

UNITED STATES PATENT OFFICE.

WILLIAM C. SELDEN, OF BROOKLYN, AND CHARLTON B. KID, OF NEW YORK, N. Y.

IMPROVED FABRIC FOR COVERING STEAM-BOILERS, &c.

Specification forming part of Letters Patent No. 83,414, dated October 27, 1868.

To all whom it may concern:

Be it known that we, WILLIAM C. SELDEN, of the city of Brooklyn, county of Kings and State of New York, and CHARLTON B. KID, of the city of New York, county of New York, in the State of New York, have invented a new and useful manufacture, consisting of a composition of matter in the nature of covering for boilers, steam-pipes, steam-cylinders, and other vessels, to prevent the radiation of heat therefrom, which we have named "Indestructible Boiler-Felting;" and we do hereby declare the following to be a full, clear, and exact description thereof, and such as will enable any one skilled in the arts to which this invention appertains to make and use the same.

Economy in the consumption of fuel being an item of the first importance to all using steam-power, numberless contrivances have from time to time been invented and applied for the purpose of preventing any loss of heat, and to secure its application, as far as possible, to the production of power. Among these contrivances none is more generally admitted to be efficacious than that of covering boilers, steam-pipes, and steam-cylinders with some non-conducting substance, which shall prevent the radiation of heat from their external surfaces.

Hair-felt is generally used, and latterly compositions made and applied in the form of cements have been patented in this country and abroad. Both of these modes are open to objections that we propose to overcome. Hair-felt, though a good non-conductor when put in contact with surfaces exposed to the temperature of high-pressure steam, soon becomes charred and destroyed; again, being so loosely made, it soon falls down in a mass, leaving its covering of wool-felt against the iron whenever it is exposed to the continued pressure and blows of the hand and feet of persons working around a boiler. The objections to cements are, that while they are more indestructible than felt from their greater compactness, they are not so good non-conductors, and when it becomes necessary to remove them for repairs to the parts covered they must be broken off and made worthless for future use, and can only be replaced by new cement, which must be put on at the same cost as the original application. Now we propose to remedy these difficulties

by making a covering for boilers, steam-pipes, steam-cylinders, or bodies wherein it may be desirable to retain heat, of asbestos combined with some other material which will confine or hold it, and which can be readily removed for repairs to the vessel covered and as readily replaced.

A sheet of wire-cloth or gauze of such gage and size of mesh as may be convenient, having the edges turned up so as to form a receptacle, is covered to a certain depth, (say one or two inches,) determined by the requirements of the case, with asbestos in a fibrous or broken state, and the latter covered with wire-gauze, or wool-felt, or their equivalent, and these two of gauze, or gauze and cloth, secured to each other at intervals with wire or thread, to prevent the asbestos from becoming displaced. These sheets of wire-cloth or wire-cloth and wool-felt, with their inclosed asbestos, may then be cut off in suitable lengths, and used like ordinary felting to cover boilers, steam-pipes, &c.

In some cases where it is not desirable to remove the covering of boilers, steam-pipes, &c., we use for a covering a composition of which asbestos is the base. This composition is made of asbestos and clay, or fuller's earth, or their equivalent, and boiled linseed-oil or its equivalent. The proportions we have found to answer are equal parts, by weight, of asbestos and clay, mixed with sufficient oil to make a paste of the consistency of mortar. In this state the compound is spread directly on the surfaces to be covered, or upon a sheet of wire-gauze with the edges turned up to form a receptacle, and when dried, to be cut off in suitable lengths and applied as the ordinary felting.

What we claim, and desire to secure by Letters Patent, is—

The non-conducting coating herein described, composed of fibrous mineral secured between layers of strong material, substantially as and for the purposes herein set forth.

WM. C. SELDEN.
CHARLTON B. KID.

Witnesses:

PETER W. WEIFUS,
THOMAS DONOHE.