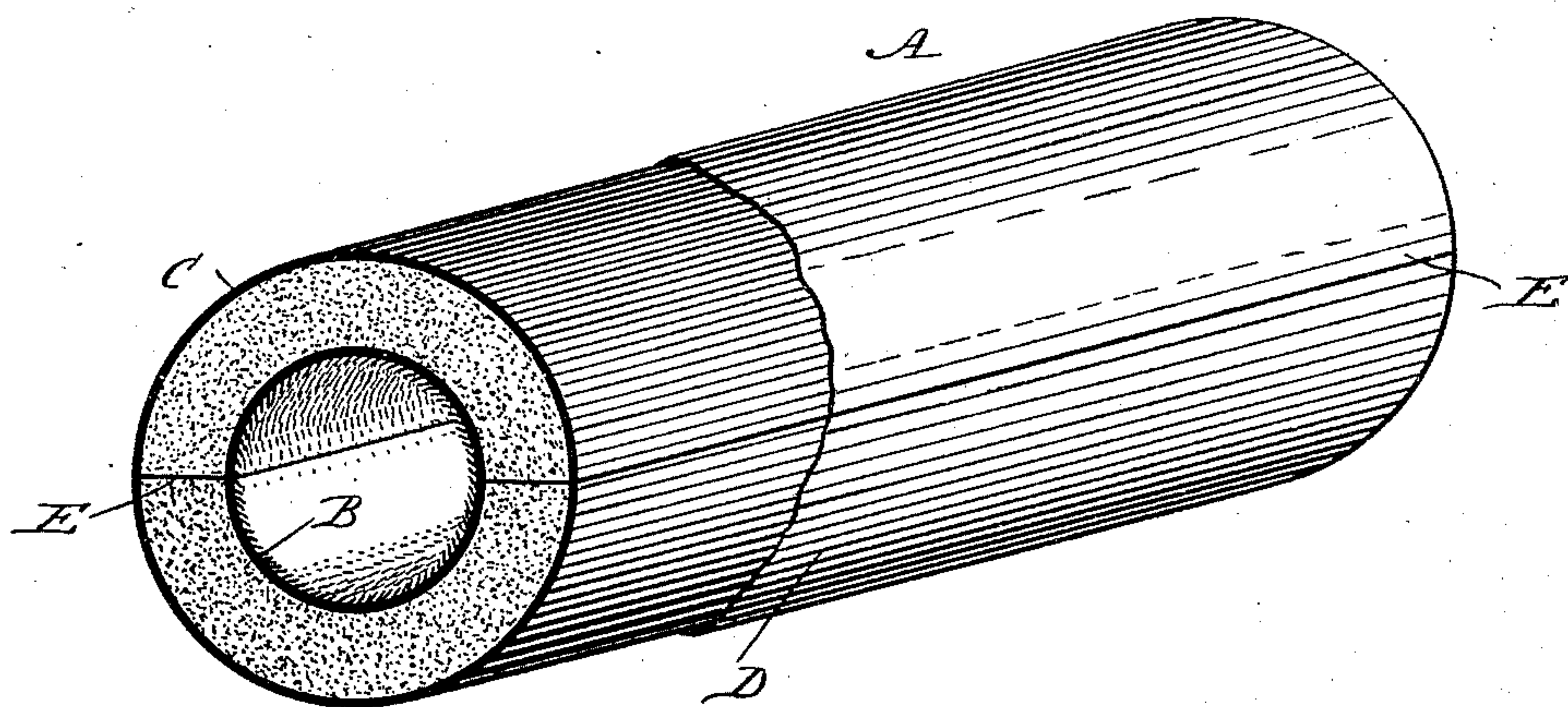


(No Model.)

H. W. JOHNS.
NON-CONDUCTING COVERING.

No. 433,471.

Patented Aug. 5, 1890.



WITNESSES:

D. C. Reusch
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UNITED STATES PATENT OFFICE.

HENRY W. JOHNS, OF NEW YORK, N. Y.

NON-CONDUCTING COVERING.

SPECIFICATION forming part of Letters Patent No. 433,471, dated August 5, 1890.

Application filed January 23, 1890. Serial No. 337,884. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. JOHNS, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Non-Conducting Coverings, of which the following is a specification.

My invention relates to a new and useful non-conducting covering for heated surfaces, specially intended for use on pipes, boilers, &c.; and it consists of wood pulp or wood pulp and sawdust treated or combined with fire-proof or fireproofing material, and, when in a plastic state, made into substantially the form of the surface to be protected. It may be cut lengthwise, so as to be opened in halves; or otherwise, for easy application to pipes, &c.; also, the covering may be additionally fireproofed by an interior lining of a fire-proof coating or cement or asbestos or similar sheet, and it may also be provided with an outer covering of the same materials.

The accompanying drawing represents a section of one of my pipe-coverings.

To the wood pulp or wood pulp mixed with sawdust may be added comminuted or chopped cork, sponge, hay, or straw, hair, or other equivalent material, which will reduce the weight and add either to the strength, porosity, or the air-containing character of the product. The special means or apparatus by which I form the pulp with or without admixture of these other bodies into tubular or other form constitutes no part of my present invention, and will not therefore be described. It may be made in any known way.

To the covering A the interior lining B is attached. It is preferably composed of a sheet of asbestos, having an asbestos nap or flock upon the surface which comes next to the pipe. This lining may, however, be in the form of a fire-proof cement or layer. I prefer it to be an asbestos cement; but it may be of magnesia, various clays, infusorial or diatomeaceous earth, plaster-of-paris, mineral wool, or any other suitable material, either fire-proof or partially fire-proof, or rendered so by treatment or admixture with fireproofing material.

C is an exterior coating or layer of a fireproofing or partially fire-proof material, which may be either in the form of a sheet—as, for instance, a sheet of asbestos paper—or in the

form of a layer of cement. This exterior layer not only preserves the covering and renders it additionally fire-proof, but it also acts as a wholly or partially air-tight casing or jacket, whereby the non-conducting properties of the covering are increased. I prefer to fire-proof the covering by treating the material of which it is made, whether pulp or pulp with other bodies admixed, or by treating the product after it is made, or at any stage in the manufacture, with a suitable fireproofing material, preferably, but not necessarily, in liquid form. The entire body of the non-conducting covering may be so treated, or only its inner or outer surface, or both, as preferred.

D represents an outside covering of canvas or such other material as may be preferred, which I sometimes apply as an additional protection. The outside of the non-conducting covering may be decorated or water-proofed in any preferred manner. It will be obvious that when the surface to be covered is that of a boiler or other large surface, whether flat or curved, that the non-conductor will be made substantially to conform to the surface to which it is to be applied.

I claim—

1. A non-conducting covering composed, essentially, of wood pulp mixed with sponge or other fibrous or porous material and treated with fireproofing material, substantially as set forth.

2. A non-conducting covering composed, essentially, of wood pulp mixed with sponge or other fibrous or porous material and having an interior lining or layer of substantially fire-proof material, substantially as set forth.

3. A non-conducting covering composed, essentially, of fireproofed wood pulp and having an inner layer or lining of fire-proof material, substantially as set forth.

4. A non-conducting covering composed, essentially, of wood pulp made into substantially the form of the surface to be protected and having an interior fire-proof lining or layer and an exterior covering or jacket, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 20th day of January, A. D. 1890.

HENRY W. JOHNS.

Witnesses:

PHILLIPS ABBOTT,
FREDERICK SMITH.