

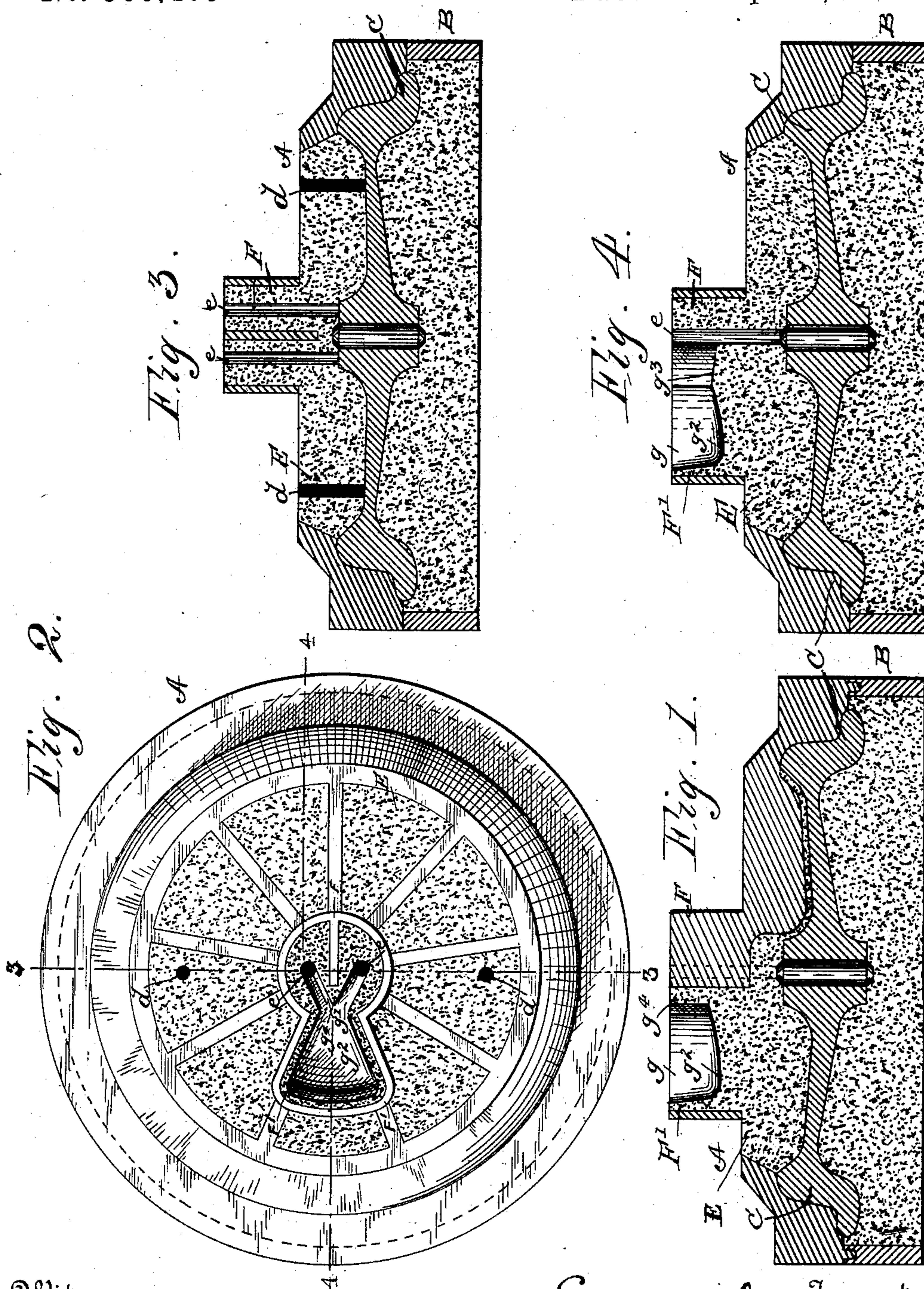
(No Model.)

