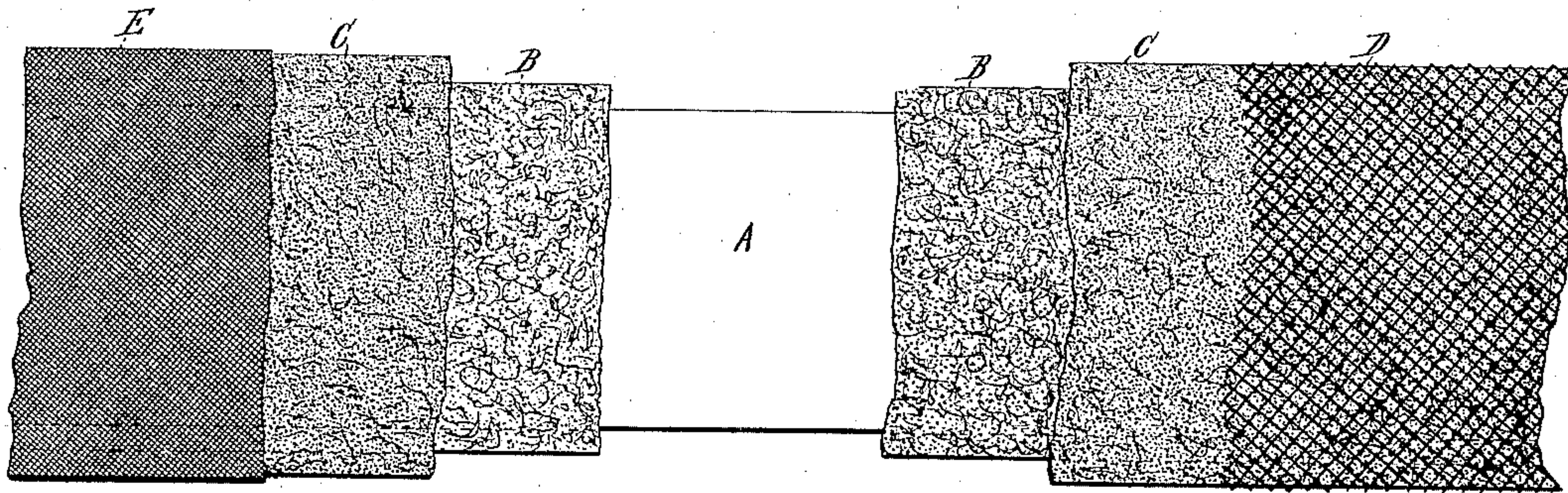


(No Model.)

W. S. GRUBB.  
NON CONDUCTING COMPOUND.

No. 302,630.

Patented July 29, 1884.



Witnesses:  
John Buckles,  
Henry Lieb.

William S. Grubb,  
Inventor.  
By North Osgood,  
Attorney.



# UNITED STATES PATENT OFFICE.

WILLIAM S. GRUBB, OF BARABOO, WISCONSIN.

## NON-CONDUCTING COMPOUND.

SPECIFICATION forming part of Letters Patent No. 302,630, dated July 29, 1884.

Application filed March 7, 1884. (No specimens.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. GRUBB, of Baraboo, county of Sauk, and State of Wisconsin, have invented certain new and useful Improvements in Non-Conducting Compounds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention has relation to compounds employed for retaining or excluding heat or cold, and ordinarily known as "non-conductors of heat" or "non-conducting compounds." These are applied upon steam and other boilers, upon steam-pipes and other heat-conducting apparatus, and also upon pipes and vessels containing cooling substances, and generally in any and all situations wherein it may be desired to prevent radiation or absorption of heat.

The object of my invention is to produce a simple, cheap, efficient, and easily-applicable compound of the above-mentioned class, which will be capable of use as are the compounds of said class, and at the same time more readily applicable for the protection of buildings and exposed walls.

To this end my invention consists in a new and useful compound, as will be herein first fully described, and then pointed out in the claims.

In the accompanying drawing I have shown an elevation of a heater or boiler having my improved compound applied thereon, parts being broken out to show the application. This illustration is deemed sufficient to indicate the manner of applying the compound in any situation.

A represents a boiler or other heater.

For very hot surfaces I prepare the compound about as follows: Take of kaolin or fine clay, one bushel; salt, two quarts; lime, one peck; hair, two pounds; jute, one pound. These are mixed together with water to proper consistency for molding, and applied to the surface and allowed to dry, a sufficient quantity being applied to effect the desired insulation. This layer is indicated at B.

For surfaces less highly heated I apply a layer, as B, and upon this a second layer, C, somewhat cheaper than B, made up about as follows: Take of kaolin or fine clay, one-half

bushel; salt, one pint; lime, one quart; hair, one pound; jute, three pounds; ground paper or paper-pulp, five pounds; glue, one and one-half pound; ground straw, two pounds. This is mixed with water and applied in a manner similar to B. The salt operates to prevent that long-continued dryness to which, without it, the compound would be subjected, and the hair, possessing lasting qualities, insures the durability of the mass, preventing crumbling and breaking away from the surfaces to which applied.

For exposed situations I may protect the covering by a wire-netting, as D, shown on the right of the figure; or, in case of application to steam-pipes, I may apply a canvas covering, as indicated at E on the left, and this may be whitewashed, if desired.

For the protection of buildings and walls to exclude cold, and for filling-in purposes, I prefer to make the compound as above described for the layer C. It is applicable in the plastic state, and on extensive plain walls may be supported by projecting nails or pins. In may be applied to cracks and joints, same as mortar.

The proportions may be slightly varied within the usual limits without materially altering the compound.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described non-conducting compound, composed of kaolin, salt, lime, hair, and jute united with water in about the proportions specified, and applied substantially in the manner and for the purposes set forth.

2. The herein-described boiler-covering, consisting of the two layers B and C, the layer B being composed of kaolin, salt, lime, hair, and jute, and the layer C being composed of kaolin, salt, lime, hair, jute, paper-pulp, glue, and ground straw, substantially as explained, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

WM. S. GRUBB.

Witnesses:

WORTH OSGOOD,  
JOHN BUCKLER.