

No. 610,147.

Patented Aug. 30, 1898.

F. RATTEK.  
DUST GUARD FOR AXLE BOXES.

(Application filed May 28, 1898.)

(No Model.)

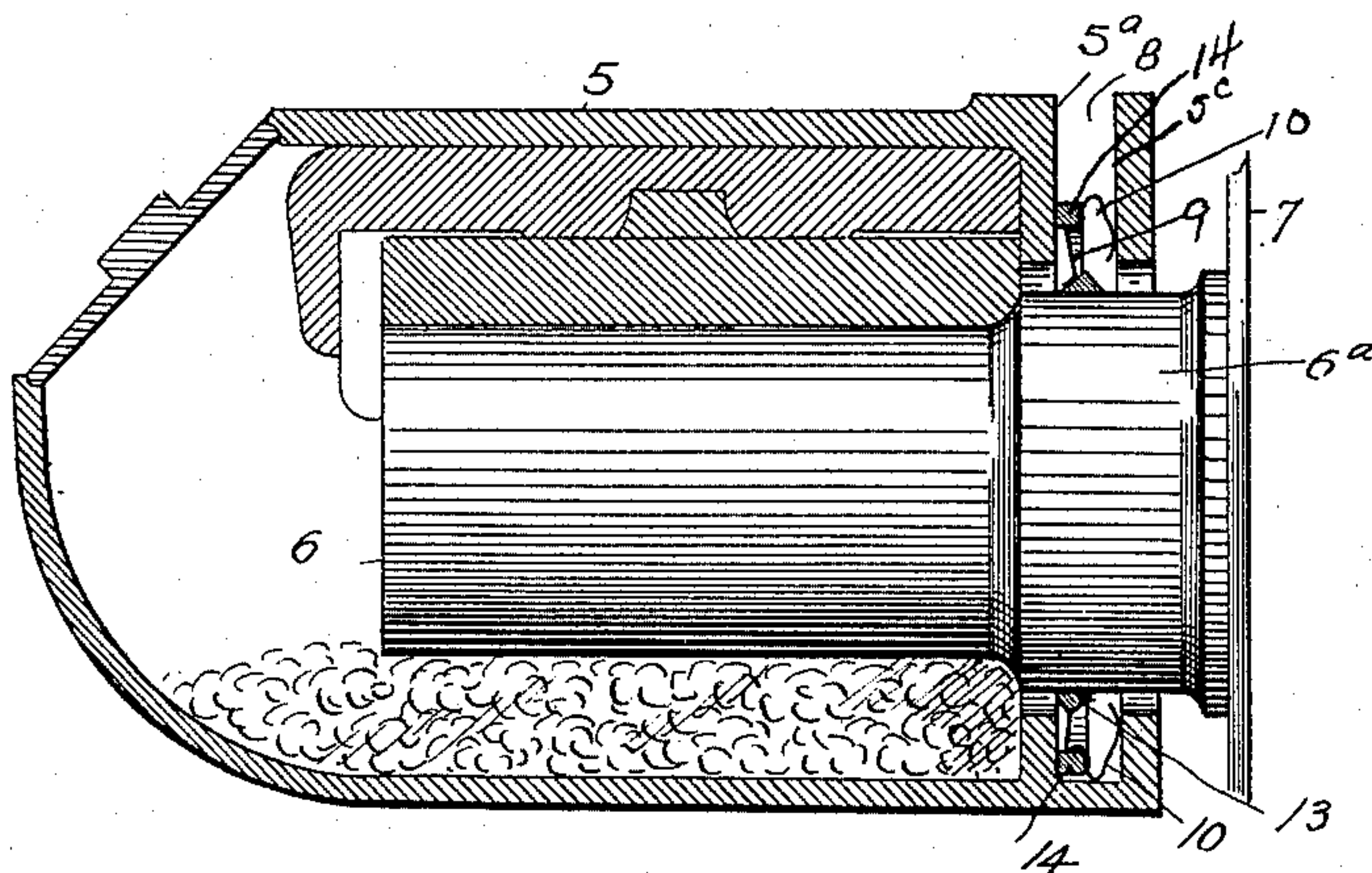


FIG. 1

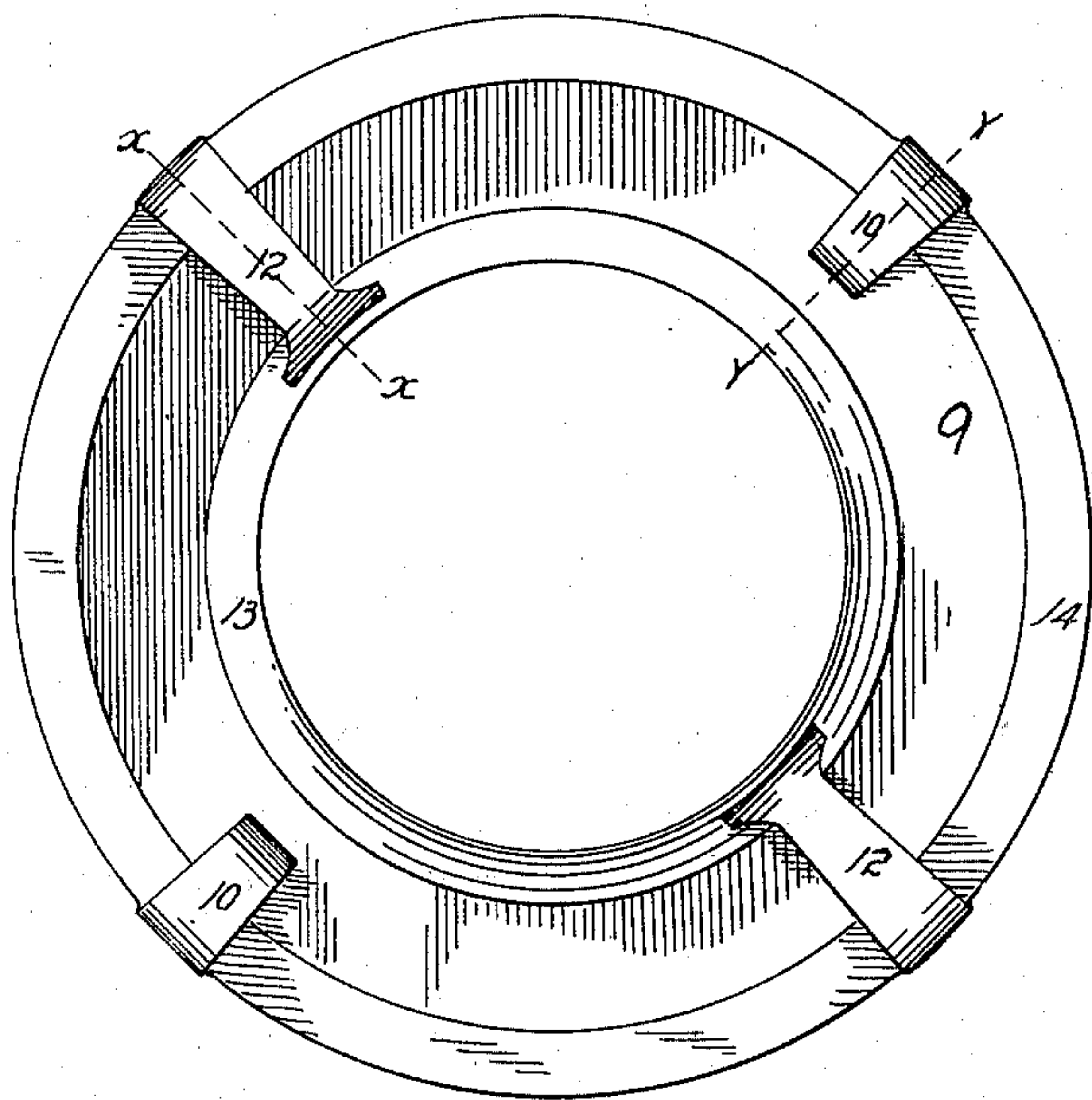


FIG. 2

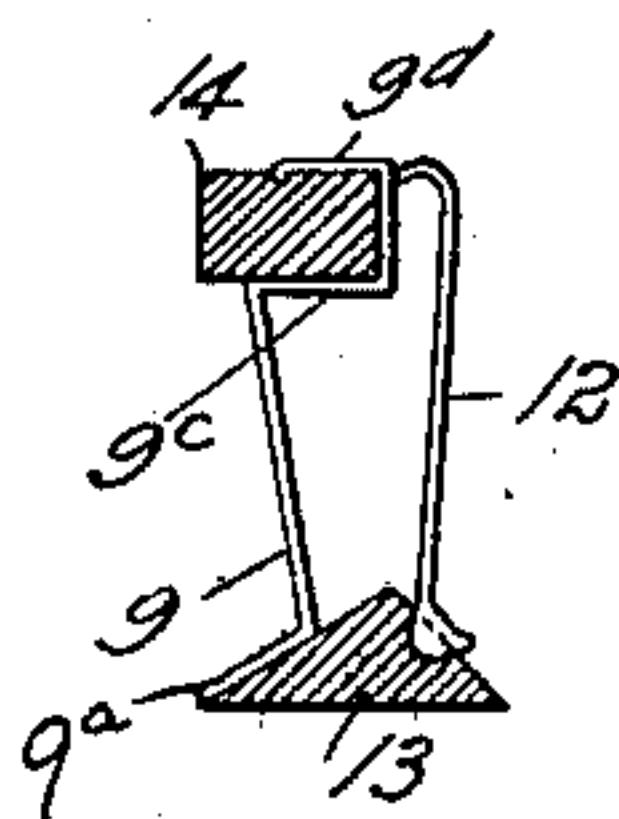


FIG. 3

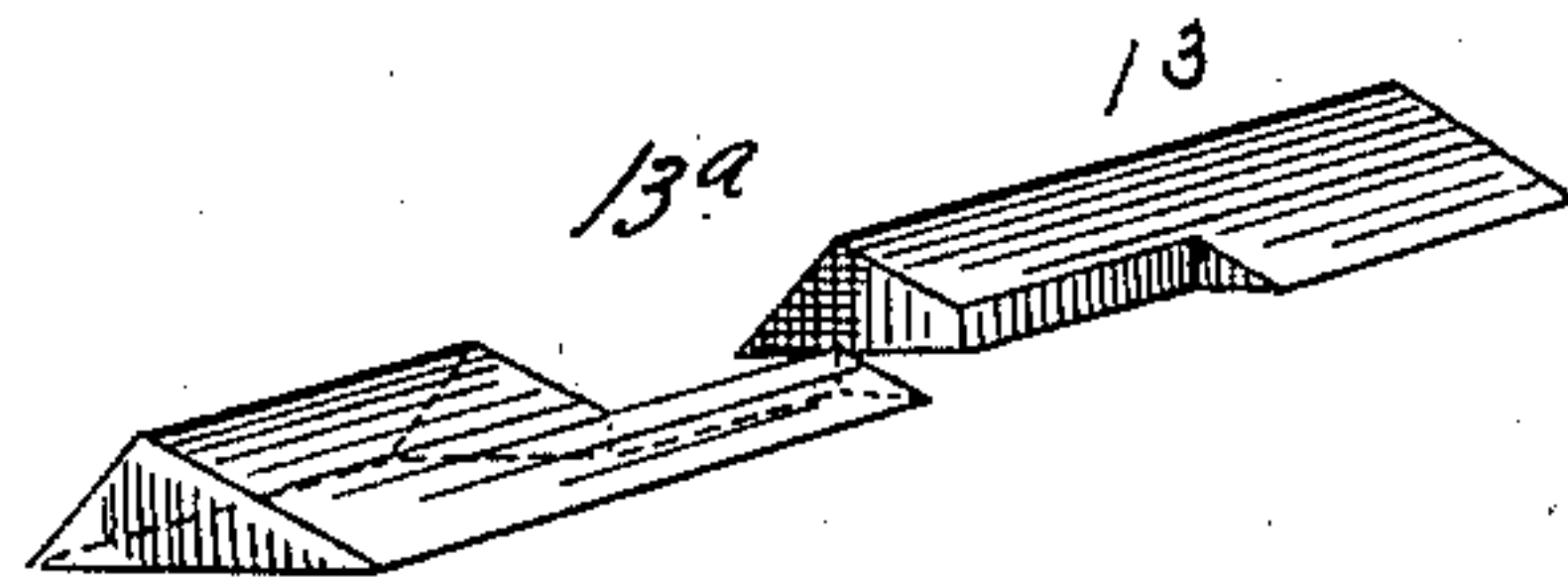


FIG. 5

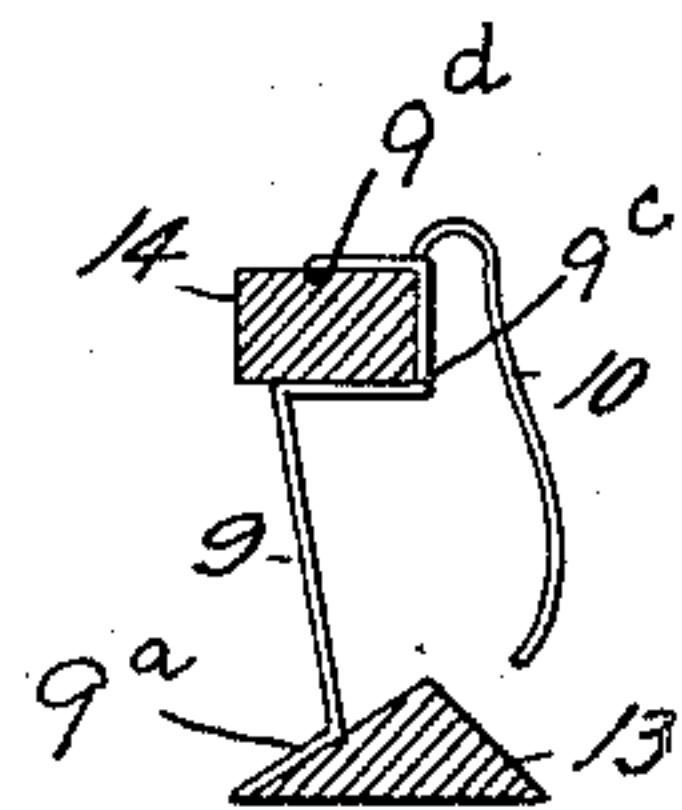


FIG. 4

Witnesses  
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Inventor  
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By *his* Attorney



