(No Model.)

W. H. McKINNEY.

STEAM BOILER COVERING.

No. 319,738. Patented June 9, 1885.

Fig. 1

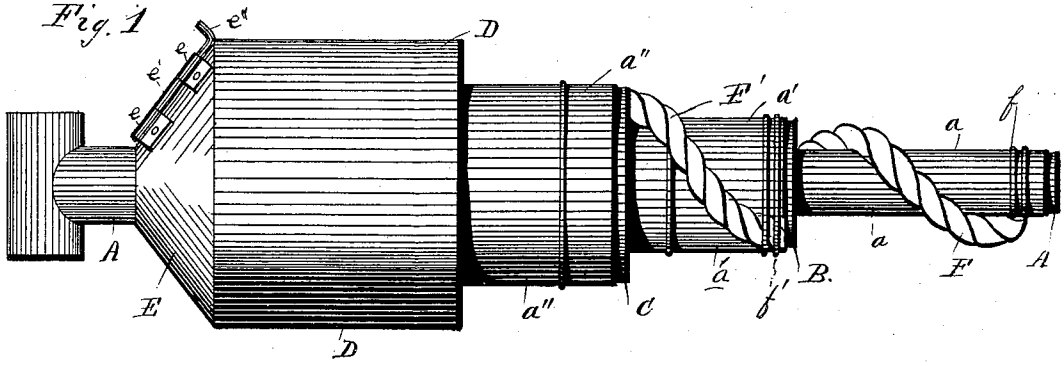


Fig. 2.

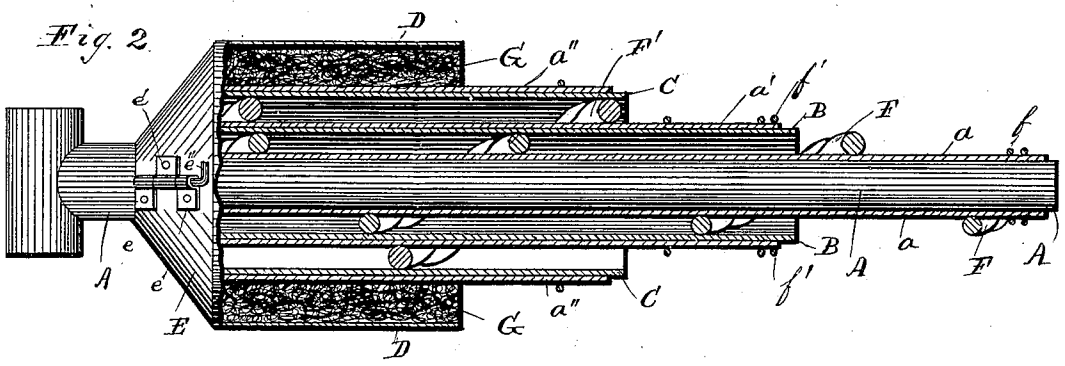


Fig. 3

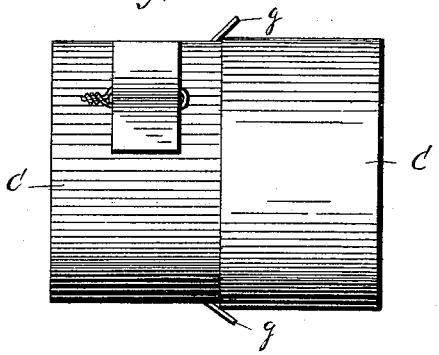


Fig. 5.

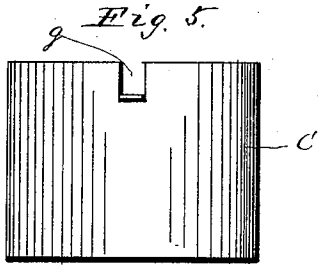
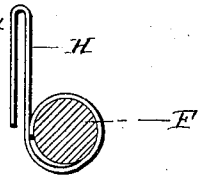


Fig. 4.



WITNESSES

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STEAM-BOILER COVERING.

SPECIFICATION forming part of Letters Patent No. 319,738, dated June 9, 1885.

Application filed April 21, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. McKINNEY, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Single and Double Fire-Proof Air-Chamber Non-Conducting Coverings, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in a non-conducting fire-proof covering for steam pipes, drums, or boilers, and has for its object to prevent the radiation of heat and condensation in steam pipes, drums, and boilers.

