

UNITED STATES PATENT OFFICE.

CHARLES A. SWEET, OF RIPON, WISCONSIN.

IMPROVEMENT IN COMPOSITIONS FOR REMOVING SCALES FROM STEAM-BOILERS.

Specification forming part of Letters Patent No. 119,426, dated September 26, 1871.

To all whom it may concern:

Be it known that I, CHARLES A. SWEET, of Ripon, in the county of Fond du Lac and State of Wisconsin, have invented a new and useful Improvement in Compounds for Removing Scale from Steam-Boilers; and I do hereby declare the following to be a full, clear, and exact description of the same.

For one hundred gallons take nut-galls, fifty-six (56) pounds; caustic soda or caustic potash, twenty (20) pounds; tallow, best, eighteen (18) pounds; sal soda, French or Scotch preferred, one hundred (100) pounds; molasses, two (2) gallons; black-oil, refuse from coal-oil refinery, four (4) gallons.

Put the nut-galls into a kettle with a small quantity of water and boil for four hours, after which the galls are to be thoroughly mashed and the liquid strained. The caustic potash or soda is dissolved in a separate vessel. Mix the decoction of galls with the solution of caustic soda or potash and add the tallow, sal soda, and molasses. Boil for two hours. When cool add the black-oil and sufficient water to make up the required quantity—*i. e.*, one hundred (100) gallons. The fluid is then ready for use, but will improve with age.

If the boiler has much scale, for every estimated horse-power inject one-half pint of above-described liquid daily for about twenty days; then blow off thoroughly, and the boiler will be perfectly cleansed without any injury to the iron whatever. After the boiler has been once cleansed, or in case it is new, the use of one gill of the above-described liquid per horse-power weekly will effectually prevent the formation of any scale.

The fluid may be added to the water in the tank when the boiler is fed from such a source.

The above-described fluid never has been known to fail in effecting a complete separation of the scale from the iron, and almost always it acts as a complete solvent of the deposits upon the iron.

Having described my invention, what I claim as new is—

A compound composed of the above-named ingredients, substantially in the proportions described, and for the purpose specified.

CHARLES A. SWEET.

Witnesses:

R. D. O. SMITH,
J. C. LYONS.

(29)