

J. F. KELLY.
Car-Wheel.

No. 226,453.

Patented April 13, 1880.

Fig. 1.

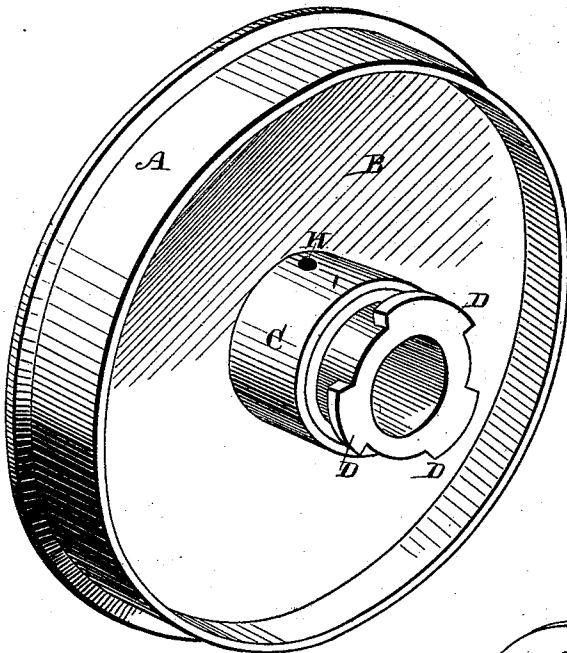


Fig. 2.

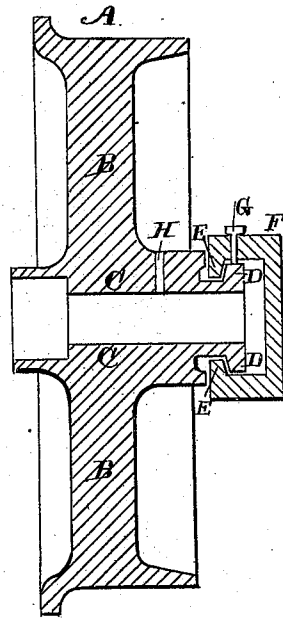
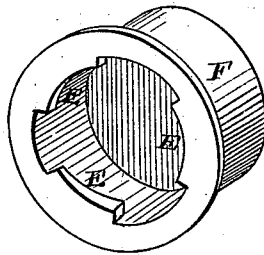


Fig. 3.



Witnesses

Frank A. Brooks
Geo. H. Strong.

Inventor

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Attor

UNITED STATES PATENT OFFICE.

JAMES F. KELLY, OF VIRGINIA CITY, NEVADA.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 226,453, dated April 13, 1880.

Application filed January 10, 1880.

To all whom it may concern:

Be it known that I, JAMES F. KELLY, of Virginia City, county of Storey, State of Nevada, have invented an Improved Car-Wheel; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in the construction of car-wheels; and it consists of certain details of construction in the formation of a hard or white iron wheel by the operation of casting it upon a mandrel.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of my wheel. Fig. 2 is a section taken through the wheel in line with the axis. Fig. 3 is a view of the cap.

In my improved wheel I propose to employ hard or white iron from which to cast it, and as this class of iron is impervious to any tools I form the wheel complete and ready to be put upon the axle, with oil-holes, lugs for the cap, and other requirements, simultaneously with the operation of casting. This is effected by the employment of a slightly-tapering steel mandrel for the purpose of forming the hole to fit the axle, while the recess at the inner end of the hub and the lugs upon the outer end for the purpose of receiving and locking the caps are formed by a core. The cap keeps out all dirt and retains the oil used to lubricate, and fits over these lugs and is locked by them. It may also be held by a set-screw.

A is the flange, B the web, and C the hub, of my wheel. My wheel is cast of what is known as "hard" or "white" iron, which resists the action of all tools, and from its hardness will wear longer.

In order to form the hole in the hub to receive the axle, and at the same time fit it without further finishing, I employ a steel mandrel which may be tapered about the sixteenth of an inch. One end of this mandrel is supported in a hole bored in a faced cast-iron disk, and the other may be supported in the core, which forms the recess at the inner end of the hub.

The core upon the outside of the wheel is made so that lugs D are cast upon the hub. These lugs have their inner faces inclined, as shown, so that they will interlock with similar corresponding lugs E, which are cast in the cap F. These lugs may extend about one-sixth of the circumference of the hub, and those in the cap may be of the same dimensions, so that they will enter the spaces between the lugs upon the hub, after which the cap is turned until the lugs interlock, when the cap will be held firmly in place. A set-screw, G, passes through the cap and is turned hard against the hub, thus preventing the cap from being jarred loose.

A rubber gasket is fitted into the joint, and this prevents the escape of oil employed to lubricate the shaft.

An oil-hole, H, is formed in the hub when the wheel is cast by means of a core, and the cap serves to retain the lubricant. In cases where the wheel is rigidly secured to the axle no cap will be necessary.

By my construction I am enabled to form the wheels of hard white iron, as they are finished ready for use in the process of casting.

I am aware that railroad-car wheels have heretofore been made of soft or gray iron, and with their hubs chilled to resist wear, and hence I do not claim an iron car-wheel having a chilled hub; but,

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

A hard or white iron wheel cast upon a central mandrel and formed with the lugs D, as shown, in combination with the cap F, with its corresponding lugs E interlocking and forming a joint, and the set-screw, substantially as and for the purpose herein described.

In witness whereof I hereunto set my hand and seal.

JAMES F. KELLY. [L. S.]

Witnesses:

M. G. MORGAN,
E. L. ROACHE.