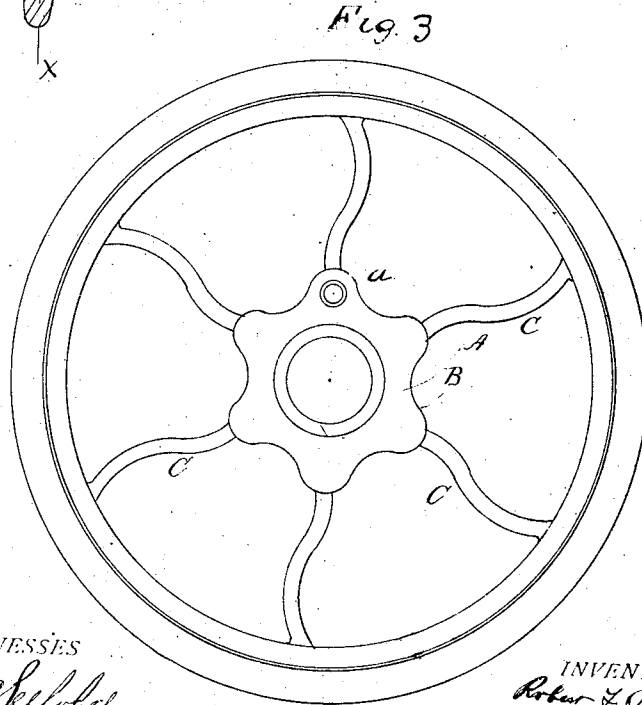
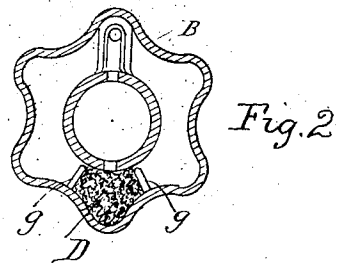
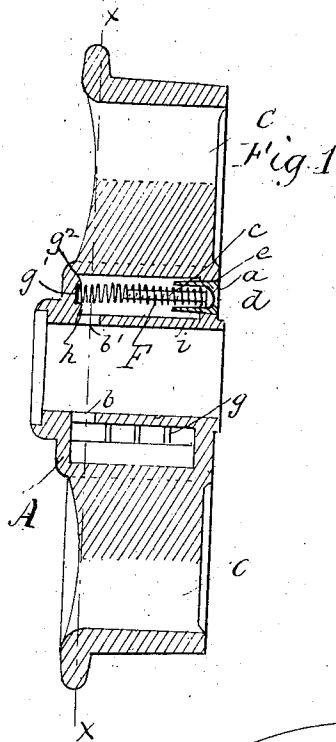


No. 828,242.

PATENTED AUG. 7, 1906.

R. F. PHILLIPS.  
SELF OILING CAR WHEEL.  
APPLICATION FILED MAR. 6, 1905.

2 SHEETS—SHEET 1.



WITNESSES  
*H. A. Seibold*  
*Arthur M. Nymann*

INVENTOR  
*Robert F. Phillips*  
by *Connally Bros*  
Attorneys

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2 SHEETS—SHEET 2.

Fig. 4

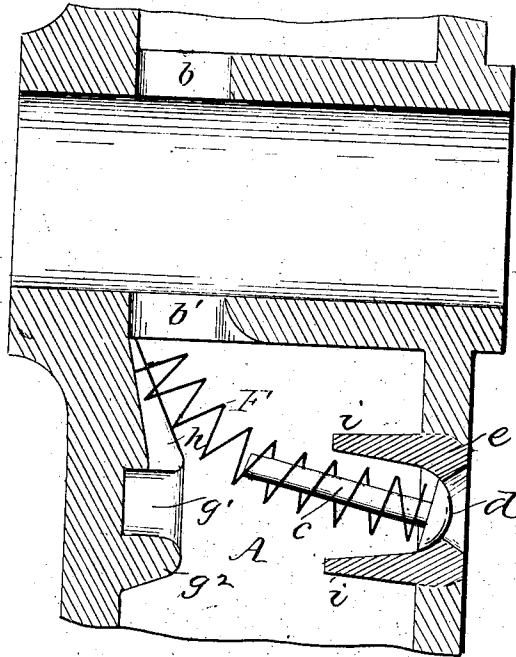
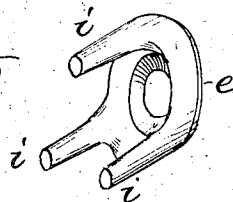


