(No Model.)

A. C. & D. W. McCORD.

DUST GUARD FOR CAR AXLE BOXES.

No. 554,079. Patented Feb. 4, 1896.

Fig. 1.

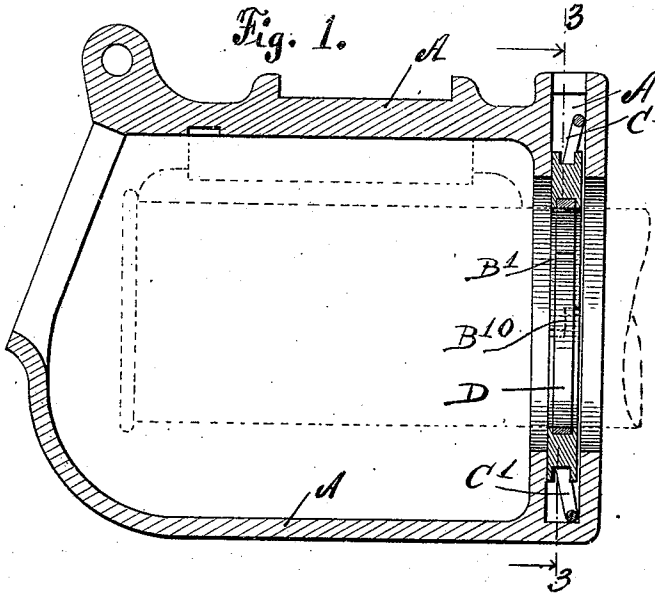


Fig. 2.

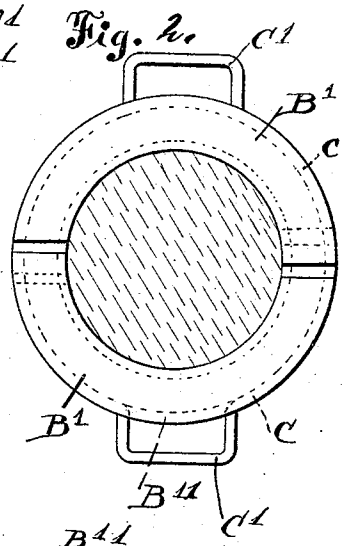


Fig. 3.

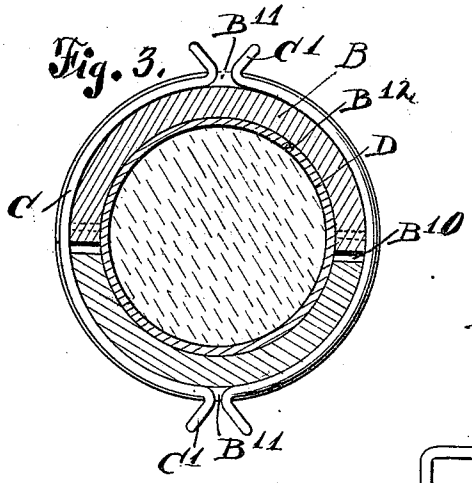


Fig. 4.

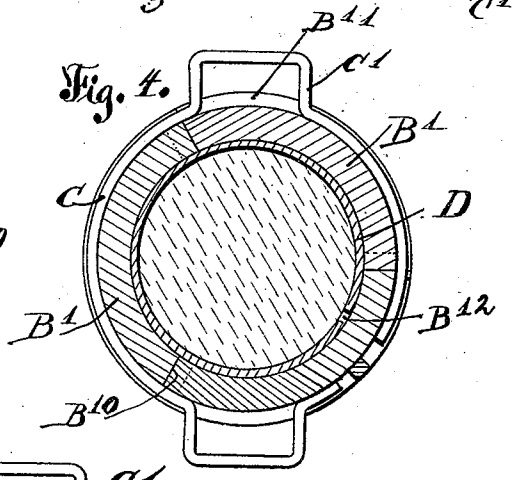


Fig. 5.

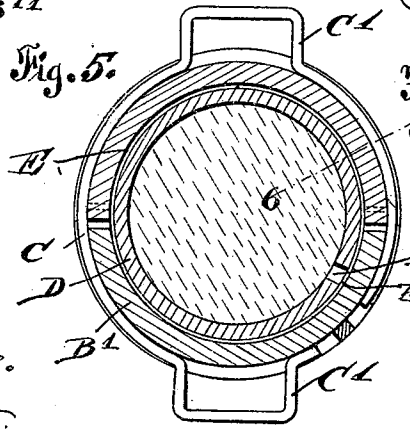
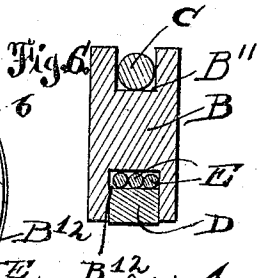


Fig. 6.



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David W. McCord
by Burton & Burton
their Attorneys

UNITED STATES PATENT OFFICE.

ALVIN CARR McCORD AND DAVID W. McCORD, OF CHICAGO, ILLINOIS.

DUST-GUARD FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 554,079, dated February 4, 1896.

Application filed September 16, 1895. Serial No. 562,688. (No model.)

To all whom it may concern:

Be it known that we, ALVIN CARR McCORD and DAVID W. McCORD, citizens of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Dust-Guards for Car-Axle Boxes, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

In the drawings, Figure 1 is an axial section of a car-axle box provided with our improved dust-guard. Fig. 2 is a side elevation or face view of the dust-guard removed from the box. Fig. 3 is a section, as at the line 3 3 of Fig. 1, but showing a modified form of the dust-guard. Fig. 4 is a similar view showing a modification in a different respect from Fig. 3. Fig. 5 is a similar view showing a modification in a third respect. Fig. 6 is an enlarged section at the line 6 6 on Fig. 5.

