

UNITED STATES PATENT OFFICE.

JAMES W. MITCHELL, OF SAN FRANCISCO, CALIFORNIA.

INCRUSTATION-PREVENTIVE.

SPECIFICATION forming part of Letters Patent No. 428,015, dated May 13, 1890.

Application filed October 16, 1889. Serial No. 327,220. (Specimens.)

To all whom it may concern:

Be it known that I, JAMES W. MITCHELL, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful composition of matter to be used for cleaning the inside of steam-boilers, and also to be used to prevent scale and incrustations from forming upon the inside of the same, of which the following is a specification.

My composition consists in the following ingredients, combined in the proportions stated, viz: soda-ash, seventy-five pounds; pure mineral oil, one gallon; oil of pennyroyal, four ounces; sulphate of copper, one pound; powdered tannin, six ounces. These ingredients are to be mixed as follows: Mix the soda-ash (English Brunomond brand is the best) and the mineral oil thoroughly until the mixture is in the form of a powder, and then add the oil of pennyroyal, sulphate of copper, and powdered tannin.

For cleaning a boiler that is badly incrustated, one-fourth of a pound of the composition to each horse-power should be used. After the boiler is thoroughly clean one-eighth of a pound of the composition, (per horse-power of boiler,) embracing only the soda-ash, mineral oil, and oil of pennyroyal, in proportions as hereinbefore stated, may be used (omitting the sulphate of copper and powdered tannin therefrom) to prevent the formation of scale and incrustation and also the corrosion, pitting, and wasting and grooving of the boiler-plates.

The powder can be applied to the inside of the boiler through hand-hole plates or in any way most convenient. It may be dissolved in hot water and admitted with the feed-water through an injector or pump or otherwise.

By the use of the above composition boilers may be preserved and kept comparatively clean and free from scale, incrustations, corrosion, and grooving of the boiler-plates caused by the action of the lime, alkali, and other ingredients in the water while generating steam, said composition possessing in its combination of ingredients, in proportions therein stated, such properties as render it a compound every way complete and efficacious in purifying the water used in boilers and in the preservation of the iron, and also in the cleaning of the same and the removing therefrom of all scale, incrustations, and corrosion.

What I claim, and desire to secure by Letters Patent of the United States, is—

The herein-described composition of matter, to be used for cleaning boilers inside, and also to prevent scale, incrustations, corrosion, and grooving from forming thereon, consisting of soda-ash, pure mineral oil, oil of pennyroyal, sulphate of copper, and powdered tannin, in the proportions specified.

JAMES W. MITCHELL.

Witnesses:

GEORGE H. PERRY,
WILLIAM PARDY.