

(No Model.)

2 Sheets—Sheet 1.

W. S. G. BAKER.
Casting Car Wheels.

No. 230,853.

Patented Aug. 10, 1880.

Fig. 1.

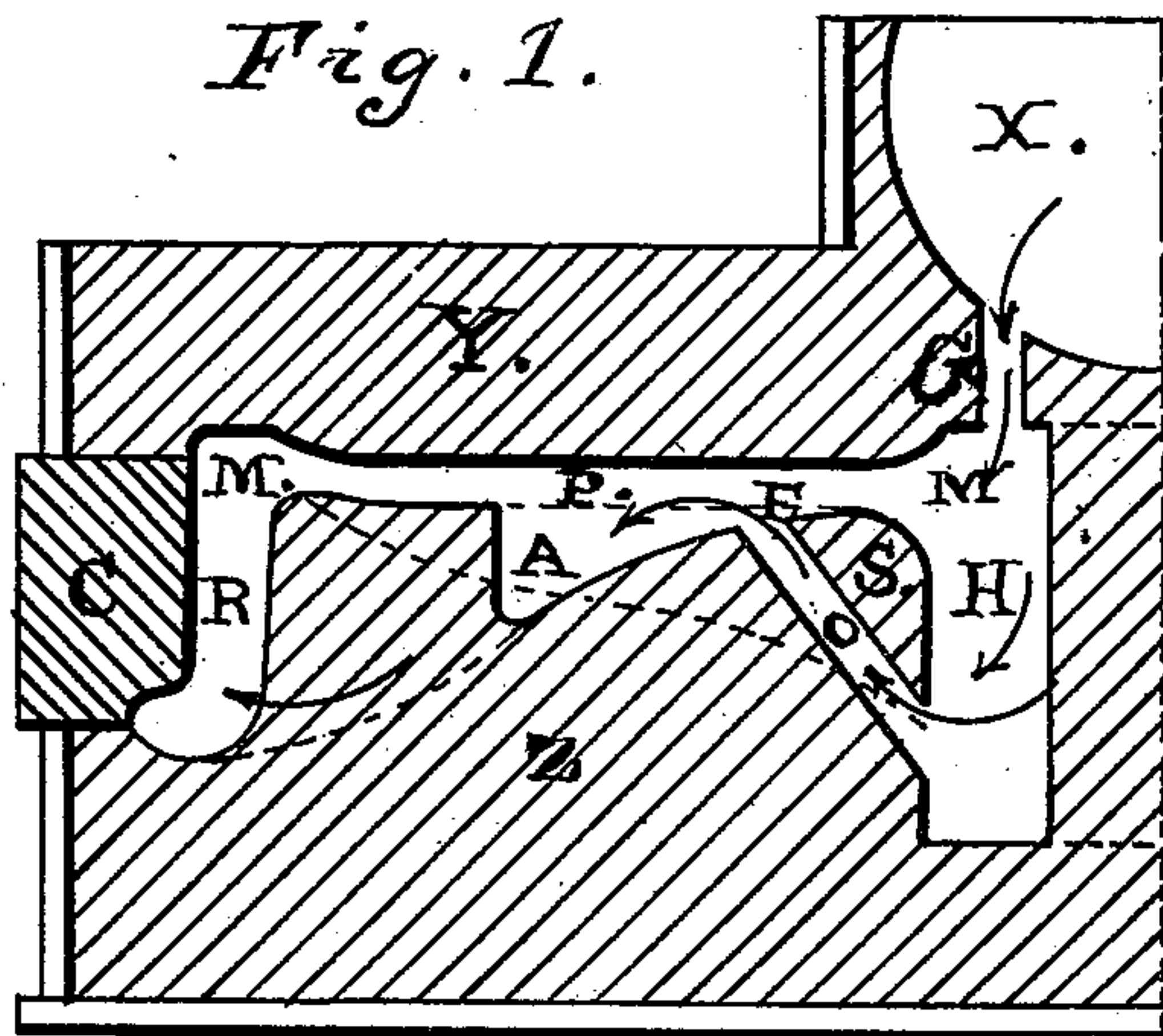


Fig. 2.

