JOHN M. KILLIN.

Molder's Gate or Sprue.

No. 127,351. Patented May 28, 1872.

Fig. 1.

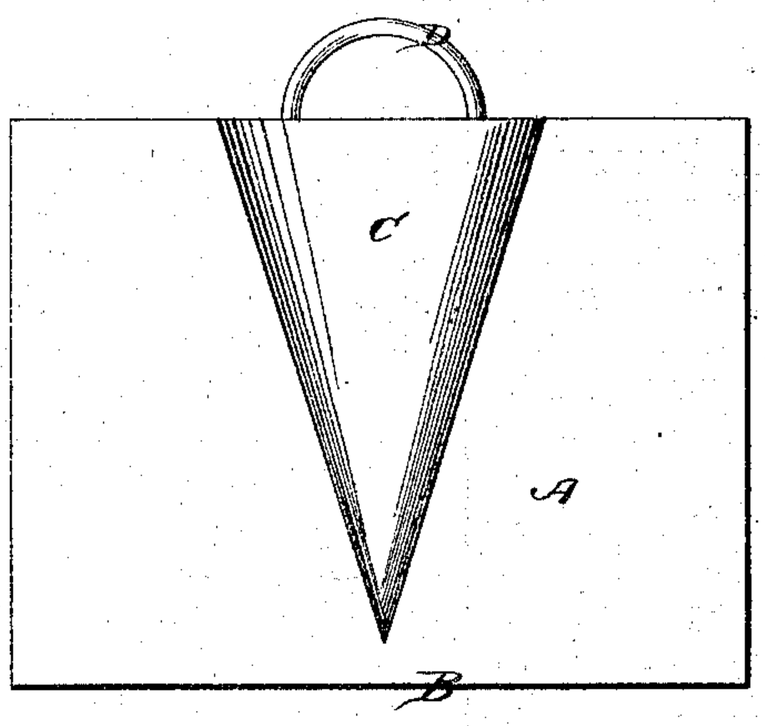


Fig. 2.

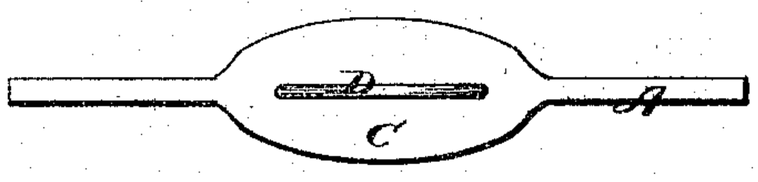


Fig. 3.

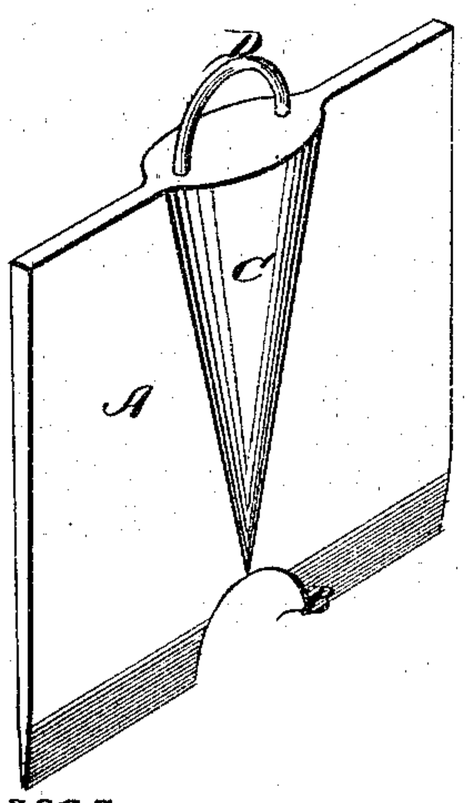
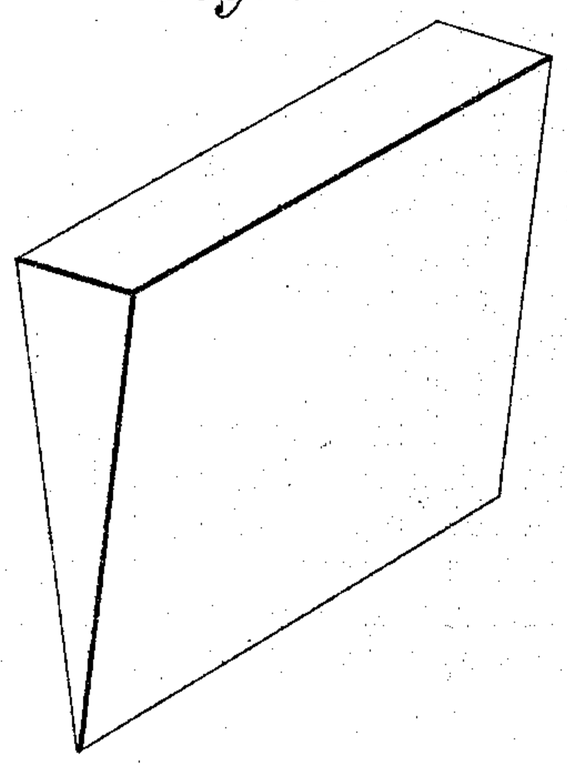


