Aug. 16, 1932. C. COBB, JR. 1,871,586

CASTING CAR WHEELS

Filed Feb. 24, 1930

Fig. 1.

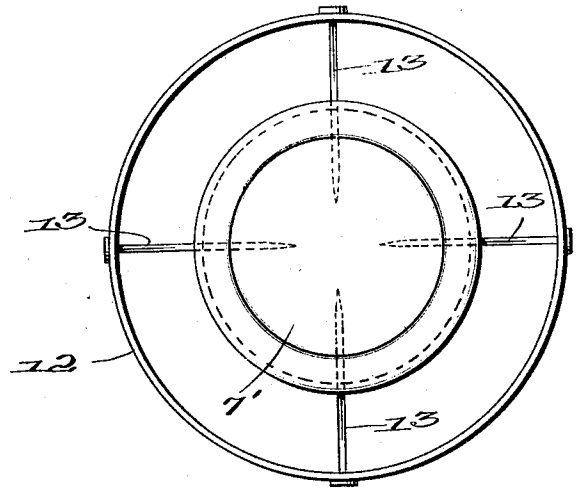
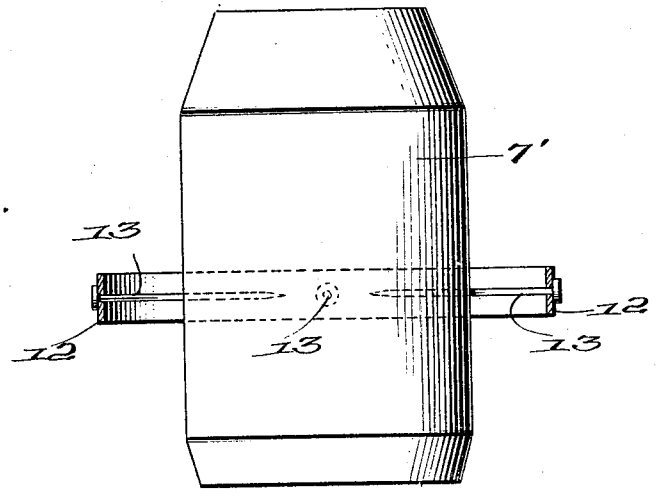



Fig. 2.




Inventor

Charles Cobb, Jr.

By Cyrus Keller

Attorney

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# UNITED STATES PATENT OFFICE

CHARLES COBB, JR., OF MARSHALL, TEXAS

## CASTING CAR WHEELS

Application filed February 24, 1930. Serial No. 430,957.

This invention relates to an improvement in casting car wheels.

The standard car wheel used at the present time by railroads has a heavy solid hub. These wheels, as now cast, according to standard methods, cool very slowly on account of the mass of metal in the hubs, and it takes about fifty minutes to cool each wheel so that it may be handled and carried to the annealing pits. These wheels are ordinarily cast by a round straight core, which is objectionable on account of the slow cooling incident to the mass of metal in the hub.

The object of this invention is to secure a more rapid cooling of the hub in relation to the cooling of the other sections of the wheel, thus enabling each wheel to be shaken out of the mold and pitted hotter and in quicker time than in ordinary practice.

This result may be accomplished by inserting a metal ring in the mass of the hub near the center, which metal ring may be initially attached to the core by wire nails or the like.

In the accompanying drawing:

Fig. 1 is a top plan view of a form of core; and

Fig. 2 is a side elevation partly in section of the same.

The core, which is usually of molded sand, has its opposite ends usually bevelled to provide seats in the mold to rigidly hold the core in place and against displacement, and as shown in Figs. 1 and 2, the core 7′ has a metal ring 12 surrounding the same near the center and is attached to the center core by suitable means, as wire nails 13 or the like. This metal ring 12 is embedded in the mass of the metal forming the hub of the wheel and causes the wheel to cool much quicker than ordinarily.

In casting the wheels, the pattern is impressed in the sand in the usual way to form the impression of the wheel and the cavity for the metal. The core 7′ is secured in place in the mold with its ring extending outwardly therefrom. As the metal is poured, it flows through the chamber or cavity and about the ring 12 surrounding the core 7′. After cooling sufficiently, the mold is opened and the casting removed in the usual way.

By means of using the ring 12 around the core, the metal in the hub is divided to a more uniform section. It has been found that with this method it is possible to shake out and pit the wheels about ten minutes quicker than in the ordinary way, which latter required about fifty minutes for a standard 750# wheel.

With this production, a much better product is produced than heretofore, improving the essential strength of the wheels under the prescribed drop and thermal tests.

I claim:

1. In a mold for casting car wheels with hubs, a core for forming the hub of the wheel, and having a metallic cooling ring surrounding the core in spaced relation and attached to the circumference thereof to extend into a portion of the hub for more uniform cooling of the metal.

2. A core for forming the hub of a wheel and having a metallic cooling ring surrounding the core in spaced relation from the periphery thereof to be embedded in the hub metal, and radially arranged attaching members for supporting the ring from the circumference of the core.

In testimony whereof I have signed my name, this 12th day of February, in the year one thousand nine hundred and thirty.

CHARLES COBB, JR.