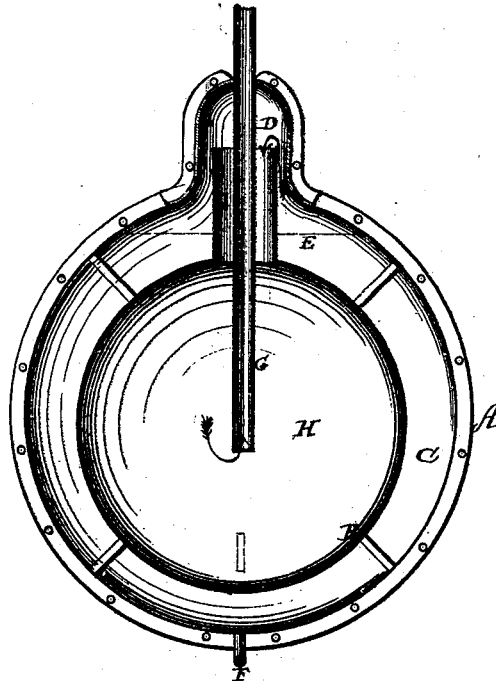


*C. J. Stolbrand,*

*Steam Generator.*

*No. 100,085.*

*Patented Feb. 22. 1870.*



**Witnesses:**

*Chas. Nide.*  
*Geo. H. Brooks*  
*D.*

**Inventor:**

*C. J. Stolbrand*  
PER *Wm. M. M.*  
**Attorneys.**

# United States Patent Office.

C. J. STOLBRAND, OF COLUMBIA, SOUTH CAROLINA.

Letters Patent No. 100,085, dated February 22, 1870.

## STEAM-GENERATOR.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, C. J. STOLBRAND, of Columbia, in the district of Richland, and State of South Carolina, have invented a new and useful Improvement in Steam-Generators; 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 object of this invention is to furnish a steam-generator which shall be cheap, safe, economical, and effective; and

It consists in a double sphere or two spherical vessels combined, the space between the two spheres being the water space, and the inner sphere being the steam-chamber, as hereinafter more fully described.

The accompanying drawing represents a vertical central section of a steam-generator constructed according to my invention.

A is a globular or spherical metallic vessel with a dome thereon, made in one or more parts, which forms the shell or fire-surface of my generator.

B is an inner globular or spherical metallic vessel made in one or more parts with a tube or dome thereon, connected with the shell by means of stays, or in any suitable manner.

C represents the water space, and D the steam space or dome of the shell A.

E represents the water-line.

F is the water-induction pipe.

G is the steam-pipe.

H is the steam-chamber.

I is the neck or dome of the steam-chamber.

I am aware that it is quite possible to cast this generator, composed of the spherical vessels A B, in a single piece, the two being connected by any desired

number of stays cast in, the steam-pipe being inserted as represented in the drawing.

In this example of my invention I show the outer shell made in two parts, bolted together, the inner vessel being made in the same manner. Where the proper facilities are not at hand for making it in a single casting, this method will be pursued.

I do not, however, confine myself to two, or to any particular number of pieces for either the outer or inner vessel.

The steam-pipe G is attached to the outer shell or top of the dome, by means of flange and bolts, or in any other suitable manner. It passes down into the steam-chamber, as seen in the drawing, and receives the steam as indicated by the arrow. The course of the steam from the dome D is also indicated by an arrow.

It will be seen that when placed in a suitable furnace, the entire shell is steam-generating surface.

From the position of the steam-chamber there can be no loss from condensation, and both vessels being in the spherical form, the greatest degree of strength to be obtained from a given weight of metal is insured.

By this arrangement the fuel required for generating a given amount of steam is greatly reduced from that required by ordinary steam-boilers.

Having thus described my invention,

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

The outer spherical shell A and the inner spherical vessel or steam-chamber B, combined and operating substantially as and for the purposes herein shown and described.

Witnesses:

C. J. STOLBRAND.

REUBEN TOMLINSON,

R. J. DONALDSON.