

G. ATTERBURY.
 APPARATUS FOR MOLDING OR CASTING.
 APPLICATION FILED OCT. 8, 1909.

1,171,579.

Patented Feb. 15, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

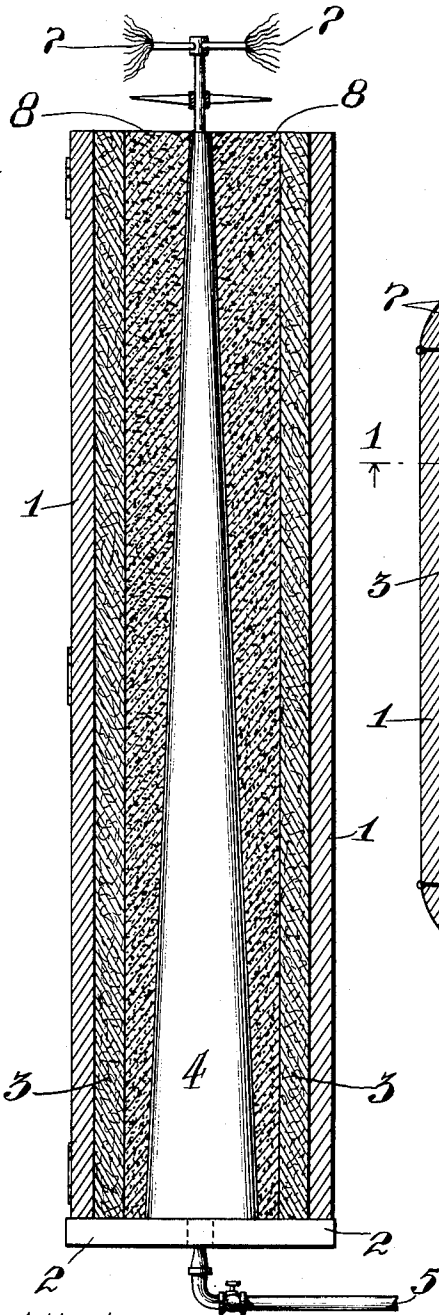


Fig. 2.

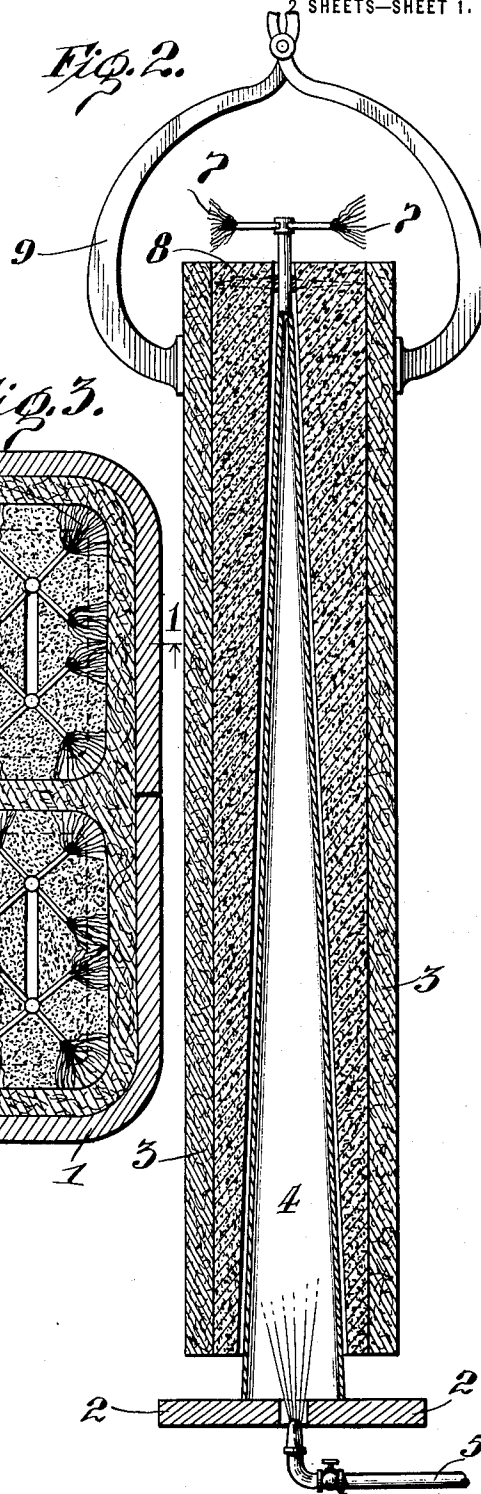
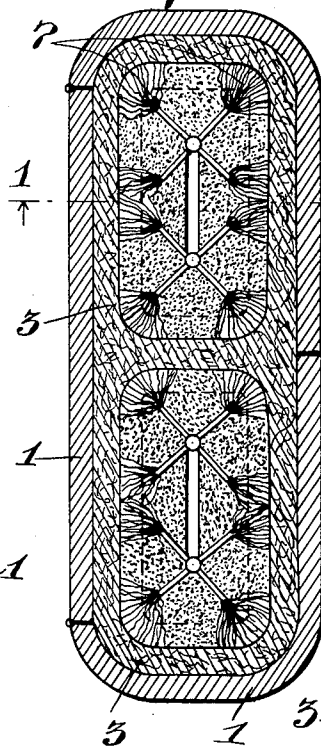