The nature of the invention consists,

First. In covering the steam-pipe with asbestus sheeting of suitable lengths and widths, and attaching the same to the pipe by means of a fire-proof cement, then wrapping said pipe spirally on the outside of the sheeting with a rope composed of asbestus or other fire-proof non-conducting material, said rope being preferably secured to the pipe by means of annealed iron wire.

Secondly. By covering the asbestus rope with a cylinder of sheet metal, whereby a spiral air-space is formed on the outside of the steam-pipe, between the pipe and the outside cylinder, the rope being intended to maintain the pipe and outer cylinder the desired distance apart; and, further, the said cylinder is intended to be covered, also, with asbestus sheeting in the same manner as the steam-pipe, and attached thereto by fire-proof cement. The cylinder may then be covered by a spirally-wound asbestus rope secured thereto, preferably, by means of annealed iron wire. This second rope may then be covered, in the same manner as the first, with a second sheet-metal cylinder, having also a covering of asbestus sheeting secured thereto by fire-proof cement; and in this manner any number of ropes and cylinders may be employed to produce any desired number of air-spaces surrounding a steam-pipe or steam-generator; but I do not confine myself to the use of cement for the above-named purposes, as other means may be employed without departing from my invention.

Thirdly. The outer cylinder of the series (whether one or more cylinders are used) is to be covered with hair or hair-felt, over which is secured an outer covering of canvas, to be painted of any desired color, and preferably with fire-proof paint.

The objects of this invention, as hereinbefore stated, are attained by the devices illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation with some of the parts removed to show the construction of the remainder. Fig. 2 is a sectional view. Fig. 3 is a detached view of two pieces of a sheet-iron cylinder, and shows the details of construction. Fig. 4 is a detached view of a rope and the hook by means of which it is secured to a cylinder. Fig. 5 is a detached view of one piece of sheet-iron cylinder.

The letter A indicates a steam-pipe; F, a rope of asbestus or other non-conducting fire-proof material wound spirally thereon and secured thereto by means of annealed wire bands *f*.

a is the asbestus sheeting, secured to the outside of pipe A.

B is a sheet-metal cylinder covered on the outside with asbestus sheeting *a'*.

F' is a rope of asbestus or other fire-proof non-conducting material, secured to cylinder B by means of annealed wire wrapping *f'*.

C is a second sheet-metal cylinder covered with asbestus sheeting *a''*, which surrounds the outside of the spirally-wound rope F', and serves to protect the rope F', and also to form air-spaces around the cylinder B.

G is the hair-felt surrounding the outer cylinder, C, and D the canvas on the outside thereof.

E is a funnel-shaped cap of sheet metal, surrounding the pipe A at one end, (or both,) and is secured thereto by loops *e e'* and bolt *e''*. This cap is intended to make a finish, and also to cover up the ropes, cylinders, hair-cloth, and canvas composing the covering of the pipe A.

g are small cuts in either of the cylinders C or B, or both, and serve to prevent one cylinder from telescoping over another when a series are used to make the entire pipe B or C.

H is a piece of metal having a ring on one end, which is intended to encircle one of the

ropes F or F′, and the other bent into the shape of a hook to engage with one of the cylinders B or C.

The spirally-formed air-spaces surrounding the pipe A and the cylinder B permit the air to circulate therein, and thereby aid in the resistance of the effects of a great degree of heat and to preserve the sheets of iron.

The cement used to paste the asbestus sheeting to the pipe A and cylinders B C is composed of flour, six pounds; glue, one pound; alum, two ounces, and water, three gallons.

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

1. A steam-pipe having asbestus sheeting cemented on the outside thereof and spirally-wound asbestus rope thereon, in combination with one or more sheet-metal cylinders inclosing said pipe and rope and forming an air-space between the two, substantially as described, and for the purposes herein set forth.

2. The steam-pipe A, having a covering of asbestus sheeting, and the spirally-wound rope F, in combination with cylinder B, having a covering of asbestus sheeting, cylinder C, hair-felt G, and canvas D, as described, and for the purposes set forth.

3. The steam-pipe A, in combination with cap E, having loops *e e′* and bolt *e″*, as described, and for the purposes set forth.

4. The steam-pipe A, the spirally-wound asbestus rope F, secured thereto by wire *f*, the cylinder B, and spirally-wound asbestus rope F′, secured thereto by wire *f′*, in combination with outer covering of hair-felt G, canvas D, and cap E, as described, and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. McKINNEY.

Witnesses:

W. P. LEONARD,

C. C. GENUNG.