E. AMUNDSON.

CAR WHEEL MOLD.

No. 360,403.

Patented Apr. 5, 1887.



Witnesses

Percy White.  
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Edward Amundson  
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# UNITED STATES PATENT OFFICE.

EDWARD AMUNDSON, OF LIME ROCK, CONNECTICUT.

## CAR-WHEEL MOLD.

SPECIFICATION forming part of Letters Patent No. 360,403, dated April 5, 1887.

Application filed January 14, 1887; Serial No. 224,367. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD AMUNDSON, a citizen of the United States, residing at Lime Rock, town of Salisbury, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Molds for Casting the Hubs of Car-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to molds for casting the hubs of car-wheels; and the object of the invention is to separate all dross and other waste matters from the molten metal as it enters the mold, thereby producing clear clean hubs or castings.

To the above purpose my invention consists in a peculiar and novel form of gate made upon the cope, and serving to collect and skim the molten metal as it is poured into the mold, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a transverse vertical section of a car-wheel mold constructed in accordance with my invention. Fig. 2 is a plan view of the same, showing the form of the skim-gate. Figs. 3 and 4 are sectional views of the same on the lines 3 3 4 4, respectively, of Fig. 2.

In the said drawings, A designates the upper member or cope, B the lower member or drag, and C the tire, which is confined between the cope and drag. *d* designates the risers or outlet-channels and *e* the gates or inlet-channels formed in the said mold E. These parts are of the usual or any preferred form applicable to the casting of car-wheel hubs.

Through the center of the cope A are formed two openings or gates, *e*, which are prolonged downward into the upper part of the sand mold, as shown in Figs. 3 and 4. A boss, F, is formed upon the upper side of the cope, and this boss is preferably of the circular form shown in Fig. 2, and has an integral extension, F', which is preferably of approximate triangular form. (See also Fig. 2.) The extension F' contains a cavity, *g*, which gradually contracts in width toward the boss F, at which point it communicates with two channels, *g'*,

which diverge from each other and communicate with the gates *e*.

Referring now to Figs. 3 and 4, it will be seen that the bottom *g*<sup>2</sup> of the cavity *g* is inclined upward toward the point of union between the channels *g'* and the cavity *g*, while the bottoms *g*<sup>3</sup> of said channels are inclined downward toward the gates *e*. The risers *d* are preferably closed at their upper ends by removable or fusible plugs, while suitable plugs are usually employed to close the gates, when desired.

When my improved mold is in use, the molten metal is first poured into the cavity *g* until the latter is nearly filled, and the metal is allowed to flow slowly along the channels *g'* and into the gates *e*, so as to permit any dross or other impurities to rise to the top of the mass in cavity *g*. The metal enters the center of the mold and flows outward toward the tire *e*, and the risers *d* serve to equalize the atmospheric pressure in the mold during the operation of pouring and to receive any superfluous metal, in the usual manner. By this action the metal is drained or skimmed in its passage from the cavity, so that only the pure metal enters the gates *e*. The dross or impurities are perfectly retained within the cavity *g* by the combined action of the divergent contiguous walls of the channels *g'* and the point *g*<sup>4</sup> at the junction of said channels with the cavity *g*. Thus hubs or other castings are produced of the highest cleanness and uniformity of structure, and all previous defects of this kind are avoided.

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

An improved gate for molds, consisting of a cavity, *g*, of approximately triangular form, the divergent channels *g'*, leading therefrom, so as to form the angle *g*<sup>4</sup>, and communicating with the gates *e*, entering the mold, and the circular boss F and its extension F', containing said cavity and channel, the bottom *g*<sup>2</sup> of the cavity and the bottoms *g*<sup>3</sup> of the channels *g'* being inclined upward toward their point of union, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

Witnesses: EDWARD AMUNDSON.

L. A. BULMAN,  
ANDREW HUMES.