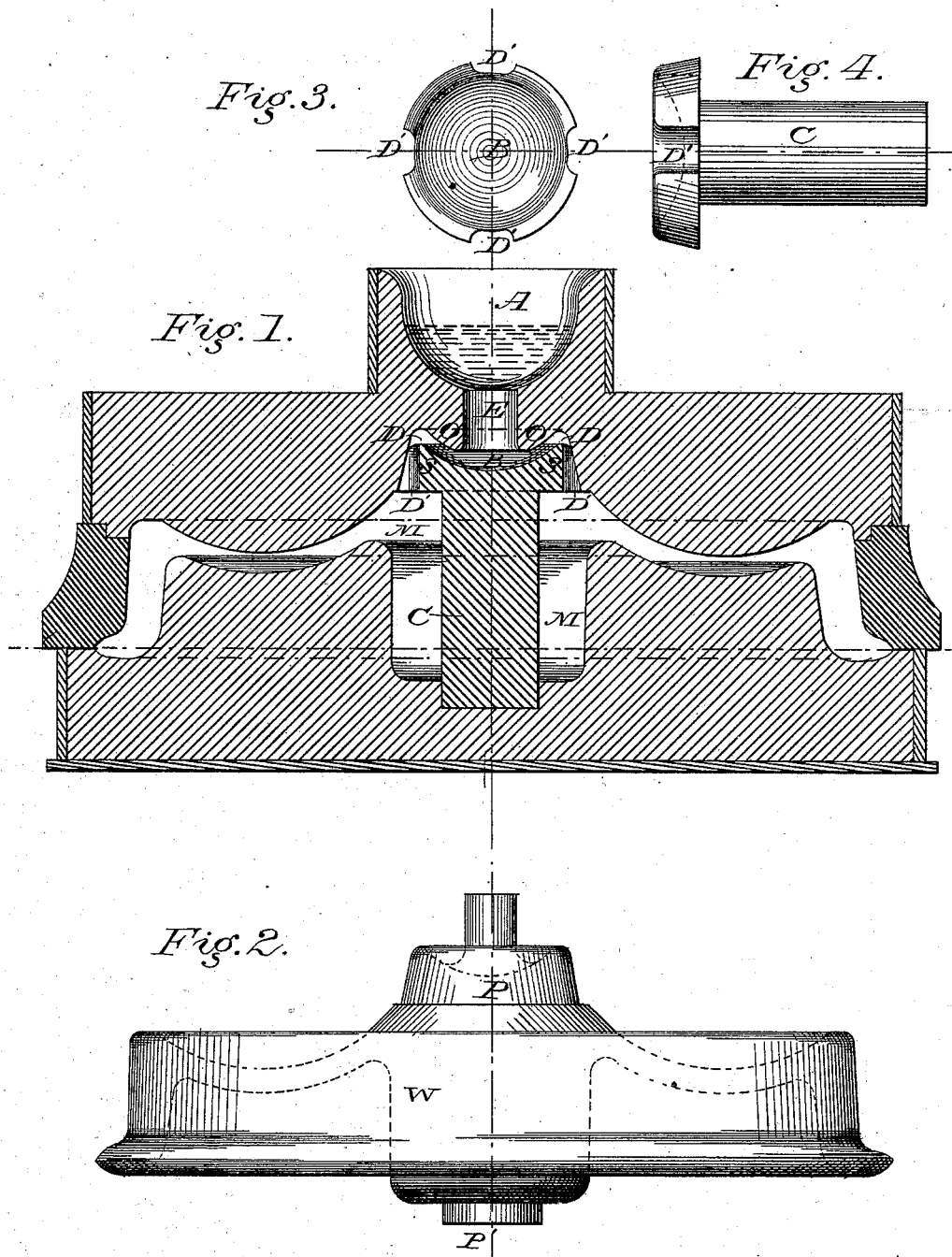


W. S. G. BAKER.
Car-Wheel Mold.

No. 214,747.

