

W. S. G. BAKER.
Runner or Head-Gate for Mold.

No. 214,746.

Patented April 29, 1879.

Fig. 1.

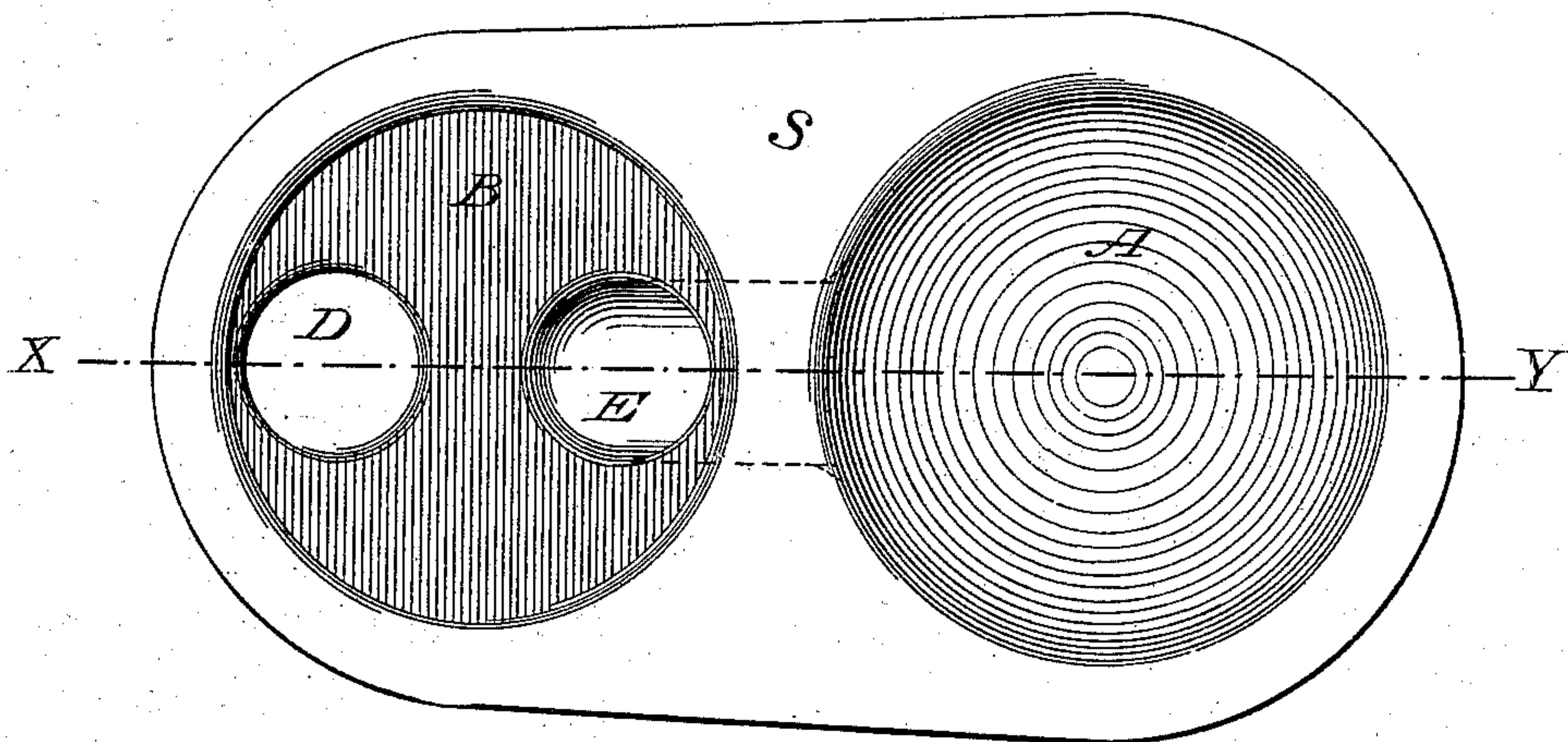
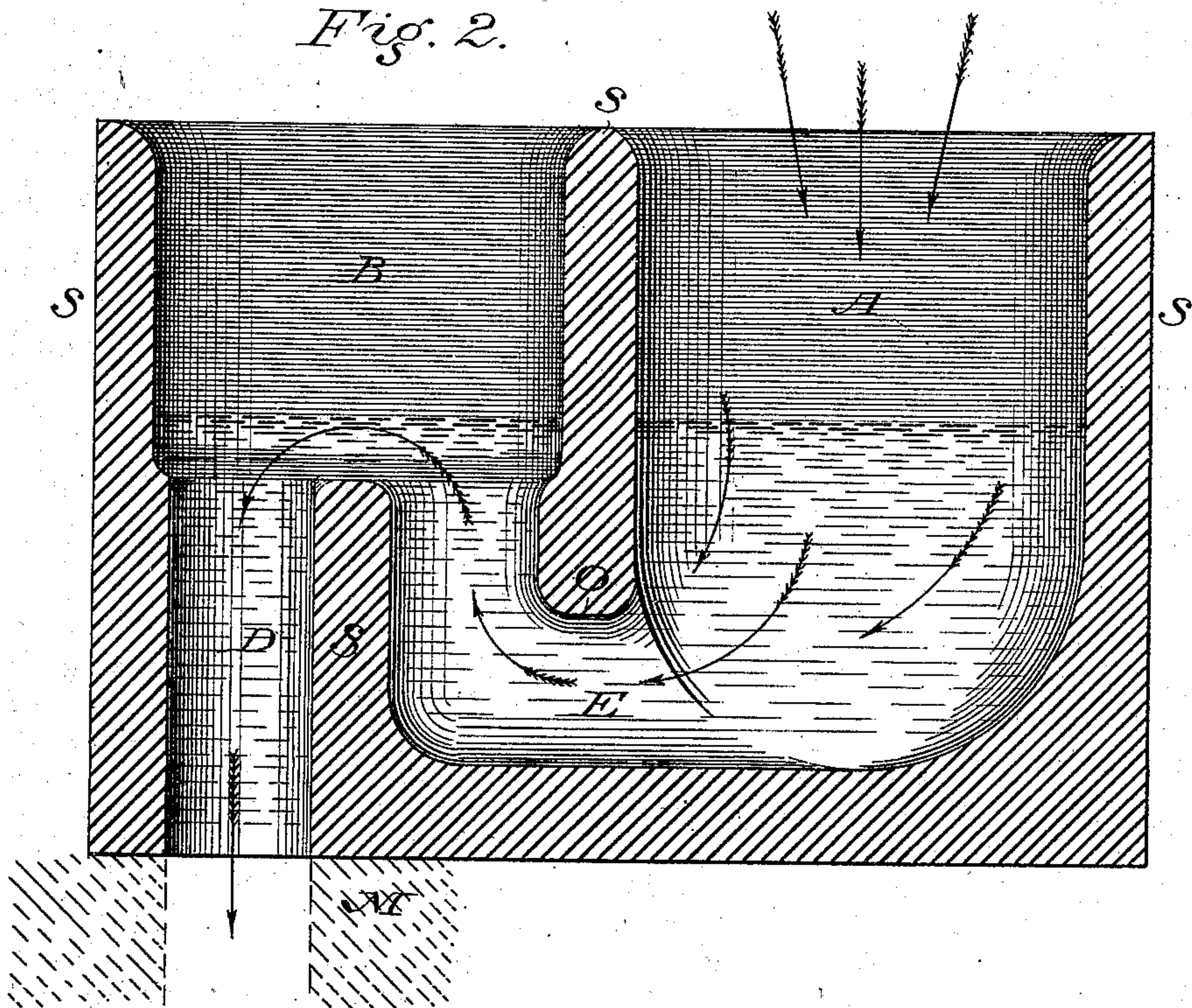