In the drawings we have shown the standard and familiar form of car-axle box A, having the dust-guard pocket A′ at the rear or inner side.

Our improved dust-guard consists of a circular collar B, preferably of wood, which is divided into two or more parts. In the form shown in Figs. 2 and 3 it is a two-part collar. In the form shown in Fig. 4 it is a three-part collar, and this form is presented to indicate a multiple-part collar, the number of divisions being a matter of preference. The individual parts, whether two or more, are denoted by the letter B′. The divisions or junctions between the several parts are made by long rabbets B^{10} on the ends of the sections, adapting them to slide upon each other some distance without opening a gap between them. The several parts, whether two or more, of the box are elastically held toward the center, and thereby held together as closely as the axle will permit—that is, so that they hug the axle—by a steel spring band or clasp C lodged in a peripheral groove B^{11} in the collar. This spring-band C may consist of only a single coil of the wire of which it is made, in which case it will extend somewhat less than the entire circumference of the collar when it is most closed up, the ends of the wire not quite meeting, so that there is room for further closing of the ring, and thereby of the collar, as the collar wears on the axle. We do not limit ourselves, however, to making the spring-band C of a single coil or clasp.

In order to cause the collar not only to hug the axle but to hug the side of the box and to exclude the dust which might otherwise enter between the face of the collar and the end of the box, we prefer to form the spring clasp or band C with wings or lugs C′ C′ at opposite sides of the collar, which may be done by bending the wire out of its circular form in loops or bows constituting such wings; and these wings are bent aside from the plane of the collar, so that when the collar with the ring or clasp binding its parts together is set into the dust-guard pocket A′ the ends of the wings C′, bearing against the outer wall of the pocket, are necessarily flexed inward in order that the entire collar and wings may enter the pocket, and the wings therefore serve as springs tending to force the collar facewise against the end of the box and hold it closely seated thereagainst. These wings also prevent the rotation of the collar with the axle.

When the box consists of only two parts, the ring or clasp need not be continuous, but may be divided, as shown in Fig. 3, so that it constitutes two clasps, one at each side, spanning the two junctions of the two parts of the collar. When this form is employed, the wings C′ will be formed upon the ends of each of the parts, as shown in Fig. 3, and in this form it is desirable that the part of the ring which constitutes said clasps should extend as far as possible around the collar, and for this reason, when the ring is divided thus, we make the rings by bending the ends of the ring not simply radially outward, but back at an acute angle from the circular portion of the clasp. By reference to Fig. 4 it will be seen that in a multiple-part collar—one composed of more than two parts—the tendency of the coiled ring or clasp C is to contract, so as to force all the parts radially inward.

In all the forms it is desirable to provide a packing-ring of some sort which shall take the immediate friction of the axle at the inner circumferential edge of the collar, and for that purpose said inner circumferential edge is provided with a groove B^{12}, in which is seated a packing-ring D. Such packing-ring

is conveniently made of leather, and is somewhat thicker than the depth of the groove, so that it affords, as stated, the seating-surface of the collar on the axle. A similar principle to that which is involved in the use of the exterior clasping-ring C, whose tendency is to contract radially in all directions and when expanded to expand in all directions, may be advantageously applied to keep the packing D close upon the axle, and so to perfectly seal the collar against the passage of dust, and we have shown in Fig. 5 a structure in which this principle is employed in a spring band or coil E, which is lodged in the groove B^{12}, back of the packing D, the packing being a little shorter than the circumference of the axle, so as to allow for it being closed up as it wears or is compressed in use, the spring band or coil E operating to thus close it up and hug it onto the axle. Now in case the collar is of two-part form, as shown in Fig. 2 or Fig. 3, for example, the wear of the collar can take place only at the middle part of each half, and the collar will therefore not close up along the line or plane of division between the two parts; but this will not prevent the joint about the axle being complete, so long as the packing is kept closed up by the spring-band E and the aperture of the collar does not become worn larger than the axle to a greater extent than the packing can protrude beyond the inner margin of the collar without becoming dislodged from the groove. It will not be found necessary in most instances to take the additional precaution of providing the spring-band E, but when employed it will give additional life to the collar—that is, will permit it to be worn for a longer time before it ceases to be serviceable.

We claim—

1. A dust-guard for a car-axle box, comprising, in combination with the divided circular collar whose outer diameter is greater than the greatest width of the axle-opening in the box, an elastic band peripherally seated on the collar and spanning the junction of the parts of the latter and adapted to contract radially upon said parts, and having wings or extensions C′ adapted to prevent the rotation of the collar with the axle: substantially as set forth.

2. A dust-guard for a car-axle box comprising a divided collar circular in form and peripherally grooved, and a band C lodged in its peripheral groove and tending to contract radially, whereby it tends to close upon the parts of the collar, said band having wings C′ projecting from the collar at opposite points, and diverging from the plane of the collar both toward the same side; whereby the band serves to seat the collar facewise against the end of the box: substantially as set forth.

In testimony whereof we have hereunto set our hands, in the presence of two witnesses, at Chicago, Illinois, this 14th day of September, 1895.

ALVIN CARR McCORD.
DAVID W. McCORD.

Witnesses:
CHAS. S. BURTON,
JEAN ELLIOTT.