Fig. 3.



Attest:

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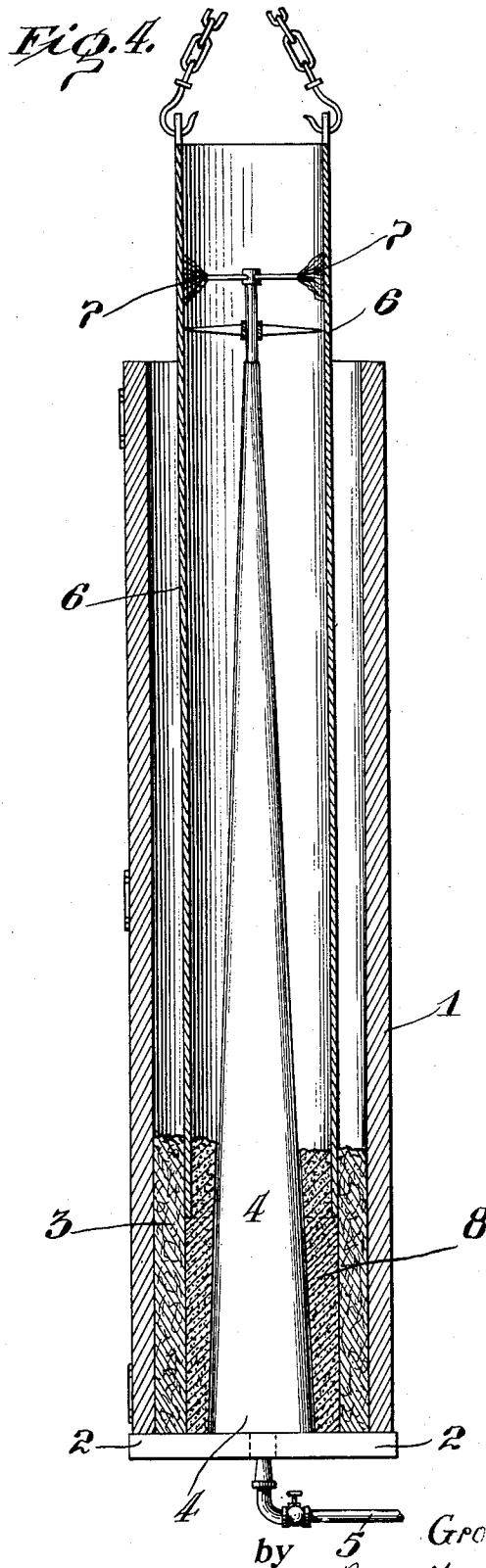
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2 SHEETS—SHEET 2.



Attest:
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UNITED STATES PATENT OFFICE.

GROSVENOR ATTERBURY, OF NEW YORK, N. Y.

APPARATUS FOR MOLDING OR CASTING.

1,171,579.

Specification of Letters Patent.

Patented Feb. 15, 1916.

Application filed October 8, 1909. Serial No. 521,664.

To all whom it may concern:

Be it known that I, GROSVENOR ATTERBURY, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Apparatus for Molding or Casting, of which the following is a clear and complete disclosure.

My invention relates to that class of molding apparatus in which a body or block is cast with interior holes or openings, or exterior grooves or both, which holes or openings are formed by means of suitable cores which are withdrawn while the material of which the block is cast is plastic, and their place taken by sand or other mobile non-cementitious material which maintains the plastic material in position after the withdrawal of the cores and until it solidifies.

This invention is an improvement on my apparatus set forth in my prior Patent No. 828,833, and my pending application Serial No. 433,539.

One object of this invention is to decrease the quantity of sand or mobile material required to form the core, by reducing it to a thin coating around a hollow core or cores.

Another object of my invention is to facilitate the removal of the sand by forming a conical void therein, and to provide a cleaning device forming a part of the mold and adapted to remove any remaining sand or mobile material from the interior of the block.

