

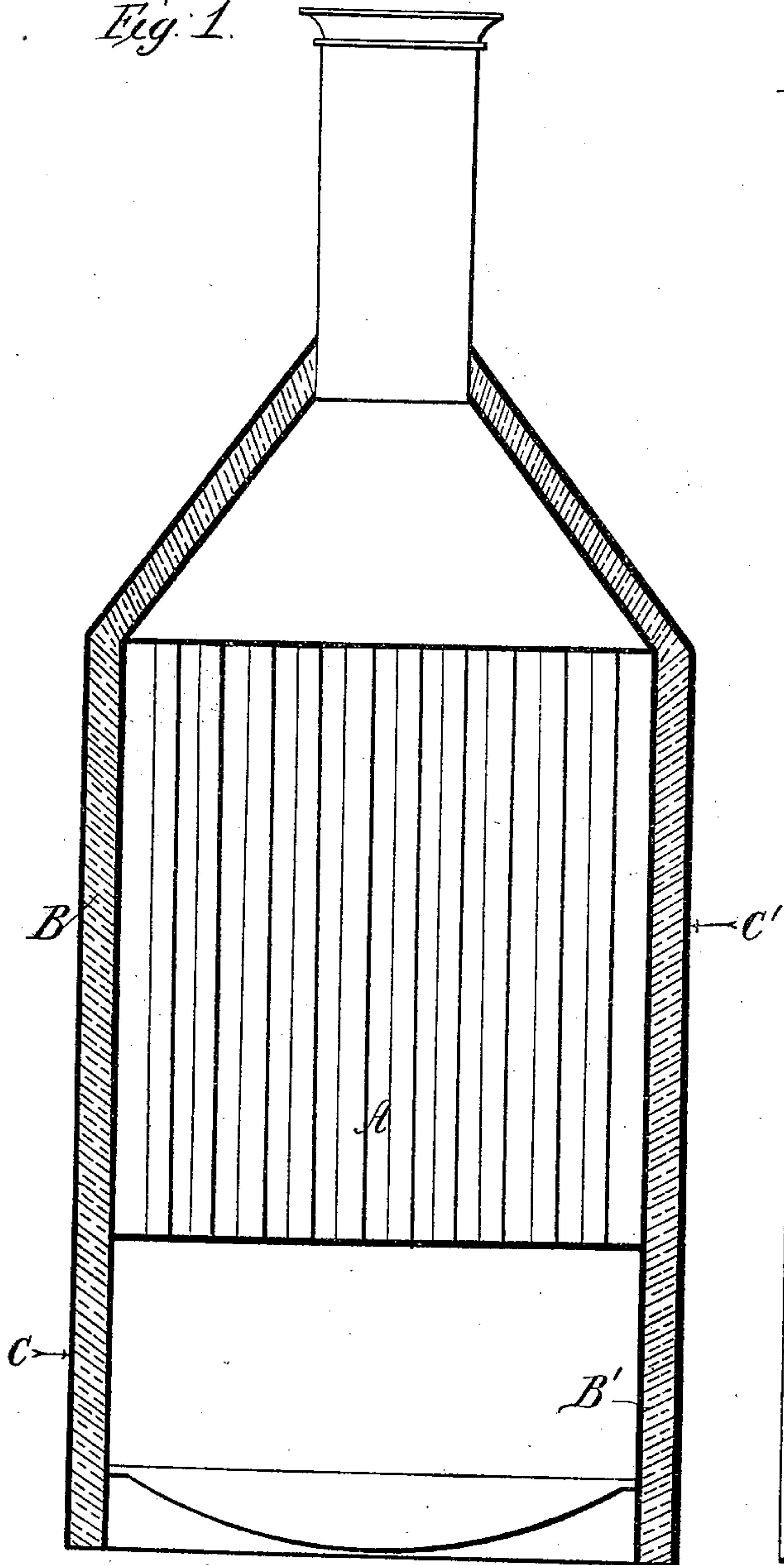
*C. M. O'Hara,*

*Steam Boiler Cover.*

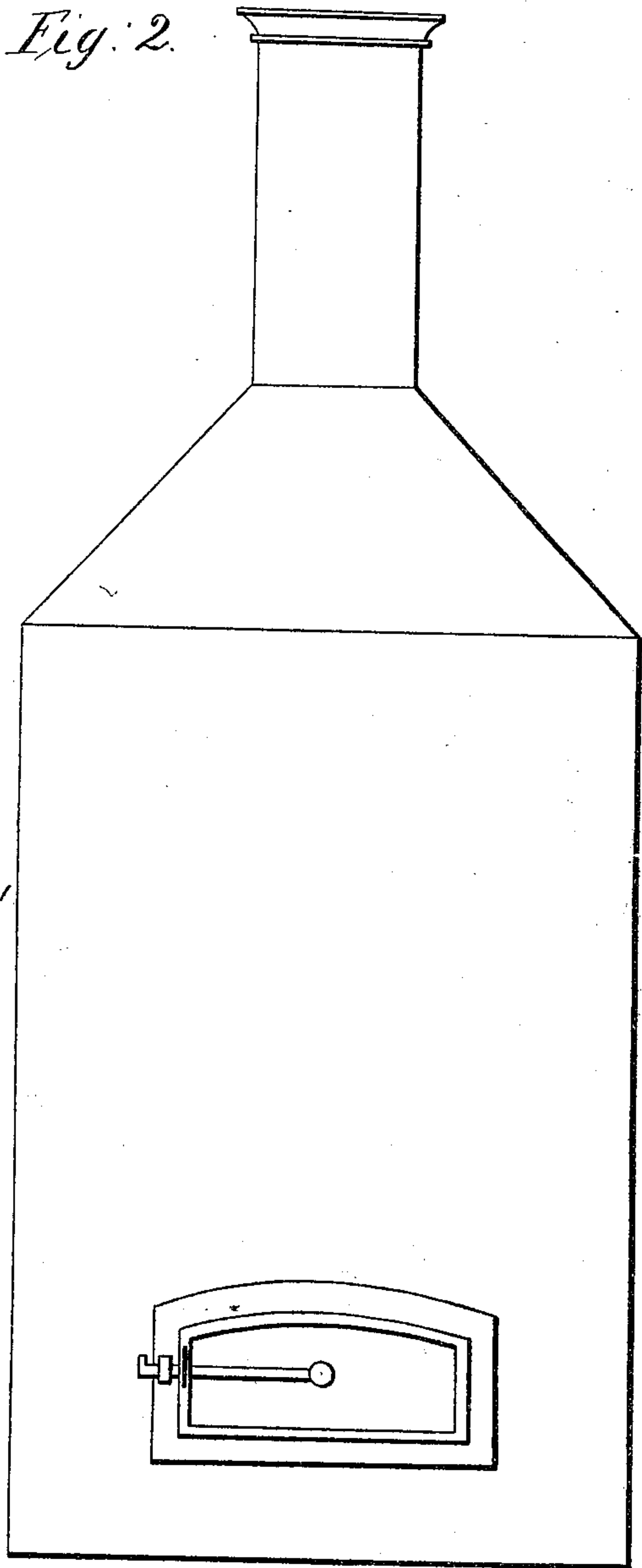
*No. 97,103.*

*Patented Nov. 23, 1869.*

*Fig. 1.*



*Fig. 2.*



*Witnesses;*  
*Walter O'Hara*  
*Wm. J. Mc Namara*

*Inventor;*  
*Charles M. O'Hara*

# UNITED STATES PATENT OFFICE.

CHARLES M. O'HARA, OF NEW YORK, N. Y.

## IMPROVED COVERING FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. 97,108, dated November 23, 1869.

*To all whom it may concern:*

Be it known that I, CHARLES M. O'HARA, of the city of New York, in the State of New York, have invented a new and Improved Method of Retaining Heat in Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The invention consists in the application of ashes, produced from coal, wood, or other vegetable matter, as a packing for the outside surfaces of steam-boilers, for the purpose of more effectually retaining heat therein.

The mode of effecting this object is by enveloping the surfaces aforesaid with a layer or stratum of ashes, of desirable thickness, either in a dry or plastic condition, and supporting and preserving the same closely and compactly in its place by means of a covering or jacket of wood, metal, or other suitable material.

As ashes contain strong properties of a non-conductor, the radiation from heated surfaces protected by them is, to a great extent, prevented, and much economy in the consumption of fuel thereby attained.

Furthermore, ashes being more effective as a non-conductor when divested of all extra-

neous matter and reduced to an impalpable powder, they may be sifted or ground, or prepared by other advisable means; but such processes are not essential, as ashes may be used in a crude state if it should be more convenient to so apply them.

In the accompanying sheet of drawings, Figure 1 is a half-sectional view of a vertical boiler packed and covered in the manner described. Fig. 2 is a front view of the same.

In Fig. 1, A represents the interior of the boiler. B B' represent the ashes enveloping the external surface thereof; and C C' represent the covering or jacket keeping the ashes in their position.

Boilers of any description or for any purpose may be thus packed. As the substance under notice is not combustible nor subject to injury from the action of fire, it may be applied to those parts of a boiler which are in immediate contact with the furnace.

What I claim as new, and desire to secure by Letters Patent, is—

The application of ashes as a non-conductor of heat, substantially as shown and described, and for the purpose specified.

CHARLES M. O'HARA.

Witnesses:

WALTER O'HARA, Jr.,  
WM. F. MCNAMARA.