

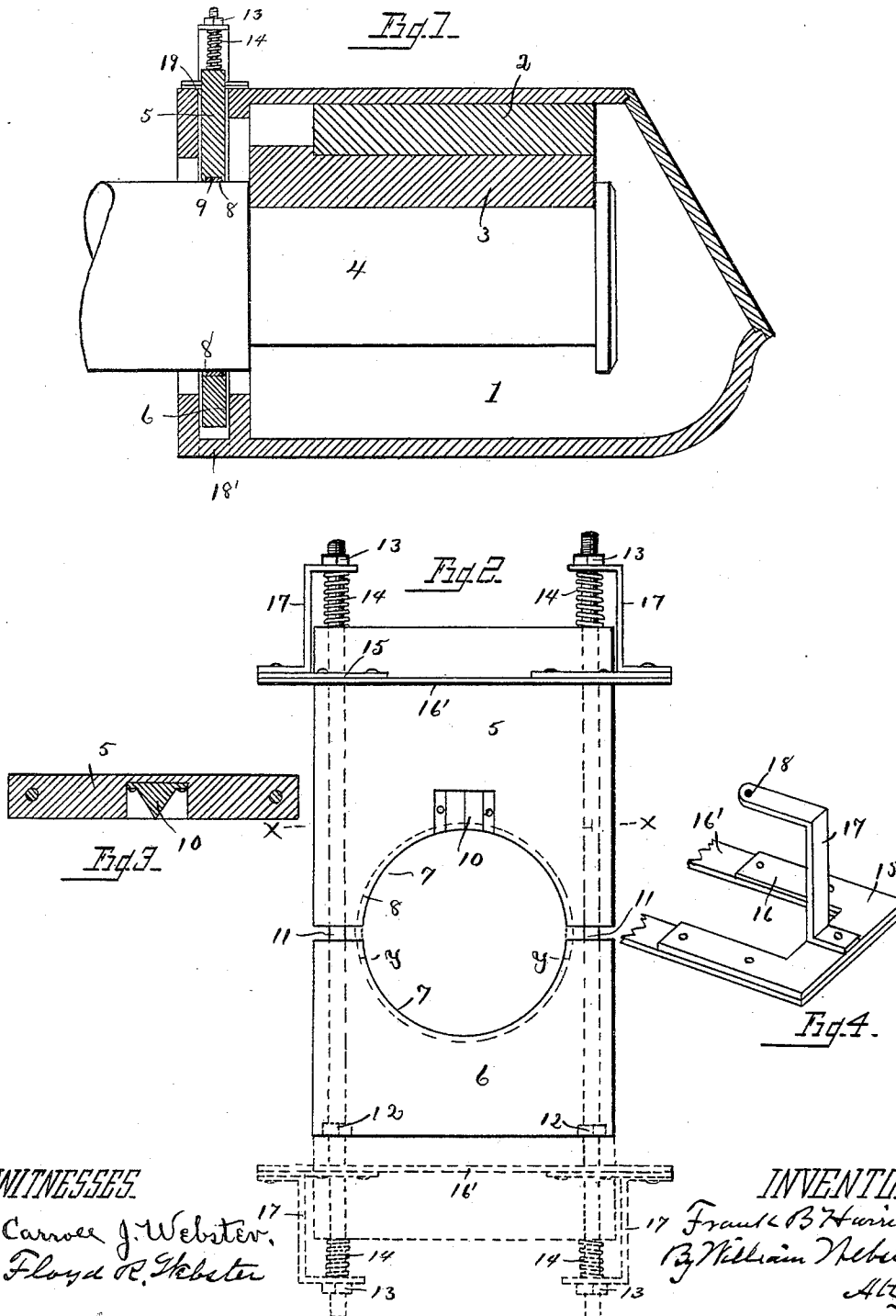
(No Model.)

2 Sheets—Sheet 1.

F. B. HARRISON.
DUST GUARD FOR CAR AXLE JOURNALS.

No. 467,719.

Patented Jan. 26, 1892.



