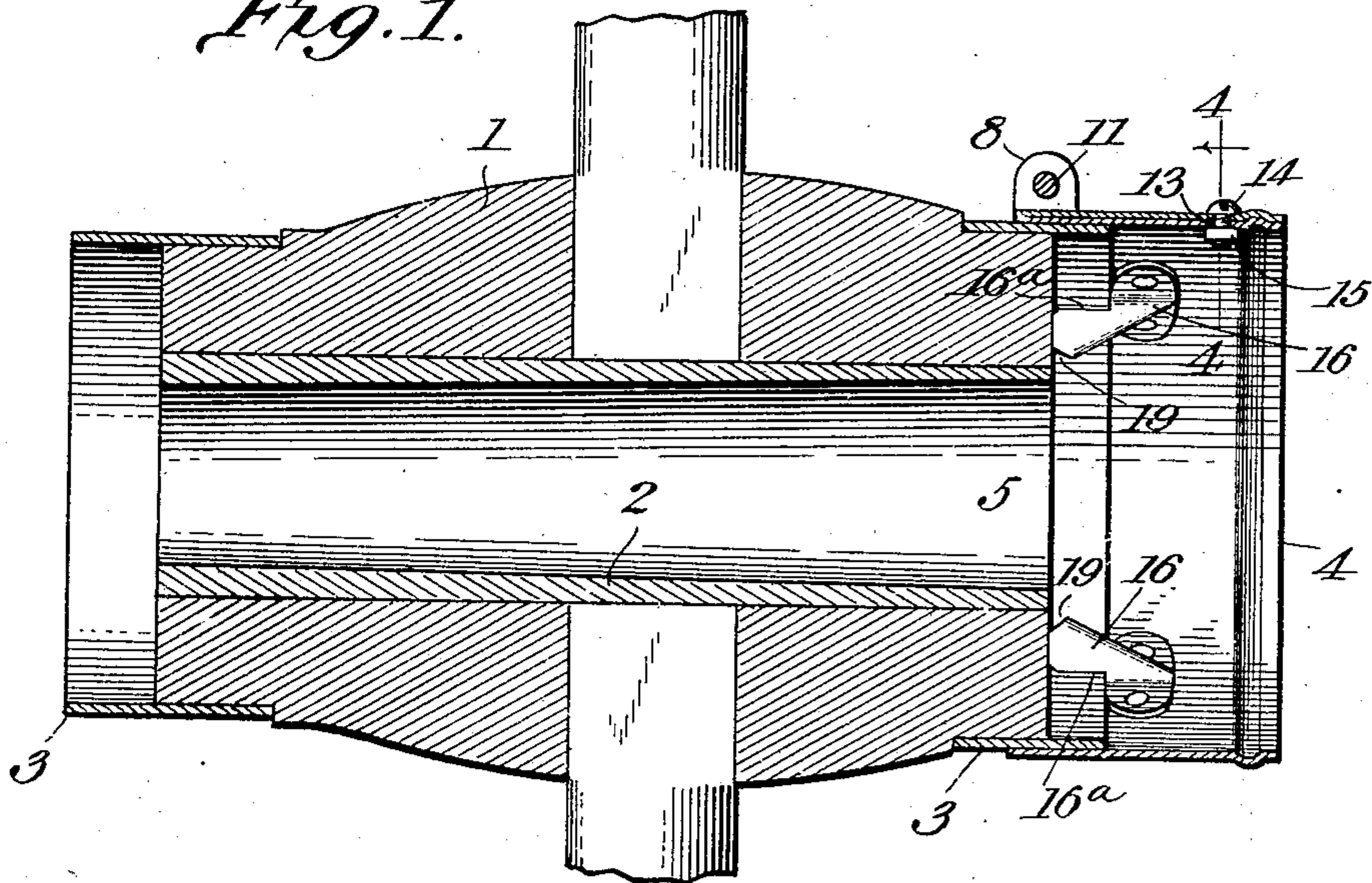


No. 880,262.