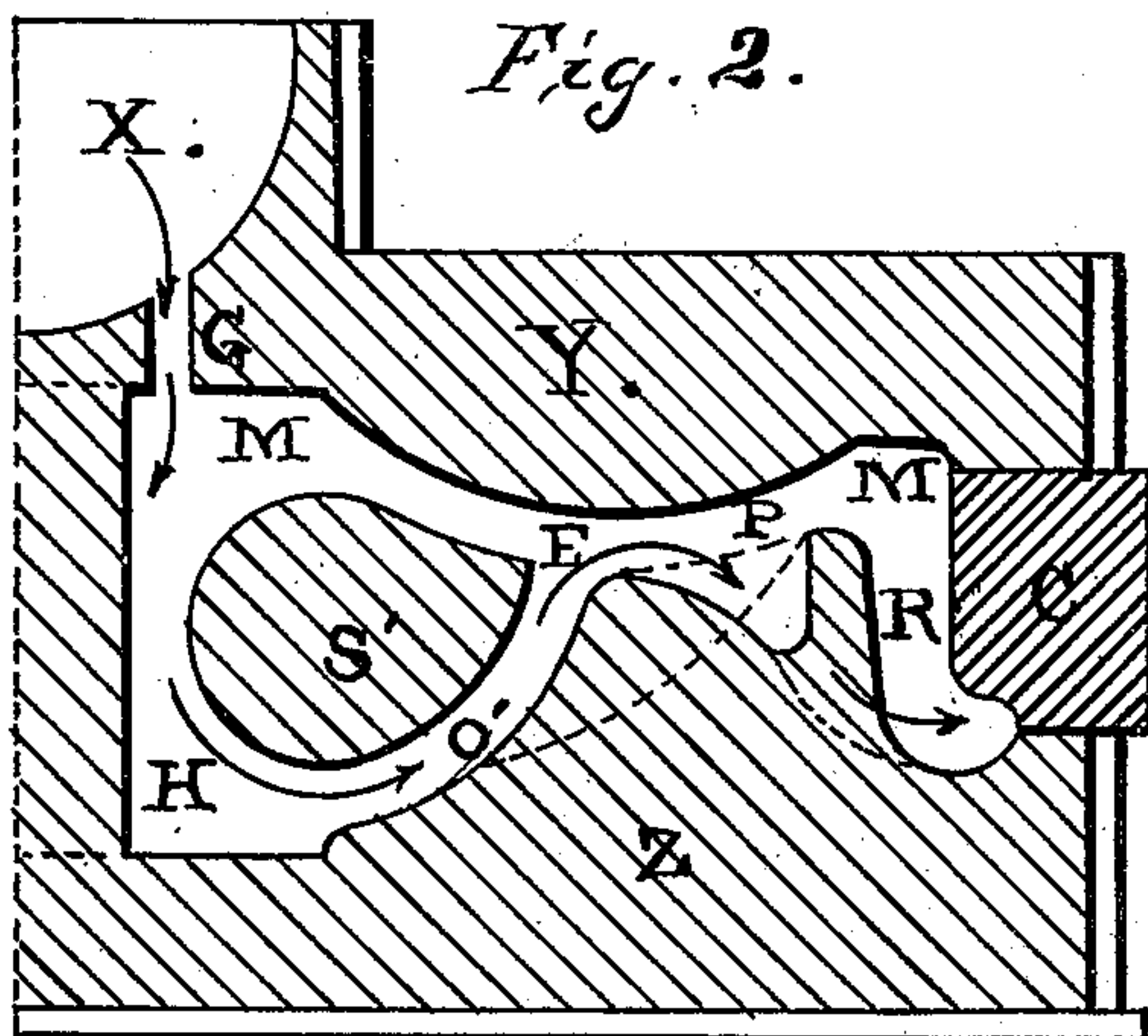


Fig. 3.

