J. CONNOLLY.

Car-Wheel Cope.

No. 217,860. Patented July 29, 1879.

FIG. 1.

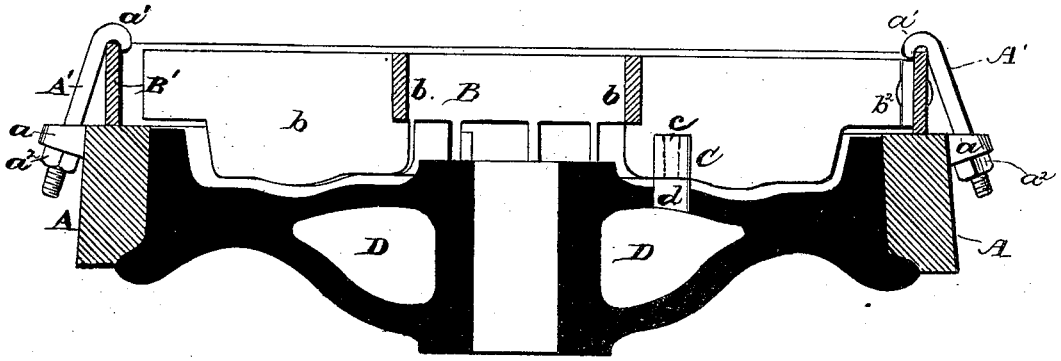
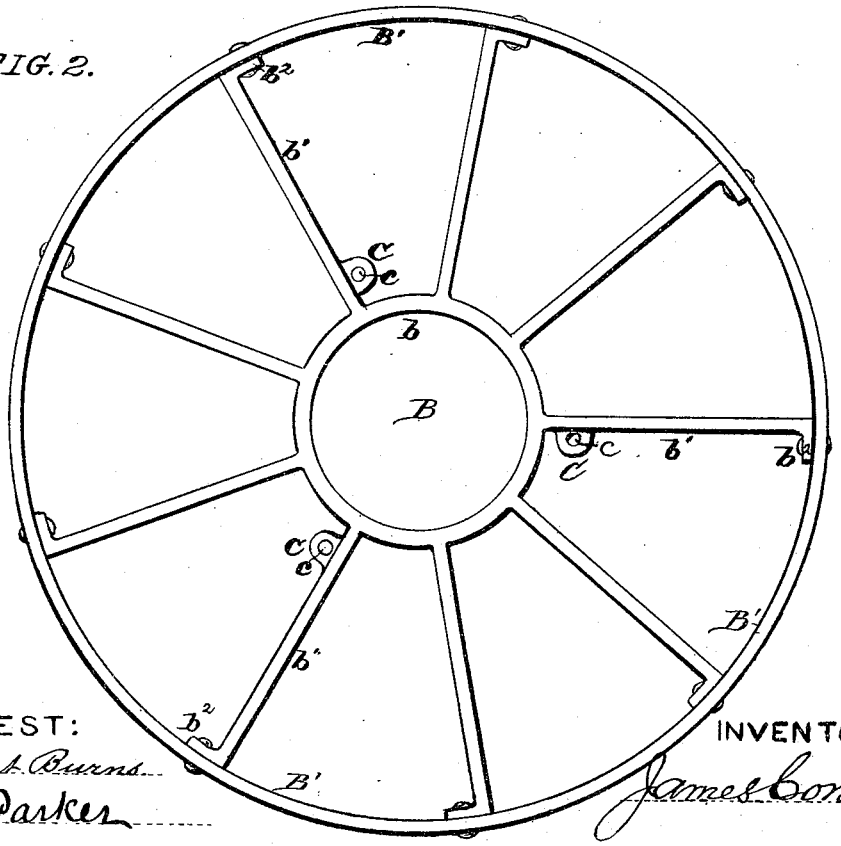


FIG. 2.



ATTEST:

Robert Burns

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INVENTOR:

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UNITED STATES PATENT OFFICE.

JAMES CONNOLLY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO MISSOURI CAR AND FOUNDRY COMPANY, OF SAME PLACE.

IMPROVEMENT IN CAR-WHEEL COPES.

Specification forming part of Letters Patent No. **217,860**, dated July 29, 1879; application filed May 29, 1879.

To all whom it may concern:

Be it known that I, JAMES CONNOLLY, of the city of St. Louis, in the State of Missouri, have invented certain Improvements in Copes for Molding and Casting Car-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to remedy certain defects met with in the ordinary cast-iron cope used in casting car-wheels. In these the rim is cast in one piece with the central hub and arms, the defects of which construction are as follows: It is weak and liable to be broken in handling, owing to the fact that when cast the rim cools in advance of the center, and is consequently strained and weakened, so that when roughly handled it is very liable to be broken. Again, when exposed to constant heating and cooling in the process of casting car-wheels, the parts are unevenly heated and cooled, and are liable to be strained and fractured.

In order to overcome these defects and difficulties I have constructed a cope in which the above defects are entirely avoided; and this invention consists—

First, in the formation of the cope with a wrought-iron rim, which is riveted to brackets or lugs on the arms of the cope, which arms and the central hub are cast in one piece.

Secondly, to the formation of the button-bearings that receive the buttons which hold the core in proper position. In this case the button-bearings consist of lugs cast on the side of three or more of the arms of the cope, and having a vertical hole down through them to allow the introduction of a punch for detaching the buttons should they stick in their bearing.

Thirdly, in the provision on the chill-ring of two or more ears or lugs, through which pass bolts, the upper ends of which are hooked and engage the rim of the cope, while the lower ends are provided with nuts to draw the bolts down and firmly clamp the cope in proper position onto the chill.

In the drawings, Figure 1 is a vertical section, showing my improved cope in position over the chill. Fig. 2 is a plan of the cope.

A is the chill, formed of cast metal, on which rests the cope B. This cope is formed with a central hub or ring, b, and radial arms b^1, having on their ends lugs or brackets b^2, on which is riveted the outer rim, B′, of the cope, which rim is formed separate of wrought-iron or other suitable material, and then riveted in place.

The chill A is formed with lugs a, through which pass the bolts A′, having a hook, a^1, at their upper end, to engage the rim B′ of the cope, and nuts a^2 at their lower end to draw said bolts down to hold the cope firmly in proper position onto the chill, and at the same time freely allow the expansion and contraction of the cope-ring to take place.

The "drag" or bottom portion of the mold is of the usual construction.

At the side of three or more of the radial arms b^1 of the cope are cast button-bearings c, in which rest the buttons d, which hold the core D in proper position in the mold, and these button-bearings are provided with a vertical hole down through them to allow of the introduction of a punch for detaching the buttons should they stick in their bearings.

By placing the bearings at the side of the arms, instead of centrally in the same, which is the usual method pursued, a short bearing can be formed, which allows of the hole c being cored out and cast, whereas with the old style of bearing these holes were required to be drilled.

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

1. The cope B, formed with hub and arms cast in one piece, with a wrought-iron rim formed separately and riveted thereto, substantially as set forth.

2. The cope B, formed with button-bearings c at the side of its arms, as and for the purpose set forth.

3. The combination of the chill A, provided with ears a, cope B, and bolts A′, having hooks a^1 and nuts a^2, as and for the purpose set forth.

JAMES CONNOLLY.

Witnesses:
CHARLES EHRMANN,
ROBT. BURNS.