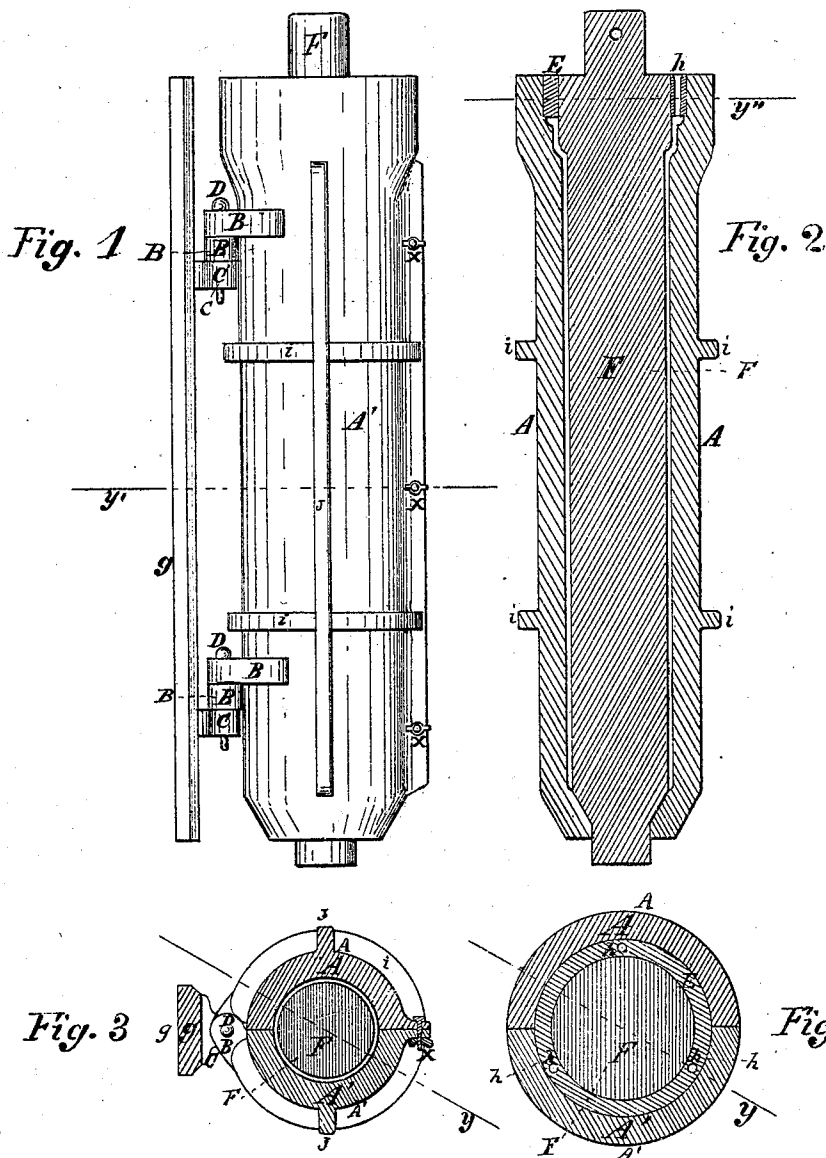


Anthony T. Brodie
Robert R. Smith
John T. Tyler's
Metallic Pipe Mould

No. 121,151.

Patented Nov. 21, 1871.



Witnesses
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN METHODS AND APPARATUS FOR CASTING PIPES.

Specification forming part of Letters Patent No. 121,151, dated November 21, 1871.

To all whom it may concern:

Be it known that we, ANTHONY T. BRODIE, ROBERT R. SMITH, and JOHN T. TYLER, all of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Metallic Mold for Castings; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of our invention consists in the method, hereinafter described, of casting pipe by means of a metallic mold made in two sections, and hinged together by lugs, and pivoted to lugs secured to the wall of the mold-pit through the medium of pintles; said molds being provided with a sand ring for the purpose of forming the pouring gate or gates.

To enable others skilled in the art to make and use our invention, we will proceed to describe more fully its construction and operation.

In the accompanying drawing, which forms part of our specification, Figure 1 is a side elevation of our improvement in metallic molds for a pipe. Fig. 2 is a longitudinal and vertical section of the same at line *y* of Figs. 3 and 4. Fig. 3 is a transverse section of the same at line *y'* of Fig. 1. Fig. 4 is a transverse section of the same at line *y''* of Fig. 2.

In the accompanying drawing, A and A' represent the two sections of the mold, each section being provided with lugs B, which, combined with the pintles D, form hinges for the mold. The sections A and A' are strengthened by flanges *i* and ribs J. The sections A and A' are constructed of cast-iron and fitted closely together. The interior of the sections which form the exterior of the desired pipe casting, is dressed so as to form a smooth surface. Having the two sections A and A' properly fitted together and their inner surfaces made smooth, the two sections are then suspended by placing the lugs B upon the lug C, which are secured to the wall *g* of the mold-pit, and the placing in the openings in the lugs B and C the pintles D. This will properly hinge the two sections A and A' together and pivot the mold to the wall *g* of the mold-pit *g*, representing only a section of the

wall. The walls of a mold-pit form a section of circle, and the molds for pipes are usually set in a row and held close to the wall by being set between rods or bars projecting from the wall. The pipe-molds are arranged in a circular row for convenience in casting, this arrangement of the mold being well adapted to the movements of the crane in manipulating the shank or bull-ladle commonly used for casting pipe. The interior of the two sections of the mold are coated with a pasty matter composed of black lead and water, the coating being very thin and carefully dried; the sections A and A' of the mold are then clamped together by means of bolts X or other suitable device, and the core F is then lowered into the mold and properly adjusted. A sand ring, E, provided with openings *h*, which openings serve the purpose of pouring gates, is then placed over the upper end of the core F so as to fill up the space between the core and mold and form the end portion of the mold for the bowl of the pipe, as clearly shown in Figs. 2 and 4. The core F should be the same in construction as that for which Brodie & Smith obtained Letters Patent, January 24, 1871. The mold may be formed of loam sand and dried, or it may be formed of sharp sand and flour prepared in the same manner as that used for making cores. The sand ring should always be thoroughly dried before being placed in the mold. The mold at the time the molten metal is poured into it should be heated to about 400° Fahrenheit.

Having thus described the nature, construction, and operation of our improvement, what we claim as of our invention is—

The method of casting pipe by means of a metallic mold made in two sections, which are hinged together by lugs B, pivoted and secured to the walls of the mold-pit through the medium of lugs C and pintle D, and combining with said sections and a metallic core a sand ring, E, for the purpose of forming a pouring gate or gates, substantially as hereinbefore described.

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