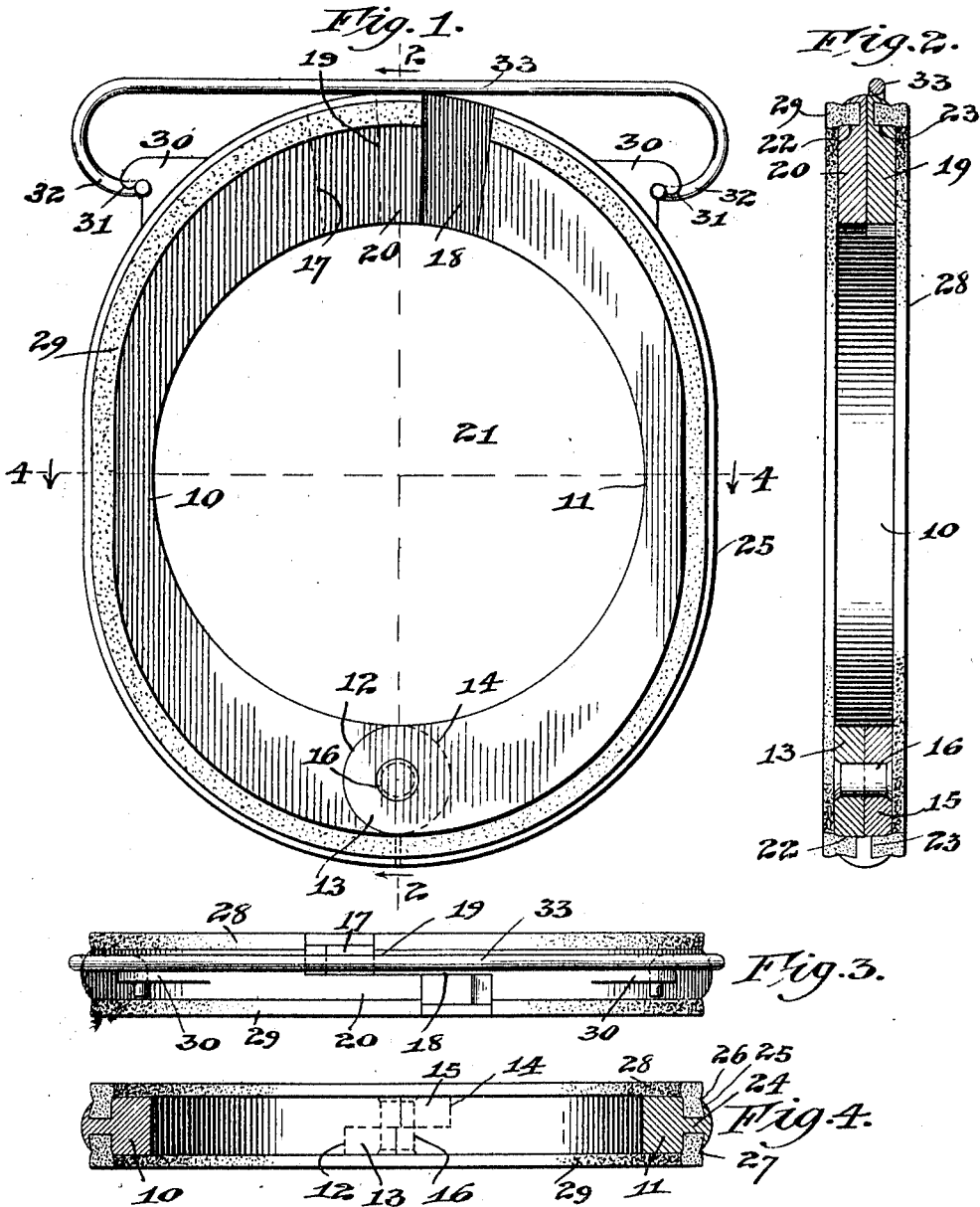


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DUST GUARD.
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987,799.

Patented Mar. 28, 1911.



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UNITED STATES PATENT OFFICE.

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DUST-GUARD.

987,799.

