E. A. KELLAM.

METHOD OF COVERING PIPES.

APPLICATION FILED MAY 19, 1909.

970,235. Patented Sept. 13, 1910.

Fig. 1

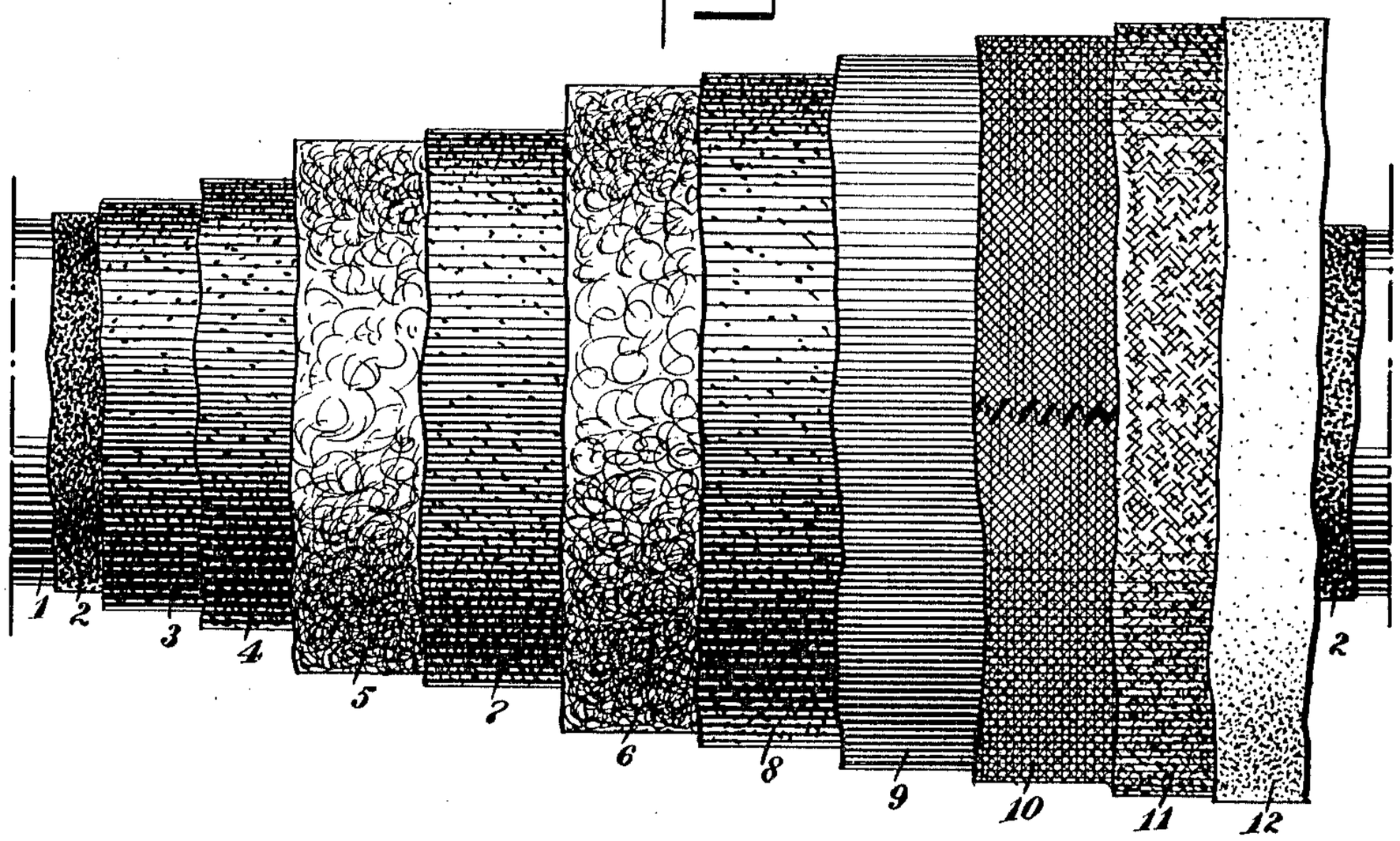
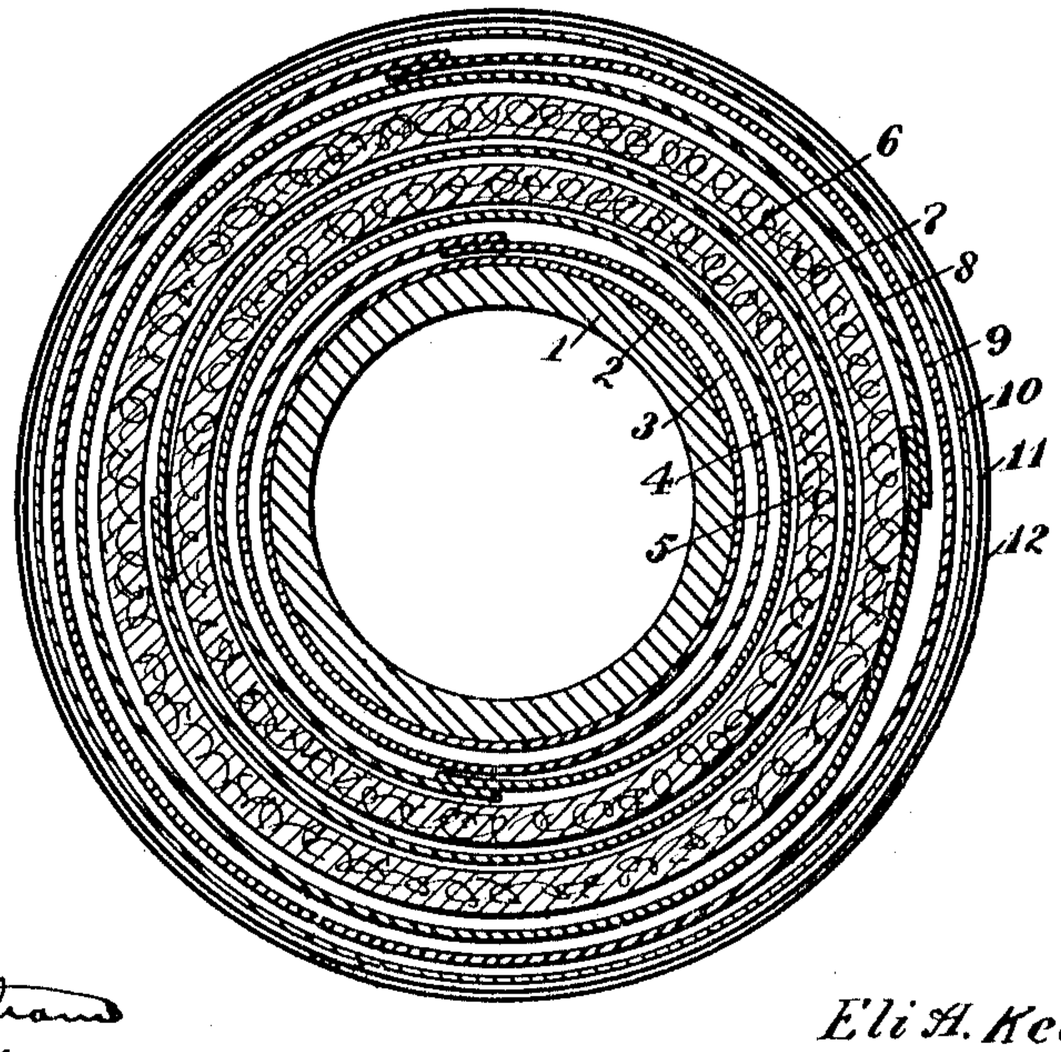


