R. W. BURNETT.

DUST GUARD.

APPLICATION FILED JAN. 15, 1917.

1,250,138.

Patented Dec. 18, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

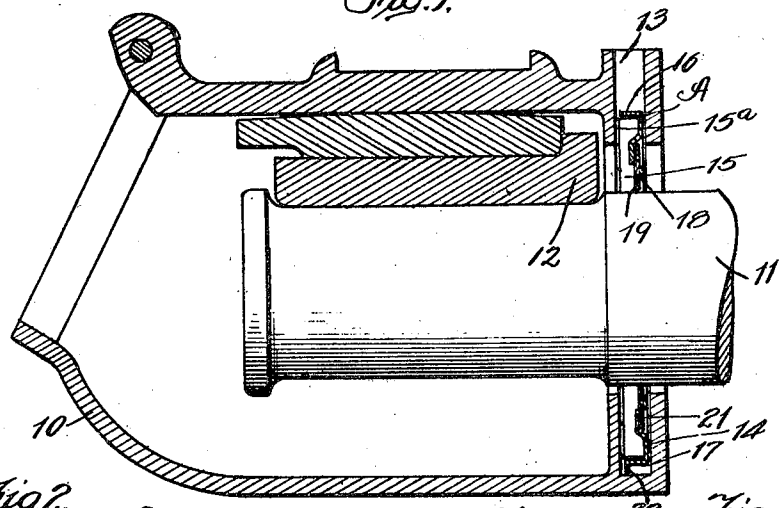


Fig. 2.

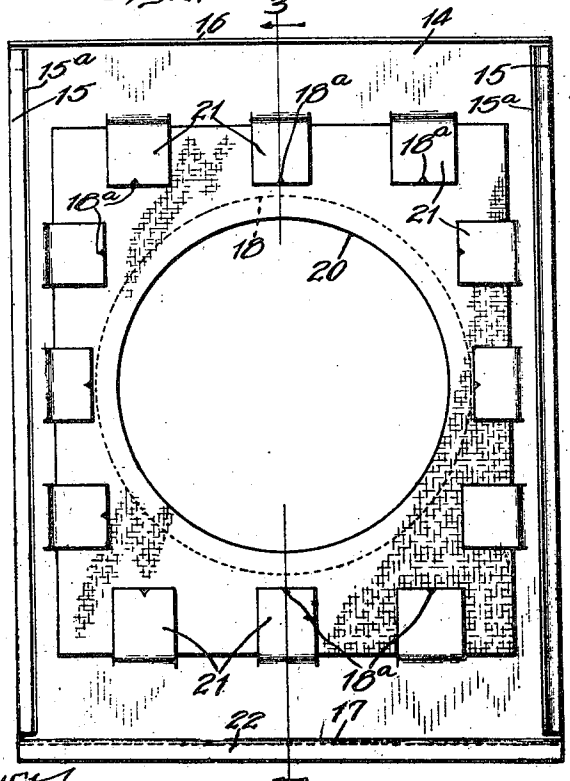


Fig. 3.

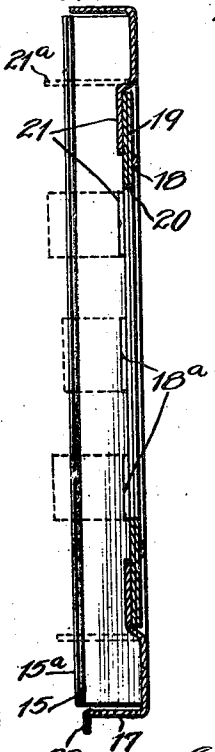
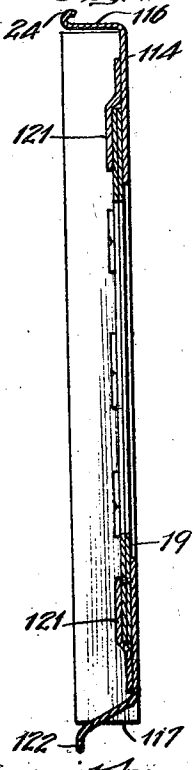


