No. 647,681. Patented Apr. 17, 1900.

G. F. PRICE.

DUST GUARD.

(Application filed July 20, 1899.)

(No Model.)

Fig 1

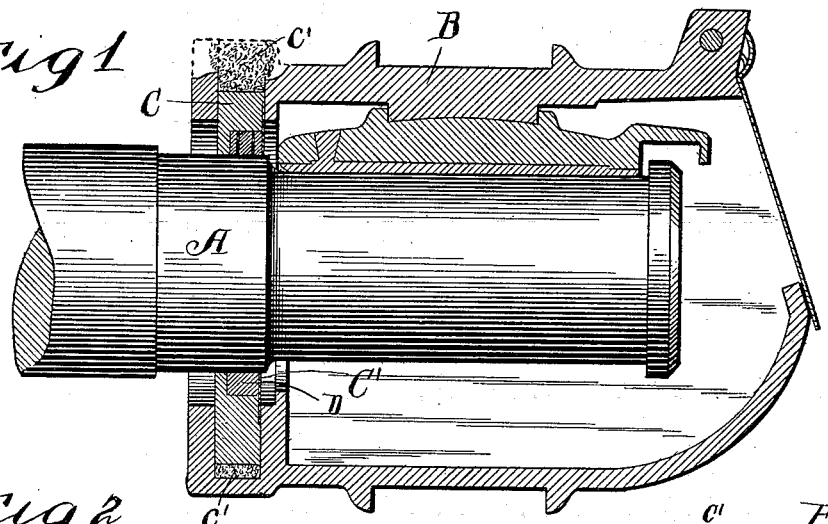
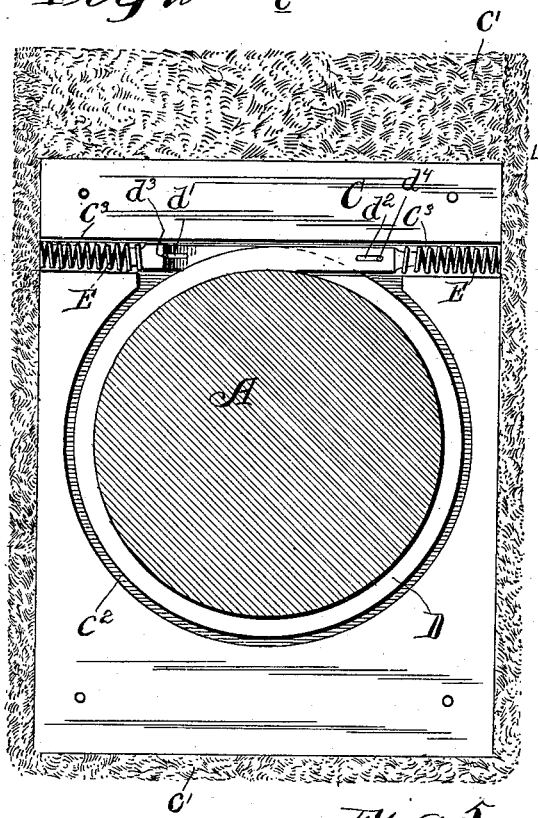