Still another object of my invention is to facilitate artificial heating and drying of the block.

Further features, advantages and benefits of my invention will be apparent from the following specification and the accompanying drawings forming a part thereof, in which—

Figure 1 is a vertical cross-section of my improved mold showing the block complete, and one of the hollow cores and attached cleaning devices in elevation. Fig. 2 is a vertical cross-section showing the block of Fig. 1 as it is being removed from the hollow cores. Fig. 3 is a plan view of the mold and block as shown in Fig. 1. Fig. 4 is a vertical section of the mold and shows the block partly formed.

Referring in detail to the drawings, 1 designates the casing of the mold which

may be of any usual and ordinary form. This casing rests on the base 2, on which the block 3 is formed. Inside the casing, and resting on the base 2, are rigid cores 4, preferably tapered or reduced in size at the upper end to facilitate withdrawal from the block. These cores are hollow, and heat may be supplied to their interior by means of pipe 5. For use in forming the block, removable hollow cores or partitions 6 are employed. One of these hollow cores is shown in Fig. 4 partly removed from the mold box. The tapered cores 4 bear at their upper end cleaning members 7, which are in the form of brushes or combs, or both, and so adapted in size and location that they will, when the block is removed from the tapered cores, brush and clean the interior openings of the block.

My improved mold is used in the following manner: The casing 1 is located on the base plate or bottom 2, and the tapered cores 4 are placed in position inside the casing and resting on the base-plate, or may be attached thereto. The removable cores 6 are placed in position one surrounding each of the tapered cores. Material in plastic state to form the block is then placed in the mold on the outside of the removable core, and sand or some mobile non-cementitious and non-solidifying material 8 is placed inside the removable core and surrounding the tapered core. The granular or non-solidifying material forms a surrounding coat for the tapered core, and when the removable core is withdrawn, maintains the shape and form of the block or casting. The removable cores 6 may be withdrawn gradually, and at the same rate that the non-cementitious and cementitious material are supplied to the mold, or the mold may be filled with one or both materials before the cores are withdrawn, but I prefer the former method. After the mold has been filled with non-cementitious and cementitious material, the block may be dried by the application of heat applied to the interior of the tapered cores through the pipe 5. The material 8 not only serves as a surrounding coat and addition to the tapered cores 4, and facilitates their withdrawal from the block, and serves to transmit and diffuse the heat applied to the interior of the cores 4, so as to make the drying of the block gradual and uniform, but may serve as a valuable absorbent and storage medium of surplus wa-

ter. After the block has set, the casing 1 is removed and the block is lifted from around the tapered cores by means of a pair of tongs or other suitable device 9. As the block is withdrawn the sand tends to fall by reason of the void formed by the cores, and the brushes or cleaners 7 pass through the openings in the block and remove any remaining sand or extraneous material that may tend to cling thereto. The block illustrated has two openings, but the number may be varied as desired. The plastic and solidifying material used in my improved mold may be made of any of the common cementitious or otherwise solidifying materials and may be placed in the mold in either a liquid, semi-liquid or plastic condition. In place of sand other materials may be used to form a surrounding coat for the tapered core, or sand may be mixed with water to make it flow more rapidly. The point to be observed in selecting materials for the core and block is that for the former the material must be mobile and of substantially the same specific gravity as the cementitious material.

While I have described one form of my improved mold, I am aware that modifications thereof may be made by those skilled in the art without departing from the spirit or scope of my invention, and I desire to secure protection for all such modifications as come within the scope of my claims.

What I claim is:

1. In a mold for casting cementitious blocks, a base, a removable casing on said base, a removable partition within said cas-

ing spaced therefrom, a tapered core within said partition and spaced therefrom, and means on said core to contact with the blocks when they are removed.

2. In a mold for casting cementitious blocks, a base, a removable casing on said base, a removable partition within said casing spaced therefrom, a tapered core within said partition and spaced therefrom, means on said core to contact with the blocks when they are removed, and means for applying heat to said core.

3. In a mold for casting cementitious blocks, a base, a removable casing on said base, a core within said casing and spaced therefrom, and a removable partition interposed between said core and casing, whereby cementitious material may be introduced between said partition and said casing, and a granular substance may be introduced between said partition and said core, and whereby on removal of the partition the granular substance contacts with the cementitious block.

4. In a mold for casting cementitious blocks, a base, a removable casing on said base, a removable partition within said casing spaced therefrom, a tapered core within said partition and spaced therefrom, and a plurality of brushes on said core to contact with the blocks when they are removed.

Signed this 6th day of October, 1909.

GROSVENOR ATTERBURY.

Witnesses:

JOSEPH P. MARSHALL,
ALBERT E. WILSON.