Fig. 2.



Witnesses:

J. M. Lawford
Charles W. Hardy

Inventor:

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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN RUNNERS OR HEAD-GATES FOR MOLDS.

Specification forming part of Letters Patent No. **214,746**, dated April 29, 1879; application filed January 18, 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 Runners or Head-Gates to Molds, of which the following is a specification.

The object of my invention is to provide a device by which the pressure on the mold may be equalized and the flow of metal regulated when very hot or fluid metal is used, as required in the manufacture of cast car-wheels and other castings, and is poured directly into the mold from the ladle. The volume of metal which causes increase or decrease of strain within the mold is caused by height of fall and rapidity of discharge of molten metal into the mold, and is regulated only at will of those handling the ladle and pouring the metal.

I find in practice that castings so made are liable to vary in weight, to prevent which I attach to the opening at top of the mold, to receive the molten metal, a head-gate or runner formed with two chambers or compartments, one of which receives the metal directly from the ladle, and is connected by passage-way to the other, which is provided with passage-way or outlet leading directly to the opening in the mold.

Figure 1 is a plan or top view. Fig. 2 is a vertical longitudinal cross-section at X Y.

At the top of any mold, as shown at M, where the metal enters to fill the mold and make the casting, I attach a runner or head-gate, SSS, made of dry or green molding-sand, formed into such shape as to give a receiving chamber or compartment, A, into which the metal is directly poured from the ladle, and

whence it passes, by one or more openings at O, near the bottom of chamber A, through passage-ways E, to the chamber B; thence, by passage-way D, into the opening in the mold M.

By using a runner or head-gate of this form the molten metal will not flow through the opening E and D to the mold M until the chamber or compartment A is filled to a line above the flow-line of the chamber B, and when filled fixes the height of fall and volume of flow, which will be maintained about the same until the mold is full.

When in use the chamber B is always kept full, it being covered with a fire-brick or dry-sand plate to prevent overflow.

This form of head-gate or runner S S S prevents floating impurities in the molten metal from passing into the mold M, they being retained in the receiving chamber or compartment A, as the wall of compartment A at point O, at mouth of passage-way E, forms a skimmer and arrests all such impurities, allowing only clean metal to reach the mold.

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

A runner or head-gate for a mold, having two chambers connected by one or more passages, one chamber capable of receiving molten metal from above it, and other having below its top a discharge-orifice, beginning above the level of the one or more passages, as and for the purpose set forth.

WM S. G. BAKER.

Witnesses:

J. M. LAWFORD,
CHARLES M. HARDY.