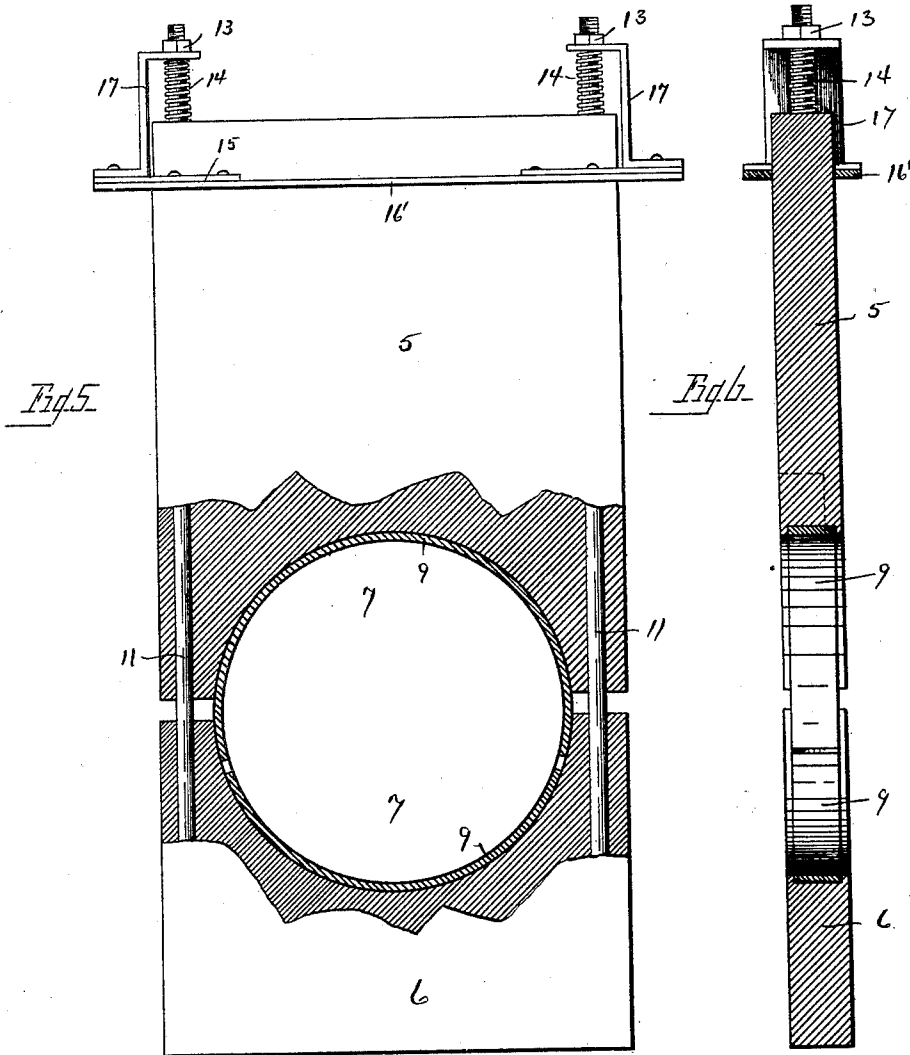
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WITNESSES

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DUST-GUARD FOR CAR-AXLE JOURNALS.

SPECIFICATION forming part of Letters Patent No. 467,719, dated January 26, 1892.

Application filed January 23, 1891. Serial No. 378,757. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. HARRISON, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Sectional Dust-Guards for Car-Axle Journals; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to a sectional dust-guard for car-axle journals, and has for its object to provide a dust-guard that shall yieldingly embrace the journal, with means for adapting the same to a car-axle box, having but an opening upon the upper side; or to one having an upper and a coincident lower opening.

A further object is to provide the sections at their point of contact with the journal and at the joinder of the sections with a resilient packing.

A further object is to provide a closure to the opening or openings through which the section or sections of the dust-guard are introduced that shall effectually prevent dust from entering thereat.

A further object is to provide a scraper that shall bear upon the journal and cause any oil that may tend to travel upon the journal and escape from the box to be returned to the box.

With these objects in view the invention consists, broadly, in a sectional dust-guard held yieldingly assembled by means of side rods and springs upon the rods, which bear upon either the upper or upper and lower sections to cause the same to embrace the journal, with the opposite ends held adjustably as regards tension by nuts upon the rods.

The invention further consists in an encircling resilient packing held to the journal by the yielding tension of the sections and provided with a scraper to bear upon the journal.

The invention further consists in overlapping closures to the axle-box opening or openings.

The invention further consists in providing

the dust-guard with a rigid scraper adapted to contact with the journal.

The invention further consists in the various novel details in construction, as will be hereinafter described in the specification, illustrated in the drawings, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal vertical sectional view of a car-axle box, in which is journaled a car-axle journal provided with my improved dust-guard. Fig. 2 is a front elevation of a complete guard, showing in full lines the guard when constructed for use in a box having an opening in the upper side for the insertion of the dust-guard, and in dotted lines a supplemental and duplicate arrangement for use when the box is formed with an opening coincident with the upper opening. Fig. 3 is a transverse section on lines *x x*, Fig. 2, showing a V-shaped scraper secured therein and adapted to bear upon the journal to return to the box any of the lubricant that may tend to travel upon the journal and escape. Fig. 4 is a sectional detail view of a portion of the frame and closure for the opening in the box. Fig. 5 is a plan view of a complete dust-guard with a portion broken away to disclose the position of the sectional packing-strips within the circumferential groove formed in the sections. Fig. 6 is a sectional elevation of one-half of the dust-guard. (Shown in edge view to show the position of the longest section of the packing-strip with relation to the sections when slightly apart.)

1 designates the car-axle box, 2 the wedge, 3 the brass, and 4 the journal. As these parts are of the ordinary construction, a further description of them is deemed unnecessary. The dust-guard is constructed of two sections—an upper section 5 and a lower section 6—each of which is cut away, as shown at 7, to form a slightly-elliptical opening in which the greater diameter is equal to the diameter of the journal, the diameter vertically being of slightly less diameter than the journal, so that the sections will be slightly separated when encircling the journal, thereby compensating for wear, and causing the springs to always urge the sections in contact with the journal.

