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UNITED STATES PATENT OFFICE.

DANIEL H. MELOCHE, OF DETROIT, MICHIGAN, ASSIGNOR TO EARL HOLLEY, OF DETROIT, MICHIGAN.

METHOD OF INSULATING PIPES.

No Drawing. Application filed April 5, 1923. Serial No. 630,165.

To all whom it may concern:

Be it known that I, DANIEL H. MELOCHE, a citizen of the United States, residing at 2241 Gladstone Ave., Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in the Method of Insulating Metal Pipes, of which the following is a specification.

This invention relates to an improved method of insulating metal pipes. Specifically it relates to an improved method of applying an insulating coating to iron steam pipes adapted to retard the escape of heat from such pipes.

This coating is intended to be used in conjunction with the asbestos lagging now in common use.

Under other circumstances where the use of asbestos is objectionable it will be used as a substitute for asbestos coating. It is also adapted to be used for steam boilers, especially the boilers of steam railway locomotives. It is also specially adapted to form a heat insulating paint for the valve and cylinder castings of steam locomotives.

The method I have discovered consists in first mixing a 10% solution of sodium silicate in water with an equal weight of finely ground fire clay, then thoroughly mixing the sodium silicate solution with the powdered fire clay. Then cleaning the outside surface of the boiler or steam pipe with a sand blast, then heating the surface to be protected with a blow torch, taking care not to oxidize the surface of the metal. Raising the temperature of the metal in excess of that of boiling water, preferably above 300° F. and for the first application of the fire clay to a temperature less than 500° F.

Onto the heated iron surface a coat of fire clay is painted by means of either an ordinary brush or an air brush as the case may be. This coating is applied so that only a thin coating of fire clay remains not over a few thousandths of an inch in thickness. The surface is again heated above the temperature of boiling water and preferably above 300° F. and the coating is then applied with a brush as before. A few more thousandths thickness of coating are then added and the heat again applied.

The process is then repeated until the desired thickness of insulating coating of fire clay is obtained. This coating will stand high temperatures and is peculiarly adapted for coating the outside surface of steam pipes adapted to convey super-heated steam.

This invention is a continuation in part of my co-pending application Serial No. 581,239, filed 11 August 1922, Patent No. 1,453,593, granted May 1st, 1923.

What I claim is:

1. The method of applying a heat insulating coating to a steam pipe which consists in first cleaning the surface of the pipe, then heating the surface to between 300° and 500° F., then painting the heated surface of the pipe with a wash containing a little soluble silicate in solution and a considerable quantity of powdered fire clay in suspension, then heating the surface of the pipe, then applying another thin coat of the fire clay with a soluble silicate binder, again heating the surface of the pipe and repeating the operation until the desired thickness of fire clay is applied to the surface of the pipe.

2. The method of applying an insulating coating to a steam pipe which consists in first mixing an inert insulating powder with water containing a little heat-resisting binder in solution, then cleaning the surface of the pipe, then heating the surface to between 300° and 500° F., then painting the heated surface with the said insulating wash whereby a thin coating is applied, then heating the surface, then applying another thin coat of the insulating wash, again heating the surface of the pipe and repeating until an insulating lining of sufficient thickness is obtained.

3. The method of insulating a metallic surface against the flow of heat which consists in first mixing an insulating powder in water containing a little heat-resisting binder in solution, then cleaning the metallic surface, then heating the metallic surface above the boiling point of water, then painting the cleaned and heated metallic surface with the said insulating wash whereby a thin adherent insulating coating is applied, again heating the metallic surface and repeating the painting process until an insulating lining of the desired thickness is obtained.

In testimony whereof I affix my signature.

DANIEL H. MELOCHE.

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