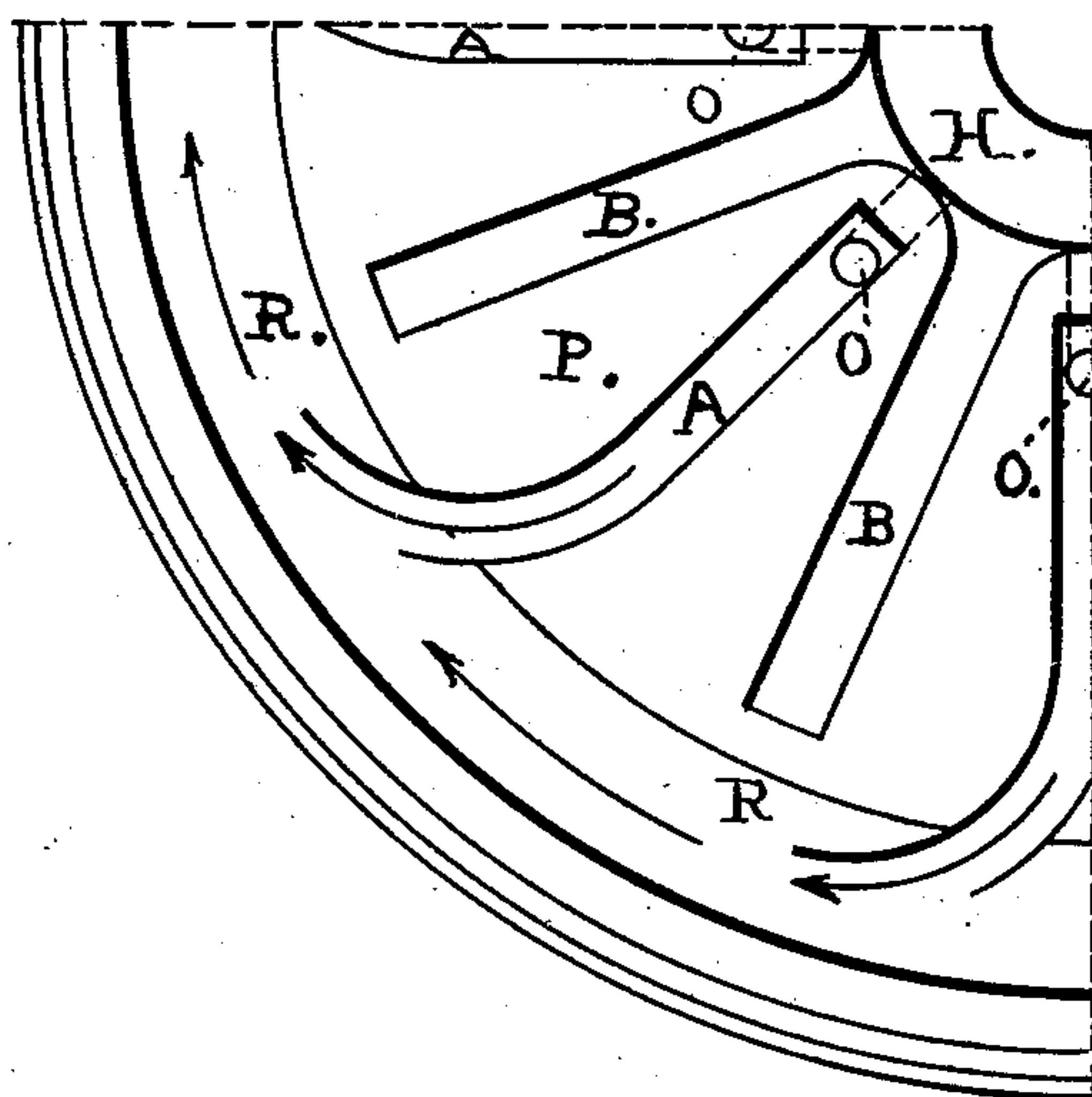
