

(No Model.)

E. M. JOHNSON.
PULLEY FOR CABLE RAILWAYS.

No. 536,471.

Patented Mar. 26, 1895.

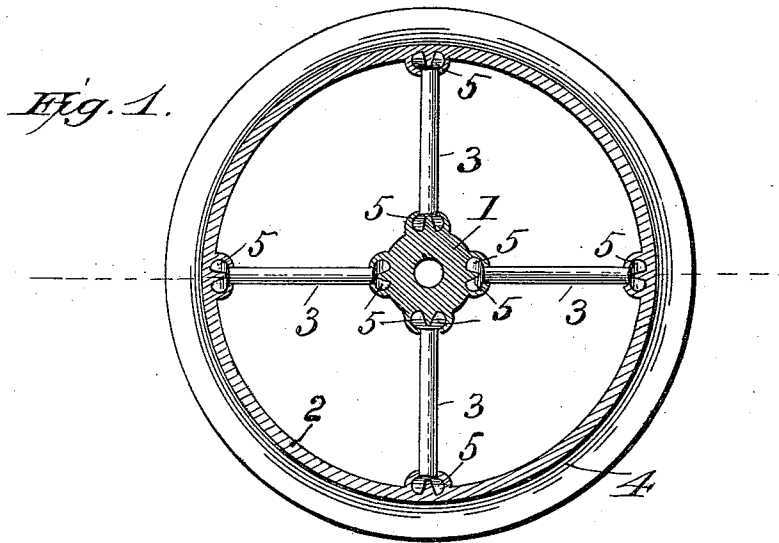
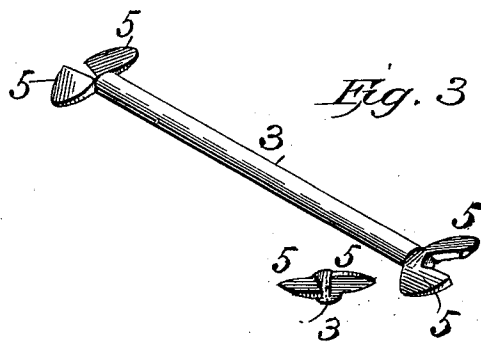
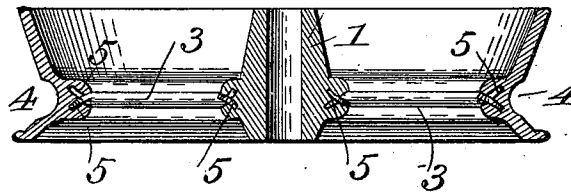


Fig. 2



WITNESSES
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UNITED STATES PATENT OFFICE.

ELIAS M. JOHNSON, OF NEW YORK, N. Y.

PULLEY FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 536,471, dated March 26, 1895.

Application filed July 14, 1894. Serial No. 517,588. (No model.)

To all whom it may concern:

Be it known that I, ELIAS M. JOHNSON, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Pulleys for Cable Railways; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to pulleys, which are designed more particularly for cable railways, and its object is to provide an improved pulley, which shall be durable in use and efficient in operation.

The invention consists in a pulley having a hard cast steel rim, a cast-iron hub and wrought-iron spokes having their ends bifurcated and flattened and bent outwardly in opposite directions, and inserted in the cast-steel rim and cast-iron hub, to permit the metals used in casting said rim and hub to incase or surround the bifurcated and flattened ends of said wrought-iron spokes and firmly unite the rim, hub, and spokes together, as hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a central longitudinal section of a pulley constructed in accordance with my invention. Fig. 2 is a central horizontal section of the same. Fig. 3 is a perspective view of one of the spokes detached.

In the said drawings, the reference numeral 1 designates the hub of the pulley, having a central aperture for the passage of a shaft or journal.

The numeral 2 designates the rim of cast steel, or hard metal, connected with the hub by wrought iron spokes 3. This rim is formed with a groove 4, and by reason of the hard character of the metal of which it is com-

posed, will prove very durable in use. The hub being made of soft cast iron, can be readily bored out to receive the shaft, while the spokes being made of wrought iron, there is no liability of their breaking.

In making the pulley, I take a flask of any suitable description, and form therein molds for the rim and for the hub. I then take wrought iron spokes, flatten and bifurcate each end, forming lugs 5, and then bend such lugs outwardly, in opposite directions, as seen in Fig. 3. These spokes are then placed in the flask with their ends respectively entering the molds of the rim and hub. Molten steel or hard iron is then poured into the rim mold and allowed to cool, after which the soft iron is poured into the hub mold, which upon cooling will weld and shrink upon the spokes, thereby securely holding them in place, and making, as it were, a compound pulley, in which the spokes, rims, and hub are integral with each other.

While I intend to use this pulley principally upon cable railroads, it may be used for other purposes with equal advantage.

Having thus described my invention, what I claim is—

A pulley for cable-railways, formed by the combination of a cast-steel rim, a cast-iron hub and wrought-iron spokes having their ends bifurcated and flattened and bent outwardly in opposite directions and inserted in the cast-steel rim and cast-iron hub to permit the metals used in casting said rim and hub to incase or surround the bifurcated or flattened ends of said wrought-iron spokes and firmly unite the rim, hub and spokes together, substantially as specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ELIAS M. JOHNSON.

Witnesses:

WALTER COX,
GILBERT H. JOHNSON.