(No Model.)

C. WITTENSTRÖM.

METAL MOLD FOR CASTING.

No. 317,064. Patented May 5, 1885.

Fig 1.

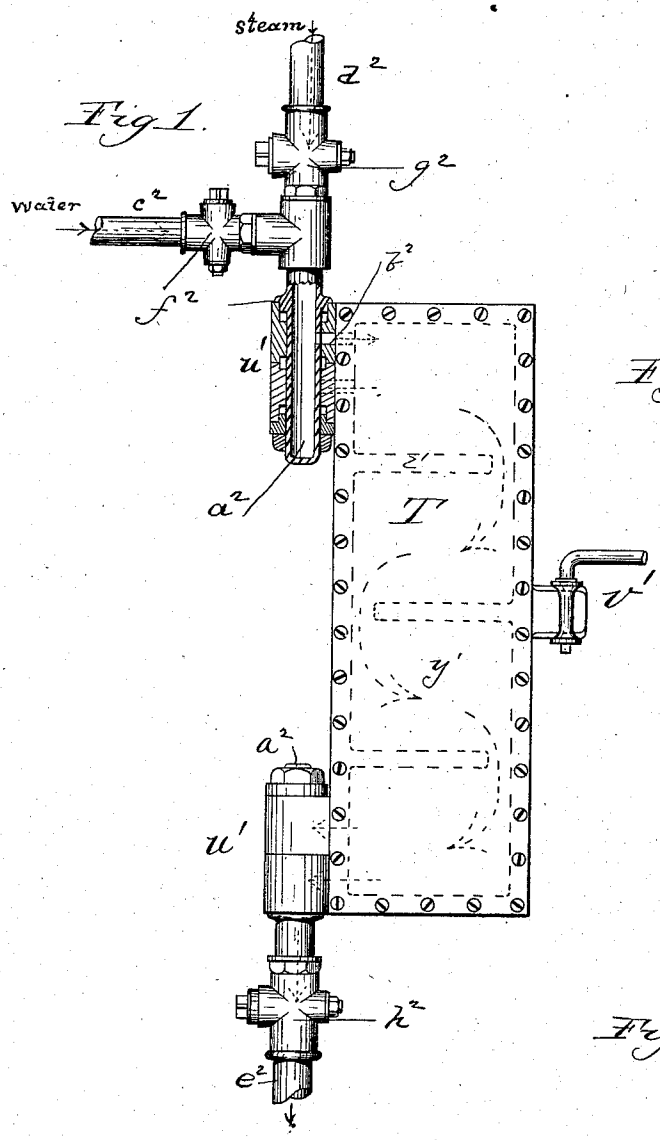


Fig 2.

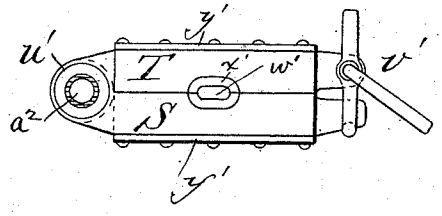


Fig 3.

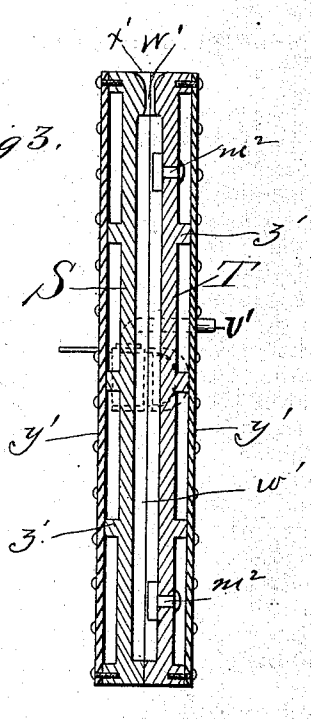
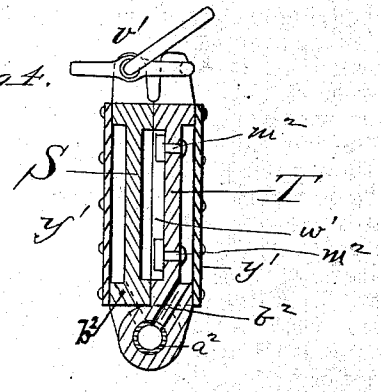


Fig 4.



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UNITED STATES PATENT OFFICE.

CARL WITTENSTRÖM, OF STOCKHOLM, SWEDEN.

METAL MOLD FOR CASTINGS.

SPECIFICATION forming part of Letters Patent No. 317,064, dated May 5, 1885.

Application filed April 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, CARL WITTENSTRÖM, engineer, a subject of the King of Sweden, residing in Stockholm, in the Kingdom of Sweden, have invented a new and useful Improvement in Metal Molds for Castings, of which the following is a specification.

When castings are to be made in molds of metal, the molds should be so constructed as to allow the castings to be easily and speedily taken out of them, and provision should be made for heating or cooling the molds, when required, so as to permit casting in the same mold to be repeated in quick succession; and to this end my invention consists in providing the molds with double walls and hollow hinge-bolts, so that steam or hot air may be admitted through said hollow hinge-bolts into the space between said walls to heat the mold preparatory to casting, and cold water afterward, while the casting is going on, to keep the mold cool.

In the drawings, Figure 1 represents a mold embodying my invention in elevation, the upper hinge in section. Fig. 2 is a plan. Fig. 3 shows a longitudinal section, and Fig. 4 a cross-section above the lock. These figures show the arrangement common to all such molds, but the shape and size vary according to the shape and size of the castings.

These molds consist of two halves, S T, of cast-iron or soft steel, united with the hinges u' u', and one or more locks, v'. w' is the open space in which the metal is poured, and x' the gate. To form the double walls, each mold-half is cast with flanges round about, to which the plates y' y' are bolted. There are also some transverse ribs, z' z', to make the water or steam circulate. These ribs serve also to strengthen the mold. The water is led to the mold and away from it through the hollow bolts a^2 of the hinge-joints u', which bolts communicate with the passages b^2 in the mold-halves, and are provided with necessary flanges and stuffing-boxes. c^2 is the supply-pipe for the water, and d^2 for the steam. e^2 is the outlet. These pipes are provided with the necessary cocks, f^2 g^2 h^2, wherewith to turn off the water when the mold is to be heated by steam, and to regulate the cooling. The lock v', or the locks if it is necessary to use several, is similar to the lock described in my United States Patent No. 250,865, of December 13, 1881.

The more delicate parts in the molds, which parts may be worn out, are separately made and fixed to the mold for being replaced, as shown at m^2 in Figs. 3 and 4.

By means of lugs on the half of the mold without locks, the mold may be attached either to a casting-wagon, as are the smaller molds, or to some other suitable support during the casting process; but that half of the mold which carries the lock ought to be free, so that the mold may be easily opened after casting.

What I claim is—

1. The two-part mold having double walls and hinged together by hollow hinge-bolts, and passages communicating with said hollow hinge-bolts leading to the space between the double walls of the molds, whereby steam or cold water may be admitted to heat or cool the mold, substantially as specified.

2. The combination of the mold-parts S T, provided with double walls, with hinges u' uniting said parts, and hollow hinge-bolts a^2 communicating with passages leading into the space between said double walls, and steam and cold-water pipes connected to said hollow hinge-bolts and provided with suitable valves, substantially as specified.

CARL WITTENSTRÖM.

Witnesses:

ALBERT NILSSON,

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