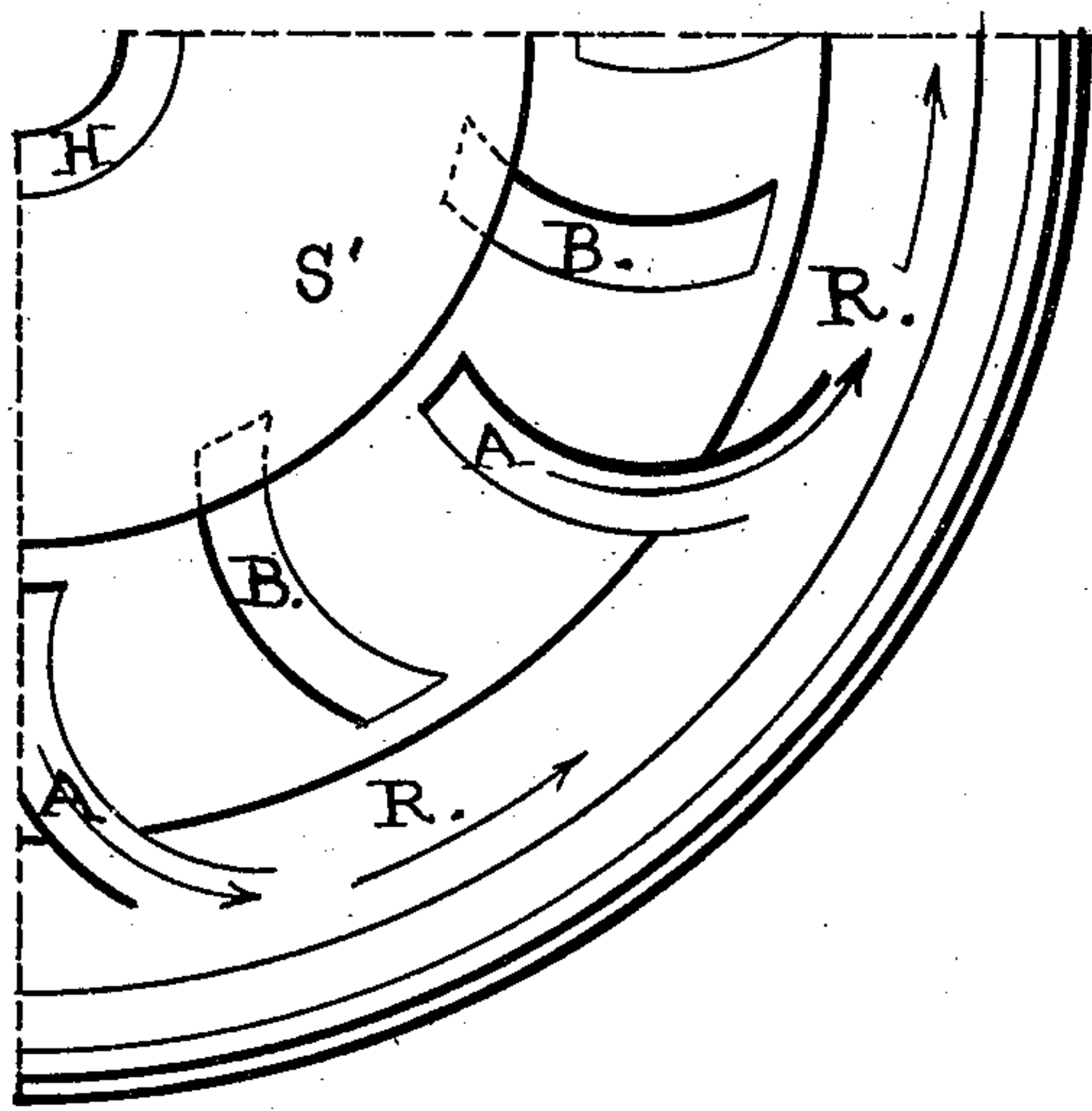


