

J. Patterson,

Casting Car Wheels.

No. 100,795.

Patented Mar. 15, 1870.

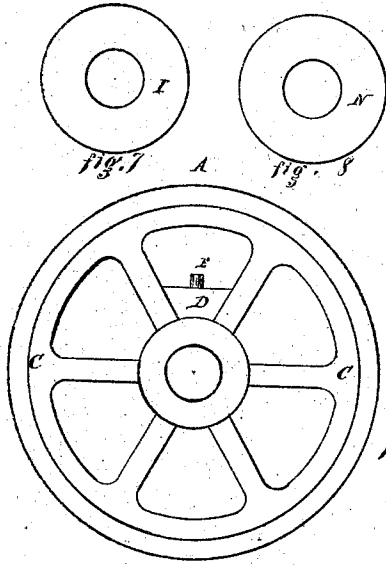


fig. 1

fig. 8



fig. 2

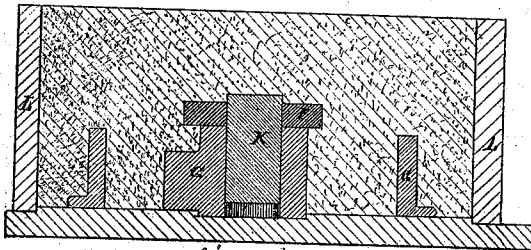


fig. 3

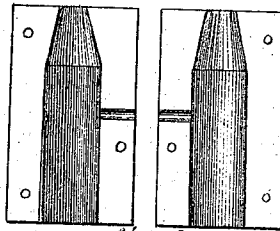


fig. 6

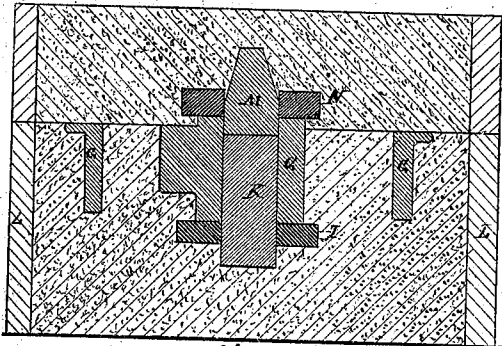


fig. 4

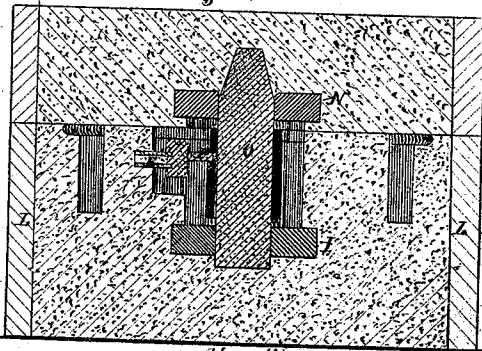


fig. 5

Witnesses

H. A. Coleburn
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Inventor

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JOHN PATTERSON, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 100,795, dated March 15, 1870.

IMPROVEMENT IN COAL-CAR AND TRUCK-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN PATTERSON, of the city of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented certain Improvements in Coal-Car and Truck-Wheels and in the Molding of the same, of which the following is a specification.

The first part of my invention relates to the hardening of the ends of the hub in the process of casting, rendering the wheel much more durable, and in the oil-box cast on and forming a part of the hub.

The second part of my invention relates to the manner of forming the mold, coreing out the center of the hub, and chilling the ends of the same.

In the accompanying drawings—

Figure 1 is a side view of a car-wheel.

Figure 2, a vertical central section of the same through the section line A B of fig. 1.

Figure 3, a section showing the pattern in the drag.

Figure 4, a section of the flask before the pattern is drawn.

Figure 5, section of flask, with pattern removed and the cores in place.

Figure 6, core-box.

Figures 7 and 8, chill-rings.

G is the wheel, which differs in shape from the ordinary car or truck-wheel only in having the oil-box cast on the hub.

This box consists in a receptacle which is filled with cotton-waste or other like material, the filling being saturated with oil, which is poured into the box through the pipe E. This pipe is closed by a screw-cap.

The oil finds its way to the axle through the hole F. This hole is placed near the inner end of the hub, that the oil may flow or work out onto the collar of the axle.

The core of the box is supported by the short pipe E, which forms the anchor.

The pattern or print G from which the mold is made is of the usual shape. It is laid on the board, fig. 3, with the flange side down. The metal ring I, fig. 7, which is of somewhat larger diameter than the hub, is put on the center-piece K of the pattern. The drag L is then placed around the pattern, filled with sand, and rammed up. The drag is then turned over, the print M set into the center hole of the pattern, and

the ring N placed over it. The cope is then put on, and filled with sand and rammed, as shown in fig. 4. The flask is then opened, and the pattern withdrawn, leaving the rings I and N imbedded in the sand. The cores which form the hole in the hub and the oil-box are then placed in their proper positions, the oil-box core being anchored by the pipe E, and the center core O being held in a true vertical position by the rings I and N.

The projection P forms the hole from the oil-box into the hole in the hub.

The core O is made tapering at the end, that it may the more readily enter the ring N, and be drawn into the vertical position, as shown in fig. 5, where the flask is shown ready for pouring.

The core O is made in the metal core-box shown in fig. 6. This core-box is drilled out perfectly true, and fitted with great exactness, that the core may be perfectly round. Sharp sand, prepared as usual, is used. The core is blackened with soap-stone and blacking, to make it smooth, and baked to expel moisture.

The rings I and N answer the double purpose of keeping the core O in position and chilling the ends of the hubs when the mold is poured. This chilling makes the ends of the hubs much harder and more durable.

My manner of coreing makes the hole in the hub perfectly true and very smooth, requiring no reaming out or finishing.

Claims.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The oil-box, constructed and placed as shown.
2. Coal-car and truck-wheels, having the ends of the hubs chilled or hardened in the process of casting, for the purpose described.
3. The combination of the rings I and N with the core O, for the purpose described.

JOHN PATTERSON. [L. s.]

Witnesses:

ANDREW HUMBERT,
FRANCIS D. CLARK.