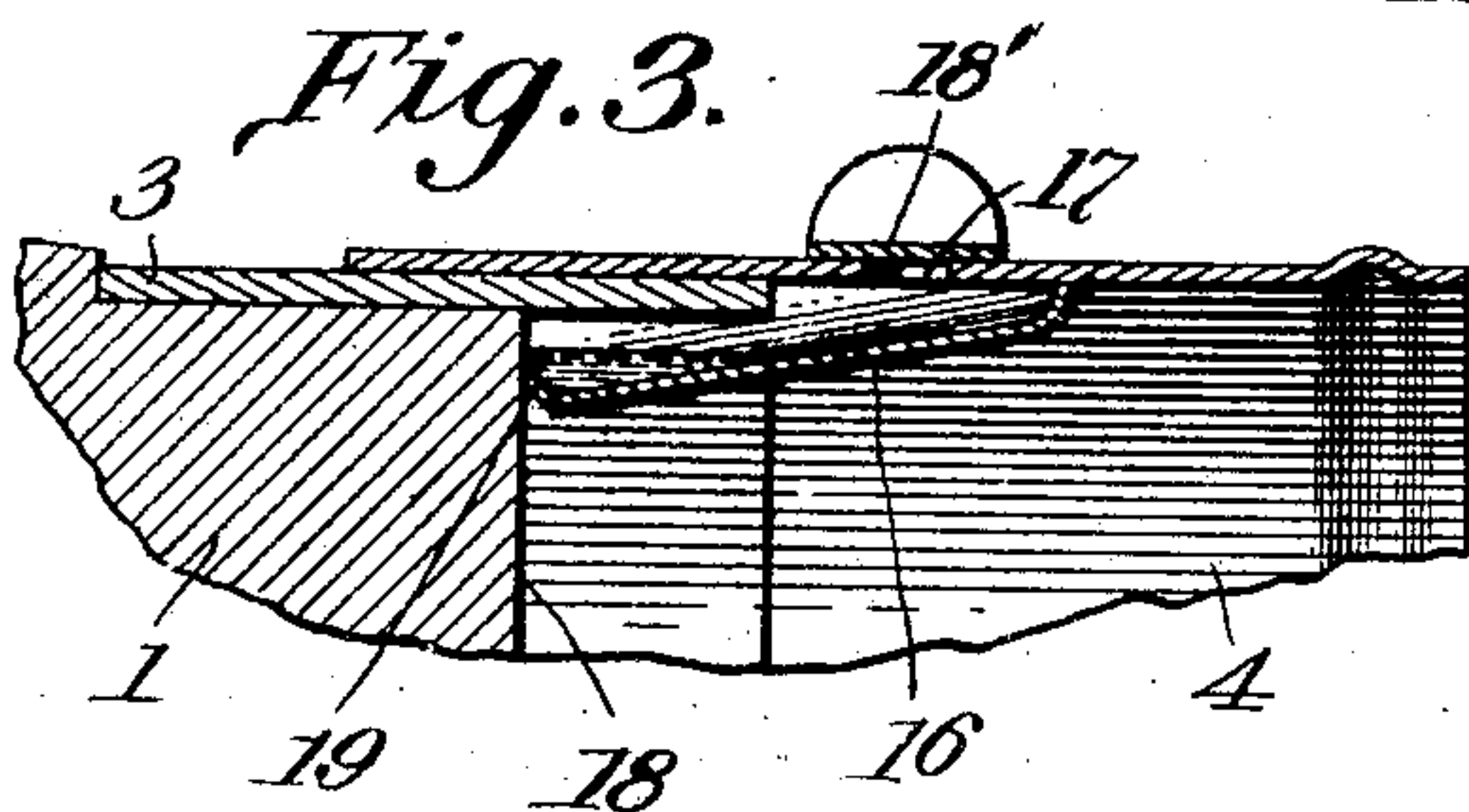
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W. WOLFE & W. LUCAS.  
LUBRICATOR PROTECTOR FOR VEHICLE WHEEL JOURNALS.  
APPLICATION FILED NOV. 20, 1907.