# UNITED STATES PATENT OFFICE.

FRANK RATTEK, OF DENVER, COLORADO.

## DUST-GUARD FOR AXLE-BOXES.

SPECIFICATION forming part of Letters Patent No. 610,147, dated August 30, 1898.

Application filed May 28, 1898. Serial No. 682,082. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK RATTEK, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Dust-Guards for Axle-Boxes; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 a part of this specification.

My invention relates to improvements in dust-guards for the axle-boxes of railway-cars, my object being to prevent the entrance of the dust and the escape or loss of the oil or lubricating material placed in the box.

My further object is to provide an article of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a vertical longitudinal section taken through a journal-box provided with my improved dust-guard. Fig. 2 is a face view of the dust-guard. Fig. 3 is a section taken through the guard on the line *x x*, Fig. 2. Fig. 4 is a section taken on the line *y y*, Fig. 2. Fig. 5 is a fragmentary detail view illustrating the overlapping extremities of the packing-ring.

Similar reference characters indicating corresponding parts in these views, let the numeral 5 designate a car-axle journal-box which is of the ordinary or standard construction. The journal 6 of the wheel 7 is shown in place within the box. My improved dust-guard is located within the chamber 8 of the box and surrounds the portion 6<sup>a</sup> of the journal passing through the said chamber.