Fig. 5



WITNESSES  
J. Himes.  
T. Holberg

Robert F. Phillips  
INVENTOR  
By Connolly & Co.  
Attorneys

# UNITED STATES PATENT OFFICE.

ROBERT F. PHILLIPS, OF CARRICK, PENNSYLVANIA.

## SELF-OILING CAR-WHEEL.

No. 828,242.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed March 6, 1905. Serial No. 248,460.

To all whom it may concern:

Be it known that I, ROBERT F. PHILLIPS, a citizen of the United States, residing in the borough of Carrick, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Self-Oiling Car-Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to car-wheels, and especially to that type of mine-car wheels known as "spring-oilers," in which an oil-chamber surrounding the hub of the wheel is provided with a spring-valve which closes a hole in the side of the wheel and which may be pressed inwardly by means of the nozzle of the oil-can to admit a supply of oil to the chamber.

The object of my invention is to provide novel means for oiling car-wheels and axles provided with spring-oilers, whereby the insertion and fitting of the oiling-valve and spring within the oil-cavity is facilitated and certain objectionable features of the self-oiling wheels now in use are obviated.

My invention consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a central transverse sectional view of my improved wheel. Fig. 2 is a sectional view of the hub taken on the line X X of Fig. 1. Fig. 3 is a face view of the wheel. Fig. 4 is an enlarged sectional view of a portion of the wheels, showing the oil-valve seat. Fig. 5 is an enlarged view in perspective of the pronged spring-seat.

In carrying my invention into effect I cast a metal wheel in a mold having a suitable core and produce thereby a wheel having a hollow or chambered hub A with an opening through the outer wall of the chambered portion, as seen at *a*, for the admission of lubricating-oil and openings *b b'* in the central portion of the wheel adjacent to one of the side walls of the hub for the passage of the oil from the chamber A to the axle. To give strength to the wheel and prevent the injurious effects of contraction or shrinkage, I cast the hub A with a scalloped or corrugated outer wall B, as shown in Fig. 3, and with spokes C, which are usually and preferably curved, proceeding from the elevated portions of the scallops to the rim of the wheel. While the hollow portion or cavity within the hub constitutes an oil-chamber, allowing

the oil to flow around it, I provide a special compartment or cage therein for the reception of the waste or packing D, usually employed in lubricating-boxes, and for this purpose I cast the hub with the gratings *g g* separated from each other circumferentially about the distance of two scallops. The waste or packing being confined between these gratings takes up the oil and overcomes the tendency of the latter to fly outwardly under centrifugal force when the wheel is in motion, and the corrugations prevent it from adhering to the inner surface of the outer wall of the hub and cause it to splash and be distributed throughout the chamber and toward the openings *b b'*. The scalloped or corrugated form of the hub produces a certain amount of resiliency that will not allow the hub to unduly expand in cooling and relieves the strain produced by the shrinkage of the casting while cooling after it has been cast.

In wheels of the self-oiling type it has been customary to provide a hole in the inner side wall of the hollow hub opposite the oil-inlet for the insertion of and fitting in place of the oil-valve and spring. I have found this arrangement to be objectionable and expensive, and accordingly I have dispensed with the hole for the insertion of the valve and spring in this way and with the plug by which such hole is closed and adopt the expedient of inserting the said valve and spring in the oil-cavity by passing them through one of the oil-inlets leading to the axle-bearing. The oil-valve consists of a stem *c*, having a rounded head *d*, and this head is seated either against a suitable seat formed around the inner edge of the oil-inlet during the casting of the wheel or in and against a seat formed in a pronged guide *e*, which may be secured in position by being attached to the core forming the hollow of the hub and shrunk into the wall of the casting, the purpose of the prongs, which are designated *i*, being to serve as guides for the head of the valve.

