G. B. FIELD & E. T. HOWARD.

Covering for Steam-Pipes.

No. 213,558. Patented Mar. 25, 1879.

Fig. 1.

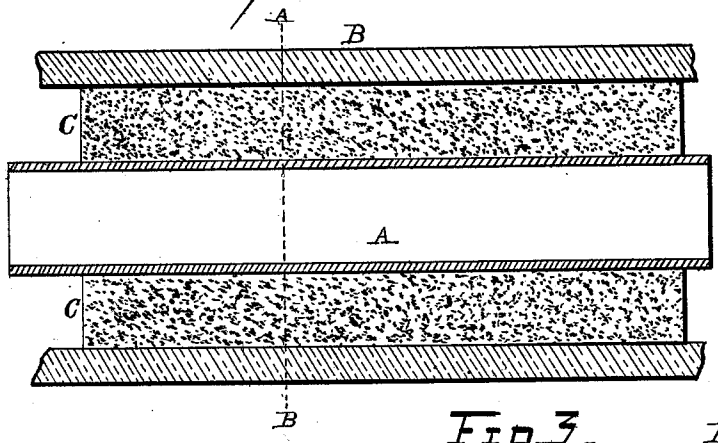


Fig. 2.

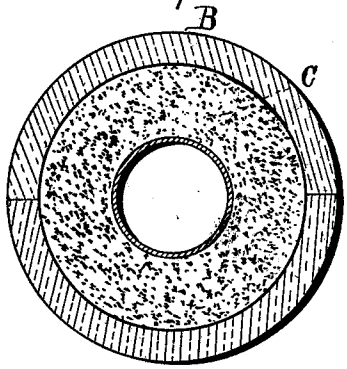


Fig. 3.

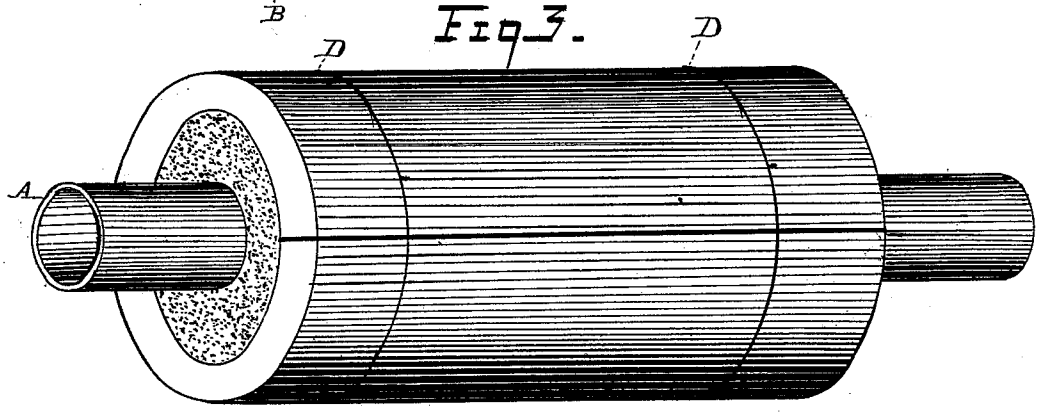
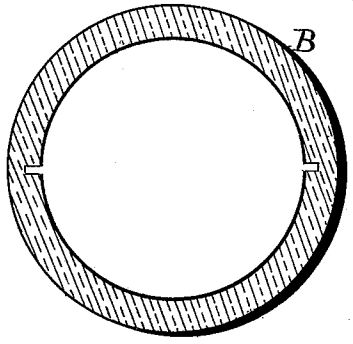


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE B. FIELD, OF NEW YORK, N. Y., AND EDWIN T. HOWARD, OF ST. LOUIS, MO; SAID FIELD ASSIGNOR TO SAID HOWARD.

IMPROVEMENT IN COVERINGS FOR STEAM-PIPES.

