

UNITED STATES PATENT OFFICE.

WILHELM FRIEDE, OF HAMBURG, GERMANY, ASSIGNOR TO OTTO J. MEISEL
AND ADOLPH HERZ, BOTH OF TERRE HAUTE, INDIANA.

PURIFYING WATER FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 354,855, dated December 21, 1886.

Application filed April 21, 1886. Serial No. 199,577. (No specimens.)

To all whom it may concern:

Be it known that I, WILHELM FRIEDE, a German subject, of Hamburg, in the Empire of Germany, have invented a new and Improved
5 Composition of Matter to be Used to Dissolve and Prevent the Formation of Scales in Steam-Boilers, of which the following is a full, clear, and exact description.

My composition consists of the following ingredients, combined in the proportions stated:
10 catechu, one part; caustic soda, one part; sodium hyposulphite, three and one-half parts; glycerine, one part; tanners' bark, one-half part; water, ten parts.

15 This composition is compounded by first boiling the water over a slow fire and then adding the catechu, which is dissolved in the boiling water, after which is added the caustic soda, then the sodium hyposulphite, then
20 the glycerine, and last the tanners' bark.

The above-named composition is added to the water in the boiler in quantities varying according to the thickness of the incrustation in the boiler. It may be fed into the boiler
25 by the regular feed-pump, or through the safety-valve, if there is no steam in the boiler, or in any other convenient manner. The mixture may be thinned with water, according to the thickness of the scale to be dissolved.

By the use of the above composition the
30 scales formed in the boiler are dissolved in from four to six days after the first application, which is repeated at intervals as frequently as deemed necessary, and will, when
35 timely used, (though in smaller quantities,) prevent incrustation.

The boiler shell and tubes are not affected detrimentally by the use of the composition, nor is the action of the boiler interfered with
40 or delayed by the application of the compound.

The use of this compound will not injuriously affect the taste, smell, or purity of the steam generated, and will not interfere with the efficacy of the same for any purpose for
45 which steam is ordinarily applied.

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

The herein-described composition of matter to be used for dissolving and preventing the
50 formation of scales or incrustation in steam-boilers, consisting of water, catechu, caustic soda, sodium hyposulphite, glycerine, and tanners' bark, in the proportion specified.

WILHELM FRIEDE.

Witnesses:

CHAS. H. BURKE,
SIEGM. BEUSING.