

(No Model.)

J. WHITLEY.

MOLD FOR THE PRODUCTION OF METALLIC CASTINGS.

No. 359,483.

Patented Mar. 15, 1887.

Fig. 1

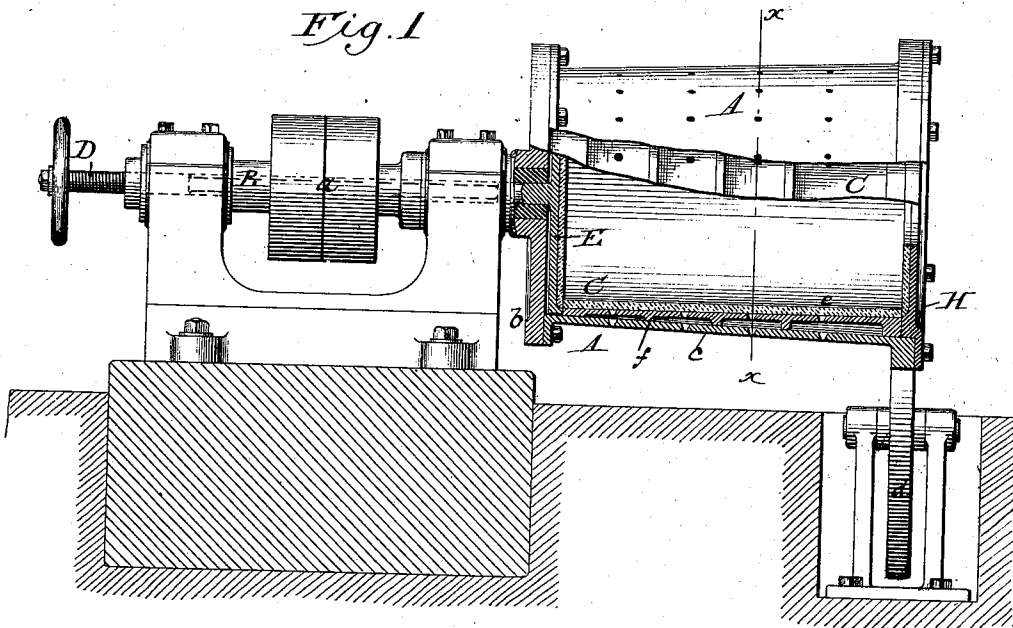


Fig. 2.

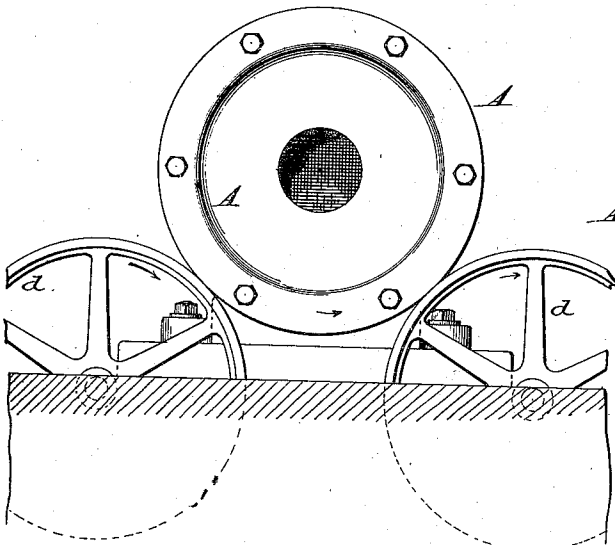


Fig. 3.
on line x-x

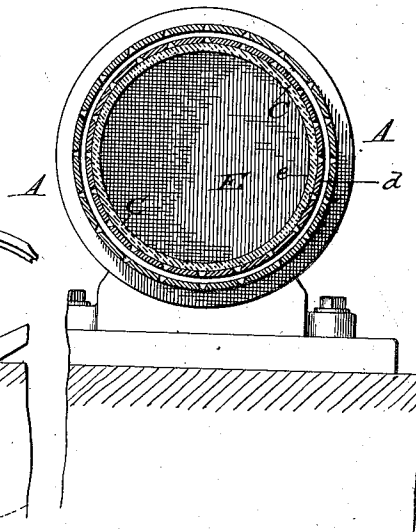
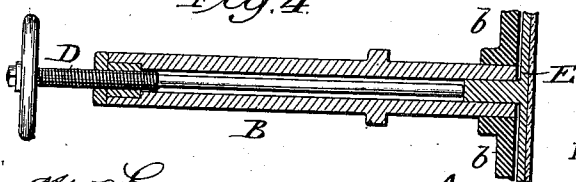


Fig. 4.



