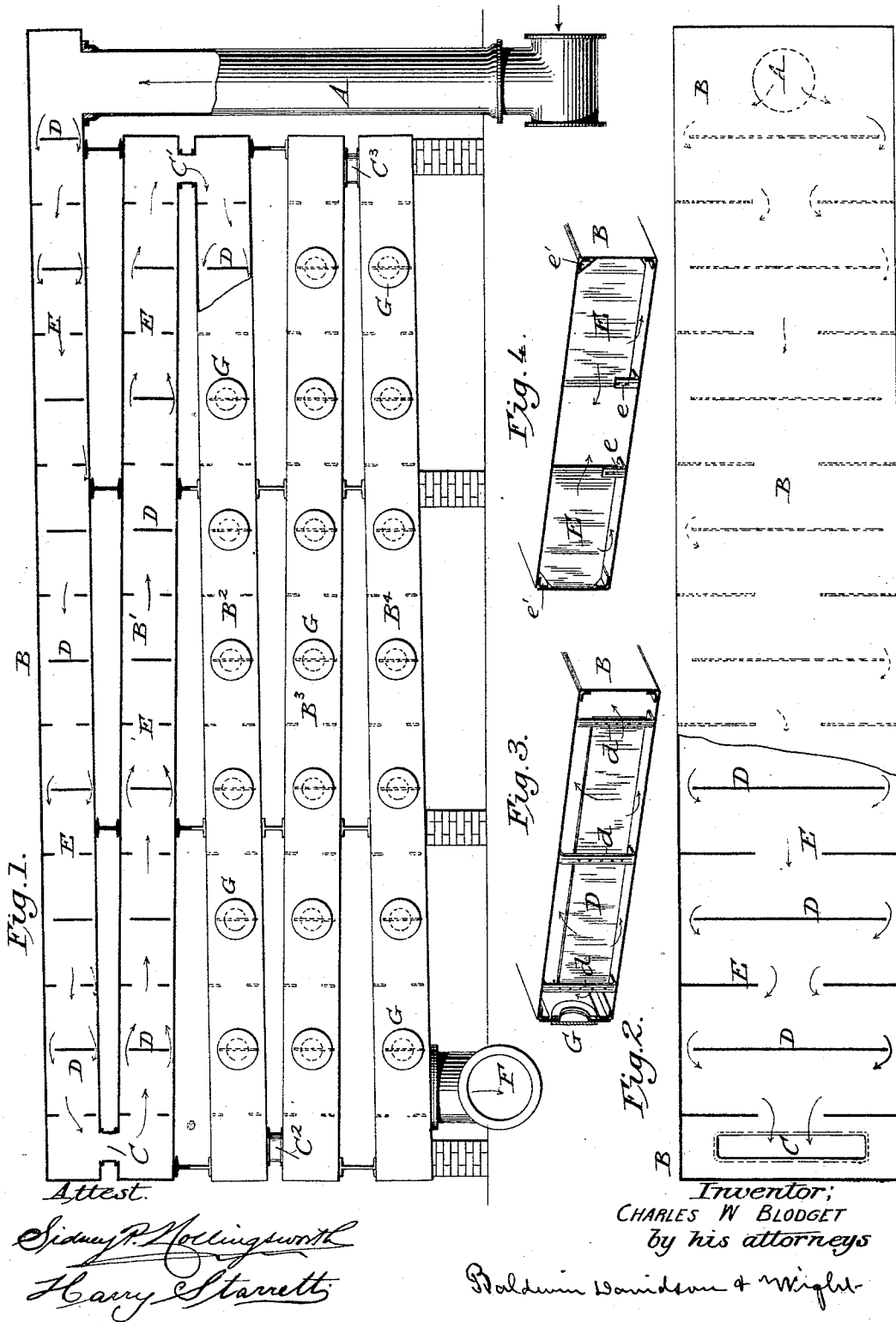


(No Model.)

C. W. BLODGET.
GAS SCRUBBER.

No. 460,300.

Patented Sept. 29, 1891.



UNITED STATES PATENT OFFICE.

CHARLES W. BLODGET, OF NEW YORK, N. Y.

