J. Kinniburgh,

Casting Pipes,

No. 34,719, Patented Mar. 18, 1862.

Fig: 2.

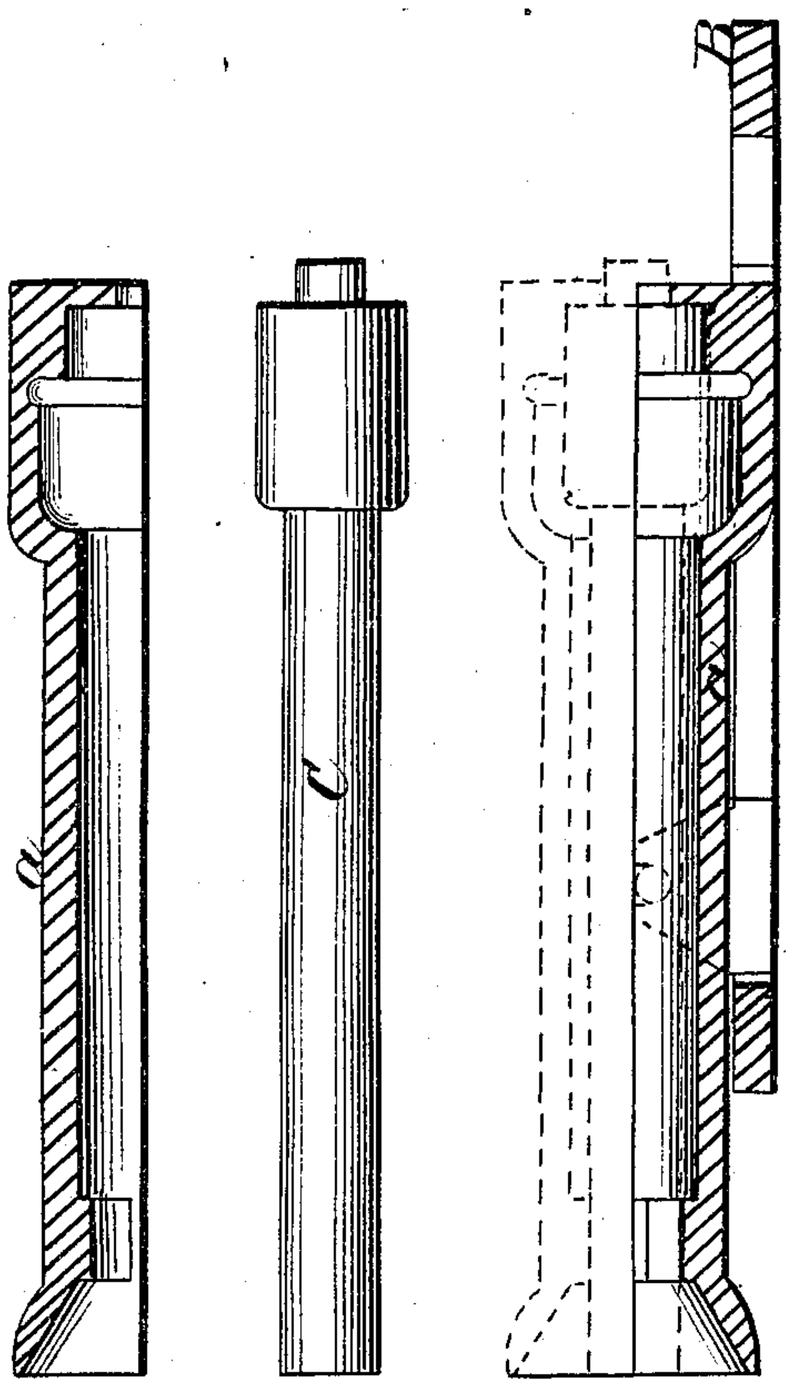


Fig: 3.

