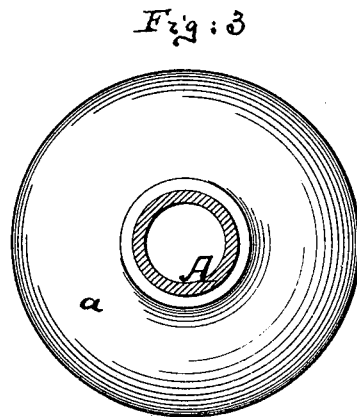
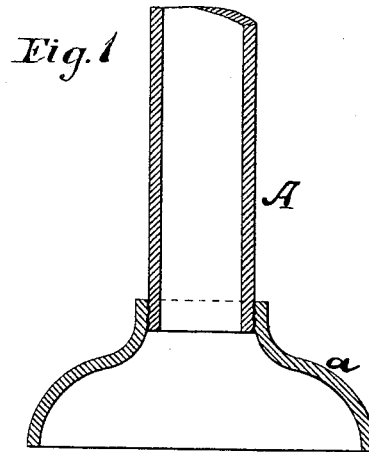
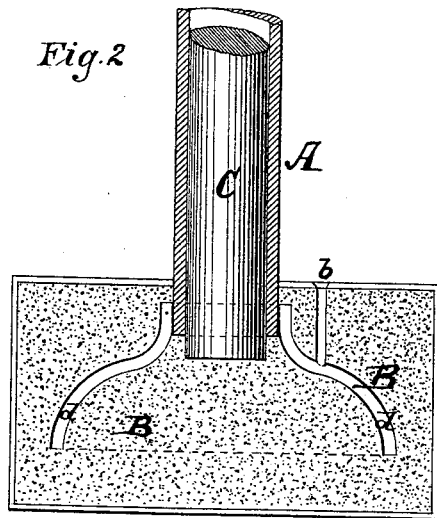


(No Model.)

S. E. THOMAS.
PROCESS OF CASTING.

No. 386,941.

Patented July 31, 1888.



WITNESSES:

John M. Speer.
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UNITED STATES PATENT OFFICE.

SAMUEL E. THOMAS, OF BROOKLYN, ASSIGNOR TO FRED. ADEE & CO., OF
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PROCESS OF CASTING.

SPECIFICATION forming part of Letters Patent No. 386,941, dated July 31, 1888.

Application filed May 16, 1887. Serial No. 238,322. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL E. THOMAS, of Brooklyn, Kings county, New York, have invented a new and Improved Process of Casting
5 Metal to Wrought-Lead Pipe, of which the following is a full, clear, and exact description.

The object of my invention is to provide means for uniting the end of a wrought-lead pipe to cast metal, so that there shall be no
10 leakage at the juncture.

The invention consists in first coating the end of the wrought-lead pipe where the casting is to be applied with tin, then inserting the
15 tinned end of the pipe in the mold, said pipe forming part of the wall of the mold, and in then casting the metal in the desired form against the end of the wrought-lead pipe, as hereinafter more fully set forth.

Reference is to be had to the accompanying
20 drawings, forming part of this specification, in which—

Figure 1 is a longitudinal central section of a wrought-lead pipe having a metal flange cast directly upon it. Fig. 2 is a longitudinal central
25 section of a wrought-lead pipe inserted at one end into a mold and provided with a core. Fig. 3 is a top view of the pipe and attached casting shown in Fig. 1.

In carrying out my invention, I take a
30 wrought-lead pipe, A, and dip the end to receive the casting into or cover it otherwise with molten tin. A portion of the tin adheres to the lead pipe and is allowed to chill thereon, forming a film of tin upon the pipe A. I next
35 place the tinned end of the pipe A into a mold, B, which has been prepared in the form of the article to be cast, so that the pipe A forms part of the wall of the mold-cavity *d*, Fig. 2. The metal to be cast is then run into the mold
40 through the ingate *b*, and fills the mold B and surrounds the end of the pipe A which is within the mold-cavity, and, by means of the tin on the pipe, quickly adheres to the pipe and unites therewith. By causing the cast
45 metal to unite with the wrought-lead pipe, as

above described, I form a joint which will not become separated under the action of the weather, or rust, or by wear, as is so often the case when parts are joined by soldering. Nor does my process affect injuriously the rest of
50 said lead pipe.

To insure that the part of the pipe A within the mold B shall not melt and become separated when the melted metal is poured into the mold B and against the pipe A, I insert a core,
55 C, of rigid iron, stone, or other suitable material, into the pipe A, Fig. 2, which core also allows the pipe, when cooling, to set in its original form.

In the drawings, the casting from the mold
60 B is shown in the form of a flange, *a*, on the pipe A, representing a portion of a water-closet discharge-pipe; but the article to be cast to the wrought-lead pipe A may be of any desired form; also, any desired form of mold may be
65 used.

I prefer to use lead for the casting, although other metals may be used, if desired.

This process of uniting wrought-lead pipe to cast metal is applicable to casting flanges on
70 water-closet pipes and in many other instances.

I have made application for a wrought-lead pipe having a cast-metal projection, as herein described, which application was filed Janu-
75 ary 18, 1888, Serial No. 261,106.

Having now described my invention, what I claim is—

The process herein shown and described of uniting the end of a wrought-lead pipe to cast metal, which process consists in first dipping
80 the end of the lead pipe into molten tin and in then inserting the tinned end of the pipe in the mold in which the casting is to be made, the said pipe forming part of the wall of the mold-cavity, and in then casting the metal
85 against the end of the lead pipe, as set forth.

S. E. THOMAS.

Witnesses:

HARRY M. TURK,

CHARLES G. M. THOMAS.