WITNESSES

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MOLD FOR THE PRODUCTION OF METALLIC CASTINGS.

SPECIFICATION forming part of Letters Patent No. 359,483, dated March 15, 1887.

Application filed February 28, 1885. Renewed October 18, 1886. Serial No. 216,586. (No model.) Patented in England November 5, 1884, No. 14,642, and in Germany December 6, 1884, No. 32,883.

To all whom it may concern:

Be it known that I, JOSEPH WHITLEY, of Leeds, in the county of York, England, have invented certain new and useful Improvements in Molds for Casting Cylindrical Forms in Metal, of which the following is a specification.

This invention relates especially to the means for casting metal in rotating molds set forth in applications for Letters Patent of the United States filed by me December 3, 1884, No. 149,472; January 19, 1885, No. 153,299, and on the 28th day of February, 1885, No. 157,406, and in Letters Patent of Great Britain granted to me in the year 1879, No. 3,742.

The objects of the present invention are, mainly, to admit of the casting being removed from the mold immediately after the solidification of the metal, and to admit of castings of different sizes and forms being produced in the same mold by the use of different linings therein. With these ends in view I construct a combined mold consisting of an outer cylindrical body supported in such manner that it may be rapidly revolved, and a lining or mold proper which is removable therefrom. The lining is usually cylindrical on the interior and conical or slightly tapered on the exterior, while the outer body is of corresponding internal form. This construction permits the ready removal of the lining and casting, leaving the body or outer portion of the mold ready to receive another lining and to be again used without loss of time. I propose to provide molds with spindles having interior screws operating loose end plates for the purpose of forcing the castings out of the mold. The conical shells I perforate and rib for the escape of gases.

In the accompanying drawings, Figure 1 represents an elevation of my improved apparatus, one-half of the mold being shown in side elevation while the remainder is in sections. Fig. 2 represents an end elevation of the apparatus. Fig. 3 is a vertical cross-section through the middle of the mold. Fig. 4 is a longitudinal central section showing the arrangement of the screw by which the lining is forced from the mold.

In the drawings, A represents the cylin-

drical body or outer portion of the mold attached at one end to a central supporting and driving shaft, B, which is mounted in fixed supports or bearings, and provided with driving-pulleys *a*. The body consists in the present instance of the end plate, *b*, the tubular shell *c* bolted thereto, and the end plate or ring, H, bolted in place. The outer or overhanging end of the body receives support from two wheels, *d*, upon which it bears, as shown.

The foregoing parts resemble in general construction and arrangement those represented in my prior applications, and are not in those claimed as part of the present application. The body portion of the present mold differs from those heretofore in use, in that it is made of conical or tapering form in the interior, its diameter increasing toward the head H.

C represents the lining or mold proper, the outer surface of which is made of conical or tapering form and adapted to fit closely within the outer shell or body. This lining consists, commonly, of a metal jacket, D, and the lining *e* of clay, sand, or other suitable refractory material, its inner surface corresponding precisely with the external form of the castings to be produced.

I prefer to construct the metallic jacket of the lining with external ribs, *f*, as shown in the drawings, in order to produce air-spaces between the exterior of the jacket and the interior of the body. I also prefer to provide the jacket D and the outside body with perforations *g*, to permit the circulation of air and the escape of the gases and vapors developed during the casting operation. The lining as a whole is inserted through the end of the body and screwed tightly in place by means of the end plate, H. To effect its removal after the completion of the casting operation and after the removal of the plate H, I employ at the inner end of the body a plate, E, which may be operated in any suitable manner, but which is preferably attached, as in Fig. 1, to a shaft or spindle in a central hole in the driving-shaft and acted upon at its outer end by a screw, *l*. By turning this screw the plate E is caused to force the lining endwise. In consequence of its tapered form a slight end mo-

tion is sufficient to loosen the lining, so that it may be readily withdrawn and replaced by another.

Having thus described my invention, what I claim is—

1. In a mold for casting metals, the combination of the outer rotary body and the internal lining or mold proper removable endwise therefrom, substantially as described and shown.
2. In a mold for casting metals, the combination of the removable lining having a tapered or conical exterior, and the external rotary body having its interior surface adapted to closely embrace the lining.

3. In combination with the external rotary body and the internal lining, the end plate and screw to effect the removal of the lining, substantially as described.

4. In combination with the rotary external body, the internal removable lining provided with ribs and perforations, substantially as described and shown.

JOSEPH WHITLEY.

Witnesses:

EDWARD WHITELEY,
JOSH. HY. WHITAKER.