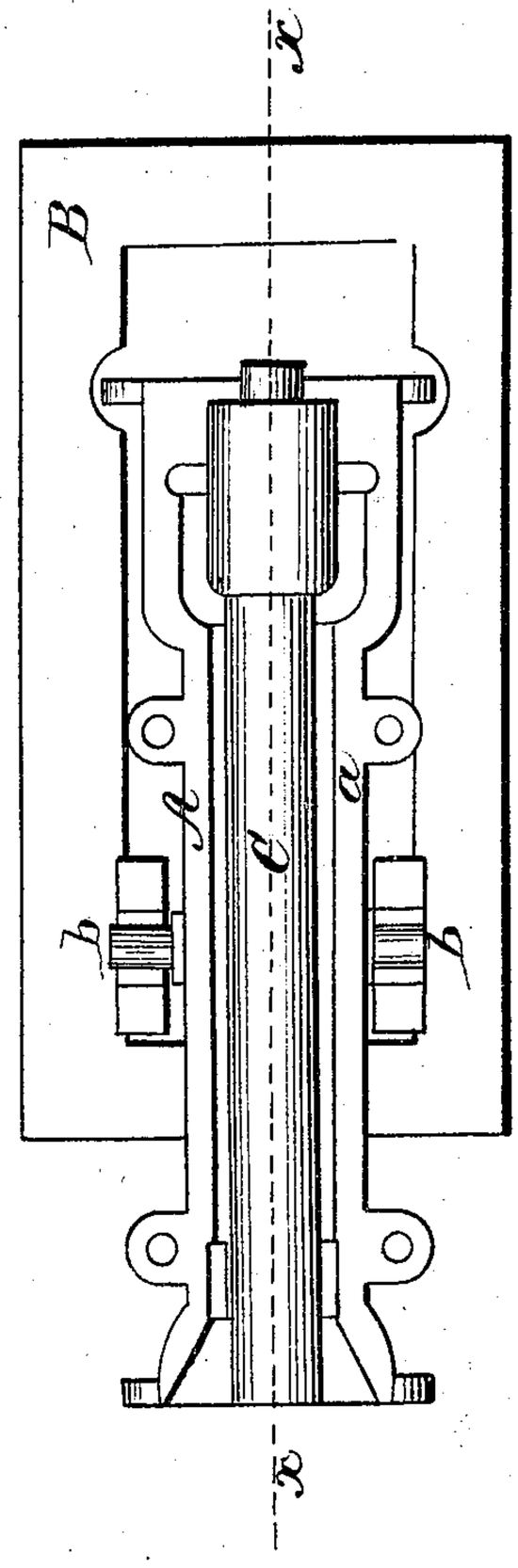
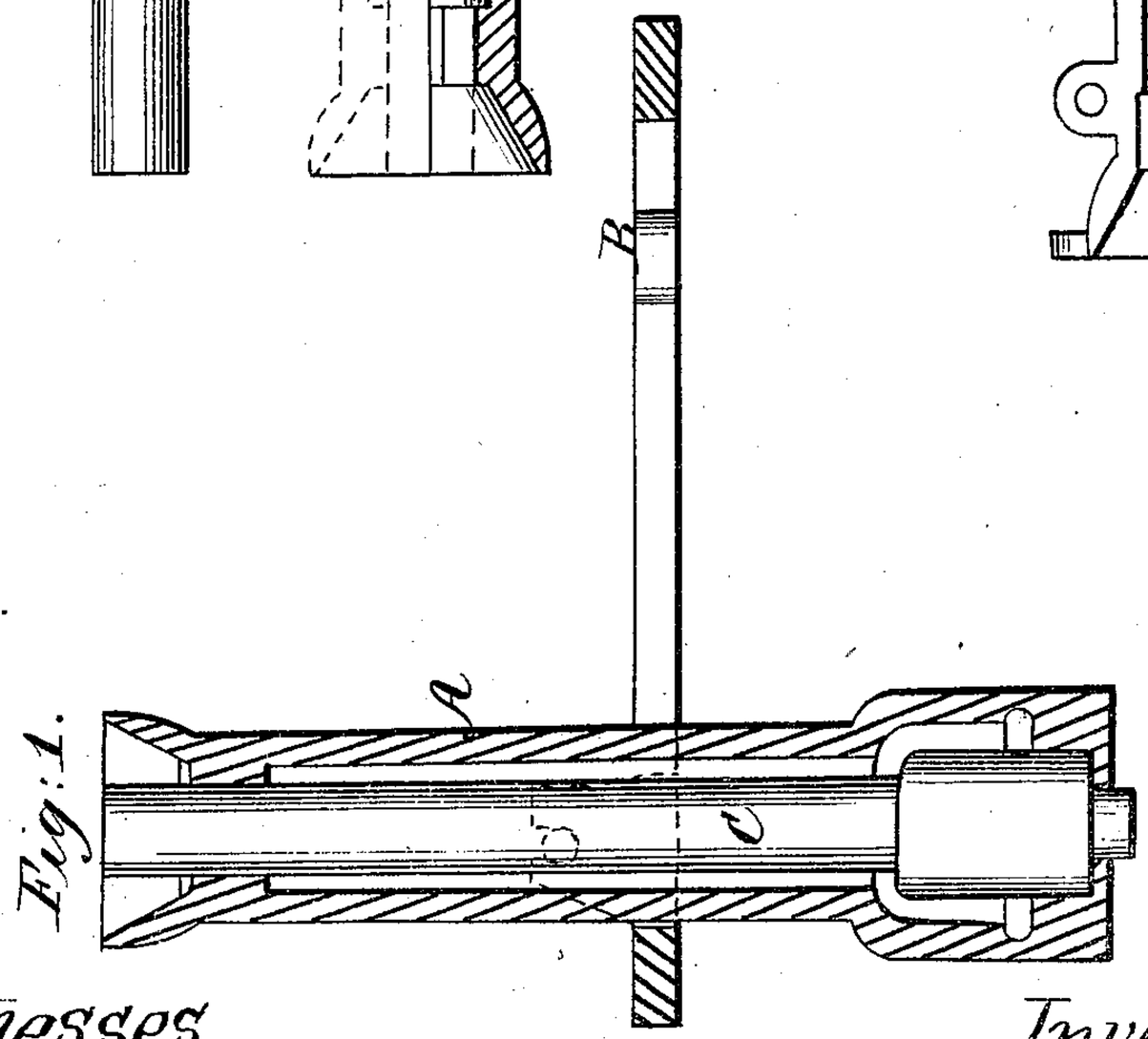