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To all whom it may concern:

Be it known that I, GEORGE G. FLOYD, a citizen of the United States, residing at Granite City, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Dust-Guards, of which the following is a specification:

In railway car-trucks it is necessary that the axles shall be free to move both vertically and laterally or horizontally relatively to the journal-boxes, such horizontal movement taking place during the application of the brakes, while the capability or capacity for vertical shifting is necessary to permit extraction of the wedges and brasses and because of the wearing of the latter. It is usual to employ a wooden dust-guard, apertured centrally to accommodate the axle, for each journal-box, the guard closely hugging or fitting around the axle to prevent escape of the oil or other lubricant from the box and the entrance of dirt or dust thereto, and being somewhat smaller than the box whereby it will theoretically partake of the non-rotary movements of the axle. Such a guard must fit rather closely in the guiding grooves in the journal-box supplied to accommodate it, otherwise the oil will escape and dust or dirt enter. When such wooden guards are employed they frequently become swollen, warped, and cramped in the box so that they can not move with the axle, the result being that the latter during its rotation wears the wood so as to enlarge the hole accommodating it, thereby destroying the essential fit between the guard and axle and defeating the purpose for which such a dust-guard is employed and provided. Obviously, a guard of this character to be effective should fit snugly and neatly at all times about the axle, should be free to move easily with the axle, should fit accurately in its guiding and holding grooves to keep the oil in the box and keep the outer dust and dirt from entering, and should not be subject to swelling, warping, or the like. To meet such requirements I have invented a dust-guard preferably made of metal in two parts, and supplied with felt or the like on opposite sides to maintain a suitable sliding fit with the box. Such guard is made automatically-contracting to retain a close fit about the axle, and in the preferred embodiment of the invention the guard is composed of two overlapping metal pieces hinged together and

supplied on opposite sides with suitable packing material, the device being provided with a spring to contract the guard or draw the parts thereof inwardly on to the axle to compensate for the wear which necessarily occurs in the device.

In the accompanying drawing, which forms a part of this specification and to which reference should be made in connection with the following detailed description for a full and complete understanding of the invention, I have illustrated a desirable embodiment of the invention, like reference characters referring to the same parts throughout the various views:

In this drawing—Figure 1 is a face view of one form of the improved dust-guard; Fig. 2 is a section on line 2—2 of Fig. 1, as viewed in the direction indicated by the arrows; Fig. 3 is a top edge view of the construction; and Fig. 4 is a cross-section on line 4—4 of Fig. 1.

The improved guard includes two curved metallic parts 10 and 11, the former at one end having a recess 12 to accommodate an overlapping portion 13 of the companion part 11, the latter being similarly recessed on its opposite side at 14 to receive an overlapping extension 15 of the part 10, these two portions 13 and 15 being pivoted or hinged together by means of a rivet 16 passing through aligned apertures of the two portions. At their opposite ends these two parts or members 10 and 11 on opposite sides are cut away, shouldered, or recessed at 17 and 18 to provide for the accommodation of the overlapping extensions or prolongations 19 and 20 of approximately one-half the thickness of the parts 10 and 11. In general shape this guard is of somewhat elliptical formation, having a central round hole or aperture 21 of the same diameter as that of the axle which passes therethrough, the size of such hole, however, being variable, owing to the capability which the device possesses for contraction.

On their opposite sides the pair of companion metallic hinged members 10 and 11 have grooves 22 and 23 of substantially elliptical shape and form, the groove of one part forming an extension or prolongation of that on the same or corresponding side of the other member. These two grooves are separated from one another by an intervening, outstanding fin or web 24, having at its

outer extremity a head 25, the opposite edges of which are crimped inwardly somewhat to retain the two strips of packing 28 and 29 in the grooves and prevent their displacement or dislodgment. Such packing may be of any suitable or desirable form or character, such, for example, as felt, each strip extending substantially completely around the guard on one side, not being interrupted, severed, or broken at the hinge connection between the two parts 10 and 11, such packing possessing sufficient give, stretch, or elasticity to permit the turning of the members 10 and 11 on the rivet 16 without breaking.