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

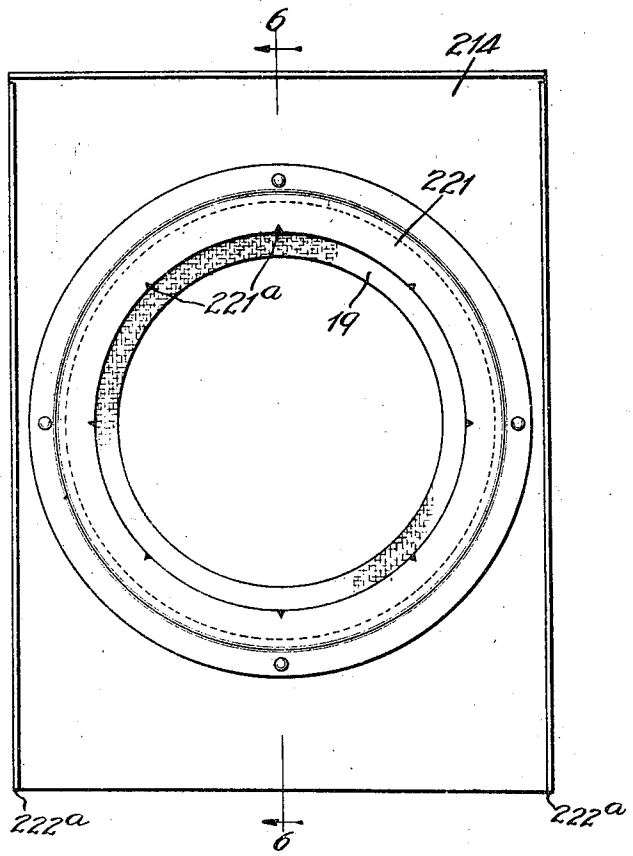
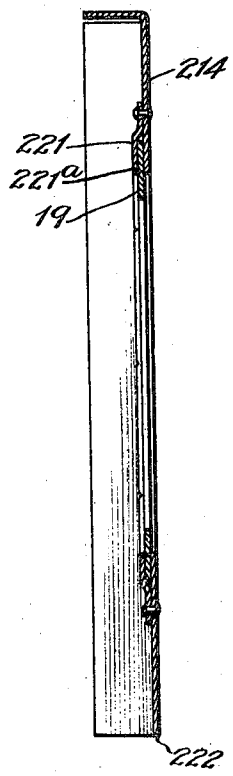


Fig. 6.



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UNITED STATES PATENT OFFICE.

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DUST-GUARD.

1,250,138. Specification of Letters Patent. Patented Dec. 18, 1917.

Application filed January 15, 1917. Serial No. 142,415.

To all whom it may concern:

Be it known that I, RICHARD W. BURNETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Dust-Guards, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in dust guards.

One object of the invention is to provide a dust guard for railway cars which will be durable and efficient and which may be manufactured at relatively small expense.

Another object of the invention is to provide a dust guard of the type above indicated which will not disintegrate in use or break when being applied or taken off.

Other objects of the invention are to provide a dust guard having means to prevent the guard from being held out of proper position by accumulations of dirt at the bottom of the slot in which the guard is placed; to provide a dust guard having integral means thereon for yieldingly holding it in position and preventing undue vibration thereof; and to provide a dust guard having portions of its periphery of a width corresponding substantially to the width of the opening or pocket in which it is received, the dust guard at its portions immediately surrounding the axle being of appreciably lesser thickness and adapted to have additional plies of fabric or other flexible material applied thereto for repair purposes.

In the drawing forming a part of this specification, Figure 1 is a sectional view of a journal box showing my dust guard in position on the car axle. Fig. 2 is an elevational view of the dust guard proper. And Fig. 3 is a vertical section taken substantially on the line 3—3 of Fig. 2. Fig. 4 is a view corresponding to Fig. 3, but illustrating a somewhat different embodiment of the invention. Figs. 5 and 6 are views corresponding respectively with Figs. 2 and 3 and illustrating a still further embodiment of the invention, Fig. 6 being taken on the line 6—6 of Fig. 5.