Fig 2

Fig 3



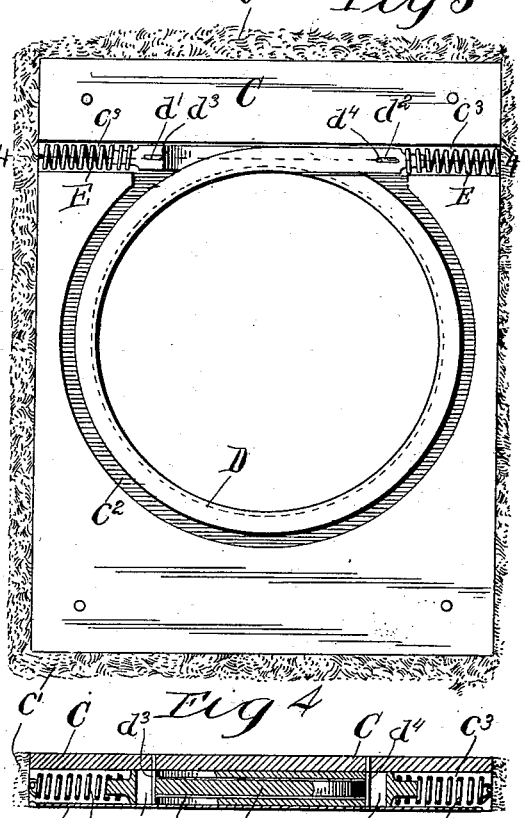
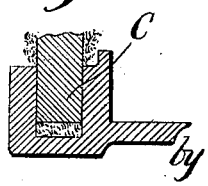


Fig 4

Fig 5



Witnesses:-

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G. Frank Price

by Poole & Brown his Attys

UNITED STATES PATENT OFFICE.

GEORGE FRANK PRICE, OF CHICAGO, ILLINOIS.

DUST-GUARD.

SPECIFICATION forming part of Letters Patent No. 647,681, dated April 17, 1900.

Application filed July 20, 1899. Serial No. 724,520. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANK PRICE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dust-Guards; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved dust-guard for car journal-boxes or the like of that class in which the packing material is used to close the rear or inner end of the journal-box and is held yieldingly about the journal.

The invention consists in the matters hereinafter more fully described, and pointed out in the appended claims.

In the drawings, Figure 1 is a longitudinal vertical section of a car journal-box provided with a device embodying my invention. Figs. 2 and 3 are front elevations of a dust-guard embodying my invention. Fig. 4 is a section taken on line 4 4 of Fig. 3. Fig. 5 is a section taken through the dust-guard at the bottom of the journal-box.

In the drawings, A indicates a car-wheel journal.

B indicates a journal-box of familiar construction which receives the journal A and is supported thereon in the usual manner. The said journal-box is provided at its inner end with a transverse slide-aperture designed to receive a dust-guard, whereby dust, dirt, or other foreign bodies are prevented from entering the journal-box.

My improved dust-guard consists, as herein shown, of a slide C, slightly smaller in its dimensions than the said dust-guard aperture in which it is adapted to be inserted. The said slide is provided upon its margins with a relatively-broad strip of packing material c', such as felt or other suitable material, which is compressed by being inserted into the said slide-aperture of the journal-box. The central part of the slide is provided with a circular aperture in order that it may be readily slipped over the journal A. The outer face of the said slide is provided with a circular recess c^2, surrounding the journal-aperture and opening thereinto. As shown, the said recess c^2 consists, essentially, of a rabbeted groove surrounding the said journal-aperture concentric therewith. The said slide is also provided with a transverse groove c^3, tangent to the journal-aperture, as herein shown, located upon the same face of the slide as the said recess. Said groove has the same depth and width as said recess, and inasmuch as it opens into the same it may be considered, in effect, a continuation thereof. Within the said groove c^3 and the recess c^2 is located a strip of packing material D, of leather or other suitable material. As clearly shown in Figs. 2 and 3, the said strip of packing material lies with its inner surface against the journal, about which it forms a loop, and the ends thereof lie oppositely extended in the opposite ends of the transverse groove c^3. To avoid increasing the thickness where the two ends cross each other, the same may be halved together or both may be somewhat reduced in thickness; but preferably an elongated slot d is made near one end of the said packing-strip, and the other end thereof is reduced in thickness and is passed therethrough, as shown in Fig. 4. Spiral springs E E are secured to each of the ends of the said packing-strip D and also to the said slide in such a manner as to produce a constant tension upon the strip. A convenient way of accomplishing this is to insert a spring in each end of the said groove and secure one end of the same to the margin of the slide and the other end thereof to the adjacent extremity of the packing-strip by any decided means. Obviously, inasmuch as the resiliency of the springs is approximately equal and the packing-strip when the car is not moving is held firmly in contact with the journal, when the journal revolves the friction of the said packing-strip against the journal, aided by the resiliency of one of the said springs, causes the packing-strip to draw more to one side than to the other side—in other words, to produce a partial rotation thereof. This movement, though slight in itself, tends to compress the spring on one side and to extend the corresponding spring of the other side. Obviously, owing to the resiliency of the springs, the effect of this is to equalize at all times the frictional effect of the packing-strip upon the journal. For the purpose of limiting this slight rotative ef-