As is clearly illustrated, the strip of packing 29 extends from the extremity of the overlapping projection or tongue 20 around the guard to the margin of the recess or cut-away portion 18, the strip 28 likewise following the contour of the guard from the end of tongue 19 to the beginning of the recess 17. The inner faces of the heads 25 when the strips of packing are inserted in the grooves are flat, being subsequently inwardly crimped, as is shown clearly in Fig. 4, to grasp and somewhat indent the packings to securely hold the same in position.

On their outer faces and near their upper ends each of the members 10 and 11 is supplied with an outstanding projection 30 having a hook portion 31 which are engaged by the inwardly-bent ends 32 of a wire spring 33 extending over the top of the guard and acting to shut or close the hinged members together or on to the axle on which they fit.

The web 24 and its head 25 form a substantially T-shaped rim, and when the opposite ends of the head are bent or crimped inwardly to confine the packing in place, there is provided an undercut marginal groove at each side of the dust guard member for positively holding the packing strips in place.

The over-all dimension of the two packing rings 28 and 29 is such that the guard maintains an oil and dust tight slidable connection in the guiding grooves of the journal box (not shown), whereby such guard will at all times prevent the escape or leakage of the lubricant from the box and the entrance of foreign materials or dust and dirt thereto. Since this guard or protector is made of metal it is not subject to becoming swollen, warped, or twisted or likely to become cramped or immovably fixed in the guides or slots of the journal box. Owing to the revolution of the axle within the guard some wear on the latter is of course likely to take place, and in order to at all times maintain a close and snug fit about the axle and an even wear on the guard the spring is provided to automatically contract the parts of the guard on to the axle, so that although these members may become some-

what worn, the diameter of the hole through which the axle passes will be maintained substantially constant regardless of whether the wear takes place on the sides of the members or at the tops or bottoms. To introduce such a guard in operative position in the journal-box slots, the spring 33 is removed and the hinged members dropped into the grooves, such members opening up sufficiently or being readily expanded to permit passage of the axle therethrough, after which the spring can be readily applied to the ears 30 to contract the guard on the axle. The entrance of dust or dirt to the box through these portions of the recesses 17 and 18 not filled by the overlapping ears or projections 19 and 20 is prevented in the usual manner by closing the top of the dust-guard opening in the journal-box with a wooden or other strip or piece.

To those skilled in the art it will be apparent that my improved device possesses many features of novelty and improvement over the dust-guards now known to the public and found on the market, and that such a guard will effectively and efficiently retain the oil in the box, prevent the passage of dust or dirt thereto, and will maintain the proper fit on the axle proper.

A device of this kind is susceptible of considerable modification with respect to the details of construction without departure from the heart of my invention and without the sacrifice of any of its advantages, consequently it should be understood that this invention is not limited and restricted to the precise and exact details of construction herein described and set out.

I claim:

1. A dust guard having a substantially T-shaped rim around its periphery producing marginal grooves at opposite sides of the guard, the inner face of the head at each side of the rim being inclined to form an undercut wall for the groove, and a packing strip seated in each groove, substantially as described.

2. A dust guard comprising a pair of hinged members to embrace an axle, each member being provided upon its outer periphery and below the top of the guard with a laterally projecting downturned hook lying in the plane of the guard, and a spring bar extending across the free ends of said members with its ends turned inwardly toward one another and provided with lateral terminals engaged with said downturned hooks, substantially as described.

3. A dust guard comprising a pair of yieldably connected members to embrace an axle, the peripheries of said members being formed into substantially T-shaped rims producing marginal grooves on opposite sides of each member, corresponding grooves of said members being continuous with each

other, and a **packing strip** seated in each groove, substantially as described.

4. A dust guard comprising a pair of hinged members to embrace an axle, each member being provided upon its outer periphery and near its free end with a lateral hook projection lying in the plane of the guard, and a spring bar extending across the free ends of the members, the ends of
10. said spring bar being turned inwardly to-

ward one another and provided with lateral terminals engaging said hooked projections on the hinge members, the main body or portion of said spring bar being substantially straight, substantially as described.

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