

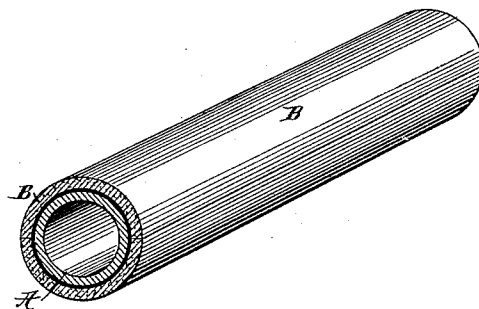
(No Model.)

C. C. GILMAN.

COVERING FOR STEAM AND HOT WATER PIPES.

No. 446,860.

Patented Feb. 24, 1891.



Attest:

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UNITED STATES PATENT OFFICE.

CHARLES CARROLL GILMAN, OF ELDORA, IOWA.

COVERING FOR STEAM OR HOT-WATER PIPES.

SPECIFICATION forming part of Letters Patent No. 446,860, dated February 24, 1891.

Application filed June 10, 1889. Serial No. 313,667. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CARROLL GILMAN, a citizen of the United States, and a resident of Eldora, Iowa, have invented a new and useful Improvement in Coverings for Steam or Hot-Water Pipes, of which the following is a specification.

My invention relates to the covering of steam and hot-water metal pipes with a sheathing which is indestructible, incombustible, and a non-conductor of heat and cold. Coverings for such pipes have usually been made of paper tubing, sometimes intermixed with asbestos cloth; but since of late years it has become the practice to introduce superheated steam and water for power and cooking purposes as well as for heating to a degree as high as, say, 300° Fahrenheit such coverings have become unsafe by reason of charring and spontaneous combustion of the same.

In factory buildings non-conducting coverings of common porous earthenwares have been used; but these, in order to possess the requisite strength, must be bulky, heavy, and necessarily bungling in adjustment—insuperable objections for pipe-coverings in residences, particularly when pipes are exposed to view, as must frequently be the case.

My invention herein described is an improvement on the last-mentioned construction, whereby the objections referred to are overcome, while none of the advantages are sacrificed.

As is well known, porous terra-cotta or terra-cotta lumber is produced by mixing sawdust or its equivalent with clay, the sawdust being burned to ashes in the firing process, thus leaving the burned product porous, the degree of porosity depending on the relative amount of sawdust to clay used in the mixture. I add to the usual mixture of sawdust, clay, and water a quantity of asbestos-wool or fibers, the latter remaining unharmed in the subsequent firing process, and in this manner I supply a fiber to the burned-earthenware product, whereby a high degree of tensile strength is permanently imparted to the same. I take the asbestos wool or fiber, preferably long fiber, and sprinkle the same from time to time upon the surface of the

mixture of clay, sawdust, and water as the same is turned by the workman with shovels or otherwise upon the floor preparatory to going to press. I use in this manner from twenty pounds upward of the asbestos wool to about one ton of the burned composition. After the asbestos wool is properly and in sufficient quantities incorporated into the plastic composition by turning on the floor, as explained, the mixture is then run through a press of the type described as “expressive.” The composition is forced through the dies of the press, dried, and fired in the kilns. An examination of the burned product will show the asbestos fibers tightly drawn for the most part like short strings and lying parallel with the grain of the pressed composition, this arrangement of the fibers and the grain of the ware being caused by the friction which the plastic composition encounters in its enforced passage through the dies of the press. The asbestos fibers serve to strengthen the burned product in somewhat the same manner that hair does when mixed with lime-mortar. In this manner I produce a small, light, and strong covering for steam and hot-water pipes, and which is a non-conductor of heat and cold, affording ample protection against the radiation of heat from the inclosed conveying-pipes.

I apply the coverings to the said pipes in the following manner: The material is made in the form of tubes, and these are slit into equal halves with a saw after firing and adjusted to the pipes in sections two or three feet long and fastened by applying a mortar of plaster-of-paris to the edges and ends. Before applying the mortar the porous wares should be dampened with water to prevent undue absorption of water from the mortar. If desired, these coverings may be, subsequent to erection, ornamented by painting the same. They may also be closely attached to the inclosed pipes by pouring in a liquid cement of plaster-of-paris and quicklime or its equivalent between the pipes and the coverings.

In the accompanying drawings, forming a part of this specification, A represents the steam or hot-water metal pipe, and B the covering herein described, the drawings indicating its form and mode of application.

I am aware that it has been proposed to mix
asbestos with clay and hair and to apply the
same in a plastic state without firing to a pipe.
I am also aware that it has been proposed to
5 mix asbestos fiber with calcined magnesia and
to apply molded sections of this to a pipe. I
am also aware of United States Patent No.
213,558, dated March 25, 1879, granted to
Field & Howard, and all of said coverings I
10 hereby disclaim, for they differ widely from
my invention.

Having thus described my invention, what
I claim, and desire to secure by Letters Patent,
is—

A steam or hot-water pipe provided with a 15
covering consisting of burned porous earthen-
ware having incorporated therein an incom-
bustible fibrous mineral substance, said cov-
ering being united to the pipe by a layer of
20 cement, substantially as described.

In testimony that I claim the foregoing as
my invention I have signed my name, in pres-
ence of two witnesses, this 8th day of June,
1889.

CHARLES CARROLL GILMAN.

Witnesses:

L. VERNON BRIGGS,
H. G. BROOKE.