Specification forming part of Letters Patent No. **213,558**, dated March 25, 1879; application filed September 30, 1878.

To all whom it may concern:

Be it known that we, GEORGE B. FIELD, of the city and State of New York, and EDWIN T. HOWARD, of the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement for Covering Steam-Pipes to Prevent the Radiation of Heat; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improved covering for steam pipes, boilers, &c., the object being to provide a covering of simple and durable construction which will prevent undue loss of heat by radiation; and to that end our invention consists, first, in a new article of manufacture for covering steam pipes or boilers, consisting of a shell or tube formed of baked porous clay, with two opposite sides of the same partially severed, whereby the covering may be shipped in cylindrical form, and when desired for use the cylinders or tubes may be readily severed in halves on the line of the cut or groove formed therein, and hence, when applied, the several parts of the tube will constitute close-fitting joints.

Our invention further consists in a covering for pipes or boilers, consisting of an outer shell or tube of baked porous clay and a filling of non-conducting plastic material, which extends from the surface of the pipe or boiler to the inner surface of the outer tube or shell of baked porous clay.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of our improved covering applied to a steam-pipe. Fig. 2 is a transverse section, and Fig. 3 is a view in perspective, of the same. Fig. 4 is an end view of one of the shells or tubes employed as an outer covering.

B represents a shell formed of baked porous clay, and is composed of clay mixed with sawdust, coal-dust, or any other equivalent material that will insure the greatest degree of porosity consistent with the required strength after the pipe has been burned in any ordinary kiln.

In order to apply the covering to steam pipes or boilers, shells or tiles have heretofore been made in half-sections. This construction has been found defective and objectionable for the reason that in transportation the edges of the shells are often broken, and hence when applied will not make a close-fitting joint. To obviate this defect we form cuts or grooves *a a* in the pipes, which extend only partly through the same. These grooves are formed in the process of molding, and hence the pipes or shells are not severed until when needed for application. This construction allows the sections of the covering to be transported in tubular form, and thus the waste and damage arising from cracked and broken edges is obviated.

When it is desired to apply the shells or tubes B of baked porous clay they are easily severed in halves by imparting slight percussive raps to the surface thereof along the line of their grooves, and thus they are transformed into sections, which may be readily applied as desired.

Pipes or shells B are made considerably larger than the steam-pipes to be covered thereby, so that an intervening annular space is formed between the steam-pipe and outer covering or jacket. Within this intervening annular space is placed a filling, *c*, of plastic non-conducting material, which is composed of sawdust mixed with clay or any other good non-conducting material.

The steam-pipe is covered in the following manner: The tube or shell B is first separated in the manner heretofore described, and each section is nearly filled with the plastic non-conducting material *c*, due allowance being made for the space occupied by the steam-pipe. The separate sections of the shell B are then arranged so as to surround and inclose the steam-pipe in the order in which they were cloven apart, to cause their meeting edges to constitute close and tight fitting joints when pressed together. The sections are then firmly secured against displacement by wires D, which are drawn around the same, and the ends of the wire twisted together.

The outer shells or pipes, B, and the plastic non-conducting material consist of twenty-five per cent. of clay mixed with seventy-five per cent. of sawdust or coal-dust. We do not limit

ourselves to these exact proportions, as it is obvious that substantially the same results can be secured by slightly varying the relative proportion of the ingredients composing the mixture.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is —

1. As a new article of manufacture, an outer covering or shell for pipe or boiler coverings, consisting of a shell made of baked porous clay, with the opposite sides thereof partly severed, substantially as set forth.

2. A covering for steam pipes or boilers, the outer shell of which is composed of baked porous clay, made of clay and combustible material, of substantially the proportions and in the manner set forth.

3. A covering for steam boilers or pipes, consisting of an outer shell of baked porous clay and a filling of plastic non-conducting material, both shell and filling being composed of an admixture of clay and combustible material, of substantially the proportions set forth.

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