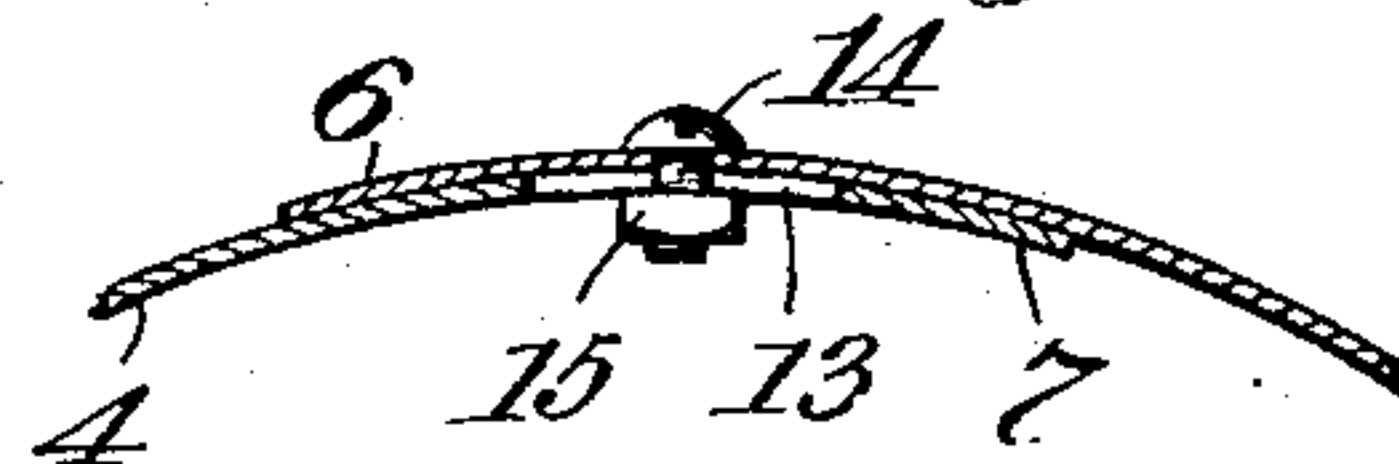
*Fig. 1.*



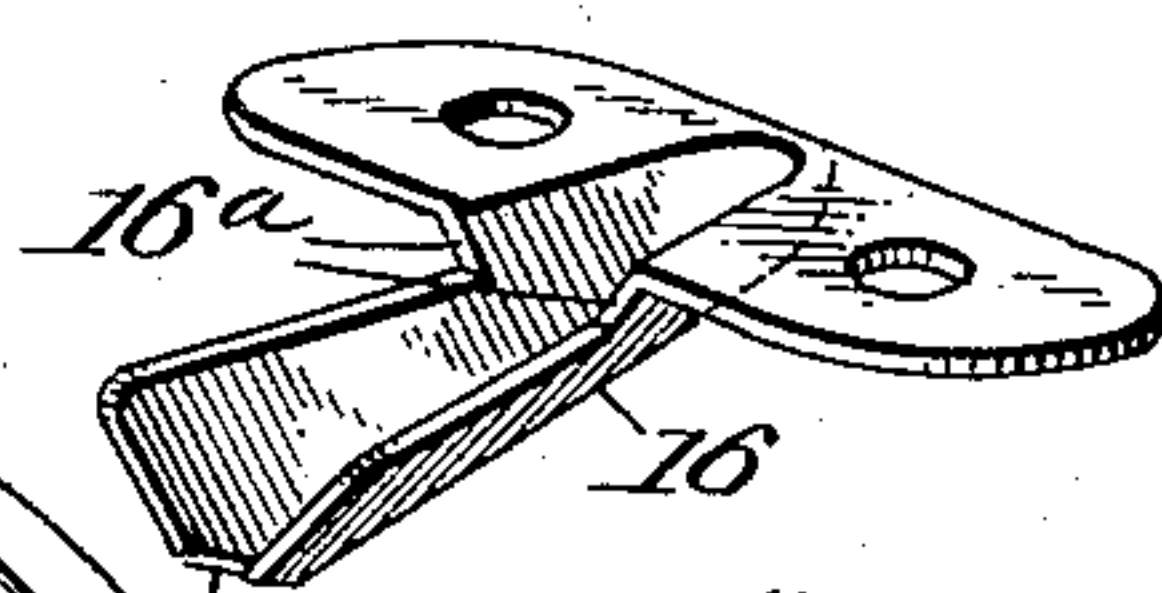
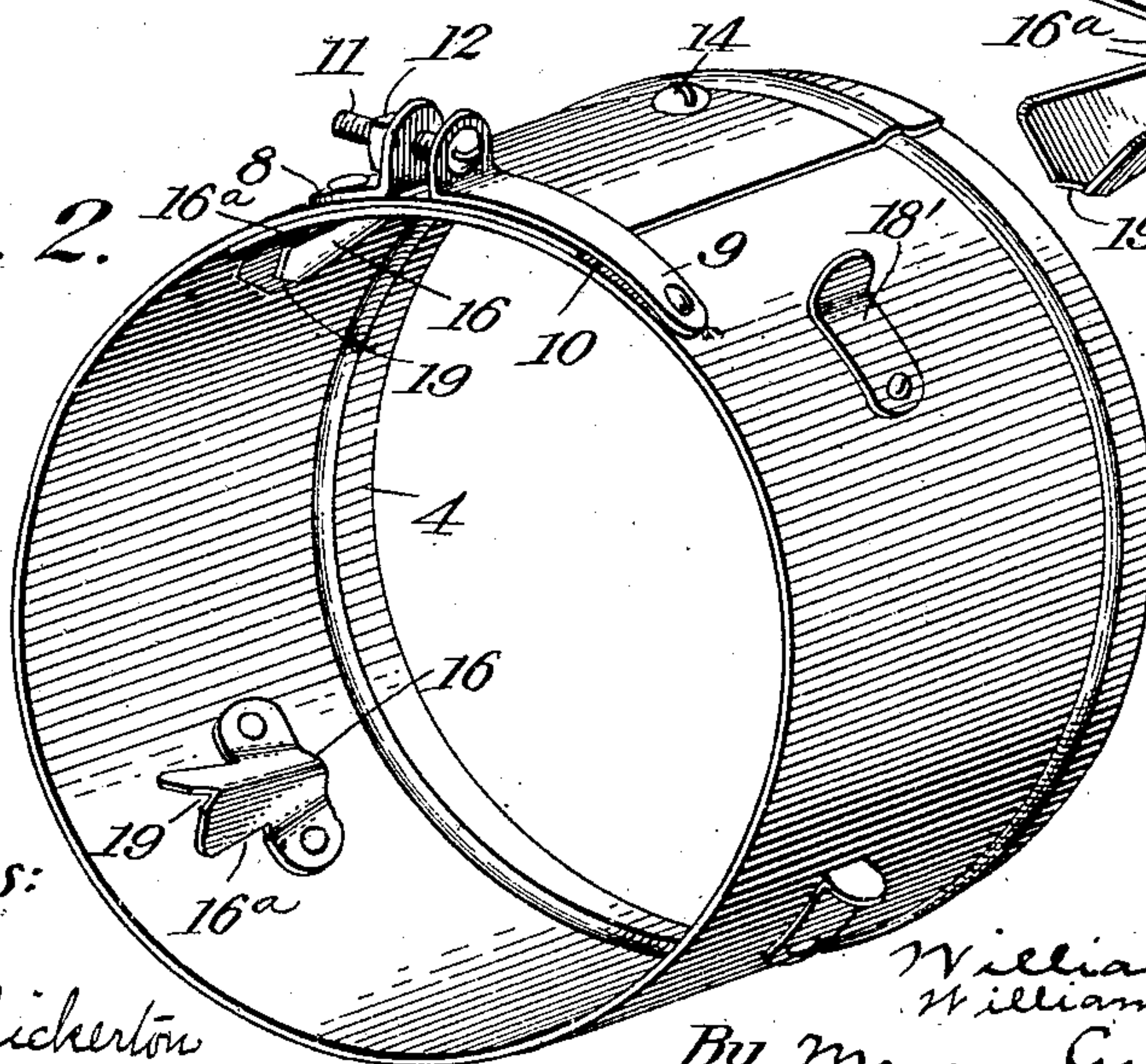
*Fig. 3.*



*Fig. 4.*



*Fig. 2.*



*Fig. 5.*

Witnesses:

E. H. Bickerton  
H. A. Cyrus

Inventors  
William Wolfe and  
William Lucas  
By Meyers, Cushman & Lea.  
Attorneys.