Fig. 4.



Witnesses.

J. M. Lawford
R. S. Cutfield

Inventor.

W. S. G. Baker

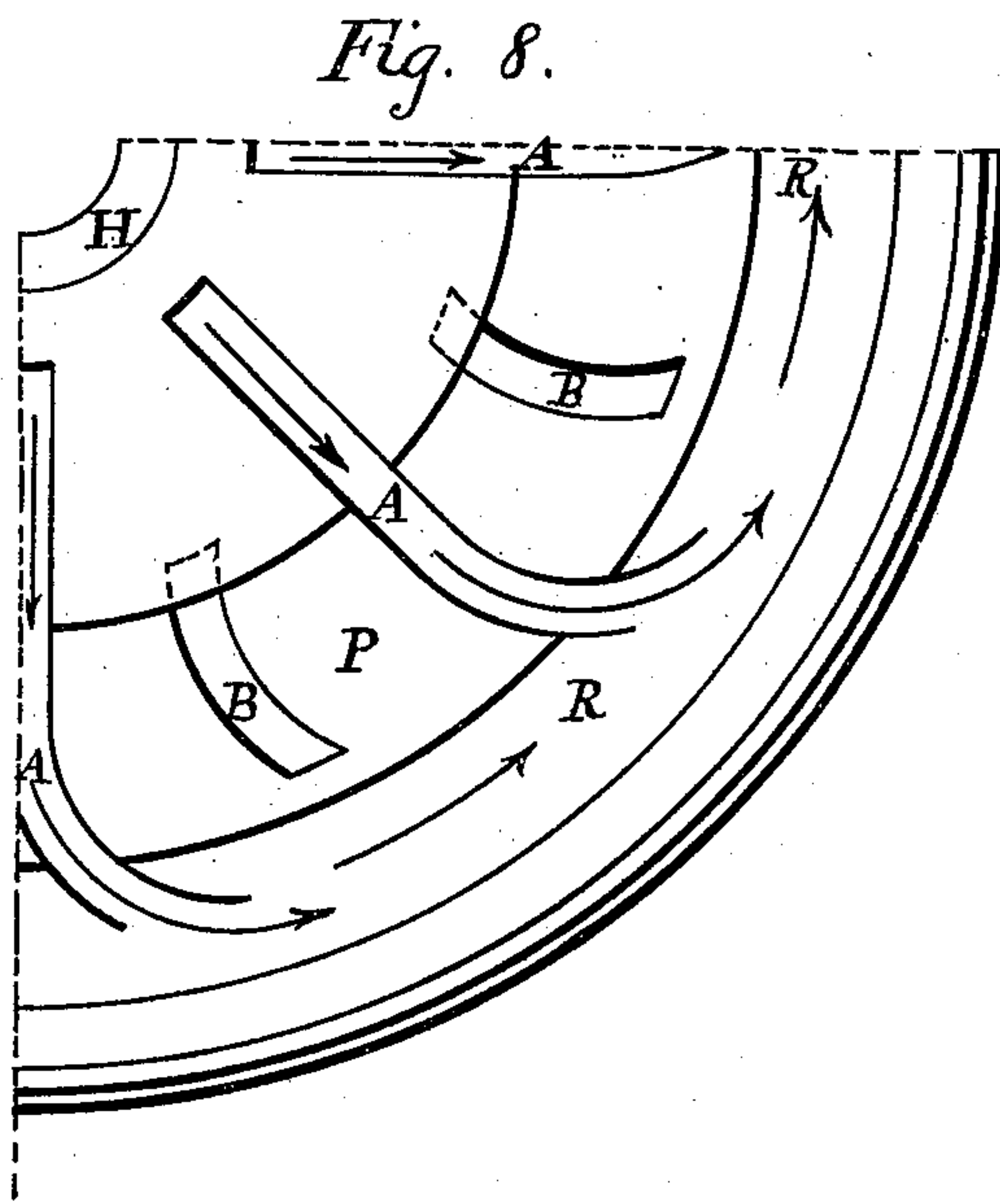
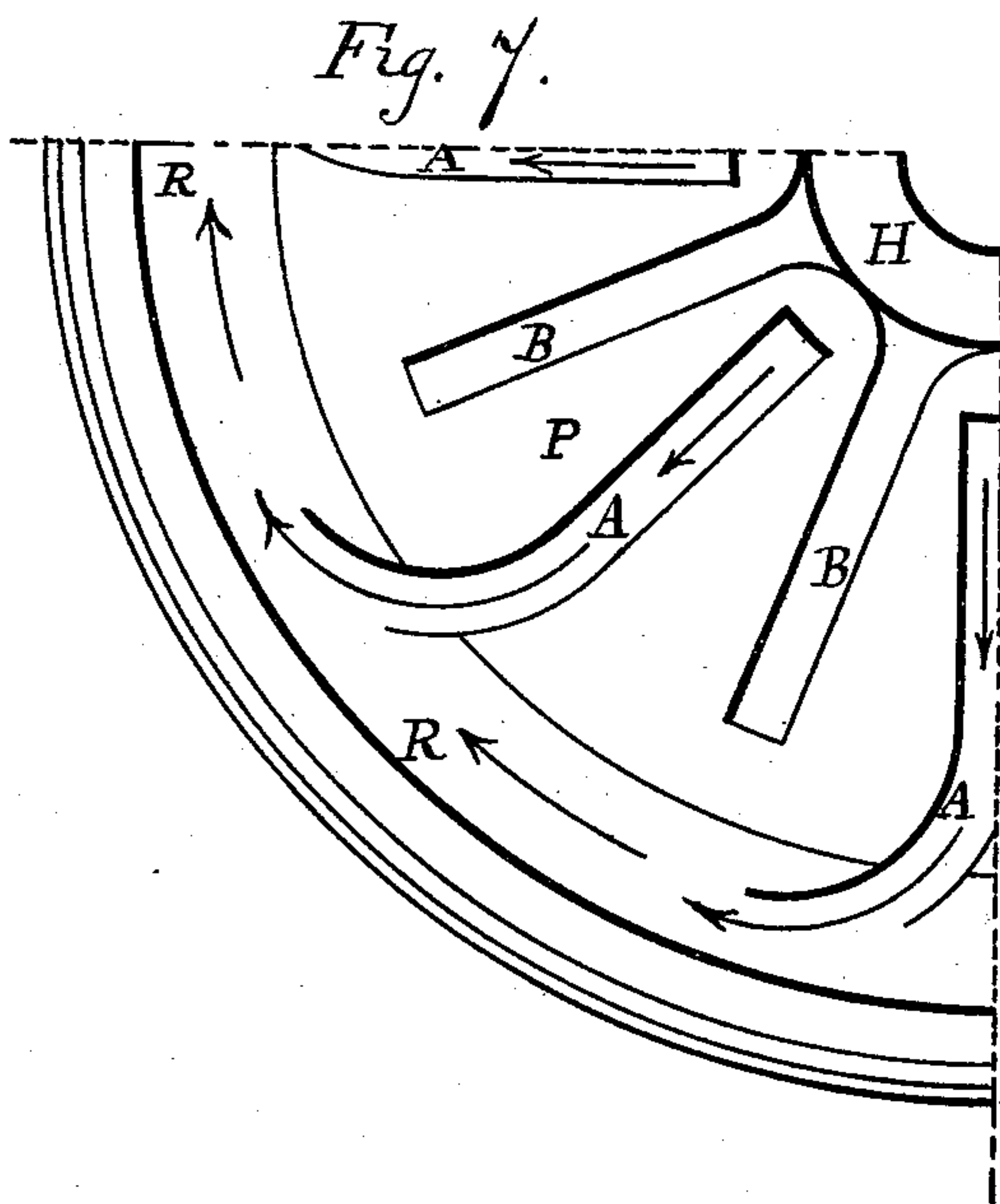
