

(Model.)

H. ESTELLE.
BOILER CLEANER.

No. 323,571.

Patented Aug. 4, 1885.

Fig. 1

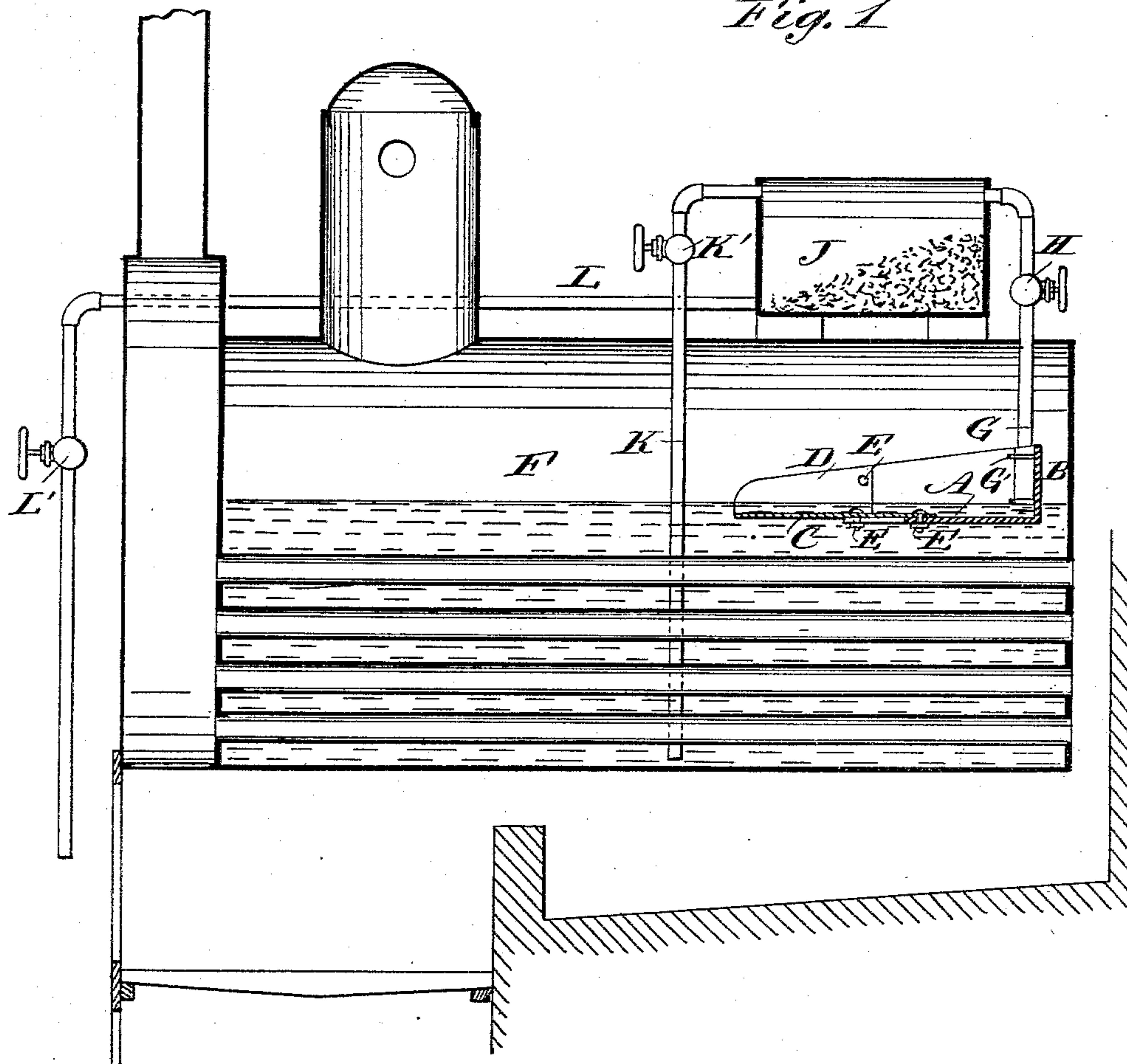
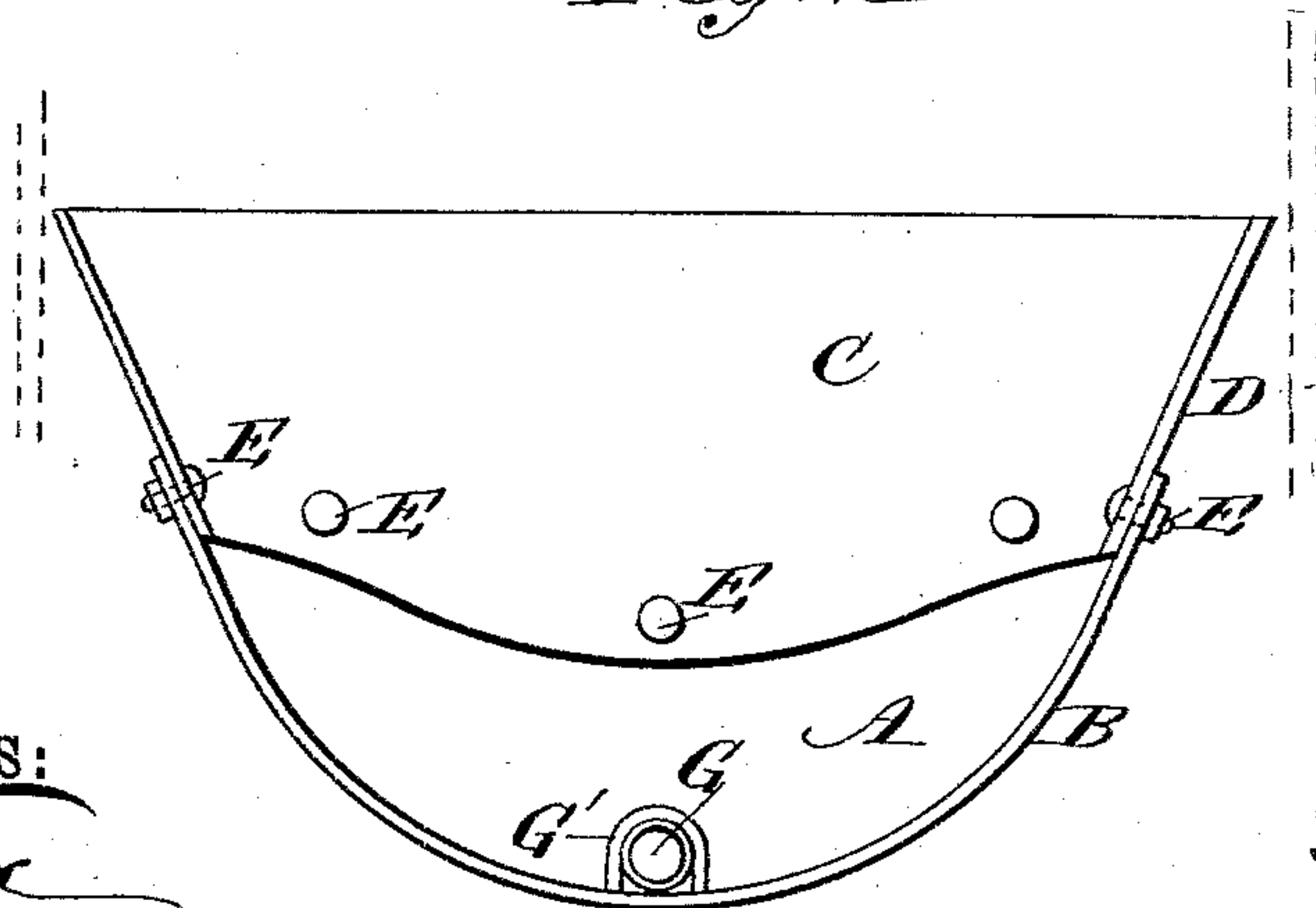