# UNITED STATES PATENT OFFICE.

WILLIAM WOLFE AND WILLIAM LUCAS, OF PATTON, PENNSYLVANIA.

## LUBRICATOR-PROTECTOR FOR VEHICLE-WHEEL JOURNALS.

No. 880,262.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed November 20, 1907. Serial No. 402,932.

*To all whom it may concern:*

Be it known that we, WILLIAM WOLFE and WILLIAM LUCAS, citizens of the United States, residing at Patton, in the county of Cambria and State of Pennsylvania, have invented new and useful Improvements in Lubricator-Protectors for Vehicle-Wheel Journals, of which the following is a specification.

30 This invention relates to improvements in protectors for shielding vehicle-wheel journals to prevent the entrance of sand, dust or other foreign substance between the vehicle-wheel hub and the axle-spindle on which it is journaled, and has for its object the provision of a protector constructed in a novel manner whereby it may be readily attached to or detached from the wheel hub, which is expansible so that it is adapted to be fitted  
15 upon wheel-hubs of different diameter, and which is provided with means by which lubricant may be supplied without detaching the device or the wheel from the spindle.

With these objects particularly in view,  
25 the invention consists in a protector possessing the features hereinafter set forth and claimed, reference being had to the accompanying drawing illustrating the invention, in which,

30 Figure 1 is a longitudinal sectional view showing a wheel-hub with the invention applied thereto; Fig. 2 is a perspective view of the protector; Fig. 3 is a detail sectional view, showing the manner in which lubrication of the wheel hub and axle spindle is facilitated; Fig. 4 is a sectional view on the line 4-4 of Fig. 1; and Fig. 5 is a perspective of the oil cup or conduit.

In the said drawing the reference numeral  
40 1 designates the wheel-hub, which may be provided as usual with a bearing sleeve 2 to receive the axle-spindle. The hub illustrated may be provided with the usual outstanding end bands 3.

45 The numeral 4 designates the protector, which may be constructed of any suitable material, such as sheet metal, and which is adapted to embrace the wheel-hub and be clamped thereon. It consists of a band which,  
50 when secured to the wheel-hub, projects therefrom an appropriate distance, as clearly shown in Fig. 1, housing the axle-bore 5 of the hub and effectually shielding the same, so that when the wheel is fitted upon a  
55 vehicle-axle and in use the entrance of dust, dirt, sand or other foreign substance be-

tween the axle-spindle and the wheel-hub is prevented.

The band is an expansible and contractible one, and in the construction selected to illustrate the invention, the free ends 6, 7, of the band are lapped, one upon the other, as best shown in Fig. 2, so that the diameter of the protector may be increased or diminished to permit easy application of the device to the hub or to fit upon wheel hubs of different sizes; and means are provided for clamping the device in position upon the wheel hub. As shown, this means consists of straps 8, 9, attached to the band near the inner perimeter and at a convenient distance from the respective free ends thereof, one of which straps is spaced from the band to provide a pocket 10 for the reception of the overlapping free end of the band and into which pocket the said free end may be entered more or less according to the diameter of the hub to which the device is to be attached. The two strap-members of the clamp are connected together by a suitable connector which may be adjusted to permit the band to be expanded or contracted, as before referred to, in fitting the same upon a wheel-hub, or to allow adjustment to wheel-hubs of different sizes, and to grip the same tightly about the wheel-hub to securely attach the band thereto. Such means, as shown, consists of a screw 11 of appropriate length passed loosely through eyes with which the straps are provided and upon which is fitted a nut 12. In use, the nut may be adjusted to the end of the screw, thus permitting the free ends of the band to be easily moved to expand its diameter and allow it to be slipped over the end of the hub, and then the nut may be turned to contract the band and draw it into firm contact with the hub, as shown in Fig. 1.

