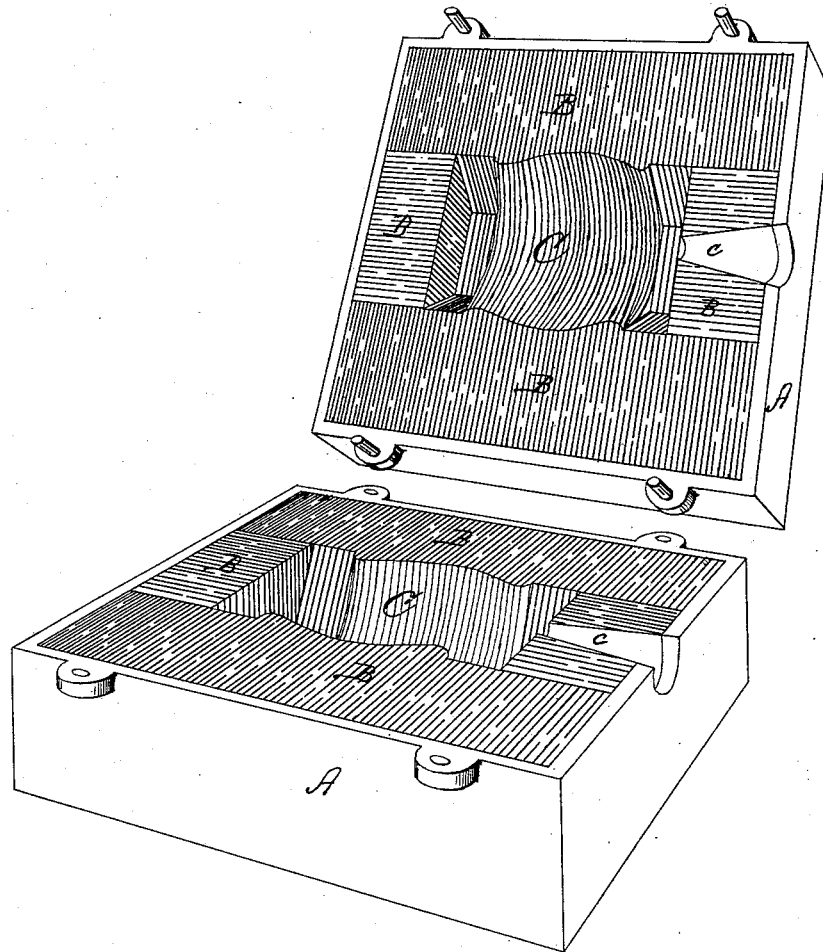


(No Model.)

R. W. TRAYLOR.
MOLD FOR CASTING.

No. 304,976.

Patented Sept. 9, 1884.



Witnesses:

C. V. Meredith.

J. P. Cooke.

Inventor:

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UNITED STATES PATENT OFFICE.

ROBERT W. TRAYLOR, OF RICHMOND, VIRGINIA.

MOLD FOR CASTING.

SPECIFICATION forming part of Letters Patent No. 304,976, dated September 9, 1884.

Application filed January 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. TRAYLOR, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Molds for Casting, of which the following is a specification.

This invention relates to molds for castings, and has for its object the construction of a mold of such nature that it will not require to be renewed or remade each time a casting is made, and will at the same time produce castings free from grit and sand, and in a neater and smoother condition, thereby effecting a saving of time, labor, and the wear of tools now required for finishing.

My invention consists of a mold the whole or a part of whose matrix-cavity or molding-surface is composed of mica.

To a full understanding of my invention reference should be had to the accompanying drawings, wherein I have illustrated the two halves of my improved mold in perspective, the mold being shown as opened to expose the molding-surface.

Corresponding parts are designated by the same reference-letters.

The letter A refers to a casing or frame of any suitable size or form. This frame may be the ordinary well-known molder's flask, or it may be specially constructed as to form, dimensions, and strength. The frame or frames A are filled with sheets or pieces of mica, B, compressed face to face against each other, and preferably placed upright on their edges and at right angles to the sides of the frames. The sheets of mica B should be so tightly compressed as to prevent molten metal from running between the sheets, and to permit of the body of the mica to be cut or dressed to the desired configuration to form the matrix or molding-surface. Under suitable compression the exposed edges of the sheets or pieces of mica are capable of receiving a polish that results in rendering the surface of the metal cast in such a mold so smooth as to require no dressing to prepare it for use, and at the same time the gases arising from the metal while in a molten state readily escape through the interstices between the sheets. A cavity, C, of suitable form, is cut into the body of the mica

in one or both of the halves of the flask, and the edges of the sheets around the cavity are cut or trimmed down flush with the edges of the flasks or frames to cause the two masses of mica to make a close joint.

In making castings requiring a matrix-cavity in each of the halves of the mold, I form a half gate-hole at the top of each frame or flask, and form a groove, c, extending from the matrix-cavities C to the gate-hole, to permit of the pouring of metal into the matrix-cavity; but in casting metal ornaments having a plane surface upon one side I contemplate using a half-mold of mica to form the exposed face of the cast ornament and a half-mold of sand or other material for the plane surface of such ornament. In this instance the gate-hole could be formed in the sand half of the mold.

I wish it understood that I do not confine myself to forming the matrix-cavity after the mica has been compressed in the frames, for when the shape of the castings desired is not much varied in its lines, angles, and curves the sheets or pieces of mica may be cut into the needed shapes before they are so compressed. Nor do I confine myself to sheets or pieces of mica placed at right angles to the sides of the frame, for they may be arranged parallel with said sides; or, as shown in the drawings, some of the sheets may be arranged parallel with the sides of the frame and others parallel with the ends thereof; or they may be arranged diagonally with respect to said sides and ends. Nor do I confine myself to the exact form of mold illustrated in the accompanying drawings, as the advantage derived from forming the whole or a part of the molding-surface of mica is specially applicable to ingot-molds, and I regard such molds so constructed as within the scope of my invention.

I have represented in the drawings a mold shaped to cast the shell of a globe-valve, the mold being made in two halves, each having a suitably-shaped cavity; but it is obvious that in some instances one half of the mold will require to be made with a cavity and the other half with a projection, as in casting a concavo-convex body.

Although I have throughout this specification referred to the molds as being formed of

sheets or pieces of mica compressed to form a solid body, it is apparent that a solid block of mica may be used instead.

I am aware that it has heretofore been proposed to line a mold with micaceous rock; but this I do not claim.

It will be seen that by my invention I provide a mold that is, so far as the operation of casting is concerned, practically indestructible, and that the mold may be used repeatedly without any renewal or reworking of the surface which gives configuration to the casting.

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

1. A mold for casting metals, having the whole or part of its matrix-cavity or molding-surface composed of mica, substantially as described.

2. A mold for casting metals, having its matrix-cavity or molding-surface composed wholly or in part of compressed sheets or pieces of mica, substantially as specified.

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

ROBERT W. TRAYLOR.

Witnesses:

C. V. MEREDITH,
J. P. COCKE.