

No. 622,920.

Patented Apr. 11, 1899.

J. C. FRIDERITZI.
BOILER CLEANER.

(Application filed July 8, 1898.)

(No Model.)

FIG. 1.

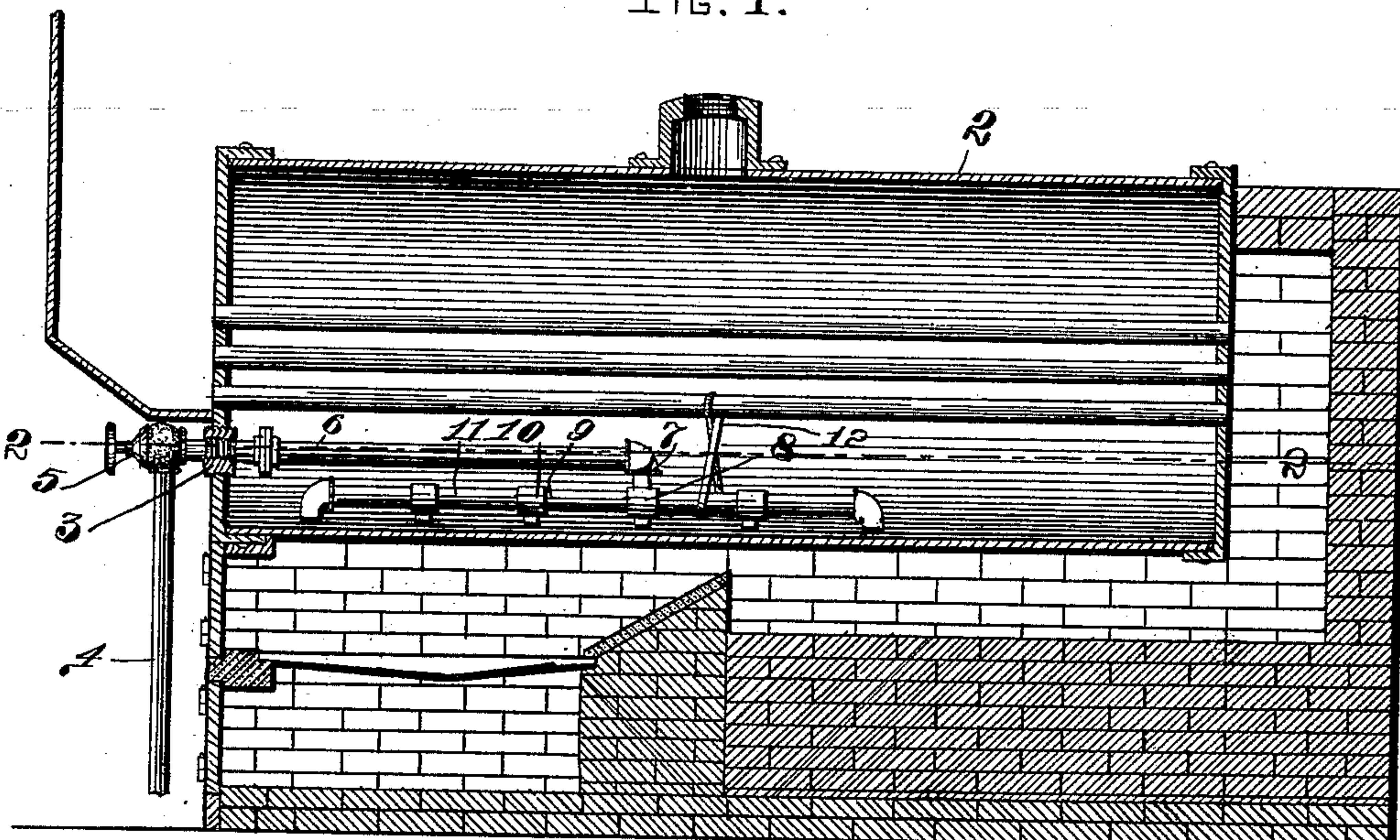
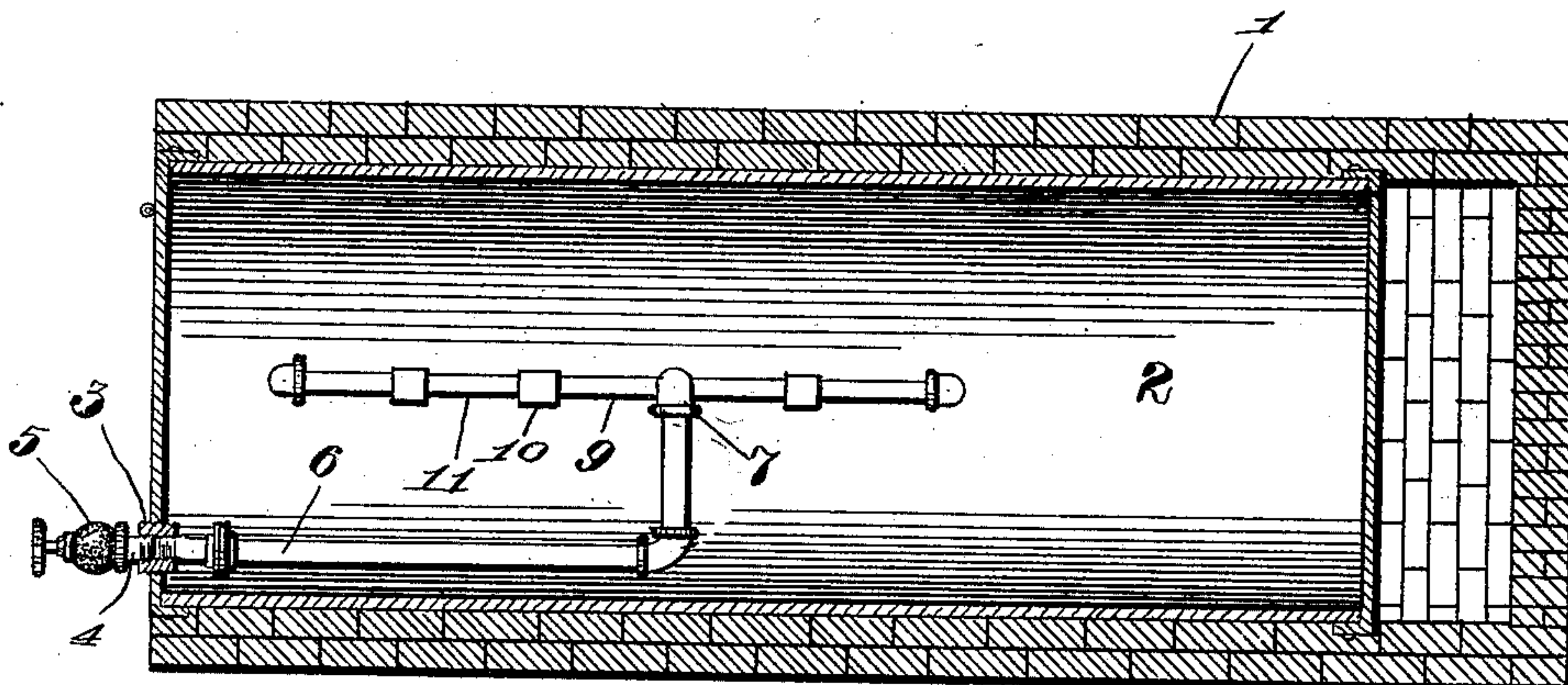