fect of the packing-strip the ends of the latter in said groove are provided with elongated slots d' d^2 perpendicular to the said slide, and perpendicular studs d^3 d^4 are in the said slide, in the groove thereof, with the outer ends thereof passing, respectively, into the said slots.

For the purpose of retaining the packing-strip and springs in proper position a covering-plate C', provided with a journal-aperture, is secured on the face of said slide over said recess and grooves in such manner as to confine the said packing-strips and springs therein. The said covering-plate may be of any desired material. As herein shown, a thin sheet of metal is used.

I claim as my invention—

1. A dust-guard for car journal-boxes comprising an apertured slide adapted to be inserted in a slide-aperture in the journal-box and having an annular recess surrounding the aperture in the slide, a packing-strip in said recess, means for holding the same yieldingly against the journal and a band of packing material at the margins of the slide and adapted to be compressed when inserted into the journal-box.

2. A car journal-box having a dust-guard aperture, an apertured slide adapted to be inserted therein, and an annular recess surrounding the aperture in said slide, a packing-strip in said recess a band of packing material at the margins of the slide, adapted to be compressed when inserted in the journal-box and means acting to hold the packing-strip in yielding contact with the journal comprising a spring secured to the slide and to the packing-strip.

3. A car journal-box having a dust-guard aperture, an apertured slide provided on its margins with a packing-ring and adapted to be inserted in said aperture, one face of the slide being provided with an annular recess surrounding and opening into the aperture in the slide and having a transverse groove extending across said recess, a strip of packing material lying in said recess and in contact with the journal the ends thereof being oppositely extended in said groove, and means for holding the packing-strip yieldingly against the journal consisting of a spring secured to one of the ends of the packing-strip acting to draw the same closely about the journal.

4. A dust-guard for car journal-boxes comprising a slide adapted to be inserted in the dust-guard aperture of a journal-box, a circular aperture in said slide one face of said slide being provided with a circular recess surrounding and opening into said circular aperture and with oppositely-extended transverse grooves opening into said recess, a strip of packing material lying in said recess having yielding contact with the journal and provided near one of its ends with a longitudinal slot through which the other end thereof is passed, said ends lying oppositely extended in said grooves, a spiral spring in each groove one end of which is attached to the end of the packing-strip and the other end of which is attached to the slide, and means for limiting the draft of said springs comprising a longitudinal slot in each end of the packing-strip and studs secured in the slide and extending into said slots.

5. A dust-guard for car journal-boxes comprising a slide adapted to be inserted in the dust-guard aperture of a journal-box, and having a circular aperture therein and provided on one of its faces with a circular recess opening into the said circular aperture, and with oppositely-extending transverse grooves tangent to the said circular aperture and opening into said recess, a strip of packing material in said recess having yielding contact with the journal and provided near one of its ends with an elongated longitudinal slot, through which the other end thereof is passed, said ends lying oppositely extended in said grooves, a spiral spring in each groove having one end attached to the end of the packing-strip the other end thereof being attached to the slide, means for limiting the draft of said springs comprising a longitudinal slot in each end of the packing-strip and studs secured in the slide and projecting into said slots and means for confining the packing-strip in said recess and grooves comprising a plate provided with a journal-aperture and secured on the face of said slide over said recess and grooves.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 20th day of June, A. D. 1899.

G. FRANK PRICE.

Witnesses:
CHARLES W. HILLS,
TAYLOR E. BROWN.