Fig. 4.



Witnesses.

C. F. Brown.

De. R. Ellsworth.

Inventor.

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By His Attys

Hill & Ellsworth

127,351

UNITED STATES PATENT OFFICE.

JOHN M. KILLIN, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MOLDERS' GATES OR SPRUES.

Specification forming part of Letters Patent No. 127,351, dated May 28, 1872.

To all whom it may concern:

Be it known that I, JOHN M. KILLIN, of Pittsburg, of the county of Allegheny and State of Pennsylvania, have invented a new and Improved Molders' Gate or Sprue; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation of my improved sprue. Fig. 2 is a top-plan view of the same. Fig. 3 is a perspective view of a modified form of the sprue, and Fig. 4 is a perspective view of a sprue as ordinarily constructed.

Similar letters of reference in the accompanying drawing denote the same parts.

My invention has for its object to improve the construction of molders' "flat gates" or "sprues," by which "sprue-holes" are formed in the cope, through which the molten metal is poured into the molds for casting thin plates, hollow ware, &c. From one to six of these gates are used by the molder on one piece of casting, and it is quite customary for the number used to exceed in weight the casting produced. When the metal is poured and the mold full it rises in the sprues, frequently filling them completely, though generally from one-half to three-quarters full.

The usual construction of the flat gates is in the form of a wedge, as shown in Fig. 4 of the drawing. With this form, however, considerable difficulty is encountered in pouring the metal evenly, or so that it shall enter the mold the entire width of the sprue, or, in other words, along its entire foot.

To overcome this difficulty my invention consists in constructing the flat gate with an enlarged center in the form of a flattened cone inverted. By this construction the largest bulk of the molten metal is at the center of the sprue, and its weight forces the remainder outward toward the ends, so that it shall enter the mold evenly and throughout the entire foot of the sprue. The inverted conical opening formed by the gate being kept full of the molten metal in pouring, the slag which sometimes escapes from the ladle will float in the upper part of such enlarged opening, and but a small amount of metal will be left in the sprue after the pouring process has been completed. By my improved construction, therefore, I am enabled to save at least fifty per cent. of the waste due to the use of the wedge-shaped gate.

In the accompanying drawing the gate is shown composed of a thin plate or board, A, having a sharpened foot, B; and C is the inverted conical center-piece, with its apex terminating at or near the foot, as shown. D is the handle let into the top of the gate, by which the latter is removed from the mold or transported from place to place.

In Fig. 3 I have shown a modification of the gate, which consists in forming a recess in the foot immediately beneath the apex of the cone. This I designate as a "forked flat gate."

Other modifications may be constructed to suit the varying forms of the castings to be made without departing from the principle of my invention.

Having thus described my invention, what I claim is—

1. A molders' "flat gate" or "sprue," consisting of a thin plate or board, A, having an enlarged center, C, substantially as described, for the purposes specified.

2. In combination with the gate or sprue, A C, I claim the handle D, substantially as described, for the purpose specified.

JOHN M. KILLIN.

Witnesses:

ROBT. S. FRAZER,
WM. T. DUNN.