Patented April 29, 1879.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM S. G. BAKER, OF BALTIMORE COUNTY, MARYLAND.

IMPROVEMENT IN CAR-WHEEL MOLDS.

Specification forming part of Letters Patent No. **214,747**, dated April 29, 1879; application filed February 10, 1879.

To all whom it may concern:

Be it known that I, WILLIAM S. G. BAKER, of the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Car-Wheel Molds, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a cross-section through the center of a car-wheel mold; Fig. 2, elevation of the wheel-pattern with core-prints fixed thereon; Fig. 3, top view of the hub-core; Fig. 4, elevation or side view of hub-core.

The object of my invention is to provide a device by which the pressure may be equalized and flow of molten metal regulated in filling molds for car-wheels.

When very hot or fluid metal is used, and poured directly into the mold from the ladle, the volume of discharge and height of fall will increase or decrease the strain within the mold at the will of those handling ladle and pouring the metal.

In the manufacture of cast car-wheels it is desirable to have an equal pressure within, as well as to have the metal entering the mold as free from impurities as possible. I accomplish this by so shaping my hub-core and seat for same that I arrest the fall and regulate the discharge of the molten metal into the mold; also, to skim the metal of surface impurities, and retain such in the receiving-chamber of the head-gate.

In such drawings, M denotes the mold, provided with a runner or head-gate at upper part, formed with receiving-chamber A, connected by conduit or outlet E, leading to top of the hub-core C, which is concave or bowl-shaped, as shown at B.

The pattern W is provided with core-prints P P', the upper print, P, being so shaped that it forms the core-seat and conduit or outlet E within the upper part of the mold M, similar in shape to the hub-core C, only deeper, leaving a space, D, of equal, or nearly equal, size between top of hub-core C and core-seat when the hub-core C is in place.

The top of hub-core C being concave or bowl-shaped, as shown at B, the edges S S

rising above the center part, while the seat for hub-core C being convex, and center part of seat at O O, where the inlet of conduit E joins same, is lower than edges S S of the bowl B, it will be seen that no fluid can pass over the edges S S until it rise to level above the points O O.

The top part of the hub-core C is so shaped that it will have a bearing and fit neatly at the sides within the seat formed by print P, but not at the top, there being an open space, D D, left. The sides of the top of the hub-core C have places cut away, as shown in Figs. 1, 3, and 4, at D' D', and form passage-ways, and connect chamber A, by way of conduit E and open space D, with mold M, which passage-ways D' D' combined are of less area than that of conduit or outlet E.

By so forming the top part of the hub-core C and top part of the core-seat within the mold M, molten metal may be poured directly into the chamber A from the ladle; but it will not pass directly into the mold M, being retarded by the bowl B, and there rise to level of edges S S, which will bring the level of the molten metal above point O O in the conduit or outlet E. The passage-ways D' D' being of less area than that of conduit or outlet E will force the metal to rise to a point in the chamber A, and when kept at fixed height will regulate the volume of flow and fall of molten metal, obtaining equal pressure within the mold until filled.

This form of core and seat for same will prevent the floating impurities entering the mold M, all such being retained in the receiving-chamber A, the part O O at bottom of conduit or outlet E forming a skimmer.

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

1. The combination of the core-seat, having a convex top with an opening therein, connecting the runner-head, with the core, having a concave top and one or more openings in the side of its top connecting with the mold, the core and core-seat being separated to form a chamber, the openings in the sides of the core having a less combined area than that of

the opening in the core-seat, allowing more rapid filling than discharge, substantially as and for the purpose set forth.

2. The combination of the concave or bowl-shaped top of the core, the perimeter of the core being above the lowest part of the core-seat, so arranged as to skim the molten metal of floating impurities, and retain such within the receiving-chamber, substantially as described.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

WM. S. G. BAKER.

Witnesses:

J. M. LAWFORD,
C. M. HARDY.