Fig. 2



WITNESSES

John A. Bergstrom

N. W. Whiting.

INVENTOR

Eli A. Kellam

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

ELI A. KELLAM, OF NEW YORK, N. Y.

METHOD OF COVERING PIPES.

970,235. Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed May 19, 1909. Serial No. 496,873.

To all whom it may concern:

Be it known that I, ELI A. KELLAM, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Method of Covering Pipes, of which the following is a full, clear, and exact description.

This invention relates to a pipe-covering to be used to prevent an interchange of heat between the surrounding medium and the contents of the pipe; and also relates to the method of applying the covering to the pipe.

The object of the invention is to produce a new and improved article by a new and improved method, which will be simple in construction, efficient and durable.

The invention consists broadly of a plurality of non-conducting layers superposed one on the other in a successive manner around a pipe and in such a way as to form an efficient heat-insulating cover.

The invention further consists in the construction and combination of parts, to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views, and in which—

Figure 1 is a longitudinal view with the successive layers broken away, showing the underlying layers; and Fig. 2 is a transverse section through the pipe and covering, the parts being spaced to distinguish between the relative layers.

Referring more particularly to the parts of the invention, 1 indicates a suitable conducting pipe, which may be used to carry any suitable fluid having a temperature greater or less than the surrounding medium. Directly on the pipe, there is applied a coating of a suitable varnish, which is indicated at 2, and which is preferably Japan varnish, any number of layers of which may be applied to the pipe. Superposed on the coating of Japan varnish, there is placed one or more layers of tar paper 3 and 4. Before applying these layers of tar paper, the surfaces thereof are coated with a suitable hot adhesive material, such as hot pitch. Surrounding the layers of tar paper, there are applied alternate layers of felt and tar paper coated with hot pitch, the felt being indicated by the numerals 5 and 7, and the tar paper by the numerals 6 and 8.

The number of alternate layers of felt and tar paper may be varied, but are preferably two in number.

Superposed on the last layer of tar paper, a smooth covering of rosin paper 9 is applied. Both the longitudinal and transverse joints of each successive layer are staggered relative to the joints on the adjacent layer or layers. The covering so far formed is inclosed in a suitable canvas covering 10, of any preferred weight, which may be either sewed on or pasted on, and which is, finally, coated with a plurality of applications of lead and oil, indicated by the numerals 11 and 12.

The method of applying the successive layers consists in first cleaning the outer surface of the pipe, then applying a coating of Japan varnish, on which are applied in successive layers a plurality of strips of tar paper which have been coated with a layer of hot pitch. Upon these strips of tar paper, there are superposed, first, a layer of felt, and then a layer of tar paper, which has also been coated with hot pitch; next, there is applied another layer of felt and a successive layer of tar paper coated with hot pitch. The successive layers are then inclosed in a layer of smooth rosin paper, on top of which is applied a covering of canvas, the edges of which may be either sewed or pasted together. The completed pipe covering is then given a coating of suitable paint, such as white-lead and oil.

The method of applying the tar paper to the pipe by coating it with hot pitch, not only forms a strong adhesive, but also serves to form dead or vacuum spaces between the successive layers, by reason of the fact that after the covering has been completed and the material cools down, the gases which have accumulated between the layers also cool down and form a series of partial vacuums between the successive layers, thereby deadening the circulation. I may also wrap one or more or all of the successive layers to the material beneath by a suitable binder, such as cord, jute or the like.

There is thus formed a complete heat-insulating pipe covering, which is especially adapted to be used in connection with brine

or ammonia, and whereby the absolute prevention of the formation of a frost on the pipes will be accomplished.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. The method of covering a pipe, which consists in cleaning the pipe, applying a coating of varnish, coating tar paper with hot pitch, and applying the tar paper to the pipe while the pitch is still hot, next applying successive alternate layers of felt and tar paper coated with hot pitch, then inclosing the superposed layers in rosin paper, next inclosing the built-up covering in a canvas jacket, and finally applying one or more coats of white lead and oil.

2. The method of covering a pipe, which consists in applying a coating of varnish to the pipe, coating tar paper with hot pitch and applying the tar paper to the pipe while the pitch is still hot, then applying successive alternate layers of felt and tar paper.

3. The method of covering a pipe, which consists in applying a coating of varnish to the pipe, coating tar paper with hot pitch and applying the tar paper to the pipe while the pitch is still hot, then applying successive alternate layers of felt and tar paper, said alternate layers of tar paper being coated with hot pitch before applying, and being applied while the pitch is still hot, so as to form dead or vacuum spaces between the layers, on cooling.

4. The method of covering a pipe, which consists in applying a coating of varnish to the pipe, coating tar paper with hot pitch and applying the tar paper to the pipe while the pitch is still hot, then applying successive alternate layers of felt and tar paper, said alternate layers of tar paper being coated with hot pitch before applying, and being applied while the pitch is still hot, so as to form dead or vacuum spaces between the layers, on cooling, and finally inclosing the built-up layers in a protecting covering.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELI A. KELLAM.

Witnesses:
HORATIO WHITING,
GRISELL B. HENRY.