In the drawing, and referring to the structure illustrated in Figs. 1, 2 and 3, 10 denotes a journal box of the usual construction, 11 a journal, 12 a bearing, and 13 the slot or pocket formed in the journal box in which is adapted to be received the dust guard designated generally by the reference A. As is well known, the dimensions of the slots or pockets 13 are standardized by the Master Car Builders' rules and regulations and my invention, in all of its various forms, contemplates a dust guard which will be adapted for the standardized recesses provided therefor.

My improved dust guard A, as shown, comprises a substantially rectangular sheet or plate of metal 14 forming the main or body portion of the dust guard, the side edges of the plate 14 being flanged or bent as indicated at 15—15 and the top and bottom edges 16 and 17 being also flanged to the same side as the flanges 15—15. The flanges 15, 16 and 17 are made to correspond substantially with the width of the slot 13 in the journal box so that the dust guard will substantially fill the slot and be prevented from undue movement therein in lines parallel to the axis of the journal. Furthermore, the flanges 15, 16 and 17 add materially to the strength and rigidity of the dust guard. The plate 14 is provided with a central opening, as indicated at 18, which opening 18 is appreciably larger than the diameter of the axle. Secured to the plate or frame 14 are two or more plies 19—19 of any suitable flexible material such as leather, vegetable fiber, cloth, or other textile material, said plies 19—19 being also centrally recessed as indicated at 20, the latter recess 20 corresponding to the diameter of the axle and forming a close yieldable fit therewith and adapted to prevent dust from passing into the journal box. In order to secure the fabric or other material, above described, which forms the gasket of the dust guard, the frame portion 14 is provided with a series of integral tongues or tangs 21 arranged substantially in a rectangle, the tongues 21 being first struck up to a position at right angles to the main portions of the plate 14, as indicated at 21^a in Fig. 3. After the gasket material is laid in position, the tongues 21 are then bent against the gasket material to pinch the latter in position. As additional means of holding the gasket material, the plate may be burred or indented around the edge of the opening 18, as indicated at 18^a. From the preceding description, it will be seen that the attaching

means for the gasket are formed integral with the main portion of the guard and the gasket is attached by a very simple operation.

By referring to Figs. 2 and 3, it will be noted that the lower flange 17 of the guard is provided at its extreme edge with a downwardly and vertically extending thin edge 22 which is adapted to act substantially as a knife edge and cut its way into any dirt or other foreign matter that may accumulate in the bottom of the slot 13. By means of this thin or cutting edge, the dust guard will not be held up in different positions due to accumulation of dirt in the slot, as has heretofore been one of the disadvantages of dust guards used.

Referring to Figs. 2 and 3 it will be seen that the edges 15ª of the side flanges 15 are turned inwardly toward the journal and at an angle to the main portion of said flanges so as to provide a yielding pressure against the adjacent wall of the slot or pocket 13, when the guard is inserted in position, thereby preventing the guard from rattling or vibrating and maintaining the main portion of the plate 14 snugly against the opposite wall of the slot or pocket.

In the construction illustrated in Fig. 4, I have shown the tongues 121 as spot-welded to the main or body portion 114 of the plate, the tongues being bent down against the gasket material in the same manner as previously described for the structure illustrated in Figs. 1, 2, and 3. In this form, it is apparent that there are no openings in the metallic frame in back of the dust guard so that the possibility of dirt passing through the dust guard at portions removed from the journal is positively prevented. In said structure illustrated in Fig. 4, the lower flange edge 117 thereof is inclined downwardly in order to provide a spring bearing against the side of the slot 13. The dirt cutting edge 122 is retained as in the other form. In this construction also, the top flange 116 is preferably provided with a curled edge 24 by which the dust guard may be readily pulled out of the journal box by means of a hook or other suitable tool.

