 5, 1881.

Application filed January 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, SUMNER A. BEMIS, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improved Car-Axle Box, (which has not been patented to any person in any foreign country with my knowledge and consent,) of which the following is a specification.

The object of my invention is to provide a cheap and convenient manner of securing the springs in place between the housing and the pedestal, to ease the side movement of the car, and also an effective way or means of excluding the dust and dirt from the axle-bearings; and I accomplish these objects by the means illustrated in the accompanying drawings, in which—

Figure I is a side view of so much of a car-axle box and its housing as is necessary to show the spring-socket and the spring in place therein. Fig. II is a vertical transverse section through the axle-box and axle, and showing a front view of the housing. Fig. III is a plan view with a portion of the wheel and the housing broken away, and in section to show the sleeves on the housing and on the wheel and the washer connected therewith. Fig. IV is a side view of the spring. Fig. V is an end view of the same. Fig. VI is a front view of the washer, and Fig. VII is an edge view of the same.

In the drawings, C represents a car-axle; B, the car-wheel; E, the axle-box, and A the housing at the inner end of the box, on the inner part of which housing is made a tubular sleeve, 2, tapered on its periphery, as shown clearly in Fig. III. That part of the housing nearest the car-wheel is filled with wood blocking or other suitable material, 8, with a circular space between the blocking 8 and the sleeve 2, to receive the sleeve or flange 1, cast on the outer face of the wheel. A washer, 3, is placed on the sleeve 2, the hole through the washer being a little smaller than the largest part of said sleeve 2, and when the axle-bearing is in its proper position in the axle-box the end of the sleeve or flange 1 on the wheel impinges against the washer, and tends to crowd the latter farther upon the sleeve 2, and when in this position, as there is always contact between the end of the flange on the wheel and the side of the washer, and also contact between the inner rim of the washer and the outer surface of the sleeve 2 on the housing, of course the dust cannot get past the washer into the axle-box.

On the inner side of the exterior part of the housing A—that is to say, on the side opposite the wheel and next the pedestal D—I cast a box or socket, consisting of three walls or flanges, 5, projecting outward from the side of the housing, but with no wall or flange at the top; and these walls or flanges are made of a dovetail form on the inside, or inclined, as shown clearly in Fig. III, and into this socket I insert from the top a rubber spring, 6, of nearly the same length as the inside of the socket 5, and having its sides inclined to correspond with the interior of the side walls of the socket, so that the spring will be retained in its place in said socket. A metallic piece, 7, may be riveted or otherwise secured to the exposed front side of the spring 6, to protect its front side from abrasion by contact with the pedestal. Figs. II and III show one of the sockets with the spring 6 in place therein and the other socket empty.

When the car is in use, as it sways from one side to the other, the pedestal comes in contact with the spring 6, or the metal piece secured thereto, and the rubber is compressed, and the side motion of the car is thereby made much more easy.

When the springs become worn or useless from long-continued use it is only necessary to remove the worn or useless spring by drawing it upward and out of the socket and inserting a new one, and as the springs and sockets require no particular finish, they are very cheap and are very durable.

It is evident that if the socket to hold the rubber spring be made on the vertical side of the pedestal next the vertical side of the housing, so that in use, in the swaying movement of the car from one side to the other, the housing should strike against the rubber spring, instead of the pedestal striking against it, the result would be the same in easing the side motion of the car, and the invention would not be departed from in the least, so long as the spring was held in position between the pedestal and the housing, to be compressed by them.

It is also evident that as the dovetail shape is given to the walls of the socket to hold the

spring securely in place without the aid of other devices, an inwardly-projecting flange on the outer portion of the walls of the socket, for either the whole or a portion of its length, would operate in precisely the same manner in holding the spring in place.

Having thus described my invention, what I claim as new is—

1. The combination, in a car-axle box, of the car-wheel provided with a flange projecting out from the side of the wheel and around the axle, a tapered sleeve on the box or its housing projecting into the said flange on the wheel and surrounding the axle, and a washer placed upon said tapered sleeve on the box, and there confined by contact with the end of the flange on the wheel, substantially as described.

2. The combination, with a socket made on the vertical side of the housing or of the adjacent side of the pedestal of a car-axle box, of a rubber spring adapted in its shape to be inserted into said socket, and held in place by the walls of said socket, whereby said spring will be compressed between the housing and the pedestal by the side motion of the car, substantially as and for the purpose set forth.

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Witnesses:
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