

(No Model.)

D. L. VAN RIET.
POURING GATE FOR MOLDS.

No. 535,514.

Patented Mar. 12, 1895.

Fig. 1.

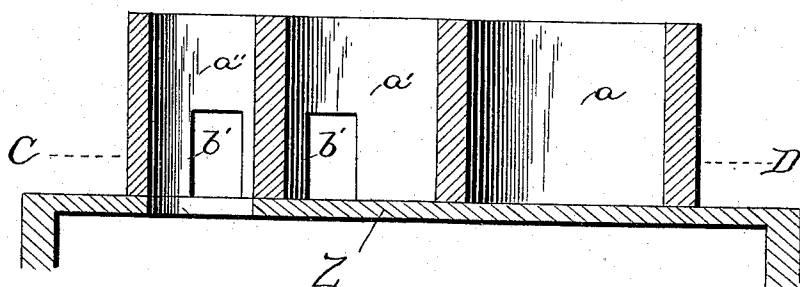
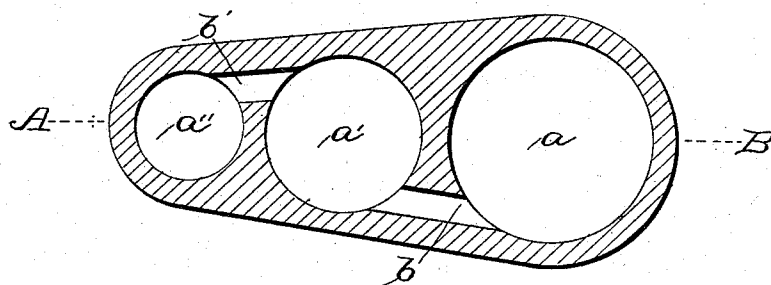


Fig. 2.



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UNITED STATES PATENT OFFICE.

DOMINIQUE LÉONARD VAN RIET, OF BRUSSELS, BELGIUM.

POURING-GATE FOR MOLDS.

SPECIFICATION forming part of Letters Patent No. 535,514, dated March 12, 1895.

Application filed August 24, 1894. Serial No. 521,229. (No model.) Patented in Belgium July 4, 1893, No. 105,394, and November 11, 1893, No. 107,127, and in France December 14, 1893, No. 234,813.

To all whom it may concern:

Be it known that I, DOMINIQUE LÉONARD VAN RIET, a subject of the King of Belgium, and a resident of Brussels, in the Kingdom of Belgium, have invented new and useful Improvements in Pouring-Gates for Molds, (for which no patent has been obtained in any country except in Belgium on July 4, 1893, No. 105,394, and November 11, 1893, No. 107,127, and in France December 14, 1893, No. 234,813,) of which the following is a specification.

My invention relates to the casting of metal articles and to apparatus therefor.

The apparatus constructed according to my said invention for casting articles of any metal, such as iron, steel, copper, bronze or the like, is designed to completely obviate the production of blisters, which have heretofore given rise to a considerable waste in foundries.

When articles are cast in a mold the molten metal carries with it a larger or smaller proportion of dust, scum and other impurities coming from the crucible and often also from the tap hole. These impurities arrive in the mold, and, not being able to escape, produce blisters. Such blisters always exist at the surface of the cast articles to a certain variable depth. They are generally noticed only during the planing or turning, and as the whole blistered thickness must necessarily be removed, a great waste is occasioned.

By the present invention the dust, scum and the like are eliminated before the molten metal passes into the mold, so that the articles will be cast of perfectly purified metal and will be absolutely sound and have no blisters.

In the drawings, Figure 1, is a vertical section of the pouring gate in position on the mold, and Fig. 2, a longitudinal section of my invention on line C, D of Fig. 1.

The pouring gate is adapted to be placed above the mold and has a series of purifying pockets or reservoirs *a*, *a'*, *a''* preferably of cylindrical form and of different sizes, the smaller of which overlies the opening leading to the mold. The top portion of the mold is shown at *Z* with the pouring gate thereon.

The successive pockets communicating with each other are arranged so that the molten metal which passes into them at a comparatively great velocity receives a gyratory movement during which all the impurities contained in the metal gather at the upper part of the pockets. These pockets are connected with each other by small channels *b*, *b'* situated at the lower part of the pockets, where the metal is purer. They form tangents to these pockets so as to impart to the molten metal, at the moment it enters each pocket, a rapid gyratory movement, during which all the impurities carried away by the molten metal and which are much lighter than the latter will collect at the upper part of the metallic bath.

In practice three pockets are generally used, but this number may be increased if deemed expedient. The first pocket *a*, is the largest for facilitating the introduction of the molten metal. Into this first pocket the molten metal is poured, which then passes to the pocket *a'* through the channel *b*. It arrives in the pocket *a'* tangentially to the circumference of the latter and in virtue of the velocity at which it flows it rapidly whirls or gyrates in this pocket *a'* and is purified. From this second pocket the molten metal passes into the channel *b'* in order to arrive tangentially in the pocket *a''* wherein it whirls or gyrates in the opposite direction, being freed further from any impurities which it may still contain, while the clean metal passes into the mold. These purifying pockets are removable. They are transported from one mold to the next so that a single set of three or more pockets may be used for a whole series of molding boxes.

Having thus described my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A pouring gate for molds, having three pockets with the passage *b* between the first and second extending tangentially to the latter to secure a gyrating motion of the metal therein in one direction and the channel *b'* extending from the second pocket to the third

and tangentially to the latter, to secure a gyrating motion therein in the opposite direction, substantially as described.

2. A device for use in casting, having the
5 three pockets with tangential passages between them at relatively opposite points on the peripheries of the pockets to secure a

gyrating motion in one reversed from the gyrating motion in the other, substantially as described.

DOMINIQUE LÉONARD VAN RIET.

Witnesses:

ALBERT CRAIPOST,
GREGORY PHELAN.