The dust-guard consists of a thin washer-like ring 9, provided with a plurality of springs 10 and a plurality of tongues 12. The springs and tongues, as shown in the draw-

ings, are formed integral with the washer and bent inwardly from its outer edge toward the journal.

Surrounding the journal and held in place by the washer 9 and its tongues 12 is a packing-ring 13, composed of any suitable material. As shown in the drawings, this ring is triangular in cross-section. One of its faces engages the journal, while one of the other faces is engaged by the inner inclined portion 9<sup>a</sup> of the washer 9, the third face of the packing-ring being engaged by the tongues 12. Hence the ring 13 is held in place by the part 9<sup>a</sup> of the washer on one side and the tongue 12 on the other side. The packing-ring 13 is divided, as shown at 13<sup>a</sup>, to compensate for expansion and contraction and the wear of the parts. The adjacent extremities of the ring are cut away, whereby they are adapted to overlap and form a tight joint. (See Fig. 5.)

The outer portion of the washer 9 is provided with an offset 9<sup>c</sup>, in which a packing-ring 14 is located and adapted to press against the wall 5<sup>a</sup> of the chamber 8. This ring 14 is held in place from above by horizontal lips 9<sup>d</sup>, turned outwardly or in the direction opposite from the tongues and the springs 10. These lips are also formed integral with the washer. The springs 10 press against the opposite wall 5<sup>c</sup> of the chamber 8 and hold the washer 9 and its packing-rings securely in place, thus preventing the entrance of any dust to or the escape of oil from the journal-box.

The washer 9, together with its springs, tongues, and lips, should be made very thin, whereby the weight of the material therein, as well as the cost of the device, is reduced to a minimum.

It must be understood that I do not limit the invention to the details of construction herein shown, as I am aware that many modifications may be employed without departing from the spirit of the invention.

Having thus described my invention, what I claim is—

1. In a dust-guard for car-axle boxes, the combination of a washer adapted to surround the journal of the axle, and a packing-ring engaging the journal, the washer being pro-



vided with tongues engaging the packing-ring on one side, while the body of the washer engages it on the opposite side, the washer being further provided with springs engaging the axle-box, whereby the device is held securely in place.

2. In a dust-guard for axle-boxes, the combination of a washer surrounding the journal and provided with tongues formed integral with the body of the washer and bent inwardly from its outer edge toward the journal, a packing-ring engaging the journal and located between the body of the washer and the tongues, another packing-ring larger than the first-named ring, the washer being provided with lips engaging the larger ring which is held between the lips and the body of the washer, the latter being so constructed as to cooperate with the lips and tongues to hold the packing-rings in place.

3. In a dust-guard for axle-boxes, the combination of a washer surrounding the journal and provided with tongues formed integral with the body of the washer and bent inwardly from its outer edge toward the journal, and a packing-ring engaging the journal and located between the body of the washer and the tongues.

4. In a dust-guard, the combination of a washer provided with tongues, lips, and springs, all formed integral with the body of the washer, and two packing-rings held in place by the tongues and lips, the springs being adapted to hold the dust-guard in oper-

ative relation with the journal and the adjacent portion of the journal-box.

5. In a dust-guard, the combination of a washer adapted to surround the journal of the axle, a packing-ring held in place by the washer, and springs formed integral with the washer, bent inwardly from its outer edge and engaging the adjacent portion of the journal-box to hold the dust-guard in place.

6. A dust-guard comprising a washer provided with springs, tongues and lips, all formed integral with the body of the washer, and two packing-rings of unequal size held in place on the washer by the tongues and lips respectively, the washer being shaped to cooperate with said elements, the springs being adapted to engage the adjacent portion of the journal-box to hold the dust-guard in place.

7. In a dust-guard for axle-boxes, the combination of a packing-ring adapted to surround the journal, said ring being divided, its adjacent extremities being fashioned to overlap forming a tight joint, and a washer having tongues bent inwardly toward the journal to hold the packing-ring in place, the latter being located between the body of the washer and the tongue extremities.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK RATTEK.

Witnesses:

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EDITH HIMSWORTH.