

H. C. GAMAGE.
DUST GUARD FOR CAR AXLE BOXES.
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1,015,551.

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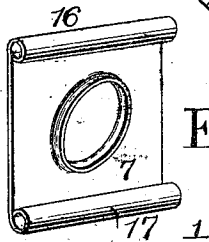
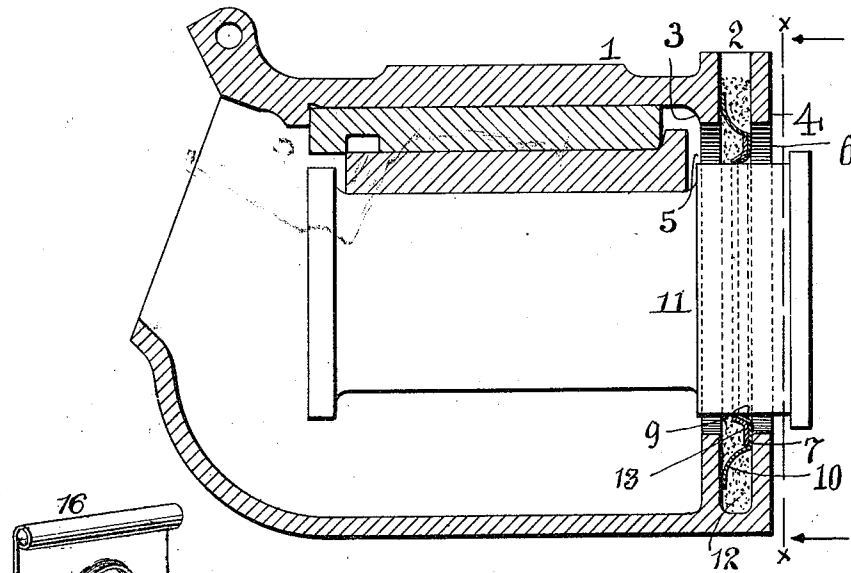


Fig. 4 Fig. 1.

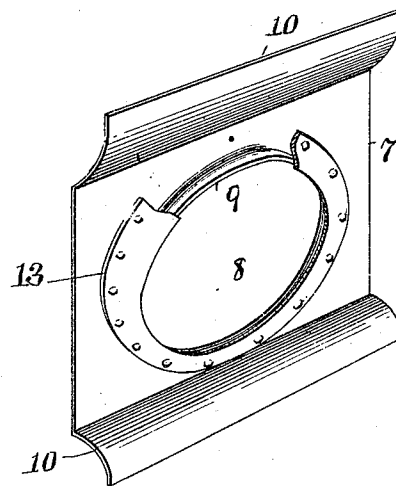
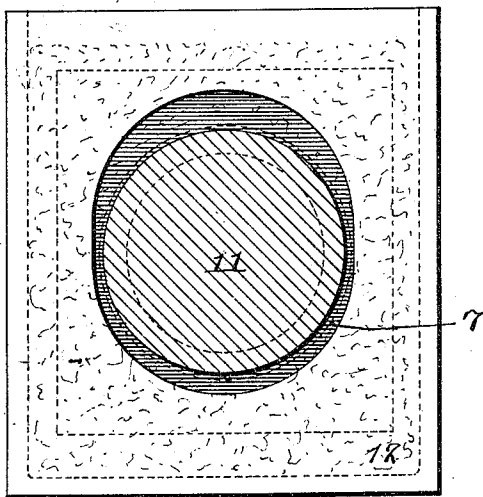


Fig. 3.

Fig. 2.

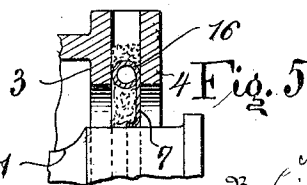


Fig. 5

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UNITED STATES PATENT OFFICE.

HARRY C. GAMAGE, OF NEW YORK, N. Y., ASSIGNOR TO D. P. COMPANY, A CORPORATION OF NEW JERSEY.

DUST-GUARD FOR CAR-AXLE BOXES.

1,015,551.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY C. GAMAGE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Dust-Guards for Car-Axle Boxes, of which the following is a specification.

The invention is a device for preventing the entrance of dust into car axle journal boxes, and consists, first, in a dust guard formed of a single resilient plate having at its opposite edges portions inclined to the plate surface; and second, the combination of said plate with the rear walls of a journal box, so that the face of the plate bears on one wall while the inclined portions bear on the opposite wall, the plate thus being retained in position by its own resiliency.