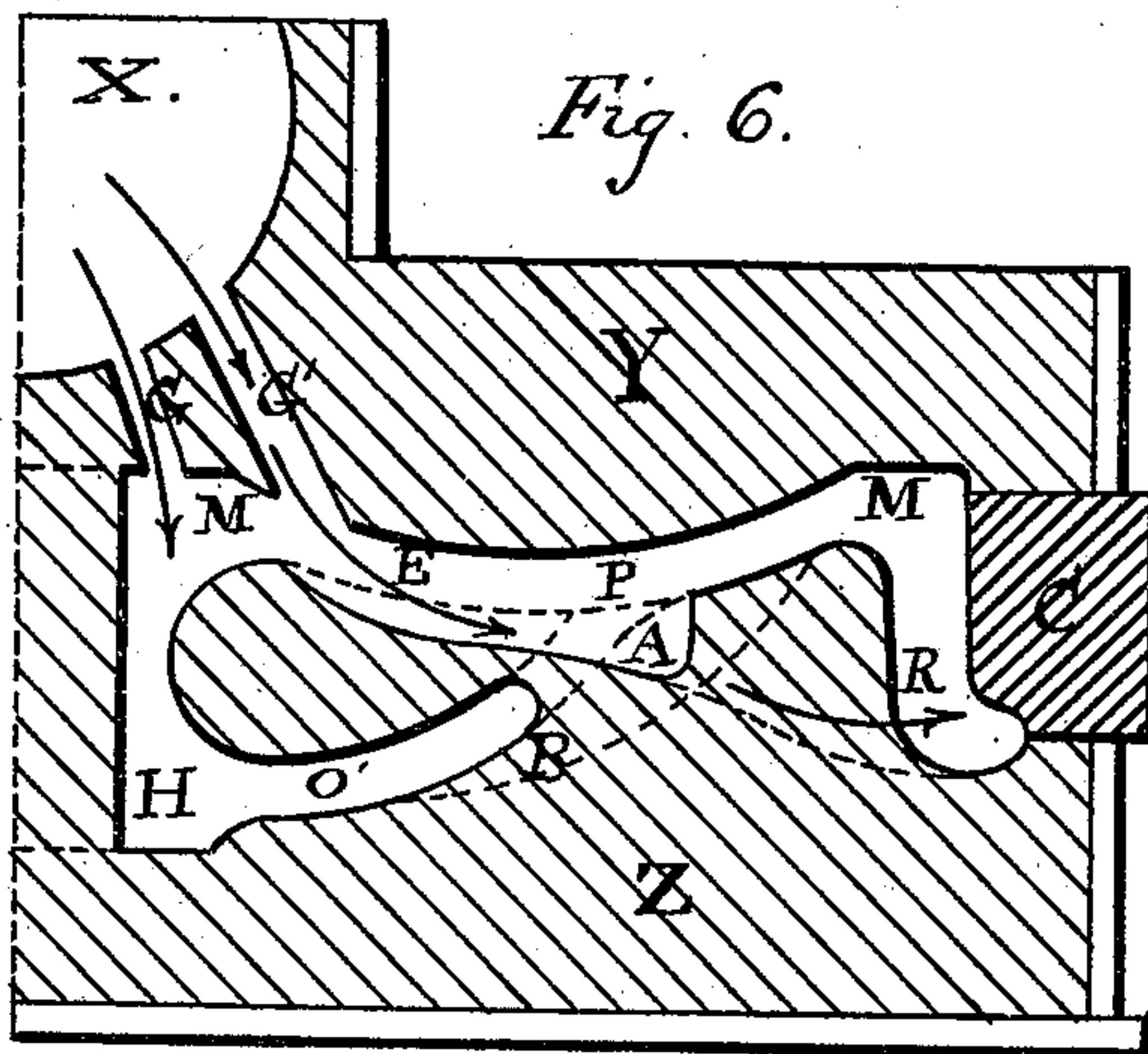
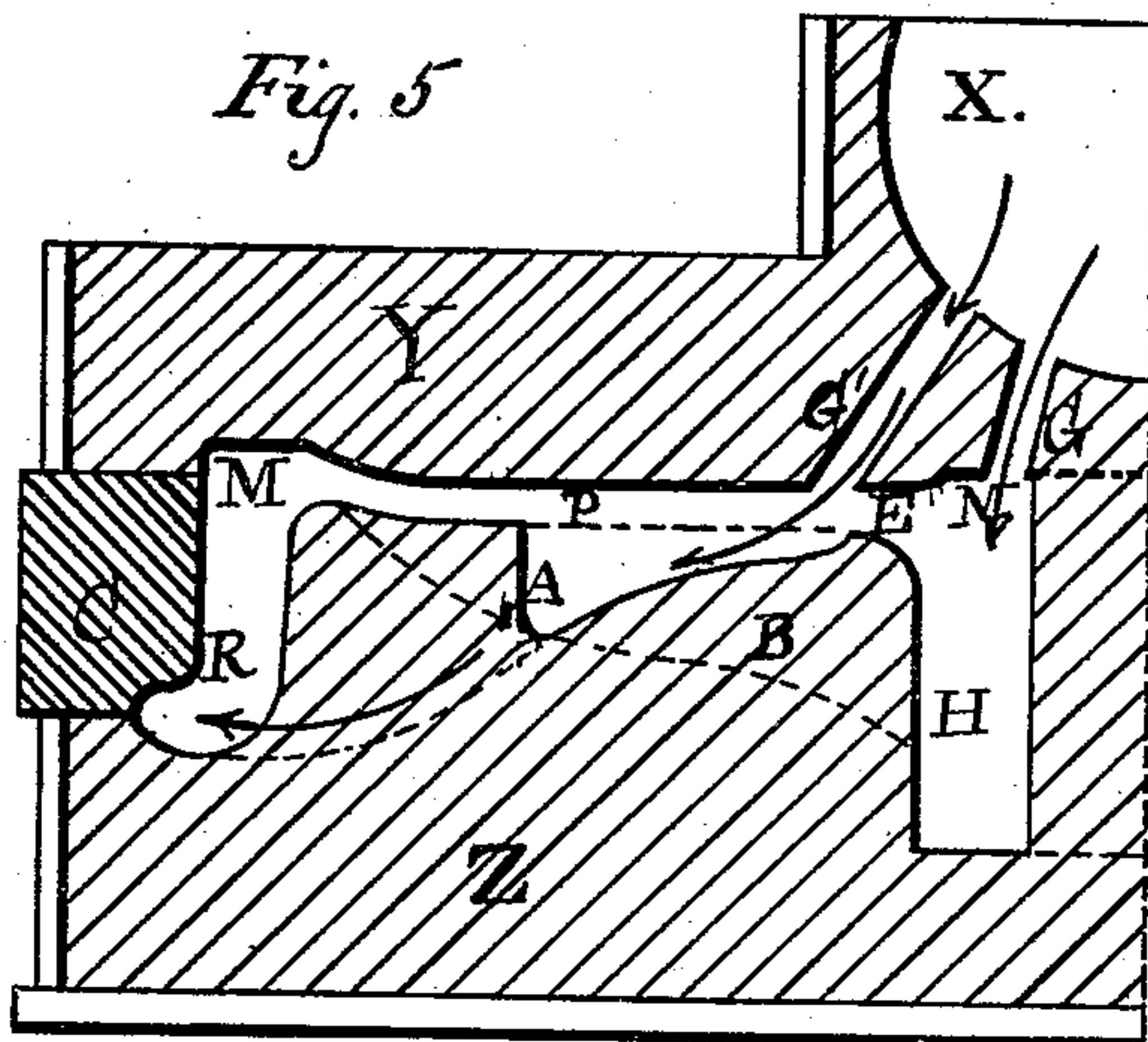
(No Model.)

