G. WILLIAMS.

WHEEL SPINDLE OILING DEVICE.

APPLICATION FILED OCT. 15, 1910.

995,208.

Patented June 13, 1911.

Fig. 1.

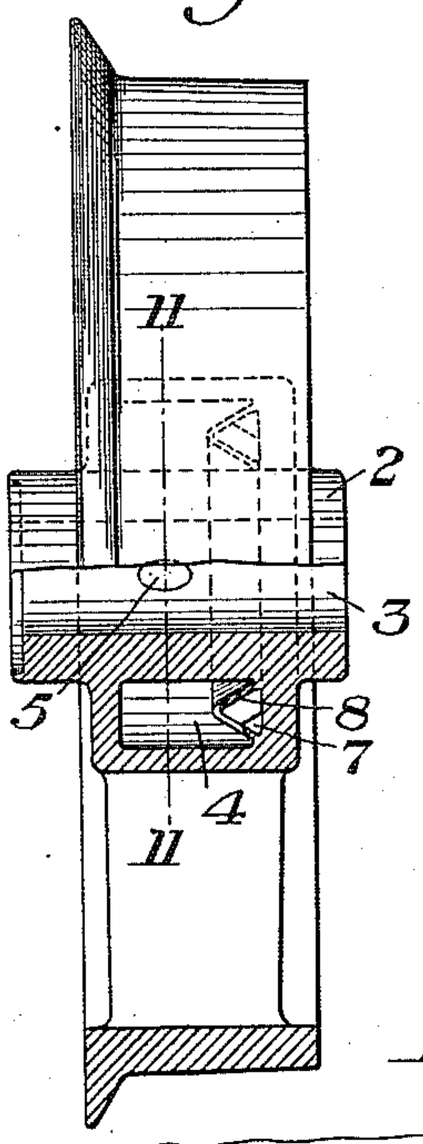


Fig. 2.