In the construction illustrated in Figs. 5 and 6, the main or body portion of the dust guard 214 is formed similarly to that illustrated in Figs. 1, 2 and 3 except at the lower portion thereof, no flange is provided and the lower edge 222 of the plate, and bottom edges 222ª of the side flanges are depended upon to cut into whatever accumulations may be in the recess. In this form, the gasket material 19 is secured to the frame preferably by a metallic ring 221, which is riveted or welded to the main portion 214, and which also may be burred or indented at spaced points, as indicated at 221ª, to better grip the gasket material. By means of the ring 221, the flexible gasket material can be backed in uniformly around the entire circumference of the opening that receives the journal.

It will be noted that a characteristic which is common to all of the forms of dust guards hereinbefore described resides in the fact that the thickness transversely of the guards around their periphery corresponds substantially to the width of the slot in the journal box which receives the guard and further that centrally of the dust guard, the thickness thereof is much less than around the periphery, thus adapting the dust guards to have patches of flexible material or additional plies thereof for wearing or strengthening purposes, attached without increasing the thickness beyond the width of the slot in the journal box which receives the guard.

Although I have herein shown and described what I now consider the preferred manner of carrying out my invention, the same is merely illustrative and I contemplate all changes and modifications that come within the scope of the claims appended hereto.

I claim:

1. As an article of manufacture, a dust guard comprising a sheet metal plate flanged along its vertical sides and across the top, the width of said flanges corresponding substantially to the width of the usual opening provided for the reception of the dust guard, said plate having a thin edge at the bottom thereof placed vertically to thereby cut through accumulations in said recess.

2. As an article of manufacture, a dust guard comprising a single piece of sheet metal plate flanged around some of its edges, the flanges extending substantially at right angles to the main body of the plate and of a width corresponding substantially to the width of the usual recess provided for the accommodation of the guard, said plate being centrally recessed, gasket material secured to said plate and extending inwardly of said recess, certain of said flanges being yieldably pressed when the guard is inserted in position to thereby retain the guard in position and prevent undue vibration thereof.

3. A dust guard comprising a sheet metal plate of substantially rectangular shape, the vertical side edges of said plate being flanged, the width of said flanges corresponding to the width of the recess provided to accommodate the guard, said plate having a central opening, pliable gasket material secured to said plate and extending inwardly of said opening, the gasket material having also an opening to accommodate the car axle, means for securing the gasket material to the plate, said plate having a lower vertically ex-

tending sharp edge adapted to cut into accumulations in the bottom of said recess in the journal box.

4. A dust guard of substantially rectangular shape in its finished form and comprising, a sheet metal plate having some of its edges of a width corresponding substantially to the width of the usual recess provided therefor in a journal box, said plate having a central opening, pliable gasket material secured to said plate and extending inwardly of said opening, said plate having a lower vertically extending sharp edge adapted to cut into accumulations in the bottom of said recess in the journal box.

5. A dust guard comprising, a sheet metal plate having a central opening, gasket material secured to the plate and extending inwardly of said opening, said plate having the vertical side edges thereof provided with flanges extending substantially perpendicular to the main body of the plate, the extreme edges of said flanges being bent at an angle to the main portion of the flanges to thereby effect a yielding pressure between the dust guard and the side walls of the usual opening provided in the journal box to receive the dust guard.

6. A dust guard comprising, a single sheet of metal having the vertically extending side rim portions thereof formed of such a width as to correspond substantially to the width of the usual recess provided in a journal box for the dust guard, said dust guard being of substantially rectangular formation and having the rim portions formed integrally with said plate.

7. A dust guard comprising, a single piece of metal having a central perforation, pliable gasket material carried by said sheet, the dust guard being of substantially rectangular form, said sheet being bent along its two vertical edges and along its top edge to thereby increase the width of the dust guard along said three edges to correspond substantially to the width of the usual recess provided in a journal box to receive the dust guard.

8. A dust guard of the character described comprising, a single piece of sheet metal having a central perforation, pliable gasket material carried by said sheet, said sheet having integral portions overlapping the gasket material for retaining the latter in proper position, the dust guard having parallel vertical side edges and said sheet having the portions thereof at said edges bent to increase the effective thickness of the dust guard to correspond substantially to the width of the usual recess provided in a journal box to receive the dust guard.

In witness that I claim the foregoing I have hereunto subscribed my name this 10th day of January, 1917.

RICHARD W. BURNETT.