2 Sheets—Sheet 2.

W. S. G. BAKER.
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No. 230,853.

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Witnesses:

J. M. Lawford
A. S. Duffield

Inventor:

W. S. G. Baker

UNITED STATES PATENT OFFICE.

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

CASTING CAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 230,853, dated August 10, 1880.

Application filed June 21, 1880. (No model.)

To all whom it may concern:

Be it known that I, W. S. G. BAKER, of Baltimore, Maryland, have invented a new and useful Improvement in Casting Car-Wheels, of which the following is a specification.

My invention relates to improvements in the casting of chilled car-wheels, rims, or tires having chilled surfaces.

My object is to cause the molten metal to issue into the bottom of the rim part of the mold from an elevation, flowing down inclined passage-ways arranged so that the metal, as it reaches the rim part, will flow concentrically with the chill, and adapted to molds made from wheel-patterns forming subject-matter of patent granted to me May 13, 1879, No. 215,202, in which the brackets of car-wheels of single or double plate patterns are so arranged that part brace the rim to the plate and part brace the plate to the hub.

By my invention I am enabled to pour the molten metal at very high temperature rapidly into the molds, and to convey that forming the rim part directly to the same by way of that part of the molds forming the set of brackets which brace the rim to the plate of the casting. The metal enters these molds for the brackets a little below the level of the plate, which is several inches above the bottom of the rim part of the mold. To reach the rim the molten metal has to flow down the incline of passage-ways, which, at their intersection with the rim part, are formed concentric to the same, causing the metal to issue with desired gyrations, and with rapidity and pressure sufficient to float any impurities that might enter the mold to the upper rim part, or such point as not to contact with the rail when the casting is in service.

Figures 1 and 5 are vertical cross-sections of molds made from single-plate car-wheel patterns, showing the mold M, cope Y, drag Z, and receiving-chamber X. Figs. 2 and 6 are vertical cross-sections of molds made from double-plate car-wheel patterns, the same as above, similar letters referring to like parts. Figs. 3, 4, 7, and 8 are plans of the mold with the cope Y and chill C removed, showing the passage-ways A A, through which the molten metal reaches the rim part R, and which form the brackets that brace the rim to the plate of the casting.

As shown in Figs. 1 and 2, the molten metal

reaches the body of the mold M from the receiving-chamber X, filling the hub part H to near the level of the plate part P. When this point is reached the metal ceases to rise in the mold M until the rim part R is filled to the plate level.

The hub part H is connected by sprues O in single-plate mold, Fig. 1, and lower plate, O', in double-plate mold, Fig. 2, allowing the molten metal to flow directly into the passage-ways A A at point E, thence down their incline to the bottom of the rim part R, issuing into and flowing concentric with the same, by which device I form that part of the casting without check in the flow, and secure a clean and perfect casting to a point on a line outside of rail-contact when the casting is in service.

The part of the mold at S in Fig. 1 and S' in Fig. 2 forms a skimmer, and will prevent floating impurities entering the passage-ways A A and reaching the rim part R, such impurities being retained in the hub part H of the mold M.

As shown in Figs. 5 and 6, the metal reaches the mold M from the receiving-chamber X by two sets of gates, one set, G, leading to the hub part H, and the other set, G', leading directly into the passage-ways A A, which form one set of brackets of the casting, and it reaches and issues into the rim part R, as above described.

By this plan of forming the rim part R with metal flowing down the inclined passage-ways A A to the bottom of the rim part R, and to issue into it concentric with the face of the chill C at great rapidity, making entire rim part R without check in the flow, assures the soundness of the chilling. The molten metal reaching the chill C at an even and high temperature gives a clean and perfect casting, with uniformity of chill and roundness of form.

I claim as my invention—

The improved mode herein described of casting chilled car-wheels, by causing the molten metal which forms the rim part to issue into the same concentric with the chill from an elevation by way of downwardly-inclined passage-ways, substantially as and for the purpose set forth.

WM. S. G. BAKER.

Witnesses:

J. M. LAWFORD,
A. S. LITTLEFIELD.