Within a groove 8 formed in the interior face of each section is placed a resilient packing 9, preferably of leather, the latter being preferred on account of its absorbent and wearing qualities. This packing is composed of two sections, one of which extends beyond the meeting point of the two sections to form an unbroken connection between the two, as shown in dotted lines at *y y*, Fig. 2, and also in Figs. 5 and 6. The upper section of packing 9, which is introduced into the groove of the upper section, is formed with a V-shaped portion 10, which bears upon the journal and returns the lubricant that may tend to travel upon the journal.

Sections 5 and 6 are held to the journal by means of rods 11, which, when the sections are used in a dust-guard in which there is but a single upper opening to the box, are headed, as at 12, and screw-threaded at the upper end to receive a nut 13, between which and the upper section of the dust-guard is a coiled spring 14, (one to each rod,) and a metal plate 15, formed with arms 16, to which a closure 16', of leather, felt, or analogous material, is secured, which bears upon the sides of the opening of the car-axle box and prevents the entrance of dust. To the plate 15 is secured an angular bar 17, formed with a perforation 18, through which the rod 11 passes, the nut 13 bearing upon the same, and the angular portion of the bar bearing upon the spring 14, whereby the sections may have vertical play through the opening in the box and closure without affecting the position of the closure.

In Fig. 2 is shown in dotted lines a lower extension to the dust-guard, which is designed to occupy a lower opening in the axle-box, this modification being designed for use in boxes constructed especially for this purpose, and in this event is merely a duplication of the springs, plate, and closure just described, and will consequently be designated by the same reference-numerals, there being no variance in principle or construction, except to dispense with the heads 12 of the bolts. In this construction the dust-guard is permitted to rise or fall with the movement of the journal within the box, the closures always remaining in position over the openings, and the sections passing through the upper or lower openings in the box to the distance required.

In adapting the box for the use of the dust-guard with the duplex equipment just described the lower portion of the box is cut out, as at 18', and in adapting the dust-guard to this use the lower section 6 is extended to a length sufficient to extend through the opening, as shown in dotted lines, Fig. 2.

To adjust the dust-guard where but the upper opening 19 is formed in the box, the axle is "jacked up" and the box removed. The lower section 6 and bolts 11 are then inserted in the box. The journal is now placed in position, and section 5 inserted with the

rods 11 passed through the longitudinal holes in the same. The springs are now placed upon the rods and the closure placed over the end of section 5, with rods 11 passing through openings 18 in bar 17. Nuts 13 are now screwed to place to cause the desired tension upon the springs, and the equipment is completed.

As by my invention there are provided closures for the openings in the box, the lower portion of the box may be formed with an opening, as at 18', whereby the equipment is rendered more convenient, as in this instance the lower section 6, having the closure 15 16 secured thereto, is passed up from beneath through the lower opening, and section 5 from above through the upper opening without the necessity of removing the box from the journal.

In operation the sections yieldingly embrace the journal, and the packing closely fitting upon the journal effectually excludes all dust or grit from the lubricant-receptacle, and the V-shaped scraper is in position to catch any lubricant that may tend to travel upon the top of the journal regardless of the direction of rotation of the journal.

I would distinctly have it understood that I do not limit myself to the exact construction of parts shown herein, but may vary therefrom in carrying my invention into effect.

What I claim is—

1. In a dust-guard, the combination, with the spring-actuated sections having essentially semicircular cut-out portions, the said sections being arranged with said portions opposing to produce an approximately-circular opening, each section being provided with a groove extending from end to end of its curved side or edge, the said grooves being of the same width throughout and arranged in vertical alignment to produce a continuous circular groove of uniform width, of the sectional packing-strips arranged in the said grooves, said packing-strips being of a uniform width to fully occupy the said grooves, one of said strips being long enough to entirely occupy the groove of its own section and extend past the point of division and occupy a portion of the other section, the strip of said section being shortened to permit the same, substantially as applied for.

2. A dust-guard comprising sections for embracing the journal, springs for holding the sections assembled, and a closure for the opening through which the sections are introduced into the car-axle box, the closure being formed with an opening through which the section of the dust-guard passes, the sections, springs, and closures being held in place by rods passing through the section.

3. A dust-guard composed of two sections lying in parallel horizontal relation within the box and held yieldingly to embrace the journal, the sections being formed with a groove circumferentially of the portion which

embraces the journal and provided with a packing held therein by contact with the journal, the packing of one section having a V-shaped projection to bear upon the journal
5 and return the escaping lubricant to the box.

4. A sectional dust-guard provided with a closure for the opening in the car-axle box, through which the section is introduced, said
10 closure being formed with an opening through which the dust-guard may have vertical play

and provided with arms which contact with springs which bear at one end upon the arms and at the opposite end upon the dust-guard.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

FRANK B. HARRISON.

Witnesses:

WILLIAM WEBSTER,
CARROLL J. WEBSTER.