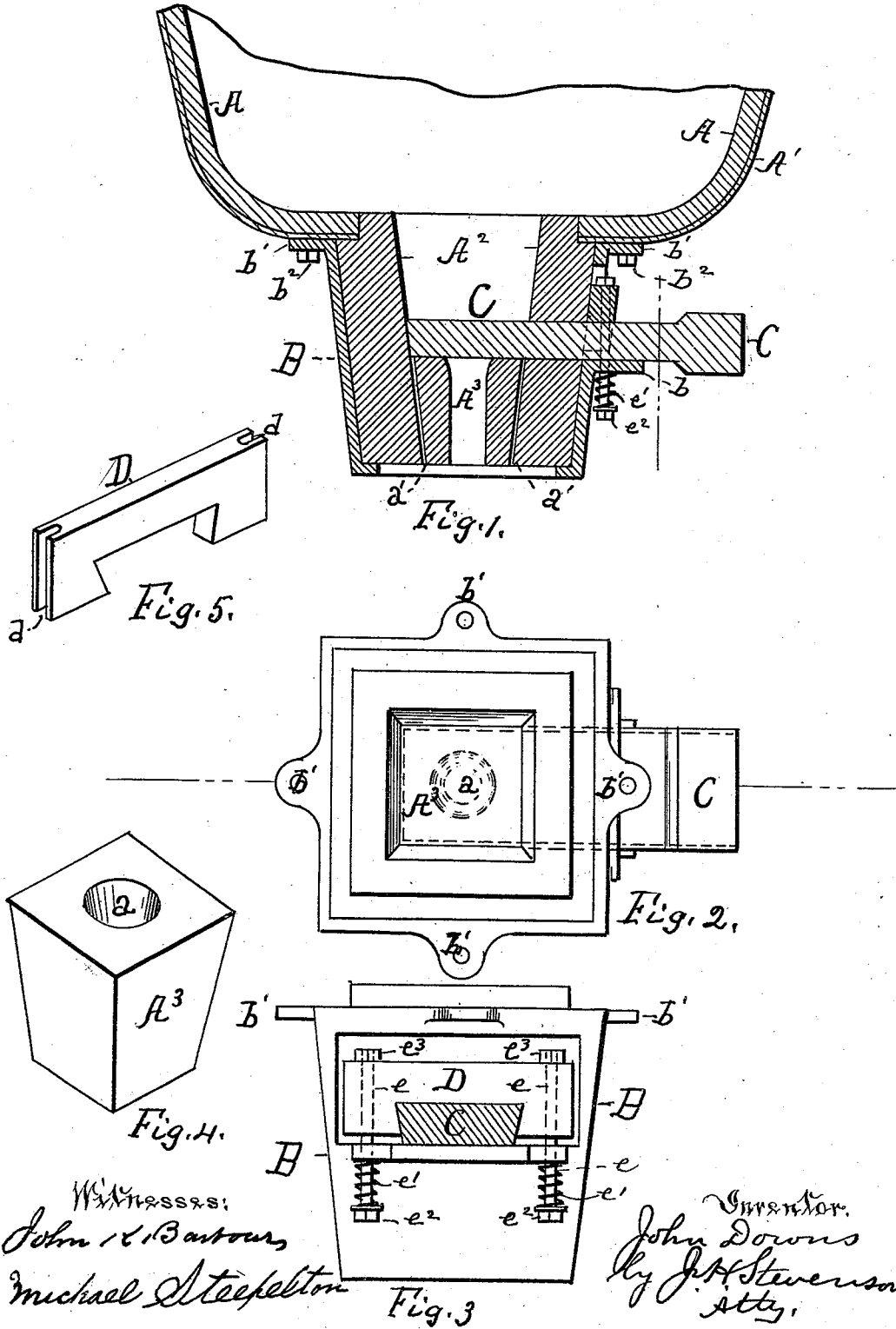


(No Model.)

J. DOWNS.
DEVICE FOR POURING METALS.

No. 510,062.

Patented Dec. 5, 1893.



Witnesses:
John C. Barbour,
Michael Steepelton

Inventor.
John Downs
By *J. H. Stevenson*
Atty.

UNITED STATES PATENT OFFICE.

JOHN DOWNS, OF JOHNSTOWN, PENNSYLVANIA.

DEVICE FOR POURING METAL.

SPECIFICATION forming part of Letters Patent No. 510,062, dated December 5, 1893.

Application filed May 27, 1893. Serial No. 475,691. (No model.)

To all whom it may concern:

Be it known that I, JOHN DOWNS, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Pouring Metals; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is a device for pouring iron, steel or other metals in a fluid state.

In the accompanying drawings Figure 1 is a sectional view of my metal pouring device. Fig. 2 is a top view of the same. Fig. 3 is a front view. Fig. 4 is a perspective view of a plug used in my metal pouring device, and Fig. 5 is a perspective view of a stopper used on the valve.

In the drawings A represents a melting vessel, to the bottom of which my pouring device is affixed by proper bolts.

A' is the metal casing of the vessel A.

A² is an inside lining of suitable refractory material arranged so as to form an opening in the center through which the metal will flow, plainly seen in Fig. 1. At the bottom of this opening I put a hollow plug made to fit tightly when in position as seen in said last named figure. This orifice is made tapering from the top to the bottom, so that the plug A³ will fit tightly therein, it being also made tapering. This plug A³ will also be made of good refractory material, capable of resisting as high a degree of heat as the metals are subjected to. This plug A³ has an opening down through the center for the flow of the metal fluid. In order to make the space above this plug perfectly tight I put a suitable plastic substance around the plug A³ see a' in Fig. 1 where this plastic substance is represented. This forms a tight joint around the plug and holds the metals in the space above the plug A³ and valve C.

B B is the metal casing or frame work around the lining A². This frame work or casing has lugs b' b' with bolt holes for the purpose of securing the frame to the vessel A. b² b² are bolts to secure this frame B to the vessel A.

C is a plug or valve to control the flow of the metal. This valve or plug is made of good refractory material capable of resisting the highest possible degree of heat usually attained in melting such metals as iron, steel, &c. It is made flat and is so constructed as to slide over the top of the plug A³ and form a tight joint over the orifice a in said plug.

The bolts ee, pass through the projection b of the frame work B. This projection also forms a rest for the valve C.

e³, e³, represent the heads of the securing bolts; e², e², the nuts thereon, and e' e' the springs around said bolts to force the portion D down upon the valve and hold it from accidental movement.

In operation when the fluid is ready to be poured, the valve or plug C is drawn out by any suitable means. The block D will hold the fluid back in case the valve becomes diminished in size. An opening is made in the side of the frame B for this valve C.

It will be easy to repair this pouring device. To do this the frame B, will be unbolted from the vessel A, and when thus detached, the plug A³ may be knocked out and another put in its place, or the other parts may be repaired or replaced as occasion requires.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The combination of the filling vessel, the shell having a discharge opening and communicating with the vessel, the lining in the shell, the conical plug having an opening and arranged in the lining, the opening or passage in one side of the shell and lining above the conical plug, the valve arranged in said passage above said plug and controlling the opening of the plug, the block having a recess to receive the valve and having a kerf or groove in each end, and spring bolts passing through the said grooves or kerfs and the shell, and serving to press the block against the valve and prevent it from improper movement.

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

JOHN DOWNS.

Witnesses:

ENOCH JAMES,
PETER CARROLL.