Fig: 1.



Witnesses.
J. W. Coombs
Geo. W. Reed

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John Kinniburgh
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UNITED STATES PATENT OFFICE.

JOHN KINNIBURGH, OF NEAR MOTHERWELL, SCOTLAND, ASSIGNOR TO WILLIAM KINNIBURGH, OF NEWARK, NEW JERSEY.

IMPROVED WASH OR COATING FOR METALLIC MOLDS.

Specification forming part of Letters Patent No. **34,719**, dated March 18, 1862.

To all whom it may concern:

Be it known that I, JOHN KINNIBURGH, of Schott's Iron-Works, near Motherwell, Lanarkshire, Scotland, have invented a new and useful Improvement in Casting Iron Pipes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section of a mold, shown in a vertical position ready to receive the melted metal. Fig. 2 is a longitudinal section of the same in a horizontal position with the parts detached. Fig. 3 is a plan or top view of the same, the upper part being removed.

Similar letters of reference indicate corresponding parts in the three figures.

The object of this invention is to cast pipes, such as are generally used for gas and water-pipes, without a chill, or, in other words, to cast the pipes so that they will not be brittle or hard, as when cast in the ordinary way. To this end I use a metallic mold in connection with a certain "wash" or composition hereinafter described, whereby the mold may be heated to receive the melted metal, and the latter, when cool, readily taken from the mold, the pipe not adhering to it.

To enable those skilled in the art to fully understand and practice my invention, I will proceed to describe it.

A represents a metallic mold of cast-iron, and formed of two equal longitudinal parts, *a a*, one of which is provided with trunions *b b*, whereby the mold may be suspended on a cast-iron carriage, B. The mold A of course is cast from a suitable wooden pattern. C represents a core which is constructed of sand, as usual, and to fit the mold A. The carriage B is to facilitate the moving of the mold to and from the casting-pit.

Previous to casting or filling the mold with melted metal I coat its interior while slightly warm with the following composition: pitch or coal-tar, one part; barm or yeast, one part. These substances are well mixed or incorporated together, and then blacking—such as pulverized charcoal or black-lead—which are generally used by foundrymen—is mixed with the tar and yeast until a mixture is produced that will flow readily in the brush by which it is applied to the mold. After this composition is applied, the mold is placed in a stove or oven and heated to such a degree that the hand of the operator cannot be borne upon it. The mold is then placed on its carriage B, the core C adjusted in it, and the mold conveyed to the pit, and then turned so as to assume a vertical position, as shown in Fig. 1. The melted metal is then quickly poured into the mold and the desired casting produced.

The heating of the mold previous to casting prevents the pipe being suddenly chilled, and the application of the composition above described prevents the pipe adhering to the mold—a contingency which would infallibly occur were the metallic mold A filled while in a cold state.

I do not claim broadly or in the abstract the employment or use of a metallic mold for casting; but

I do claim as new and desire to secure by Letters Patent—

The employment, for the purpose specified, of a metallic mold, when used in connection with the wash composed of pitch or coal-tar, barm or yeast, and charcoal or black-lead, as herein described.

JOHN KINNIBURGH.

Witnesses:

WILLIAM MACQUEEN,

ALEXANDER HADDO DICK.