FIG. 2.



Attest.

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UNITED STATES PATENT OFFICE.

JOSEPH C. FRIDERITZI, OF ST. LOUIS, MISSOURI.

BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 622,920, dated April 11, 1899.

Application filed July 8, 1898. Serial No. 685,454. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. FRIDERITZI, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Scale and Impurity Removers for Steam-Boilers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to scale and impurity removers for steam-boilers; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a longitudinal sectional view of a boiler provided with one of my improved scale and impurity removers. Fig. 2 is a horizontal sectional view taken approximately on the line 2 2 of Fig. 1.

Referring by numerals to the accompanying drawings, 1 indicates the boiler-setting, and 2 an ordinary boiler located therein. Located in the lower portion of the boiler-front is an interiorly-screw-threaded block 3, in the outer end of which is located the exteriorly-screw-threaded end of a pipe 4, in which pipe is suitably located a cut-off valve 5.

Seated in the inner end of the block 3 and leading to a point near the center of the lower portion of the boiler 2 is a pipe 6, upon the end of which is located an elbow 7. Located in the lower end of this elbow 7 is the upwardly-projecting portion of a cross-union 8, and located in the horizontal portions of said cross-union 8 are the ends of short sections of pipe 9, to the ends of which are secured T-unions 10, and in the portions of said T-unions 10 opposite from the portions to which the ends of the short sections of pipe 9 are connected are located short sections of pipe 11, identical in form and size with the sections of pipe 9. This construction may be continued as desired and thus a horizontal pipe constructed of the short sections of pipe 9 and 11, together with the T-unions 10, and may be extended throughout the entire bottom of the boiler, if desired. It is necessary that the open free ends of the T-unions 10 be turned downwardly, so that they are nearly in contact with the bottom of the boiler 2. That portion of the device composed of the short sections of pipe held together by the

T-unions may be sustained, if desired, by connecting it with one of the tubes of the boiler by a loop 12, this construction preventing the sagging of the short sections of pipe and the T-unions.

Normally the cut-off valve is closed. When it is desired to remove the scale and impurities from the boiler, which scale and impurities gravitate to the bottom of said boiler by their own weight, the water within said boiler is partially withdrawn by opening said cut-off valve 5. A suitable pump or like device for creating a heavy suction may, if desired, be attached to the end of the pipe 4 and said pump put in operation. As soon as the valve 5 is opened the suction through said pipe 4 and pipe 6 will draw all of the scale and impurities up through the open ends of the T-unions 10, and said scale and impurities will pass outwardly through the pipes 6 and 5 and be discharged into the sewer or wherever desired. Necessarily the water remaining within the boiler will be drawn out with this suction, and when all of said water is withdrawn more water may be allowed to discharge into the boiler to assist in the cleansing of the interior thereof.

Thus it will be seen how I have provided simple, inexpensive, and efficient means for removing all of the scale, impurities, and sediment from the interior of the boiler. This device is applicable for all boilers, and by its use the efficiency of a boiler is increased to a great extent, and said boiler may be used a much greater length of time than a boiler not equipped with the device, inasmuch as all of the impurities may be daily removed from the boiler, which impurities tend to destroy the plates of which the boiler is constructed. Very little time is occupied in the use of the device and much labor and expense are saved, inasmuch as it is unnecessary for a person to enter a boiler to remove the scale and sediment.

I claim—

The improved boiler-cleaner, comprising the interiorly-screw-threaded block 3 located in the lower portion of the boiler, the exteriorly-screw-threaded end of the pipe 4 located in the outer end of said block, the valve 5 applied to said pipe exterior of the boiler, the pipe 6 seated in the inner end of said block

3 and leading to a point near the center of the
lower portion of the boiler, and a horizontal
pipe constructed of the short sections of pipe
9 and 11 together with the T-unions 10 and
5 connected to said pipe 6 in the manner and
for the purpose substantially as herein speci-
fied.

In testimony whereof I affix my signature
in presence of two witnesses.

JOSEPH C. FRIDERITZI.

Witnesses:

H. M. STURGIS,
EDWARD E. LONGAN.