GAS-SCRUBBER.

SPECIFICATION forming part of Letters Patent No. 460,300, dated September 29, 1891.

Application filed March 14, 1891. Serial No. 384,994. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILLIAMS BLODGET, a citizen of the United States, and a resident of New York city, in the county of and State of New York, have invented an Improved Gas-Scrubber, of which the following is a specification.

My invention relates to gas-scrubbers of the type known as "hot-tar dry scrubbers." The hot gas from the retorts or generators is passed through a scrubber provided with transverse diaphragms or partitions, in which tar carried over with the gas in the form of small particles or globules is caused to strike against the walls and partitions of the scrubber, the impingement of the gas against the partitions and wall serving to break up and throw down the tar, which flows along the bottom of the scrubber and finally discharges into a suitable receptacle while the gas is conducted into a holder.

The object of my invention is to produce a cheap, simple, and efficient apparatus, which will thoroughly eliminate all tar from the gas by a purely mechanical process and without the use of any purifying material.

The subject-matter claimed is hereinafter specified.

The accompanying drawings represent so much of my improved apparatus as is necessary to illustrate this subject-matter. Unless otherwise specified, the parts are of ordinary construction.

Figure 1 is a side elevation, partly in section, of the scrubber; and Fig. 2, a similar plan view. Figs. 3 and 4 are respectively perspective detail views of the solid and perforated diaphragms employed.

The arrows show the direction of movement of the tar and gas. The gas passes through a rising main A to the dry scrubber, which it enters at the top and at one end. This scrubber is shown as composed of a series of inclined troughs B B', &c., five in number, resting one upon the other and connected alternately at opposite ends by passages C C', &c. The bottom of these troughs is left unobstructed, so that the tar thrown down may flow continuously therethrough in a direct course; but the gas is caused to pursue a much more devious course by means of a series of

transverse diaphragms or partitions D E. These diaphragms are shown as alternating in the troughs, which are provided with closed apertures or hand-holes G at suitable intervals to afford access thereto for cleansing, &c. The diaphragms D are shown as constructed in the form of oblong plates secured to braces or cross-strips *d* in such manner as to leave a free space around all four edges, around which the gas may flow after impinging against the plates. The alternate partitions E are shown as perforated or divided centrally and supported by braces *e*, and with their upper and outer edges close to or against the top and sides of the troughs, leaving openings at the bottom for the flow of the tar and one at the center, through which the gas passes and impinges against the adjoining solid partition. The outer corners of these plates are shown as clipped diagonally, so as to leave spaces *e'*. The gas entering the scrubber passes around the edges of the plate D, through the central opening in adjoining plate E, and, impinging against the next solid plate D, is thrown laterally against the walls of the trough, passing around the edges of the partition and through the central aperture in the next partition. The impingement of the gas against the surfaces and its friction thereon break up the globules of tar and the tar descends to the bottom of the trough, along which it flows. The purified gas and tar are finally taken off at F.

I claim as my invention—

1. The combination, substantially as hereinbefore set forth, of a trough having an inclined bottom, inlet and outlet openings for the trough, and alternately solid and perforated partitions suspended in the trough and above the bottom thereof, the solid partitions having spaces between their edges and the walls of the trough, for the purpose specified.

2. The combination, substantially as hereinbefore set forth, of a trough, gas inlet and outlet openings therein, alternately solid and perforated partitions suspended in the trough above the bottom thereof to leave a free continuous passage for the flow of tarry matter, and gas-passages above and at the sides of the solid partitions and at the center of the perforated partitions.

3. The combination, substantially as herein-
before set forth, of a series of inclined troughs,
gas inlet and outlet openings therein, passages
connecting each trough with the one immedi-
5 ately below it, alternately solid and perforated
transverse partitions suspended centrally
therein, leaving passage-ways at the top and
sides of the solid partitions and at the center
of the perforated partitions, and all of said

partitions being arranged above the bottom to
of the trough, for the purpose specified.

In testimony whereof I have hereunto sub-
scribed my name.

CHARLES W. BLODGET.

Witnesses:

FRANK S. OBER,
EDWARD C. DAVIDSON.