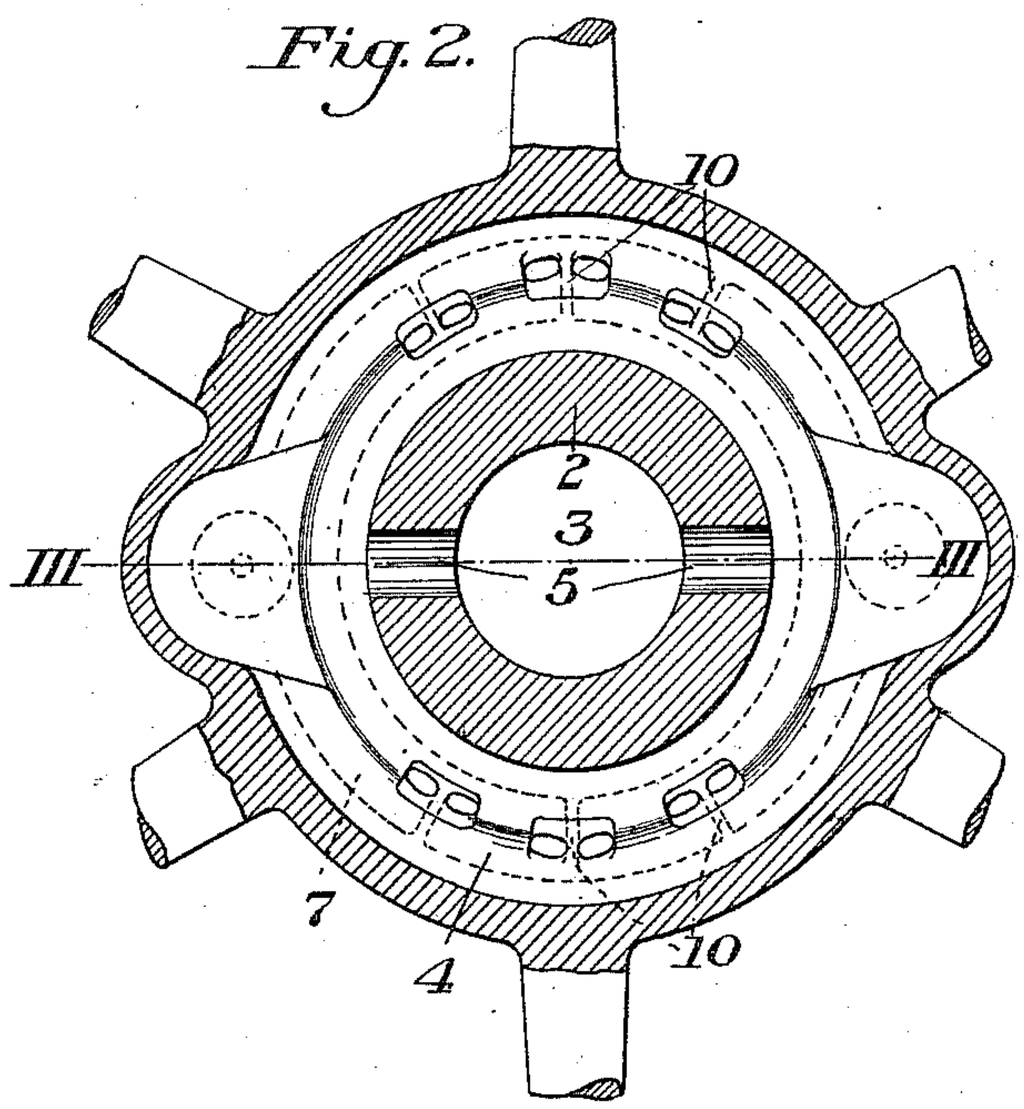


Fig. 3.

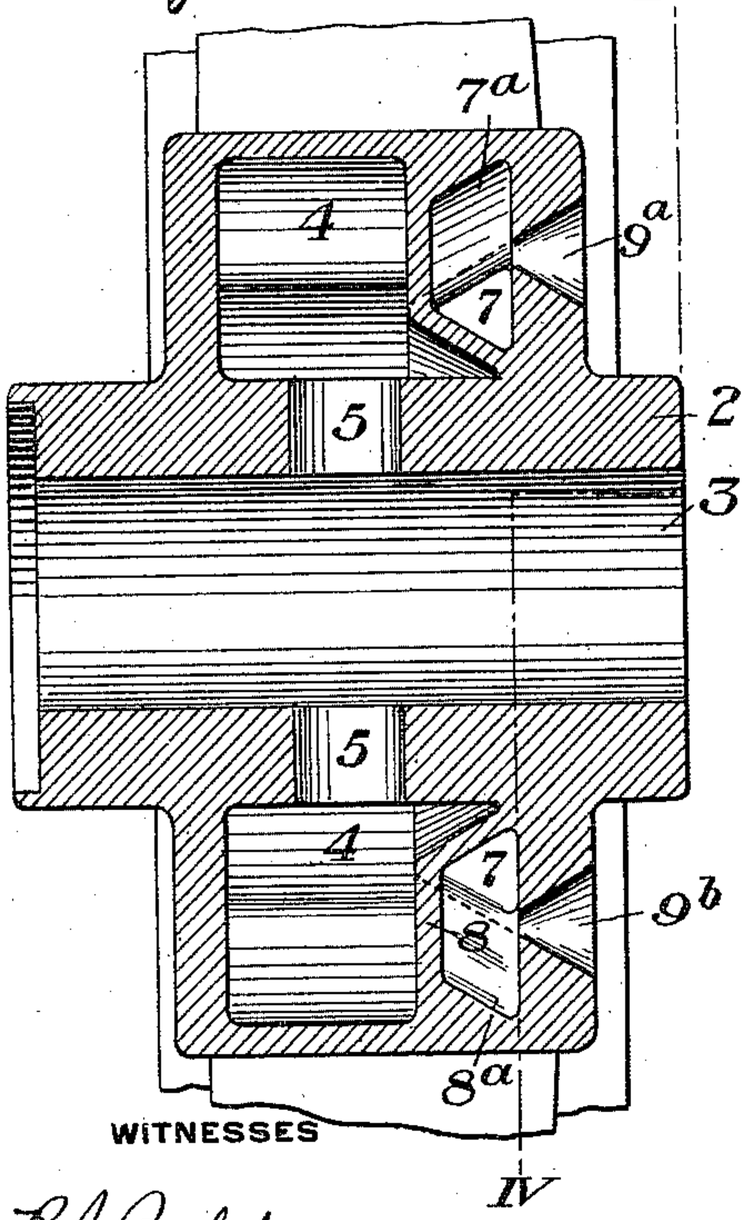
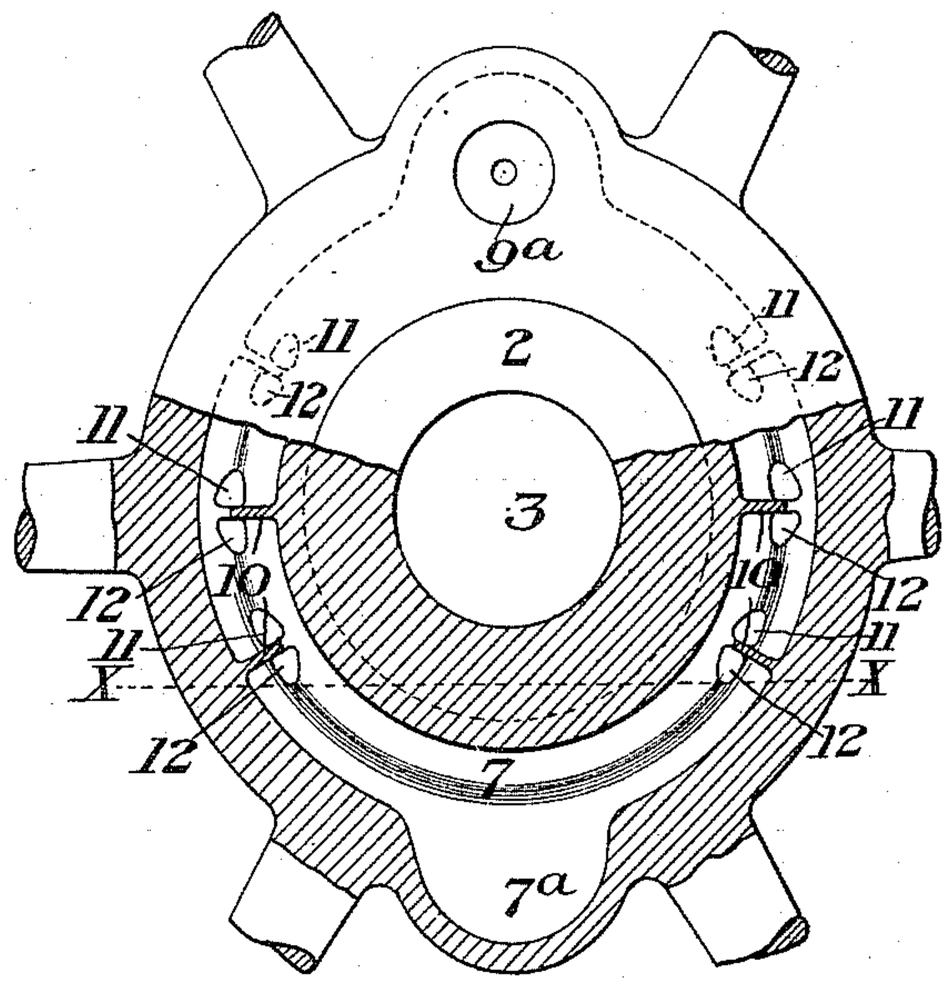


