

(No Model.)

G. F. LOCKWOOD.
INSULATED GEAR WHEEL.

No. 474,913.

Patented May 17, 1892.

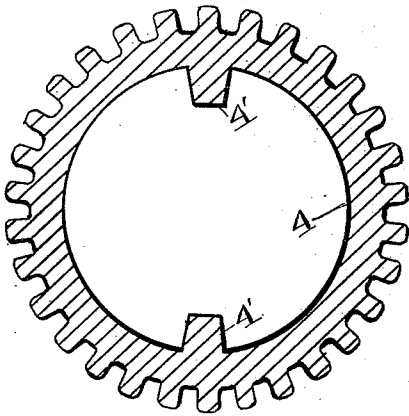


Fig. 1

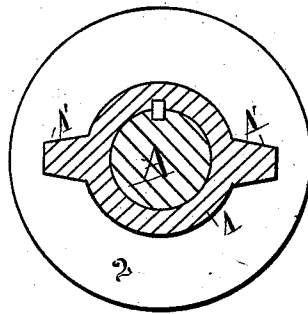


Fig. 2

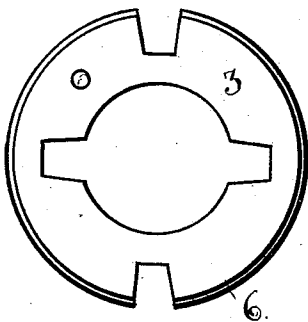


Fig. 3

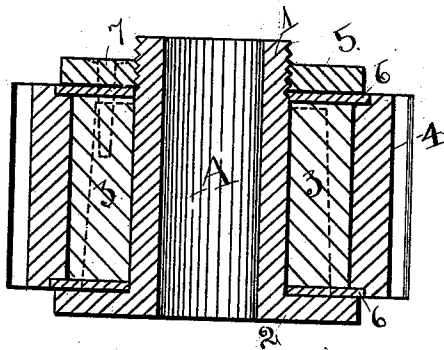


Fig. 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE F. LOCKWOOD, OF SAGINAW, MICHIGAN, ASSIGNOR OF ONE-HALF
TO JOHN F. BARROWS, OF SAME PLACE.

INSULATED GEAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 474,913, dated May 17, 1892.

Application filed December 10, 1891. Serial No. 414,598. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. LOCKWOOD, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented a certain new and useful Insulated Gear-Wheel; 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 insulated gearing used in cars propelled by electricity or to any machine using gearing run by electricity. Its object is to provide a gear-wheel that is durable and at the same time be a perfect insulator.

Figure 1 is a sectional end view of the rim. Fig. 2 is a sectional end view of the nave. Fig. 3 represents the insulation. Fig. 4 is a transverse sectional view of the complete wheel.

In the drawings, 1 is the nave of the gear-wheel, made in the usual form and having cast to one end thereof the circular plate 2 and upon its outer surface one or more longitudinal transverse lugs 1' 1'. Screw-threads are formed upon the other end of the nave. 4 is the rim of the wheel, having gearing upon its engaging-surface. Between the rim 4 and the nave 1 is non-conducting material or insulation 3, having grooves that fit upon the lugs 1' 1' of the nave. The rim 4 has upon its inner surface one or more transverse lugs 4' 4', fitting into corresponding grooves in the non-conductor 3. The diameter of the plates is about one-half inch larger than the inside diameter of the rim. 6 6 are projecting circumferential edges of the insulation, and are for the purpose of separating the plates 2 and 5 from the metal rim 4. In the drawings I have these edges set into grooves at the edge of the inner surface of the rim, but of larger diameter than the plates so as to separate them from the rim. The insulation 3 is formed with the grooves heretofore mentioned and

slid upon the nave. It may be made in layers or in one mass. Then the rim 4 is pressed upon the insulation of the lugs 4' 4' in the corresponding grooves.

5 is a circular plate of same size as plate 2 and adapted to screw on the threaded end of the nave and press against the insulation 3 and hold it in its place. After it has been thoroughly screwed down the pin 7 is put in, passing through the plate 5 into the insulation 3, and serves to keep the plate 5 from unscrewing.

I do not wish to confine myself to any special form of mechanical construction, and any change may be made within ordinary mechanical skill without departing from the principle of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an insulated gear-wheel, the combination, with a metal nave having longitudinal transverse lugs and the metal rim having longitudinal transverse lugs upon its inner circumference, of a non-conducting material between and separating the rim and nave and provided with grooves for engaging the lugs on the rim and nave, and plates secured to the ends of the nave for holding the non-conducting material in place, said plates being separated from the rim by the non-conducting material, substantially as described.

2. An insulated gear-wheel consisting of the metal nave 1, having lugs 1' 1' and a plate 2 cast to one end thereof, the other end screw-threaded, the non-conductor 3, the metal rim 4, having lugs 4' 4', the plate 5, screwing upon the threaded end of the nave, and the pin 7, passing through the plate 5 into the non-conductor, substantially as described.

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

GEORGE F. LOCKWOOD.

Witnesses:

J. F. BARROWS,
A. H. SWARTHOUT.