In the accompanying drawings—Figure 1 is a vertical section of a car axle journal showing my device in place. Fig. 2 is a transverse section on the line *x, x*, of Fig. 1. Fig. 3 is a perspective view of the device separately. Fig. 4 is a perspective view of a modification of the invention, and Fig. 5 is a partial sectional view showing said modification in place.

Similar numbers of reference indicate like parts.

The journal box 1 is of the usual standard form, provided with a chamber 2 between the walls 3 and 4. In said walls are openings 5 and 6 through which the car axle passes, the said openings being larger in diameter than the portion of the axle received in them.

7 is a plate of sheet metal quadrangular in form, preferably of steel, having an opening 8 provided with a circumferential flange 9. Opposite edges of the plate are bent or inclined, as shown, to form flanges 10. Said plate is inserted into the chamber 2 so that its face bears against the rear wall 4, and its bent over flanges 10 bear against the front wall 3, the resiliency of said bent over flanges keeping said plate in contact with said walls. The axle 11 passes through the opening 8. Packing 12 may be introduced in the space around the plate and between the flanges and the axle. A flexible gasket 13 of any suitable material may be secured to the inner side of the plate and serve to close the joint between the circumferential flange 9 and the axle.

In the modified form of my device shown in Figs. 4 and 5, the plate edges, instead of being bent over to form flanges as in Figs. 1, 2 and 3, are rolled over as shown at 16, 17. The face of the plate then bears on wall 4 and the outer surface of the rolled over portions 16 and 17 upon wall 3, the resiliency of said rolled over portions keeping the plate in contact with said walls.

The flanges which project from the upper and lower edges of the resilient plate from which the dust guard is made, are continuous from the outer to the inner edge portions of the plate. Said flanges, as well as the body of the plate, are resilient or yielding and the opening in the body of the dust guard, through which the axle passes, weakens the plate at points intermediate of the said upper and lower flanges. In actual use, the dust guards comprising the present invention are subjected to constant vibration and movement in the dust guard chamber, due to the motion of the truck, and necessarily there is a constant wear upon the edge portions of the flanges which bear against the inner wall of the dust guard chamber. In the present invention this wear is taken up not only by the resiliency of the flanges, but especially by reason of the resiliency of the body of the plate, for the latter, weakened as it is by the opening forming the bearing through which the axle passes, is adapted to buckle intermediate the flanges, thereby adding to the spring pressure or yielding action of the flanges. The buckling tendency is afforded by the inherent resiliency of the plate. The flanges which project from the dust guard body are continuous so as to possess sufficient strength to cause the intermediate portion of the dust guard to spring inwardly or buckle with respect to the outer wall of the dust guard chamber. In addition to the advantages above referred to, it is to be noted that the uppermost flange of the body of the dust guard forms an integral closure, practically, for the upper open end of the dust guard chamber, said flange therefore performing a dual function.

I claim:

1. The combination with an axle and a journal box receiving the same, the latter having a dust guard chamber at its outer portion, of a flat resilient plate having a large central opening to receive the axle

and weakening the plate intermediate its upper and lower edges to permit buckling of the plate body, and integral resilient flanges curving laterally from the upper and lower edges of the plate and extending continuously from the outer to the inner edges of the plate and engaging the inner wall of the guard chamber, and holding the body of the plate resiliently against the outer wall of the guard chamber, said flanges tending to cause a resilient buckling action of the body of the plate.

2. The combination with an axle and a journal box receiving the same, the latter having a dust guard chamber at its outer portion with the entrance thereto located at the top of the box, of a flat resilient plate disposed in said chamber and having a central opening through which the axle passes, a circumferential flange projecting laterally from the plate at the periphery of said opening, and integral flanges, continuous from the outer to the inner edges of the plate and curving laterally and outwardly with respect to the axle opening, but extending inwardly from the upper and lower edges of the plate, and terminating in portions

substantially parallel with the plane of the body of the plate, said parallel portions being in yielding contact with the inner wall of the guard chamber while the body of the plate is held in similar yielding contact with the outer wall of said chamber by said flanges, the upper flange aforesaid practically closing the entrance to the guard chamber and said lower flange extending from the body of the plate at the same side as said peripheral flange.

3. A dust guard for car axle boxes, comprising a single resilient plate having a central opening adapted to receive the axle, and integral flanges extending across the upper and lower edges of said plate adapted to cause a buckling action thereof when said guard is placed in position in the car axle box whereby the same is held in position therein.

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

HARRY C. GAMAGE.

Witnesses:

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