The spring F seats at its inner end in a socket *g'*, which is formed with a raised edge or shroud *g''*, which is cut away at one side and adjacent to the cut-away portion of the shroud is formed an inclined guideway *h*, extending toward the hole *b'*.

Instead of the socket above described a nipple-like projection may be cast integral with the wheel, over which the spring passes and rests, being guided thereto by an inclined

guideway leading to the hole *b'*. The hole *b'* for the insertion of the valve and spring is located close to the inner wall of the hub to avoid difficulty in adjusting the valve to its seat, and the valve and spring are inserted in place by passing them through the hole *b'* and pushing the head of the valve between the prongs of the guide *e*. The end of the spring is then pushed through the hole *b'* and rests on the guide *h* until its end springs into the socket *g'* at the end of said guide.

What I claim as new, and desire to secure by Letters Patent, is—

1. A self-oiling car-wheel, having a chambered hub for the reception of lubricating-oil, and a hole leading from said chambered portion of the hub through the axle-bearing wall of the hub, adjacent to the inner face of the wheel, there being an oil-inlet through the outer wall of the hub, a valve to close said inlet, a spring bearing against said valve, there being a spring-seat opposite said inlet with a beveled or inclined guiding projection formed on the inside of the hub-cavity to facilitate the seating of the spring.

2. A self-oiling car-wheel, having a chambered hub with an oil-opening in its outer wall, a valve-cage, seated in said opening and open at its inner end, a valve and valve-spring working in said cage, and projecting through its inner end, and means for retaining the inner end of the spring and preventing its lateral displacement.

3. A self-oiling car-wheel having an oil-chamber with an oil-inlet through one wall, a valve-guiding cage cast in said wall and projecting into the oil-chamber, a valve having a stem and seating in said cage, a spring bearing at one end against said valve and at the opposite end against the opposite wall of the oil-chamber, said cage being arranged oppo-

site an integral portion of the said opposite wall of the oil-chamber and the stem of the valve abutting against said integral portion of the wall of the oil-chamber and limiting the lengthwise movement of the valve when the valve is forced inwardly.

4. A self-oiling car-wheel having an oil-chamber with an oil-inlet through the outer wall of the chamber, a valve-cage cast in the wall of the oil-chamber and extending into the oil-chamber from the oil-inlet and open at its inner end, an inwardly-opening valve and a spring bearing against the valve and seating against the inner wall of the chamber, said chamber being formed with an opening for the insertion of the valve and spring, said opening being located out of alinement with the axis of the valve-cage.

5. A self-oiling car-wheel having an oil-chamber with an oil-inlet through the outer wall of the chamber, a valve-cage cast in the wall of the oil-chamber and extending into the oil-chamber from the oil-inlet and open at its inner end, an inwardly-opening valve and a spring bearing against the valve and seating against the inner wall of the chamber, said chamber being formed with an opening for the insertion of the valve and spring, said opening being located out of alinement with the axis of the valve-cage, the valve-cage terminating a sufficient distance from the opposite wall of the chamber to permit of the insertion of the valve and spring into the cage from a point lateral to the axis of the cage.

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

ROBERT F. PHILLIPS.

Witnesses:

J. E. ROTH,  
WATSON P. PHILLIPS

#### DISCLAIMER.

828,242.—*Robert F. Phillips*, Carrick, Pa. SELF-OILING CAR WHEEL. Patent dated August 7, 1906. Disclaimer filed July 18, 1922, by the assignee, *The Phillips Mine & Mill Supply Company*.

Hereby disclaims from claim 2 any self-oiling car wheel in which the valve spring is inserted through a hole in the inner side wall of the hollow hub opposite the oil inlet;

Thereby limiting claim 2 to a self-oiling car wheel in which the valve spring is inserted otherwise than through a hole in the inner side wall of the hollow hub opposite the oil inlet.

[*Official Gazette August 1, 1922.*]