Fig. 4.



WITNESSES

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WHEEL-SPINDLE-OILING DEVICE.

995,208. Specification of Letters Patent. **Patented June 13, 1911.**

Application filed October 15, 1910. Serial No. 587,279.

To all whom it may concern:

Be it known that I, GEORGE WILLIAMS, a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wheel-Spindle-Oiling Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation partially in section, of a car wheel provided with one form of my improved oiling device. Fig. 2 is a section on the line II—II of Fig. 1. Fig. 3 is a similar view on the line III—III of Fig. 2; and Fig. 4 is a sectional view on the line IV—IV of Fig. 3.

This invention relates to oiling devices for pulleys or wheels which are adapted to rotate on a relatively stationary spindle or shaft, and is particularly adapted for use in connection with car wheels. Heretofore in oilers of this character, the filling openings for the well were provided with closing devices to prevent the oil from flowing out through the openings when in their lowermost position if the level of the oil was above said opening. In some cases these openings were closed by means of spring-pressed valves arranged to engage a seat at the inner end of the filling opening. These wheels are usually made in one piece, the well and the valve seat being formed by a core placed in the mold in which the wheel is cast. A great disadvantage of valves of this character arises from the collection of dust on the valve, as these valves are usually displaced by the end of the spout of the oil can when filling the well. The dust on the valve will enter and clog the mouth of the spout while the valve is being displaced, and if it does not clog the mouth, the dust will be washed into the well and eventually work into the bearing with the oil and cut the journal of the wheel and the spindle on which it rotates. In other cases these openings have been closed with screws which are often lost, or, as is frequently the case, the oilers would not insert the screws, as this requires time and patience.

The object of my invention is to form an oil well in a wheel of this character, which is provided with one or more filling openings through which the well can be filled, and which are so arranged that the level of the oil in the well may be considerably above the openings when in their lowermost position, before any of the oil will flow out through said openings, even though the openings are not closed.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that various changes may be made in the details of construction without departing from the spirit and scope of my invention as defined in the appended claims.

In the drawings the numeral 2 designates the hub of a wheel, 3 the journal bore through the hub for receiving the spindle on which the wheel rotates.

4 is an oil well within the hub surrounding the journal bore, and separated therefrom by a dividing wall having a plurality of oil feeding openings 5 extending therethrough, for feeding oil from the well to the wheel spindle.