Fig. 2



WITNESSES:

C. Neveu
G. Sedgwick

INVENTOR:

H. Estelle

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY ESTELLE, OF CHATTANOOGA, TENNESSEE.

BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 323,571, dated August 4, 1885.

Application filed May 13, 1885. (Model.)

To all whom it may concern:

Be it known that I, HENRY ESTELLE, of Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and Improved Boiler-Cleaner, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved device for removing the impurities from the water in steam-boilers to prevent the formation of scale, incrustations, &c.

The invention consists in parts and details and combinations of the same, as will be fully set forth hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a longitudinal sectional elevation of a steam-boiler provided with my improved cleaner. Fig. 2 is a plan view of the adjustable skimmer.

The skimmer A, which is made flat, has an upwardly-projecting flange, B, on its rear rounded edge, the top edge of the flange being beveled from the middle toward the ends. The skimmer increases in width from the rear to the front.

On the bottom of the skimmer a plate, C, is placed, which is also increased in width from its rear to its front edge, and which has upwardly-projecting flanges, D, on the ends, the flanges D forming continuations of the flange B.

The skimmer A and its extension-plate C are united by bolts E, passed through the skimmer and the plate C and through the flanges B D.

According to the diameter of the boiler F a longer or wider extension-plate is used, so that the ends of the front edge of the plate C will be close to the sides of the boiler, and so that no sediment can pass to the rear end of the boiler, but must all be caught by the skimmer and its extension.

A tube, G, having a valve, H, is held by bands G' or otherwise on the flange B, the lower end of the tube being a short distance above the skimmer, and the upper end of the tube G being connected with the top of a settling-drum, J, on the boiler or anywhere near the boiler. At the opposite end the drum J is connected at the top with the pipe K, leading back into the boiler and having a valve, K'. At the same end the drum is connected at its bottom with the blow-off pipe L, having a valve, L'.

The impurities in the water rise to the surface and float on the same as a thin layer. When steam is gotten up, in all boilers there is a current at the surface of the water from the front of the boiler to the rear, and by this current the impurities are carried over the skimmer and with the water up through the pipe G into the settling-drum J, wherein the impurities settle. The clear water passes through the pipe K back into the boiler.

At suitable intervals the settling-drum is emptied through the blow-off pipe L.

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

1. The combination, with the settling-drum J, of the pipe G and the skimmer A, provided with an extension-plate extended laterally, as shown, at its front edge, substantially as herein shown and described.

2. The combination, with the settling-drum J, of the pipe G, the skimmer A at the lower end of the same, which skimmer has a flange, B, and the extension-plate C, held by bolts on the front edge of the skimmer, and having end flanges, substantially as herein shown and described.

HENRY ESTELLE.

Witnesses:

D. M. DOTY,
JOHN J. IRVINE.