As an auxiliary arrangement the free ends of the band near the outer perimeter thereof are connected by a slot-and-pin connection. As shown, the underlapping end 7 of the band is provided with a slot 13, a screw 14 is fitted in the overlapping end and passes through the slot, and a nut 15 is arranged on the screw. The nut 15 may be turned upon the screw to hold the outer perimeter in any position of adjustment.

To facilitate the lubrication of the axle-spindle the band is provided with a lubricating attachment which consists of a cup or conduit 16, arranged on the interior of the band, leading from an opening 17 through



the band. The cup or conduit inclines radially inward and is provided with a drip-opening 19 which permits the lubricant to be slowly discharged and find its way in between the axle-spindle and the spindle-bore of the hub.

The opening 17 is closed by a gate, one suitable type of which is shown in the drawing, consisting of a plate 18' pivoted at one end to the band and adapted to be moved upon said pivot to open and close said opening.

When the device is arranged on a wheel-hub having an end band 3, the walls of the cup or conduit 16 are cut away as at 16<sup>a</sup> to receive the band 3, as shown in Fig. 3.

By the provision of this lubricating means, the wheel-axle may be lubricated without detaching the device from the hub and without removing the wheel from the axle-spindle.

For convenience, a plurality of these lubricating attachments are, as shown in Fig. 2, provided at intervals about the band so that one or another of the same will be within convenient reach for the introduction of the lubricant through an opening 17.

In the practical use of the invention, the nut 12 is turned upon the screw 11 sufficiently to permit the band to be expanded and readily slipped over the end of the hub, whereupon the free ends of the band are caused to move upon each other, contracting the band until it fits closely about the hub. This may be accomplished by manipulating the nut 12 or independently thereof. When the parts are so adjusted the nut 12 is turned until it contacts tightly with one of the straps and thus fixes the band upon the wheel-hub. The outer perimeter of the band will, during this operation, have followed the movement of the inner edge, and the free ends at this perimeter may also be firmly held by turning the nut 15 binding the overlapping ends together.

The protector may be as readily disconnected, if desired. In use it effectually guards against the entrance of dust, sand, dirt or other foreign matter between the wheel-axle and the hub, and very much facilitates lubrication.

To lubricate the wheel-hub and axle, it is not essential either to remove the protector or the wheel. The gate 18' may be opened and lubricant introduced through the open-

ing into the oil cup and flow down the inclined bottom thereof and be discharged through the opening 19, whence it finds its way in between the axle-bore of the hub and the axle-spindle. For convenience, a plurality of the lubricating attachments are provided so that one or another will be exposed at the top, where the lubricant may be readily introduced.

Having thus described the invention, what is claimed is:—

1. A protector adapted to be attached to a wheel-hub, consisting of a band having lapped free ends, clamp-straps connected to the free ends of the band, one of said straps being spaced from the band to provide a pocket for the reception of the overlapping free end of the band, and means for connecting said straps.

2. A protector consisting of a band, means for securing the same to a vehicle wheel hub, an opening through said band, a lubricant conduit arranged on the interior of the band and communicating with said opening.

3. A protector consisting of a band, means for securing the same to a vehicle-wheel hub, an opening through said band, and an inclined lubricant conduit arranged on the interior of the band and having a discharge opening adjacent to the inner face of the wheel-hub.

4. A protector consisting of a band having lapped free ends, means for securing said band upon a vehicle-wheel hub, an opening through said band, and a lubricating attachment arranged on the interior of said band and in communication with said opening.

5. A protector consisting of a band having lapped free ends, means for securing said band upon a vehicle-wheel hub, and a plurality of openings through said band, and lubricating attachments arranged on the interior of said band and communicating with said openings.

In testimony whereof, we have hereunto affixed our signatures in the presence of two witnesses.

WILLIAM WOLFE.  
WILLIAM LUCAS

Witnesses:

C. J. GIBBON,  
AXEL JOHNSON.