7 is an annular channel of trough form separated from the oil well by a wall 8. I prefer to provide this channel with two pockets 7^a which are diametrically opposite to each other.

9^a and 9^b are holes through the outer wall of the channel 7 through which the oil is poured into the well. Within the channel 7 between the pockets 7^a and on each side of the center of the hub, are a plurality of baffles 10 which are staggered with relation to each other, so as to provide a tortuous passage for the oil when being poured into the well, as hereinafter described.

Extending through the wall between the well and the channel 7 are openings 11 and 12, the opening 11 extending through the wall above each of the baffles, and an opening 12 extending through the wall below each of the baffles. The openings adjacent to one of the baffles are shown as being staggered with relation to the sets of openings adjacent to the other baffles.

When the well is to be filled the wheel is rotated until the openings 9^a and 9^b are brought to the position shown in Figs. 3 and 4. Oil is then poured into the channel 7 through the upper hole 9^a and flows down each side of the channel, some of it passing into the well through the upper sets of openings 11 and 12. Any oil passing the first baffles will be checked by the center or second baffles and will be directed toward the openings 11 adjacent thereto. If any oil

should pass the second baffles it will be checked by the last baffles, and as the openings 11 adjacent thereto are lower than the upper edge thereof all of the remaining oil will pass into the well through these openings.

It will readily be understood from the foregoing description that all of the oil poured into the channel through the hole 9ª will pass into the well, and that none of it will pass the last baffles to the lower pocket 7ª. The well can be filled to the line X—X in Fig. 4 before any oil will flow into the lower pocket 7ª. After the oil in the well rises above the lower openings 12, it will pass through said openings into the lower pocket 7ª. If any oil should remain in the channel it will be thrown into the well by centrifugal force during the rotation of the wheel through the medium of the baffles and the V shaped walls. It will readily be understood by those familiar with the art that the number of baffles and openings may be increased or decreased to meet the requirements of the wheel to be oiled.

The advantages of my invention result from the provision of a channel surrounding the bore of the wheel and which is provided with openings leading into the well, and baffles arranged to cause the oil to flow through said openings. Another advantage of my invention results from the provision of means whereby the oil will be thrown from the channel to the well by centrifugal force during the rotation of the wheel.

I claim:

1. A wheel having a hub with a journal bore therein, said hub also having an oil well and a channel separated therefrom by a dividing wall, and radially disposed staggered ribs in said channel, there being openings through the dividing wall adjacent to said ribs, the ribs being arranged to direct the oil through the openings into the well; substantially as described.

2. A wheel having a hub with a journal bore therein, said hub also having an oil well and a channel separated therefrom by a V-shaped dividing wall, the inner edge of said channel being beyond the bore of the hub, and a baffle within said channel, there being an opening through the dividing wall adjacent to said baffle, the baffle being arranged to direct the oil through the opening into the well; substantially as described.

3. A wheel having a hub with a journal bore therein, said hub also having an oil well and a channel separated therefrom, and a plurality of staggered baffles within said channel, the dividing wall having an opening therethrough adjacent to the edge of each of the baffles, said baffles being arranged to direct the oil through the openings into the well; substantially as described.

4. A wheel having a hub with a journal bore therein, said hub also having an oil well and an annular channel, the smallest diameter of the channel being greater than the diameter of the bore in the hub, a dividing wall between the channel and the oil well, there being a plurality of openings through the dividing wall, a plurality of filling openings through the outer wall of said channel, and a plurality of baffles within said channel, the edges of the baffles being adjacent to the openings through the dividing wall and arranged to direct the oil from the channel into the well; substantially as described.

5. A wheel having a hub with a journal bore therein, said hub also having an oil well and a channel separated therefrom by a dividing wall, and a plurality of staggered baffles within said channel arranged to form a tortuous passage therethrough, the dividing wall having openings therethrough adjacent to the baffles; substantially as described.

6. A wheel having a hub with a journal bore therein, said hub also having an oil well and a channel separated therefrom by a V-shaped dividing wall, and a plurality of staggered baffles within said channel arranged to form a tortuous passage therethrough, the dividing wall having openings therethrough adjacent to the baffles; substantially as described.

7. A wheel having a hub with a journal bore extending entirely therethrough, said hub also having an oil well and a channel separated therefrom by a V-shaped dividing wall, and a plurality of staggered baffles within said channel arranged to form a tortuous passage therethrough, the dividing wall having openings therethrough on each side of each of the baffles and adjacent to said baffles, said openings being located at approximately the apex of the V-shaped dividing wall; substantially as described.

In testimony whereof, I have hereunto set my hand.

GEORGE WILLIAMS.

Witnesses:
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LEE D. MULFORD.